

EPSON®

9-pin Dot Matrix Printer

FX-890/FX-2190

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Reference Guide

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Safety Instructions

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.

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.

When setting up the printer

- ❑ Do not place the printer on an unstable surface or near a radiator or heat source.
- ❑ Place the printer on a flat surface. The printer will not operate properly if it is tilted or placed at an angle.
- ❑ Do not place this product on a soft, unstable surface like a bed or a sofa, or a small, enclosed area, as this restricts ventilation.
- ❑ 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. If you are not sure of the power supply specifications in your area, contact your local power company or consult your dealer.
- ❑ 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.
- ❑ The power cord should be placed to avoid abrasions, cuts, fraying, crimping, kinking, and other damage.
- ❑ 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.
- ❑ Use only the power cord that comes with this product. Use of another cord may result in fire or electric shock.

- ❑ This product's power cord is for use with this product only. Use with other equipment may result in fire or electric shock.

When maintaining the printer

- ❑ 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.

When Handling the paper

- ❑ Never use the knob to adjust, move, or eject paper; this may damage the printer or cause it to lose the top-of-form position
- ❑ 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.
- ❑ 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.
- ❑ Do not pull up the paper by hand to fit it on the pull tractor; this may damage the printer. Press the LF/FF button to move the paper.
- ❑ Do not load multipart forms, carbon paper, or labels in the paper guide.
- ❑ It is best to load continuous paper with labels on the pull tractor. Loading labels on the rear or the front push tractor is not recommended.
- ❑ 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 described below:

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 paper path from the rear slot 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.

When operating the printer

- ❑ Adjust only those controls that are covered in the user documentation. Improper adjustment of other controls may result in damage requiring extensive repair by a qualified technician.
- ❑ Whenever you turn off the printer, wait at least five seconds before turning it back on; otherwise, you may damage the printer.
- ❑ 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.
- ❑ 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.
- ❑ Do not reconnect the power cord to an electrical outlet that has the wrong voltage for your printer.
- ❑ 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.
- ❑ You need to move the print head by hand to replace 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.

Note for German-speaking users:

Bei Anschluss des Druckers an die Stromversorgung muss sichergestellt werden, dass die Gebäudefinstallation mit einer 10 A- oder 16 A-Sicherung abgesichert ist.

For United Kingdom users

Use of options

Epson (UK) Limited shall not be liable against any damages or problems arising from the use of any options or consumable products other than those designated as Original EPSON Products or EPSON Approved Products by Epson (UK) Limited.

Safety information



Warning:

This appliance must be earthed. Refer to the rating plate for voltage and check that the appliance voltage corresponds to the supply voltage.

Important:

The wires in the mains lead fitted to this appliance are coloured in accordance to the following code:

Green and yellow — Earth

Blue — Neutral

Brown — Live

If you have to fit a plug:

As the colours of the mains lead of this appliance may not match coloured markings used to identify the terminals in a plug, please proceed as follows:

The green and yellow wire must be connected to the terminal in the plug which is marked with the letter *E* or the Earth symbol (\perp).

The blue wire must be connected to the terminal in the plug marked with the letter *N*.

The brown wire must be connected to the terminal in the plug marked with the letter *L*.

If damage occurs to the plug, replace the cord set or consult a qualified electrician.

Selecting a Paper Source

Your printer provides a variety of paper sources for printing on single sheets and continuous paper. Paper can be fed into the printer from the top, front, bottom, or rear. Select the paper source that best suits your current printing needs.

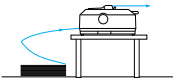
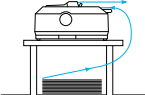
Printing on continuous paper

You can choose from three tractor positions (front push, rear push, and pull) and three paper entry slots (front, rear, and bottom) for continuous paper printing. This section helps you determine which paper paths and tractor positions are best for your continuous paper printing needs. See “Loading continuous paper with the tractor” on page 22 for tractor installation and paper loading instructions.

Using the push tractor positions

If you often need to tear off sheets of continuous paper (for example, if you are printing purchase orders or sales slips), it is best to use the tractor in the front or rear push position. This allows you to use the printer’s tear-off edge to easily tear off sheets of continuous paper at the perforation. Also, when continuous paper is loaded on a push tractor, you can print on single sheets of paper from the paper guide without removing the continuous paper from the tractor.

There are two push tractor positions: front and rear. The tractor is installed in the rear push position when the printer is shipped. See the table below for details about the push positions and the corresponding paper paths.

Tractor position	Description
 <p data-bbox="221 549 322 571">front push</p>	<p data-bbox="385 368 701 391">Load paper from the front slot.</p> <p data-bbox="385 411 938 485">If you print on thick paper such as multipart forms, use the front paper slot because this paper path is almost straight. This reduces the chances of paper jams.</p>
 <p data-bbox="224 767 314 790">rear push</p>	<p data-bbox="385 600 692 622">Load paper from the rear slot.</p> <div data-bbox="449 655 953 887"> <p data-bbox="449 655 633 683">Caution:</p> <p data-bbox="524 692 953 887"><i>Do not load continuous paper with labels from the rear slot. Labels require a straight paper path; otherwise the labels may come off their backing sheets inside the printer and cause a paper jam.</i></p> </div> <div data-bbox="449 927 941 1086"> <p data-bbox="449 927 516 954">Note:</p> <p data-bbox="449 963 941 1086"><i>The rear slot is also not recommended when your multipart forms have 5 or 6 parts (1 original plus 4 or 5 copies), because paper might jam.</i></p> </div>

Using the pull tractor position

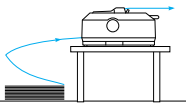
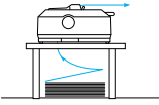
If you often print on thick or heavy continuous paper, such as multipart forms or continuous paper with labels, use the tractor in the pull position. The pull tractor provides you with the best paper jam prevention, and allows you to load continuous paper from the front, rear, or bottom of the printer. However, you cannot use the tear-off feature when the tractor is in the pull position.

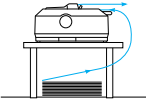

Note:

To use the tractor in the pull position, you can remove the tractor from the rear push position and reinstall it in the pull position, or you can purchase the optional pull tractor unit (C80020* for the FX-890, C80021* for the FX-2190) and install it in the pull position.

If you use a push tractor with the optional tractor in the pull position, you can create a push/pull tractor combination. This improves the performance of continuous paper, and is recommended for printing on continuous pre-printed forms. See “Using two tractors in a push/pull combination” on page 49 for more information.

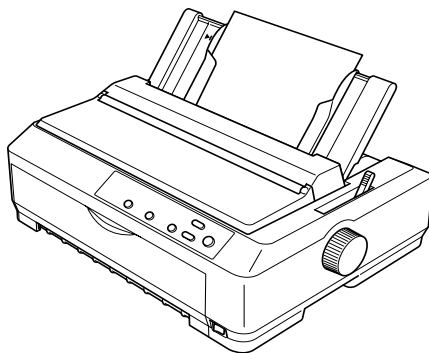
You can use the front, bottom, or rear paper slot with the pull tractor.

Paper slot	Description
 <p data-bbox="286 895 337 919">front</p>	<p data-bbox="430 707 986 810">If you print on thick paper such as multipart forms or continuous paper with labels, use the front paper slot because this paper path is nearly straight. This reduces the chances of paper jams.</p>
 <p data-bbox="273 1161 346 1185">bottom</p>	<p data-bbox="430 943 986 1023">The bottom paper slot has the straightest paper path, so it is the best slot to use when printing on thick paper, such as multipart forms or continuous paper with labels.</p> <p data-bbox="493 1059 986 1219">Note: When loading paper from the bottom slot, be sure to use a printer stand with an opening large enough for the paper to feed through it without obstruction.</p>

Paper slot	Description
 <p data-bbox="255 347 300 370">rear</p>	<p data-bbox="396 175 956 331">If the front or bottom paper slot is unavailable, you can also load ordinary continuous paper from the rear slot. Please note that loading paper from the rear slot results in a curved paper path, which may affect loading performance, so use the front or bottom slot whenever possible.</p> <p data-bbox="461 370 956 536">  Caution: <i>Do not load continuous paper with labels from the rear slot. The labels may come off the backing sheets inside the printer and cause a paper jam.</i> </p>

Printing on single sheets

As shown below, you can load ordinary single sheets (not single-sheet multipart forms) and envelopes one at a time from the rear paper entry slot of the printer, using the paper guide that comes with the printer.

