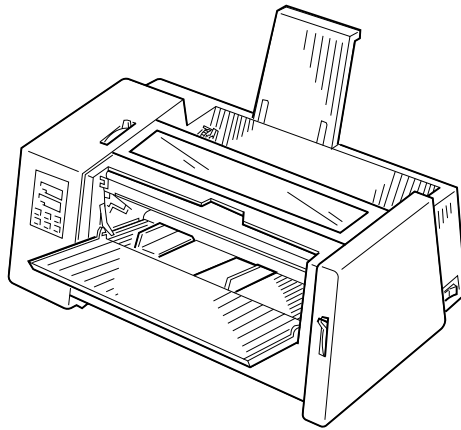


23xx Plus Forms Printer

User's Guide



Second Edition (October 1995)

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Contents

Section 1 - Getting Started 1

Unpacking	1
Installing the Ribbon Cartridge	4
Connecting the Power Cord	8
Printing the Demonstration Sample	8
Connecting the Parallel Cable	11
Setting Up Your Application Software	12
IBM Emulation Mode	12
Epson Emulation Mode	14
What to do Next.	14

Section 2 - About Your Printer 15

Features and Functions	15
Description of the Printer	21
Front View of Printer.	21
Rear View of Printer	23
Operator Panel	24

Section 3 - Using the Operator Panel 29

Setting the Printer Online or Offline	30
Stopping the Printer	30
Advancing the Paper	30
Using Tear-Off	31

Auto Tear-Off Set to On	31
One Second Tear-Off.	32
Manual Tear-Off (Auto Tear-Off Set to Off)	32
Using the Park/Load Feature	33
Parking Continuous Forms and Loading Cut Forms.	33
Unparking/Loading Continuous Forms.	34
Selecting or Locking a Font	35
Selecting or Locking a Pitch	35
Disabling/Enabling the Operator Panel	36
Selecting Tractor Mode	36

Section 4 - Changing Tractor Positions 37

Removing the Push Tractor	39
Installing the Pull Tractor	40
Removing the Pull Tractor	41
Installing the Push Tractor	42

Section 5 - Paper Loading 45

Loading Cut Forms or Envelopes	46
Loading Cut Forms or Envelopes into the Manual Feed Door	46
Loading Cut Forms or Envelopes With Continuous Forms	49
Loading Continuous Forms	52
Loading Continuous Forms on the Push Tractor.	53
Front Loading Continuous Forms Using the Pull Tractor.	57
Bottom Loading Continuous Forms Using the Pull Tractor	62
Aligning the Left Margin	66
Setting the Forms Thickness Lever	68
Top-Of-Form (TOF)	71
Setting TOF in a Macro.	71
Setting TOF for Continuous Form Paper in Push Mode	72
Setting TOF for Continuous Form Paper in Pull Mode.	73
Setting TOF for Cut Forms and Envelopes	74
Auto Tear-Off (Set to On From Setup Menu)	75
Auto Tear-Off (Set to Off From Setup Menu).	76
Auto Tear-Off (Set to One Second).	76

Section 6 - Using Setup Mode 77

How to Use Setup Mode	77
Example of Changing a Language Setting	78
Example of Adjusting Bidirectional (Bi-Di) Alignment	80
Using the Forms Macro	83
Setting Up a Default Macro	84
Using the Macro Copy Function	88
Setting Variable Form Length	89
Setup Selections	93
Setup Selection Definitions	111

Section 7 - Printer Options. 121

Using the Auto Sheet Feeder	122
Installing the Auto Sheet Feeder	123
Changing the Auto Sheet Feeder Setting.	126
Loading Paper in the Auto Sheet Feeder	128
Auto Sheet Feeder Printable Area (Automatic Mode)	134
Auto Sheet Feeder Printable Area (Manual Feed).	135
Using the Tractor 2 Feeder	136
Installing the Tractor 2 Feeder.	137
Parking Continuous Forms and Changing Tractor Feeders.	141
Loading Paper in the Tractor 2 Feeder	142
Removing the Tractor 2 Feeder.	148
Tractor 2 Printable Area (Manual Feed)	149
Installing the Serial Adapter	150
Installing the 32 Kbyte Buffer Module	153
Installing the Module.	153
Running the Printer Test	156
Troubleshooting.	156

Section 8 - Supplies 157

Section 9 - Troubleshooting and Maintenance . . 163

Checklist for Typical Problems 165
Testing the Printer 167
Checking the Status of Lights 168
Clearing Paper Jams 171
Problem Conditions 172
Maintenance 188
 Removing the Ribbon Cartridge 188
 Cleaning the Printer 188

Appendix A - Notices 191

Electronic Emission Notices 191
Energy Star 194
Safety Information 194

Appendix B - Statement of Limited Warranty . 201

Glossary 205

Index 211

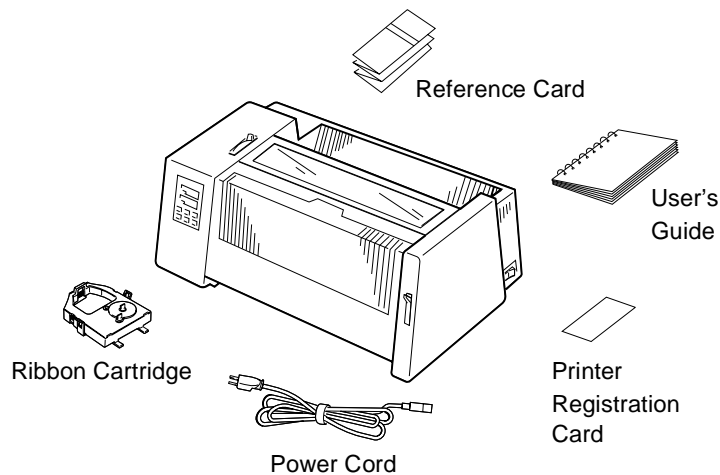
Getting Started

Section 1

To set up your new printer, refer to the step-by-step instructions that follow.

Unpacking

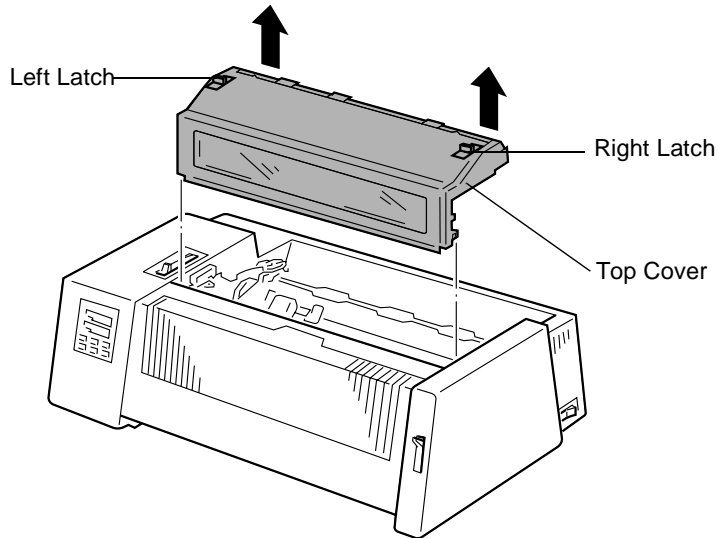
- 1 Remove the printer from the carton.
- 2 Make sure you received the following items:



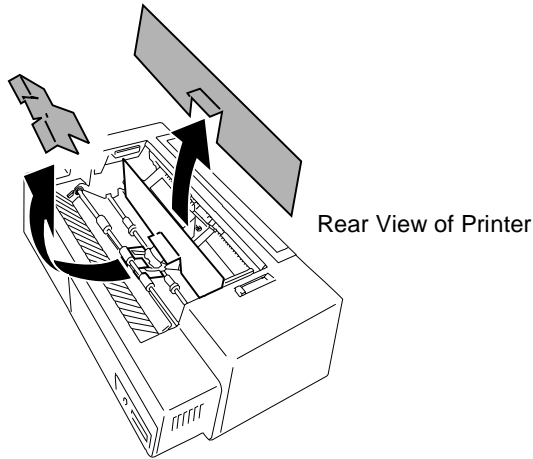
- 3 You will also need a printer cable (sold separately).** See “Printer Options” on page 121 for parallel or serial interface cable part numbers available for your printer.

Note: You must have the serial interface option installed to use a serial cable with your printer. See “Installing the Serial Adapter” on page 150 for more information.

- 4 Remove the packing tape on the top cover.**
- 5 Pull up the left and right latches on the top cover and remove the top cover from the printer.**



- 6 Remove the two inserts from the printer. Also remove the red colored packing tape that holds the carrier in place within the machine. The tape is visible from the rear of the printer.**

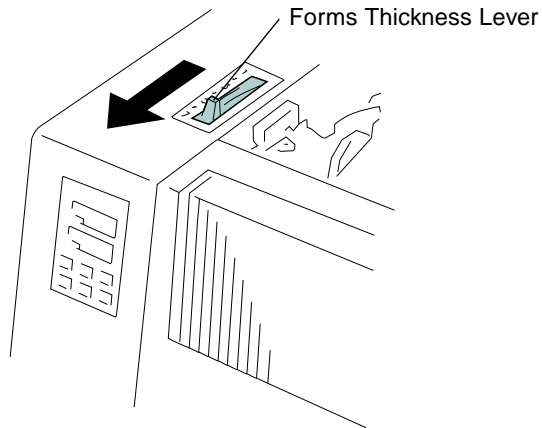


- 7 Place the printer on a level surface with at least 50 mm (2 in.) of air space on all sides.**
- 8 Make sure the printer power switch is Off.** Facing the printer, the power switch is on the right side, at the rear of the printer.

Note: Do not connect your printer to a power source or to your computer until you are instructed to do so.

Installing the Ribbon Cartridge

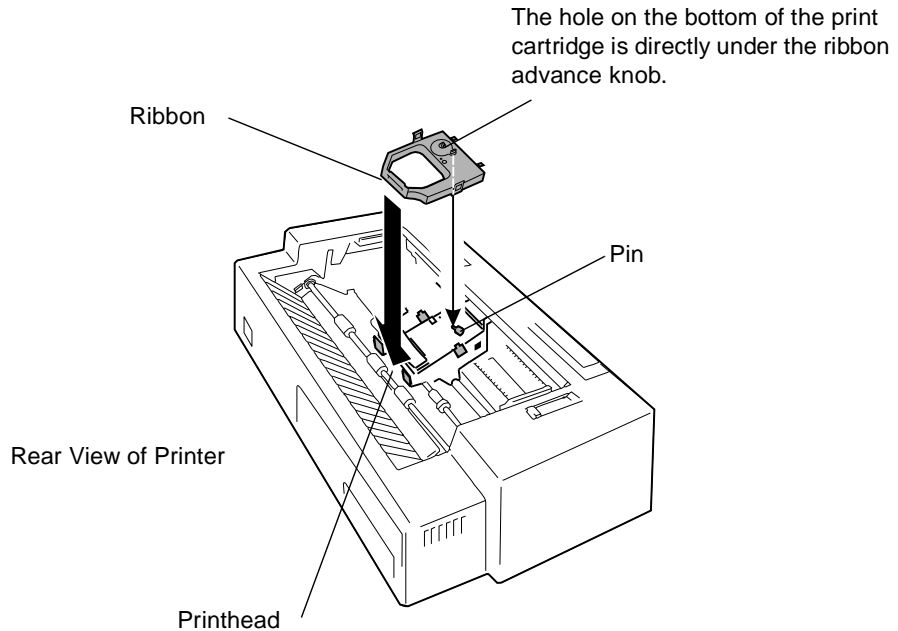
- 1** Make sure the printer is Off.
- 2** Remove the top cover.
- 3** Set the forms thickness lever to position 7.



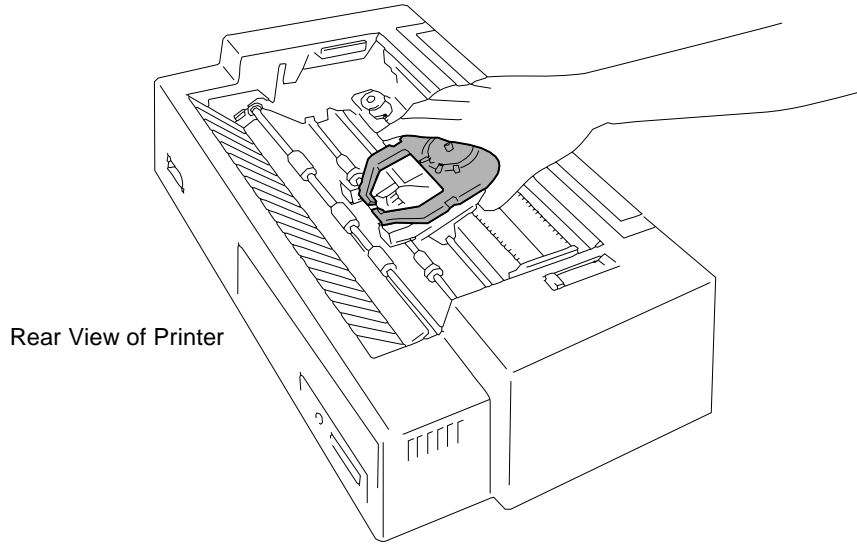
4 Install the ribbon cartridge.

- a** Fit the end of the ribbon cartridge in front of the printhead.
- b** Position the hole on the bottom of the cartridge over the pin in the printer.

If the pin in the printer does not fit into the hole, turn the ribbon advance knob clockwise until the pin fits into place.

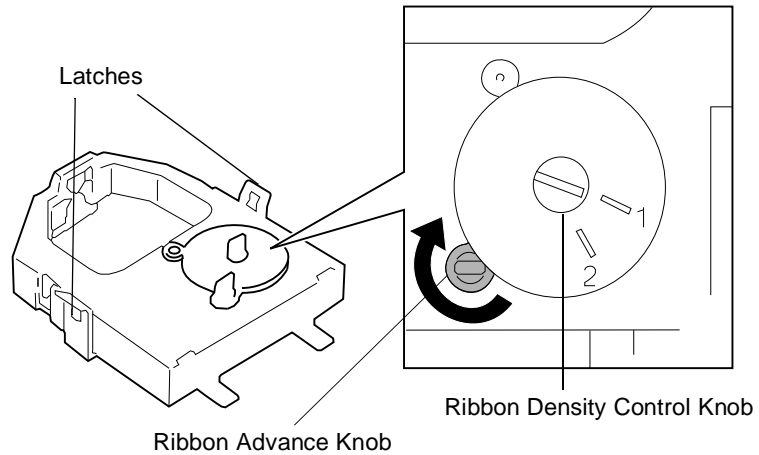


- 5** Press down on the ribbon cartridge until it snaps into place on both sides.

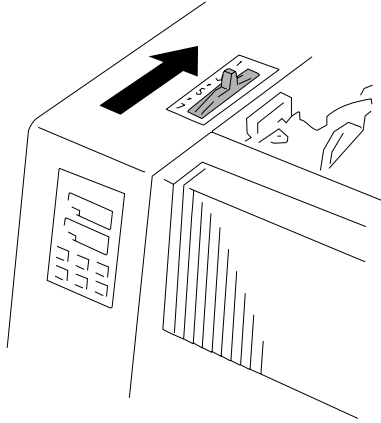


The ribbon density control knob has been preset to 1 (the knob is located on the ribbon cartridge).

When print becomes light, turn the knob from 1 to 2 to increase darkness of print.

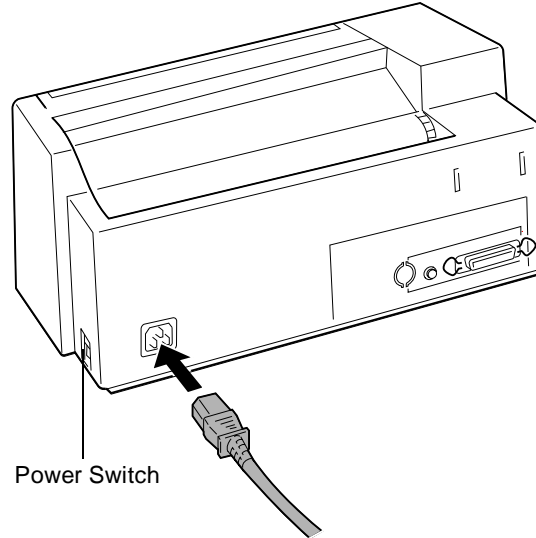


- 6** Put the top cover back on the printer.
- 7** Set the forms thickness lever to the appropriate setting (position 1 or 2 for one-part paper). If you are using other paper, see “Setting the Forms Thickness Lever” on page 68 for the correct setting.



Connecting the Power Cord

- 1** Make sure the printer is Off.
- 2** Connect the smaller end of the power cord to the printer.

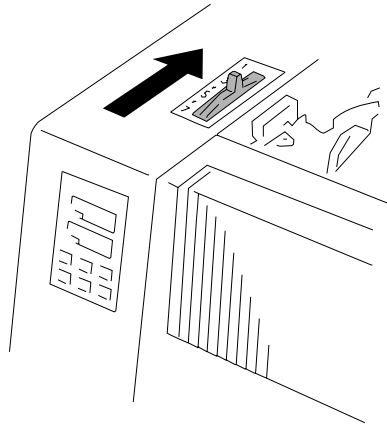



- 3** Connect the other end of the power cord to a properly grounded electrical outlet.

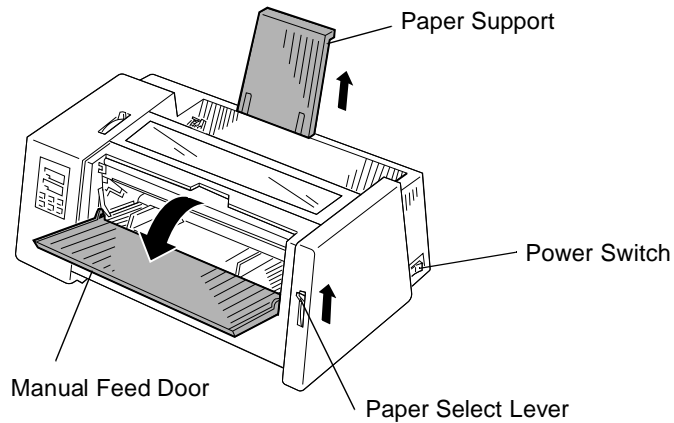
Printing the Demonstration Sample

The following steps explain how to load a single sheet of paper so you can print the demonstration sample. If you want to load continuous forms, see “Loading Continuous Forms” on page 52.

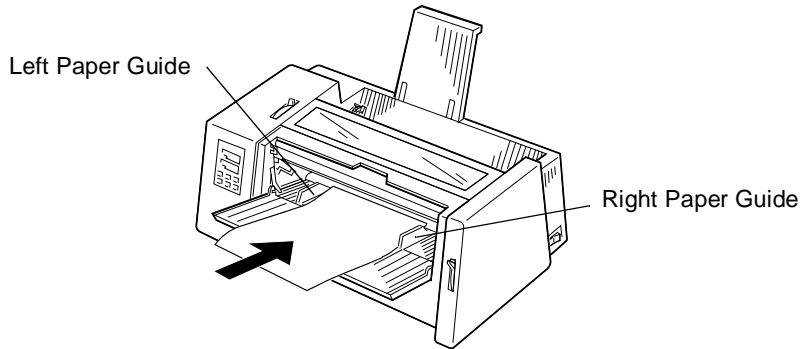
- 1 Set the forms thickness lever to 1.**



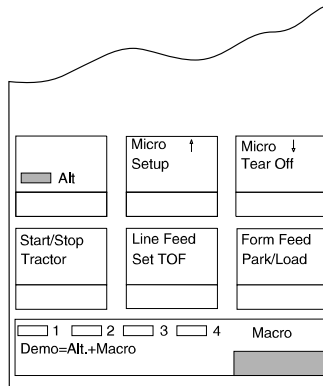
- 2 Turn the printer On.**
- 3 Open the manual feed door.**
- 4 Pull up the paper support.**
- 5 Move the paper select lever up to the cut forms  position.**



- 6** Insert a single sheet of paper into the front of the printer using the paper guides to align the paper. The paper automatically loads to the first print line.



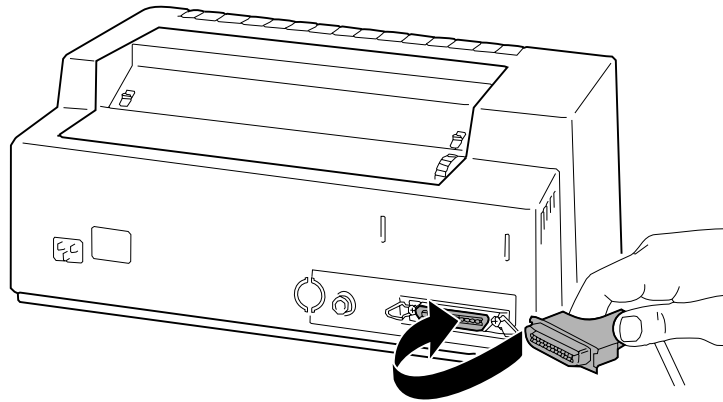
- 7** Press and release Alt + Macro.



The printer stops printing after the one-page demonstration print sample is ejected.

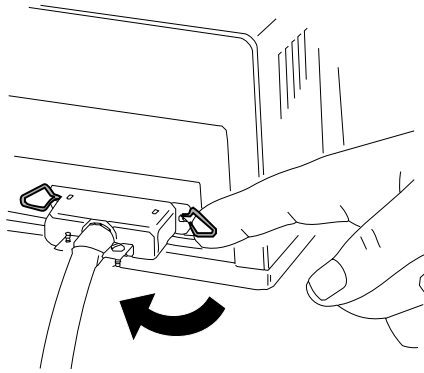
Connecting the Parallel Cable

- 1** Turn the printer Off.
- 2** Turn off the power on your computer.
- 3** Connect the parallel cable. This cable is not supplied with your printer. Use an IEEE-1284 compatible parallel cable such as Lexmark part numbers 1329605 (10 ft. cord) and 1427498 (20 ft. cord).



Note: You do not need to attach a grounding wire to the computer.

- 4 Fasten the clip wires to the parallel cable.** You will hear a click.



- 5 Connect the other end of the parallel cable to your computer.**

Setting Up Your Application Software

Now that you have set up your printer, make sure that it works with the application software (program) you want to use. Most programs let you specify the type of printer you are using so that the program can take full advantage of the printer's features.

Follow the instructions that came with your application software to see what printer drivers are available with that specific program.

IBM Emulation Mode

If your printer is configured for IBM Mode (the factory default), select a printer from the printer selection menu of your application software, in the following preferred order.

For 2380 Plus/2381 Plus users:

- 1 2380/2381 IBM Personal Printer Series II**
- 2 2380 Plus/2381 Plus**
- 3 4201/4202 IBM Proprinter III**
- 4 4201/4202 IBM Proprinter II**
- 5 IBM ExecJet Printer Model 4072**

For 2390 Plus/2391 Plus users:

- 1 2390/2391 IBM Personal Printer Series II**
- 2 2390 Plus/2391 Plus**
- 3 4212 IBM Proprinter 24P**
- 4 2390 IBM PS/1 Printer**
- 5 4207/4208 Proprinter X24/XL24**
- 6 IBM ExecJet Printer Model 4072**
- 7 2205 IBM PS/1 Printer**

The printer driver you select in your software application must match the emulation mode you select for your printer. Printer drivers other than the 238X/239X family will support most, but not all, of the printer's capabilities.

If your software does not allow you to select one of the printers in this list, you may need to customize your printer for Epson emulation mode. For help, see Table 7 on page 100 (238X printers) or Table 14 on page 109 (239X printers) to configure your printer in Epson mode.

Epson Emulation Mode

If your printer is configured for Epson mode, select a printer from the printer selection menu of your application software, in the following preferred order:

For 2380 Plus/2381 Plus users:

- Epson FX850/Epson FX1050

For 2390 Plus/2391 Plus users:

- Epson LQ850/LQ1050

What to do Next

You have completed printer setup. To learn more about your printer, continue with “About Your Printer” on page 15.

About Your Printer

Section 2

Lexmark's dot matrix Forms Printers come in 9 and 24-wire narrow-carriage (2380 Plus and 2390 Plus) and 9 and 24-wire wide-carriage (2381 Plus and 2391 Plus) models. Because we discuss four different models, your printer may look different from the one illustrated in this book.

This section describes printer features such as Park/Load, which lets you feed cut-sheet forms and envelopes without removing the continuous forms.

Features and Functions

Features and Functions	2380 Plus/2390 Plus Models	2381 Plus/2391 Plus Models
Carriage width Cut forms	297 mm (11.7 in.)	419 mm (16.5 in.)
Continuous forms	254 mm (10.0 in.)	406 mm (16.0 in.)

Features And Functions	2380 Plus/2381 Plus Models	2390 Plus/2391 Plus Models
Multi-speed printing Fast Draft Draft Courier and Gothic Prestige, Presentor, Orator, and Script	350 characters per second (cps) 270 cps 67 cps (near-letter-quality mode) (not available on these models)	300 characters per second (cps) 210 cps 70 cps (letter-quality mode) 70 cps (letter-quality mode)
Character spacing	Prints in 10, 12, 15, 17, and 20 pitch characters per inch (cpi), as well as proportional spacing.	Prints in 10, 12, 15, 17, 20, and 24 pitch characters per inch (cpi), as well as proportional spacing.
Resident fonts	Fast Draft, Draft, Gothic, and Courier.	Courier, Prestige, Gothic, Presentor, Orator, Script, Draft, and Fast Draft.

Features And Functions	2380 Plus/2381 Plus Models	2390 Plus/2391 Plus Models
<p>Print styles These styles are available through printer commands.</p>	<p>Highlighting capability:</p> <ul style="list-style-type: none"> • Double-high • Double-strike • Double-wide • Emphasized • Italics • Overscore • Subscript • Superscript 	<p>Highlighting capability:</p> <ul style="list-style-type: none"> • Double-high • Double-strike • Double-wide • Emphasized • Italics • Overscore • Subscript • Superscript • Underline • Shading • Outline
<p>Graphics printing This feature supports existing graphics software applications.</p>	<p>Resolution of up to 144 x 240 dots per square inch (dpi).</p>	<p>Resolution of up to 360 x 360 dots per square inch (dpi).</p>
<p>Multiple-part forms</p>	<p>Prints original plus 5 copies (6-part forms)</p>	<p>Prints original plus 3 copies (4-part forms)</p>
<p>Printer Buffer Module</p>	<p>Stores data in the printer buffer module (available as an option on these models)</p> <p>11KB Standard 32KB Optional</p>	<p>Stores data or downloaded fonts in the printer buffer module</p> <p>64KB Standard</p>

Features And Functions	All Models
Operator panel	Button control for fonts, pitches, setup, tear-off, paper movement, park/load, and macro functions. Panel lights indicate current status.
Font Lock and Pitch Lock	Locks font and pitch selections you make from the operator panel so they are not changed by your application software. Font or Pitch Lock is deactivated when you turn the printer off unless you use the Setup menu to lock them.
Park/Load	Parks and loads continuous form paper so you can use cut form paper without unloading continuous forms from the printer.
Macro Function	Lets you store up to 4 document formats (settings).
Front loading for cut forms	Enables printing on cut sheets or envelopes.
Tear Off	Assists you in removing printed continuous forms at the perforation in both automatic and manual tear-off modes. Reduces the amount of paper used, reducing costs.

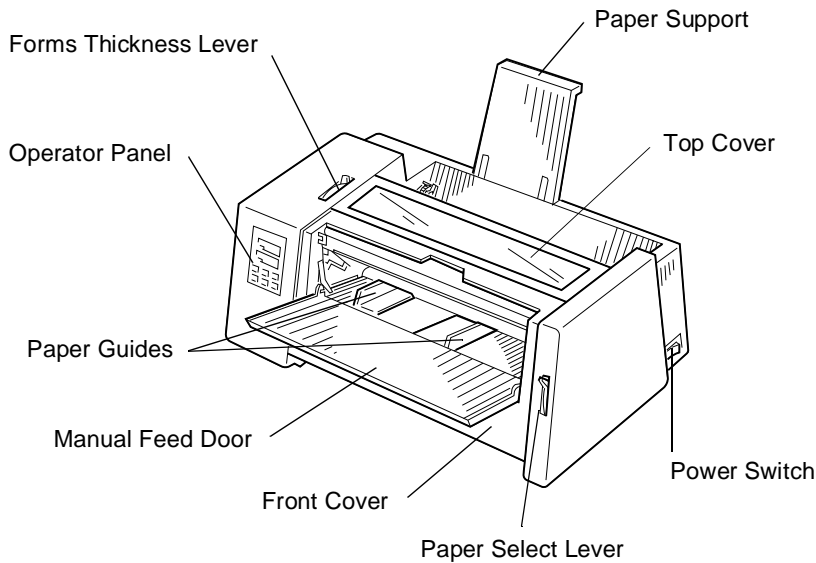
Features And Functions	All Models
Adjustable tractor	Built-in adjustable tractor allows you to handle continuous form paper without purchasing any options. It can be repositioned to function as: <ul style="list-style-type: none"> • Push tractor • Pull tractor
Operator panel disable	Limits the operator panel functions to the Start/Stop , Form Feed , and Alt + Park/Load buttons only, which restricts the use of full printer functions to designated persons only.
Ribbon cartridge	Contains the printer ribbon.
Printer tests	Power-On Self Test, Test Print, and Demonstration Print. You can perform a Test Print to determine whether your machine has any print problems. To perform a Test Print, see “Testing the Printer” on page 167. To perform a demonstration print, press Alt + Macro .
Box and line drawings	Prints table, charts and other graphics as shown on your monitor.
Greek and math symbols	Prints a variety of symbols used in mathematical equations, including subscript and superscript.

Features And Functions	All Models
Code Pages 437, 437G, 813, 850, 851, 853T, 857, 860, 861, 863, 865, 869, 920, 1004, 1053	These code pages contain the characters and symbols that correspond to various country languages.
Barcode function	These barcodes are resident in the printer: 3 of 9, Code 128, Int 2 of 5, UPC-A, EAN 8, EAN 13, and PostNet. For more information on the Barcode function, refer to the <i>Technical Reference</i> .
Software compatibility	Compatible with all IBM and many non-IBM computer software programs. Also compatible with many Epson printer drivers.
Interface connection	Parallel interface is standard. Serial Adapter (RS-232C) is optional. For more information, see page 150. Allows the printer to work with IBM and non-IBM computers with a compatible interface.



Description of the Printer

The following section describes the printer parts and operator panel.

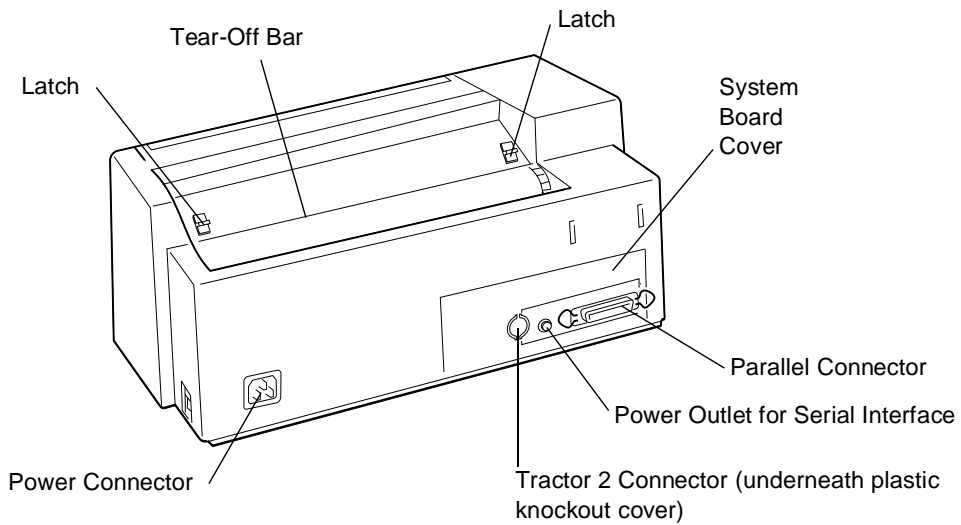
Front View of Printer



Part Name	Function
Forms Thickness Lever	Adjusts the printer for the thickness of forms being printed.
Paper Support	Supports cut forms when they are ejected.
Top Cover	Covers the ribbon cartridge and internal components.
Power Switch	Switches power on or off.

Part Name	Function
Paper Select Lever	Selects the paper type: <ul style="list-style-type: none">• Cut (form) sheets ()• Continuous forms ()
Front Cover	Covers the continuous forms push tractors.
Manual Feed Door	Pull down to load cut sheets (individual sheets).
Operator Panel	Indicates printer status and makes control of printer functions simple and convenient.
Paper Guides	Align the margins of a cut sheet.

Rear View of Printer



Part Name	Function
System Board Cover	Remove the system board cover to install the optional 2380 Plus/2381 Plus Buffer Module.
Parallel or Serial Connector	Connects the parallel cable or the optional serial adapter.
Power Outlet	Supplies power to the serial adapter option when connected to the parallel connector, if required.
Tractor 2 Connector	Supplies power to the optional Tractor 2 Feeder.
Power Connector	Connects power from the power cord to the printer.
Tear-Off Bar	Cuts off a continuous form when Tear-Off is used.
Latch	Fastens the top cover to the printer.

