EPSON®

9-pin Dot Matrix Printer

FX-880+/FX-1180+

User's Guide

This manual is divided in two sections: English and Spanish. The English section begins after this page. The Spanish section begins approximately at the middle of the manual.

Este manual está dividido en dos secciones: Inglés y Español. El manual en español comienza aproximadamente a la mitad del libro. El manual en inglés comienza después de esta página.

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Introduction

This manual covers the following information:

- ❏ Setting Up the Printer
- ❏ Paper Handling
- ❏ Using the Control Panel
- ❏ Troubleshooting
- ❏ Product Information

Warnings, Cautions, and Notes

Warnings *must be followed carefully to avoid bodily injury.*

Cautions *must be observed to avoid damage to your equipment.*

Notes *contain important information and useful tips on the operation of your printer.*

Where to Find Information

In addition to this manual, you'll find detailed information about your printer in the following places:

- ❏ Online ***Reference Guide***. It describes all the printer's functions, optional products, printer software, troubleshooting, and technical specifications. See "Using the Online Reference Guide" on page 2.
- ❏ Online ***Quick Guide***. It explains the control panel functions and includes the paper handling information you'll find in Chapter 2 of this book—all in a convenient online format.

- ❏ Online Help. Access help anytime for information and instructions on the printer software that controls your printer. Online help is automatically installed when you install the printer software.

Note:
Although the illustrations in this manual show the FX-880+ printer, the instructions apply to both the FX-880+ and the FX-1180+; the printers work the same.

Using the Online Reference Guide

You can view the online *Reference Guide* directly from the CD-ROM that comes with the printer, or install it on your hard disk and view it from your computer.

Viewing the Reference Guide *from the CD-ROM*

1. Insert the printer software CD-ROM in the CD-ROM drive. The Installation Program Screen appears. If it does not, double-click the My Computer icon. Click the CD-ROM icon, then double-click SETUP.EXE.
2. Double-click User Guides.
3. To open the *Reference Guide*, click the appropriate View button.

Installing and viewing the Reference Guide *from the hard disk*

To install the *Reference Guide* on your hard disk, follow steps 1 and 2 in the previous section. Then click Install Reference Guide, and follow the on-screen instructions. When the installation is complete, the FX880P 1180P Guide icon appears in the EPSON folder.

To view the *Reference Guide*, click Start, go to Programs and select EPSON. Then, click FX880P 1180P Guide.

Note:
If your hard disk does not have enough space to install the Reference Guide, view it directly from the CD.

Using the Quick Guide

You can view the *Quick Guide* from the printer software CD-ROM, copy it to your hard disk, or print it out.

Follow these steps to view the *Quick Guide* from the CD-ROM:

1. Insert the printer software CD-ROM in the CD-ROM drive. The Installation Program Screen appears. If it does not, double-click the My Computer icon. Click the CD-ROM icon, then double-click SETUP.EXE.
2. Double-click User Guides.
3. To open the *Quick Guide*, click the appropriate View button.

Options

By adding options, such as a cut-sheet feeder or roll paper holder, you can further expand your printer's capabilities. Optional interface cards are also available to supplement your printer's built-in interfaces. (See "Options and Consumables" in the *Reference Guide* for more information.)

You can purchase ribbon cartridges, paper, manuals, and accessories from EPSON at (800) 873-7766, or visit the EPSON Store℠ at www.epsonstore.com (U.S. sales only). In Canada, please call (800) 873-7766 for dealer referral.

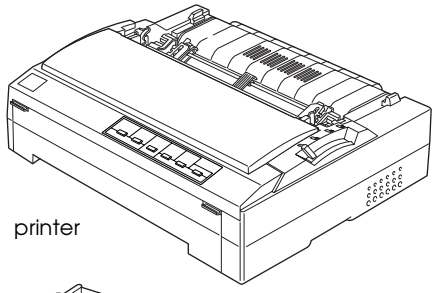
Chapter 1

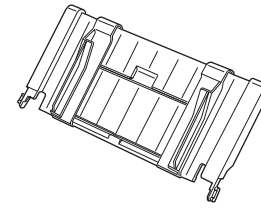
Setting Up the Printer

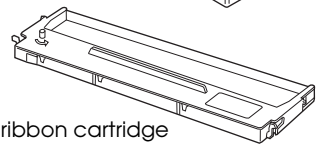
This chapter describes how to unpack and set up your printer.

Unpacking the Printer

Besides the items shown below, the printer box should include an EPSON printer software CD-ROM and a Notice Sheet.







Caution:
There are several models of the printer designed for different voltages, and it is not possible to adjust the printer for use with another voltage. If the label on the back of the printer does not show the correct voltage for your country, contact your dealer.

You must remove all protective materials packed around and inside your printer before you set it up and turn on the power. Follow the directions on the Notice Sheet (packed with the printer) to remove these materials. Save all packing and protective materials in case you need to ship the printer later.

Choosing a Place for the Printer

- ❏ Place the printer on a flat, stable surface. The printer will not operate properly if it is tilted or placed at an angle.
- ❏ Place the printer where you can easily connect it to a network interface cable, if necessary. Leave adequate room around the printer for easy operation and maintenance.
- ❏ Avoid using or storing the printer in places subject to rapid changes in temperature and humidity. Keep it away from direct sunlight, strong light, heat sources, or excessive moisture or dust.
- ❏ Avoid places subject to shocks and vibrations.
- ❏ Place the printer near a wall outlet where you can easily unplug the power cord.

  Note for French-speaking users:
  Placez l'imprimante près d'une prise de courant où la fiche peut être débranchée facilement.

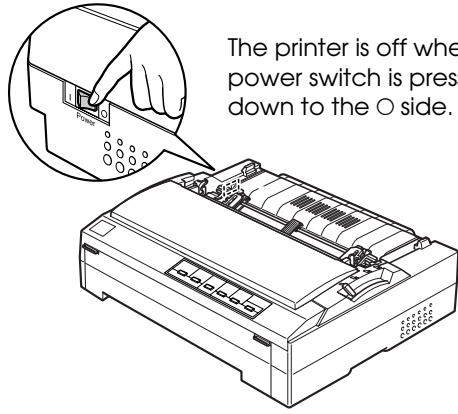
- ❏ Avoid electrical outlets controlled by wall switches or automatic timers. An interruption in power can erase information in the memory of your printer or computer. Also avoid outlets on the same circuit as large motors or other appliances that can cause voltage fluctuations.
- ❏ Keep the entire computer system away from potential sources of electromagnetic interference, such as loudspeakers or the base units of cordless telephones.
- ❏ Use a grounded power outlet; do not use an adapter plug.
- ❏ If you plan to use a printer stand, make sure it does not tilt and is strong enough to hold the printer.
- ❏ Position the power cord and interface cable so they do not interfere with paper feeding.

Installing the Ribbon Cartridge

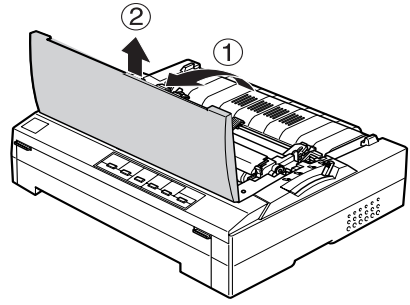
EPSON recommends the use of genuine EPSON ribbon cartridges (#8750 for the FX-880+, #8755 for the FX-1180+). Products not manufactured by EPSON may cause damage to your printer that is not covered by EPSON's warranties.

Warning:
You need to move the print head by hand to install the ribbon cartridge. If you have just used the printer, the print head may be hot; let it cool for a few minutes before touching it.

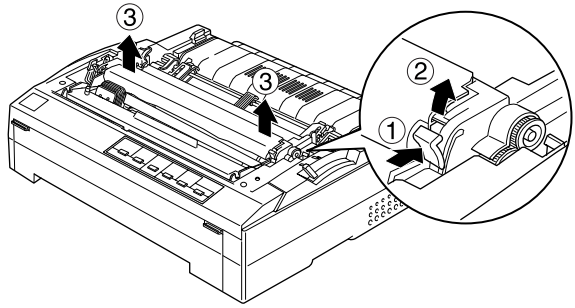
1. Make sure the printer is turned off. If it is connected to an electrical outlet, unplug it from the outlet.



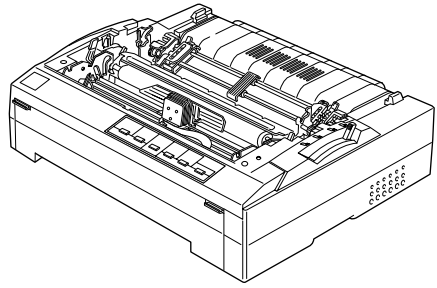
2. Open the printer cover, then pull it up to remove it.



3. Press the tabs on each side of the paper tension unit as shown, then lift the front of the unit and pull it up and out of the printer.



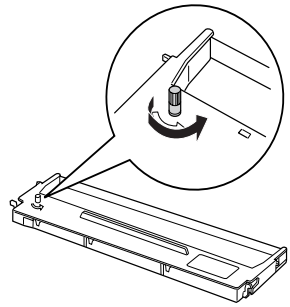
4. Make sure the print head is not hot; if it is, let it cool for a few minutes before touching it. Then slide the print head to the middle of the printer by hand.



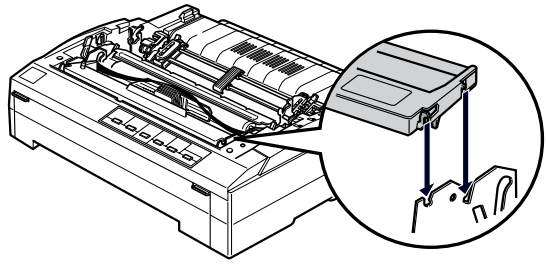
Caution:
Never move the print head while the printer is turned on; this can damage the printer.

5. If a used ribbon cartridge is installed, grasp the cartridge by the handle and pull it up and out of the printer.

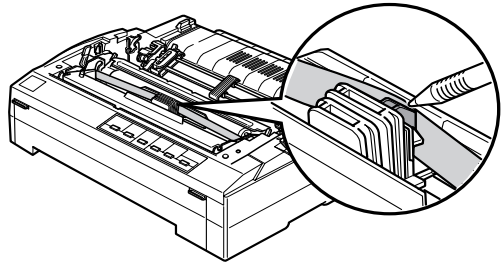
6. Remove the new ribbon cartridge from the package and turn the ribbon-tightening knob in the direction of the arrow to remove any slack from the ribbon so it is easier to install.



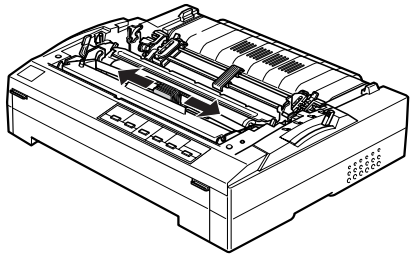
7. Hold the ribbon cartridge by its handle and insert it into the printer as shown below; then press both sides of the cartridge firmly to fit the plastic hooks into the printer slots.



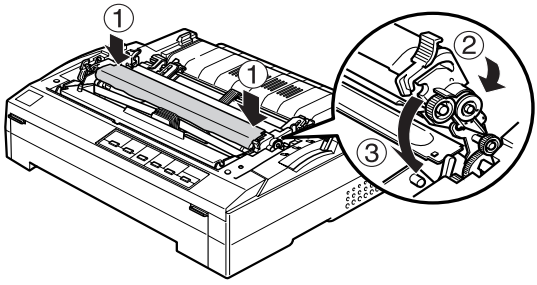
8. Use a pointed object, such as a ball point pen, to guide the ribbon between the print head and ribbon guide. Turn the ribbon-tightening knob to help feed the ribbon into place; it should not be twisted or creased.



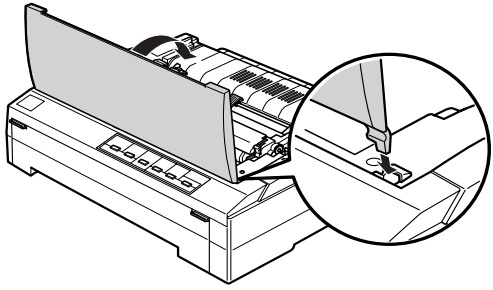
9. Slide the print head from side to side to make sure it moves smoothly.



10. Reinstall the paper tension unit by placing it on the printer's mounting pegs and lowering it into place. Press down on both sides of the unit until it clicks into place.

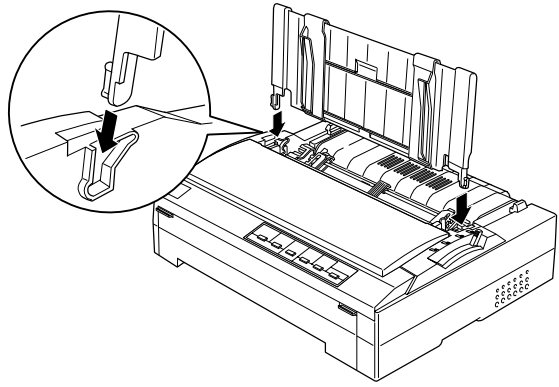


11. Replace the printer cover by inserting the front tabs into the slots on the printer and lowering the cover into place. Then push it down until it clicks.