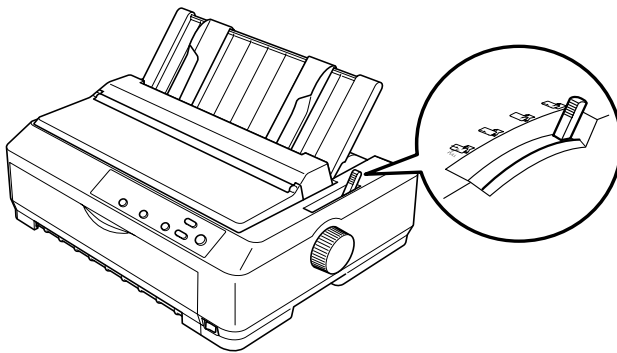


To load single-sheet multipart forms, you need to use the front paper entry slot. The optional front sheet guide (C81400* for the FX-890, C81401* for the FX-2190) and front paper guide (C81402* for the FX-890, C81403* for the FX-2190) are available for easy operation.


You can also load a stack of single-sheet paper using the optional cut-sheet feeder. See “Loading Single Sheets” on page 54 for more information. See “Cut-Sheet Feeder” on page 178 for information on the optional cut-sheet feeder.




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.



The table below describes each paper release lever position.

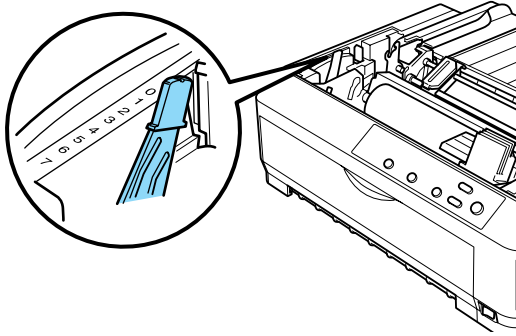
Paper release lever position	Description
	Single-sheet position For loading single-sheet paper from the top or front slot. See “Loading Single Sheets” on page 54 for instructions.

Paper release lever position	Description
	<p>Rear push tractor position</p> <p>For loading continuous paper using the tractor installed in the rear push position. Also set the lever to this position when using the rear push and pull tractors in combination.</p>
	<p>Front push tractor position</p> <p>For loading continuous paper using the tractor installed in the front push position. Also set the lever to this position when using the front push and pull tractors in combination.</p>
	<p>Pull tractor position</p> <p>For loading continuous paper from the tractor installed on top of the printer in the pull position. When the tractor is in the pull position, you can load paper in the front, rear, or bottom slot.</p>

Adjusting the Paper-Thickness Lever

Before you start printing, you may need to change the paper-thickness setting depending on the type of paper you are using. Follow these steps:

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. Use the table below to select the appropriate paper thickness.

Paper type*	Lever position
Ordinary paper: Single sheets Continuous paper	0 or 1 0
Thin paper	0
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) 7 parts (original + 6 copies)**	1 3 5 6 7 7
Continuous paper with labels	2
Cards	2
Envelopes	5 or 6

* See the paper specifications for more information.

** Available when using a bottom pull position or front pull position.

Note:

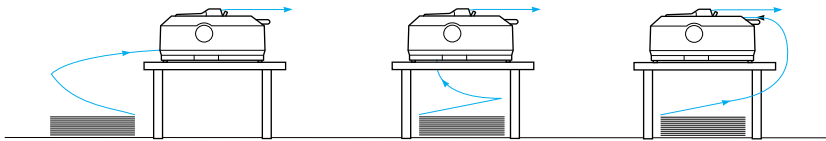
- ❑ When the temperature is 5°C (41°F) or lower, or 35°C (95°F) or higher, set the paper-thickness lever one position lower to improve print quality.
- ❑ When the temperature is 5°C (41°F) or lower, or 35°C (95°F) or higher, multipart forms with 7 parts cannot be used.

Loading Continuous Paper

Follow the instructions in this section to load continuous paper in the printer.

Positioning the continuous paper supply

Before using continuous paper, make sure you line up your paper supply with the tractor feeder as shown below, so that the paper feeds smoothly into the printer.



Loading continuous paper with the tractor

The paper loading procedure depends on where you position the tractor which feeds paper to the printer. Follow the instructions below for your tractor position.

This section provides instructions on “Using the tractor in the front push position” on page 23, “Using the tractor in the rear push position” on page 30, “Using the tractor in the pull position” on page 37, and “Using two tractors in a push/pull combination” on page 49.

Using the tractor in the front push position

This section provides instructions on “Installing the tractor in the front push position” on page 23, “Loading paper with the front push tractor” on page 25, and “Removing the tractor from the front push position” on page 29.

Installing the tractor in the front push position

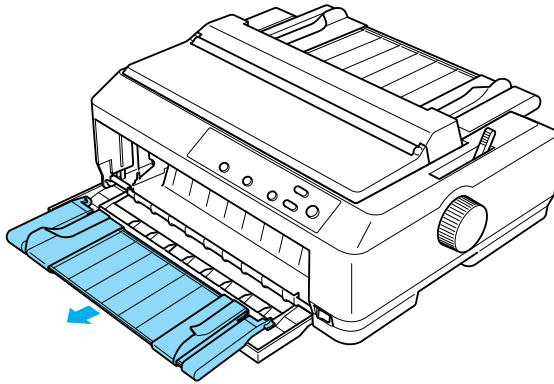
Before installing the tractor in the front push position, remove it from its current position. If the tractor is in the rear push position, remove the paper guide and then press the tractor’s lock tabs while lifting it out. If the tractor is in the pull position, remove it following the instructions in “Removing the tractor from the pull position” on page 47.

Note:

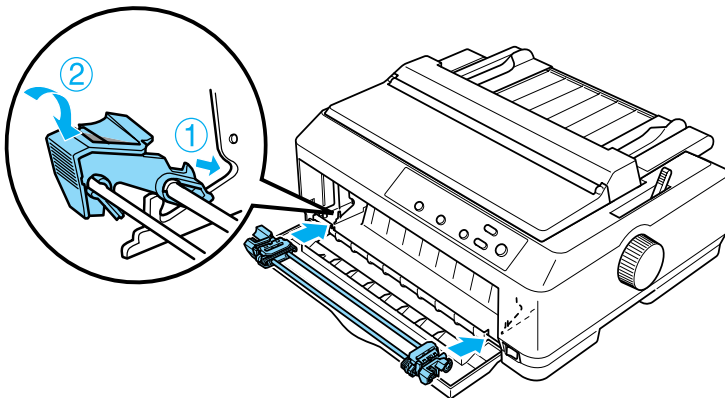
The tractor is installed in the rear push position when the printer is shipped.

1. Make sure the printer is turned off. If necessary, install the paper guide on your printer as described in “Assembling the Printer” in the *Setup Sheet*.

2. If the optional front sheet guide is installed, remove it by grasping the fins on both sides and pulling the guide slightly up and away from the printer. If the optional front paper guide is installed, open the front cover and remove it.



3. Insert the tractor into the printer's mounting slots and press down both ends of the tractor to make sure that it is firmly seated.



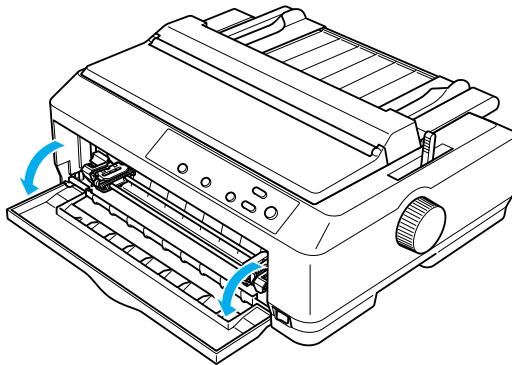
See “Loading paper with the front push tractor” on page 25 for instructions on loading continuous paper with the front push tractor.

Loading paper with the front push tractor

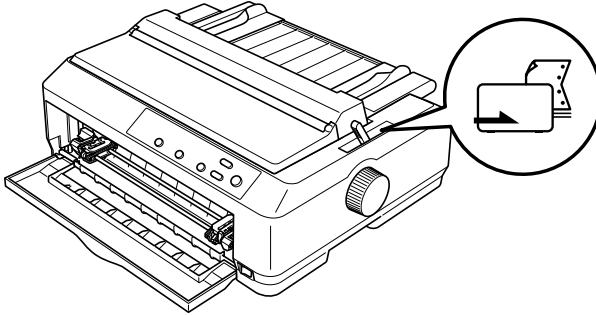
When using the push tractor, it is a good idea to set the Auto tear-off function in the Default Setting mode to On. See “About Your Printer’s Default Settings” on page 129 for more information.