Operator Panel

2380 Plus/2381 Plus

<input type="checkbox"/> Power	<input type="checkbox"/> Ready	<input type="checkbox"/> Tractor 2	<input type="checkbox"/> Paper Out	<input type="checkbox"/>
Font		<input type="checkbox"/> FastDft		
<input type="checkbox"/> Lock	<input type="checkbox"/>	<input type="checkbox"/> Draft		
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Gothic		
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Courier		
Pitch		<input type="checkbox"/> 10	<input type="checkbox"/> 20	
<input type="checkbox"/> Lock	<input type="checkbox"/>	<input type="checkbox"/> 12	<input type="checkbox"/> PS	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> 15	<input type="checkbox"/>	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> 17		
<input type="checkbox"/> Alt	Micro ↑ Setup	Micro ↓ Tear Off		
Start/Stop Tractor	Line Feed Set TOF	Form Feed Park/Load		
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	Macro
Demo=Alt.+Macro				

2390 Plus/2391 Plus

<input type="checkbox"/> Power	<input type="checkbox"/> Ready	<input type="checkbox"/> Tractor 2	<input type="checkbox"/> Paper Out	<input type="checkbox"/>
Font		<input type="checkbox"/> Courier	<input type="checkbox"/> Orator	
<input type="checkbox"/> Lock	<input type="checkbox"/>	<input type="checkbox"/> Prestige	<input type="checkbox"/> Script	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Gothic	<input type="checkbox"/> Draft	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Presentor	<input type="checkbox"/> FastDft	
Pitch		<input type="checkbox"/> 10	<input type="checkbox"/> 20	
<input type="checkbox"/> Lock	<input type="checkbox"/>	<input type="checkbox"/> 12	<input type="checkbox"/> 24	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> 15	<input type="checkbox"/> PS	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> 17		
<input type="checkbox"/> Alt	Micro ↑ Setup	Micro ↓ Tear Off		
Start/Stop Tractor	Line Feed Set TOF	Form Feed Park/Load		
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	Macro
Demo=Alt.+Macro				

**Press these
Buttons:**

When you want to:

Font

Select one of the:

- four resident font styles (2380 Plus/2381 Plus models)
- eight resident font styles (2390 Plus/2391 Plus models)

Pitch

Set the character pitch:

- 10 cpi, 12 cpi, 15 cpi, 17 cpi, 20 cpi or Proportional Spacing (2380 Plus/2381 Plus models)
- 10 cpi, 12 cpi, 15 cpi, 17 cpi, 20 cpi, 24 cpi or Proportional Spacing (2390 Plus/2391 Plus models)

Press these Buttons:	When you want to:
Micro ↑	<p>Feed the paper upward in:</p> <ul style="list-style-type: none"> • 1/72 inch increments (2380 Plus/2381 Plus models) • 1/90 inch increments (2390 Plus/2391 Plus models) <p>If you press and hold the Micro ↑ key, the paper advances in micro movements and then goes into fast mode.</p> <p>Use the Micro ↑ key to adjust the tear-off position when you are at the tear-off bar.</p>
Micro ↓	<p>Feed the paper downward in:</p> <ul style="list-style-type: none"> • 1/72 inch increments (2380 Plus/2381 Plus models) • 1/90 inch increments (2390 Plus/2391 Plus models) <p>If you press and hold the Micro ↓ key, the paper advances in micro movements and goes into fast mode.</p> <p>Use the Micro ↓ key to adjust the tear-off position when you are at the tear-off bar.</p>
Start/Stop	Alternate the printer between online (Ready light is on) and offline (Ready light is off).
Line Feed	<p>Advance the paper one line.</p> <p>If you press and hold Line Feed, the paper advances 5 micro movements and then goes into fast mode.</p>
Form Feed	Advance the paper to the next Top-Of-Form (TOF).
Macro	Store up to 4 document formats (settings).

Press these Buttons:	When you want to:
Alt	Use the alternate functions (shown in black print on the operator panel). Alt lights for 5 seconds, in time for you to press another button.
Alt + Font	Disable resident font selection by the application software. This function is called Font Lock .
Alt + Pitch	Disable resident pitch selection by the application software. This function is called Pitch Lock .
Alt + Setup	Enter the Setup mode. You can change the various default values and several modes for printer operation.
Alt + Tear Off	Advance the paper so that the lower perforation of the form being printed is aligned with the tear-off bar. Your printer is shipped with Auto Tear-Off set to On . For help, see Table 4 on page 95 (238X printers) or Table 11 on page 104 (239X printers).
Alt + Tractor	Switch between the optional Tractor 2 Feeder and the printer's normal tractor feed. You must install the Tractor 2 Feeder on the printer before you can use this function. For more information on Tractor 2 capability, see page 136.
Alt + Set TOF	Sets Top-Of-Form (TOF). TOF is the position of the first print line on the page.
Alt + Park/Load	Parks (unloads) or loads continuous forms in the printer. Park continuous forms to print either cut (form) sheets or envelopes. Load continuous forms when you are finished printing cut sheets or envelopes. Use this feature in push tractor mode only.


Press these Buttons:	When you want to:
Alt + Macro	Print a demonstration page of text describing the printer's functions.

Note:

- 1 The symbol **Alt +** means you press **Alt** and then press another button within 5 seconds.
- 2 Some functions may not work when data is being processed and the printer is online (**Ready** light is on).
- 3 To select a macro, the printer must be offline and the macro function must be enabled.

Operator Panel Lights

The following table describes the lights on the operator panel:

Lights	When	Indicates
Power	On	The printer power is on.
Ready	On	The printer is online and is ready to print.
	Blinking	You can set Top-Of-Form (TOF). For help, see “Top-Of-Form (TOF)” on page 71.
	Off	The printer is offline.
Tractor 2	On	You have selected Tractor 2. (The Tractor 2 Feeder option must be installed.)
Paper Out	Off	Paper is loaded in the printer.
	Blinking	The printer is out of paper.
	On	A printer error occurred.
Padlock 	On	Operator panel is disabled, restricting the use of panel buttons to Start/Stop, Form Feed and Alt + Park/Load only.

Lights	When	Indicates
Font Lock	On	Font Lock is active and prevents your application program from changing a resident font setting you selected on the operator panel.
Font	On	You (or your application program) selected one of the printer's resident fonts.
Pitch Lock	On	Pitch Lock is active and prevents your application program from changing a resident pitch setting you selected on the operator panel.
Pitch	On	You (or your application program) selected one of the printer's standard pitches.
Macro	On	The macro function is activated.
	Off	The macro function is not activated, or has been temporarily changed from its original settings.
Alt	On	The Alt button was pressed. You can now use any of the following functions: <ul style="list-style-type: none"> • Font Lock • Setup • Tractor • Park/Load • Pitch Lock • Tear-Off • Set TOF • Demo
Blinking		The printer is in Setup mode. For help, see "Using Setup Mode" on page 77.

Using the Operator Panel

Section 3

This section describes how to use the Operator Panel.

2380 Plus/2381 Plus

<input type="checkbox"/> Power	<input type="checkbox"/> Ready	<input type="checkbox"/> Tractor 2	<input type="checkbox"/> Paper Out	<input type="checkbox"/>
Font		<input type="checkbox"/> FastDft		
<input type="checkbox"/> Lock	<input type="checkbox"/> Draft	<input type="checkbox"/> Gothic		
<input type="checkbox"/>	<input type="checkbox"/> Courier			
Pitch		<input type="checkbox"/> 10	<input type="checkbox"/> 20	
<input type="checkbox"/> Lock	<input type="checkbox"/> 12	<input type="checkbox"/> 15	<input type="checkbox"/> PS	
<input type="checkbox"/> 17				
<input type="checkbox"/> Alt	Micro ↑ Setup	Micro ↓ Tear Off		
Start/Stop Tractor	Line Feed Set TOF	Form Feed Park/Load		
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	Macro
Demo=Alt.+Macro				

2390 Plus/2391 Plus

<input type="checkbox"/> Power	<input type="checkbox"/> Ready	<input type="checkbox"/> Tractor 2	<input type="checkbox"/> Paper Out	<input type="checkbox"/>
Font		<input type="checkbox"/> Courier	<input type="checkbox"/> Orator	
<input type="checkbox"/> Lock	<input type="checkbox"/> Prestige	<input type="checkbox"/> Gothic	<input type="checkbox"/> Draft	
<input type="checkbox"/>	<input type="checkbox"/> Presentor	<input type="checkbox"/> FastDft		
Pitch		<input type="checkbox"/> 10	<input type="checkbox"/> 20	
<input type="checkbox"/> Lock	<input type="checkbox"/> 12	<input type="checkbox"/> 15	<input type="checkbox"/> PS	
<input type="checkbox"/> 17				
<input type="checkbox"/> Alt	Micro ↑ Setup	Micro ↓ Tear Off		
Start/Stop Tractor	Line Feed Set TOF	Form Feed Park/Load		
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	Macro
Demo=Alt.+Macro				

Setting the Printer Online or Offline

The printer must be online to accept data.

To set the printer:

- Online, press **Start/Stop**; the **Ready** light comes on. If the paper is not loaded, the **Paper Out** light blinks.
- Offline, press **Start/Stop**; the **Ready** light goes off.

Stopping the Printer

To temporarily stop printing, press **Start/Stop** until the **Ready** light is off. The printer finishes printing the current line and then stops printing.

To resume printing, press **Start/Stop** until the **Ready** light is on.

Advancing the Paper

You can use the operator panel to advance the paper when the printer is not printing.

To advance the paper:

- Press **Form Feed** to advance the paper to the Top-Of-Form (TOF) on the next page or eject the cut form.
- Press **Line Feed** to advance the paper to the next line.
- Press **Micro** \uparrow or **Micro** \downarrow for fine alignment, or press and hold to scroll the paper up or down.

If you are at the tear-off bar and wish to advance the paper:

- Press the **Line Feed**, **Micro** ↑, or **Micro** ↓ keys to move the paper.
- Press **Alt + Tear Off** to move to the Top-Of-Form (TOF). To set Top-of-Form, see “Top-Of-Form (TOF)” on page 71.

Using Tear-Off

Tear-Off works only when the tractor unit is in the push position.

For the Tear-Off function to work properly, the correct page length must be set in the Printer Setup menu and/or your application software. For help using the Printer Setup menu, read Section 6, “Using Setup Mode”.

The Tear-Off function advances the perforation of a continuous form to the tear bar position. Tear-Off can be set to move a continuous form automatically to the tear-off position (Auto Tear-Off is set to **On**), or it can be set so you can move a continuous form manually to the tear-off position (Auto Tear-Off is set to **Off**). To set Auto Tear-Off, see either Table 4 on page 95 (238X printers) or Table 11 on page 104 (239X printers).

Auto Tear-Off Set to On

When Auto Tear-Off is set to **On**, continuous form paper is automatically advanced to the tear-off position when the following conditions are met:

- your printer has finished a print job (and your application software sends the correct command to end the job);
- the paper has advanced to the Top-Of-Form (TOF) or load position on the next page;

- no data, printer control codes, or escape codes have been sent to the printer after advancing to the Top-Of-Form position, and;
- Auto Tear-Off is set to one second and the print buffer has not received data for over one second.

The continuous form remains at the tear-off position until the printer receives the next print request. At that time, the continuous form moves from the tear-off position to the Top-Of-Form (load position) to prepare for printing.

One Second Tear-Off

When Auto Tear-Off is set to one second, continuous form paper automatically advances to the tear-off position if a transmission terminates and no data is received in the second following the termination. For more information, see “Auto Tear-Off (Set to One Second)” on page 76.

Manual Tear-Off (Auto Tear-Off Set to Off)

When Auto Tear-Off is set to **Off**, you can manually advance the perforation of a continuous form to the tear-off position by pressing **Alt + Tear Off**, assuming the print position is still on the same page. To set Auto Tear-Off to **Off**, see “Auto Tear-Off (Set to Off From Setup Menu)” on page 76.


Using the Park/Load Feature

Park/Load works only when the tractor unit is in the push position. For information on changing the tractor position, see page 37.


The Park/Load feature allows you to unload (park) continuous forms in the printer while you print on either cut forms or envelopes. You may also load continuous forms into the printer when the paper path is clear.

Parking Continuous Forms and Loading Cut Forms

Note: If you have installed the Auto Sheet Feeder or Tractor 2 Feeder option, see either “Loading Paper in the Auto Sheet Feeder” on page 128 or “Loading Paper in the Tractor 2 Feeder” on page 142 for paper loading instructions.


- 1 Tear off the continuous form at the perforation.**
- 2 Make sure that the tractor unit is in the push position and the paper select lever is in the continuous forms  position.**
- 3 Press Alt + Park/Load.**

The continuous forms are fed backward out of the paper path. The **Paper Out** light blinks and the paper out alarm sounds.

- 4 Set the paper select lever to the cut forms  position.**
- 5 Open the manual feed door.**
- 6 Load cut forms into the front of the printer.**
- 7 Set Top-Of-Form (TOF) for cut forms.** For help, see “Setting TOF for Cut Forms and Envelopes” on page 74.
- 8 Make sure the printer is online (Ready light is on solid).** If it is not, press Start/Stop until the Ready light is on solid.

Unparking/Loading Continuous Forms

Note: If you have installed the Tractor 2 Feeder, see “Loading Paper in the Tractor 2 Feeder” on page 142 for paper loading instructions.

- 1** Using Form Feed, remove any cut forms or envelopes from the printer.
- 2** Move the paper select lever to the continuous forms  position.
- 3** If necessary, set Top-Of-Form (TOF).

If you...	Then...
Need to set Top-Of-Form	Press Alt + Park/Load . The Paper light goes off. The printer moves the continuous forms from the park position to the first print line. Perform steps 4, 5, and 6.
Do not need to set Top-Of-Form	Press Start/Stop . The paper moves to the first print line, or tear-off position if Auto Tear-Off is On, and the Ready light comes on. Skip steps 4 and 5.

- 4** Press any movement key (Micro \uparrow , Micro \downarrow , or Line Feed) to advance the paper to the Top-Of-Form position you want.
- 5** Press **Alt + Set TOF** or **Start/Stop** to set Top-Of-Form.
- 6** Make sure the printer is online (Ready light is on solid). If it is not, press **Start/Stop** until the Ready light is on solid.

Selecting or Locking a Font

To select a font, press **Font** until you reach the font selection you want.

To lock a font so your software cannot select a different resident font, press **Alt + Font**. The **Font Lock** light comes on and the current font is locked until the printer is turned off.

To disable **Font Lock**, press **Alt + Font** or turn off the printer.

If the printer is offline (the **Ready** light is off), press **Start/Stop**. The **Ready** light comes on and you are ready to print in the new font.

Selecting or Locking a Pitch


To select a pitch, press **Pitch** until you reach the pitch selection you want.

To lock a pitch to prevent your software from selecting a different resident pitch, press **Alt + Pitch**. The **Pitch** light comes on and the pitch is locked until the printer is turned off.

To disable Pitch Lock, press **Alt + Pitch** or turn off the printer.

If the printer is offline (the **Ready** light is off), press **Start/Stop**. The **Ready** light comes on and you are ready to print in the new pitch.

Disabling/Enabling the Operator Panel

To restrict the use of printer functions to just the **Start/Stop**, **Form Feed** and **Alt + Park/Load** buttons, you can disable or lock the operator panel. When the panel is locked, the padlock light  comes on.

- 1 Turn the printer off.**
- 2 Press and hold Micro ↑ and Micro ↓ and turn on the printer.**

To enable the operator panel, repeat the above procedure.

Selecting Tractor Mode

If you installed the optional Tractor 2 Feeder, you can press **Alt + Tractor** to switch between the normal tractor feeder and the Tractor 2 Feeder. The **Tractor 2** light comes on when the Tractor 2 Feeder is selected and goes off when the normal tractor feeder is selected.

Before switching tractor feeders, make sure you tear off excess paper that has been printed.

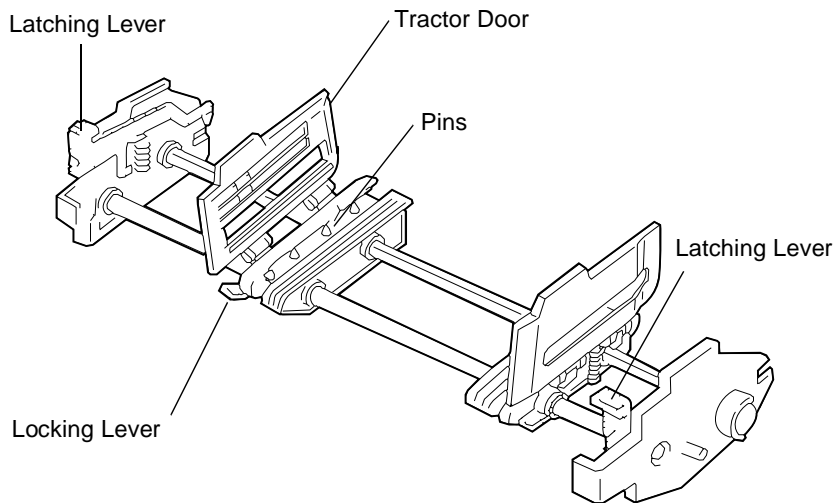
For more information on the optional Tractor 2 Feeder, see “Using the Tractor 2 Feeder” on page 136.

Note: To install the Tractor 2 Feeder properly, you must turn the printer off, connect the Tractor 2 Feeder cable, then turn the printer on.

Changing Tractor Positions

Section 4

This section describes how to change the tractor unit position. The following illustration shows the tractor unit.

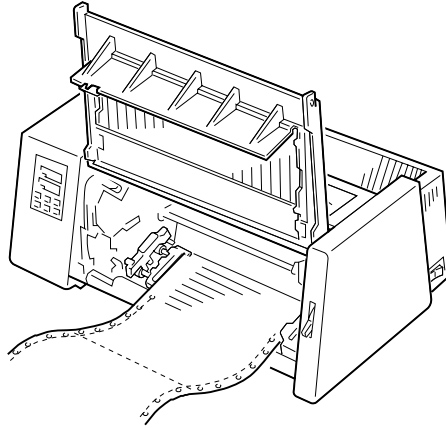


The tractor unit can be installed in the push tractor position or the pull tractor position.

Push Tractor Position

The printer is shipped with the tractor unit installed at the front of the printer, which is the push tractor position.

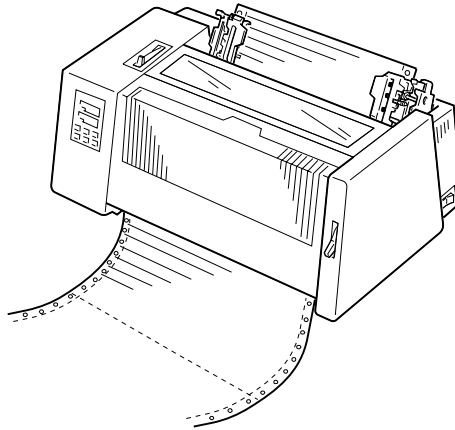
This position lets you tear off forms for document-on-demand.



Pull Tractor Position

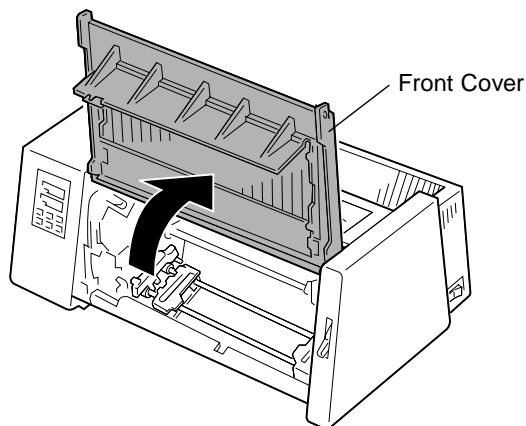
When the tractor unit is installed at the top of the printer, it functions as a pull tractor and supports front and bottom loading.

This position does not support document-on-demand.

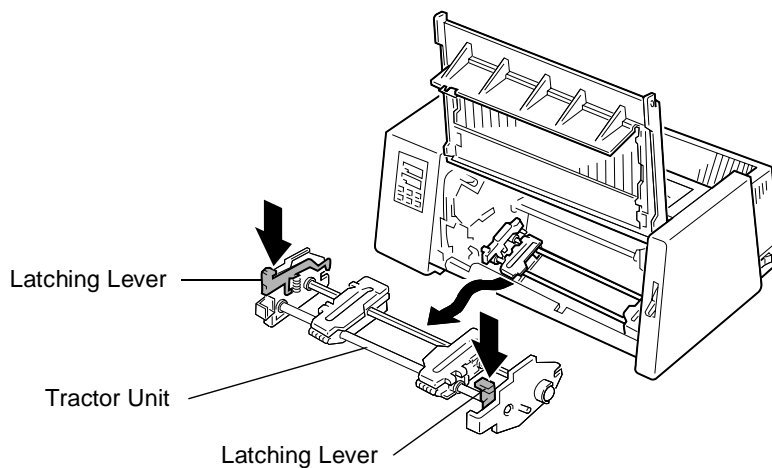


Removing the Push Tractor

- 1** Turn the printer Off.
- 2** Make sure paper is not loaded in the printer.
- 3** Pull up the bottom front of the printer to open the front cover.

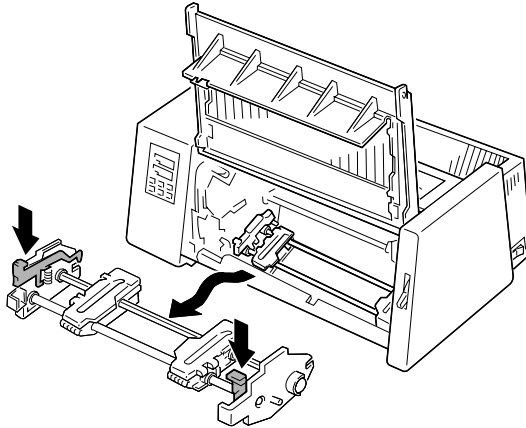


- 4** While squeezing the latching levers, pull and lift out the tractor unit.

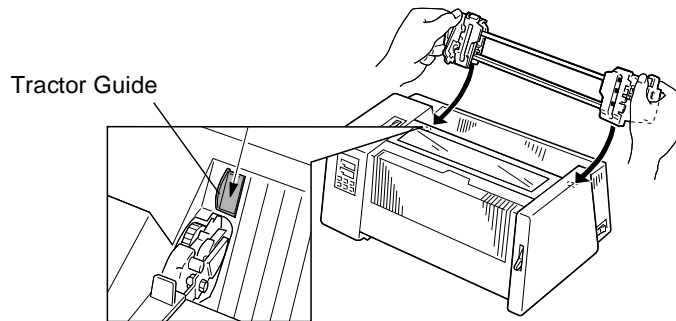


Installing the Pull Tractor

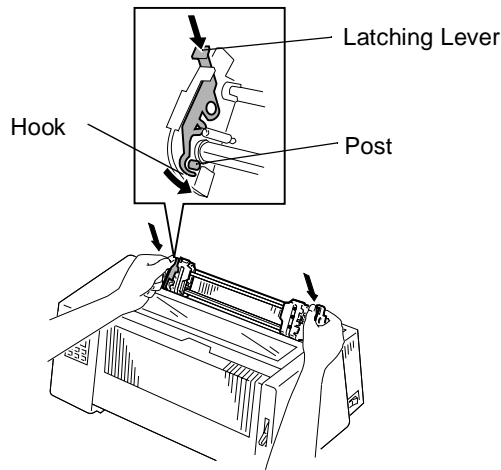
- 1** Make sure the printer is Off.
- 2** Make sure paper is not loaded in the printer.
- 3** Remove the tractor unit from the push tractor position.
For help, see “Removing the Push Tractor” on page 39.



- 4** Turn the tractor unit around so that the latching levers are upright, facing you.
- 5** Place the tractor against the back slant of your printer along the tractor guides.



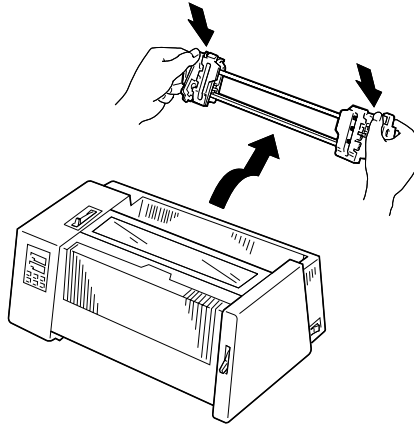
- 6** To slide the tractor feeder into the printer:
 - a** Squeeze the latching levers and gently push the tractor feeder into the printer until it stops.
 - b** While squeezing the latching levers, tilt the tractor feeder forward until the hooks at the end of the latching levers fit around the posts on the printer frame.
 - c** Release the latching levers. The tractor unit fits into place at a 45° angle.



Removing the Pull Tractor

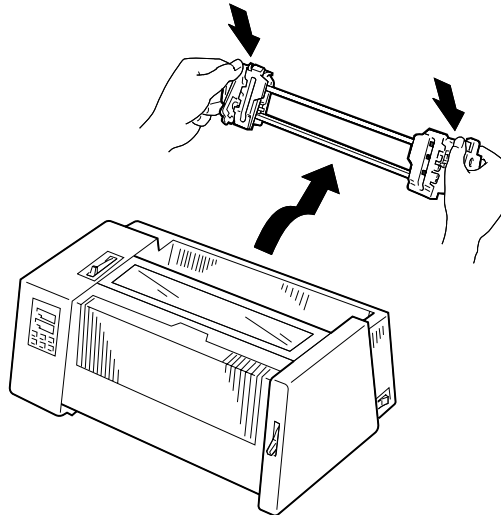
- 1** Make sure the printer is Off.
- 2** Make sure paper is not loaded in the printer.

- 3** While squeezing the latching levers, pull out and up on the tractor unit.



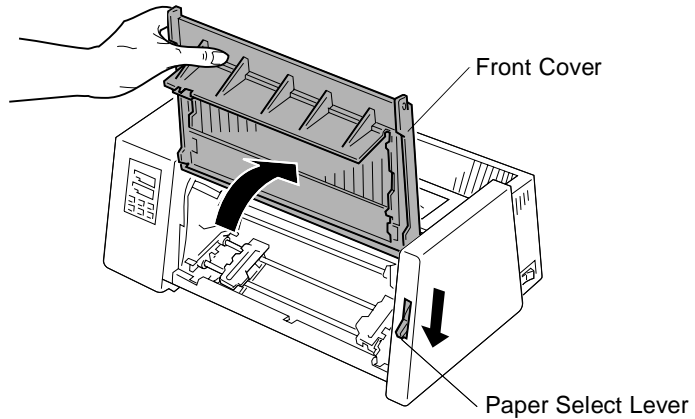
Installing the Push Tractor

- 1** Make sure the printer is Off.
- 2** Make sure the paper is not loaded in the printer.
- 3** Remove the tractor unit from the pull tractor position. For help, see “Removing the Pull Tractor” on page 41.

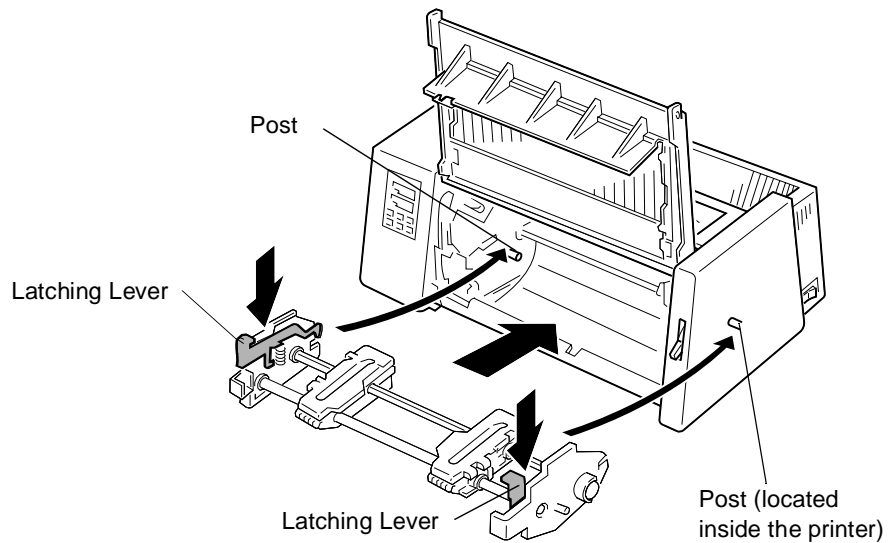


4 Pull up the bottom front of the printer to open the front cover.

5 Push down the paper select lever.



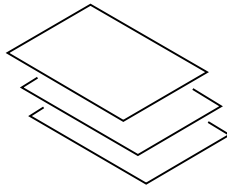
6 While squeezing the latching levers, fit the left and right latches onto the posts in the printer. Release the latching levers.



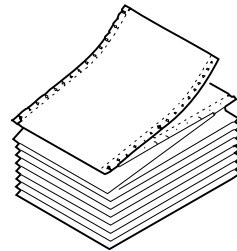
Paper Loading

Section 5

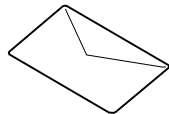
This section describes how to load cut forms, continuous forms, labels, and envelopes.



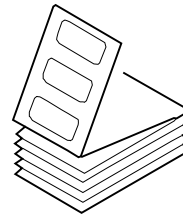
Cut (Form) Sheet



Continuous Forms



Envelope




Labels

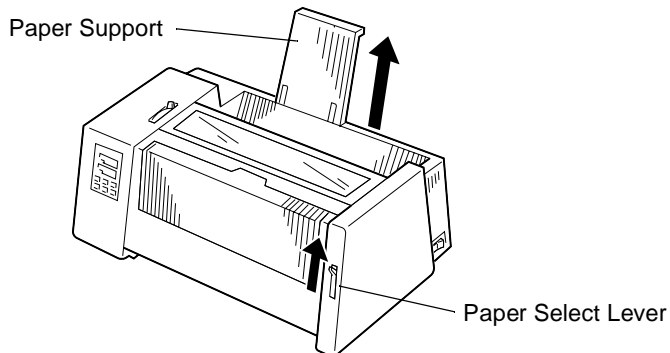
Loading Cut Forms or Envelopes

Cut forms are single sheets or multi-part forms that are loaded one at a time into the manual feed door.

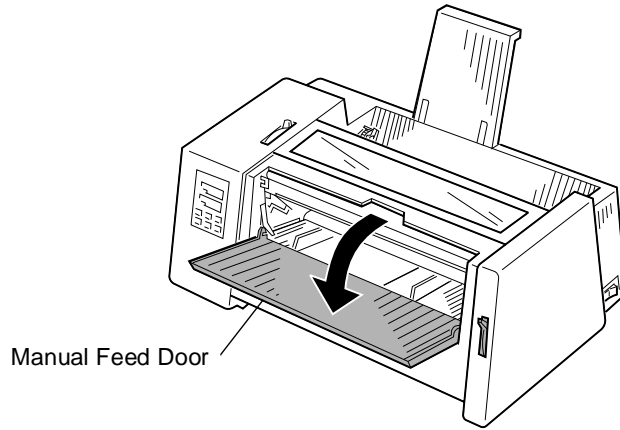
Note: If you have installed the optional Auto Sheet Feeder or Tractor 2 Feeder, see “Using the Auto Sheet Feeder” on page 122 or “Using the Tractor 2 Feeder” on page 136 for paper loading instructions.

Loading Cut Forms or Envelopes into the Manual Feed Door

- 1** Turn the printer On.
- 2** Make sure the paper path is clear.
 - a** If continuous forms are currently loaded with the tractor unit in the push position, park them by pressing **Alt + Park/Load**.
 - b** If continuous forms are currently loaded with the tractor unit in the pull position, remove the forms.
- 3** Set the forms thickness lever to a suitable setting. (See “Setting the Forms Thickness Lever” on page 68).
- 4** Move the paper select lever up to the cut forms  position.
- 5** Pull the paper support up.

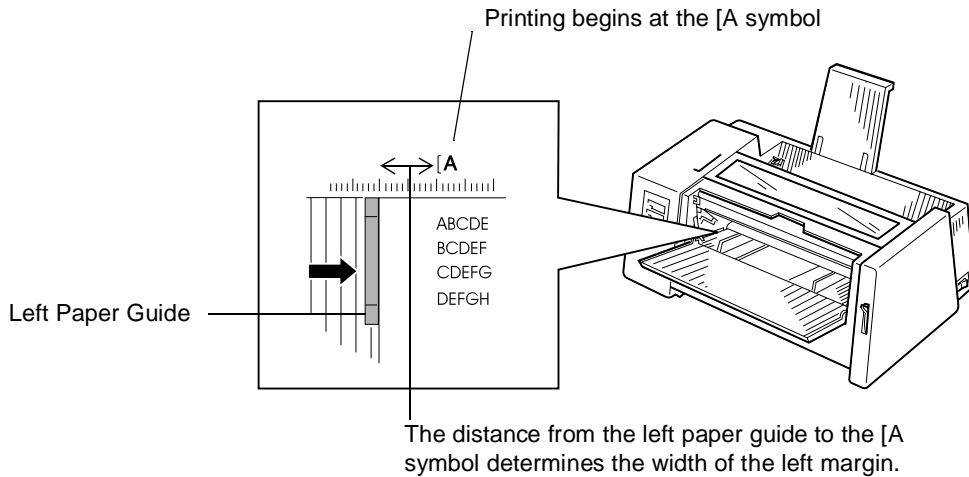


6 Open the manual feed door.



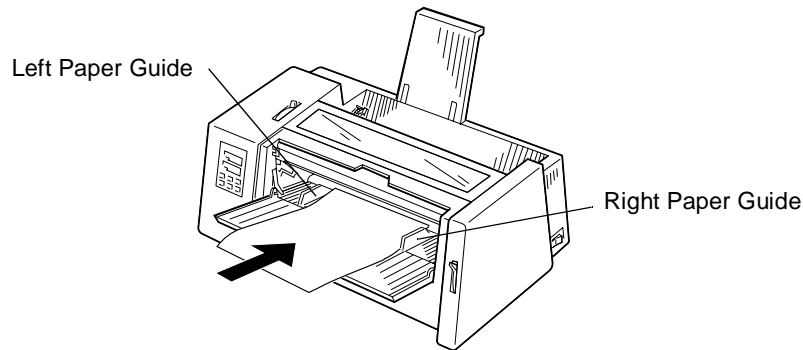
7 **Set the left margin.** Before inserting paper, move the left paper guide so that the print start position you want aligns with the symbol [A] printed on the margin guide. For help, see “Aligning the Left Margin” on page 66.