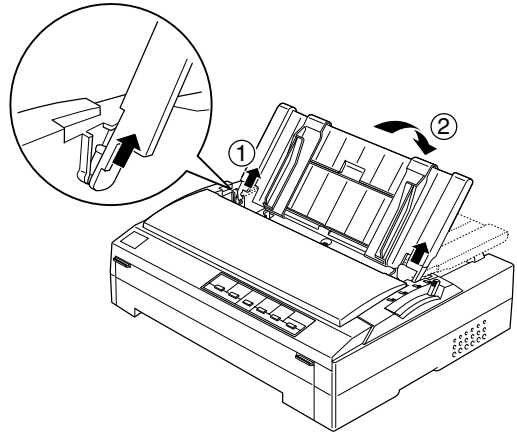
Attaching the Paper Guide

To attach the paper guide to your printer, insert the tabs straight down into the mounting slots on the printer. Then let it rest in the upright position.



Note:
You can use the paper guide only when the tractor is installed in the front or rear push position.

When you are not using the paper guide, lay it flat to prevent it from obstructing your paper or being damaged. Lift it up slightly, then lower it until it is lying flat on top of the printer.



Connecting the Printer to Your Computer

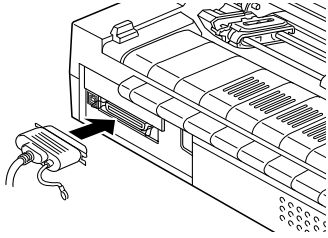
Your printer is equipped with both an IEEE-1284-compatible parallel interface and a USB (Universal Serial Bus) interface. It also includes a Type-B optional interface slot in case your computer requires a different type of printer interface. (See "Installing an optional interface card" on page 1-10.) Connect your computer to the desired interface as described below.

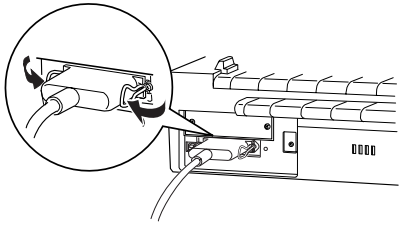
Note:
You can connect a cable to both interfaces; the printer switches automatically to the appropriate interface when it receives data.

Using the parallel interface

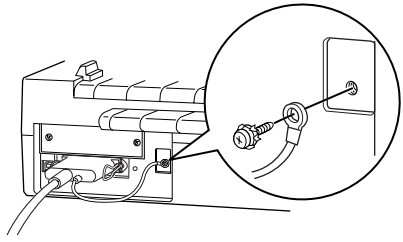
To connect your computer to your printer's built-in parallel interface, you need a shielded, twisted-pair parallel cable with a 36-pin Centronics® compatible connector for the printer.

1. Make sure the printer and computer are turned off.
2. Plug the parallel cable connector securely into the printer's parallel interface port. Squeeze the wire clips together until they lock in place on both sides of the connector.





3. If there is a ground wire at the end of the cable, attach it to the printer's ground connector as shown below.



4. Plug the other end of the cable into the computer's parallel interface port. (If there is a ground wire at the end of the cable, attach it to the ground connector at the back of the computer.)

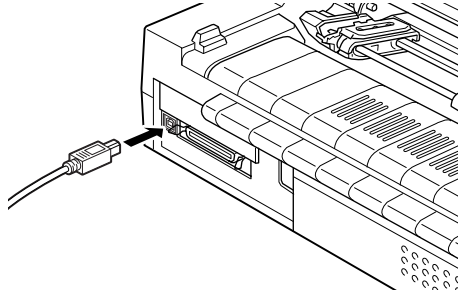
Using the USB interface

To connect the printer to a USB port, you need a standard, shielded USB cable.

Note:
Your computer must be a Windows Me, 98, or 2000 pre-installed model that is equipped with a USB port. If you use a USB hub, it is recommended that you connect the printer to the first tier of the hub or connect the printer directly to the computer's USB port.

Follow these steps to connect the printer to your computer using the printer's built-in USB interface:

1. Make sure both the printer and computer are turned off.
2. Plug the appropriate end of the cable into the USB port on the back of the printer.



3. Connect the other end of the cable to the computer's USB port.

Installing an optional interface card

You can use optional interface cards to supplement your printer's built-in parallel interface. The EPSON interface cards below are compatible with your printer. (Not all interfaces are available worldwide.)

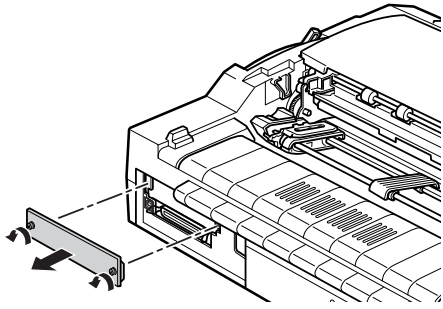
Model number	Card type
C82305✻ / C82306✻	Serial interface
C82307✻ / C82308✻	32 KB intelligent serial interface
C82313✻	32 KB IEEE-488 interface
C82314✻	Coax interface
C82315✻	Twinax interface
C82345✻	IEEE-1284 parallel interface
C82363**/C82364	EpsonNet 10/100 Base Tx Int. Print Server
C82362	EpsonNet 10 Base 2/T Int. Print Server
C82384	EpsonNet 10/100 Base TX Int. Print Server

* The last digit varies by country.

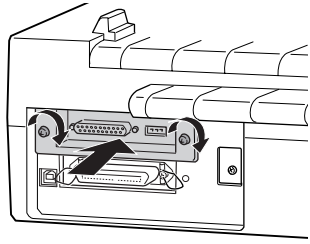
** When using an optional interface adapter (C82525).

Follow these steps to install an optional interface card:

1. Make sure the printer is turned off. Unplug the printer's power cord and disconnect the interface cable.
2. Remove the screws securing the shield plate to the back of the printer and remove the plate.



3. Slide the interface card along the slots on both sides of the interface compartment. Firmly push in the card to make sure the connector at the back of the card is fully inserted into the printer's internal socket. Then replace the screws and tighten them.



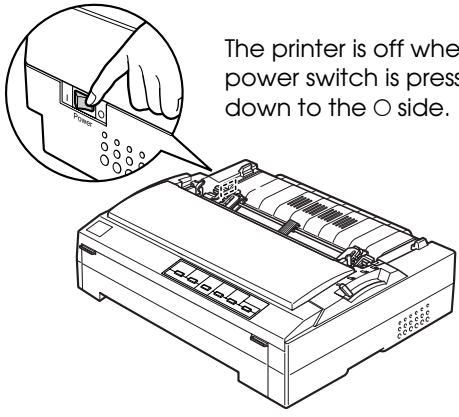
Store the shield plate in a safe place; you will need to reattach it if you remove the interface card later.

To remove the interface card, reverse the steps above.

Plugging in the Printer

Follow these steps to plug in the printer:

1. Make sure the printer is turned off.



The printer is off when the power switch is pressed down to the ○ side.

2. Check the label on the back of the printer to make sure the voltage required by the printer matches that of your electrical outlet. Also make sure the shape of the plug on your printer's power cord matches the shape of your electrical outlet.

   Caution:
   It is not possible to change the printer's voltage. If the rated voltage on the printer and your outlet voltage do not match, contact your dealer for assistance. Do not plug in the power cord.

3. Plug the appropriate end of the power cord into the AC inlet on the back of the printer.
4. Plug the other end of the power cord into a properly grounded electrical outlet.

Installing the Printer Software

After you connect the printer to your computer, you need to install the software included in the EPSON printer software CD-ROM shipped with your printer:

- ❏ Printer driver
  The printer driver is the software that runs, or "drives," your printer. With it, you can select printer settings such as print quality, resolution, and paper size.
- ❏ EPSON Status Monitor 3 (Windows Me, 98, 95, 2000 or NT 4.0)
  EPSON Status Monitor 3 notifies you of printer errors and displays printer status information. See the *Reference Guide* for more information on Status Monitor 3.

When you install the printer driver on Windows Me, 98, 95, 2000 or NT 4.0, the EPSON Status Monitor 3 utility will also be installed. For information on using the software, see "Printer Software" in the *Reference Guide*.

For Windows

Follow the steps below to install the printer software in Windows Me, 98, 95, 2000, or NT 4.0.

Note:

- ❏ *Installing the printer software for Windows 2000 or NT 4.0 may require administrator privileges. If you have problems, ask your administrator for more information.*
- ❏ *If you want to make a floppy disk version of the printer software on your CD-ROM, insert the CD and run SETUP.EXE. In the dialog box that appears, double-click* Create Floppy based printer driver/utility disks *and follow the on-screen instructions.*
- ❏ *If you are using the floppy disk version of the EPSON software, make a backup copy of the EPSON printer software disk or disks before you begin installation.*
- ❏ *If the New Hardware Found screen or any other wizard appears when you turn on your computer, click* Cancel.
- ❏ *If the Digital Signature Not Found screen appears, click* Yes. *If you click* No, *you must reinstall the printer driver.*

1. Make sure Windows Me, 98, 95, 2000, or NT 4.0 is running and the printer is turned off.
2. Insert the printer software CD-ROM into the CD-ROM drive. The Install dialog box appears. If it does not, double-click the My Computer icon. Click the CD-ROM icon, then double-click SETUP.EXE.

   (If you are using a floppy disk, insert the disk into the floppy disk drive. Double-click the floppy disk drive icon and then double-click the FD_SETUP.EXE icon.)

3. Click Install to start the printer software installation.
4. Select your printer from the list, then follow the instructions on the screen.

For DOS programs

To control the printer from DOS application programs, you need to select the printer you are using or another available printer from the printer list in your application.

Choose the EPSON printer at the appropriate step in the installation or setup procedure. If the list in your application does not include your printer, choose the first available printer from the following list:

For FX-880+:	For FX-1180+:
FX-880	FX-1180
FX-870	FX-1170
FX-850	FX-1050
FX-800	FX-1000
FX-85	FX-105
FX-80+	FX-100+
FX-80	FX-100

If none of these printers is listed, choose the first one available from the following:

FX
LX
RX
MX
EPSON printer
Standard printer
Draft printer
ASCII printer

Note:
If your application does not list a suitable alternative, contact the software manufacturer to see if an update is available.

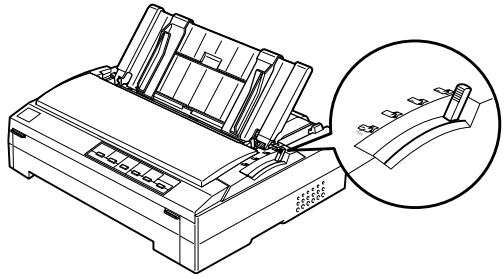
Chapter 2

Paper Handling

This chapter covers some important instructions you need to load and use paper in your printer. For complete paper handling information, see the *Reference Guide*.

Setting the Paper Release Lever

When you load continuous paper in the printer, you need to set the paper release lever to indicate the paper source you want to use, as described in the table below.

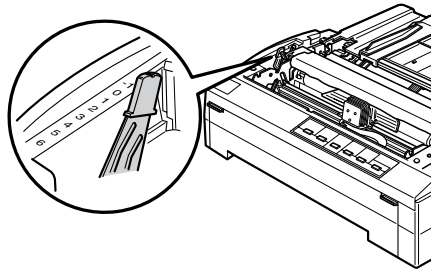


Lever position	Description
	Single-sheet position For loading single-sheet paper from the top or front slot.
	Front push tractor position For loading continuous paper with the tractor installed in the front push position or when using the front push and pull tractors in combination.
	Rear push tractor position For loading continuous paper with the tractor installed in the rear push position or when using the rear push and pull tractors in combination.
 PULL	Pull tractor position For loading continuous paper from the tractor installed on top of the printer in the pull position. You can load paper in the front, rear, or bottom slot.

Adjusting the Paper-Thickness Setting

Before you start printing, make sure the paper-thickness setting is correct for the type of paper you are using:

1. Turn the printer off and open the printer cover. The paper-thickness lever is located on the left side of the printer. The numbers next to the lever indicate the thickness setting.



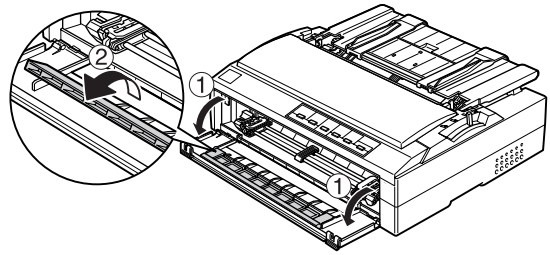
2. Select the correct lever setting according to this table.

Paper type	Lever position
Ordinary paper	0 or 1 (single sheets) 0 (continuous paper)
Carbonless multipart forms with: 2 parts (original + 1 copy) 3 parts (original + 2 copies) 4 parts (original + 3 copies) 5 parts (original + 4 copies) 6 parts (original + 5 copies)	 1 2 3 4 5
Continuous paper with labels	2
Envelopes	2 to 6

Note:
When the temperature is 5°C (41°F) or less, set the paper-thickness lever one position lower to improve print quality. When the temperature is 35°C (95°F) or more, set the paper-thickness lever one position higher to improve print quality.

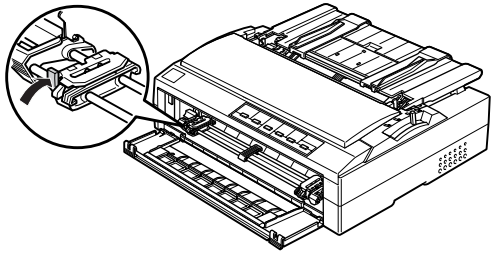
Loading Continuous Paper with the Front Push Tractor

1. Make sure the printer is turned off. Then open the front cover and the flap. Make sure the tractor is installed in the front push position.