Follow these steps to load paper using the front push tractor:

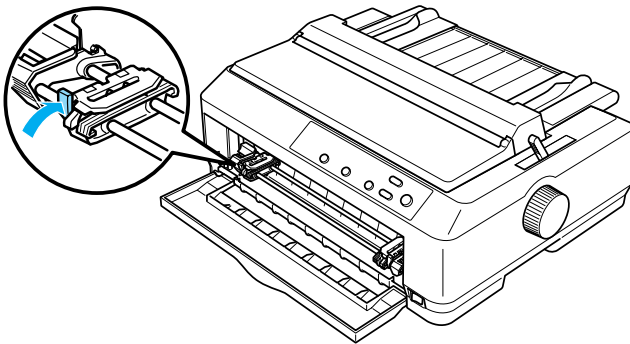
1. Make sure the printer is turned off.
2. Open the front cover. Make sure the tractor is installed in the front push position.



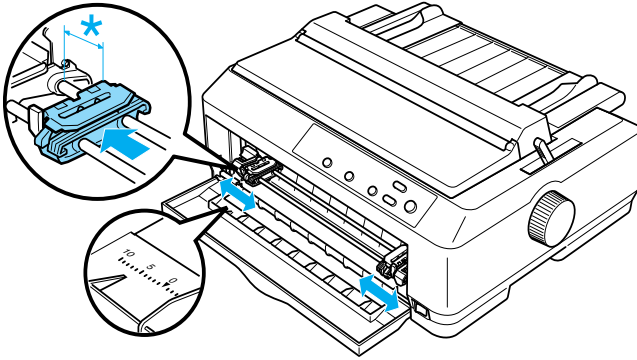
3. Set the paper release lever to the front push tractor position. Also set the paper-thickness lever (located under the printer cover) to the proper position for your paper's thickness. See "Adjusting the Paper-Thickness Lever" on page 20 for instructions.



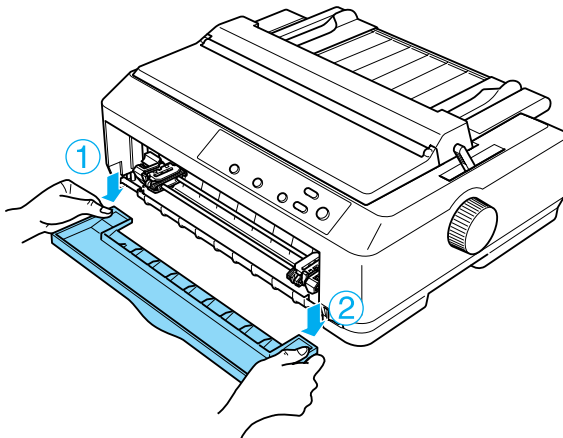
4. Release the left and right sprockets by pushing the blue sprocket lock levers backward.



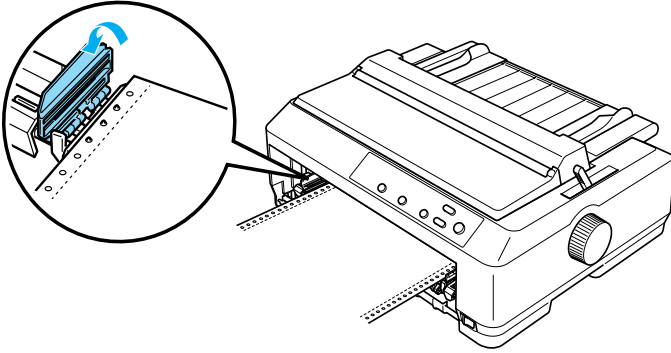
- Slide the left sprocket approximately 12 mm (0.5 inch) from the far left position and pull the blue lever forward to lock it in place. Then slide the right sprocket to match the width of your paper, but do not lock it.



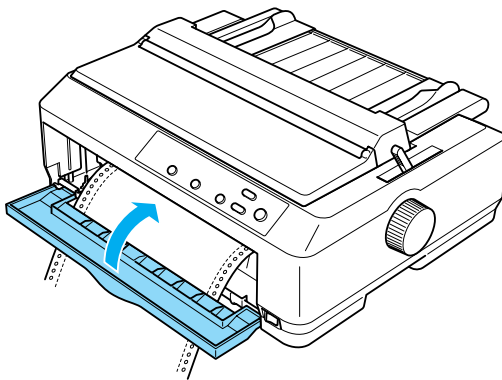
- Remove the front cover by pushing it straight down, as shown below.



7. 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.



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



11. Make sure the paper guide is lying flat on the printer and slide the edge guides to the middle of the paper guide.

Note:

For your safety, EPSON recommends operating the printer with the printer cover closed. The printer will function with the printer cover open or removed, but maximum safety and print speed are achieved when the cover is closed.

12. Turn on the printer. When the printer receives data, it automatically loads the paper and starts printing.
13. After you finish printing, follow the steps in “Removing continuous paper” on page 52 to remove your printed document.

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 in “Adjusting the top-of-form position” on page 69.



Caution:

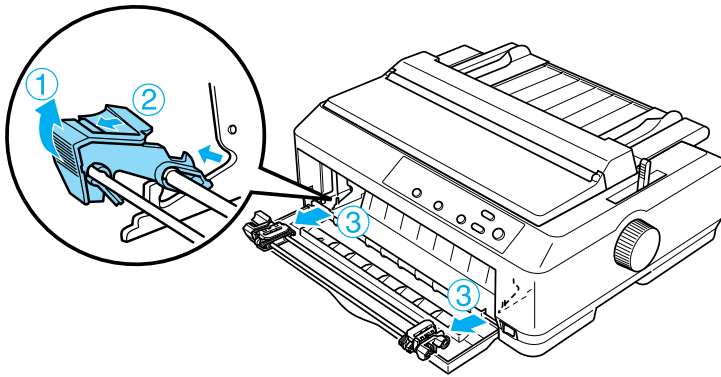
Never use the knob to adjust the top-of-form position; this may damage the printer or cause it to lose the top-of-form position.

Removing the tractor from the front push position

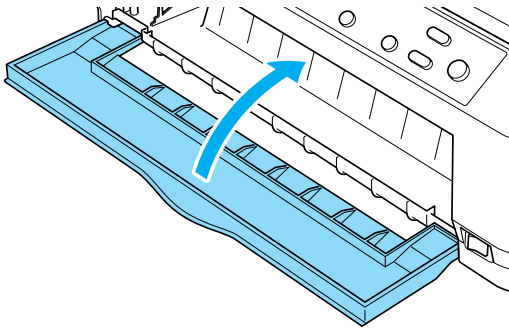
Follow these steps to remove the tractor from the front push position:

1. Make sure the printer is turned off.
2. Remove any paper from the tractor as described in “Removing continuous paper” on page 52.

3. Press the tractor's lock tabs, tilt the tractor up, and lift it out of the printer.



4. Close the front cover.



Using the tractor in the rear push position

The tractor is installed in the rear push position when the printer is shipped. If your tractor is in the rear push position, skip to “Loading paper with the rear push tractor” on page 32 for instructions on loading paper.

This section provides instructions on “Installing the tractor in the rear push position” on page 31, “Loading paper with the rear push tractor” on page 32, and “Removing the tractor from the rear push position” on page 36.

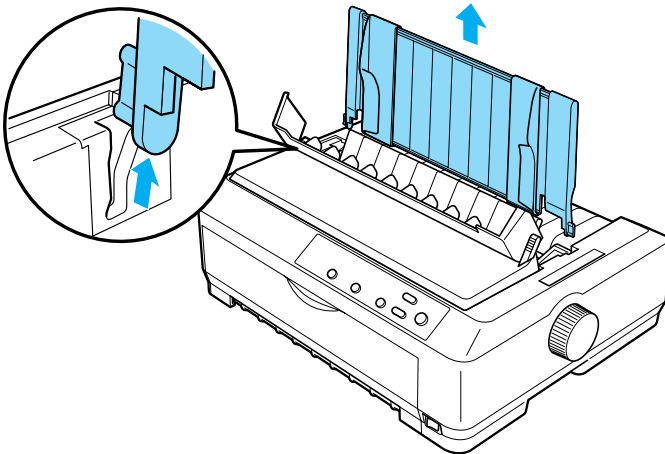
Note:

Thick paper, such as continuous paper with labels or multipart forms with five or six parts, requires a relatively straight paper path to avoid paper jams. When printing on thick continuous paper, use the tractor in the front push position or the pull position.

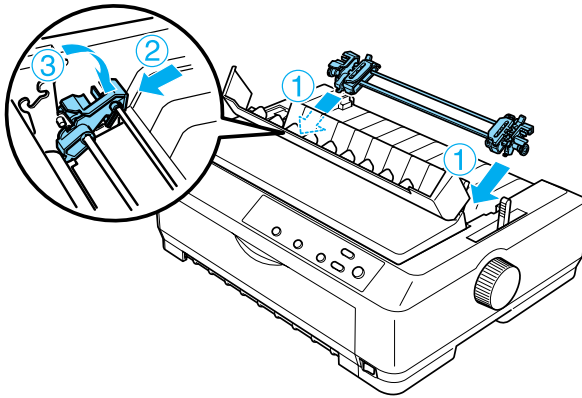
Installing the tractor in the rear push position

Before installing the tractor in the rear push position, remove it from its current position. If the tractor is in the front push position, remove it by pressing the tractor’s lock tabs while lifting it out. If the tractor is in the pull position, remove it as described in “Removing the tractor from the pull position” on page 47.