When you load preprinted forms, put the top of the form in first, printed side up. When you load envelopes, put the top edge in first, printed side up.



Note: If you make a left margin setting in your application software, it is added to the left margin setting on the printer. For example, if you set the left margin at 1 inch on the printer, and also have the left margin set at 1 inch in your application software, the printer begins printing 2 inches from the left edge of the page.


- 8** Place a cut form against the left paper guide. Move the right paper guide so that the guide aligns with the right edge of the paper.

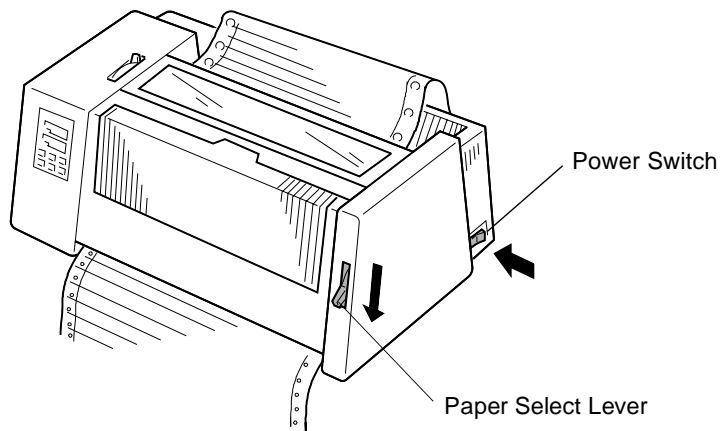


- 9** Insert paper into the printer. The Paper Out light stops blinking.
 - a** If Auto Cut Sheet Load is **On** (factory default), the paper feeds automatically to the Top-Of-Form (TOF).
 - b** If Auto Cut Sheet Load is **Off**, press **Form Feed**.
- 10** Make sure the printer is online (Ready light is on solid). If it is not, press **Start/Stop** until the Ready light is on solid. You are now ready to print.

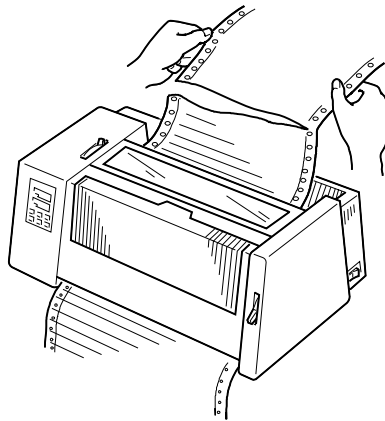
Loading Cut Forms or Envelopes With Continuous Forms


Use this function only when the tractor is in the push position (factory default).

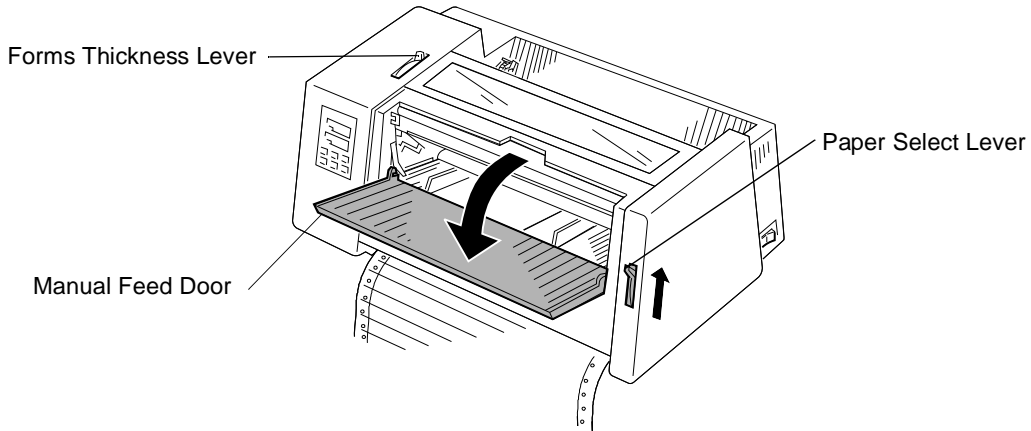
- 1** Move the paper select lever down to the continuous forms  position.
- 2** Turn the printer On.



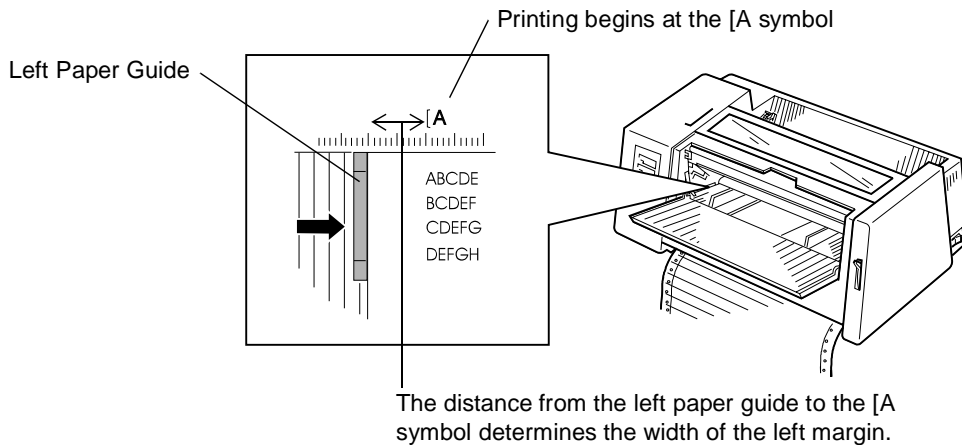
- 3** To clear the paper path, tear off the leading edge of the continuous form. Then park the continuous forms by pressing **Alt + Park/Load**.



- 4** Set the forms thickness lever to a suitable setting. (For help, see “Setting the Forms Thickness Lever” on page 68).
- 5** Open the manual feed door.
- 6** Move the paper select lever up to the cut forms  position.



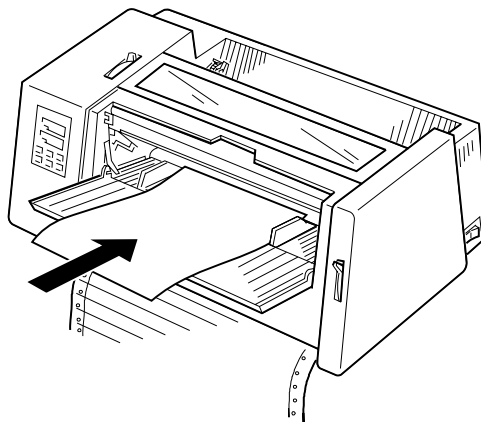
- 7** Set the left margin. Before inserting paper, move the left paper guide so that the print start position you want aligns with the symbol printed on the margin guide. For help, see “Aligning the Left Margin” on page 66.



If you are loading preprinted forms or envelopes, put the top edge in first, printed side up.

Note: If you make a left margin setting in your application software, it is added to the left margin setting on the printer. For example, if you set the left margin at 1 inch on the printer, and also have the left margin set at 1 inch in your application software, the printer begins printing 2 inches from the left edge of the page.

- 8 Place the paper against the left and right paper guides and insert it into the printer.** The Paper Out light stops blinking.
 - a** If Auto Cut Sheet Load is **On** (factory default), the paper feeds automatically to the Top-Of-Form (TOF).
 - b** If Auto Cut Sheet Load is **Off**, press **Form Feed**.
- 9 Make sure the printer is online (Ready light is on solid).** If it is not, press **Start/Stop** until the Ready light is on solid. You are now ready to print.



Loading Continuous Forms

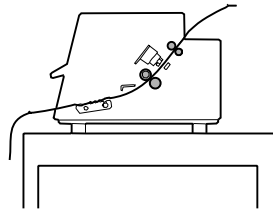
The printer offers four paper paths depending on the installation of the tractor unit.

Note: If you have installed the optional Auto Sheet Feeder or Tractor 2 Feeder, see “Using the Auto Sheet Feeder” on page 122 or “Using the Tractor 2 Feeder” on page 136 for paper loading instructions.

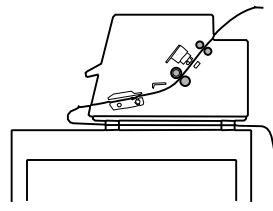
The following figures show each of the four paper paths.

Paper Paths for the Push Tractor

These paths are recommended for graphic and chart applications.



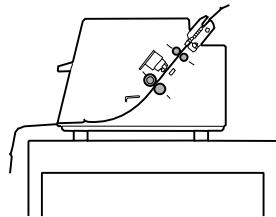
Front Loading



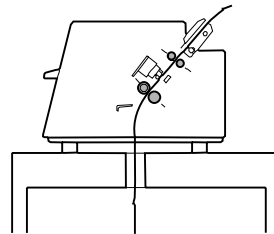
Rear Loading

Paper Paths for the Pull Tractor

These paths are recommended for printing heavy duty, multi-part forms.



Front Loading

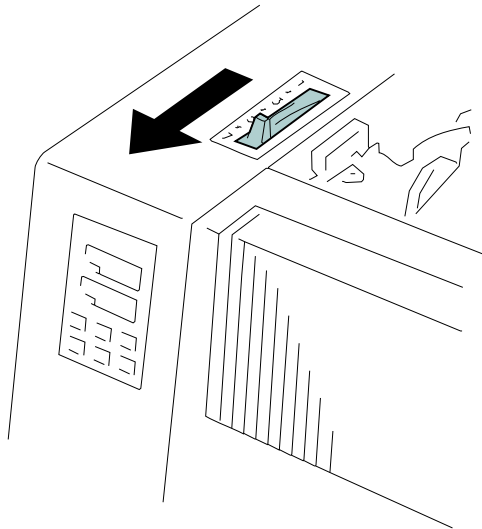



Bottom Loading

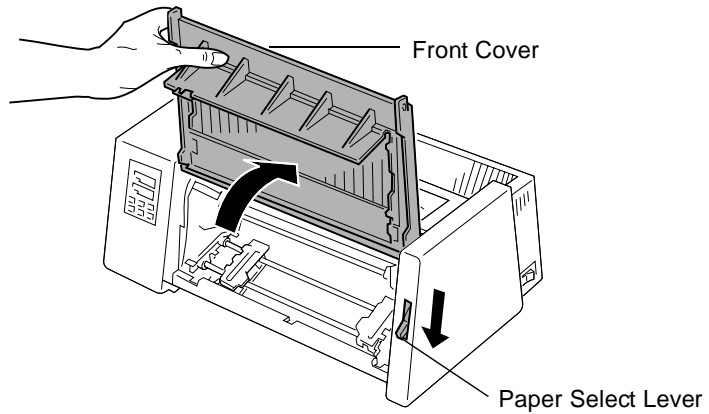
Loading Continuous Forms on the Push Tractor

The factory setting for your printer is the push tractor position. If your printer is not in this position, see “Installing the Push Tractor” on page 42.

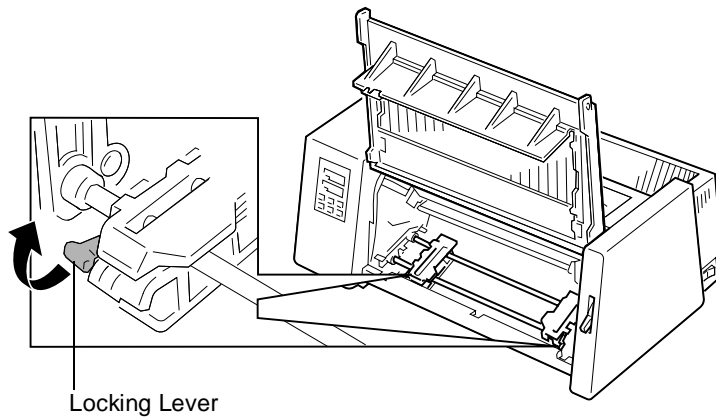
- 1 Turn the printer On.**
- 2 Make sure the paper path is clear. If a cut form or envelope is loaded in the printer, press Form Feed to remove it.**
- 3 Set the forms thickness lever to a suitable setting. See “Setting the Forms Thickness Lever” on page 68.**



- 4** Move the paper select lever down to the continuous forms  position.
- 5** Pull up the bottom front of the printer to open the front cover.



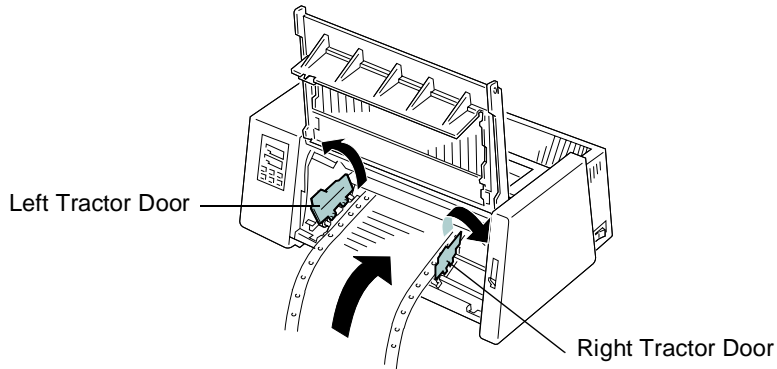
- 6** Pull up the left and right tractor locking levers to unlock the tractors.



7 Open the left and right tractor doors.

8 Place the paper pinfeed holes over the second or third pins of the tractor unit.

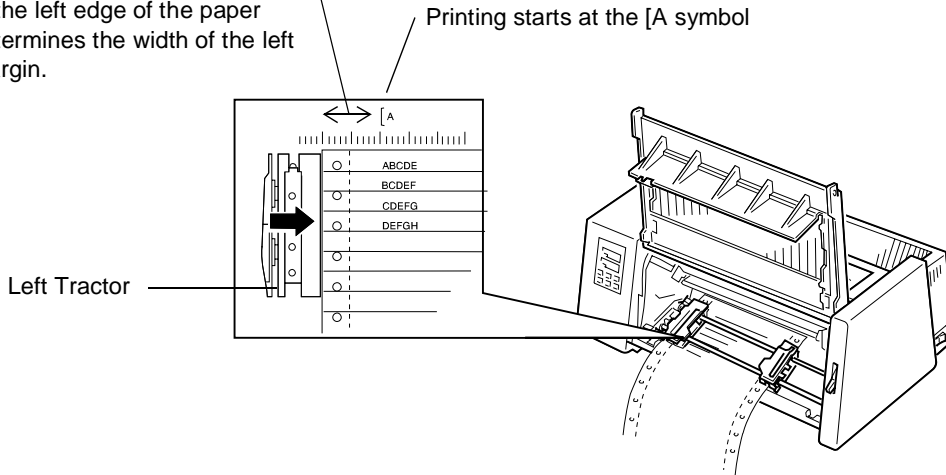
If necessary, move the left or right tractor to adjust the tractor to the paper width.



9 Close the left and right tractor doors.

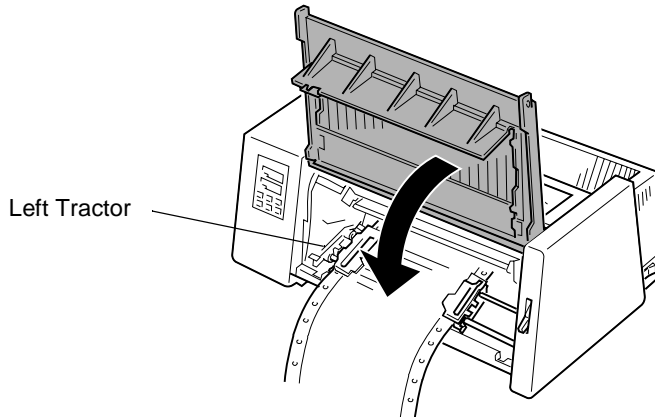
- 10 Set the left margin.** Move the paper so that the print start position you want aligns with the symbol [A printed on the rear plate. For help, see “Aligning the Left Margin” on page 66.

The distance from the [A symbol to the left edge of the paper determines the width of the left margin.



Note: If you make a left margin setting in your application software, it is added to the left margin setting on the printer. For example, if you set the left margin at 1 inch on the printer, and also have the left margin set at 1 inch in your application software, the printer begins printing 2 inches from the left edge of the page.

- 11** Push down the left tractor locking lever to lock the tractor in place. Remove slack from the paper and lock the right lever.
- 12** Close the front cover.



- 13** Press Start/Stop. The paper loads to the first print position, or tear-off position if Auto Tear-Off is On.
- 14** Make sure the printer is online (Ready light is on solid). If not, press Start/Stop until the Ready light is on solid. You are now ready to print.

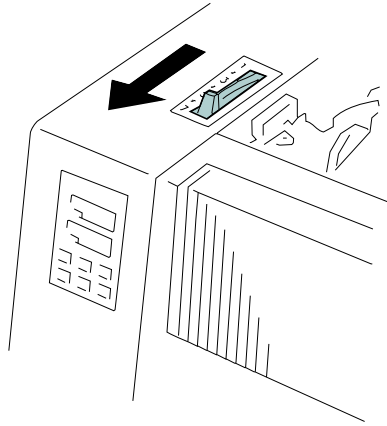
When printing the first page on continuous forms using the push tractor, line spacing within the first 1½ inches of the form may not be uniform.

Front Loading Continuous Forms Using the Pull Tractor

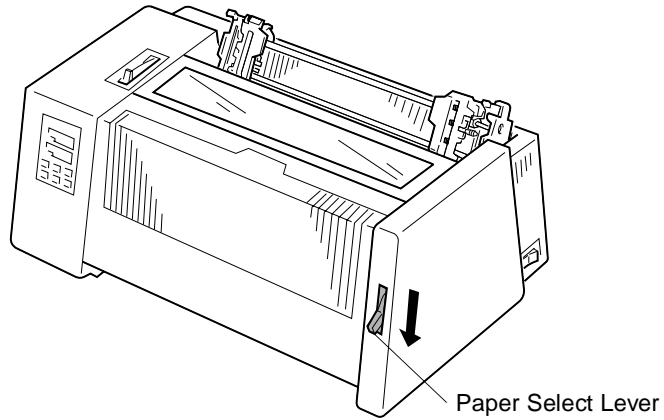
Make sure the tractor is in the pull position. If the tractor unit is not in this position, see “Installing the Pull Tractor” on page 40.

- 1** Turn the printer On.
- 2** Make sure the paper path is clear. If a cut form or envelope is loaded in the printer, remove it.

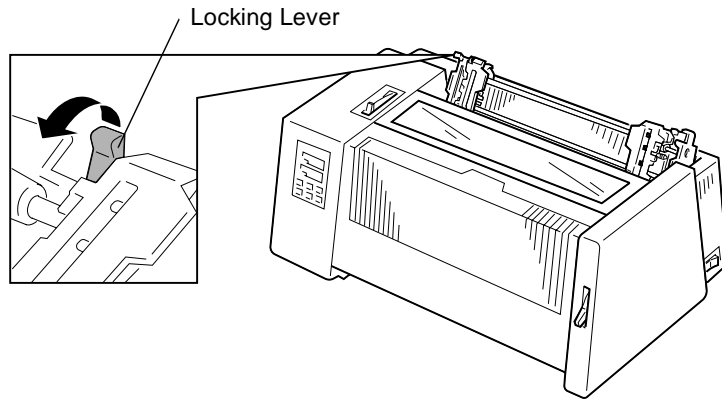
- 3 Set the forms thickness lever to position 7 while loading the paper.



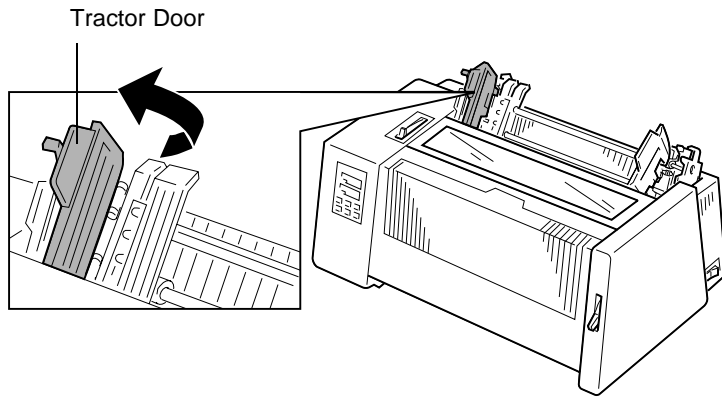
- 4 Move the paper select lever down to the continuous forms  position.



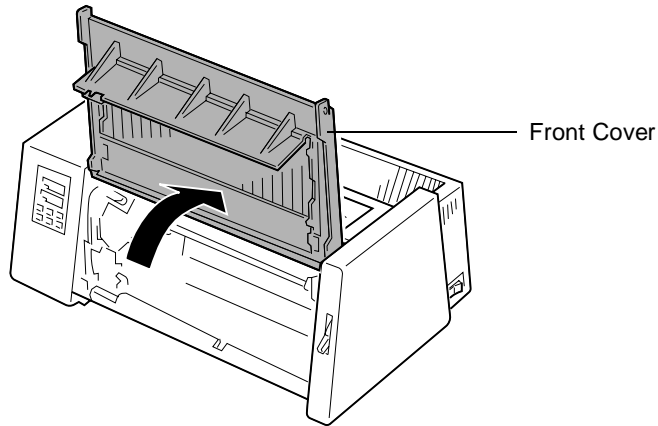
- 5** Pull up the left and right tractor locking levers to unlock the tractors.



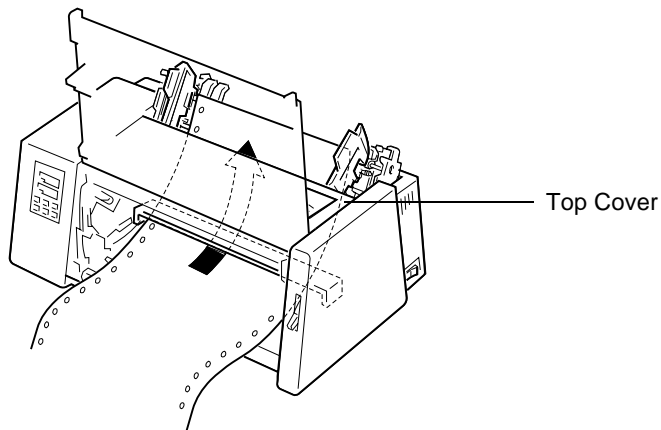
- 6** Open the left and right tractor doors.



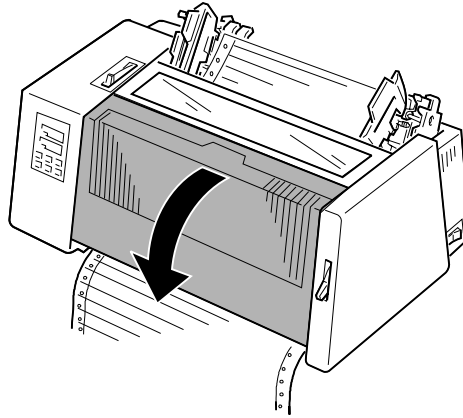
- 7** Pull up the bottom front of the printer to open the front cover.



- 8** Insert paper into the front of the printer between the metal and plastic plates. Push/pull the paper through the paper path until it passes the top cover on the printer.



9 Close the front cover.

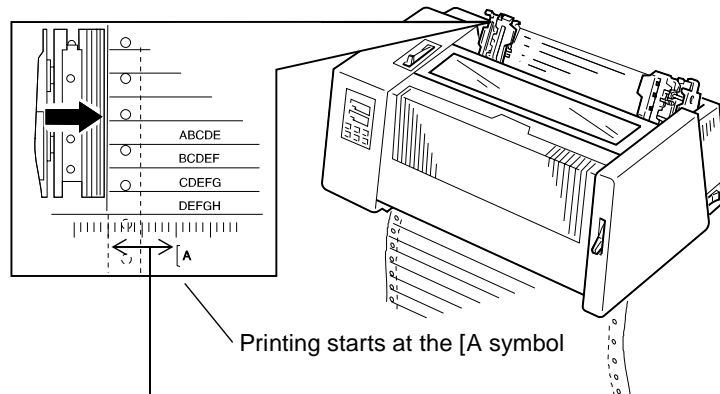


10 Fit the paper pinfeed holes over the tractor pins.

If necessary, move the left or right tractor to adjust the tractor to the paper width.

11 Close the left and right tractor doors.

12 Set the left margin. Move the paper so that the print start position you want aligns with the [A symbol printed on the top cover. For help, see “Aligning the Left Margin” on page 66.



Printing starts at the [A symbol

The distance from the [A symbol to the left edge of the paper determines the width of the left margin.

Note: If you make a left margin setting in your application software, it is added to the left margin setting on the printer. For example, if you set the left margin at 1 inch on the printer, and also have the left margin set at 1 inch in your application software, the printer begins printing 2 inches from the left edge of the page.

- 13 Push down the left tractor locking lever to lock in place. Remove slack from the paper and lock the right lever.**
- 14 Move the forms thickness lever back to a suitable setting.** (For help, see “Setting the Forms Thickness Lever” on page 68.)
- 15 Press Micro ↑, Micro ↓, or Line Feed to move the paper to the Top-Of-Form (TOF) you want.**
- 16 Press Alt + Set TOF to set Top-Of-Form.**

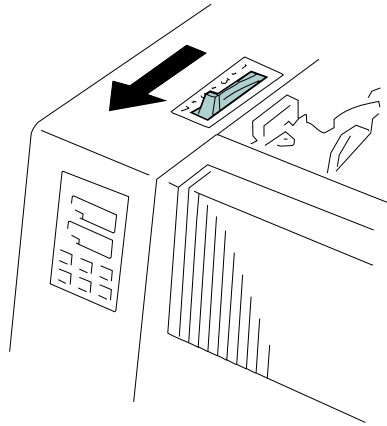
Top-Of-Form is not saved if the printer is powered off or runs out of paper when using the pull tractor.
- 17 Make sure the printer is online (Ready light is on solid). If not, press Start/Stop until the Ready light is on solid.** You are now ready to print.

Bottom Loading Continuous Forms Using the Pull Tractor

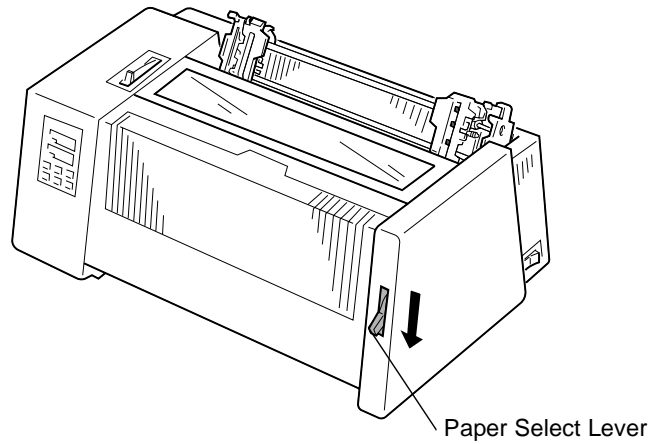
Make sure the tractor is in the pull position. If the tractor is not in this position, see “Installing the Pull Tractor” on page 40.

- 1 Turn the printer On.**
- 2 Make sure the paper path is clear.** If a cut form or envelope is loaded in the printer, press **Form Feed** to remove it.

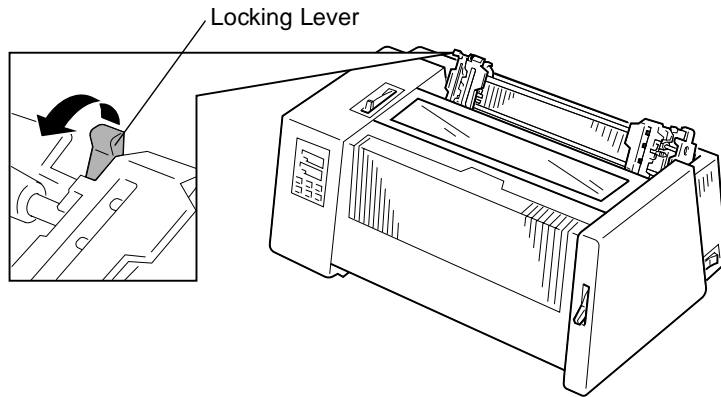
- 3** Set the forms thickness lever to position 7 while loading the paper.



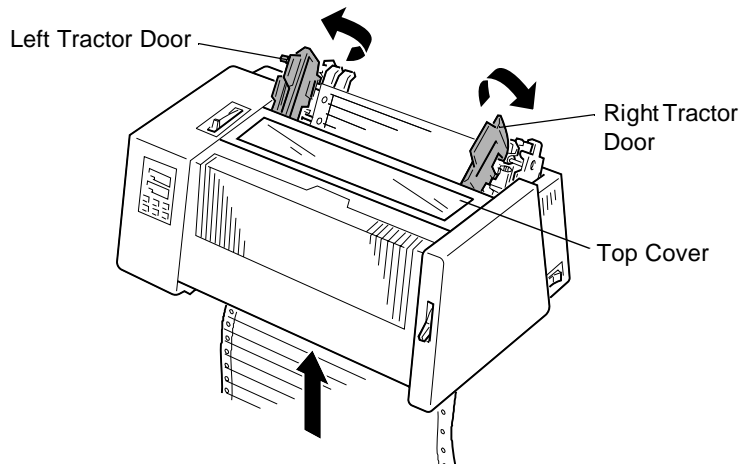
- 4** Move the paper select lever to the continuous forms position.



- 5** Pull up the left and right tractor locking levers to unlock the tractors.

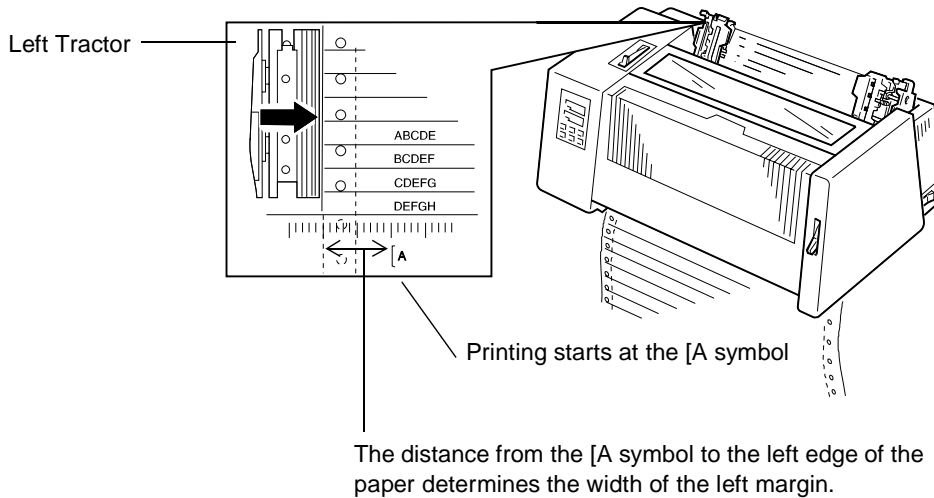


- 6** Open the left and right tractor doors.
- 7** Insert the paper through the bottom slot of the printer. Push/pull it through the paper path until the top of the page is past the top cover on the printer.



- 8** Fit the paper pinfeed holes over the tractor pins.
If necessary, move the left or right tractor to adjust the tractor to the paper width.
- 9** Close the left and right tractor doors.

- 10 Set the left margin.** Move the paper so that the print start position you want aligns with the [A symbol printed on the top cover. For help, see “Aligning the Left Margin” on page 66.



Note: If you make a left margin setting in your application software, it is added to the left margin setting on the printer. For example, if you set the left margin at 1 inch on the printer, and also have the left margin set at 1 inch in your application software, the printer begins printing 2 inches from the left edge of the page.

- 11 Push down the left tractor locking lever to lock the tractor in place. Remove slack from the paper and lock the right lever.**
- 12 Move the forms thickness lever back to a suitable setting.** (For help, see “Setting the Forms Thickness Lever” on page 68.)
- 13 Press Micro \uparrow , Micro \downarrow , or Line Feed to move the paper to the Top-Of-Form (TOF).**

14 Press Alt + Set TOF to set Top-Of-Form.

Top-Of-Form is not saved if the printer is powered off or runs out of paper when using the pull tractor.

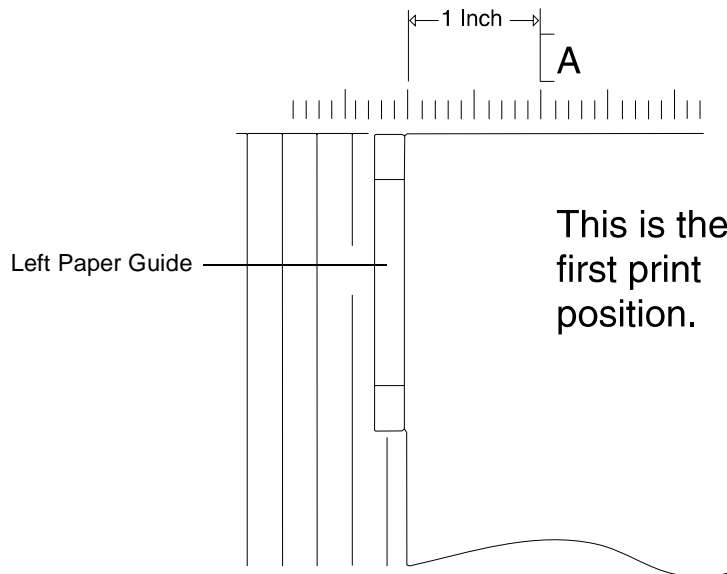
15 Make sure the printer is online (Ready light is on solid). If not, press Start/Stop until the Ready light is on solid. You are now ready to print.

Aligning the Left Margin

You can manually change the first print position at the left margin. The first print position is indicated by the [A symbol. You can also set the left margin from your application software.

Manually-Loaded Cut Forms or Envelopes

To set the left margin for cut forms or envelopes, move the left paper guide to the left of the [A symbol, located above the left paper guide.