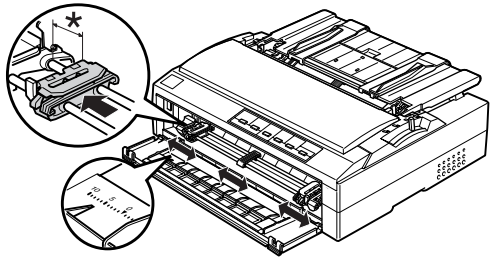


2. Set the paper release lever to the front push tractor position. Also set the paper-thickness lever to the proper position for your paper's thickness. See "Adjusting the Paper-Thickness Setting" on page 2-2 for instructions.

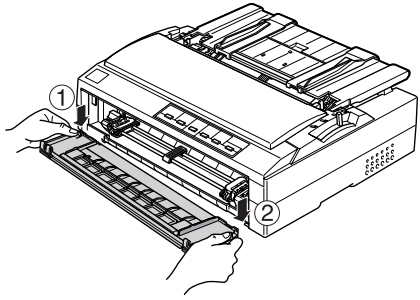
3. Release the left and right sprockets by pushing the blue lock levers backward.



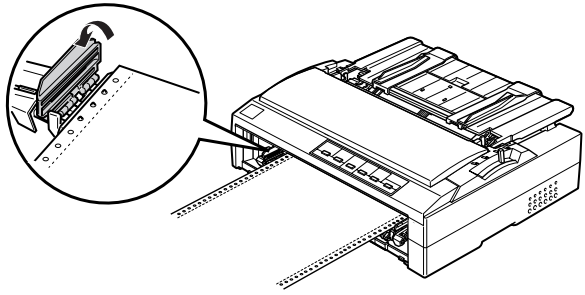
4. Slide the left sprocket approximately 12 mm (0.5 inch) from the far left position and pull the blue lever forward to lock it in place. Then slide the right sprocket to match the width of your paper, but do not lock it. Move the center support midway between the two sprockets.



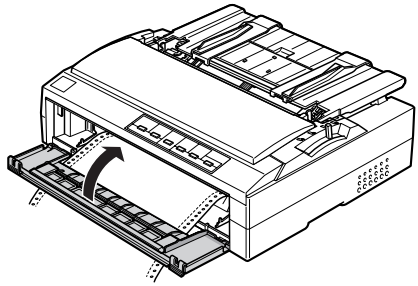
5. Remove the front cover by pulling it straight down, as shown below.



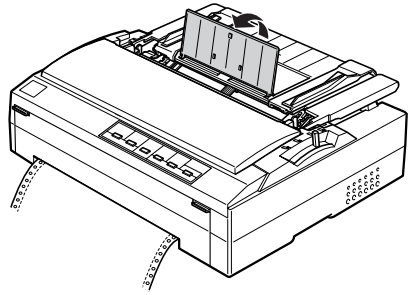
6. Make sure your paper has a clean, straight edge. Then open both sprocket covers and fit the first four holes of the paper, with printable side up, over the tractor pins.



7. Close the sprocket covers.
8. Slide the right sprocket to remove any slack in the paper; then lock it in place by pushing the sprocket lock down.
9. Attach the front cover with the continuous paper positioned as shown below.



10. Make sure the paper guide is lying flat on the printer and the edge guides are open all the way to the left and right. Then raise the continuous paper support.



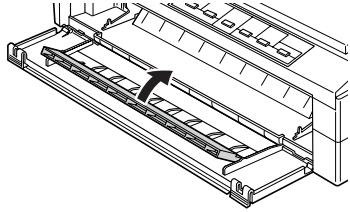
11. Turn on the printer. When the printer receives data, it automatically loads the paper and starts printing.

If the first line on your page appears too high or low, you can change its position by using the Micro Adjust function as described on page 2-27.

Caution:
Never use the knob to adjust the top-of-form position; this may damage the printer or cause it to lose the top-of-form position.

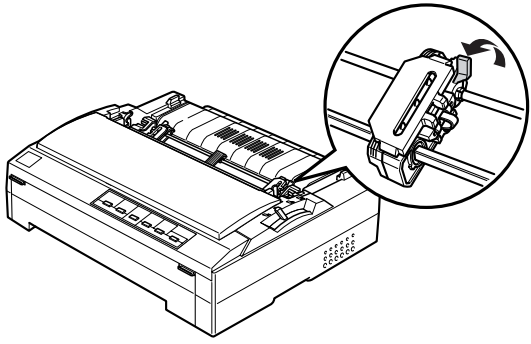
Loading Continuous Paper with the Rear Push Tractor

1. Close the flap on the front cover if paper is not loaded from the front slot.

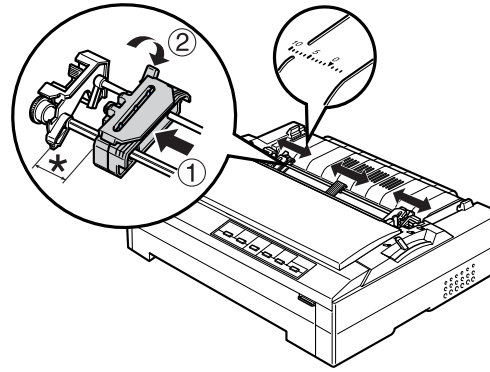


2. Make sure the printer is turned off, the tractor is installed in the rear push position, and the paper guide is removed.
3. Set the paper release lever to the rear push tractor position.

4. Release the left and right sprockets by pulling the blue sprocket lock levers forward.

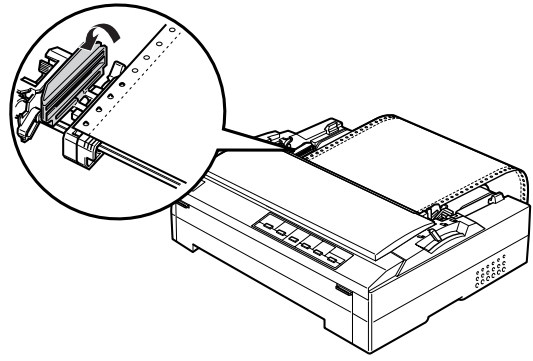


5. Slide the left sprocket approximately 12 mm (0.5 inch) from the far left position and push the blue lever back to lock it in place. Then slide the right sprocket to match the width of your paper, but do not lock it. Move the center support midway between the two sprockets.



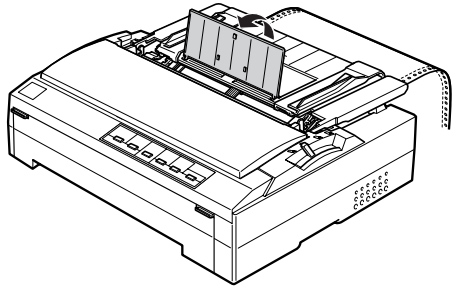
The triangle mark on top of the printer indicates the point furthest to the left where printing can begin.

6. Make sure your paper has a clean, straight edge. Then open both sprocket covers and fit the first four holes of the paper, with the printable side down, over the tractor pins.



7. Close the sprocket covers. Then slide the right sprocket to remove any slack in the paper and lock it in place by pushing the blue lock lever down.

8. Attach the paper guide and lay it flat on the printer. Open the edge guides all the way to the left and right, then raise the continuous paper support.



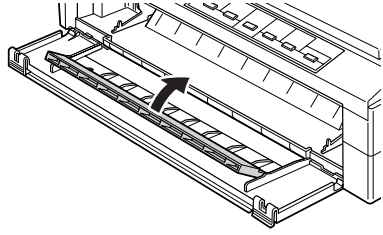
9. Turn on the printer. When the printer receives data, it automatically loads the paper and starts printing.

If the first line on your page appears too high or low, change its position with the Micro Adjust function. (See page 2-27.)

Caution:
Never use the knob to adjust the top-of-form position; this may damage the printer or cause it to lose the top-of-form position.

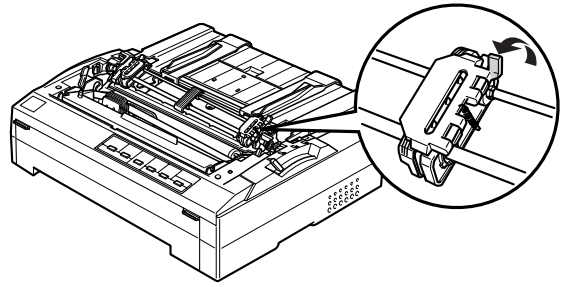
Loading Continuous Paper with the Pull Tractor

1. Close the front cover flap if paper is not loaded from the front slot.

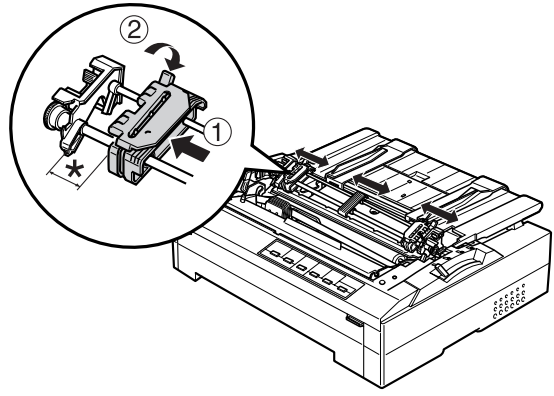


2. Make sure the printer is turned off, and the printer cover is removed. Also make sure the tractor is installed in the pull position and the paper guide is lying flat on the printer.
3. Set the paper release lever to the pull tractor position.

4. Release the sprockets by pulling the sprocket lock levers forward.



5. Slide the left sprocket approximately 12 mm (0.5 inch) from the far left position and push the lever back to lock it in place. Then slide the right sprocket to match the width of your paper, but do not lock it. Move the center support midway between the two sprockets.



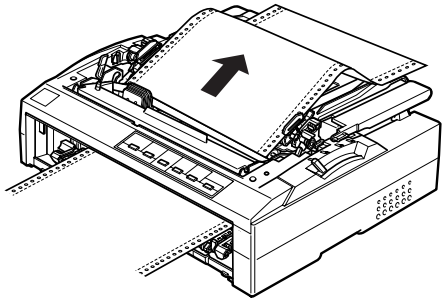
6. Make sure your paper has a clean, straight edge. Then open the sprocket covers.

Note:
Make sure the printer is off before you insert the paper in the paper slot. If you insert the paper while the printer is on, a paper jam may occur.

7. Insert the paper into the front or bottom paper slot as shown in the illustrations below until it emerges between the platen and the ribbon guide. Then pull up the paper until the perforation between the first and second pages is even with the top of the printer's ribbon.

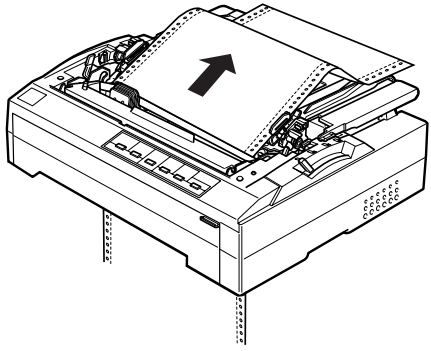
   Front slot

   Before you load paper in the front slot, remove the front cover. Then load paper with the printable side facing up.

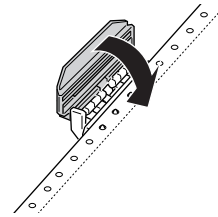


   Bottom slot

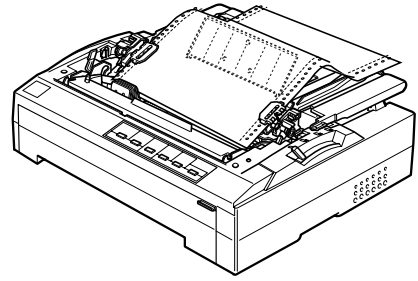
   Load paper in the bottom slot with the printable side facing up.



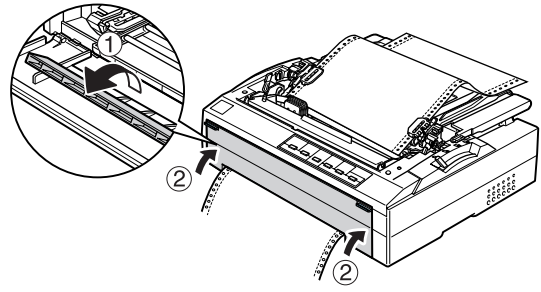
8. Fit four holes of the paper over the tractor pins on both sprockets. Then close the sprocket covers.



9. Slide the right sprocket to remove any slack in the paper, then lock it in place.
10. Open the edge guides on the paper guide all the way to the left and right, then raise the continuous paper support.



11. If you are using the front slot, open the flap on the front cover. Then, reattach the front cover as shown below.

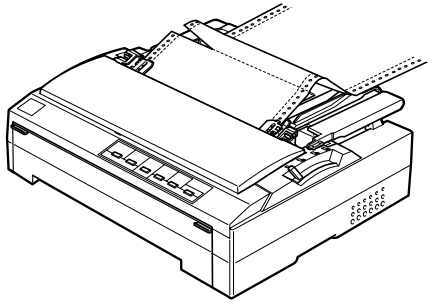


12. Turn on the printer.

13. Remove any slack in the paper by pressing the LF/FF button. (Always remove any slack from the paper; otherwise print quality may deteriorate.)
14. When the printer receives data, it will start printing at the current position without advancing the paper. If necessary, follow the steps in "Using the Micro Adjust Function" on page 2-27 to adjust the current position of the paper.