1. Make sure the printer is turned off. Then open the paper guide cover by pulling its back edge forward.
2. Lift the paper guide up and off the printer.



3. Lower the tractor into the printer's mounting slots and press down both ends of the tractor to make sure that it is firmly seated.

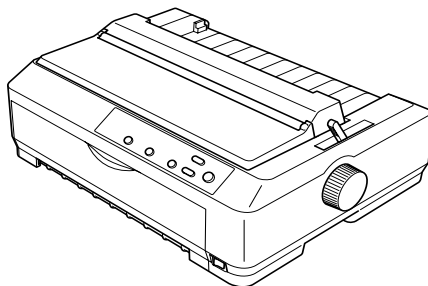


See “Loading paper with the rear push tractor” on page 32 for instructions on loading continuous paper using the rear push tractor.

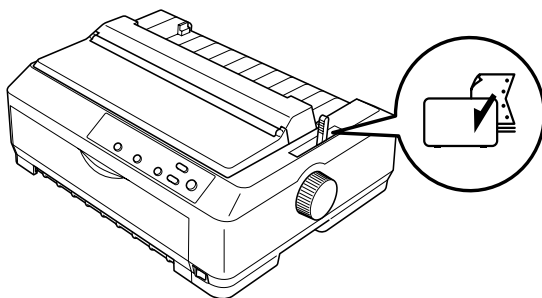
Loading paper with the rear push tractor

Follow these steps to load paper using the rear push tractor:

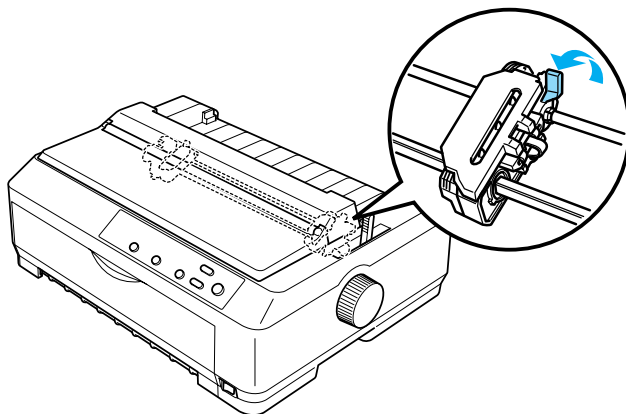
1. Make sure the printer is turned off and the tractor is installed in the rear push position. Also make sure the paper guide is removed.



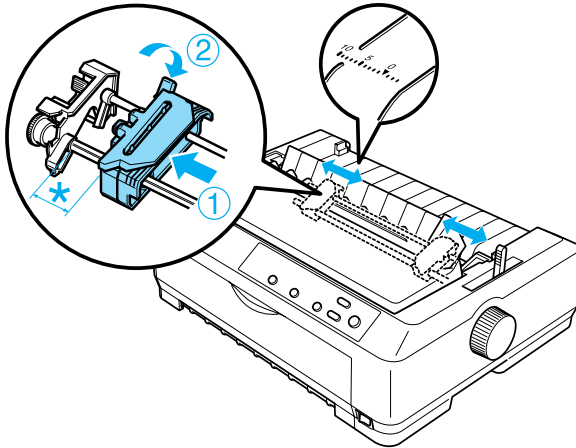
2. Set the paper release lever to the rear push tractor position.



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

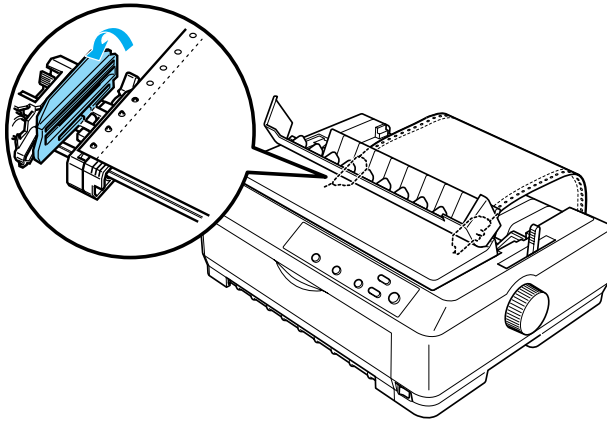


- Slide the left sprocket approximately 12 mm (0.5 inch) from the far left position and push the blue lever back to lock it in place. Then slide the right sprocket to match the width of your paper, but do not lock it.



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

5. 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.



6. Close the sprocket covers.
7. Slide the right sprocket to remove any slack in the paper; then lock it in place by pushing the blue sprocket lock down.
8. Attach the paper guide and lay it flat on the printer and slide the edge guides to the middle of the paper guide.

Note:

For your safety, EPSON recommends operating the printer with the printer cover closed. The printer will function with the printer cover open or removed, but maximum safety and print speed are achieved when the cover is closed.

9. Turn on the printer. When the printer receives data, it automatically loads the paper and starts printing.
10. After you finish printing, follow the steps in “Removing continuous paper” on page 52 to remove your printed document.

If the first line on your page appears too high or low, you can change its position using the Micro Adjust function as described in “Adjusting the top-of-form position” on page 69.



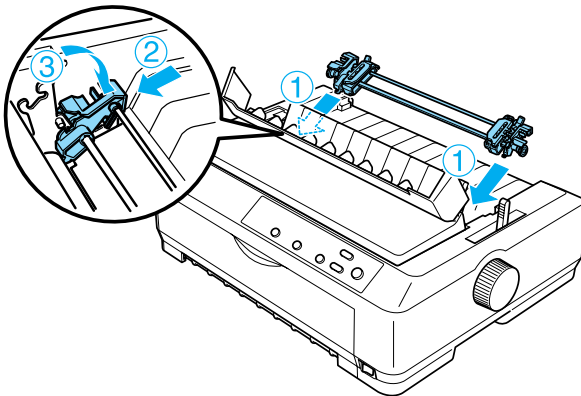
Caution:

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.

Removing the tractor from the rear push position

Follow these steps to remove the tractor from the rear push position:

1. Make sure the printer is turned off.
2. Remove any paper from the tractor as described in “Removing continuous paper” on page 52.
3. Press the tractor’s lock tabs, tilt the tractor up, and lift it out of the printer.



Using the tractor in the pull position

Using the tractor in the pull position is ideal for printing on thick and heavy continuous paper, such as multipart forms or continuous paper with labels. However, you cannot use the tear-off function with the pull tractor.

Because thick paper requires a straight paper path to avoid paper jams, you should load paper in the front or bottom slot when using the pull tractor. To further reduce the chances of paper jams and improve the performance of continuous paper, you can use two tractors in combination. See “Using two tractors in a push/pull combination” on page 49 for more information.

To install the tractor in the pull position, you need to remove the paper tension unit and install the tractor in its place. See “Installing the tractor in the pull position” on page 37 for information on the installation procedure.

This section provides instructions on “Installing the tractor in the pull position” on page 37, “Loading paper with the pull tractor” on page 40, and “Removing the tractor from the pull position” on page 47.

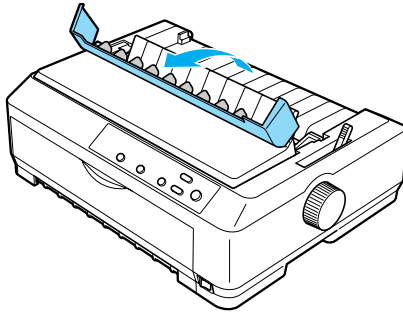
Installing the tractor in the pull position

Before installing the tractor in the pull position, remove it from its current position. If the tractor is in the front push position, remove it by pressing the tractor’s lock tabs while lifting it out. If the tractor is in the rear push position, remove the paper guide and then press the tractor’s lock tabs while lifting it out.

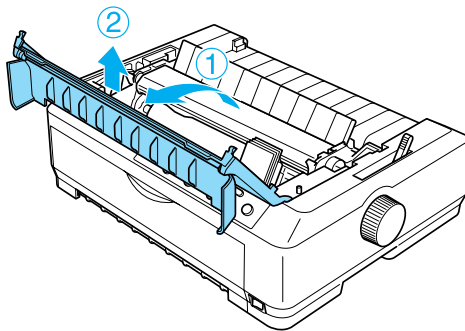
Note:

The tractor is installed in the rear push position when the printer is shipped.