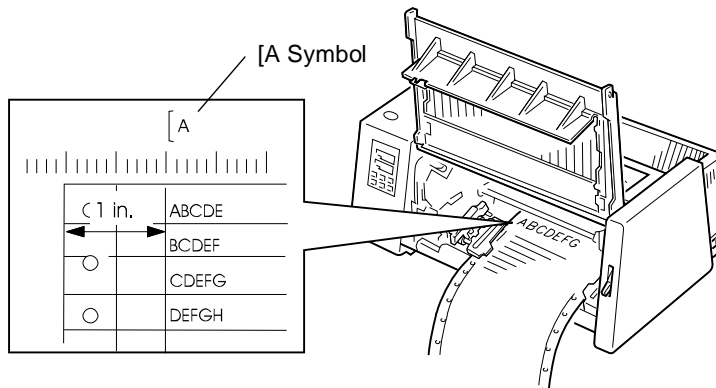
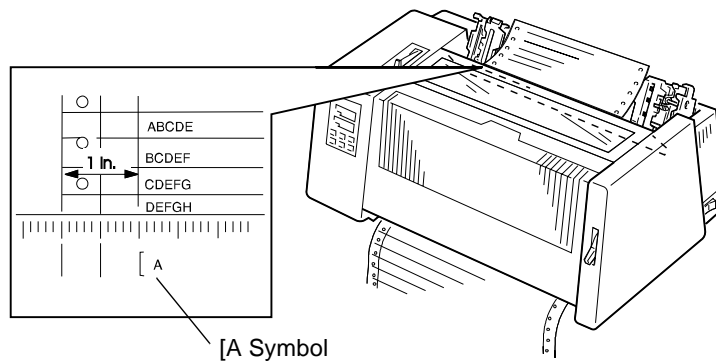


After doing this, you may need to adjust the right paper guide to fit flush against the right edge of the page.

If you make a left margin setting in your application software, it is added to the left margin setting on the printer. For example, if you set the left margin at 1 inch on the printer, and also have the left margin set at 1 inch in your application software, the printer begins printing 2 inches from the left edge of the page.

Continuous Forms

To set the left margin for continuous forms, first locate the [A] symbol on the printer. The location of this symbol depends on the position of the tractor unit (see figures below):



Pull up the left and right tractor locking levers to unlock the tractors. Move the left tractor to the left or right of the [A symbol. Push down the left tractor locking lever to lock it in place. Remove slack from the paper and lock the right lever.

Setting the Forms Thickness Lever

You can use the forms thickness lever to adjust printing on various forms, depending on the paper thickness. Refer to the following table when setting this lever.

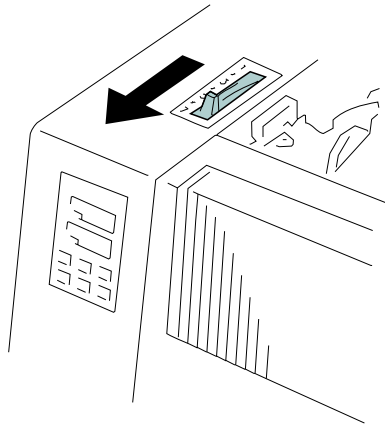


Table 1. 2380 Plus/2381 Plus

Paper Type	Paper Thickness	Weight Of Paper	Forms Thickness Lever Setting
Single Forms (Cut or Continuous)	Thin	45.1 g/m ² (12 lb) 56.25 g/m ² (15 lb)	1

Table 1. 2380 Plus/2381 Plus

Paper Type	Paper Thickness	Weight Of Paper	Forms Thickness Lever Setting
Single Forms (Cut or Continuous)	Normal	67.5 g/m ² (18 lb) 75 g/m ² (20 lb)	1 or 2
	Thick	90 g/m ² (24 lb)	2
Multiple-Part Forms (see note 1)	—	2 Part Form	2 or 3
		3 Part Form	3 or 4
		4 Part Form	4 or 5
		5 Part Form	5 or 6
		6 Part Form	5, 6, or 7 (see note 2)
Envelopes			4, 5, or 6

Table 2. 2390 Plus/2391 Plus

Paper Type	Paper Thickness	Weight Of Paper	Forms Thickness Lever Setting
Single Forms (Cut or Continuous)	Thin	45.1 g/m ² (12 lb)	1
		56.25 g/m ² (15 lb)	

Table 2. 2390 Plus/2391 Plus

Paper Type	Paper Thickness	Weight Of Paper	Forms Thickness Lever Setting
Single Forms (Cut or Continuous)	Normal	67.5 g/m ² (18 lb) 75 g/m ² (20 lb)	1 or 2
	Thick	90 g/m ² (24 lb)	2
Multiple-Part Forms (see note 1)	—	2 Part Form 3 Part Form 4 Part Form	2 or 3 3 or 4 4 or 5
Envelopes			4 or 5

Notes:

- 1** The print quality depends on the multi-paper quality and the operating environment. Printing at low temperature may cause poor print quality, depending on the paper used.
- 2** When the setting is 4 or higher, printing speed becomes slower.

Top-Of-Form (TOF)

Top-Of-Form sets the first line of print. It is set and saved from the operator panel for cut forms, continuous forms, and for each macro that is enabled.

When you have continuous forms loaded in the printer, the paper moves to the Top-Of-Form when you press **Form Feed** or **Park/Load**.

Setting TOF in a Macro

Each macro has a separate Top-Of-Form setting. To set Top-Of-Form in a macro, you must first select that macro:

- 1 Press Start/Stop to take the printer offline.** The Ready light is off.
- 2 Press the Macro button to select the macro for which you want to set Top-Of-Form.**
- 3 Make sure the printer is online (Ready light is on solid).** If it is not, press Start/Stop until the Ready light is on solid.

Now set the Top-Of-Form. The procedure for setting Top-Of-Form depends on the paper and print mode you are using. To set the Top-Of-Form, locate the appropriate procedure in the remaining pages of this chapter.

Setting TOF for Continuous Form Paper in Push Mode

Top-Of-Form (TOF) can range from minus 1 inch to plus 14 inches from the top of continuous form paper.

Note: Use this method to set Top-Of-Form for continuous forms loaded in the optional Tractor 2 Feeder.

To set and save Top-Of-Form (TOF):

1 Turn the printer On.

The **Paper Out** light blinks.

2 Make sure the paper path is clear.

3 Move the paper select lever down to the continuous forms  position.

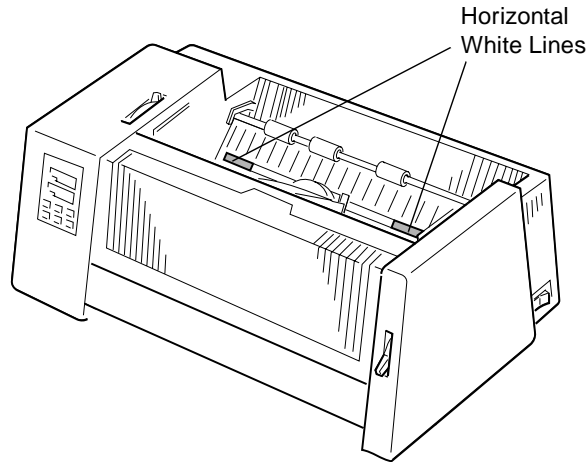
4 Load continuous form paper on the push tractor feed pins (or Tractor 2 feed pins if you are using the Tractor 2 Feeder option).

5 Press Form Feed.

The paper moves to the current Top-Of-Form. The **Paper Out** light is off. The **Ready** light blinks, indicating you are in Top-Of-Form mode.

6 Press any paper movement key (Micro ↑, Micro ↓, or Line Feed) to move the paper to the position you want.


The illustration shows the position of the two horizontal white lines on either side of the metal platen bar. Use these lines as your reference point when lining up your Top-Of-Form. The bottom of a printed character will be even with the white lines.



- 7** Press **Alt + Set TOF** or **Start/Stop** to set and save Top-Of-Form. The **Ready** light comes on solid.

Whenever you change the Top-Of-Form setting, unload and reload the paper by pressing **Alt + Park/Load**. This ensures the printer goes to the current Top-Of-Form setting.

Setting TOF for Continuous Form Paper in Pull Mode

- 1** Turn the printer On.
The **Paper Out** light blinks.
- 2** Move the paper select lever down to the continuous forms  position.
- 3** Load continuous form paper on the pull tractor feed pins.

4 Press Form Feed.

The paper moves to the current Top-Of-Form. The **Paper Out** light is off.

5 Press any paper movement key (Micro ↑, Micro ↓ or Line Feed) to move the paper to the position you want.**6 Press Alt + Set TOF to set Top-Of-Form. The Ready light comes on solid.**

Top-Of-Form is not saved if the printer is powered off or runs out of paper when the printer is in pull tractor mode.

Setting TOF for Cut Forms and Envelopes

Top-Of-Form can range from minus 1 to plus 22 inches from the top of cut sheet paper. To set and save Top-Of-Form:

1 Turn the printer On.

The **Paper Out** light blinks.

2 Make sure continuous forms are parked (press Alt + Park/Load.)**3 Move the paper select lever up to the cut forms  position.****4 Load a cut sheet of paper or envelope through the manual feed door.**

The printer moves the paper or envelope to the current Top-Of-Form. The **Paper Out** light is off. The **Ready** light blinks, indicating your printer is in Top-Of-Form mode.

- 5** Press any paper movement key (Micro ↑, Micro ↓, or Line Feed) to move the paper or envelope to the position you want.
- 6** Press **Alt + Set TOF** or **Start/Stop** to set and save **Top-Of-Form**. The **Ready** light comes on solid.

When you reload paper, press **Start/Stop**. The paper moves to the **Top-Of-Form**.

Auto Tear-Off (Set to On From Setup Menu)

When **Auto Tear-Off** is **On**, it moves the top perforation of a continuous form to the tear bar (tear-off position) when:

- the printer has finished printing;
- the paper has advanced to the **Top-Of-Form** on the next page;
- no data, printer control codes, or escape codes have been sent to the printer after advancing to the **Top-Of-Form**; and
- the print buffer has not received data for one second.

If you have already set your **Top-Of-Form** and now want to change the **Auto Tear-Off** setting, follow the steps below:

- 1** Press **Start/Stop** to take the printer offline.
- 2** Press **Micro ↑** or **Micro ↓** to move the paper to the desired position on the tear bar. The printer beeps if you go out of range.
- 3** Press **Start/Stop** to set and save the tear-off position. The printer beeps twice. The paper rolls backward, then goes to the new tear-off position. The **Ready** light goes on.

The paper remains at the current tear-off position until you send another job to the printer. The paper moves from the tear-off position to the **Top-Of-Form** and begins printing.

Auto Tear-Off (Set to Off From Setup Menu)

When Auto Tear-Off is **Off**, press **Tear Off** to manually move the continuous form paper to the tear-off position.

Note: Tear-Off is not recommended for labels.

1 When your print job has finished, press **Alt + Tear Off**.

The continuous form moves to the tear-off position.

2 Press **Micro ↑** or **Micro ↓** to move the paper to the desired position on the tear bar.

3 Press **Start/Stop** to set the tear-off position.

The printer beeps twice. The paper rolls backward, then goes to the new tear-off position.

Auto Tear-Off (Set to One Second)

When the print buffer has not received data for one second, Auto Tear-Off automatically moves the continuous form paper to the tear-off bar. The print line can be anywhere on the page for Auto Tear-Off to function in this mode.

To change the Auto Tear-Off setting in One-Second mode:

1 Press **Start/Stop** to take the printer offline.

2 Press **Micro ↑** or **Micro ↓** to move the paper to the desired position on the tear bar. The printer beeps if you go out of range.

3 Press **Start/Stop** to set and save the tear-off position.

The printer beeps twice. The paper rolls backward, then goes to the new tear-off position. The **Ready** light goes on.

If your application software has delays between data transmissions while Auto Tear-Off is set to one second, partial pages may print. To prevent this, set Auto Tear-Off to **On**.

Using Setup Mode

Section 6

Your printer is preset at the factory for font, pitch, form length, and other settings (also called default settings). This section describes how to change these default settings, how to set up macros, and how to set form length. Also included is a summary of setup settings with a quick path for changing settings, and a detailed explanation of each setting (for help, see “Selecting Items From the Setup Menu” on page 93).

How to Use Setup Mode

We recommend loading continuous forms in your printer while you are using Setup mode. You will be printing a series of instruction menus to change printer settings.

To enter Setup mode:

- 1 Press Alt + Setup.** The Main Menu prints. The Alt light blinks as long as the printer is in Setup mode.

Printer Setup Mode - Main Menu	
To Select	Press
Exit and Save Setup	START/STOP
Print All	FONT
Forms Macro Options	PITCH
Data Options	ALT
Control Options	MICRO ↑
Emulation Options	MICRO ↓

- 2 Press Font to print a list of all the available options that can be changed.**
- 3 Select an option from the Main Menu and press the corresponding button.** A new menu prints each time you press a button, telling you which button to press next.

To exit Setup mode:

- 1 Press Start/Stop until the printer returns to the Main Menu.** The Main Menu prints.
- 2 Press Start/Stop again to exit Setup mode.** New settings are saved only when the printer exits Setup mode.

To quickly return to the Main Menu, press the **Macro** button from any menu that has a Return to the Main Menu selection.

We've provided a few examples to help you learn how to change settings in Setup mode.

Example of Changing a Language Setting

To change the language setting in Control Options:

- 1 Have continuous forms loaded in your printer.**
- 2 Press Alt + Setup.**

The **Alt** light blinks, the Main Menu prints. Your printer is in Setup mode.

The examples that follow show 2380 Plus/2381 Plus menus.

Printer Setup Mode - Main Menu	
To Select	Press
Exit and Save Setup	START/STOP
Print All	FONT
Forms Macro Options	PITCH
Data Options	ALT
Control Options	MICRO ↑
Emulation Options	MICRO ↓

3 Press Micro ↑ to print the Control Options menu.

Control Options	Current	Press
Return to Main Menu		START/STOP
Uni-Dir Printing	Off	FONT
Auto Ready Cut Sheet	On	PITCH
Set TOF	Permanent	ALT
Paper Out Alarm	Enabled	MICRO ↑
Bi-Di Alignment		MICRO ↓
Demo Print	Enabled	LINE FEED
Menu Language	English	FORM FEED

- 4** To change the Setup menu language, press Form Feed. The Menu Language menu prints.

Menu Language	
To Select	Press
No Change	START/STOP
English	FONT
French	PITCH
German	ALT
Italian	MICRO ↑
Spanish	MICRO ↓
Return to Main Menu	MACRO

- 5** Press the key that corresponds to the language you need. In the example above, press **Pitch** to select French. The Control Options menu prints in French.
- 6** You can either press Macro to return to the Main Menu or press Start/Stop (No Change) to go back one menu and change another setting.
- 7** If you return to the Main Menu, press Start/Stop to exit Setup mode and save the new setting.

Example of Adjusting Bidirectional (Bi-Di) Alignment

Occasionally, you may wish to adjust the character alignment (also called bidirectional alignment) on your printer. The following steps illustrate how to adjust the alignment of the print wires, and assumes macros are disabled.

- 1** Make sure continuous forms are loaded in your printer.

2 Press Alt + Setup. The **Alt** light blinks and the Main Menu prints. Your printer is in Setup mode.

Examples of 2380 Plus/2381 Plus menus follow.

Printer Setup Mode - Main Menu	
To Select	Press
Exit and Save Setup	START/STOP
Print All	FONT
Forms Macro Options	PITCH
Data Options	ALT
Control Options	MICRO ↑
Emulation Options	MICRO ↓

3 Press Micro ↑.

The Control Options menu prints.

Control Options	Current	Press
Return to Main Menu		START/STOP
Uni-Dir Printing	Off	FONT
Auto Ready Cut Sheet	On	PITCH
Set TOF	Permanent	ALT
Paper Out Alarm	Enabled	MICRO ↑
Bi-Di Alignment		MICRO ↓

4 Press Micro ↓.

The Bi-Di Alignment menu prints.

Bi-Di Alignment	

To Select	PRESS
-----	-----
No Change	START/STOP
Set Alignment	FONT
Return to Main Menu	MACRO

5 Press Font.

The Set Alignment menu prints.

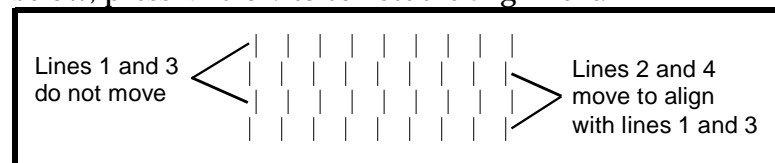
This example shows a printer that needs alignment.

Set Alignment

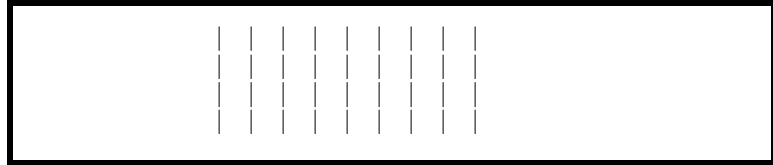
To obtain best alignment of the pattern below press Micro ↑ or Micro ↓.
When aligned, press START/STOP to exit.

- 6 Press either Micro ↑ or Micro ↓ to adjust the alignment.**
 Lines 2 and 4 move to align with lines 1 and 3. The printer is aligned correctly when lines 2 and 4 are vertically aligned with lines 1 and 3.

Press **Micro** ↓ to move lines 2 and 4 to the right. Press **Micro** ↑ to move lines 2 and 4 to the left. In the example below, press **Micro** ↓ to correct the alignment.

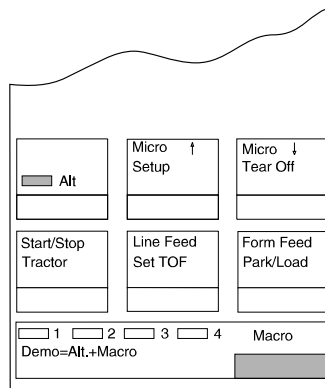


- 7** When your printout is properly aligned, press **Start/Stop** to return to the **Control Options** menu or press **Macro** to return to the **Main Menu**. This example shows a properly aligned printer.



- 8** Press **Start/Stop** again to exit **Setup** mode and save the new setting.

Using the Forms Macro



The operator panel has four macro settings (called Forms Macro) for storing from one to four different formats. You can specify the pitch, font, page length and other settings for each Forms Macro.

For example, you may regularly print a status report in 10-pitch Gothic on 8.5 x 11 inch paper and labels in 20-pitch Courier on 3 x 7.5 inch paper. You would store the settings for the status report in Forms Macro 1 and the settings for labels in Forms Macro 2.

When you are ready to print the status report, use **Macro 1**. For printing labels, use **Macro 2**.

Note: Application software settings can temporarily override macro settings.

Macro Light

When you receive your printer, the macro function is disabled and the macro lights are not on. They will come on when you use (enable) the macro function. Enabling the forms macro is described in “Setting Up a Default Macro”.

The macro lights go off when you make any change from the operator panel or from your software. When the lights are off, the macro settings have been changed. Any changes are temporary and will not be saved. To save settings in a macro, follow the directions described below in “Setting Up a Default Macro”.

Note: You may also set up a macro with the printer command, Set Initial Conditions, which is described in the *Technical Reference*.

Setting Up a Default Macro

While you are setting up your macro, make sure continuous forms are loaded in your printer. You will be printing a series of instruction menus to change macro settings.

Your printer comes with macros disabled. To designate a default macro, or to change the settings in the default macro, you must first enable the macro function.

Note: The default macro is displayed in the Forms Macro Options menu when the printer is turned on.

To enable the forms macro:

- 1 Press Alt + Setup.** The Main Menu prints.

The **Alt** light blinks while your printer is in Setup mode.

The examples that follow show 2380 Plus/2381 Plus menus.

Printer Setup Mode - Main Menu	
To Select	Press
Exit and Save Setup	START/STOP
Print All	FONT
Forms Macro Options	PITCH
Data Options	ALT
Control Options	MICRO ↑
Emulation Options	MICRO ↓

2 Press Pitch. The Forms Macro Options menu prints.

Forms Macro Options		
To Select	Current	Press
Return to Main Menu		START/STOP
Set Default Macro	Disabled	FONT
Character Options		PITCH
Paper Handling Options		ALT

3 Press Font. The Set Default Macro menu prints.

Set Default Macro	
To Select	Press
No Change	START/STOP
Macro 1	FONT
Macro 2	PITCH
Macro 3	ALT
Macro 4	MICRO ↑
Disabled	MICRO ↓
Return to Main Menu	MACRO

- 4** Select the macro you want to use as your default macro by pressing the corresponding button. For example, to designate Macro 1 as the default macro, press **Font**.

The Forms Macro Options menu prints again, with Macro 1 as the current default macro.

Forms Macro Options		
To Select -----	Current -----	Press -----
Return to Main Menu		START/STOP
Set Default Macro	Macro 1	FONT
Macro 1	.....	PITCH
Macro 2	.....	ALT
Macro 3	.....	MICRO ↑
Macro 4	.....	MICRO ↓

While you are using or changing Macro 1, the macro light indicates that your printer is using Macro 1.

To change the Macro 1 settings:

- 5** Press **Pitch**. The Forms Macro 1 Options menu prints.

Forms Macro 1 Options -----	Press -----
No Change	START/STOP
Character Options	FONT
Paper Handling Options	PITCH
Copy Macro	ALT
Return to Main Menu	MACRO

6 Press Font to print the Character Options menu.

Character Options -----	Current -----	Press -----
No Change		START/STOP
Default Font	Gothic	FONT
Default Pitch	10	PITCH
Code Page	437	ALT
Character Set	1	MICRO ↑
20-Pitch	Enabled	MICRO ↓

7 To change the font, press Font.

The printer instructs you to press **Font** until the light is on next to the selected font on the Operator Panel.

8 Press Start/Stop. The Character Options menu prints again, indicating the new font setting.

9 To change the pitch, press Pitch.

The printer instructs you to press **Pitch** until the light is on next to the selected pitch on the Operator Panel.

10 Press Start/Stop. The Character Options menu prints again, indicating the new pitch setting.

11 Press Macro to return to the Main Menu or Start/Stop (No Change) to go back to the previous menu.

12 If you return to the Main Menu, press Start/Stop to exit Setup mode. The new default macro and settings are saved when the printer exits Setup mode.

Using the Macro Copy Function

The copy function is useful if you want to set up another macro that, with a few variations, is like one you have already set up.

To copy and save the settings from one macro to another:

- 1 Make sure you have continuous forms loaded in your printer.**
- 2 Press Alt + Setup.** The Alt light blinks and the Main Menu prints. Your printer is in Setup mode.
- 3 Press Pitch.** The Forms Macro Options menu prints.

Forms Macro Options		
To Select -----	Current -----	Press -----
Return to Main Menu		START/STOP
Set Default Macro	Macro 1	FONT
Macro 1	.....	PITCH
Macro 2	.....	ALT
Macro 3	.....	MICRO ↑
Macro 4	.....	MICRO ↓

- 4 To copy Macro 1 to Macro 2, press Alt to go to the Forms Macro 2 Options menu.** The Macro 2 light comes on while your printer is using that macro.

Forms Macro 2 Options -----	Press -----
No Change	START/STOP
Character Options	FONT
Paper Handling Options	PITCH
Copy Macro	ALT
Return to Main Menu	MACRO

5 Press Alt. The Copy Macro 2 menu prints.

Copy Macro 2 -----	Press ----
No Change	START/STOP
Copy from 1 to 2	FONT
Copy from 3 to 2	PITCH
Copy from 4 to 2	ALT
Return to Main Menu	MACRO

6 Press Font to copy the settings from Macro 1 to Macro 2.

To change the Macro 2 settings:

- 1 Press Start/Stop (No Change) to go back to the Forms Macro 2 Options menu.**
- 2 When you have finished changing settings, press Macro to return to the Main Menu.**
- 3 Press Start/Stop to exit Setup and save the new settings.**

Setting Variable Form Length

You may set the form length (sometimes referred to as page length) in lines per page, from one line to a maximum of 22 inches (558.8 mm). Lines Per Page (lpp) is the term used in the Form Length menu.

Lines per inch (lpi) times forms length equals the lines per page (LPP). For example, 6 lines per inch (lpi) times 11 inches (form length) equals 66 lines per page (lpp).

Exception

A4 is a metric setting. If you change from A4 to another setting, the new setting rounds to the nearest lpp setting in inches. For example, if the current setting is A4 at 6 lines per inch, and you add 10 lpp, the new setting will be 80 lpp/13.33 inches.

How to Change Form Length

This example assumes macros are disabled.

To find out what your current setting is, go to Setup mode.

- 1 Have continuous forms loaded in your printer.**
- 2 Press Alt + Setup.** The Main Menu prints. The Alt light blinks as long as you are in Setup mode.

The examples that follow show 2380 Plus/2381 Plus menus.

Printer Setup Mode - Main Menu	
To Select	Press
-----	-----
Exit and Save Setup	START/STOP
Print All	FONT
Forms Macro Options	PITCH
Data Options	ALT

3 Press Pitch. The Forms Macro Options menu prints.

Forms Macro Options	Current	Press
-----	-----	-----
Return to Main Menu		START/STOP
Set Default Macro	Disabled	FONT
Character Options		PITCH
Paper Handling Options		ALT

Press Alt. The Paper Handling Options menu prints, showing the current setting of 66 Lines Per Page (lpp)/11 inches.

Paper Handling Options	Current	Press
-----	-----	-----
No Change		START/STOP
Auto Tear-Off	On	FONT
Auto Cut Sheet Load	On	PITCH
Auto Sheet Feeder	Off	ALT
Form Length	66 LPP/11.00"	MICRO ↑
Margin		MICRO ↓
Left Margin	0 Inch	
Right Margin	8 Inch	
Bottom Margin	0 Inch	
Lines Per Inch	6 LPI	LINE FEED
Eject by FF	Off	FORM FEED
Return to Main Menu		MACRO

4 Press Micro ↑. The Form Length menu prints.

To Select -----	Press -----
Form Length	
No change	START/STOP
ADD 10 LPP	FONT
ADD 5 LPP	PITCH
ADD 1 LPP	ALT
SUB 10 LPP	MICRO ↑
11Inches	MICRO ↓
12 Inches	LINE FEED
A4 (296.3 mm)	FORM FEED
Return to main menu	MACROS

The next two examples show how to set form length. They can be modified to set any paper length.

To set the form length from 11" (66 lpp) to 14" (84 lpp) at 6 lpi, press these buttons in sequence. Each time you press a button, a menu prints showing the current setting.

Press FONT	(Add 10 LPP)
Press PITCH	(Add 5 LPP)
Press ALT	(Add 1 LPP)
Press ALT	(Add 1 LPP)
Press ALT	(Add 1 LPP)

To set the form length from 14" (84 lpp) to 10" (60 lpp) at 6 lpi:

Press MICRO ↑	(Sub 10 LPP)
Press MICRO ↑	(Sub 10 LPP)
Press MICRO ↑	(Sub 10 LPP)
Press PITCH	(Add 5 LPP)
Press ALT	(Add 1 LPP)

- 5 Press Start/Stop.** The Paper Handling Options menu prints with the new setting.
- 6 Press Macro.** The Main Menu prints.
- 7 Press Start/Stop to exit Setup mode and save these settings.**

Setup Selections

Tables 3 through 16 list the settings you can change under Forms Macro Options, Data Options, Control Options and Emulation Options and assumes macros are disabled.

Setup selections for the 238x Plus follow. Selections for the 239x Plus begin on page 102. A definition of these settings begins on page 111.

Press **Alt + Setup** to enter the Setup menu.

Selecting Items From the Setup Menu

Each country has its own factory settings. Note that these tables show U.S. factory settings.

Table 3. 2380/2381 Plus: Forms Macro Options (Character Options)

To enable/ disable the following functions:	Press the following buttons			Factory setting
	1st button	2nd button	3rd button	
Font (Fast Draft, Draft, Gothic, Courier) (see note 2)	Pitch	Pitch	Font (see note 1)	Draft

Table 3. 2380/2381 Plus: Forms Macro Options (Character Options)

To enable/disable the following functions:	Press the following buttons			Factory setting
	1st button	2nd button	3rd button	
Pitch (10, 12, 15, 17, 20, PS)	Pitch	Pitch	Pitch (see note 1)	10
Code Page <ul style="list-style-type: none"> • No change • 437 • 850 • 860 • 861 • 863 • 865 • 1004 • 1053 (see note 3)	Pitch	Pitch	Alt Start/Stop Font Pitch Alt Micro ↑ Micro ↓	437
Character set <ul style="list-style-type: none"> • No change • 1 • 2 	Pitch	Pitch	Micro ↑ Start/Stop Font Pitch	1
20-pitch <ul style="list-style-type: none"> • No change • Enabled • Disabled 	Pitch	Pitch	Micro ↓ Start/Stop Font Pitch	Enabled
Note: <ol style="list-style-type: none"> 1 Press until light on operator panel corresponds with font or pitch you want, then press Start/Stop. 2 Fast Draft only runs in 10 and 12 pitch. 3 More options are available. 				

Table 4. 2380/2381 Plus: Forms Macro Options (Paper Handling)

To enable/ disable the following functions	Press the following buttons			Factory setting
	1st button	2nd button	3rd button	
Auto Tear-Off <ul style="list-style-type: none"> • No change • On • Off • One second 	Pitch	Alt	Font Start/Stop Font Pitch Alt	Off
Auto Cut Sheet Load <ul style="list-style-type: none"> • No change • On • Off 	Pitch	Alt	Pitch Start/Stop Font Pitch	On
Auto Sheet Feeder <ul style="list-style-type: none"> • No change • On • Off (see note 1)	Pitch	Alt	Alt Start/Stop Font Pitch	Off
Tractor 2 Feeder <ul style="list-style-type: none"> • No change • On • Off (see note 2)	Pitch	Alt	Alt Start/Stop Font Pitch	Off

Table 4. 2380/2381 Plus: Forms Macro Options (Paper Handling)

To enable/ disable the following functions	Press the following buttons			Factory setting
	1st button	2nd button	3rd button	
Forms Length <ul style="list-style-type: none"> • No change • Add 10 LPP • Add 5 LPP • Add 1 LPP • Sub 10 LPP 	Pitch	Alt	Micro ↑ Start/Stop Font Pitch Alt Micro ↑	11 Inch See “Setting Variable Form Length” on page 89.
Margins <ul style="list-style-type: none"> • No change • Left • Right • Bottom 	Pitch	Alt	Micro ↓ Start/Stop Font Pitch Alt	L - 0 Inch R - 8 Inch (2380 Plus) R - 13.6 Inch (2381 Plus) B - 0 Inch
Line Per Inch <ul style="list-style-type: none"> • No change • 3 Inches • 4 Inches • 6 Inches • 8 Inches 	Pitch	Alt	Line Feed Start/Stop Font Pitch Alt Micro ↑	6 Inch
Eject by FF <ul style="list-style-type: none"> • No change • On • Off 	Pitch	Alt	Form Feed Start/Stop Font Pitch	On
Note:				
<ol style="list-style-type: none"> 1 The Auto Sheet Feeder function does not appear if the Tractor 2 Feeder option is installed. 2 The Tractor 2 Feeder function appears only if the Tractor 2 Feeder option is installed. 				

Table 5. 2380/2381 Plus: Data Options

To enable/ disable the following functions	Press the following buttons			Factory setting
	1st button	2nd button	3rd button	
Buffer <ul style="list-style-type: none"> • No change • On • Off 	Alt	Font	Start/Stop Font Pitch	On
Auto Line Feed <ul style="list-style-type: none"> • No change • On • Off 	Alt	Pitch	Start/Stop Font Pitch	Off
Auto CR <ul style="list-style-type: none"> • No change • On • Off 	Alt	Alt	Start/Stop Font Pitch	Off
Zero Slash <ul style="list-style-type: none"> • No change • On • Off 	Alt	Micro ↑	Start/Stop Font Pitch	Off
Download <ul style="list-style-type: none"> • No change • Enabled (8K buffer) • Disabled 11K buffer 	Alt	Micro ↓	Start/Stop Font Pitch	Enabled
Barcode <ul style="list-style-type: none"> • No change • Enabled • Disabled 	Alt	Line Feed	Start/Stop Font Pitch	Enabled

Table 5. 2380/2381 Plus: Data Options

To enable/ disable the following functions	Press the following buttons			Factory setting
	1st button	2nd button	3rd button	
FF Enable (2380 Plus only) <ul style="list-style-type: none"> • No change • On • Off 	Alt	Form Feed	Start/Stop Font Pitch	On

Table 6. 2380/2381 Plus: Control Options

To enable/ disable the following functions	Press the following buttons			Factory setting
	1st button	2nd button	3rd button	
Unidirectional Print <ul style="list-style-type: none"> • No change • On • Off 	Micro ↑	Font	Start/Stop Font Pitch	Off
Auto Ready Cut Sheet <ul style="list-style-type: none"> • No change • On • Off 	Micro ↑	Pitch	Start/Stop Font Pitch	On
Set TOF <ul style="list-style-type: none"> • No change • Permanent • Temporary 	Micro ↑	Alt	Start/Stop Font Pitch	Permanent

Table 6. 2380/2381 Plus: Control Options

To enable/ disable the following functions	Press the following buttons			Factory setting
	1st button	2nd button	3rd button	
Paper Out Alarm <ul style="list-style-type: none"> • No change • Enabled • Disabled 	Micro ↑	Micro ↑	Start/Stop Font Pitch	Enabled
Bi-Di Alignment <ul style="list-style-type: none"> • No change • Set align- ment 	Micro ↑	Micro ↓	Start/Stop Font	See example on page 80.
Demo Print <ul style="list-style-type: none"> • No change • Enabled • Disabled 	Micro ↑	Line Feed	Start/Stop Font Pitch	Enabled
Menu Language (see note) <ul style="list-style-type: none"> • No change • English • French • German • Italian • Spanish 	Micro ↑	Form Feed	Start/Stop Font Pitch Alt Micro ↑ Micro ↓	English
More (prints additional menu settings TOF Read and Quiet Mode)	Macro			

Table 6. 2380/2381 Plus: Control Options

To enable/ disable the following functions	Press the following buttons			Factory setting
	1st button	2nd button	3rd button	
TOF Read <ul style="list-style-type: none"> • No change • Enabled • Disabled 	Micro ↑	Macro	Pitch Start/Stop Font Pitch	Enabled
Quiet Mode <ul style="list-style-type: none"> • No change • Enabled • Disabled 	Micro ↑	Macro	Alt Start/Stop Font Pitch	Disabled

Note: After you select a language, the menus print in that language.