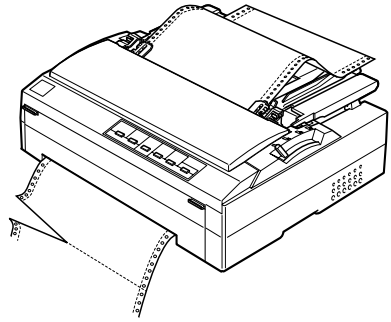
> ***Caution:***
> *Never use the knob to adjust the top-of-form position; turning the knob when the printer is on may damage it or cause it to lose the top-of-form position.*

15. Attach the printer cover by inserting the front tabs into the slots on the printer, then lowering the cover into place.
16. Send a print job to the printer. The printer starts printing from the top-of-form position. After you finish printing, tear off the printed document at the perforation nearest the paper exit slot.



Removing paper from the pull tractor

1. After you finish printing, tear off the paper supply at the perforation nearest the paper entry slot.

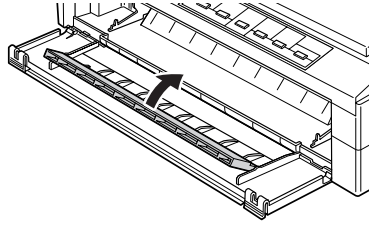


2. To feed paper forward and eject it, hold down the LF/FF button.

> ***Caution:***
> *Never press the* Load/Eject *or* Tear Off/Bin *button when you are using the pull tractor; the paper could come off the pull tractor and jam the printer.*

Loading Single Sheets with the Paper Guide

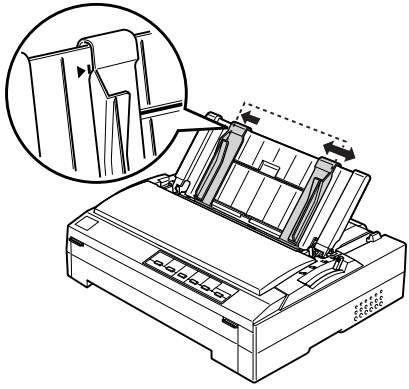
1. Close the flap on the front cover if paper is not loaded from the front slot.



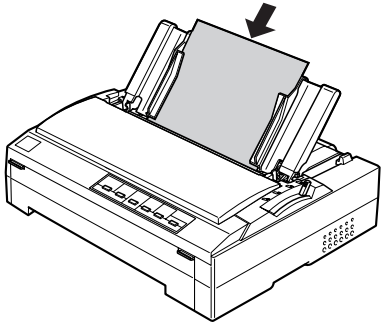
2. Make sure the paper guide is in the upright position. Then set the paper-thickness lever to 0 if you are using ordinary single-sheet paper. (If you are using envelopes, see "Envelopes" on page 2-24 to set the lever.)

   Also move the paper release lever to the single-sheet position.

3. Turn on the printer, if necessary.
4. Slide the left edge guide until it locks in place next to the triangle mark on the paper guide. Next adjust the right edge guide to match the width of your paper.



5. Insert a sheet of paper with the printable side down between the edge guides until it meets resistance. The printer feeds the paper automatically and is ready to print.



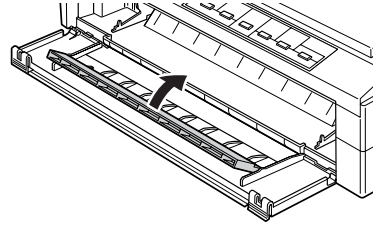
If the first printed line on your page appears too high or low, you can use the Micro Adjust function to adjust the top-of-form position. See page 2-29 for more information.

Loading Single Sheets with the Single-Bin Cut-Sheet Feeder

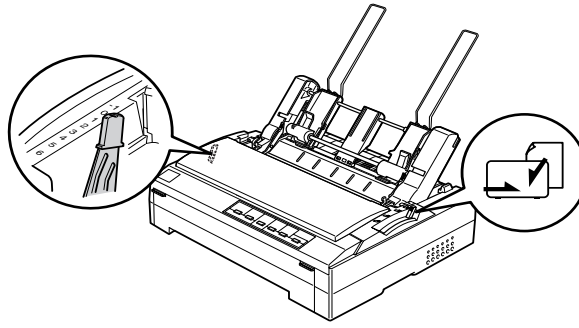
The single-bin cut-sheet feeder holds up to 50 sheets of paper. See the *Reference Guide* for instructions on installing the cut sheet feeder.

Caution:
Do not load multipart forms, carbon paper, envelopes, or labels in the single-bin cut-sheet feeder.

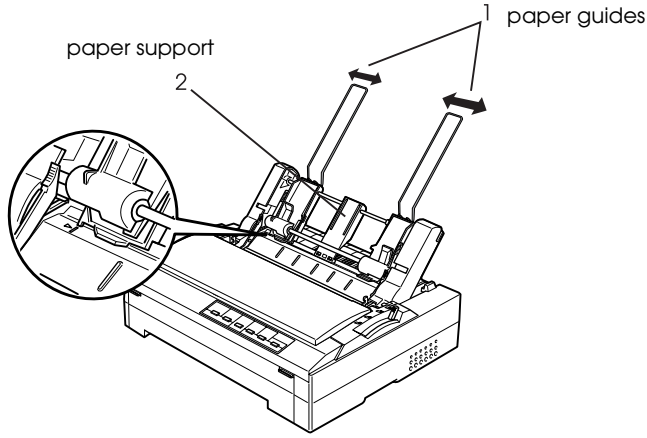
1. Close the flap on the front cover if paper is not loaded from the front slot.



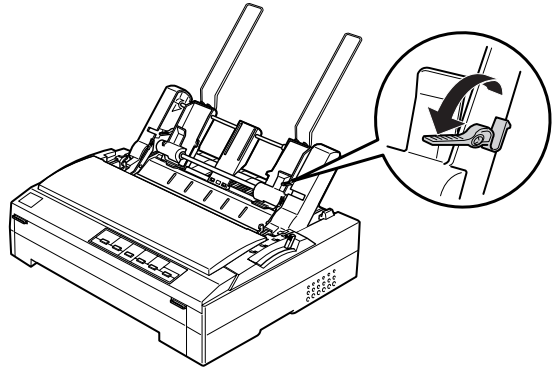
2. Make sure the paper guide is removed, set the paper release lever to the single-sheet position, and set the paper-thickness lever to 0.



3. Slide the left paper guide of the cut-sheet feeder so it is aligned with the triangle mark. Next, slide the right paper guide to roughly match the width of your paper. Slide the paper support midway between the paper guides.

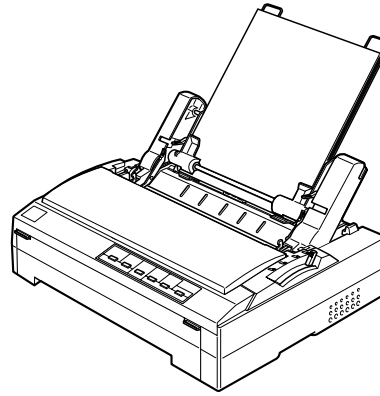


4. Pull both paper set levers forward until the paper guides retract and lock open to allow paper loading.

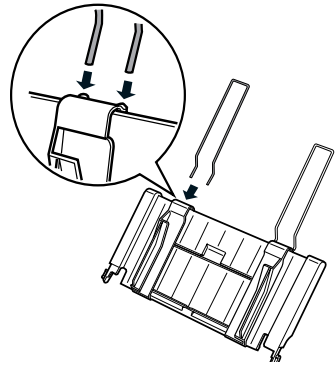


5. Take a stack of paper (up to 50 sheets) and fan it. Next, tap the side and bottom edges of the paper on a flat surface to even up the stack.

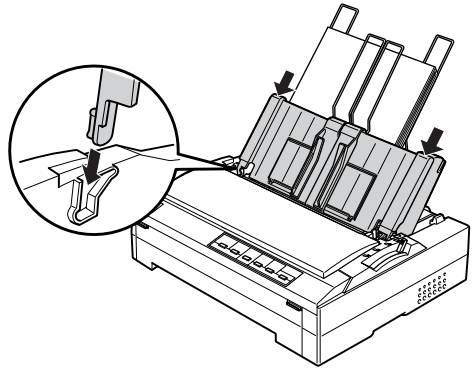
6. Insert the paper stack printable side down along the left paper guide.



7. Adjust the right paper guide so that it matches your paper's width. Make sure the position of the guide allows the paper to move up and down freely.
8. Push back the paper set levers to clamp the paper against the guide rollers.
9. Attach the stacker-support wires to the paper guide as shown below, if necessary.



10. Install the paper guide with the attached stacker-support by fitting the notches on the paper guide straight down over the mounting posts on the printer. Slide the edge guides to the middle of your paper.



The cut-sheet feeder automatically loads paper when the printer receives data.

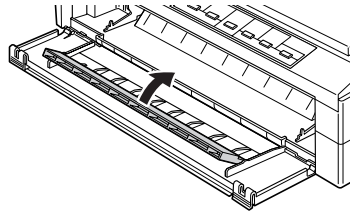
If the first line on your page appears too high or low, you can adjust its position using the Micro Adjust function. See page 2-27.

Loading Single Sheets with the High-Capacity Cut-Sheet Feeder

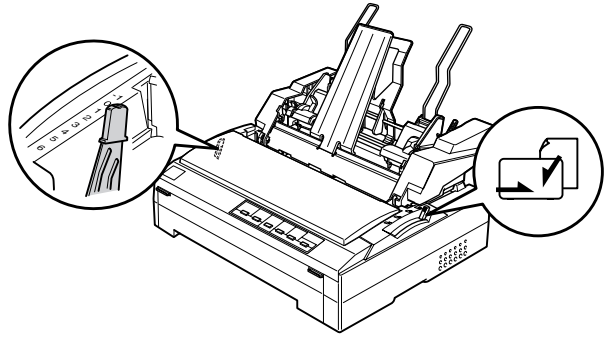
The high-capacity cut-sheet feeder holds up to 150 sheets of paper or up to 25 envelopes. For instructions on installing it, see the *Reference Guide*.

Caution:
Do not load multipart forms, carbon paper, or labels in the high-capacity cut-sheet feeder.

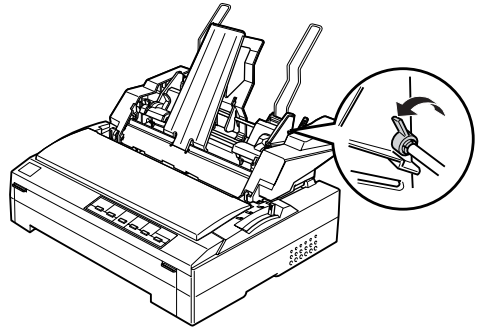
1. Close the flap on the front cover if paper is not loaded from the front slot.



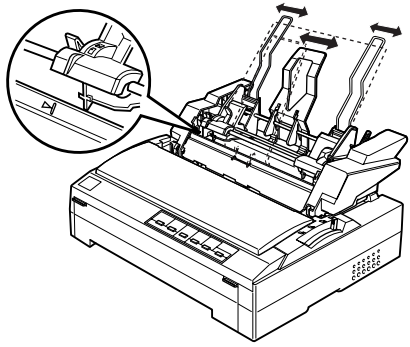
2. Set the paper release lever to the single-sheet position. Also make sure the paper-thickness lever is set to 0 if you are using ordinary single-sheet paper. (If you are using envelopes, see "Envelopes" on page 2-24 for instructions on setting the paper-thickness lever.)



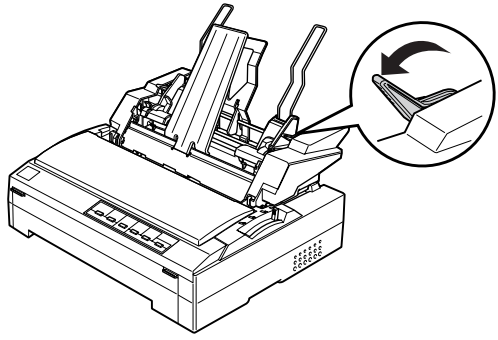
3. Pull the lock levers on the edge guides forward to release them.



4. Slide the left paper guide until it is aligned with the triangle mark; then lock it in place by pushing back its lock lever. Next, slide the right paper guide to roughly match the width of your paper. Slide the paper support to midway between the paper guides.

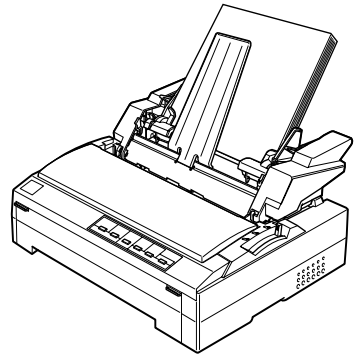


5. Pull both paper set levers forward until the paper guides retract and lock open to allow paper loading.



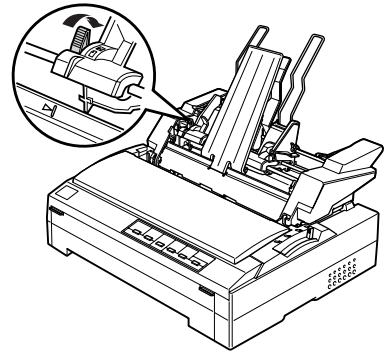
6. Take a stack of paper (up to 150 sheets) and fan it. Next, tap the side and bottom edges of the paper on a flat surface to even up the stack.

7. Insert the paper stack printable side down along the left paper guide.



8. Adjust the right paper guide so that it matches your paper's width and lock it in place. Make sure the position of the guide allows the paper to move up and down freely.

   If you are loading envelopes, push back the envelope levers as shown below.



9. Push back the paper set levers to clamp the paper or envelopes against the guide rollers.

The cut-sheet feeder automatically loads paper when the printer receives data. If the first line on your page appears too high or low, you can adjust its position using the Micro Adjust function. See page 2-27 for more information.