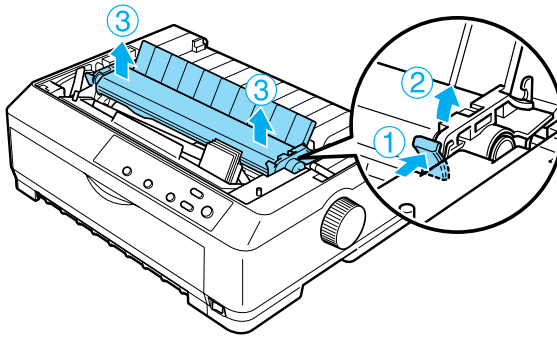
1. Make sure the printer is turned off. Then open the paper guide cover by pulling its back edge forward.



2. Lift the printer cover and pull it straight up and off the printer.



3. Press the tabs on each side of the paper tension unit upward and lift the unit up and off the printer. Store the paper tension unit in a safe place.



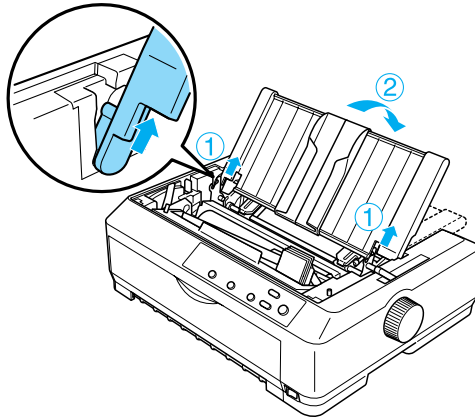
Note:

If you plan to load paper from the rear, you need to insert the paper into the paper path before installing the paper guide and tractor. See “Loading paper with the pull tractor” on page 40 for instructions.

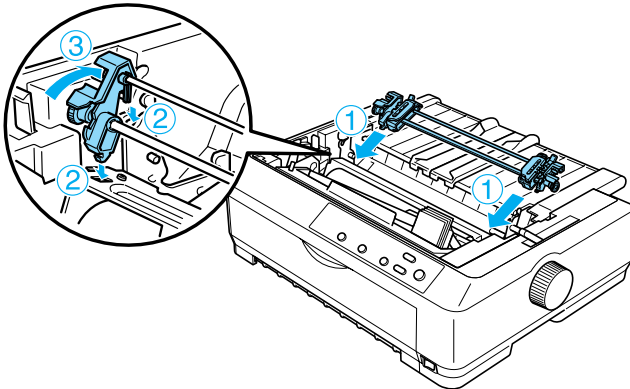
4. Attach the paper guide if necessary, slide the edge guides to the middle of the paper guide, and lay it flat on the printer.

Note:

If you plan to load paper from the rear, you need to insert the paper into the paper path before installing the paper guide and tractor.



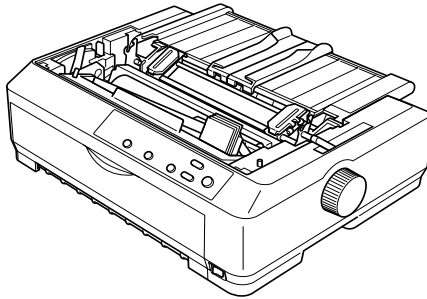
5. Lower the tractor into the printer's mounting slots and press down both ends of the tractor to make sure it is firmly seated.



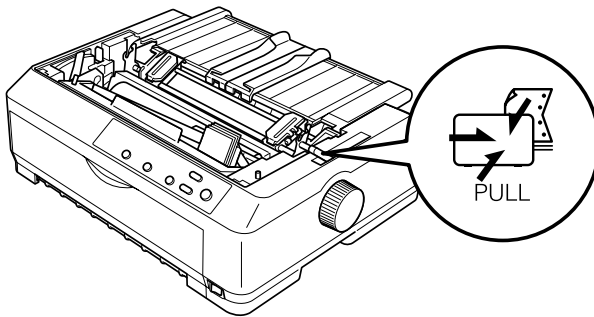
Loading paper with the pull tractor

Follow these steps to load paper using the pull tractor:

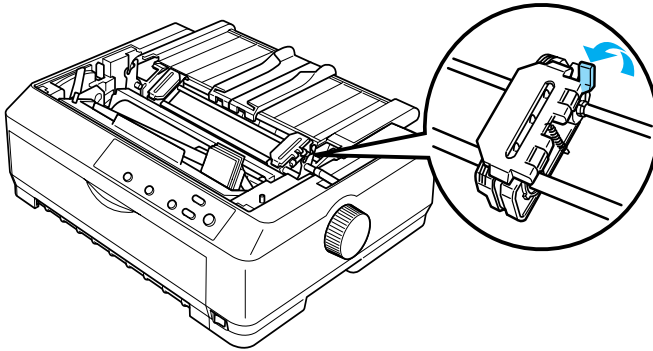
1. Make sure the printer is turned off, and the printer cover is removed. Also make sure the tractor is installed in the pull position and the paper guide is lying flat on the printer.



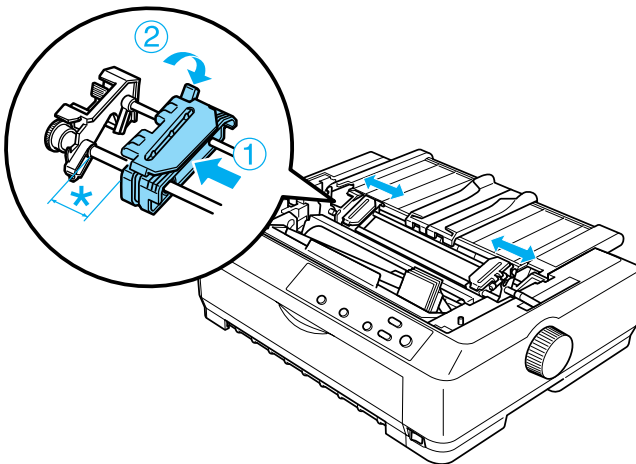
2. Set the paper release lever to the pull tractor position.



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



4. 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.



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

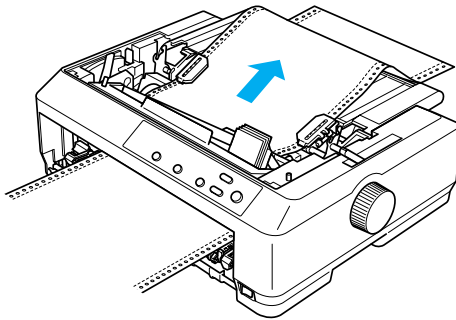
Note:

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

6. Insert the paper into the front or bottom paper slot as shown in the illustration 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.

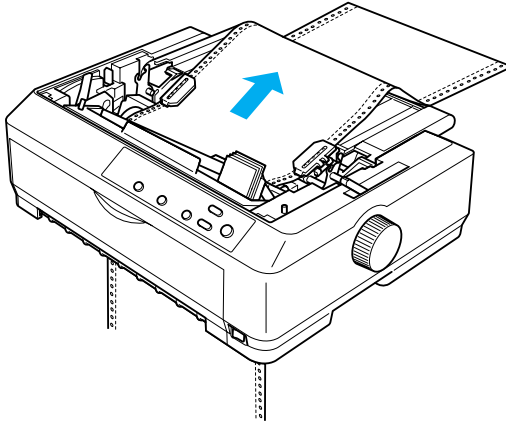
Front slot

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

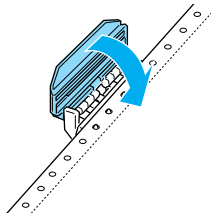


Bottom slot

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

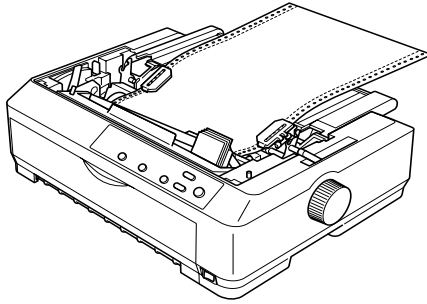


7. Fit four holes of the paper over the tractor pins on both sprockets. Then close the sprocket covers.

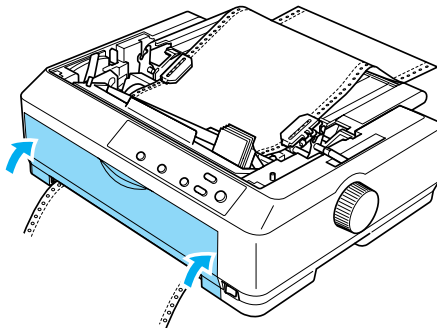


8. Slide the right sprocket to remove any slack in the paper, then lock it in place.

- Slide the edge guides on the paper guide to the center.



- Reattach the front cover as shown below.