Table 7. 2380/2381 Plus: Emulation Options

To enable/ disable the following functions	Press the following buttons			Factory setting
	1st button	2nd button	3rd button	
Emulation Selection <ul style="list-style-type: none"> • No change • IBM Mode • Epson Mode 	Micro ↓	Font	Start/Stop Font Pitch	IBM Mode

Table 8. 2380/2381 Plus: IBM Mode

To enable/ disable the following functions	Press the following buttons			Factory setting
	4th button	5th button		
Proprinter III Mode <ul style="list-style-type: none"> • No change • On • Off 	Font	Font	Start/Stop Font Pitch	Off

Table 9. 2380/2381 Plus: Epson Mode

To enable/ disable the following functions	Press the following buttons			Factory setting
	4th button	5th button	6th button	
Table Select <ul style="list-style-type: none"> • No change • Graphics • Italics 	Pitch	Font	Font Start/Stop Font Pitch	Graphics

Table 9. 2380/2381 Plus: Epson Mode

To enable/ disable the following functions	Press the following buttons			Factory setting
	4th button	5th button	6th button	
Int'l Char. Set <ul style="list-style-type: none"> • No change • U.S.A. • France • Germany • U.K. • (More...) 	Pitch	Pitch	Pitch Start/Stop Font Pitch Alt Micro ↑ Micro ↓	U.S.A.
<ul style="list-style-type: none"> • No change • Denmark • Sweden • Italy • Spain 			Start/Stop Font Pitch Alt Micro ↑	

Table 10. 2390/2391 Plus: Forms Macro Options (Character Options)

To enable/ disable the following functions	Press the following buttons			Factory setting
	1st button	2nd button	3rd button	
Font (Courier, Pres- tidge, Gothic, Pre- sented, Orator, Script, Draft, Fast Draft) (see note 2)	Pitch	Pitch	Font (see note 1)	Courier

Table 10. 2390/2391 Plus: Forms Macro Options (Character Options)

To enable/ disable the following functions	Press the following buttons			Factory setting
	1st button	2nd button	3rd button	
Pitch (10, 12, 15, 17, 20, 24, PS)	Pitch	Pitch	Pitch (see note 1)	10
Code Page <ul style="list-style-type: none"> • No change • 437 • 850 • 860 • 863 • 865 (see note 3) 	Pitch	Pitch	Alt Start/Stop Font Pitch Alt Micro ↑ Micro ↓	437
Character set <ul style="list-style-type: none"> • No change • 1 • 2 	Pitch	Pitch	Micro ↑ Start/Stop Font Pitch	1
<p>Note:</p> <ol style="list-style-type: none"> 1 Press until a light on the operator panel corresponds with the font or pitch you want, then press Start/Stop. 2 Fast Draft only runs in 10 and 12 pitch. 3 More options are available. 				

Table 11. 2390/2391 Plus: Forms Macro Options (Paper Handling)

To enable/ disable the following functions	Press the following buttons			Factory setting
	1st button	2nd button	3rd button	
Auto Tear-Off <ul style="list-style-type: none"> • No change • On • Off • One second 	Pitch	Alt	Font Start/Stop Font Pitch Alt	Off
Auto Cut Sheet Load <ul style="list-style-type: none"> • No change • On • Off 	Pitch	Alt	Pitch Start/Stop Font Pitch	On
Auto Sheet Feeder <ul style="list-style-type: none"> • No change • On • Off (This function appears if the Tractor 2 option is not installed.)	Pitch	Alt	Alt Start/Stop Font Pitch	Off
Tractor 2 Feeder <ul style="list-style-type: none"> • No change • On • Off (This function appears only if the Tractor 2 option is installed.)	Pitch	Alt	Alt Start/Stop Font Pitch	Off

Table 11. 2390/2391 Plus: Forms Macro Options (Paper Handling)

To enable/ disable the following functions	Press the following buttons			Factory setting
	1st button	2nd button	3rd button	
Forms Length <ul style="list-style-type: none"> • No change • Add 10 LPP • Add 5 LPP • Add 1 LPP • Sub 10 LPP 	Pitch	Alt	Micro ↑ Start/Stop Font Pitch Alt Micro ↑	11 Inch See “Setting Variable Form Length” on page 89.
Margins <ul style="list-style-type: none"> • No change • Left • Right • Bottom 	Pitch	Alt	Micro ↓ Start/Stop Font Pitch Alt	L - 0 Inch R - 8 Inch (2390 Plus) R - 13.6 Inch (2391 Plus) B - 0 Inch
Line Per Inch <ul style="list-style-type: none"> • No change • 3 Inches • 4 Inches • 6 Inches • 8 Inches 	Pitch	Alt	Line Feed Start/Stop Font Pitch Alt Micro ↑	6 Inch
Eject by FF <ul style="list-style-type: none"> • No change • On • Off 	Pitch	Alt	Form Feed Start/Stop Font Pitch	On

Table 12. 2390/2391 Plus: Data Options

To enable/ disable the following functions	Press the following buttons			Factory setting
	1st button	2nd button	3rd button	
Buffer <ul style="list-style-type: none"> • No change • On • Off 	Alt	Font	Start/Stop Font Pitch	On
Auto Line Feed <ul style="list-style-type: none"> • No change • On • Off 	Alt	Pitch	Start/Stop Font Pitch	Off
Auto CR <ul style="list-style-type: none"> • No change • On • Off 	Alt	Alt	Start/Stop Font Pitch	Off
Zero Slash <ul style="list-style-type: none"> • No change • On • Off 	Alt	Micro ↑	Start/Stop Font Pitch	Off

Table 13. 2390/2391 Plus: Control Options

To enable/ disable the following functions	Press the following buttons			Factory setting
	1st button	2nd button	3rd button	
Unidirectional Print <ul style="list-style-type: none"> • No change • On • Off 	Micro ↑	Font	Start/Stop Font Pitch	Off
Auto Ready Cut Sheet <ul style="list-style-type: none"> • No change • On • Off 	Micro ↑	Pitch	Start/Stop Font Pitch	On
Set TOF <ul style="list-style-type: none"> • No change • Permanent • Temporary 	Micro ↑	Alt	Start/Stop Font Pitch	Permanent
Paper Out Alarm <ul style="list-style-type: none"> • No change • Enabled • Disabled 	Micro ↑	Micro ↑	Start/Stop Font Pitch	Enabled
Bi-Di Alignment <ul style="list-style-type: none"> • No change • Set align- ment 	Micro ↑	Micro ↓	Start/Stop Pitch	See example on page 80.
Demo Print <ul style="list-style-type: none"> • No change • Enabled • Disabled 	Micro ↑	Line Feed	Start/Stop Font Pitch	Enabled

Table 13. 2390/2391 Plus: Control Options

To enable/ disable the following functions	Press the following buttons			Factory setting
	1st button	2nd button	3rd button	
Menu Language (see note) <ul style="list-style-type: none"> • No change • English • French • German • Italian • Spanish 	Micro ↑	Form Feed	Start/Stop Font Pitch Alt Micro ↑ Micro ↓	English
More (prints additional menu settings)	Macro			
TOF Read <ul style="list-style-type: none"> • No change • Enabled • Disabled 	Micro ↑	Macro	Pitch Start/Stop Font Pitch	Enabled
Quiet Mode <ul style="list-style-type: none"> • No change • Enabled • Disabled 	Micro ↑	Macro	Alt Start/Stop Font Pitch	Disabled
Note: After you select a language, the menus print in that language.				

Table 14. 2390/2391 Plus: Emulation Options (IBM Mode or Epson Mode)

To enable/ disable the following functions	Press the following buttons			Factory setting
	1st button	2nd button	3rd button	
Emulation Selection • No change • IBM Mode • Epson Mode	Micro ↓	Font	Start/Stop Font Pitch	IBM Mode

Table 15. 2390/2391 Plus: IBM Mode

To enable/ disable the following functions	Press the following buttons			Factory setting
	4th button	5th button		
Alternate Graphics Mode • No change • On • Off	Font	Pitch	Start/Stop Font Pitch	Off

Table 16. 2390/2391 Plus: Epson Mode

To enable/ disable the following functions	Press the following buttons			Factory setting
	4th button	5th button	6th button	
Table Select <ul style="list-style-type: none"> • No change • Graphics • Italics 	Pitch	Font	Font Start/Stop Font Pitch	Graphics
Int'l Char. Set <ul style="list-style-type: none"> • No change • U.S.A. • France • Germany • U.K. • (More...) 	Pitch	Pitch	Pitch Start/Stop Font Pitch Alt Micro ↑ Micro ↓	U.S.A.
<ul style="list-style-type: none"> • No Change • Denmark • Sweden • Italy • Spain 			Start/Stop Font Pitch Alt Micro ↑	

Setup Selection Definitions

Font (IBM and Epson modes)

Supports the 2380 Plus/2381 Plus four font styles and the 2390 Plus/2391 Plus eight font styles. For help changing the settings:

- 238x Plus users see Table 3 on page 93.
- 239x Plus users see Table 10 on page 102.

Pitch (IBM and Epson modes)

Supports 10, 12, 15, 17, 20, (24 for 2390 Plus/2391 Plus) and PS pitch. For help changing the settings:

- 238x Plus users see Table 3 on page 93.
- 239x Plus users see Table 10 on page 102.

Code Page (IBM mode)

You may select one of the following code pages: 437, 850, 860, 861, 863, 865, 437G, 813, 851, 853T, 857, 869, 920, 1004, and 1053. Refer to the setup menu for a list of other code pages available for designated countries.

For help changing the settings:

- 238x Plus users see Table 3 on page 93.
- 239x Plus users see Table 10 on page 102.

Auto Ready Cut Sheet

This selection automatically puts the printer in the Ready state when you load a cut sheet.

When set to **On**, the printer goes to the Ready state when you load a cut sheet in the manual feed tray.

When set to **Off**, the printer Ready light flashes when you load a cut sheet. Press **Start/Stop** to put the printer in the Ready state.

Note: The Auto Sheet Feeder setup selection performs the same function. If you installed the optional auto sheet feeder, turn the Auto Sheet Feeder setting **On** to automatically put the printer in the Ready state when a cut sheet is loaded.

Character Set (IBM mode)

You may select Character Set 1 or Character Set 2. Character Set 1 is the factory default.

You can use the printer commands **ESC 6** and **ESC 7** to select character set 1 or 2, and override the setting selected in Setup mode. These printer commands do not change the default selection. For help changing the settings:

- 238x Plus users see Table 3 on page 93.
- 239x Plus users see Table 10 on page 102.

20-pitch Condensed IBM mode (For 2380 Plus/2381 Plus Printers Only)

This setting enables or disables the 20-pitch mode. This setting provides compatibility with other IBM printers.

When set to **Disable**, switching from 12 cpi to condensed 17 cpi (Dec 15, Hex 0F) does not change the pitch.

When set to **Enable**, switching from 12 cpi to condensed 17 cpi (Dec 15, Hex 0F) changes the pitch from 12 cpi to 20 cpi.

Automatic Tear-Off (IBM and Epson modes)

When set to **On**, Auto Tear-Off moves continuous form paper to the tear-off position. See “Auto Tear-Off (Set to Off From Setup Menu)” on page 76 for more information.

Auto Cut Sheet Load (IBM and Epson modes)

When set to **On**, the printer automatically loads a cut form.

When set to **Off**, you must press **Form Feed** or **Line Feed** to load a cut form.

For help changing the settings:

- 238x Plus users see Table 4 on page 95.
- 239x Plus users see Table 11 on page 104.

Auto Sheet Feeder (IBM and Epson modes)

Set Auto Sheet Feeder to **On** after you install the Auto Sheet Feeder option. For complete instructions, see “Using the Auto Sheet Feeder” on page 122.

For help changing the settings:

- 238x Plus users see Table 4 on page 95.
- 239x Plus users see Table 11 on page 104.

Forms Length (IBM and Epson modes)

You may set the form length (in lines per page) from one line to a maximum of 22 inches.

See “Setting Variable Form Length” on page 89 for help changing the setting.

Margin

This function lets you vary the left, right and bottom margin settings. For example, you can select a 0-inch, 1/2-inch, 1-inch, 2-inch or 3-inch bottom margin.

Line Length

Use the right margin to adjust line length (2381/2391 printer models only).

Eject by Form Feed (IBM mode)

Eject by Form Feed determines how Form Feed is treated.

When set to **On**, Form Feed is treated as an eject operation for cut forms.

When set to **Off**, Form Feed moves the paper to the next Top-Of-Form (TOF).

For help changing the settings:

- 238x Plus users see Table 4 on page 95.
- 239x Plus users see Table 11 on page 104.

Buffer (IBM and Epson modes)

This option enables you to change the buffer size.

When you select **Off**, the receive buffer size is set to zero.

When you select **On** for 2380 Plus/2381 Plus printers and the optional buffer module is not installed, the buffer size is set to 7KB or 11KB, depending on whether barcodes are enabled.

If the optional buffer module is installed, the buffer size is set to 39KB or 43KB.

When you select **On** for 2390 Plus/2391 Plus printers, the buffer size is set to 32KB.

For help changing the settings:

- 238x Plus users see Table 5 on page 97.
- 239x Plus users see Table 12 on page 106.

Automatic Line Feed (IBM and Epson modes)

When set to **Off**, a line feed does not occur when a Carriage Return (CR) code is received.

When set to **On**, a line feed is performed for each CR that is received.

For help changing the settings:

- 238x Plus, see Table 5 on page 97.
- 239x Plus, see Table 12 on page 106.

Automatic CR (IBM mode)

When set to **On**, a carriage return occurs automatically for these vertical movement commands:

ESC J *n* (Relative Move Baseline)

LF (Line Feed)

VT (Vertical Tab).

If your application software sends a vertical movement command and a CR, the output will still be correct because two carriage returns are treated as one carriage return.

When set to **Off**, the automatic carriage return function is disabled and vertical movements occur without a CR code.

Note: Form Feed (Dec 12, Hex 0C) always implies a Carriage Return code, regardless of the option setting.

For help changing the settings:

- 238x Plus users see Table 5 on page 97.
- 239x Plus users see Table 12 on page 106.

Zero Slash (IBM and Epson modes)

When Zero Slash is set to **On**, a zero with a slash down the middle is printed instead of a numeric zero. The factory setting of Zero Slash is **Off**. For help changing the settings:

- 238x Plus users see Table 5 on page 97.
- 239x Plus users see Table 12 on page 106.

Download (IBM and Epson modes)

Download is available only for 238x Plus printers.

When set to **Enable**, a portion of the buffer is reserved for downloading fonts. The factory setting is **Enable**.

When set to **Disable**, the entire buffer is used as a receive buffer.

Form Feed Enable (IBM and Epson modes)

Form Feed Enable is available only for the 2380 Plus printer. When set to **On**, the printer executes a form feed code (X'0C').

When set to **Off**, the printer ignores a form feed code.

Unidirectional Printing (IBM and Epson modes)

Unidirectional Printing sets the direction of the print.

When set to **On** and in near-letter-quality mode, the printer prints unidirectionally by line.

When set to **Off**, the two passes are printed bidirectionally except Proportional Spacing, which will still be printed unidirectionally.

The factory setting is **Off**.

For help changing the settings:

- 238x Plus users see Table 6 on page 98.
- 239x Plus users see Table 13 on page 107.

Paper Out Alarm (IBM mode)

Paper out alarm enables or disables the alarm on the printer. The factory setting is Enable.

When set to **Enable**, the alarm sounds when the printer runs out of paper. When set to **Disable**, the alarm does not sound.

For help changing the settings:

- 238x Plus users see Table 6 on page 99.
- 239x Plus users see Table 13 on page 107.

Bidirectional Alignment (IBM and Epson modes)

When the print wires on the printhead become misaligned, see “Example of Adjusting Bidirectional (Bi-Di) Alignment” on page 80.

Menu Language

You may select one of the following languages in Setup mode: English, French, German, Italian, and Spanish. After a language is chosen, all menus will be printed in that language. For help changing the settings:

- 238x Plus users see Table 6 on on page 99.
- 239x Plus users see Table 13 on page 108.

Quiet Mode

You can reduce the noise level of your printer by putting it in Quiet mode. The printer prints slower in Quiet mode.

Emulation Selection

You may select between IBM mode and Epson mode.

The factory setting is IBM mode.

For help changing the settings:

- 238x Plus users see Table 7 on page 100.
- 239x Plus users see Table 14 on page 109.

Proprinter III (IBM mode)

Proprinter III, available only on 2380 Plus/2381 Plus printers, enables compatibility with the Proprinter III.

When set to **On**, the printer emulates a Proprinter III.

When set to **Off**, the printer will operate with added capabilities.

See Table 8 on page 101 for the procedure to change the setting.

Alternate Graphics Mode (IBM mode)

Alternate Graphics Mode, available only on 2390 Plus/2391 Plus printers, enables the use of the high-resolution 24-wire graphics commands. These commands are similar to those used with the Epson LQ570/LQ1070.

For help, see Table 15 on page 109 to change the setting.

Table Selection (Epson mode)

Use Table Selection to select Italic Character Table or Epson Extended Graphic Character Table used in Epson. For help changing the settings:

- 238x Plus users see Table 9 on page 101.
- 239x Plus users see Table 16 on page 110.

International Character Set (Epson mode)

The international character sets for Epson mode that are supported are:

- U.S.A. (default)
- France
- Germany
- U.K.
- Denmark I
- Sweden
- Italy
- Spain I

The following character sets are also supported, but only through host commands used by Epson FX850/FX1050.

- Japan
- Norway
- Denmark II
- Korea¹
- Spain II
- Latin America
- Legal¹

¹2380 Plus/2381 Plus printers only.

For help changing the settings:

- 238x Plus users see Table 9 on page 102.
- 239x Plus users see Table 16 on page 110.

Printer Options

Section 7

This section lists all the options available for your printer. It describes how to install the Auto Sheet Feeder, Tractor 2 Feeder, Serial Adapter, and 32 Kbyte Buffer Module. Paper loading instructions for the Auto Sheet Feeder and Tractor 2 Feeder are also included.

Available Options	P/N	2380 Plus	2381 Plus	2390 Plus	2391 Plus
32 Kbyte Buffer Module	1180727	Yes	Yes	No	No
Parallel Cable	1329605 (10 ft.), 1427498 (20 ft.), or equivalent	Yes	Yes	Yes	Yes
Serial Cable (RS-232C)	1180786 (20 ft.), 1038693 (50 ft.), or equivalent	Yes	Yes	Yes	Yes
Serial Adapter	1368700	Yes	Yes	Yes	Yes
Extended Cut Sheet Paper Guides	1333163	Yes	Yes	Yes	Yes
Auto Sheet Feeder-Narrow Carriage	79F4840	Yes	No	Yes	No
Auto Sheet Feeder-Wide Carriage	11A3097	No	Yes	No	Yes
Printer Stand-Narrow	1368001	Yes	No	Yes	No
Printer Stand-Wide	1368002	No	Yes	No	Yes
Acoustics Option-Narrow	1332972	Yes	No	Yes	No

Available Options	P/N	2380 Plus	2381 Plus	2390 Plus	2391 Plus
Acoustics Option-Wide	1332973	No	Yes	No	Yes
Tractor 2 Feeder - Wide Carriage	11A3265	No	Yes	No	Yes
Tractor 2 Feeder - Narrow Carriage	11A3195	Yes	No	Yes	No

Using the Auto Sheet Feeder

Read this section to install the Auto Sheet Feeder, change the Auto Sheet Feeder setting on the printer, and load paper in the Auto Sheet Feeder.

The Auto Sheet Feeder attaches to the front of your printer and automatically feeds single sheets of paper into the printer. With the Auto Sheet Feeder installed, you can print from single sheets of paper stacked in a tray instead of manually feeding each sheet.

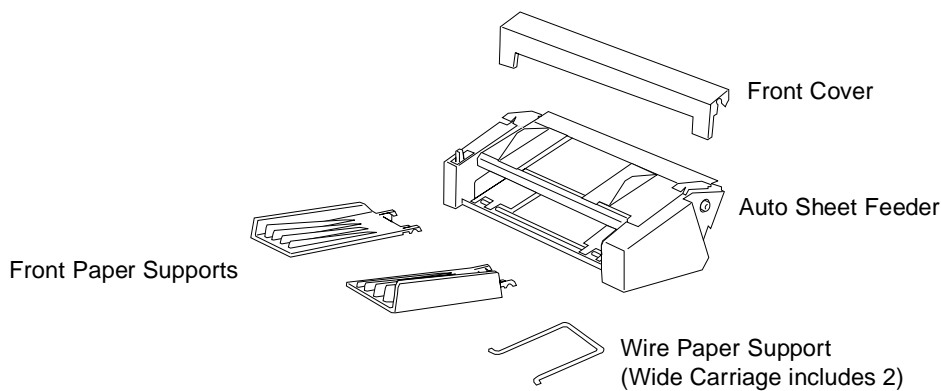
You can also print on continuous forms loaded in the printer's tractor feeder while the Auto Sheet Feeder is installed. If you need to manually feed a single sheet or cut form, a convenient manual feed tray is located on top of the feeder.

The paper you use in the Auto Sheet Feeder must meet the specifications listed on page 161.

There are two sizes of Auto Sheet Feeders:

- Narrow carriage (for 2380 and 2390 Plus Models)
- Wide carriage (for 2381 and 2391 Plus Models)

Note: The illustrations in this section show the narrow carriage. Your Auto Sheet Feeder may look different from the illustrations.

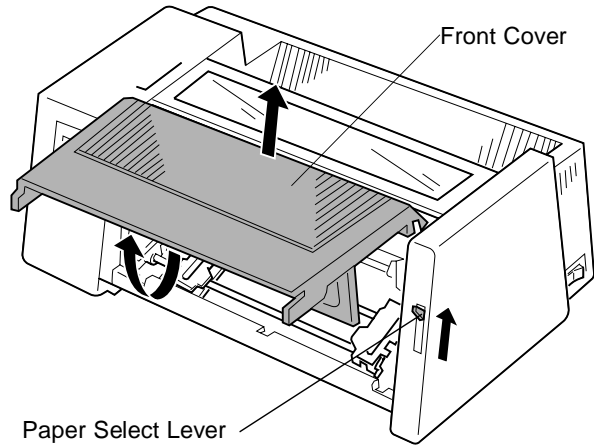


Installing the Auto Sheet Feeder

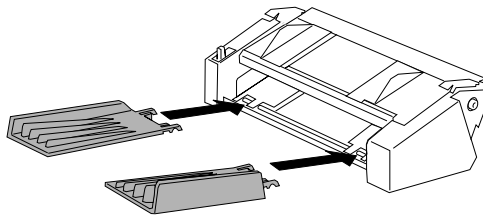
The Auto Sheet Feeder is easy to install and remove. No electrical connection is needed and no special training or tools are required.

- 1** Make sure the printer is Off.

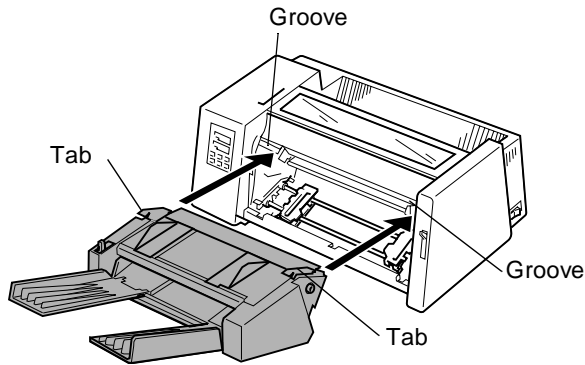
- 2** Open, pull up and remove the front cover.
- 3** Push up the paper select lever.



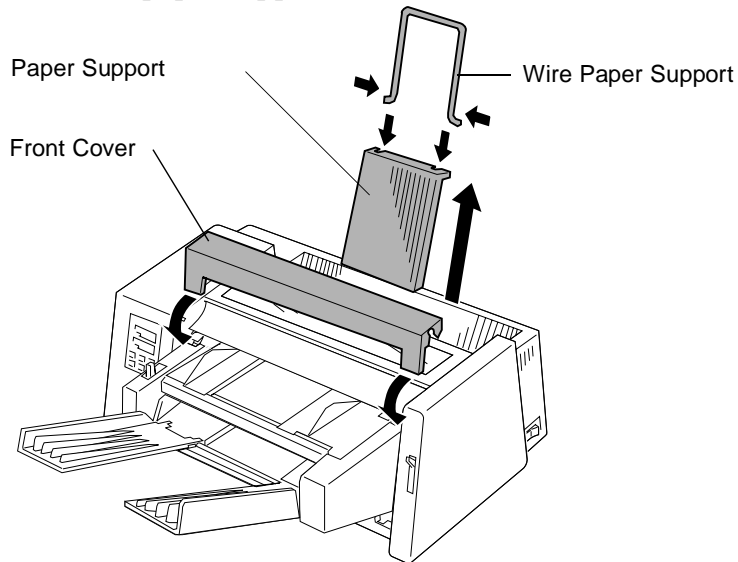
- 4** Attach the front paper supports to the Auto Sheet Feeder.



- 5** Insert the tabs on both sides of the Auto Sheet Feeder into the grooves on the printer.



- 6** Pull the paper support to the upright position and attach the wire paper support to it.




- 7** Attach the front cover that came with the Auto Sheet Feeder.
- 8** Complete the steps in the next section to set the printer Auto Sheet Feeder option to On in Setup mode.

Changing the Auto Sheet Feeder Setting

The printer's factory default setting for the Auto Sheet Feeder is **Off**. Before using the Auto Sheet Feeder, you must put the printer in Setup mode and turn the Auto Sheet Feeder setting **On**.

To put the printer in Setup mode and turn the Auto Sheet Feeder setting **On**:

- 1** Make sure you have continuous forms loaded on your printer and the paper select lever is down in the continuous forms  position.
- 2** Press **Alt + Setup**. The **Alt** light blinks and the Main Menu prints. Your printer is in Setup mode.

Printer Setup Mode - Main Menu	
To Select	Press
Exit Setup	START/STOP
Print All	FONT
Forms Macro Options	PITCH
Data Options	MICRO ↑
Control Options	MICRO ↓
Emulation Options	LINE FEED

3 Press Pitch. The Forms Macro Options menu prints.

Forms Macro Options	Current	Press
-----	-----	-----
Return to Main Menu		START/STOP
Set Default Macro	Disabled	FONT
Character Options		PITCH
Paper Handling Options		ALT

4 Press Alt. The Paper Handling Options menu prints.

Paper Handling	Current	Press
-----	-----	-----
No Change		START/STOP
Auto Tear-Off	On	FONT
Auto Cut Sheet Load	On	PITCH
Auto Sheet Feeder	Off	ALT
Form Length	66 LPP/11.00	MICRO ↑
Margin		MICRO ↓
Left Margin	0 Inch	
Right Margin	8 Inch	
Bottom Margin	0 Inch	
Lines Per Inch	6	LINE FEED
Eject by FF	On	FORM FEED
Return to Main Menu		MACRO

5 Press Font to set the Auto Sheet Feeder to On.

6 Press Start/Stop. The Main Menu prints again.

7 Press Start/Stop to exit Setup mode. The new setting is saved upon exit from Setup mode and you can now use the Auto Sheet Feeder.

Loading Paper in the Auto Sheet Feeder

The Auto Sheet Feeder lets you print from single sheets of paper stacked in the feeder. The option also includes a manual feed tray that lets you manually feed a single sheet of paper or cut form.

This section includes instructions for loading paper in the automatic sheet feeder and the automatic sheet feeder's manual feed tray.


Note

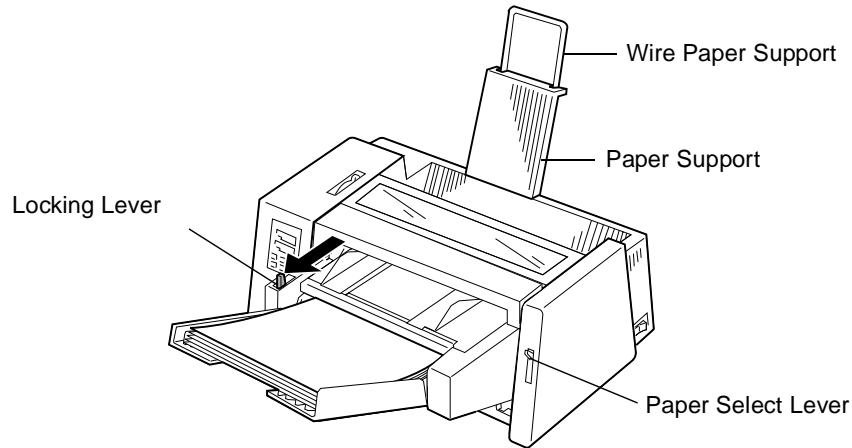
In the following illustrations the front has been detached for easier viewing.

Loading Paper for Automatic Feed

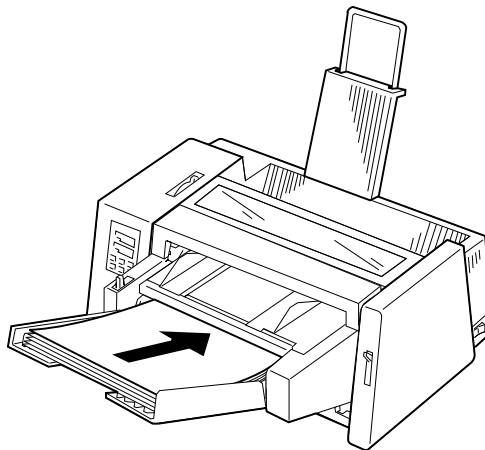
- 1 If continuous forms are loaded on the push tractor, park the continuous forms.**

For help on parking continuous forms, see step 1 of “Parking Continuous Forms and Changing Tractor Feeders” on page 141.

- 2** Move the paper select lever up to the cut forms  position.
- 3** Pull the paper support to the upright position (the wide carriage model has two paper supports).
- 4** Attach the wire paper support to the paper support (the wide carriage model has two wire paper supports).
- 5** Pull the locking lever forward to allow paper to be loaded.

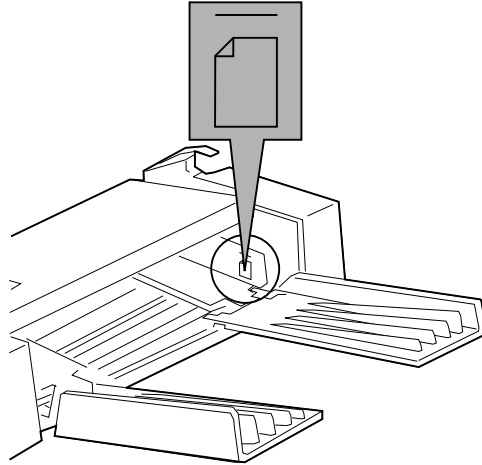


- 6** Place single sheets into the Auto Sheet Feeder.



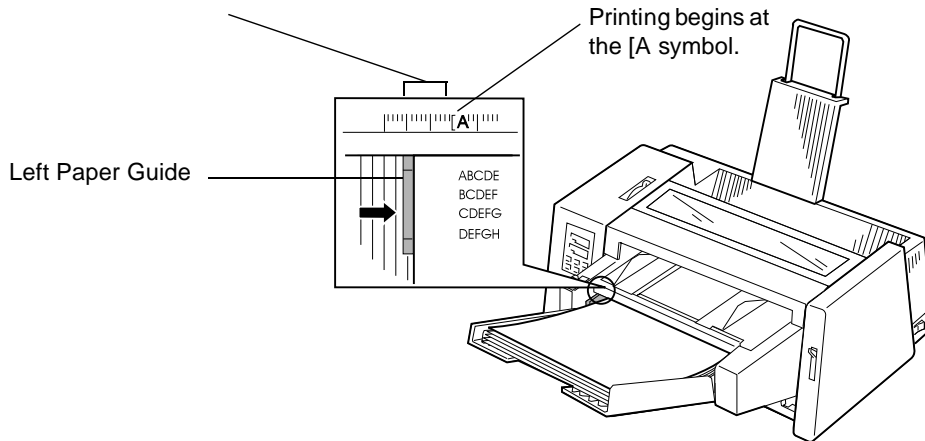
Notes:

- Place letterhead paper with the letterhead facing up and toward the printer.
- The paper level should not exceed the markings on the label located on the inside of the paper holder.



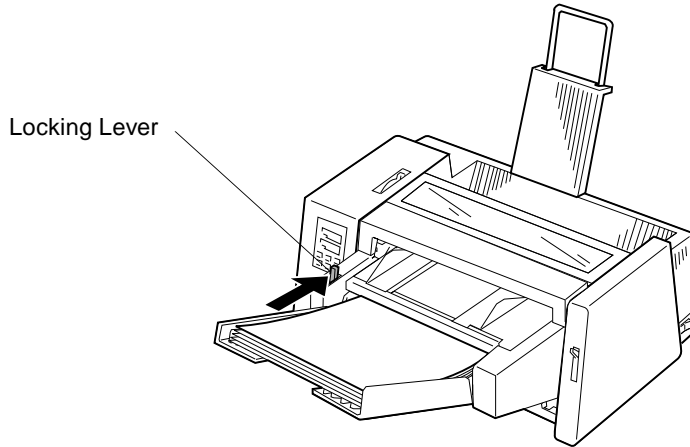
7 Move the paper guide so the desired print start position aligns with the symbol [A] printed on the margin guide of the Auto Sheet Feeder.