Loading Special Papers

Follow the guidelines in this section when loading continuous multipart forms, single-sheet multipart forms, labels, and envelopes.

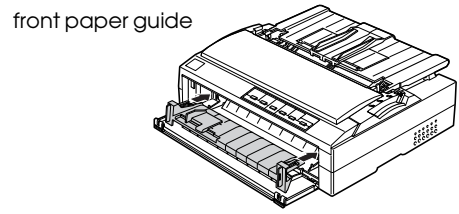
Continuous multipart forms

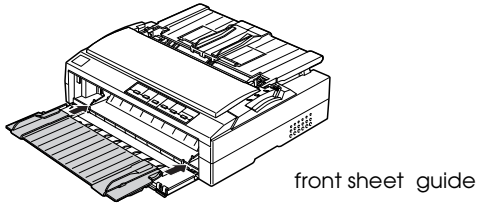
Except for setting the paper-thickness lever, you load continuous multipart forms the same way as ordinary continuous paper. Just keep the following in mind:

- ❏ Be sure your multipart forms do not exceed 0.46 mm (0.018 inch) in thickness.
- ❏ Do not load paper that is curled or has been folded.
- ❏ Thick paper, such as multipart forms with five or six parts, requires a straight paper path to avoid paper jams. Load thick paper in the front or bottom slots.

Single-sheet multipart forms

To load single-sheet multipart forms, use the front paper entry slot with the optional front paper guide or front sheet guide installed. Thick paper, such as multipart forms with five or six parts, requires a straight paper path to avoid paper jams. For more information, see the *Reference Guide*.





Labels

When printing on labels, use only the type of labels that are mounted on continuous backing sheets with sprocket holes for use with a tractor feeder. Do not try to print on single sheets with labels because the printer may not feed labels on a shiny backing sheet properly.

Thick paper, such as continuous paper with labels, requires a straight or almost straight paper path. You can load labels in the front (push tractor or pull tractor) or bottom (pull tractor) paper slot; however, for best results, use the tractor in the pull position, and load paper in the front or bottom paper slot.

The loading procedure for continuous paper with labels is the same as that for ordinary continuous paper, except you must set the paper-thickness lever to 2 before printing.

Note:

- ❏ *It is best to load continuous paper with labels on the pull tractor. Do not load labels on the rear or front push tractor.*
- ❏ *Never feed labels backward using the* Load/Eject *or* Tear Off/Bin *button. When fed backward, labels can easily peel off the backing sheet and cause a paper jam.*
- ❏ *Because labels are sensitive to temperature and humidity, use them only under normal operating conditions:*

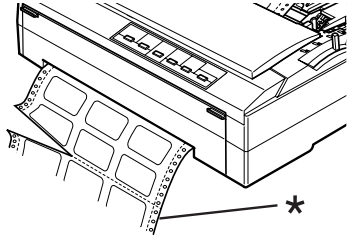
Temperature	*15 to 25°C (59 to 77°F)*
Humidity	*30 to 60% RH*

- ❏ *Do not leave labels loaded in the printer between jobs; they may curl around the platen and jam when you resume printing.*
- ❏ *Do not load continuous paper with labels from the rear paper slot. Because the rear paper path is curved, labels may come off their backing sheets inside the printer and cause a paper jam.*
- ❏ *Do not load paper that is curled or has been folded.*

Removing continuous paper with labels

To prevent labels from peeling off the backing sheet and jamming the printer, follow these steps to remove continuous paper with labels from the printer:

1. Tear off the fresh supply of continuous labels at the perforation nearest the paper entry slot.



2. Hold down the LF/FF button to eject the remaining labels from the printer.

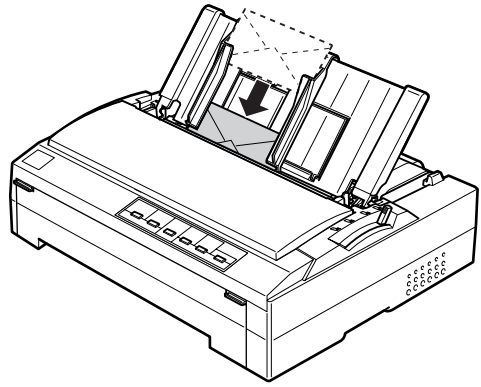
Caution:
Never feed labels backward using the Load/Eject *or* Tear Off/Bin *button. When fed backward, labels can easily come off the backing sheet and cause a paper jam.*

Envelopes

You can feed envelopes one at a time using the paper guide, or you can load multiple envelopes using the optional high-capacity cut-sheet feeder (bin 1 of the double-bin cut-sheet feeder).

Before loading envelopes, set the paper-thickness lever to a position from 2 (for thin envelopes) to 6 (for thick envelopes).

To load single envelopes, follow the instructions in "Loading Single Sheets with the Paper Guide" on page 2-13. To load multiple envelopes, see "Loading Single Sheets with the High-Capacity Cut-Sheet Feeder" on page 2-18.



Note:

- ❏ *Be sure to place the envelope printable side down and insert the top edge of the envelope into the printer first.*
- ❏ *The print head must not print past the left or right edge of the envelope or other thick paper. Make sure your application program prints entirely within the printable area of your envelope. See "Printer Specifications" in the* Reference Guide *for more information on the printable area of envelopes.*
- ❏ *If you are using No. 6 envelopes, make sure the left edge guide is aligned with the arrow on the paper guide.*

Switching Paper Types

You can easily switch back and forth between printing on continuous paper with a push tractor and printing on single sheets without having to remove or reload the continuous paper.

Switching to printing on single sheets

Follow the steps below to switch from printing on continuous paper from a push tractor to printing on single sheets.

Note:
If continuous labels are loaded in the printer, remove them before switching to single-sheet printing. See "Removing continuous paper with labels" on page 2-24 for more information.

If the tractor is in the pull position, remove any continuous paper from it before switching to single-sheet printing. See "Removing paper from the pull tractor" on page 2-13 for more information.

1. If any printed pages remain in the printer, press the Tear Off/Bin button to advance the paper to the tear-off position. Then tear off the printed pages.

   Caution:
   Make sure you tear off your printed document before you press the Load/Eject *button in the next step. Reverse feeding several pages at a time may cause a paper jam.*

2. Press the Load/Eject button to feed the continuous paper backward to the standby position. The paper is still attached to the push tractor but is no longer in the paper path.
3. Lower the continuous paper support on the paper guide until it clicks into place, then move the paper guide to the upright position.
4. Set the paper release lever to the single-sheet position.

5. Load single sheets as described in "Loading Single Sheets with the Paper Guide" on page 2-13.

Switching to printing on continuous paper

Follow the steps below to switch from printing on single sheets to printing on continuous paper with a push tractor.

Note:
To switch from printing with the optional front sheet guide to printing with the front push tractor, you need to remove the front sheet guide.

1. If a single sheet remains in the printer, press the Load/Eject button to eject it.

   Caution:
   Never use the knob to eject paper when the printer is on; this may damage the printer or cause it to lose the top-of-form position.

2. Make sure the tractor is installed in the front or rear push position and that continuous paper is loaded on it.
3. Set the paper release lever to the front or rear push position, depending on the tractor position you are using.

Your printer loads the continuous paper automatically when you begin printing.

Using the Micro Adjust Function

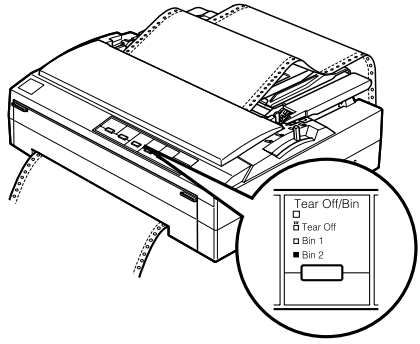
The Micro Adjust function allows you to move the paper forward or backward in 0.118 mm (1/216-inch) increments to adjust the tear-off and top-of-form positions.

Adjusting the tear-off position

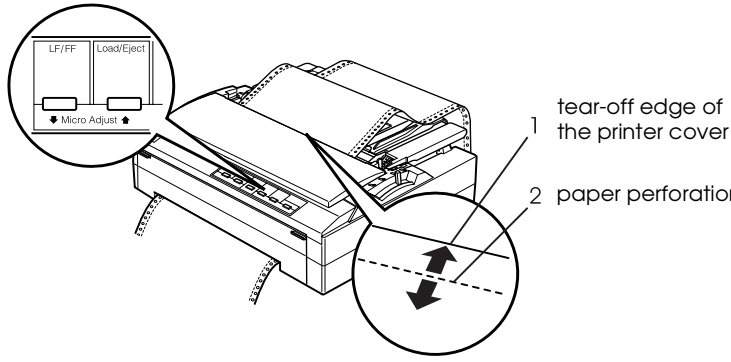
If your paper's perforation is not aligned with the tear-off edge, you can use the Micro Adjust function to move the perforation to the tear-off position, as described below. Your tear-off position setting remains in effect until you change it, even if you turn off the printer.

Caution:
Never use the knob to adjust the tear-off position; this may damage the printer or cause it to lose the tear-off position.

1. You may need to press the Tear Off/Bin button to advance the paper to the tear-off position. Make sure the Tear Off/Bin light is flashing (the paper is at the current tear-off position).



2. Hold down the Pause button for about three seconds. The Pause light begins flashing and the printer enters the Micro Adjust mode.
3. Press the LF/FF ⬇ button to feed paper backward, or press the Load/Eject ⬆ button to feed paper forward, until the paper perforation is aligned with the tear-off edge of the printer cover.



Note:
The printer has a minimum and a maximum tear-off position. If you try to adjust the tear-off position beyond these limits, the printer beeps and stops moving the paper.

4. Tear off the printed pages.
5. Press the Pause button to turn off Micro Adjust mode.

When you resume printing, the printer automatically feeds the paper back to the top-of-form position and begins printing.

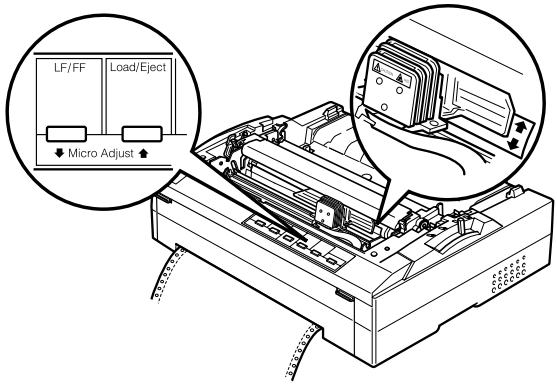
Adjusting the top-of-form position

The top-of-form position is the position on the page where the printer starts printing. If your printing appears too high or low on the page, you can use the Micro Adjust function to adjust the top-of-form position, as described below. Your top-of-form position setting remains in effect until you change it, even if you turn off the printer.

Caution:
Never use the knob to adjust the top-of-form position; this may damage the printer or cause it to lose the top-of-form position.

1. Make sure the printer is turned on.
2. Load paper. (If the tractor is in a push position, press the Load/Eject button to advance continuous paper to the current top-of-form position.) If necessary, lift up the printer cover so you can see the paper position.
3. Hold down the Pause button for three seconds. The Pause light flashes and the printer enters the Micro Adjust mode.

4. Press the LF/FF ⬇ button to move the top-of-form position up on the page, or press the Load/Eject ⬆ button to move the top-of-form position down on the page.



5. Press the Pause button to exit the Micro Adjust mode.

Note:

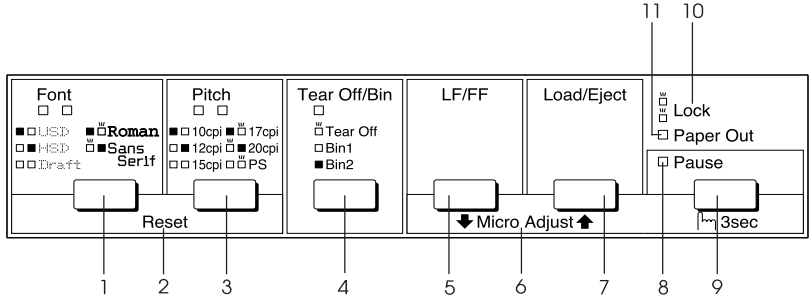
- ❏ *The printer has a minimum and a maximum top-of-form position. If you try to adjust it beyond these limits, the printer beeps and stops moving the paper.*
- ❏ *When the paper reaches the default top-of-form position, the printer beeps and stops moving the paper briefly. You can use this setting as a reference point when adjusting the position.*
- ❏ *The top margin setting made in some software overrides the top-of-form position setting you make with the Micro Adjust function.*

Chapter 3

Using the Control Panel

This chapter describes how to use the buttons on the control panel to control various printer functions.

Buttons and Lights



Button/Light		Function
1	Font button	Selects one of the fonts. See "Selecting a Font and Pitch" on page 3-3.
	Font lights	Indicate which font is selected.
2	Reset	When you press both the Font and Pitch buttons simultaneously, the printer clears the buffer and restores its default settings.
3	Pitch button	Selects one of the pitch settings. See "Selecting a Font and Pitch" on page 3-3.
4	Tear Off/Bin button	Feeds continuous paper forward to the tear-off position.
		Feeds continuous paper backward from the tear-off position to the top-of-form position.
		Selects a cut-sheet feeder bin when the cut-sheet feeder is installed.