- Turn on the printer.
- Remove any slack in the paper by pressing the LF/FF button.



Caution:

Always remove any slack from the paper; otherwise print quality may deteriorate.

- If necessary, follow the steps in “Adjusting the top-of-form position” on page 69 to adjust the current position of the paper.



Caution:

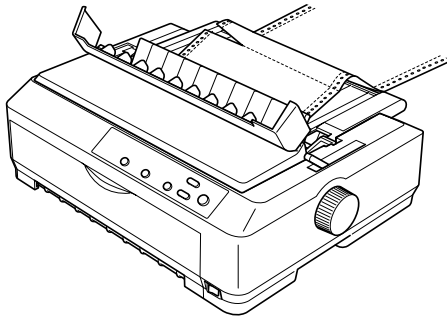
Never use the knob to adjust the top-of-form position; this may damage the printer or cause it to lose the top-of-form position.

14. Attach the printer cover by inserting the front tabs into the slots on the printer, then lowering the cover into place. Then close the paper guide cover.

Note:

For your safety, EPSON recommends operating the printer with the printer cover closed. The printer will function with the printer cover open or removed, but maximum safety and print speed are achieved when the cover is closed.

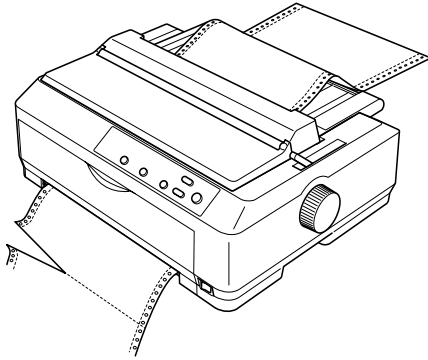
15. Send a print job to the printer. The printer starts printing from the top-of-form position. After you finish printing, open the paper guide cover, then tear off the printed document at the perforation nearest the paper exit slot.



Removing paper from the pull tractor

Follow these steps to remove continuous 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:

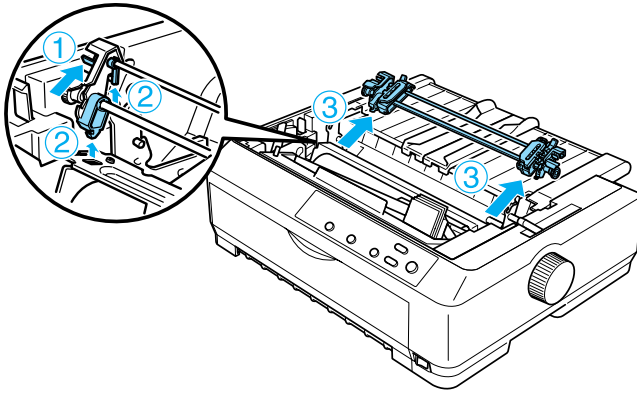
Never press the Load/Eject or Tear Off/Bin button when you are using the pull tractor; the paper could come off the pull tractor and jam the printer.

Removing the tractor from the pull position

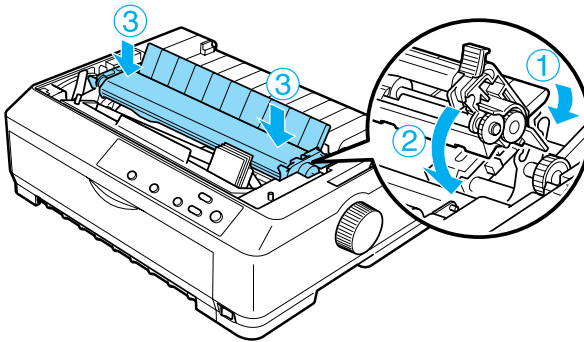
Follow these steps to remove the tractor from the pull position:

1. Remove any paper loaded on the pull tractor as described in “Removing paper from the pull tractor” on page 46.
2. Turn off the printer is turned off. Then open the paper guide cover by pulling its back edge toward you.
3. Lift the printer cover by its back edge and then pull it straight up and off the printer.

4. Press the tractor's lock tabs, tilt the tractor toward you, and lift it off the printer.



5. Store the tractor in a safe place, or install it in the front or rear push position as described in “Using the tractor in the front push position” on page 23 or “Using the tractor in the rear push position” on page 30.
6. Reinstall the paper tension unit by lower it onto the printer's mounting pegs. Then press down on both ends of the unit until it clicks into place.



7. Replace the printer cover.

Using two tractors in a push/pull combination

Using two tractors at the same time is recommended for printing on continuous pre-printed forms, multipart forms, and labels, and for printing high quality graphics. To reduce paper jams and improve continuous paper feeding, you can install the optional additional tractor (C80020* for the FX-890, C80021* for the FX-2190) and then use two tractors at the same time.

Follow these steps to use two tractors at the same time:

1. Install one tractor in the front or rear push position as described in “Installing the tractor in the front push position” on page 23 or “Installing the tractor in the rear push position” on page 31.
2. Load continuous paper using the front or rear push tractor as described in “Loading paper with the front push tractor” on page 25 or “Loading paper with the rear push tractor” on page 32.
3. Set the paper release lever to the front or rear push position, depending on the position of your push tractor.
4. Turn on the printer. Press the **LOAD/EJECT** button to advance the paper to the top-of-form position. Then press the **LF/FF** button until the perforation between the first and second pages is even with the top of the printer’s ribbon.



Caution:

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

5. Install the other tractor in the pull position as described in “Installing the tractor in the pull position” on page 37.

6. Fit the holes of the paper over the pins on both sprockets of the pull tractor.



Caution:

Do not pull up the paper by hand to fit it on the pull tractor; this may damage the printer. Press the LF/FF button to move the paper.


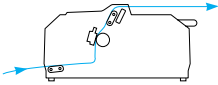

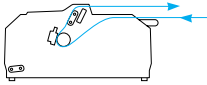

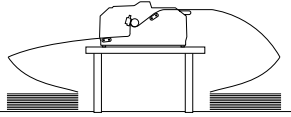

7. Set the paper release lever to the pull tractor position. Then use the Micro Adjust function (described in “Using the Micro Adjust Function” on page 67) to remove any slack in the paper between the push and pull tractors.
8. Move the paper release lever back to the position you set in step 3.
9. When the printer receives data, it will start printing at the current position without advancing the paper. If necessary, follow the steps in “Adjusting the top-of-form position” on page 69 to adjust the current position of the paper.
10. Attach the printer cover. Make sure the paper guide is installed and lying flat on the printer.

Note:

For your safety, EPSON recommends operating the printer with the printer cover closed. The printer will function with the printer cover open or removed, but maximum safety and print speed are achieved when the cover is closed.

11. Send a print job to the printer. The printer starts printing from the current position without advancing the paper. After you finish printing, tear off the printed document at the perforation nearest the paper exit slot.

The table below summarizes the various methods of feeding continuous paper with two tractors and shows which paper release lever setting to use for each method.

Tractor positions	Paper release lever position	Paper path
Pull + front push	Front push tractor 	
Pull + rear push	Rear push tractor 	
Front push + rear push	Front push tractor 	
	Rear push tractor 	

Using the Tear-off Function

If the push tractor is installed, you can use the tear-off function to advance your continuous paper to the printer's tear-off edge when you finish printing. You can then easily tear off the printed document. When you resume printing, the printer automatically feeds the paper back to the top-of-form position so that you can save the paper normally lost between documents.

Removing continuous paper

You can remove continuous paper using the tear-off function in two ways: manually by pressing the printer's Tear Off/Bin button or automatically by turning on auto tear-off mode. The Tear Off/Bin light flashes when the paper is in the tear-off position.

If the perforation between pages is not aligned with the tear-off edge, you can adjust the position of the perforation using the Micro Adjust function. See "Adjusting the tear-off position" on page 67 for more information.



Caution:

- ❑ *Never use the tear-off function with the pull tractor; the paper may come off the pull tractor and jam the printer. After you finish printing, tear off the printed document at the perforation nearest the paper exit slot.*

- ❑ *Never use the tear-off function to feed continuous paper with labels backward; they may come off their backing sheet and jam the printer.*

Using the Tear Off/Bin button

Follow these steps to remove continuous paper using the Tear Off/Bin button:

1. After the printer finishes printing your document, check that the Tear Off/Bin light is not flashing.

Note:

If the Tear Off/Bin light is flashing, the paper is in the tear-off position. If you press the Tear Off/Bin button again, the printer feeds your paper to the next top-of-form position.

2. Press the Tear Off/Bin button. The printer advances the paper to the tear-off edge.



Caution:

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

Note:

If your paper's perforation is not properly aligned with the tear-off edge, you can adjust the tear-off position using the Micro Adjust function as described in "Adjusting the tear-off position" on page 67.