The distance from the [A] symbol to the left paper guide determines the left margin.



8 Move the right paper guide to match the form width you are using.


9 Push the locking lever in toward the printer.

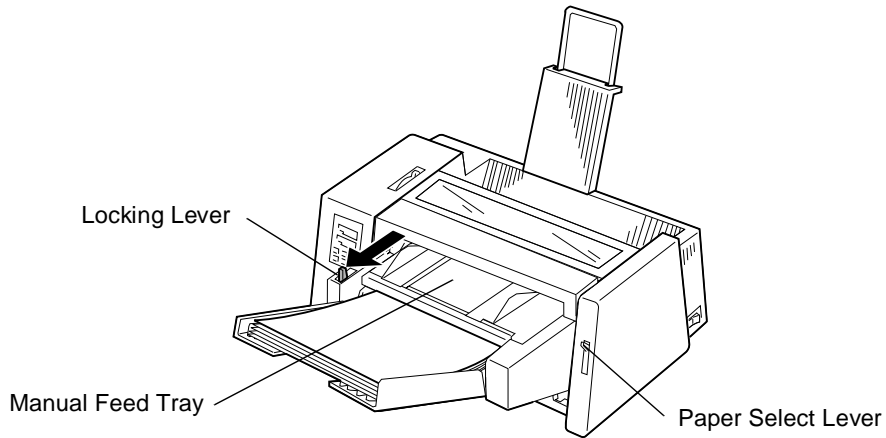


10 Press **Start/Stop**. The **Ready** light comes on and you are ready to print.

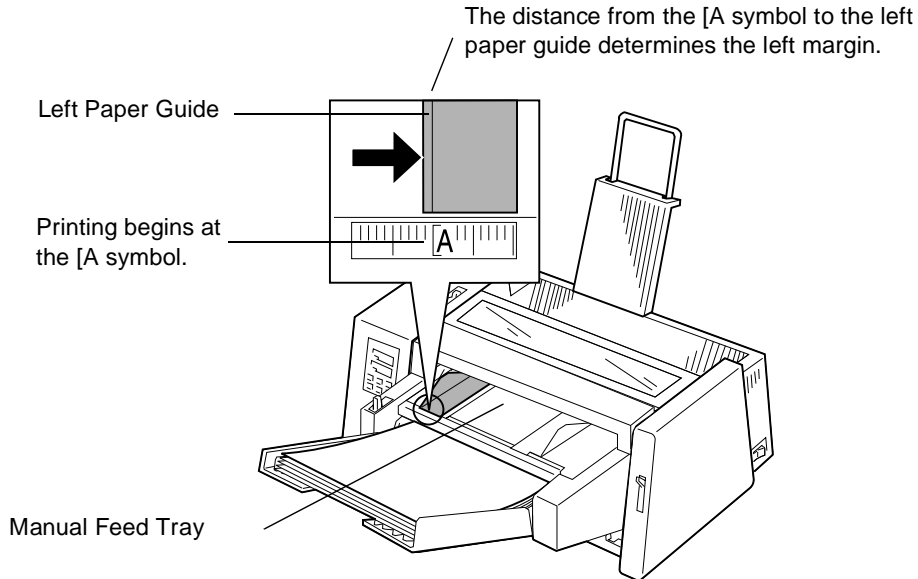
Loading Paper for Auto Sheet Feeder Manual Feed

If continuous forms are currently loaded on the printer, park the continuous forms **before** performing these steps. For help parking continuous forms, see steps 1 and 2 of “Parking Continuous Forms and Changing Tractor Feeders” on page 141.

- 1** Push the paper select lever up to the cut forms  position.
- 2** Pull the locking lever forward.



- 3 Set the left margin.** Move the paper guides so that the print start position you want aligns with the symbol [A] printed on the margin guide.



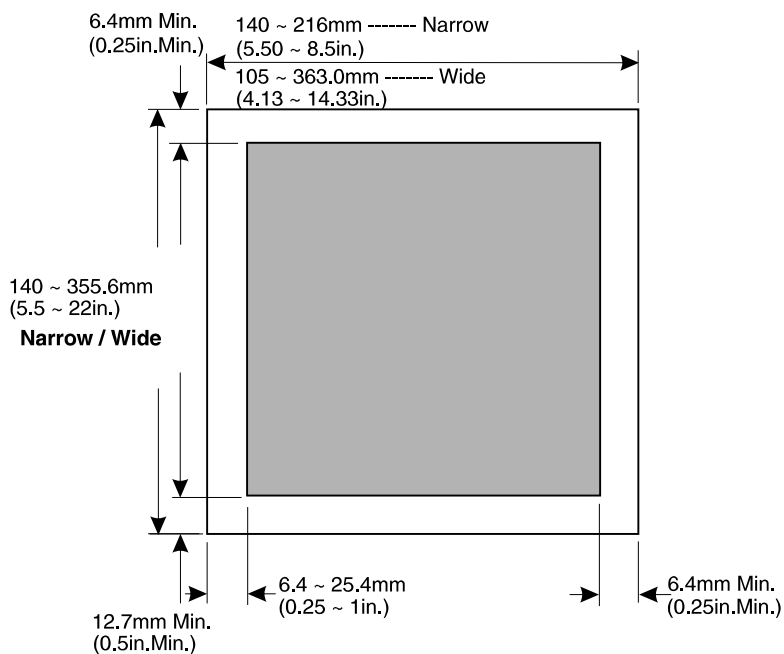
Note: If you make a left margin setting in your application software, it is added to the left margin setting on the printer. For example, if you set the left margin at 1 inch on the printer, and also have the left margin set at 1 inch in your application software, the printer begins printing 2 inches from the left edge of the page.

- 4 Insert paper all the way into the printer.**

The paper feeds automatically to the Top-Of-Form (TOF) when the Auto Sheet Feeder option is on. The **Ready** light comes on and you are ready to print.

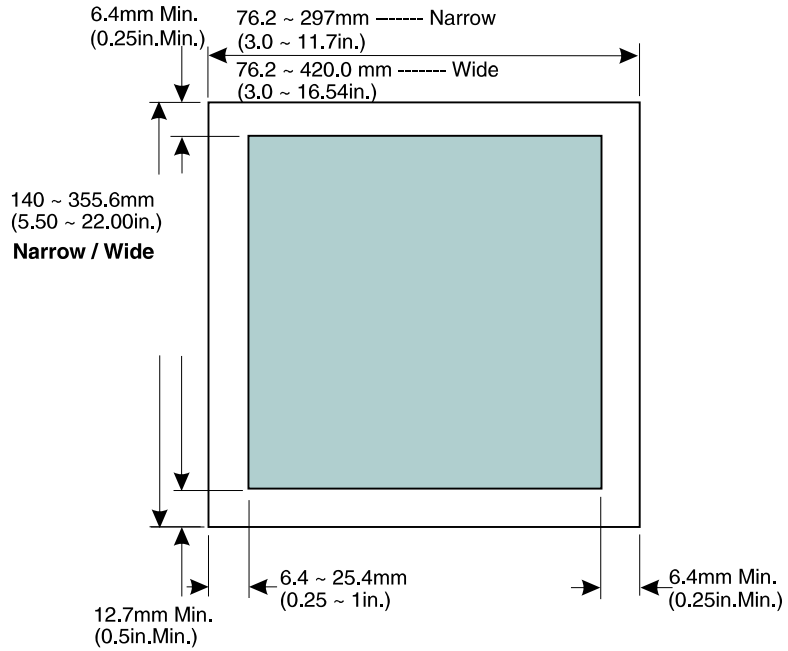
Note: After you finish printing on manual insertion paper, move the locking lever back to let paper feed automatically.

Auto Sheet Feeder Printable Area (Automatic Mode)



Note: When using 22 in. long paper the maximum width can only be 8.5 in. or less. Paper greater than 8.5 in. wide can only be less than or equal to 14 in. long.

Auto Sheet Feeder Printable Area (Manual Feed)



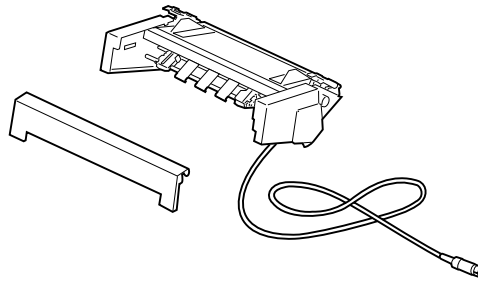
Note: When using 22 in. long paper the maximum width can only be 8.5 in. or less. Paper greater than 8.5 in. wide can only be less than or equal to 14 in. long.

Using the Tractor 2 Feeder

The Tractor 2 Feeder attaches to the front of your printer and provides dual tractor capability with a second tractor feed for continuous forms. This option lets you have two different types of continuous forms loaded on your printer at the same time. A convenient manual feed tray on top of the feeder allows you to manually feed cut sheets or envelopes while the feeder is installed.

There are two sizes of Tractor 2 Feeders:


- Narrow carriage (for Lexmark 2380 and Lexmark 2390)
- Wide carriage (for Lexmark 2381 and Lexmark 2391)

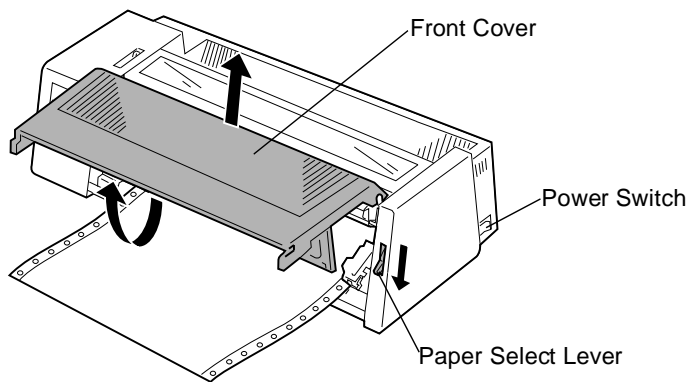


Installing the Tractor 2 Feeder

The Tractor 2 Feeder is easy to install. No special tools or training are needed.

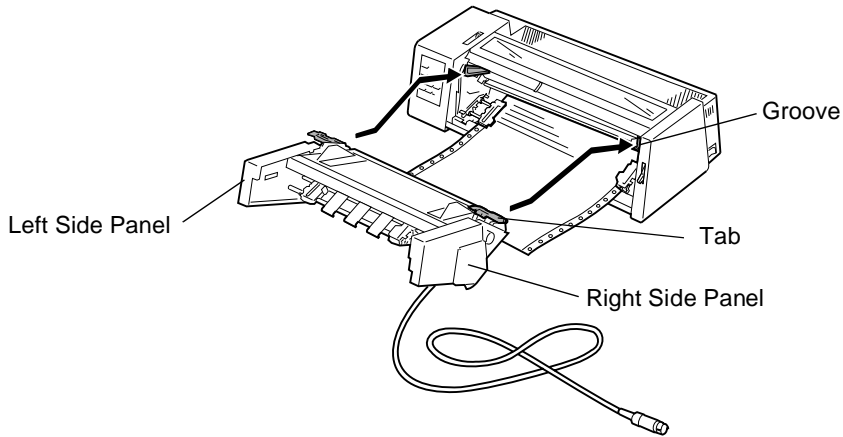
Note: Before installing the Tractor 2 Feeder, make sure continuous forms are loaded on the normal tractor feeder. (If Tractor 2 is installed, you must remove it from the printer to load continuous forms on the normal tractor feeder.) For help loading continuous forms on the normal tractor feeder, see “Loading Continuous Forms on the Push Tractor” on page 53.

- 1** Make sure the printer is Off.
- 2** Open, pull up, and remove the front cover.
- 3** If necessary, push the paper select lever down to the continuous forms  position.

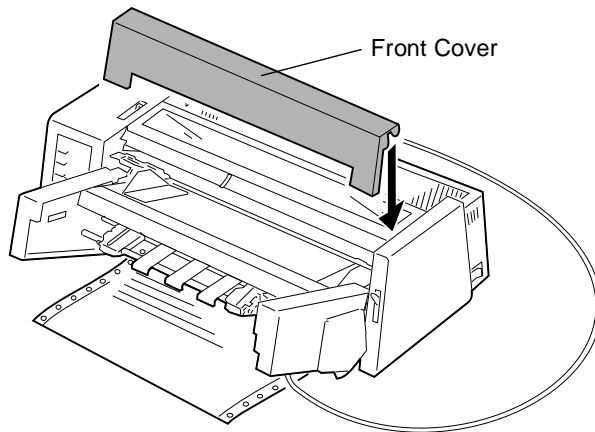


- 4** Remove all tape from the Tractor 2 Feeder including the tape that holds the Tractor 2 Feeder cable to the Tractor 2 Feeder.

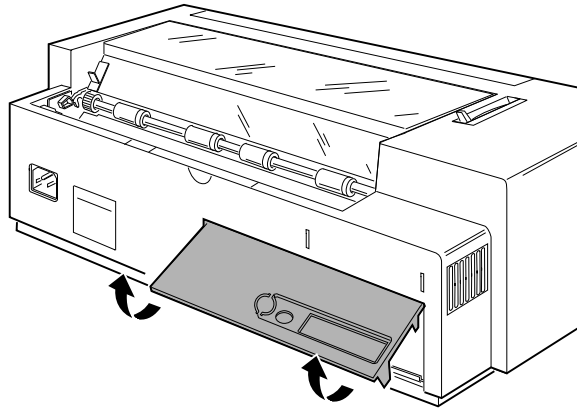
- 5** Grasp the Tractor 2 Feeder using the right and left side panels.
- 6** Insert the tabs on both sides of the Tractor 2 Feeder into the grooves on the printer.



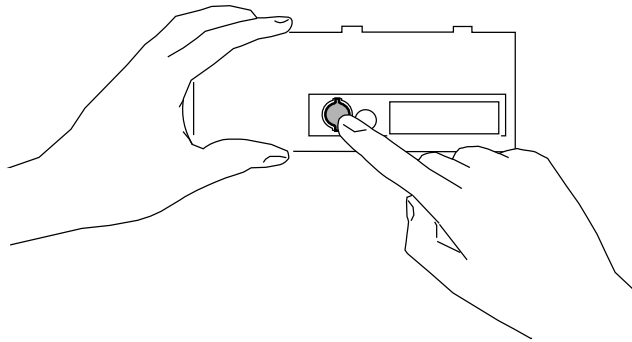
- 7** Attach the front cover that came with the Tractor 2 Feeder.



- 8** Remove the system board cover from the back of the printer. Pry it in the center at the bottom and lift it from the bottom.

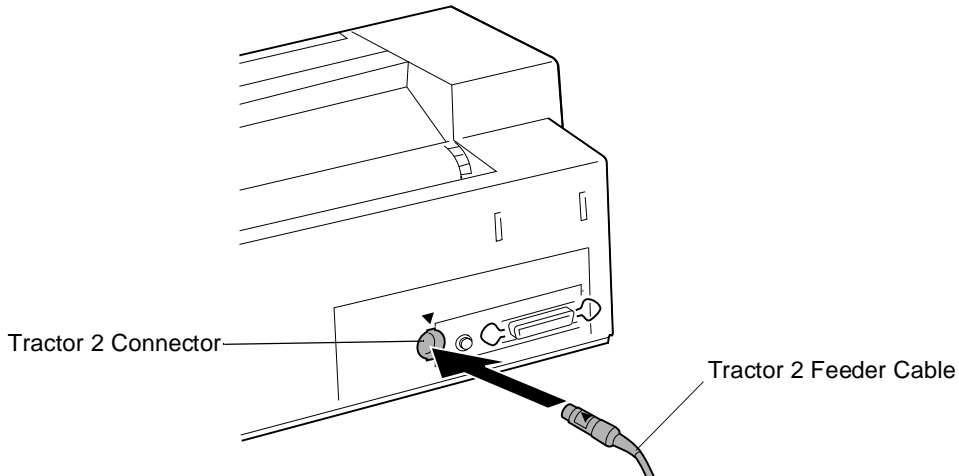


- 9** On the system board cover, push in the knockout plug.



- 10** Reinstall the system board cover.
- 11** Plug the Tractor 2 Feeder cable into the Tractor 2 connector on the back of the printer.

Make sure the symbol (s) on the Tractor 2 Feeder cable faces up. Align the symbol (s) on the cable with the (t) symbol on the back of the printer above the Tractor 2 connector.



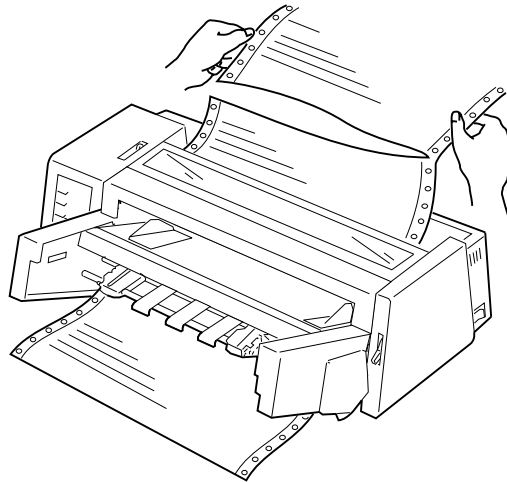
- 12** Turn the printer On.
- 13** Read “Parking Continuous Forms and Changing Tractor Feeders” to learn how to switch from one tractor feeder to the other.

Parking Continuous Forms and Changing Tractor Feeders

The **Tractor 2** light on the operator panel shows you which tractor feeder is selected. The **Tractor 2** light is On when the Tractor 2 Feeder is selected, and Off when the normal tractor feeder is selected.

To park continuous forms on the currently selected tractor feeder and switch to the other tractor feeder:

- 1** Tear off the leading edge of the continuous forms loaded on the tractor feeder.



- 2** Press **Alt + Park/Load** to park the continuous forms.
- 3** Press **Alt + Tractor** to switch to the other tractor feeder. The **Tractor 2** light indicates which tractor feeder is selected.

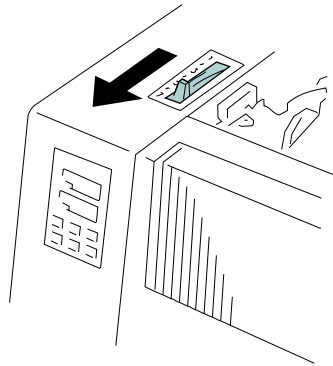
Loading Paper in the Tractor 2 Feeder

The Tractor 2 Feeder has a tractor feeder for continuous forms and a manual feed tray for single sheets and single-part forms.

This section includes directions for loading both continuous forms in the Tractor 2 Feeder and cut forms or envelopes in the manual feed tray.

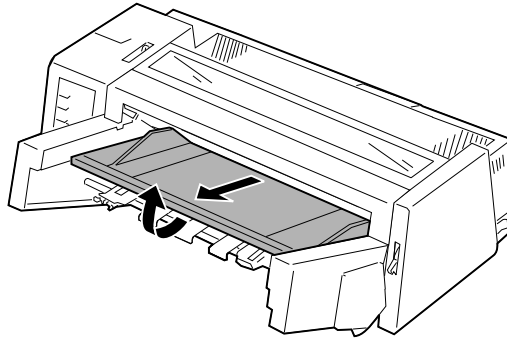
Loading Continuous Forms in the Tractor 2 Feeder

- 1** Turn the printer On.
- 2** Make sure the paper path is clear. If a cut form or envelope is loaded in the printer, remove it.
- 3** Set the forms thickness lever to position 7 while loading the paper.

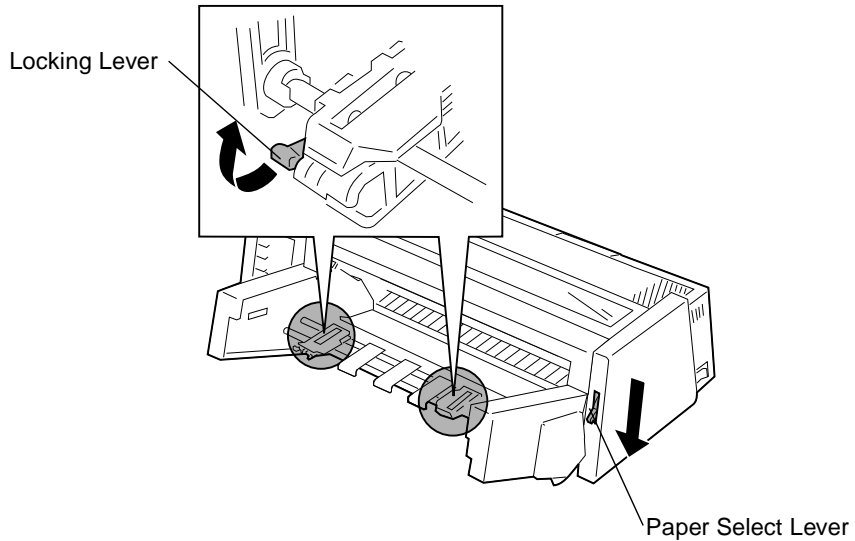


- 4** Make sure the paper select lever is pushed down in the continuous forms  position.

- 5** Lift up and pull out the manual feed tray to remove it from the Tractor 2 Feeder.

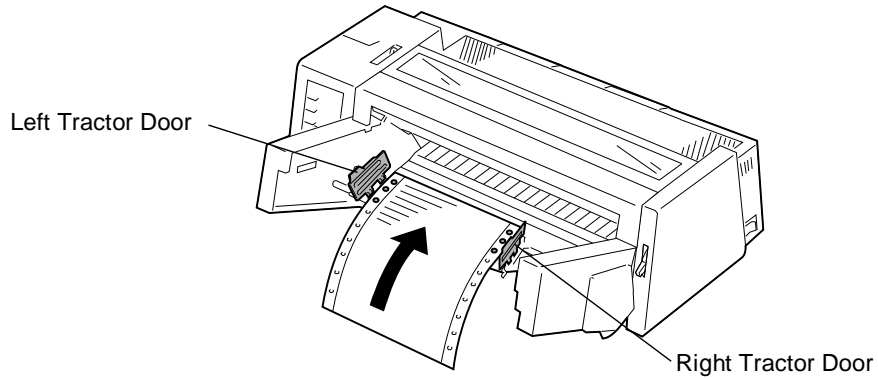


- 6** Pull up the left and right tractor locking levers to unlock the tractors.



- 7** Open the left and right tractor doors.

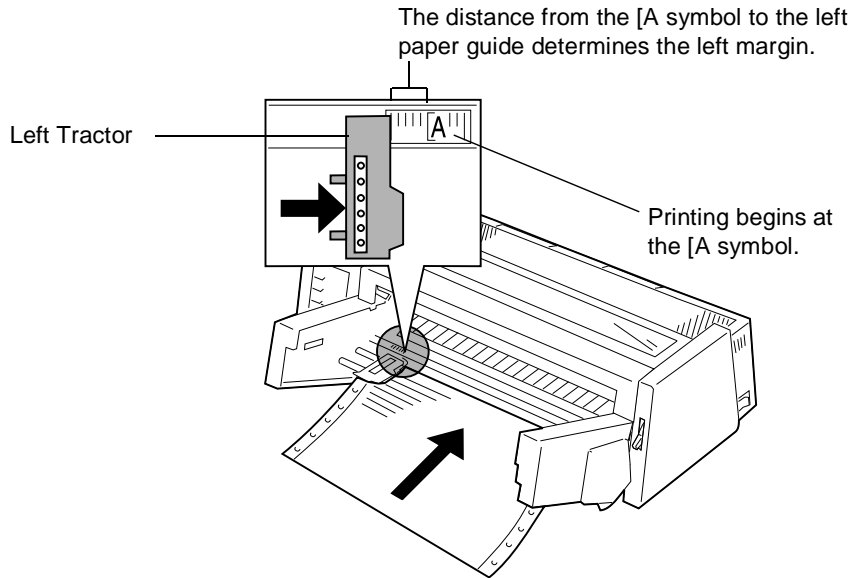
- 8** Place the paper holes over the second or third pins on the tractors. If necessary, move the left or right tractor to adjust the tractor to the paper width.



- 9** Close the left and right tractor doors.

- 10 Set the left margin.** Move the tractors so the desired print start position aligns with the symbol [A] printed on the margin guide.

Moving the paper all the way left creates the widest left margin. Moving the paper all the way right creates the narrowest left margin.



Note: If you make a left margin setting in your application software, it is added to the left margin setting on the printer. For example, if you set the left margin at 1 inch on the printer, and also have the left margin set at 1 inch in your application software, the printer begins printing 2 inches from the left edge of the page.

- 11 Push down the left tractor locking lever to lock it in place. Remove slack from the paper and lock the right lever.**
- 12 Move the forms thickness lever back to a suitable setting.** For help, see “Setting the Forms Thickness Lever” on page 68.
- 13 Replace the manual feed tray.**

- 14 Press Start/Stop.** The paper loads to the print position or the tear-off position if Auto Tear-Off is On.
- 15 Make sure the printer is online (Ready light is on solid).** If it is not, press **Start/Stop** until the **Ready** light is on solid. You are now ready to print.


When printing the first page on continuous forms using the push tractor, line spacing within the first 1½ inches of the form may not be uniform.

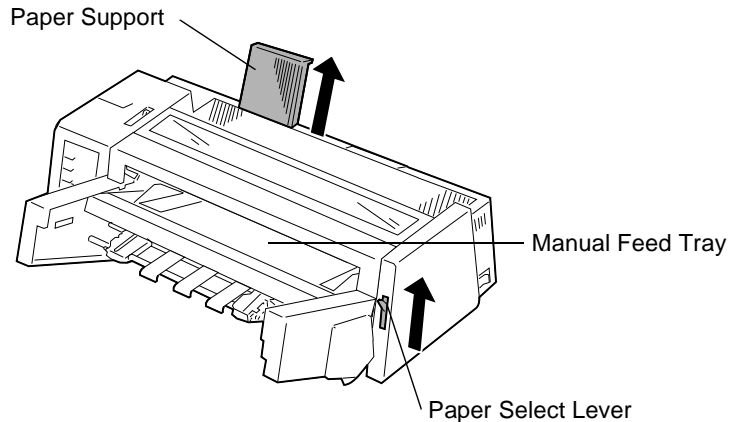
Loading Cut Sheets in the Tractor 2 Feeder

Use the manual feed tray on the Tractor 2 Feeder to load cut forms. Use only single sheets of paper or single-part forms.

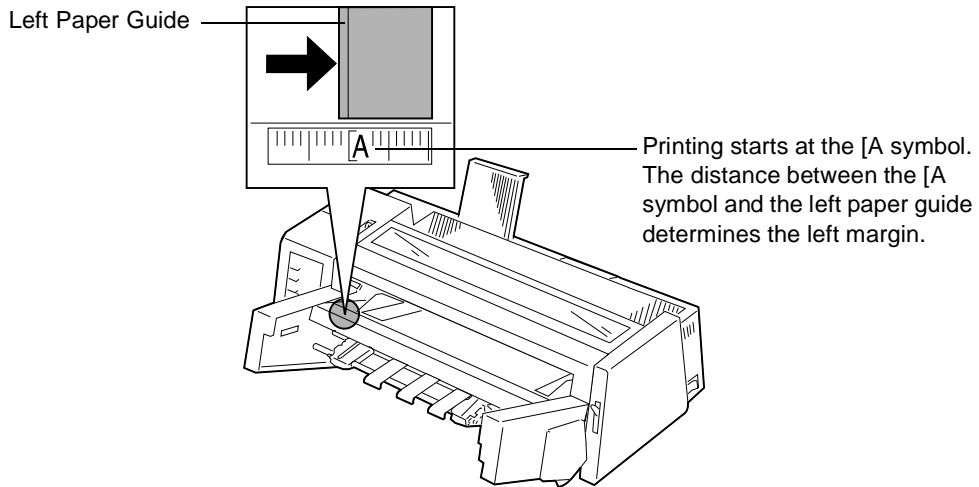
- 1 Turn the printer On.**
- 2 Make sure the paper path is clear.** If continuous forms are loaded in the printer, park them.

For help parking continuous forms, see steps 1 and 2 of “Parking Continuous Forms and Changing Tractor Feeders” on page 141.

- 3 Push the paper select lever up to the cut forms  position.**
- 4 Pull the paper support to the upright position.**

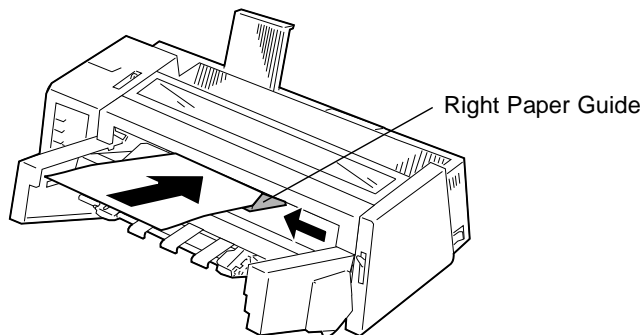


- 5 Set the left margin.** Move the paper guides so that the print start position you want aligns with the symbol [A] printed on the margin guide.



Note: If you make a left margin setting in your application software, it is added to the left margin setting on the printer. For example, if you set the left margin at 1 inch on the printer, and also have the left margin set at 1 inch in your application software, the printer begins printing 2 inches from the left edge of the page.

- 6 Place a cut form against the left paper guide. Move the right paper guide so that the guide aligns with the right edge of the paper.**

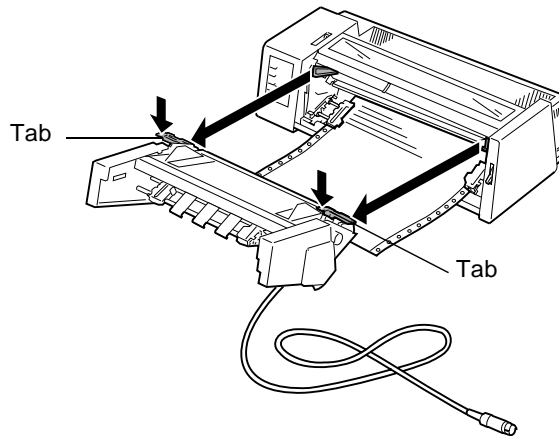


- 7** Insert paper into the printer. The Paper Out light stops blinking.
 - a** If Auto Cut Sheet Load is **On** (factory default), the paper feeds automatically to the top of the form.
 - b** If Auto Cut Sheet Load is **Off**, press **Form Feed**.
- 8** Make sure the printer is online (Ready light is on solid). If it is not, press **Start/Stop** until the Ready light is on solid. You are now ready to print.

Removing the Tractor 2 Feeder

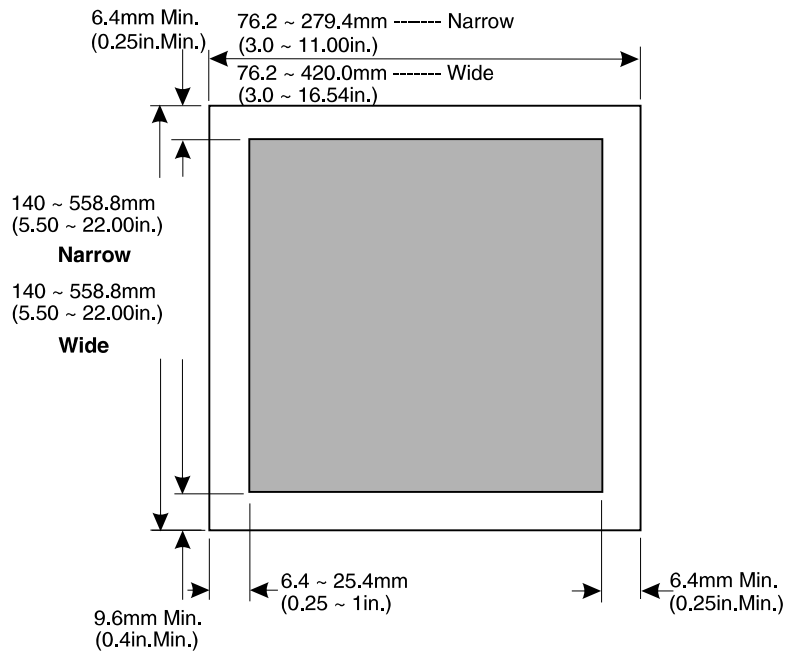
To remove the Tractor 2 Feeder and load continuous forms on the normal tractor feeder:

- 1** Turn the printer Off.
- 2** If continuous forms are loaded on the Tractor 2 Feeder, remove the continuous forms.
- 3** Press down on the tabs on both sides of the Tractor 2 Feeder. While holding the tabs down, pull the Tractor 2 Feeder straight out of the printer.



- 4 Load continuous forms on the normal tractor feeder.** For help, see “Loading Continuous Forms on the Push Tractor” on page 53.
- 5 Reinstall the Tractor 2 Feeder.** For help, see “Installing the Tractor 2 Feeder” on page 137.
- 6 Reload forms on the Tractor 2 Feeder.** For help, see “Loading Paper in the Tractor 2 Feeder” on page 142.
- 7 Turn the printer On.**
- 8 Choose the tractor feeder you want to use as the paper source.** For help, see “Parking Continuous Forms and Changing Tractor Feeders” on page 141.