	Tear Off/Bin light	Flashes when continuous paper is in the tear-off position. On when bin 1 of the optional cut-sheet feeder is selected. Off when bin 2 of the optional cut-sheet feeder is selected.
5	LF/FF button	Feeds paper line by line when pressed quickly. Ejects a single sheet or advances continuous paper to the next top-of-form position when held down.
6	Micro Adjust	When you hold down the Pause button for three seconds, the printer enters the micro adjust mode. In this mode, you can press the LF/FF ⬇ and Load/Eject ⬆ buttons to adjust the top-of-form or tear-off position. See "Using the Micro Adjust Function" on page 2-27.
7	Load/Eject button	Loads a single sheet of paper. Ejects a single sheet of paper. Loads continuous paper from the standby position. Feeds continuous paper backward to the standby position if a sheet is loaded.
8	Pause light	On when the printer is paused. Flashes when the printer is in the Micro Adjust mode.
9	Pause button	Stops printing temporarily, and resumes printing when pressed again. When held down for three seconds, enters the Micro Adjust mode. When pressed again, exits the Micro Adjust mode.
10	Lock	When Lock-out mode is on, the Paper Out and Pause lights flash if a locked button is pressed.
11	Paper Out light	On when no paper is loaded in the selected paper source or paper is not loaded correctly. Flashes when paper has not been fully ejected or a paper jam has occurred.

Selecting a Font and Pitch

Usually, you use your application program to select the font and pitch you want to use in a document. However, you can select one of the printer's five fonts (in different pitches) with the buttons on the printer's control panel, as described below. (The settings you make in application programs usually override settings you make from the printer's control panel.) The available pitch depends on the font you select:

Font	Pitch
USD	10, 12
HSD	10, 12, 15, 17, 20
Draft	10, 12, 15, 17, 20, PS
Roman	10, 12, 15, 17, 20, PS
Sans Serif	10, 12, 15, 17, 20, PS

1. Make sure that the printer is not printing.
2. Press the Font button until the two Font lights indicate the desired font as shown below.

■ □	USD
□ ■	HSD
□ □	Draft
■ ⁂	Roman
⁂ ■	Sans Serf

□ = on ■ = off ⁂ = flashing

3. Press the Pitch button until the two Pitch lights indicate the desired pitch.

■ □	10 cpi
□ ■	12 cpi
□ □	15 cpi
■ ⁂	17 cpi
⁂ ■	20 cpi
□ ⁂	PS

About Your Printer's Default Settings

The default settings control many printer functions. While you can often set these functions through your software or printer driver, you may sometimes need to change a default setting from the printer's control panel using the default-setting mode. The following table shows the options available for each printer setting. For instructions on changing the settings, see page 3-9.

Default-setting mode

Setting	Options
Page length for front tractor	Length in inches: 3, 3.5, 4, 5.5, 6, 7, 8, 8.5, **11**, 70/6, 12, 14, 17
Page length for rear tractor	Length in inches: 3, 3.5, 4, 5.5, 6, 7, 8, 8.5, **11**, 70/6, 12, 14, 17
Skip over perforation	**Off**, On
Auto tear-off	**Off**, On
Auto tear off wait time*	**0.5 second**, 1 second, 2 seconds, Others
Auto line feed	**Off**, On
Print direction	**Bi-D**, Uni-D
Software	**ESC/P**, IBM PPDS (same as IBM 2380 Plus), OKI ML 320T*
0 slash	**0**, Ø
I/F (interface) mode	**Auto**, Parallel, USB, Option
Auto I/F (interface) wait time	**10 seconds**, 30 seconds
Parallel I/F bidirectional mode**	Off, **On**
Packet mode**	Off, **Auto**
Character table	Standard model: italic, **PC 437**, PC 850, PC 860, PC 863, PC 865, PC 861, BRASCII, Abicomp, Roman 8, ISO Latin 1, PC858, ISO 8859-15 All other models: Italic, PC 437, PC 850, PC 437 Greek, PC 853, PC855, PC 852, PC 857, PC 866, PC 869, MAZOWIA, Code MJK, ISO 8859-7, Bulgaria, PC 774, Estonia, PC 866 LAT., ISO 8859-2, PC 866 UKR, PC-APTEC, PC-771, PC-AR864, PC 708, PC 720

Setting	Options
International character set for italic table (options vary depending on the country)	**Italic U.S.A.**, Italic France, Italic Germany, Italic U.K., Italic Denmark 1, Italic Sweden, Italic Italy, Italic Spain 1
Manual feed wait time	1 second, **1.5 seconds**, 2 seconds, 3 seconds
Buzzer	Off, **On**
Auto CR (carriage return)***	**Off**, On
IBM character table***	**Table 2**, Table 1
Bottom margin*	4.2 mm, 20 mm, 22 mm, **24 mm**, Others
Line spacing (lines per inch)*	**6 LPI**, 8 LPI
Paper out override*	**Off**, On

* Available only in Okidata mode. (See page 3-11 for more information.)

** Not available in Okidata mode.

*** Available only in IBM PPDS emulation mode.

Page length for front tractor

This setting allows you to set the page length (in inches) for the continuous paper loaded on the front push tractor.

Page length for rear tractor

This setting allows you to set the page length (in inches) for the continuous paper loaded on the rear push tractor.

Skip over perforation

This feature is available only when continuous paper is selected. When you turn on this feature, the printer provides a one-inch (25.4 mm) margin between the last line printed on one page and the first line printed on the next page. Because most application program margin settings override margin settings from the control panel, you should use this setting only if you cannot set your top and bottom margins using your application.

Auto tear-off

When auto tear-off is on and you are using continuous paper with the front or rear push tractor, the printer advances the paper perforation to the tear-off position. When the printer receives data again, it moves the paper back to the top-of-form position and starts printing, so you can use all of the next page.

When auto tear-off is off and you are using continuous paper with the front or rear push tractor, you need to move the perforation to the tear-off position manually by pressing the Tear Off/Bin button. See "Adjusting the tear-off position" on page 2-27 for more information.

Auto tear-off wait time

When the printer is in Okidata mode, this option lets you specify how long to wait before the printer advances the paper perforation to the tear-off position.

Auto line feed

When auto line feed is on, the printer accompanies each carriage return (CR) code received with a line feed (LF) code.

Print direction

You can select auto print direction, bidirectional printing (Bi-D), or unidirectional printing (Uni-D). Printing is normally bidirectional; however, unidirectional printing allows for precise vertical printing alignment.

Software

Select ESC/P to operate the printer in EPSON ESC/P mode. Select IBM PPDS to make the printer emulate an IBM printer.

0 slash

The zero character has a slash (Ø) when this feature is on; it has no slash (0) when this feature is off. The slash allows you to easily distinguish between the uppercase letter "O" and a zero.

I/F (interface) mode

The printer has a slot for an optional interface in addition to its built-in parallel and USB interfaces. You can choose Auto (automatic), Parallel, USB or Option for the interface mode. When you select Auto, the printer automatically selects the interface that is receiving data. This lets you share the printer among multiple computers without changing the interface mode. If only one computer is connected to the printer, you can select Parallel, USB or Option, depending on which interface your computer uses.

Auto I/F (interface) wait time

When the printer is in auto interface mode and it receives no data from the currently selected interface for the amount of time specified with this setting, it determines which interface is receiving data and switches to that interface. You can specify either 10 seconds or 30 seconds.

Parallel I/F bidirectional mode

The Parallel Interface bidirectional transfer mode is used when this feature is on. If bidirectional transfer mode is unnecessary, turn this off.

Packet mode

Make sure Auto is selected when you print from Windows using the printer driver. If you cannot connect when printing with DOS, turn this feature off.

Character table

You can select various standard character tables.

International character set for italic table

You can select among several international character sets for the italic character table. Each character set contains eight characters that vary depending on the country or language, so you can customize the italic table to suit your printing needs.

Manual feed wait time

The printer is set to wait 1.5 seconds between feeding sheets manually, but you can change it to 1, 2, or 3 seconds if necessary.

Buzzer (beeper)

The printer beeps when an error occurs. If you don't want the printer to beep when an error occurs, turn off this setting.

Auto CR (carriage return)

This setting is available only in IBM PPDS emulation mode. When auto carriage return is on, each line feed (LF) code or ESC J code is accompanied by a carriage return (CR) code so the printer moves the next printing position to the left margin. When this setting is off, you must send a CR code after the line feed code to move the printing position to the left margin.

IBM character table

This setting is available only in IBM PPDS emulation mode. When you select Table 1, hex codes 00H to 1FH and 80H to 9FH of the character tables are used for the control codes. When you select Table 2, hex codes 00H to 1FH are used for the control codes and 80H to 9FH are used for characters.

Bottom margin

When the printer is in Okidata mode, you can change the length of the bottom margin (the area between the last printable line and the bottom of the sheet).

Line spacing

When the printer is in Okidata mode, use this setting to change the number of lines printed per inch.

Paper out override

When the printer is in Okidata mode, you can turn this setting on to disable the paper out function and print beyond the bottom margin. Then you can press the LF/FF button for each extra line you want to print until you reach the bottom limit.

Changing default settings

Follow these steps to enter the default-setting mode and change the printer's default settings:

Note:

- ❏ *To print the language selection and default-setting mode instructions, you need three sheets of A4 or letter size single-sheet paper or three pages of continuous paper that is at least 279 mm (11 inches) long and 210 mm (8.3 inches) wide.*
- ❏ *If you use single sheets, you need to load a new sheet of paper each time the printer ejects a printed sheet from the paper guide.*

1. Make sure paper is loaded and the printer is turned off.
2. Turn on the printer while holding down the Font button. The printer enters the default-setting mode and prints the language selection instructions (one page).
3. Press the Font button until the Font and Pitch lights indicate the language you want, as described in the language selection instructions.

   Note:
   If you want the instructions in English, there is a faster way to enter default setting mode which skips printing the language instruction sheet. Hold down the Tear Off *and* Font *buttons while you turn on the printer.*

4. Press the Tear Off/Bin button to print the current default settings and instructions in the language you selected.
5. Follow the printed instructions to change the printer's default settings from the control panel.
6. When you finish making settings, turn off the printer to store your new settings and exit the default-setting mode.

   Note:
   You may exit the default-setting mode by turning off the printer at any time. Any settings you have made remain in effect until you change them again.

Locking the Control Panel Buttons

You can restrict the use of buttons on the control panel using Lock-out mode. In the default Lock-out mode, you can use only the Pause, Load/Eject and Tear off buttons. If you want to change which functions are locked, see "Changing the Lock-out mode settings" below.

Turning Lock-out mode on and off

1. Make sure the printer is turned off.
2. Turn on the printer while holding down the Load/Eject and Pause buttons. The printer beeps twice, indicating that the Lock-out mode has been turned on.

When the Lock-out mode is on, the Pause and Paper Out lights flash simultaneously three times when any locked button is pushed.

To turn Lock-out mode off, repeat steps 1 and 2. The printer beeps once, indicating that Lock-out mode has been turned off.

Changing the Lock-out mode settings

You can select which printer functions you want to be locked while Lock-out mode is on (as described below). The following table shows which functions you can lock and their default settings (in Lock-out mode).

Function	Default setting
Load	Unlocked
Eject	Unlocked
LF	Locked
FF	Locked
Tear Off	Unlocked
Bin	Locked

Micro Adjust	Locked
Font	Locked
Pitch	Locked
Pause	Unlocked
Reset	Locked

1. Make sure paper is loaded and the printer is turned off.
2. Turn on the printer while holding down the LF/FF and Pause buttons. The printer enters the Lock-out setting mode and prints the instructions. (You'll need three sheets of A4 or letter size single-sheet paper or three pages of continuous paper that is at least 279 mm [11 inches] long and 210 mm [8.3 inches] wide.)
3. Follow the instructions to change the settings as desired.
4. Turn off the printer.

See "Turning Lock-out mode on and off" on page 3-10 for instructions on how to turn on Lock-out mode after you change the Lock-out mode setting.

Emulating the Okidata Microline 320 Turbo

If you have the EPSON FX-880+, you can make it work like the Okidata® Microline® 320 Turbo by turning the printer on in a different mode. In Okidata mode, the printer emulates Okidata functions, and the following additional settings can be selected in the default setting mode:

Feature	**Printer settings in Okidata mode**
Software emulation	**IBM PPDS**, EPSON ESC/P, Oki ML 320T
Auto tear off wait time	**0.5 second**, 1 second, 2 seconds, Others
Bottom margin	4.2 mm, 20 mm, 22 mm, **24 mm**, Others
Line spacing (lines per inch)	**6 LPI**, 8 LPI
Paper out override	**Off** (No), On (Yes)

The default settings (shown in bold) are consistent with Okidata Microline 320 Turbo factory settings.

Note:
Because the ML 320T does not have a built-in USB interface, the FX-880+ does not support the USB interface in Okidata mode.

If you want to use your printer in Okidata mode, do not install the Windows® driver that came with your FX-880+. If you have been using an Okidata driver, you can continue to use it with your FX-880+ in Okidata mode.

If you have been using an Okidata printer, you may want to print out its default settings for reference before changing modes on the FX-880+. To do this on the ML 320T, press SHIFT + SEL to enter Menu mode, and then press PRINT.

To enter Okidata mode, make sure the printer is turned off. Then hold down the Tear Off/Bin and Pause buttons while you turn on the printer. The printer beeps once to indicate it is now in Okidata mode.

The printer remains in Okidata mode until you repeat the above procedure. To return to FX-880+ mode, hold down the Tear Off/Bin and Pause buttons while you turn on the printer. The printer beeps twice and is now operating in FX-880+ mode.

Note:
When you switch from one mode to the other, any changes you made to the printer's settings in the original mode are restored to their default values. You can print the default settings for the printer when it is in Okidata mode to check the current settings and change them if necessary. See "Changing default settings" on page 3-9.