3. Tear off the printed document using the tear-off edge of the printer cover.
4. To feed the continuous paper backward out of the printer and into the standby position, press the Load/Eject button.

To remove the remaining paper from the printer, press the Load/Eject button to feed the paper backward to the standby position. Then open the sprocket covers of the tractor and remove the paper.



Caution:

Always tear off your printed document before you press the Load/Eject button. Reverse feeding several pages at a time may cause a paper jam.

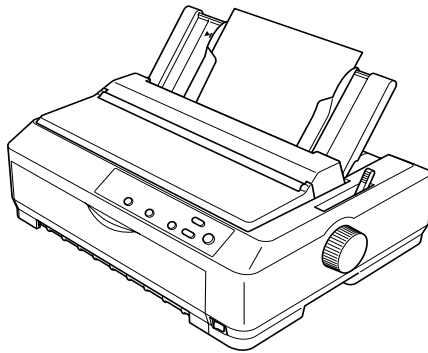
Advancing paper to the tear-off position automatically

To automatically advance your printed documents to the tear-off position, turn on the auto tear-off mode and select the appropriate page length for continuous paper in the Default Setting mode. See “Changing default settings” on page 136 for instructions on how to change the default settings.

When auto tear-off is on, the printer automatically advances the paper to the tear-off position whenever it receives a full page of data or a form feed command followed by no more data.

Loading Single Sheets

As shown below, you can load ordinary single sheets and envelopes one at a time from the top of the printer, using the paper guide.



You can also load single-sheet paper using an optional cut-sheet feeder, front sheet guide, or front paper guide. See “Cut-Sheet Feeder” on page 178 or “Front Sheet Guide and Front Paper Guide” on page 195 for more information.

Available paper types

The table below shows the types of paper you can load and the paper slots you can use with each paper type. See “Adjusting the Paper-Thickness Lever” on page 20 for instructions on how to adjust the paper-thickness lever.

Paper type	Available paper slot(s)
Ordinary paper	front and rear
Multipart forms (carbonless) 2 parts (original and one copy) 3 parts (original and two copies) 4 parts (original and three copies) 5 parts (original and four copies) 6 parts (original and five copies)	front
Envelopes	rear

Note:

- When the temperature is 5°C (41°F) or lower, or 35°C (95°F) or higher, set the paper-thickness lever one position lower to improve print quality.
- When the temperature is 5°C (41°F) or lower, or 35°C (95°F) or higher, multipart forms with 7 parts cannot be used.
- Do not load paper that is curled or has been folded.

Using the paper guide

Using the paper guide that comes with your printer, you can load one single sheet or envelope at a time from the top of the printer. Your single-sheet paper can be up to 257 mm (10.1 inches) wide on the FX-890 and 420 mm (16.5 inches) wide on the FX-2190. (See “Printer Specifications” on page 215 for detailed paper specifications.)



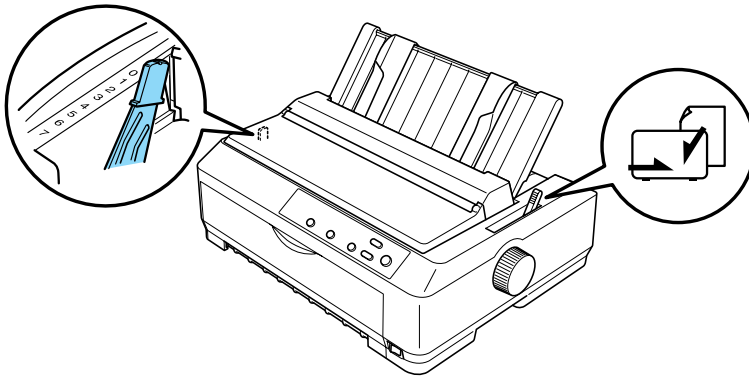
Caution:

Do not load multipart forms, carbon paper, or labels in the paper guide.

Loading paper in the paper guide

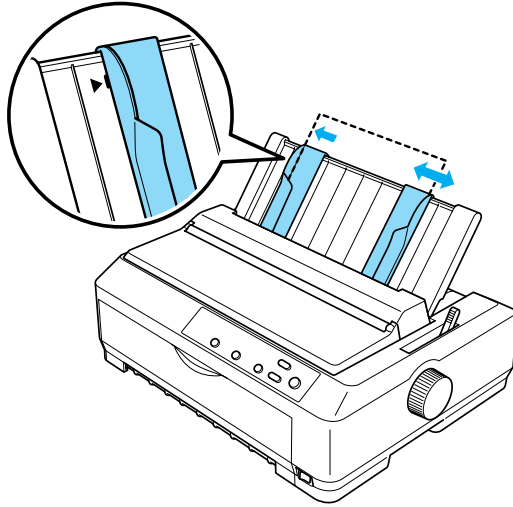
Follow these steps to load paper in the paper guide:

1. Make sure the paper guide is in the upright position. Then set the paper-thickness lever (located under the printer cover) to 0 if you are using ordinary single-sheet paper. (If you are using envelopes, see “Envelopes” on page 62 for instructions on setting the paper-thickness lever.) Also move the paper release lever to the single-sheet position.

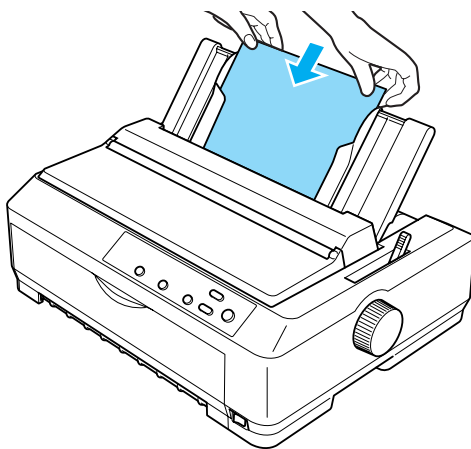


2. Turn on the printer, if necessary.

3. Slide the left edge guide until it locks in place next to the triangle mark on the paper guide. Then, adjust the right edge guide to match the width of your paper.



4. 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.



Note:

For your safety, EPSON recommends operating the printer with the printer cover closed. The printer will function with the printer cover open or removed, but maximum safety and print speed are achieved when the cover is closed.

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 “Adjusting the top-of-form position” on page 69 for more information.

Loading Special Paper

Multipart forms

You can use carbonless multipart forms of up to six parts (five copies on top of the original). Make sure you set the paper-thickness lever to the proper position based on the number of layers in your form. See “Adjusting the Paper-Thickness Lever” on page 20 for instructions.

Continuous multipart forms

Except for setting the paper-thickness lever, you load continuous multipart forms the same way as ordinary continuous paper. See “Loading Continuous Paper” on page 22 for detailed instructions.

Note:

- 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

When loading single-sheet multipart forms, you need to use the front paper entry slot with the optional front paper guide or front sheet guide installed on your printer, because thick paper, such as multipart forms with five or six parts, requires a straight paper path to avoid paper jams.

To load single-sheet multipart forms, follow the instructions in “Loading paper in the front sheet guide or front paper guide” on page 198.

Note:

- ❑ *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.*

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. Load labels only 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 that you must set the paper-thickness lever to 2 before printing. See “Loading paper with the pull tractor” on page 40 for more information.



Caution:

- ❑ *It is best to load continuous paper with labels on the pull tractor. Loading labels on the rear or the front push tractor is not recommended.*

- ❑ *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 described below:*

<i>Temperature</i>	<i>15 to 25•C (59 to 77•F)</i>
<i>Humidity</i>	<i>30 to 60% RH</i>

- ❑ *Do not leave labels loaded in the printer between jobs; they may curl around the platen and jam when you resume printing.*

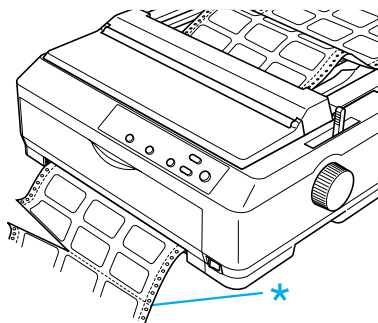
- ❑ *Do not load continuous paper with labels from the rear paper slot. Because the paper path from the rear slot is curved, labels may come off their backing sheets inside the printer and cause a paper jam.*

- ❑ *Do not load paper that is curled or has been folded.*

Removing continuous paper with labels

To avoid peeling labels 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.

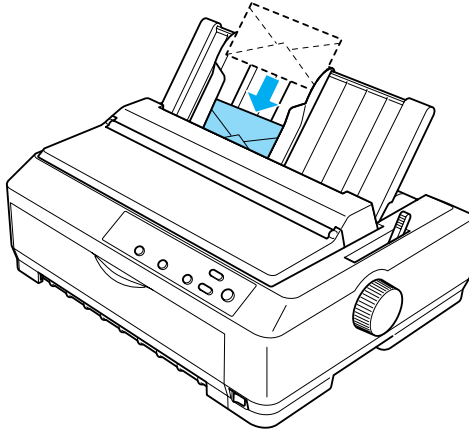
Envelopes

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 5 (for thin envelopes) or 6 (for thick envelopes).