Tractor 2 Printable Area (Manual Feed)



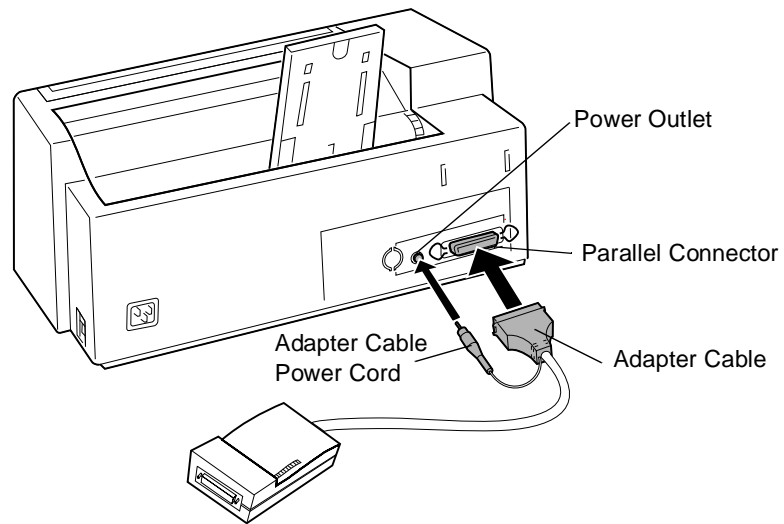
Installing the Serial Adapter

For RS-422 Users Only

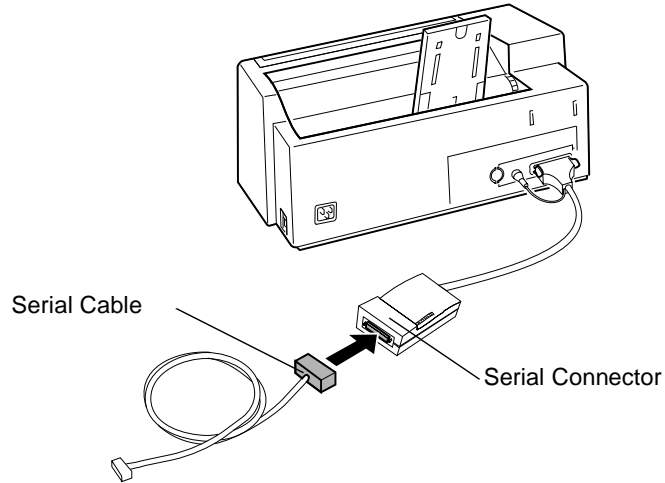
For connection to a host system with an FCC Class A designation, properly shielded and grounded cables must be used. Proper cables are available from authorized dealers.

You can use the serial adapter (Lexmark P/N 1368700) to connect the printer to a serial printer cable. You can set the communication speed and other conditions using the dip switches located on the back of this unit.

- 1 Make sure the printer and computer are Off.**
- 2 Unplug the parallel cable from the printer and the computer if attached.**
- 3 Plug the adapter cable into the parallel connector on the back of the printer. Plug the adapter cable power cord into the power outlet on the back of the printer.**



- 4 Attach the serial cable to the serial connector on the adapter.**



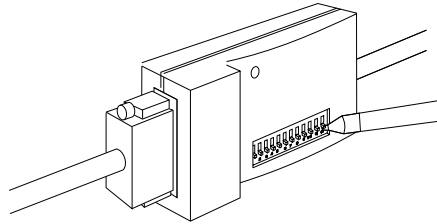
- 5 Attach the other end of the serial cable to the computer.**
For help, see your computer documentation.

- 6 Set the switches on the rear of the serial adapter to 1 (On) or 0 (Off). The following table describes the switch settings.**

Baud Rate	Switch 1	Switch 2	Switch 3
38400 bps (RS-422 only)	On	On	Off
19200 bps	On	On	On
9600 bps	Off	Off	Off
4800 bps	Off	Off	On
2400 bps	Off	On	Off
1200 bps	Off	On	On
600 bps	On	Off	Off
300 bps	On	Off	On

Bits Per Character	Switch 5	
8 bits	Off	
7 bits (See note)	On	
Parity	Switch 6	Switch 7
No parity	Off	Off
Ignore parity	Off	On
Odd parity	On	Off
Even parity	On	On
Buffer Size	Switch 8	
Normal	Off	
Minimum	On	
Handshake Protocol	Switch 4	Switch 9
DTR Pacing	Off	Off
DTR + XON/XOFF	On	Off
XON/XOFF	Off	On
Robust XON/XOFF	On	On
Print Test	Switch 10	
Normal Operation	Off	
Test mode	On	
RS-422 normal/reverse	Switch 11	
Normal	Off	
Reverse	On	
Serial Protocol selection	Switch 12	
RS-232	Off	
RS-422	On	

- 7** To make sure the serial adapter is installed properly, use a ballpoint pen to move Switch 10 to the On (Test mode) position.



- 8** Insert paper and turn On the printer. A test page prints.
- 9** Verify the settings on the test page.
- 10** Turn the printer off.
- 11** Move Switch 10 to the Off position to end test mode.
- 12** Turn the printer and the computer back on.

Installing the 32 Kbyte Buffer Module

These installation instructions are for the user who is familiar with installing printer options. Improper installation of the Buffer Module may cause serious damage to the module or printer. See your dealer or a service person if you do not have any experience installing printer options.

Installing the Module

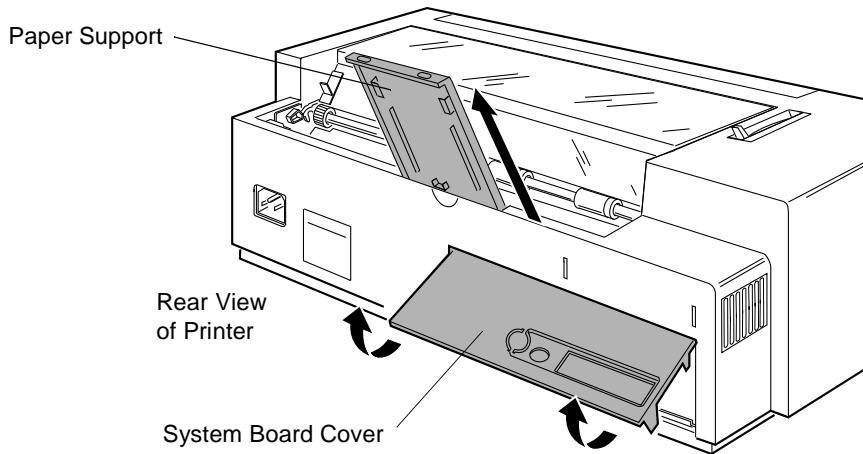
Before beginning the installation:

- 1** Remove any continuous forms from the printer.
- 2** Turn the printer Off.

- 3 Disconnect the power cord and the printer cable. If the Tractor 2 Feeder is installed on the printer, disconnect the Tractor 2 cable.**

The Buffer Module is installed at the rear of the printer, and the illustrations show the module being installed as you face the rear of the printer.

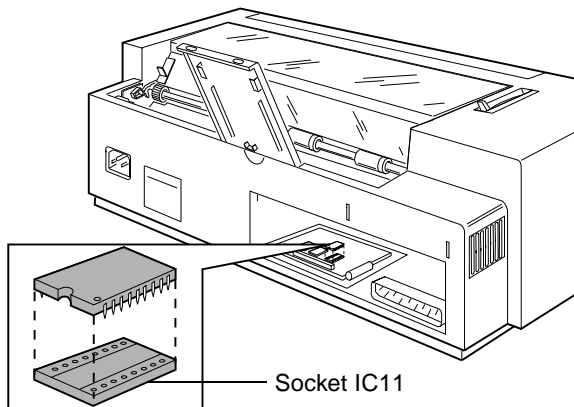
- 1 Lift the paper support to the upright position.**
- 2 Remove the system board cover from the back of the printer. Pry it in the center at the bottom and lift it from the bottom.**



- 3 Lift the plastic flap covering the system board and tuck it up out of the way as you do steps 4, 5, and 6.**

- 4 Hold the Buffer Module so the white dot on the module is facing you.**

Use care when you install the module in steps 5 and 6. Do not bend the pins or misalign the module pins with the holes.



- 5 Locate socket IC11 (the third socket from the left) on the system board.**
- 6 Align the pins of the module exactly with the holes in socket IC11 on the system board. Align the back pins first, then gently rock the module to align the front pins with the holes.**
- 7 Press the module into place so it is seated firmly in the socket.**

Note: Before you turn the printer back on, make sure that:

 - The white dot on the module is facing you.
 - All pins of the module are fully seated in the correct holes.
- 8 Move the printer cable clips on the parallel connector to the center position and reinstall the system board cover.**
- 9 Reattach the printer cable, the line cord, and the Tractor 2 cable (if necessary).**
- 10 Run the printer test.**

Running the Printer Test

- 1** Turn the printer On.
- 2** Load paper.
- 3** Turn the printer Off.
- 4** Press and hold Line Feed as you turn the power switch On.
- 5** Release Line Feed when printing starts.
- 6** Print one page of the printer test.

If the module has been installed correctly, 32K appears in the upper right corner of the test page.

- 7** Stop the printer test (turn the printer Off).

Troubleshooting

After you install the module, if the operator panel lights stay on solid and the printer will not function, the module is not correctly installed. Check the following items:

- Is the module seated in the socket? If not, firmly press the top of the module to push the pins into the socket.
- Are the module pins misaligned with the socket? If so, remove and reinstall the module correctly.

To remove the module, grasp both sides and gently rock it as you lift it from the socket. Remove the module carefully because the pins bend very easily.

Supplies

Section 8

This section describes supplies and paper specifications.

A parallel cable, ribbon cartridges, and paper are the only supplies you need for your printer.

You can order a 10 ft. or 20 ft. parallel cable from Lexmark. Order part number **1329605** (10 ft. cable) or part number **1427498** (20 ft. cable).

When you need a new ribbon cartridge, order part number **1040930**.

The tables that follow show the paper specifications without an optional feeder installed. If you installed the Auto Sheet Feeder, see “Auto Sheet Feeder Paper Specifications” on page 161. If you installed the Tractor 2 Feeder, see “Tractor 2 Feeder Paper Specifications” on page 162.

2380 Plus/2390 Plus Paper Specifications (no optional feeder installed)

Paper Dimensions	Cut Forms		Continuous Forms		Envelopes
	Single	Multiple part	Single	Multiple part	
Width					
Maximum	297 mm (11.7 in.) See Note 2	297 mm (11.7 in.) See Note 2	254 mm (10 in.)	254 mm (10 in.)	241 mm (9.5 in.)
Maximum Hole to Hole	N/A See Note 1	N/A	241 mm (9.5 in.)	241 mm (9.5 in.)	N/A
Minimum	76 mm (3.0 in.)	76 mm (3.0 in.)	76 mm (3.0 in.)	76 mm (3.0 in.)	152 mm (6.0 in.)
Minimum Hole to Hole	N/A	N/A	63 mm (2.5 in.)	63 mm (2.5 in.)	N/A
Page Length					
Maximum	558.8 mm (22.0 in.)	558.8 mm (22.0 in.)	N/A	N/A	152 mm (6.0 in.)
Minimum	76 mm (3.0 in.)	76 mm (3.0 in.)	76 mm (3.0 in.)	76 mm (3.0 in.)	110 mm (4.1 in.)
Weight					
Maximum	90 g/m ² (24 lb.)	N/A	90 g/m ² (24 lb.)	N/A	90 g/m ² (24 lb.)
Minimum	45 g/m ² (12 lb.)	N/A	56 g/m ² (15 lb.)	N/A	56 g/m ² (15 lb.)

2380 Plus/2390 Plus Paper Specifications (no optional feeder installed)

Paper Dimensions	Cut Forms		Continuous Forms		Envelopes
	Single	Multiple part	Single	Multiple part	
Thickness - Multiple Part Forms of 45 g/m² (12 lb.) paper					
	0.058-0.114 mm (0.0023-0.0045 in.)	See Note 3	0.058-0.114 mm (0.0023 - 0.0045 in.)	See Note 3	0.053 mm (0.021 in.)
Notes:					
1 N/A means not applicable.					
2 When the Auto Sheet Feeder or Tractor 2 Feeder is installed, the maximum width of a cut form is 215 mm (8.5 in.) for manual loading.					
3 Up to 0.512 mm (0.0202 in.) for 2380 Plus printers; up to 0.389 mm (0.015 in.) for 2390 Plus printers.					

2381/2391 Plus Paper Specifications (no optional feeder installed)

Paper Dimensions	Cut Forms		Continuous Forms		Envelopes
	Single	Multiple part	Single	Multiple part	
Width					
Maximum	420 mm (16.5 in.)	420 mm (16.5 in.)	406 mm (16.0 in.)	406 mm (16.0 in.)	241 mm (9.5 in.)
Maximum Hole to Hole	N/A See Note 1	N/A	393 mm (15.5 in.)	393 mm (15.5 in.)	N/A
Minimum	76 mm (3.0 in.)	76 mm (3.0 in.)	76 mm (3.0 in.)	76 mm (3.0 in.)	152 mm (6.0 in.)
Minimum Hole to Hole	N/A	N/A	63 mm (2.5 in.)	63 mm (2.5 in.)	N/A
Page Length					
Maximum	558.8 mm (22.0 in.)	558.8 mm (22.0 in.)	N/A	N/A	110 mm (4.1 in.)
Minimum	76 mm (3.0 in.)	76 mm (3.0 in.)	76 mm (3.0 in.)	76 mm (3.0 in.)	152 mm (6.0 in.)

2381/2391 Plus Paper Specifications (no optional feeder installed)

Paper Dimensions	Cut Forms		Continuous Forms		Envelopes
	Single	Multiple part	Single	Multiple part	
Weight					
Maximum	90 g/m ² (24 lb.)	N/A	90 g/m ² (24 lb.)	N/A	90 g/m ² (24 lb.)
Minimum	45 g/m ² (12 lb.)	N/A	56 g/m ² (15 lb.)		56 g/m ² (15 lb.)
Thickness - Multiple Part Forms of 45 g/m² (12 lb.) paper					
	0.058-0.114 mm (0.0023- 0.0045 in.)	See Note 2	0.058-0.114 mm (0.0023- 0.0045 in.)	See Note 2	0.053 mm (0.021 in.)
Notes:					
<ol style="list-style-type: none"> 1 N/A means not applicable. 2 Up to 0.512 mm (0.0202 in.) for 2381 Plus printers; up to 0.389 mm (0.015 in.) for 2391 Plus printers. 					

Auto Sheet Feeder Paper Specifications

Paper Size	Narrow carriage (2380/2390)	Wide carriage (2381/2391)
Automatic Feed Mode (single-part form)		
Length	139.7 mm (5.5 in.) minimum 355.6 mm (14.0 in.) (See Note 1) maximum 558.8 mm (22 in.) (See Note 2)	139.7 mm (5.5 in.) minimum 355.6 mm (14.0 in.) (See Note 1) maximum 558.8 mm (22 in.) (See Note 2)
Width	139.7 mm (5.5 in.) minimum 215.9 mm (8.5 inch) maximum	105 mm (4.13 in.) minimum 364 mm (14.3 in.) maximum
Manual Insertion Mode (single-/multi-part form)		
Length	139.7 mm (5.5 in.) minimum 355.6 mm (14.0 in.) (See Note 1) maximum 558.8 mm (22 in.) (See Note 2)	139.7 mm (5.5 in.) minimum 355.6 mm (14.0 in.) (See Note 1) maximum 558.8 mm (22 in.) (See Note 2)
Width	76.2 mm (3.0 in.) minimum 279.4 mm (11.0 in.) maximum	76.2 mm (3.0 in.) minimum 420 mm (16.5 in.) maximum
Paper Weight	16 ~ 24 lbs (60 ~ 90 g/m ²)	
Notes:		
<ol style="list-style-type: none"> 1 Paper width greater than 8.5 in. (215.9 mm). 2 For 8.5 in. (215.9 mm) paper width or less. 		

Tractor 2 Feeder Paper Specifications

Paper Size	Narrow carriage (2380/2390)	Wide carriage (2381/2391)
Tractor Feeder (continuous forms)		
Length	76 mm (3.0 in.) minimum N/A maximum	76 mm (3.0 in.) minimum N/A maximum
Width	76 mm (3.0 in.) minimum 254 mm (10 in.) maximum	76 mm (3.0 in.) minimum 406 mm (16.0 in.) maximum
Manual Feed (cut sheets/single part forms)		
Length	139.7 mm (5.5 in.) minimum 355.6 mm (14.0 in.) (See Note 1) maximum 558.8 mm (22 in.) (See Note 2)	139.7 mm (5.5 in.) minimum 355.6 mm (14.0 in.) (See Note 1) maximum 558.8 mm (22 in.) (See Note 2)
Width	76.2 mm (3.0 in.) minimum 279.4 mm (11.0 in.) maximum	76.2 mm (3.0 in.) minimum 420 mm (16.5 in.) maximum
Paper Weight	16 ~ 24 lbs (60 ~ 90 g/m ²)	
Notes:		
<ol style="list-style-type: none"> 1 Paper width greater than 8.5 in. (215.9 mm). 2 For 8.5 in. (215.9 mm) paper width or less. 		

Troubleshooting and Maintenance

Section 9

This section helps you identify printer conditions and problems that you can often correct yourself. When you first recognize a problem, determine whether it is located within the printer, the software (program), or an option. For additional assistance and answers to your questions, contact your service representative.

When diagnosing a problem, refer to the quick checklist that begins on page 165.

Table 17. Troubleshooting Contents

Problem	See page
Status Lights	168
Paper Jams	171
Printing Problems	172
Missing Characters/Format Control Codes	172
Partial Job Prints	172
Poor Print Quality	173
Wrong Line Length	174
Incorrect Pitch or Font	176
Printer Continues Beyond Edge of Form	177
Paper Feeding Problems	179
Printer Does Not Feed Paper	179
Paper Not Feeding From Auto Sheet Feeder	180

Table 17. Troubleshooting Contents

Problem	See page
Paper Jam in Auto Sheet Feeder	181
Paper Jam in Entrance to Printer	181
Paper Skewed in Printer	182
Auto Sheet Feeder Feeds Multiple Sheets	182
Auto Sheet Feeder Feeds at Incorrect Rate	183
Auto Sheet Feeder Places Paper at Wrong Top-Of-Form (TOF) Position	183
Tractor 2 Feeds Paper Incorrectly	183
Macro Light Off	185
Printer Beeps When Using Micro ↑ and ↓ Keys	185
Printing Stops	186
Power Light Off	186
Audible Alarm On	186
Auto Sheet Feeder or Tractor 2 Feeder is Noisy	186

Checklist for Typical Problems

Table 18. Problem Checklist

Step	Determining printer problem source
1	<p>Is power getting to the printer?</p> <ol style="list-style-type: none"> 1 Make sure the printer power cord is plugged into a power source. 2 Make sure the printer power cord is plugged into the printer. 3 Make sure the other items that are plugged into the same power source are operating. 4 Make sure the power source cannot be turned off at the wall.
2	<p>Is paper jamming the printer?</p> <p>See “Clearing Paper Jams” on page 171 for more information.</p>
3	<p>Are forms catching on items such as a forms carton or a printer stand?</p> <p>Set the paper correctly.</p>
4	<p>Is a part physically damaged?</p> <p>Have the printer serviced.</p>
5	<p>Are options causing the problem?</p> <ol style="list-style-type: none"> 1 Run the Printer Test. For help see “Running the Printer Test” on page 167. 2 If the Printer Test fails with no options installed, have the printer serviced. 3 If the Printer Test fails with an option installed, try removing the option.

Table 18. Problem Checklist

Step	Determining printer problem source
6	<p>Is the Font or Pitch selected from the operator panel not printing or is it changing?</p> <p>Activate Font Lock and Pitch Lock to keep your application software from overriding Font and Pitch settings selected at the operator panel. See “Selecting or Locking a Font” on page 35 and “Selecting or Locking a Pitch” on page 35.</p>
7	<p>Is the problem outside the printer?</p> <ol style="list-style-type: none"> 1 Turn the printer power switch Off. 2 Disconnect the printer cable from your computer at the back of the printer. 3 Run the Printer Test. For help see “Running the Printer Test” on page 167. 4 If the Printer Test runs, then the problem is in the printer cable or your computer. 5 Run the test procedures for your computer. For help, refer to your computer operations manual.
8	<p>If a program does not run correctly on the printer, does a different program run correctly?</p>
9	<p>Are you experiencing unexpected printing results?</p> <ol style="list-style-type: none"> 1 Make sure you have selected the appropriate printer driver for your application. For help, see “Setting Up Your Application Software” on page 12. 2 Make sure you have selected the appropriate emulation mode for your printer. See “Using Setup Mode” on page 77. (Emulation options are described on page 118).
10	<p>The buttons on the operator panel do not work except for the Start/Stop, Form Feed and Alt + Park Load buttons. The operator panel is in the panel disable mode. See “Disabling/Enabling the Operator Panel” on page 36.</p>

Testing the Printer

Each time you turn the power switch **On**, the printer performs an internal check, or Power-On Self Test.

Running the Printer Test produces a one-page test printout that gives a visual indication of any problem the printer may be experiencing.

You can run the Printer Test with or without the printer being connected to your computer. If the printer is connected to your computer, make sure the computer power switch is turned **On**.

Running the Printer Test

- 1** Make sure paper and the ribbon cartridge are installed.
- 2** Turn the printer **Off**.
- 3** Press and hold **Line Feed** while you turn the printer **On**.
- 4** Release **Line Feed** when printing starts.

Printing continues until you stop the printer.

Interrupting or Stopping the Printer Test

To interrupt the Printer Test:

- 1** Press **Start/Stop**. The test stops after a complete line of characters has printed.
- 2** Press **Start/Stop** to continue the test sample.

To stop the Printer Test, turn the printer **Off**.

Checking the Status of Lights

Observe the operator panel lights and compare their status with the following table.

Table 19. Light Status Indications

Lights/Status	Action
Power On Paper Out Off Ready On	Normal operating condition. No action required.
Power On Paper Out Off Ready Off	Normal offline condition.
Power On Paper Out Blinking Ready Off	<ol style="list-style-type: none"> 1 Load paper 2 Press Start/Stop. Paper Out light goes off; Ready light comes on. <p>Note: If you installed the Tractor 2 Feeder, and you are printing continuous forms, make sure the paper select lever is pushed down in the continuous forms position.</p>
Ready light blinks.	The printer is in Top-Of-Form (TOF) mode. Press Start/Stop to go online and set the Top-Of-Form.

Table 19. Light Status Indications

Lights/Status		Action
Power	On	<ol style="list-style-type: none"> 1 Check for a paper or ribbon jam. 2 Turn the power switch Off. Remove the ribbon cartridge. See “Removing the Ribbon Cartridge” on page 188. 3 Check for paper dust or bits of paper. 4 Make sure the carrier packing tape has been removed. See “Unpacking” on page 1. 5 Run the Printer Test. For help, see “Testing the Printer” on page 167. If the Printer Test fails, contact your service representative. <p>If the printer is not beeping, there is a power supply problem. Contact your service representative.</p>
Paper Out	Blinking	
Ready	Blinking	
Font	Blinking	
Pitch	Blinking	
Power	Off	Check the power cord and power source. If the power light remains off, contact your service representative.


Table 19. Light Status Indications

Lights/Status		Action
Power	On	1 Turn the power switch Off . 2 Turn the power switch On . If the same symptom occurs, contact your service representative.
Paper Out	Blinking	
Ready	Blinking	
Font	Blinking	
Power	On	1 Turn the power switch Off . 2 Turn the power switch On . If the same symptom occurs, contact your service representative.
Paper Out	Blinking	
Ready	Blinking	
Pitch	Blinking	
Power	On	1 Turn the power switch Off . 2 Turn the power switch On . If the same symptom occurs, contact your service representative.
Paper Out	Blinking	
Ready	Blinking	
Alt	Blinking	
All lights on solid.		

Clearing Paper Jams

Follow the steps below to remove paper jams from your printer.

Cut Form Jams

- 1** Turn the printer Off.
- 2** Set the forms thickness lever to 7.
- 3** Push the paper select lever down to the continuous forms () position.
- 4** Gently pull out the sheet of paper.
- 5** Set the paper select lever to the cut forms position.
- 6** Set the forms thickness lever to the proper setting. See “Setting the Forms Thickness Lever” on page 68.

Continuous Forms Jams

- 1** Turn the printer Off.
- 2** Detach any continuous forms already printed.
- 3** Set the forms thickness lever to 7.
- 4** Tear the continuous forms off at the perforation line before the forms enter the printer.
- 5** If using the tractor in the push position, open the front cover. (Skip this step if you are using the Tractor 2 Feeder.)
- 6** Open the left and right tractor doors.
- 7** Lift the paper away from tractor pins.
- 8** Carefully pull out the paper.
- 9** Remove any torn perforation strips or bits of paper from the paper path.

Problem Conditions

Perform the steps listed for each condition to correct the problem. If the suggested action does not correct the problem, contact your service representative.

Table 20. Printing Problems

Problem	Probable Cause	Action
Printer goes to tear-off position before job finishes printing	Tear-Off is set to One Second and application program or network is not sending data fast enough.	Set Tear-Off to On instead of One Second and run the job again.
Characters are wrong or missing; Formatting control codes do not work	Application program.	Refer to your application program manual.
	Some wires seem to be missing from the printhead.	<ol style="list-style-type: none"> 1 Check the setting of the forms thickness lever. See “Setting the Forms Thickness Lever” on page 68. 2 Run the Printer Test. See “Testing the Printer” on page 167. 3 Printer needs repair.

Table 20. Printing Problems (continued)

Problem	Probable Cause	Action
Dots are missing or print quality is poor	Forms thickness lever is set incorrectly.	Check the setting of the forms thickness lever. See “Setting the Forms Thickness Lever” on page 68.
	Dust or paper particles are stuck to the ribbon surface.	Remove the ribbon cartridge and check the ribbon surface.
	Printhead is not working.	<ol style="list-style-type: none"> 1 Run the Printer Test. See “Testing the Printer” on page 167. 2 Contact your service representative.
	Ribbon problem.	<ol style="list-style-type: none"> 1 Make sure the ribbon is securely snapped down on the carrier. 2 Adjust the density control knob. See “Installing the Ribbon Cartridge” on page 4. 3 Ribbon is worn; replace the ribbon cartridge.

Table 20. Printing Problems (continued)

Problem	Probable Cause	Action
Forms are smudged or printing is too dark	Forms thickness lever is set incorrectly.	Check the setting of the forms thickness lever. See “Setting the Forms Thickness Lever” on page 68.
	Ribbon is twisted.	<ol style="list-style-type: none"> 1 Make sure the ribbon is installed correctly. See “Removing the Ribbon Cartridge” on page 188. 2 If possible, untwist the ribbon. 3 Take up ribbon slack using the ribbon advance knob.
	Ribbon shield is damaged or missing.	Remove the ribbon cartridge. For help, see “Removing the Ribbon Cartridge” on page 188.
	Density control knob was set to 2 prematurely.	Set density control knob to 1 .
Incorrect number of lines on a page	Paper has shifted backwards after several forms printed correctly.	Readjust forms.
	Application program problem.	Refer to your application program manual.
	The stack of continuous forms is too far from the printer.	Move paper closer to the printer.
	Paper is getting stuck on cables.	Move the paper away from any wires or cables.

Table 20. Printing Problems (continued)

Problem	Probable Cause	Action
<p>Left margin moves to the right during printing</p>	<p>The printhead is not moving correctly.</p>	<ol style="list-style-type: none"> 1 Check that the ribbon cartridge and paper are correctly installed. See “Installing the Ribbon Cartridge” on page 4. 2 Make sure the carrier packing tape has been removed. See “Unpacking” on page 1. 3 Check to see if anything is blocking the movement of the carrier. 4 If a paper jam has recently occurred, turn off the printer and try again. 5 Contact your service representative.
	<p>The forms thickness lever is in the wrong position.</p>	<p>Reset the forms thickness lever. See “Setting the Forms Thickness Lever” on page 68.</p>
	<p>Application program problem.</p>	<p>Refer to your application program manual.</p>
<p>Line length is wrong; Graphics do not print; Lines are not starting at left margin</p>	<p>Application program problem.</p>	<p>Refer to your application program manual. Make sure the correct printer driver is selected.</p>

Table 20. Printing Problems (continued)

Problem	Probable Cause	Action
Line spacing is incorrect or overprinting occurs	Forms are jamming between printing surface and the printhead.	Reset forms thickness lever. See “Setting the Forms Thickness Lever” on page 68.
	Problem with the application program.	Refer to your application program manual.
Pitch or Font selected is not printing or is changing	Your software is overriding your operator panel selection.	<ol style="list-style-type: none"> 1 Set your printer in Font Lock and Pitch Lock. See “Selecting or Locking a Font” on page 35 and “Selecting or Locking a Pitch” on page 35. 2 Your software is using bitmapped (graphic) fonts. If possible, select resident fonts.

Table 20. Printing Problems (continued)

Problem	Probable Cause	Action
Printer is printing beyond side edge of forms	Paper is adjusted incorrectly.	Adjust tractors or paper guides and the paper. See “Aligning the Left Margin” on page 66.
	Problem with the application program.	Refer to your application program manual.
	A printhead jam caused by the ribbon or a paper jam.	<ol style="list-style-type: none"> 1 Make sure the ribbon cartridge is correctly installed. See “Installing the Ribbon Cartridge” on page 4. 2 Clear the paper jam. See “Clearing Paper Jams” on page 171. Turn the printer switch Off then On.
Printing continues beyond edge of the form	Computer program set the assigned paper size larger than the actual page size.	Change the computer program so that the assigned paper size is the same as the actual paper size.
	Trying to print in the last ½ inch of form.	

Table 20. Printing Problems (continued)

Problem	Probable Cause	Action
<p>Printer sounds as if it is printing but doesn't print; Printing is light</p>	<p>Forms thickness lever is set incorrectly.</p>	<p>See "Setting the Forms Thickness Lever" on page 68.</p>
	<p>Ribbon is jamming, is twisted, or is not between the printhead and the ribbon shield.</p>	<ol style="list-style-type: none"> 1 Make sure the ribbon cartridge is correctly installed. 2 Make sure the ribbon is securely snapped down on the carrier. 3 Adjust the ribbon density control knob. See "Installing the Ribbon Cartridge" on page 4. 4 Replace the ribbon cartridge. See "Removing the Ribbon Cartridge" on page 188.
<p>Printing is unstable; Wrong characters are printed; Left margin changes; Printing stops</p>	<p>If you are using a grounded or shielded printer cable, it may not be attached correctly.</p>	<p>Make sure the printer cable is properly shielded and correctly connected at both ends.</p>

Table 21. Paper Feeding Problems

Problem	Probable Cause	Action
Printer does not feed paper	Paper is jamming.	Remove all forms and pieces of paper. See “Clearing Paper Jams” on page 171. Look for loose pinfeed hole strips that can sometimes tear from continuous forms and remain in the printer. The right hand tractor position may be incorrectly adjusted. Before you load new forms, fan the forms to loosen the sheets.
	Forms thickness lever is set incorrectly.	See “Setting the Forms Thickness Lever” on page 68.
	Continuous form paper is parked.	Press Alt + Park/Load .
	Auto Cut Sheet Load option is not set.	See Table 4 on page 95 (238x printers) or Table 11 on page 104 (239x printers).
	Right paper guide is too tight.	Adjust the right paper guide.

Table 21. Paper Feeding Problems

Problem	Probable Cause	Action
<p>Paper does not feed from the Auto Sheet Feeder</p>	<p>The weight of the paper is too great.</p>	<p>Remove all paper from the paper bin and install paper that has a lower weight. For help, see “Auto Sheet Feeder Paper Specifications” on page 161.</p>
	<p>Paper sheets seem to hold together at the bottom edge.</p>	<p>Remove all paper from the paper bin and fan the top and bottom edges with your thumb. Then place the paper in the paper bin.</p>
	<p>Too many sheets are in the paper bin.</p>	<p>Remove the extra sheets. Ensure that the stack of paper is not more than 150 sheets (64 g/m²). For larger or thicker paper, use less sheets.</p>
	<p>Dirty feed rollers.</p>	<p>For help, see “Cleaning the Auto Sheet Feeder Rollers” on page 189.</p>
	<p>The Auto Sheet Feeder option is not set to On in Setup mode.</p>	<p>Enter Setup mode and set the option to On. See “Using Setup Mode” on page 77.</p>
	<p>The Auto Sheet Feeder locking lever is in the front position.</p>	<p>Set the Auto Sheet Feeder locking lever to the back position.</p>
	<p>Paper select lever is in the down position.</p>	<p>Set the paper select lever to Cut Forms mode.</p>

Table 21. Paper Feeding Problems

Problem	Probable Cause	Action
Paper jam in the Auto Sheet Feeder	The paper is not loaded correctly in the paper bin.	Remove the paper and reload the paper bin to ensure that the paper is set correctly.
	The paper is not stacked evenly in the supply bin.	Remove the paper, align the edges of the paper, and reload the paper bin.
	The Auto Sheet Feeder is incorrectly installed.	Remove the Auto Sheet Feeder. Install the Auto Sheet Feeder.
	Foreign objects are in the Auto Sheet Feeder paper path.	Remove the Auto Sheet Feeder. Remove the foreign objects. Install the Auto Sheet Feeder.
Paper fed from Auto Sheet Feeder jams at entrance to printer	The printer feed path is dirty or the ribbon is jammed.	Remove the Auto Sheet Feeder. Remove pieces of paper from the printer feed path. Install the Auto Sheet Feeder.
	The Auto Sheet Feeder is not correctly installed.	Remove the Auto Sheet Feeder. Install the Auto Sheet Feeder.
	The paper guide is too far to the right.	Move the paper guide to the left.
	The continuous forms were not moved to the park position before the Auto Sheet Feeder was used.	Remove the Auto Sheet Feeder. Move the continuous forms to the park position using the Park button.

Table 21. Paper Feeding Problems

Problem	Probable Cause	Action
Paper fed from the Auto Sheet Feeder is skewed in the printer	The left and right paper guides are not correctly adjusted.	Adjust the left and right paper guides.
	Paper is not correctly placed in the paper bin.	Remove paper from the paper bin. Set the paper correctly.
The Auto Sheet Feeder feeds multiple sheets	Paper is not correctly placed in the paper bin.	Remove paper from the paper bin. Make sure the paper is set correctly.
	The weight of the paper is too low.	Remove all paper from the paper bin, and install a paper that has a higher weight. For help, see “Auto Sheet Feeder Paper Specifications” on page 161.
	Paper sheets seem to hold together at the bottom edge.	Remove all paper from the paper bin and fan the top and bottom edges with your thumb. Place the paper in the paper bin.
	The left and right paper guides are not correctly adjusted.	Adjust the left and right paper guides.
	Not enough paper in the paper bin.	Add more paper to the paper bin.