Chapter 4

Troubleshooting

Using the Error Indicators

If your printer stops working and one or more control panel lights are on or flashing or the printer beeps, use the following table to diagnose and fix the problem. If you cannot fix your printer problem, see "Problems and Solutions" on page 4-2.

Light status	Beep pattern	Problem Solution
☐ Paper Out ☐ Pause	●●●	No paper is loaded in the selected paper source. Load paper in the printer or select a different paper source; the Paper Out light goes off. Then press the Pause button; the Pause light goes off and the printer starts printing.
	●●●	The paper is not loaded correctly. Remove your paper and reload it correctly. See Chapter 2 or the *Reference Guide*.
☐ Pause	●●●	The paper release lever is set to the wrong position. Set the paper release lever to the position for the paper source you want to use. If paper from another paper source is currently in the paper path, press the Load/Eject button to eject the paper; then move the paper release lever to the desired position.
☐ Paper Out ☐ Pause	●●●	A single sheet of paper is not fully ejected. Press the Load/Eject button to eject the sheet.
	●●●	Continuous paper is not fed to the standby position.
		Tear off the printed page at the perforation; then press the Load/Eject button. The printer feeds the paper to the standby position.

Light status	Beep pattern	Problem
		Solution
☐̈ Paper Out ☐ Pause	•••	Paper is jammed in the printer.
		To clear the paper jam, see "Clearing Paper Jams" on page 4-15.
☐̈ Pause	—	The print head is overheated.
		Wait a few minutes; the printer resumes printing automatically once the print head cools.
	—	The printer is in Micro Adjust mode
		Make the adjustments as described on page 2-27.
☐̈ Paper Out ☐̈ Pause ☐̈ Tear Off/Bin ☐̈ ☐̈ Font light ☐̈ ☐̈ Pitch light	•••••	An unknown or fatal printer error has occurred.
		Turn off the printer and leave it off for several minutes; then turn on the printer again. If the error recurs, contact your dealer.

☐ = on ☐̈ = flashing

••• = three beeps, ••••• = five beeps

Problems and Solutions

Most problems you may encounter while operating your printer have simple solutions. Use the information in this section to find the cause of and solution to printer problems that occur. Determine the type of problem that occurred, and see the appropriate section below:

- ❏ "Power supply problems" on page 4-3
- ❏ "Paper loading or feeding problems" on page 4-4
- ❏ "Printing position problems" on page 4-7
- ❏ "Printing or printout quality problems" on page 4-9

You can also use the self test to determine whether the printer or the computer is causing the problem. See "Printing a Self Test" on page 4-17 for instructions. To pinpoint communication problems, experienced users may want to use the printer's hex dump mode, described in "Printing a Hex Dump" on page 4-18.

To clear a paper jam, see "Clearing Paper Jams" on page 4-15.

Power supply problems

The control panel lights come on briefly, but then go off and stay off.

Cause	What to do
The printer's voltage rating does not match the voltage of your electrical outlet.	Check the printer and the outlet voltage ratings. If the voltages do not match, unplug the printer immediately and contact your dealer.

Warning:
Do not reconnect the power cord to an electrical outlet that has the wrong voltage for your printer.

The printer does not work and the control panel lights are off even when you turn on the printer.

Cause	What to do
The power cord is not properly plugged into the electrical outlet or your printer.	Turn off the printer, and make sure the power cord is firmly plugged into the electrical outlet (and the printer, if necessary). Then turn on the printer.
The electrical outlet does not work.	Use a different outlet.

Paper loading or feeding problems

The printer does not load single-sheet paper or does not feed it properly.

Cause	What to do
Continuous paper is in the paper path.	Press the Load/Eject button to feed the continuous paper back to the standby position. Set the paper release lever to the single-sheet position and insert a new sheet. (See "Switching to printing on single sheets" on page 2-26 for more information.)
The paper release lever is set to a tractor position.	Set the paper release lever to the single-sheet position.
The paper on the paper guide is positioned too far to the left or right for the printer to detect that it is there.	Move the paper (and the edge guides) a little to the left or right.
Single-sheet paper is not loaded properly.	See Chapter 2 or the *Reference Guide* for instructions on loading single-sheet paper.
The paper-thickness lever is not set correctly.	Set the paper-thickness lever to match the thickness of your paper. See page 2-2 for instructions.
Paper is creased, old, too thin, or too thick.	Use new, clean sheets of paper.

The printer does not fully eject a single sheet.

Cause	What to do
Paper is too long.	Press the Load/Eject button to eject the sheet. Make sure the page length of your paper is within the range specified for single-sheet paper. Also check and adjust the paper size setting in your application or printer driver.

The paper does not feed properly with the optional cut-sheet feeder.

Cause	What to do
The cut-sheet feeder is not installed properly.	Reinstall it as described in the online *Reference Guide*.
Too many sheets are loaded in the cut-sheet feeder. You cannot load more than 150 sheets of paper in the high-capacity cut-sheet feeder.	Load less than 150 sheets of paper. See the online *Reference Guide* for more information.
The edge guides of the cut-sheet feeder are not positioned correctly.	Align the left edge guide with the arrow mark, then move the right edge guide to match your paper's width.
There is only one sheet left in the bin.	Add more paper to the cut-sheet feeder.

The printer does not load continuous paper or does not feed it properly.

Cause	What to do
The paper release lever is not set correctly.	Set the paper release lever to the position for the paper source you want to use. See "Setting the Paper Release Lever" on page 2-1.
Single-sheet paper is in the paper path.	Press the Load/Eject button to eject the sheet.
Continuous paper is not loaded properly.	See Chapter 2 or the online *Reference Guide* for instructions on loading continuous paper with the tractor you want to use.
The paper-thickness lever is not set correctly.	Set the paper-thickness lever to match the thickness of your paper, as described on page 2-2.

The printer does not feed continuous paper to the standby position.

Cause	What to do
You have not torn off the printed pages before pressing the Load/Eject button.	Tear off the printed pages at the perforation. Then press the Load/Eject button to feed the paper backward to the standby position.

Printing position problems

Wrong top-of-form position

Your printing appears too high or low on the page.	
Cause	**What to do**
The paper size setting in your application software or printer driver does not match the size of the paper you are using.	Check the paper size setting in your application or printer driver.
The printer's page length settings for the front or rear tractor do not match the size of the continuous paper you are using.	Check the page length settings for the front or rear tractor using the printer's default-setting mode. See "About Your Printer's Default Settings" on page 3-4.
The top margin or top-of-form position setting is incorrect.	Check and adjust the margin or top-of-form position settings in your software. You can also adjust the top-of-form position using the Micro Adjust function. However, settings made in Windows applications override settings made in the Micro Adjust mode. See "Adjusting the top-of-form position" on page 2-29.
The printer driver settings you want to use are not selected in your software.	Choose the correct printer driver setting from the Windows desktop or in your application before printing.
You moved the paper using the knob while the printer was on.	Adjust the top-of-form position using the Micro Adjust function. See "Adjusting the top-of-form position" on page 2-29.

Caution:
Never use the knob to adjust the top-of-form position; this may damage the printer or cause it to lose the top-of-form position.

Wrong tear-off position

The printer prints on (or too far away from) the perforation of your continuous paper.

Cause	What to do
The tear-off position setting is incorrect.	Adjust the tear-off position using the Micro Adjust function. See "Adjusting the tear-off position" on page 2-27.

Caution:
Never use the knob to adjust the tear-off position; this may damage the printer or cause it to lose the tear-off position.

You moved the paper using the knob while the printer was on.	Adjust the tear-off position using the Micro Adjust function. See "Adjusting the tear-off position" on page 2-27.
The printer you want to use is not selected in your software.	Choose the correct printer from the Windows desktop or in your application before printing.
The paper size setting in your application or printer driver does not match the size of the paper you are using.	Check the paper size setting in your application or printer driver.
The printer's page length settings for the front or rear tractor do not match the size of the paper you are using.	Check the page length settings for the front or rear tractor using the printer's default-setting mode. See "About Your Printer's Default Settings" on page 3-4.

Printing or printout quality problems

The printer does not print when the computer sends data.	
Cause	**What to do**
The printer is paused.	Press the Pause button to turn off the Pause light.
The interface cable is not plugged in securely.	Check that both ends of the cable between the printer and the computer are plugged in securely. If the cable is connected correctly, run a self test as described on page 4-17.
Your interface cable does not meet the printer and/or computer specifications.	Use an interface cable that meets the requirements of both the printer and computer. See "Connecting the Printer to Your Computer" on page 1-8 and your computer documentation.
Your software is not properly set up for your printer.	Select your printer from the Windows desktop or in your application. If necessary, install or reinstall the printer driver software as described on page 1-12.

The printer makes noise, but nothing prints or printing stops abruptly.	
Cause	**What to do**
The paper-thickness lever is set incorrectly.	Set the paper-thickness lever to match the thickness of your paper. See "Adjusting the Paper-Thickness Setting" on page 2-2 for instructions.

The ribbon has too much slack, the ribbon has come loose, or the ribbon cartridge is not installed properly.	Remove any slack in the ribbon by turning the ribbon-tightening knob, or reinstall the ribbon cartridge as described on page 1-3.

The printout is faint.

Cause	What to do
The paper-thickness lever is set incorrectly for your paper.	Move the paper-thickness lever to a lower setting. See "Adjusting the Paper-Thickness Setting" on page 2-2 for instructions.
The ribbon is worn out.	Replace the ribbon cartridge as described on page 1-3.

Part of the printout is missing, or dots are missing in random positions.

Cause	What to do
The ribbon has too much slack, the ribbon has come loose, or the ribbon cartridge is not installed properly.	Remove any slack in the ribbon by turning the ribbon-tightening knob, or reinstall the ribbon cartridge as described on page 1-3.
The ribbon is worn out.	Replace the ribbon cartridge as described on page 1-3.

Lines of dots are missing in the printout.

Cause	What to do
The print head is damaged.	Stop printing and contact your dealer to have the print head replaced.

Caution:
Never replace the print head yourself; you may damage the printer. Also, other parts of the printer must be checked when the print head is replaced.

All the text is printed on the same line.

Cause	What to do
A line feed command is not being sent at the end of each line of text.	Turn on the auto line feed setting using the printer's default-setting mode so that the printer automatically adds a line feed code to each carriage return. See "About Your Printer's Default Settings" on page 3-4.

The printout has extra blank lines between lines of text.

Cause	What to do
Two line feed commands are being sent at the end of each line of text, because the printer's auto line feed setting is on.	Turn off the auto line feed setting using the printer's default-setting mode. See "Changing default settings" on page 3-9.
The line space setting in your application software is incorrect.	Adjust the line space setting in your application software.

The printer prints strange symbols, incorrect fonts, or other inappropriate characters.

Cause	What to do
Your printer and computer are not communicating correctly.	Make sure you are using the correct interface cable and that the communications protocol is correct. See "Connecting the Printer to Your Computer" on page 1-8. If you installed an optional serial interface card, also see "Installing an optional interface card" on page 1-10.
The wrong character table is selected in your software.	Select the correct character table using your software or the default-setting mode. The character table setting in your software overrides settings made in the default-setting mode.
The printer you want to use is not selected in your software.	Choose the correct printer from the Windows desktop or in your application before printing.
Your application software is not configured correctly for your printer.	Make sure that your application software is configured correctly for your printer. See your application documentation. If necessary, install or reinstall the printer driver software as described on page 1-12.
Software settings override settings you make using the default-setting mode or the control panel buttons.	Use your application software to select the font.

Vertical printed lines are not aligned.	
Cause	**What to do**
Bidirectional printing, which is the printer's standard printing mode, is out of alignment.	Use the printer's bidirectional adjustment mode to correct this problem. See "Aligning Vertical Lines in Your Printout" on page 4-16.

Correcting USB Problems

If you are having difficulty using your printer with a USB connection, read the information in this section.

Make sure that your computer is a Windows Me, Windows 98, or Windows 2000 pre-installed model

Your computer must be a Windows Me, Windows 98, or Windows 2000 pre-installed model. You may not be able to install or run the USB printer driver on a computer which is not equipped with a USB port or which has been upgraded from Windows 95 to Windows Me, 98, or 2000.

For details about your computer, contact your dealer.

Make sure that EPSON USB Printer Devices appears on the Device Manager menu (for Windows Me and Windows 98 only)

If you canceled the plug-and-play driver installation before the procedure was complete, either the USB printer device driver or the printer driver may be incorrectly installed.

Follow these steps to check the installation and reinstall the drivers:

1. Turn the printer on, and plug the USB cable into the printer and the computer.
2. Right-click the My Computer icon on your desktop, then click Properties.

3. Click the Device Manager tab.

   If your drivers are correctly installed, EPSON USB Printer Devices should appear on the Device Manager menu.

   If EPSON USB Printer Devices does not appear on the Device Manager menu, click the plus (+) sign beside Other devices to view the installed devices.

   If USB Printer appears under Other devices, the USB printer device driver is not installed correctly. If EPSON FX-880+ or EPSON FX-1180+ appears, the printer driver is not installed correctly.

   If neither USB Printer nor EPSON FX-880+ or EPSON FX-1180+ appears under Other devices, click Refresh or unplug the USB cable from the printer, then plug it into the printer again.

4. Under Other devices, select USB Printer or EPSON FX-880+ or EPSON FX-1180+ and click Remove. Then, click OK.

5. At the confirmation screen, click OK. Then click OK again to close the System Properties dialog box.

6. Turn off the printer and restart your computer. Then, reinstall the drivers from the beginning, following the instructions on page 1-12.

Printer does not work correctly with the USB cable

If your printer does not work correctly with the USB cable, try one or more of these solutions:

- ❏ Make sure that the cable you are using is a standard, shielded USB cable.
- ❏ If you are using a USB hub, connect the printer to the first tier of the hub, or connect the printer directly to the computer's USB port.

❏ For Windows 98, try reinstalling the USB printer device driver and the printer software. First, uninstall EPSON Printer Software using the Add/Remove Programs utility in the Control Panel, then uninstall EPSON USB Printer Devices. Next, reinstall the software as described on page 1-12. If EPSON USB Printer Devices is not registered in the Add/Remove Programs list, access the CD-ROM and double-click epusbun.exe in Win9x folder. Then follow the on-screen instructions.

Clearing Paper Jams

Follow these steps to clear a paper jam:

1. Turn off the printer.
2. Open the printer cover.
3. If continuous paper is jammed in the printer, tear off the fresh supply at the perforation nearest the paper entry slot.
4. Turn the knob on the left side of the printer away from you to remove the paper in the printer. Remove any remaining pieces of paper.

   If the paper is stuck where the printer ejects it, gently pull the paper out of the printer.

   Caution:
   Use the knob on the left side of the printer to clear paper jams only when the printer is off. Otherwise, you may damage the printer or change the top-of-form or tear-off position.

5. Close the printer cover and turn on the printer. Make sure the Paper Out light is not flashing and the Pause light is off.

Aligning Vertical Lines in Your Printout

If you notice that the vertical lines in your printout are not properly aligned, you can use the printer's bidirectional adjustment mode to correct this problem. During bidirectional adjustment, the printer prints three sheets of alignment patterns, labeled High Speed Draft, Draft, and NLQ (near letter quality). You select the best alignment pattern from each sheet.

To print the instruction sheet and alignment patterns, you need five single sheets or five pages of continuous paper of at least the following sizes:

Paper type	FX-880+	FX-1180+
Continuous paper (including perforated border)	241 × 279 mm (9.5 × 11 inches)	376 × 279 mm (14.8 × 11 inches)
Single sheet	A4 or letter size	A3 landscape

If you use single sheets, you need to load a new sheet of paper each time the printer ejects a printed sheet from the paper guide.

Follow these steps to perform the bidirectional adjustment:

1. Make sure paper is loaded, then turn off the printer.

   Caution:
   Whenever you turn off the printer, wait at least five seconds before turning it back on; otherwise you may damage the printer.

2. While holding down the Pause button, turn on the printer. The printer enters the bidirectional adjustment mode and then prints instructions and the first set of alignment patterns.
3. As described in the instructions, compare the alignment patterns and select the pattern with the best alignment. Then select the pattern with the best alignment for each of the remaining sets of alignment patterns.
4. After you select the best pattern in the final set of alignment patterns, save your selection by turning off the printer.

Printing a Self Test

Running the printer's self test helps you determine whether the printer or the computer is causing the problem:

- ❏ If the self test results are satisfactory, the printer is working properly and the problem probably results from your printer driver settings, application settings, computer, or interface cable. (Be sure to use a shielded interface cable.)
- ❏ If the self test does not print properly, there is a problem with the printer. See "Problems and Solutions" on page 4-2 for possible causes and solutions to the problem.

You can print the self test using either single sheets or continuous paper of at least the following width:

Paper type	FX-880+	FX-1180+
Continuous paper (including perforated border)	241 mm (9.5 inches)	376 mm (14.8 inches)
Single sheet	A4 or letter size	A3 landscape

Follow these steps to perform a self test:

1. Make sure paper is loaded and the printer is turned off.
2. To run the test using the Draft font, turn on the printer while holding down the LF/FF button. To run the test using the printer's near letter-quality fonts, hold down the Load/Eject button while you turn on the printer. Either self test can help you determine the source of your printing problem; however, the draft self test prints faster than the near letter-quality test.

   After a few seconds, the printer loads the paper automatically and begins printing the self test. A series of characters is printed.

   Note:
   To temporarily stop the self test, press the Pause *button. To resume the test, press the* Pause *button again.*

3. To end the self test, press the Pause button to stop printing. If paper remains in the printer, press the Load/Eject button to eject the printed page. Then turn off the printer.

Caution:
Do not turn off the printer while it is printing the self test. Always press the Pause *button to stop printing and the* Load/Eject *button to eject the printed page before you turn off the printer.*

Printing a Hex Dump

The hex dump feature is designed for DOS-based PC connections. If you are an experienced user or a programmer, you can print a hexadecimal dump to isolate communication problems between the printer and your software program. In hex dump mode, the printer prints all data it receives from the computer as hexadecimal values.

You can print a hex dump using either single sheets or continuous paper that is at least 210 mm (8.3 inches) wide, such as A4 or letter size paper.

1. Make sure paper is loaded and the printer is turned off.
2. To enter hex dump mode, turn on the printer while holding down the LF/FF and Load/Eject buttons.
3. Open a software program and send a print job to the printer. Your printer prints all the codes it receives in hexadecimal format, such as:

```
1B 40 20 54 68 69 73 20 69 73 20 61 6E 20 65 78  .@ This is an ex
61 6D 70 6C 65 20 6F 66 20 61 20 68 65 78 20 64  ample of a hex d
75 6D 70 20 70 72 69 6E 74 6F 75 74 2E 0D 0A     ump printout...
```

By comparing the characters printed in the right column with the printout of the hexadecimal codes, you can check the codes the printer is receiving. If characters are printable, they appear in the right column as ASCII characters. Nonprintable codes, such as control codes, are represented by dots.

4. To turn off hex dump mode, press the Pause button, eject the printed page(s), and then turn off the printer.

Caution:
Do not turn off the printer while it is printing the hex dump. Always press the Pause *button to stop printing and the* Load/Eject *button to eject the printed page before you turn off the printer.*

Where To Get Help

If your EPSON printer is not operating properly and you cannot solve the problem using the troubleshooting information see the contact information below.

EPSON provides technical assistance 24 hours a day through the electronic support services and automated telephone services listed below.

Service	Access
World Wide Web	From the Internet, you can reach EPSON Support at **http://support.epson.com**. At this site, you can download drivers and other files, look at product documentation, access troubleshooting information, and receive technical advice through e-mail.
Automated Telephone Services	A variety of automated help services are available 24 hours a day, seven days a week. To use these services, you must have a touch tone telephone and call **(800) 922-8911**. Use one of the following SoundAdvice℠ Express Codes to quickly select your printer in SoundAdvice: 91000 (for the FX-880+) or 91005 (for the FX-1180+).

To speak to a technical support representative, dial:

- U.S.: **(562) 276-4322**, 6 AM to 6 PM, Pacific Time, Monday through Friday.
- Canada: **(905) 709-2170**, 6 AM to 6 PM, Pacific Time, Monday through Friday.

Toll or long distance charges may apply.

Before you call, please have the following information ready:

- ❏ Product name (EPSON FX-880+ or FX-1180+)
- ❏ Product serial number (located on the back of the printer)
- ❏ Proof of purchase (such as a store receipt) and date of purchase
- ❏ Computer configuration
- ❏ Description of the problem

You can purchase ribbon cartridges, paper, manuals, and accessories from EPSON at (800) 873-7766, or visit the EPSON Store at www.epsonstore.com (U.S. sales only). In Canada, please call (800) 873-7766 for dealer referral.

Chapter 5

Product Information

Safety Instructions

Hot Parts Caution Symbol

This symbol is placed on the print head and other parts to indicate that they may be hot. Never touch those parts just after the printer has been used. Let them cool for a few minutes before touching them.

Important Safety Instructions

Read all of these safety instructions before using the printer. In addition, follow all warnings and instructions marked on the printer itself.

- ❏ Do not place the printer on an unstable surface or near a radiator or heat source.
- ❏ Place the printer on a flat surface. It will not operate properly if it is tilted or placed at an angle.
- ❏ Do not block or cover the slots and openings in the printer's cabinet, and do not insert objects through the slots.
- ❏ Use only the type of power source indicated on the printer's label.
- ❏ Connect all equipment to properly grounded electrical outlets. Avoid using outlets on the same circuit as photocopiers or air control systems that regularly switch on and off.
- ❏ Do not use a damaged or frayed power cord.

- ❏ If you use an extension cord with the printer, make sure the total ampere rating of all devices plugged into the extension cord does not exceed the cord's ampere rating. Also, make sure the total ampere of all devices plugged into the electrical outlet does not exceed the electrical outlet's ampere rating.
- ❏ Unplug the printer before cleaning it, and always clean it with a piece of damp cloth only.
- ❏ Do not spill liquid onto the printer.
- ❏ Except as specifically explained in this guide, do not attempt to service the printer yourself.
- ❏ Unplug the printer and refer servicing to qualified service personnel under the following conditions:

i. If the power cord or plug is damaged.

ii. If liquid has entered the printer.

iii. If the printer has been dropped or the cabinet damaged.

iv. If the printer does not operate normally or exhibits a distinct change in performance.

- ❏ Adjust only those controls that are covered by the operating instructions.
- ❏ If you plan to use the printer in Germany, observe the following:

  To provide adequate short-circuit protection and over-current protection for this printer, the building installation must be protected by a 10- or 16-amp circuit breaker.

  Note for German-speaking users:
  Bei Anschluss des Druckers an die Stromversorgung muss sichergestellt werden, dass die Gebaudeinstallation mit einer 10 A- oder 16 A-Sicherung abgesichert ist.

ENERGY STAR Compliance

As an ENERGY STAR® Partner, EPSON has determined that this product meets the ENERGY STAR guidelines for energy efficiency.

The International ENERGY STAR Office Equipment program is a voluntary partnership with the computer and office equipment industry to promote the introduction of energy-efficient personal computers, monitors, printers, fax machines, copiers, and scanners in an effort to reduce air pollution caused by power generation.

FCC Compliance Statement for United States Users

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio or television reception. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio and 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 dealer or an experienced radio/TV technician for help.

WARNING

The connection of a non-shielded equipment interface cable to this equipment will invalidate the FCC Certification of this device and may cause interference levels which exceed the limits established by the FCC for this equipment. It is the responsibility of the user to obtain and use a shielded equipment interface cable with this device. If this equipment has more than one interface connector, do not leave cables connected to unused interfaces.

Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

For Canadian users

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

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

Declaration of Conformity

Standard model:

According to 47CFR, Part 2 and 15 for Class B Personal Computers and Peripherals; and/or CPU Boards and Power Supplies used with Class B Personal Computers:

We:	EPSON AMERICA, INC.
Located at:	MS 3-13 3840 Kilroy Airport Way Long Beach, CA 90806 Telephone: (562) 290-5254

Declare under sole responsibility that the product identified herein, complies with 47CFR Part 2 and 15 of the FCC rules as a Class B digital device. Each product marketed is identical to the representative unit tested and found to be compliant with the standards. Records maintained continue to reflect the equipment being produced can be expected to be within the variation accepted, due to quantity production and testing on a statistical basis as required by 47CFR §2.909. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Trade Name:	EPSON
Type of Product:	Dot Matrix Printer
Model:	P980C/P981C

UPS (Universal Power Supply) model:

According to 47CFR, Part 2 and 15 for Class B Personal Computers and Peripherals; and/or CPU Boards and Power Supplies used with Class B Personal Computers:

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Trade Name:	EPSON
Type of Product:	Dot Matrix Printer
Model:	P980C/P981C

EPSON AMERICA, INC.
LIMITED WARRANTY

What Is Covered: Epson America, Inc. ("EPSON") warrants to the first end user customer of the EPSON product enclosed with this limited warranty statement that the product, if purchased and used in the United States or Canada, conforms to the manufacturer's specifications and will be free from defects in workmanship and materials for a period of two years from the date of original purchase. EPSON also warrants that the consumable ribbon enclosed with the product will perform to the manufacturer's specified usage, which usage may expire before the expiration of the limited warranty for the EPSON product.

What EPSON Will Do To Correct Problems: Should your EPSON product prove defective during the warranty period, please call the EPSON Connection at 562-276-4322 or (905) 709-2170 (Canada) for warranty repair instructions and return authorization, if required. EPSON will, at its option, repair or replace on an exchange basis the defective unit, without charge for parts or labor. When warranty service involves the exchange of the product or of a part, the item replaced becomes EPSON property. The exchanged product or part may be new or previously repaired to the EPSON standard of quality. Exchange or replacement products or parts assume the remaining warranty period of the product covered by this limited warranty. For warranty service, you must provide proof of the date of original purchase.

What This Warranty Does Not Cover: This warranty covers only normal consumer use in the United States and Canada. This warranty is not transferable and will not apply to products purchased from an end user. This warranty does not cover damage to the Epson printer caused by parts and supplies not manufactured, distributed or certified by Epson. This warranty does not cover ribbon or third party parts, components or peripheral devices added to the EPSON product after its shipment from EPSON, e.g., dealer-added boards or chips. EPSON is not responsible for warranty service should the EPSON label or logo or the rating label or serial number be removed or should the product fail to be properly maintained or fail to function properly as a result of misuse, abuse, improper installation, neglect, improper shipping, damage caused by disasters such as fire, flood, and lightning, improper electrical current, software problems, interaction with non-EPSON products, or service other than by an EPSON Authorized Servicer. Packaging, postage, insurance and shipping costs incurred in presenting your EPSON product for warranty service are your responsibility. If a claimed defect cannot be identified or reproduced in service, you will be held responsible for costs incurred.

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In Canada, warranties include both warranties and conditions.

Some jurisdictions do not allow limitations on how long an implied warranty lasts and some jurisdictions do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations and exclusions may not apply to you.

This warranty gives you specific legal rights, and you may also have other rights which vary from jurisdiction to jurisdiction.

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