Table 21. Paper Feeding Problems

Problem	Probable Cause	Action
The Auto Sheet Feeder feeds paper at an incorrect rate	The weight of the paper is too great.	Remove all paper from the Auto Sheet Feeder and use paper that has a lower weight. For help, see “Auto Sheet Feeder Paper Specifications” on page 161.
	Paper is jammed in the Auto Sheet Feeder.	See “Paper jam in the Auto Sheet Feeder” on page 181.
	The forms thickness lever is set incorrectly.	Adjust the forms thickness lever as shown in “Setting the Forms Thickness Lever” on page 68.
The Auto Sheet Feeder places the paper at the wrong Top-Of-Form (TOF) position	The paper is too short.	Remove the paper and ensure that the paper meets the paper specifications on page 161.
	Dirty auto sheet feed rollers	For help, see “Cleaning the Auto Sheet Feeder Rollers” on page 189.
	Top-Of-Form (TOF) is set incorrectly	See “Setting TOF for Cut Forms and Envelopes” starting on page 74 to set Top-Of-Form correctly.
The printer does not feed from the Tractor 2 Feeder	You are trying to print continuous forms and the paper select lever is in the cut sheet position.	Move the paper select lever down to the continuous forms position.
	A tractor feeder with no paper loaded is selected.	Press Alt + Tractor to select the other tractor feeder or load paper on the selected tractor feeder.

Table 21. Paper Feeding Problems

Problem	Probable Cause	Action
Paper jam in the Tractor 2 Feeder	The continuous form on one tractor feed was not properly parked before switching to the other tractor feeder.	Make sure you tear off the leading edge of the continuous form on the currently selected tractor feeder before switching tractor feeds. For help, see “Parking Continuous Forms and Changing Tractor Feeders” on page 141.
The Tractor 2 Feeder places paper at the wrong Top-Of-Form (TOF) position	Top-Of-Form (TOF) is set incorrectly	See “Setting TOF for Continuous Form Paper in Push Mode” starting on page 72 to set Top-Of-Form (TOF) correctly.

Table 22. General Printer Problems

Problem	Probable Cause	Action
Print test works, but printer does not print when attached to computer	Printer cable	Set both the printer and computer power switches Off . Make sure the printer cable is correctly connected at both ends. See “Supplies” on page 157 for information about which printer cable to use.
	Application program	Refer to your application program manual. Make sure you have selected the correct printer driver. See “Setting Up Your Application Software” on page 12.

Table 22. General Printer Problems (continued)

Problem	Probable Cause	Action
Keys do not work (except Form Feed and Start/Stop)	Operator panel is in disable mode (padlock light (⊖) on)	Turn off the printer. Press and hold Micro ↑ and Micro ↓ and turn on the printer. The padlock light goes off; the operator panel is enabled.
Macro light goes off	Macro settings have been changed by the application software or from the operator panel. Application program has temporarily overridden a macro setting.	Refer to your application program manual.
Printer beeps when using Micro ↑ and Micro ↓	Printer is in the Tear-Off position.	<ol style="list-style-type: none"> 1 If you want to unload paper, press Alt + Park/Load. 2 If you want to adjust Top-Of-Form, press Alt+ Park/Load to park paper. Press Alt + Park/Load again. Paper reloads to current Top-Of-Form and you can use Micro ↑ or Micro ↓ again.
Printer is noisy	The printer vibrates.	<ol style="list-style-type: none"> 1 Move any objects touching the printer. 2 Make sure the printer is on a level, sturdy surface.
	Top or front cover is open.	Close the cover.

Table 22. General Printer Problems (continued)

Problem	Probable Cause	Action
Printer sounds as if it is printing but does not; Printing is light	Forms thickness lever is set incorrectly.	See “Setting the Forms Thickness Lever” on page 68.
	Ribbon is jamming, is twisted, or is not between the printhead and the ribbon shield.	<ol style="list-style-type: none"> 1 Make sure the ribbon cartridge is correctly installed. 2 Make sure the ribbon is securely snapped down on the carrier. 3 Adjust the ribbon density control knob. See “Installing the Ribbon Cartridge” on page 4. 4 Replace the ribbon cartridge. See “Removing the Ribbon Cartridge” on page 188.
Printer power switch is On, but Power light is Off	Printer is not getting power.	<ol style="list-style-type: none"> 1 Make sure the power cord is correctly connected at both ends. 2 Verify that the power source works.
Printer sounds the audible alarm	This might indicate an error or normal operation.	Check the status of the operator panel lights. See “Checking the Status of Lights” on page 168.
The Auto Sheet Feeder or Tractor 2 Feeder option is noisy	The option is incorrectly installed.	Remove the option. Reinstall the option on the printer. For help, see “Printer Options” on page 121.

Table 22. General Printer Problems (continued)

Problem	Probable Cause	Action
<p>Printing speed becomes slower</p>	<p>The print operation slows down.</p>	<ol style="list-style-type: none"> <li data-bbox="872 302 1210 586">1 Automatic adjustment protects the printhead from overheating. This operation is normal and is affected by print type being used (letter quality, for example) and the amount and density of graphics being printed. <li data-bbox="872 604 1210 822">2 Check the forms thickness lever. Make sure the setting is appropriate for the thickness of your forms. Printing speed is slower when the setting is 4 or higher.

Maintenance

This section describes how to remove the ribbon cartridge and clean the printer.

Removing the Ribbon Cartridge

- 1 Turn the printer Off.**
- 2 Remove the top cover.**
- 3 Set the forms thickness lever to position 7.**
- 4 Squeeze the left and right latches on the ribbon cartridge and lift.** The cartridge unlatches from the printer.

For help installing a ribbon cartridge, see “Installing the Ribbon Cartridge” on page 4.

Cleaning the Printer

Before you clean the printer:

- 1 Turn the printer Off.**
- 2 Unplug the power cord.**
- 3 Wait until the printhead is cool.**

Cleaning the inside of the Printer: Every few months, use a soft brush and a vacuum to remove dust, ribbon lint, and pieces of paper. Remove the ribbon cartridge to prevent the ribbon from going into the vacuum. Vacuum any dust from around the printhead and in the printer cavity.

Cleaning the Cover: Clean the outside of the printer with a damp cloth and mild soap. Do not use any spray-type or chemical cleaners anywhere on your printer. Do not put any liquids or spray near the air vents. For stubborn ink stains on the cover, use a commercial mechanic's hand cleaner.

Cleaning the Auto Sheet Feeder Rollers

- 1** Remove all paper from the printer.
- 2** Turn the Auto Sheet Feeder upside down and place it on a flat surface.
- 3** Clean the two paper-guide wheels located inside the bottom of the Auto Sheet Feeder using isopropyl alcohol and a clean cloth.

You can rotate one roller while applying the cleaning cloth to the other roller.

Notices

Appendix A

Electronic Emission Notices

Federal Communications Commission (FCC) Statement

The Lexmark 2380 Plus, 2381 Plus, 2390 Plus, and 2391 Plus Forms Printers have been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.

- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the place where you bought your printer or a service representative for additional suggestions.

The manufacturer is not responsible for any radio or television interference caused by using other than recommended cables or by unauthorized changes or modifications to this equipment.

Unauthorized changes or modifications could void the user's authority to operate the equipment.

To assure compliance with FCC regulations for a Class B computing device, use a properly shielded and grounded parallel interface cable, such as Lexmark part number 1329605.

Use of a substitute cable not properly shielded and grounded may result in violation of FCC regulations.

European Community (EC) Electromagnetic Compatibility Directive

This product is in conformity with the protection requirements of EC Council directive 89/336/EEC on the approximation of the laws of the Member States relating to electromagnetic compatibility.

A declaration of conformity with the requirements of the Directive has been signed by the Director of Manufacturing and Technical Support, Lexmark International, S.A., Boigny, France.

This product satisfies the Class B limits of EN 55022.

Industry Canada Compliance Statement

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Avis de conformité aux normes d'Industrie Canada

Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

The United Kingdom Telecommunications Act 1984

This apparatus is approved under the approval number NS/G/1234/J/100003 for the indirect connections to the public telecommunications systems in the United Kingdom.

Japanese VCCI Notice

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

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

取扱説明書に従って正しい取り扱いをして下さい。

Energy Star




The EPA ENERGY STAR Computers program is a partnership effort with computer manufacturers to promote the introduction of energy-efficient products and to reduce air pollution caused by power generation.


Companies participating in this program introduce personal computers, printers, monitors, or fax machines that power down when they are not being used. This feature will cut the energy used by up to 50 percent. Lexmark is proud to be a participant in this program.

As an Energy Star Partner, Lexmark International, Inc. has determined that this product meets the Energy Star guidelines for energy efficiency.


Safety Information

- If your product is NOT marked with this symbol,  , it MUST be connected to an electrical outlet that is properly grounded.
- The power cord must be connected to an electrical outlet that is near the product and easily accessible.
- Refer service or repairs, other than those described in the operating instructions, to a professional service person.


Sicherheitshinweise

- Falls der Drucker nicht mit diesem Symbol  markiert ist, muß er an eine ordnungsgemäß geerdete Steckdose angeschlossen werden.
- Das Netzkabel muß an eine Steckdose angeschlossen werden, die sich in der Nähe des Geräts befindet und leicht zugänglich ist.
- Wartungsarbeiten und Reparaturen, mit Ausnahme der in der Betriebsanleitung näher beschriebenen, sollten Fachleuten überlassen werden.

Consignes de sécurité


- Si le symbole  n'apparaît PAS sur votre produit, ce dernier DOIT être branché sur une prise de courant mise à la terre.
- Le câble d'alimentation doit être connecté à une prise de courant placée près du produit et facilement accessible.
- L'entretien et les réparations autres que ceux décrits dans les instructions d'emploi doivent être effectués par le personnel de maintenance qualifié.

Norme di sicurezza


- Se il prodotto NON è contrassegnato con questo simbolo  DEVE essere collegato lo stesso ad una presa elettrica con messa a terra.
- Il cavo di alimentazione deve essere collegato ad una presa elettrica posta nelle vicinanze del prodotto e facilmente raggiungibile.

- Per la manutenzione o le riparazioni, escluse quelle descritte nelle istruzioni operative, consultare il personale di assistenza autorizzato.


Pautas de Seguridad

- Si su producto NO tiene este símbolo,  , es IMPRESCINDIBLE conectarlo a una toma de corriente eléctrica con toma de tierra correcta.
- El cable de alimentación deberá conectarse a una toma de corriente situada cerca del producto y de fácil acceso.
- Cualquier servicio o reparación deberá realizarse por parte del personal cualificado, a menos que se trate de las averías descritas en las instrucciones de utilización.

Informações de Segurança


- Se o produto NÃO estiver marcado com este símbolo,  , é necessário ligá-lo a uma tomada com ligação à terra.
- O cabo deve ser ligado a uma tomada localizada perto do produto e facilmente acessível.
- Para todos os serviços ou reparações não referidos nas instruções de operação, deve contactar um técnico dos serviços de assistência.

Veiligheidsvoorschriften


- Zorg ervoor dat uw produkt is aangesloten op een geaard stopcontact als het produkt NIET is gemarkeerd met det symbool .
- Het netsnoer moet worden aangesloten op een gemakkelijk bereikbaar stopcontact in de buurt van het produkt.

- Neem contact op met een professionele onderhoudstechnicus voor onderhoud en reparaties die niet in de bij het produkt geleverde instructies beschreven worden.


Sikkerhedsoplysninger

- Hvis dit produkt IKKE er markeret med dette symbol , SKAL det sluttes til en stikkontakt med jordforbindelse.
- Ledningen skal sluttes til en stikkontakt, der er tæt på produktet og som er let tilgængelig.
- Service og reparationer, som ikke er beskrevet i brugsanvisningen, skal udføres af en kvalificeret tekniker.

Turvaohjeet

- Jos tuotteessa ei ole tätä tunnusta, , sen saa kytkeä vain maadoitettuun pistorasiaan.
- Tuotteen verkkojohto on kytkettävä sitä lähellä olevaan pistorasiaan. Varmista, että kulku pistorasian luo on esteetön.
- Muut kuin käyttöohjeissa mainitut huolto- tai korjaustoimet on jätettävä huoltoedustajalle.

Säkerhetsanvisningar

- Om produkten INTE är märkt med denna symbol , MÅSTE den anslutas till ett jordat vägguttag.
- Nätkabeln måste anslutas till ett lättåtkomligt vägguttag i närheten av maskinen.
- Låt endast utbildad servicepersonal utföra sådan service och sådana reparationer som inte beskrivs i handledningen.

Sikkerhetsinformasjon

- Hvis produktet ditt ikke er merket med dette symbolet, □, må det bare kobles til en stikkontakt som er jordet.
- Ledningen må være koblet til en stikkontakt nær produktet. Stikkontakten må være lett tilgjengelig.
- La bare kvalifisert personale ta seg av service og reparasjon som ikke er direkte beskrevet i bruksanvisningen.

Informació de Seguretat

- Si el vostre producte NO està marcat amb el símbol □, S'HAURÀ de connectar a una presa elèctrica de terra.
- El cable de potència s'haurà de connectar a una presa de corrent propera al producte i fàcilment accessible.
- Si heu de fer una reparació que no figuri entre les descrites a les instruccions de funcionament, confieu-la a un professional.


Japanese Safety Information

安全のためのご案内

- ご使用の製品にこの□記号がついていない場合は、正しく接地（アース）してある電源コンセントに接続する必要があります。
- 電源コンセントは、接続の邪魔となるような物がない近くの電源コンセントに接続してください。
- 整備・修理が必要な場合、使用説明書にその旨の記載がある場合を除いて、専門の技術者にご連絡ください。


Chinese Safety Information

安全资讯

- 如果您的产品没有  符号。所接的电源插座一定要有适当的接地处理。
- 电线接续的插座与产品的距离不可太远，并且要合乎使用方便的原则。
- 有关维护或修理方面的细节，除了参考操作说明以外，还可连络专业服务人员

Korean Safety Information

안전 사항

- 제품에  심볼이 표시되어 있지 않은 경우 제품을 적절히 접지되어 있는 콘센트에 연결하여야 합니다.
- 전원 코드는 제품 가까이에 있고 쉽게 접근할 수 있는 콘센트에 연결하십시오.
- 운영 지침서에 기술되어 있지 않은 서비스나 수리는 전문 서비스 기술자에게 의뢰하십시오.

Statement of Limited Warranty

Appendix B

Lexmark International, Inc., Greenwich, CT

Lexmark 238x/239x Plus Forms Printer

This Statement of Limited Warranty applies to this machine if it was originally purchased for your use, and not for resale, from Lexmark or a Lexmark authorized remarketer, referred to in this statement as “Remarketer.” This machine is subject to these terms only if located in the country of the seller from whom the machine was purchased.

Warranty

Lexmark warrants that this machine:

- Is manufactured from new parts, or new and serviceable used parts which perform like new parts,
- Is free from defects in material and workmanship,
- Conforms to Lexmark’s Official Published Specifications, and
- Is in good working order.

If this machine does not function as warranted during the warranty period, contact a Remarketer or Lexmark, who is responsible for its repair without charge.

The warranty period is 24 months and starts on the date of original purchase as shown on the purchase receipt.

If this machine is a feature or accessory, this statement applies only when that feature or accessory is used with the machine for which it was designed. To obtain warranty service, you may be required to present the feature or accessory with such machine.

If you transfer this machine to another user, warranty service under the terms of this statement is available to that user for the remainder of the warranty period. You should transfer proof of original purchase and this statement to that user.

Warranty Service

To obtain warranty service you may be required to present proof of original purchase. Warranty service will be provided

- at a Remarketer or a Lexmark designated location. You may be required to deliver your machine to the Remarketer or Lexmark, or ship it prepaid and suitably packaged to a Lexmark designated location. You are responsible for loss of, or damage to, a machine in transit to the Remarketer or the designated location.
- at a Lexmark designated location.

When warranty service involves the exchange of a machine or part, the item replaced becomes the property of the Remarketer or Lexmark. The replacement may be a new or repaired item. The replacement item assumes the remaining warranty period of the original machine.

Replacement is not available to you if the machine you present for exchange is defaced, altered, in need of a repair not included in warranty service, or damaged beyond repair. Also, such machine must be free of any legal obligation or restrictions that prevent its exchange.

Before you present this machine for warranty service, remove all programs, data, and removable storage media.

Extent of Warranty

We do not warrant uninterrupted or error-free operation of a machine.

Warranty service does not include repair of failures caused by misuse, accident, modification, unsuitable physical or operating environment, operation in other than the Specified Operating Environment, improper maintenance by you, failure caused by service of the machine by those other than a Remarketer or Lexmark, or failure caused by a product, including supplies, for which we are not responsible.

ALL EXPRESS AND IMPLIED WARRANTIES, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED IN DURATION TO THE WARRANTY PERIOD. NO WARRANTIES, EXPRESS OR IMPLIED, WILL APPLY AFTER THIS PERIOD.

Limitation of Liability

Your sole remedy under this Statement of Limited Warranty is set forth in this section. For any claim concerning performance or nonperformance of Lexmark or a Remarketer for this machine under this Statement of Limited Warranty, you may recover actual damages up to the limit set forth in the following paragraph.

Lexmark's liability for actual damages from any cause whatsoever will be limited to the greater of 1) \$5,000 or 2) the amount you paid for the machine which caused the damages. This limitation of liability will not apply to claims by you for bodily injury or damage to real property or tangible personal property for which Lexmark is legally liable. In no event will Lexmark be liable for any lost profits, lost savings, incidental damage, or other economic consequential damages. This is true even if you advise Lexmark or a Remarketer of the possibility of such damages. Lexmark is not liable for any claim by you based on a third party claim.

This limitation of remedies also applies to any developer of materials supplied to Lexmark. Lexmark's and the developer's limitations of remedies are not cumulative. Such developer is an intended beneficiary of this limitation.

Additional Rights

Some states do not allow limitations on how long an implied warranty lasts, or do not allow the exclusion or limitation of incidental or consequential damages. If such laws apply, the limitations or exclusions contained in this statement may not apply to you.

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

Glossary

A

A4 paper. Paper size that is 210 x 297 mm (8.27 x 11.7 in.)

all-points-addressable (APA). The ability to address and print or not print each picture element on a display surface.

American Standard Code for Information Interchange (ASCII). A standard code used for moving information among data processing systems and associated equipment.

application software. Software products such as spreadsheets and word-processing programs designed for use on a personal computer.

audible alarm. An alarm that is activated when an event occurs that may require operator attention or intervention for printer operation. For example, an out-of-paper condition. Also called a beeper.

Auto Sheet Feeder. A printer option that installs in the front of the printer and automatically feeds single sheets

or cut forms into the printer. This option eliminates the need to manually feed single sheets and cut forms.

B

bar code. A code composed of a series of parallel lines (bars) of varying widths that is read by an optical scanner. Bar codes are usually printed on retail product labels and contain pricing and inventory information.

bidirectional (bi-di). Printing in either direction, left-to-right or right-to-left.

bold. A heavy-faced type; also called boldface or emphasized.

bps. Bits per second.

buffer. Temporary storage area for holding input or output data.

C

characters-per-inch (cpi). The number of characters printed within an inch horizontally across a page. Used to measure the character spacing of a printer.

characters-per-second (cps). The number of characters that are printed in 1 second. Used to measure the printing speed of a printer.

code page. A set of 256 graphic designs (characters) associated with unique code values from 0 through 255. Code page 437 is U.S.A. font and code page 850 is multilingual font.

condensed print mode. A print mode in which character spacing is 17.1 characters per inch. Also called compressed print mode.

continuous forms. Connected paper forms that feed continuously through the printer, and are perforated to allow you to tear them apart. Contrast with *cut forms*.

control code. A control character used for print operations, such as line spacing or carriage return.

cut forms. A single form or sheet of paper that is not connected to other forms. The form can have more than one part, such as an original and one or more copies. Cut forms is synonymous with cut sheets. Contrast with *continuous forms*.

D

data. Information entered into or used by a computer.

data bits. The number of data bits sent in each transmission frame using the serial interface.

default. A value, parameter, or attribute that the printer uses when none is specified.

DIP switch (Dual in-line package). A set of on/off switches used to customize the serial interface adapter.

document-on-demand. Your printer's capability to automatically move paper from the print line to the tear off bar upon completion of a print job.

dot-matrix printer. A printer that forms characters by a pattern of dots.

dots-per-inch (dpi). The number of dots printed within an inch horizontally across the page.

double-high printing. Printing in which the characters are twice as high as the default characters.

double-strike. Characters are printed twice on the same page location.

double-wide printing. Printing in which the characters are twice as wide as the default characters. This results in half as many characters per inch.

draft-print (DP). A style of print used for draft material. Compare with letter quality.

DTR protocol. Hardware handshaking protocol for RS-232 serial interface.

E

emphasized print type. A print type in which characters are made bolder horizontally.

escape sequence. A message, comprised of the ESC character and one or more characters, sent from a computer to the printer that changes the way the printer is operating.

F

font. A set of type of a given size and style.

forms length. Forms length (also known as page length) is the length of a page. It can be set from one line to a maximum of 22 inches.

G

g/m². Grams per square meter. Metric measurement for paper weight.

H

hex dump mode. A mode used to get a hexadecimal printout of the data stream sent to the printer.

I

interface. Defines the method of communication between the printer and the terminal or computer. The two common types of interface are parallel and serial.

italic. A type style with characters that slant to the right.

K

KB/Kbyte. Kilobyte. The number of bytes of storage. Equal to 1024 bytes.

L

letter quality. A denser print mode that enhances the quality of print characters. Compare with draft-print.

lines per inch (lpi). Number of lines of text printed in a vertical inch.

lines per page (lpp). Unit of measure used with lines per inch to set form length.

load position. The line position of the paper where the first line prints. Also referred to as the Top-Of-Form (TOF).

M

macro. Printer setting to store document formats.

mode. A style of printer output.

O

offline. Mode in which the printer is not communicating with the computer.

online. Mode in which the printer is communicating with the computer.

overscore. A line printed over a character. Contrast with *underscore*.

P

parallel interface. A type of connection that links a printer to a computer, by which all 8 bits of a character are sent at the same time.

park. A means to disable the continuous forms operation while cut forms or envelopes are printed.

pinfeed. A device that guides and feeds paper by means of pins that engage perforations in the paper.

pitch. A unit of type width based on the number of characters that can be placed in a linear inch. For example, 10 pitch type prints 10 characters-per-inch.

point size. A unit of size of characters equal to 1/72 inch vertically.

PPDS. Personal printer data stream.

printer control codes. Single instruction codes.

printer driver. A file that allows an application program to communicate with a printer.

printer functions setting. The settings that determine how the printer operates.

proportional spacing. Spacing of characters according to their natural width.

R

RAM. Random access memory.

resident font. A font stored in the printer.

S

sans serif. Letters printed without short lines stemming from the upper and lower ends. Contrast with *serif*.

serial interface. A type of connection that links a printer to a computer, by which the 8 bits of a character are sent one bit at a time.

serif. A short line stemming from, and at an angle to, the upper and lower ends of the strokes of a letter. Contrast with *sans serif*.

standard-carriage printer. Printer that has the ability to print on forms up to 279.4 mm (11 in.) wide.

start. Mode in which the printer is communicating with the computer.

stop. Mode in which the printer is not communicating with the computer.

subscript. One or more characters printed in the bottom half of the normal printing line. Contrast with *superscript*.

superscript. One or more characters printed in the top half of the normal printing line. Contrast with *subscript*.

system board. The main circuit board that supports a variety of basic system devices.

T

Top-Of-Form (TOF). The line position of the paper where the first line prints. Also referred to as the load position.

tractor feed. A device that automatically feeds edge-perforated roll paper or continuous forms. Synonymous with *pinfeed*.

Tractor 2 Feeder. A printer option consisting of a tractor feeder and a manual feed slot that installs in front of the printer. This option lets you have two tractor feeders installed on the printer at the same time.

U

underscore. A line printed under a character.

unidirectional printing. Printing from left to right.

V

variable forms length. The variable forms length feature lets you set your form length from a range of one line to a maximum of 22 inches.

Index

Numerics

- 20-pitch condensed, description 112
- 32 kilobyte buffer module 121

A

- Acoustics Option 122
- adjusting bidirectional alignment 80
- advance paper using the operator panel 30
- alignment, bidirectional
 - adjusting 80
 - description 107
 - Setup mode 99
- Alt button 26
- Alt light 28
- alternate graphics mode, description 118
- application software, setting up 12
- auto CR (Setup mode) 97
- auto cut sheet load
 - description 113
 - Setup mode 95, 104
- auto line feed (Setup mode) 97, 106
- Auto Ready Cut Sheet 98, 107
- auto sheet feeder
 - changing Setup mode setting 126
 - described 122
 - installing 123
 - loading paper 128

- automatic feed 128
 - manual feed 132
- printable area
 - automatic feed 134
 - manual feed 135
- Setup feature description 113
- Setup mode 95, 104
- Auto Tear-Off
 - One Second 76
 - Set to Off 76
 - Set to On 75
- automatic CR, description 115
- automatic line feed, description 115
- automatic tear off, description 112

B

- barcode function 20
- barcode, enabling 97
- bidirectional alignment
 - adjusting 80
 - description 107
 - Setup mode 99
- buffer size
 - description 106
 - Setup mode 97
- buttons, operator panel 24

C

- cable
 - parallel 11
 - serial 150
- character set
 - description 103
 - Setup mode 94
- checklist of problems 165
- clearing paper jams 170
- code pages 111
 - description 103
 - Setup mode 94
- configuring the printer 12
- continuous forms
 - loading 52
 - Tear-Off On 75
- cut forms, loading 46

D

- Demo Print 99, 107
- demonstration, printer 27
- description of printer parts 21
- doors 37
- download
 - description 116
 - Setup mode 97
- drivers 13

E

- eject by FF (Form Feed) 96, 105
 - description 114
- electronic emissions notices 191
- emulation selection, description 118
- Energy Star 194
- envelopes, loading 46

Epson Mode, setup selection 101, 110

F

- factory defaults/settings 77
- features/functions 15
 - barcode function 20
 - box and line drawings 19
 - carriage size 15
 - character spacing 16
 - code pages 20
 - font lock 18
 - front loading for cut forms 18
 - graphic printing 17
 - Greek and math symbols 19
 - interface connection 20
 - macro function 18
 - multiple-part forms 17
 - multi-speed printing 16
 - operator panel 18
 - operator panel disable 19
 - park/load 18
 - pitch lock 18
 - print styles 17
 - printer buffer module 17
 - printer tests 19
 - resident fonts 16
 - ribbon cartridge 19
 - software compatibility 20
 - tear off 18
 - tractor 19
- Federal Communications Commission (FCC) Statement 191
- FF enable (Setup mode) 98
- font
 - locking 35
 - selecting 35
 - Setup mode 102

Font button 24
Font light 28
Font Lock light 28
font selection, description 111
Form Feed button 25
form feed enable, description 116
forms
 continuous forms 45
 cut forms 45
 envelopes 45
 labels 45
forms length
 description 113
 setting 89
 Setup mode 96, 105
Forms Macro, description 83
forms thickness lever 9, 21
 table 68
front cover 22

H

How to Change a Language 78
How to Change Form Length 90
How to Use the Macro Copy Function
 88

I

IBM Mode, setup selection 101, 109
Installing the Buffer Module 153
international character set
 description (Epson mode) 119
 Setup mode 102, 110

L

latch, cover 23

latching levers 37
left margin, aligning 66
Line Feed button 25
line length, description 114
Line Per Inch 96, 105
loading
 continuous forms 52
 cut envelopes 46
 cut forms 46
 envelopes 46
locking levers 37

M

Macro function 18, 25, 28
Macro Light 84
maintenance
 cleaning 188
 ribbon cartridge 188
manual feed door 22
Margins 96, 105
menu language
 description 108
 Setup mode 99
Micro up/down buttons 25

O

offline, setting the printer 30
online, setting the printer 30
operator panel 22, 24, 27, 29
 Alt 26
 buttons 24, 71
 Demonstration 27
 disabling 36
 enabling 36
 Font 24
 Font Lock 26

- Form Feed 25
 - lights 27
 - Alt 27
 - Font 28
 - Font Lock 28
 - Macro 28
 - Padlock 27
 - Paper Out 27
 - Pitch 28
 - Pitch Lock 28
 - Power 27
 - Ready 27
 - Tractor 2 27
 - Line Feed 25
 - Micro up/down buttons 25
 - Park/Load 26
 - Pitch 24
 - Pitch Lock 26
 - Set Line 1 (Top-Of-Form) 26
 - Start/Stop 25
 - Tear Off 26
 - options 121
 - 32 Kilobyte Buffer Module 121
 - auto sheet feeder 121
 - extended paper guides 121
 - parallel interface cable 121
 - printer stand 121
 - serial adapter 121
 - serial interface cable 121
 - tractor 2 feeder 136
- P**
- packing material 2
 - padlock 27
 - paper guides 22
 - paper jams
 - auto sheet feeder 181
 - clearing 170, 171
 - continuous forms 171
 - cut form 171
 - Tractor 2 feeder 184
 - paper loading 45
 - auto sheet feeder 128
 - rear loading 52
 - Tractor 2 feeder 142
 - paper out alarm
 - description 117
 - Setup mode 99, 107
 - Paper Out light 27
 - paper parking 33
 - paper paths
 - bottom loading (pull) 52
 - front loading (pull) 52
 - front loading (push) 52
 - paper select lever 22
 - paper specifications 158
 - paper support 21
 - parallel interface connector 11, 23
 - Park/Load button 26
 - park/load feature, using 33
 - pins 37
 - pitch
 - locking 35
 - selecting 35
 - Setup mode 94, 103
 - Pitch button 24
 - Pitch light 28
 - Pitch Lock light 28
 - pitch selection, description 111
 - power
 - connector 23
 - cord 8
 - switch 21
 - Power light 27
 - printer driver 13
 - printer parts
 - cartridge, ordering 157
 - forms thickness lever 21

- front cover 22
- latch 23
- manual feed door 22
- operator panel 22
- paper guides 22
- paper select lever 22
- paper support 21
- parallel interface connector 23
- power
 - connector 23
 - outlet 23
 - switch 21
- system board cover 23
- tear bar 23
- top cover 21
- printer test 167
- printing becomes slower 187
- problem conditions 172
 - characters are wrong or missing 172, 173
 - dots are missing 173
 - formatting control codes do not work 172
 - forms are smudged 174
 - graphics do not print 175
 - incorrect lines on page 174
 - left margin changes 178
 - line length is wrong 175
 - line spacing is incorrect 176
 - lines are not starting at left margin 175
 - overprinting occurs 176
 - power switch on, power light is off 186
 - printer does not feed paper 179
 - printer does not print 178, 186
 - printer is noisy 180
 - printer sounds alarm 186

- printing is too dark 174
- printing is unstable 178
- printing stops 186
 - wrong characters printed 178
- Proprinter III compatibility 118
- pull tractor 38
 - installing 40
 - removing 41
- push tractor 37
 - installing 42
 - removing 39

Q

- quick exit 78
- Quiet mode, description 117

R

- Ready light 27
- removing the Tractor 2 feeder 148
- ribbon cartridge
 - installing 4, 188
 - ordering 157
 - replacing 188

S

- safety information 194
- serial adapter 150
- Set TOF 72
- Set TOF button 26
- setting forms thickness lever 72
- Setting Top-Of-Form in a Macro 71
- Setting Up a Default Macro 84
- setting up application software 12

- Setup mode
 - examples 79, 81
 - exit 78
 - how to use 77
 - start 77
 - Setup mode selections 93–106
 - character selections
 - character set 93, 103
 - code page 94, 103
 - font 93, 102
 - menu language 99, 108
 - pitch 94, 103
 - control selections
 - bidirectional alignment 98, 107
 - paper out alarm 99, 107
 - unidirectional print 98, 107
 - data option
 - auto CR 97, 106
 - auto line feed 97, 106
 - buffer size 97, 106
 - download 97
 - eject by FF
 - FF enable 98
 - zero slash 97, 106
 - emulation 100, 109
 - emulation selection 100, 109
 - Epson mode
 - international character set 102, 110
 - table select 101, 110
 - forms macro 83, 93
 - IBM mode 101
 - alternate graphics mode 109
 - Proprinter III mode 101
 - paper handling selections 104, 114
 - auto cut sheet load 95, 104
 - auto sheet feeder 95, 104
 - forms length 96, 105
 - skip over perforation (see bottom margin) 95
 - tear off 95, 104
 - Setup selection definitions 111
 - software, setting up 12
 - specifications, paper 158
 - Start/Stop button 25
 - stopping the printer 30
- ## T
- table select (Setup mode) 101, 110
 - table selection (Epson mode), description 119
 - tear bar 23
 - tear off
 - Setup mode 104
 - Tear Off button 26
 - Tear-Off, automatically moving paper to tear off position 31, 76
 - tear-off, using 31
 - top cover 21
 - Top-Of-Form (TOF)
 - setting in a macro 71
 - tractor 37
 - pull 38
 - push 37
 - Tractor 2 feeder 136
 - changing tractor feeds 141
 - installing 137
 - loading paper 142
 - continuous forms 142
 - cut sheets 146
 - manual feed 146
 - paper feeding problems 183
 - removing 148

- Setup mode 95, 104
- tractor mode 36
- tractor parts
 - latching levers 37
 - locking levers 37
 - pins 37
- troubleshooting 163
- type style sample 8

U

- unidirectional print (Setup Mode) 98, 107
- unidirectional printing, description 116

Z

- zero slash 97, 106

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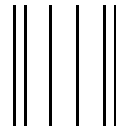
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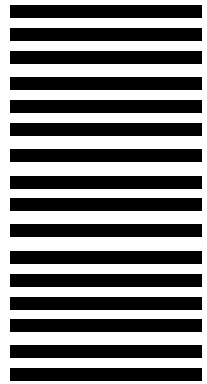
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