Envelopes can be loaded only in the rear paper slot.

To load single envelopes, follow the instructions in “Loading paper in the paper guide” on page 56. To load multiple envelopes, see “Loading paper in the high-capacity cut-sheet feeder” on page 187. Load envelopes with the printable side down and push them completely into the feed slot.



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 “Recommended Printable Area” on page 227 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.*

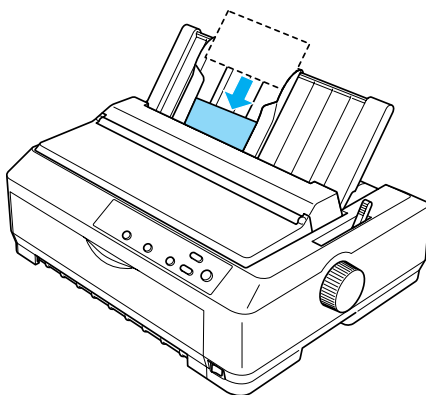
Cards

You can feed cards 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 cards, set the paper-thickness lever to position 2 and set the paper release lever to the single-sheet position.

The cards can be loaded only in the front or rear paper slot.

To load single card, follow the instructions in “Loading paper in the paper guide” on page 56. To load multiple cards, see “Loading paper in the high-capacity cut-sheet feeder” on page 187.



Note:

- ❑ *When you are loading postcards long edge first, always load them in the top slot.*
- ❑ *Before printing, turn on the card mode by pressing the Tear Off/Bin button several times until the left Tear Off/Bin light is on.*

- ❑ *Use postcards under the following temperature and humidity conditions:*

Temperature 15 to 25•C (59 to 77•F)

Humidity 30 to 60% RH

- ❑ *When loading A6 size cards, always load them long edge first.*

Switching Between Printing on Continuous Paper and Single Sheets

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:

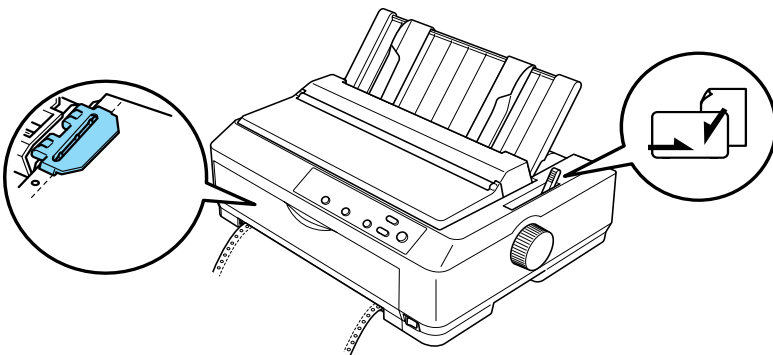
- ❑ *If continuous labels are loaded in the printer, remove them before switching to single-sheet printing. See “Removing continuous paper with labels” on page 61 for more information.*
 - ❑ *If the tractor is in the pull position, remove any continuous paper from it before switching to single-sheet printing. See “Removing paper from the pull tractor” on page 46 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. 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” on page 54.

Switching to printing on continuous paper

Follow these steps 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; this may damage the printer or cause it to lose the top-of-form position.

2. Make sure that the tractor is installed in the front or rear push position and that continuous paper is loaded on it as described in “Loading continuous paper with the tractor” on page 22.
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 so that you can make precise adjustments to the top-of-form and tear-off 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.

Follow these steps to adjust the tear-off position:



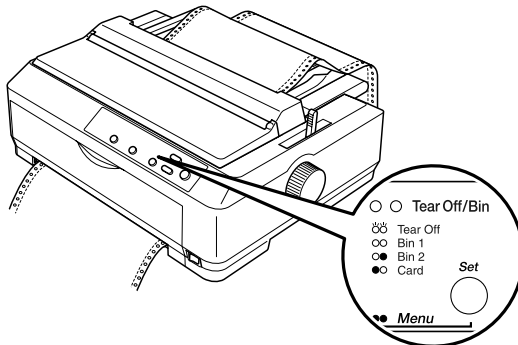
Caution:

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

Note:

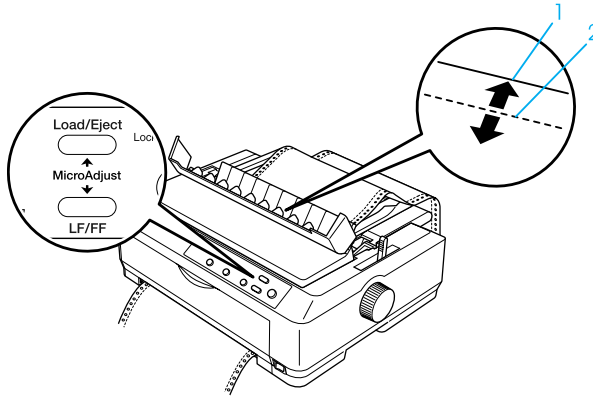
Your tear-off position setting remains in effect until you change it, even if you turn off the printer.

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



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.

Follow these steps to adjust the top-of-form position:



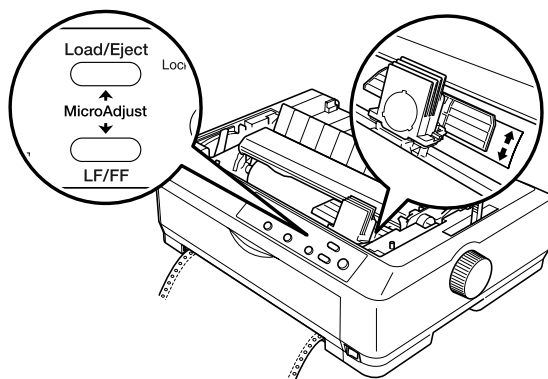
Caution:

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.

Note:

- ❑ *Your top-of-form position setting remains in effect until you change it, even if you turn off the printer.*
 - ❑ *The top margin setting made in some application software overrides the top-of-form position setting you make with the Micro Adjust function. If necessary, adjust the top-of-form position in your software.*
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 about three seconds. The Pause light starts flashing 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.



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 also beeps and stops moving the paper briefly. You can use the default setting as a reference point when adjusting the top-of-form position.
5. After you set the top-of-form position, press the PAUSE button to exit the Micro Adjust mode.

Note:

For your safety, EPSON recommends operating the printer with the printer cover closed. The printer will function with the printer cover open or removed, but maximum safety and print speed are achieved when the cover is closed.

About Your Printer Software

The EPSON software that comes with your printer includes the printer driver software and EPSON Status Monitor 3.

The printer driver is software that allows your computer to control the printer. You need to install the printer driver so your Windows software applications can take full advantage of the printer's capabilities.

EPSON Status Monitor 3 program allows you to monitor the status of your printer, alerts you when errors occur, and provides you with troubleshooting tips. Status Monitor 3 is automatically installed when you install the printer driver.

Note:

Before proceeding, make sure you have installed the printer driver on your computer as described in the Setup Sheet.

Using the Printer Driver with Windows Me, 98, and 95

You can access the printer driver from your Windows applications or from the Start menu.

- ❑ When you access the printer driver from a Windows application, any settings you make apply only to the application you are using. See “Accessing the printer driver from Windows applications” on page 74 for more information.
- ❑ When you access the printer driver from the Start menu, the printer driver settings you make apply to all your applications. See “Accessing the printer driver from the Start menu” on page 76 for more information.

See “Changing the printer driver settings” on page 77 to check and change printer driver settings.

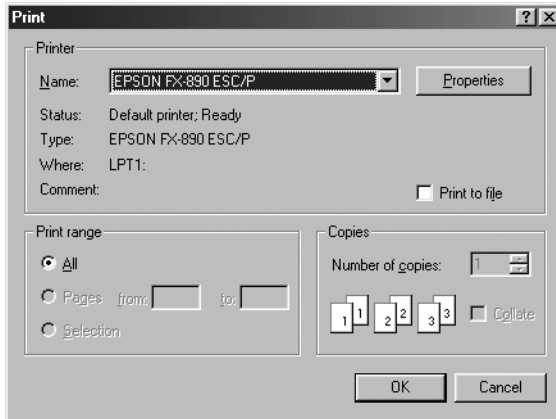
Note:

- ❑ *The examples in the following section are from the FX-890. If you have the FX-2190, substitute FX-2190 for the model name in the examples. The instructions are the same for both models.*
- ❑ *While many Windows applications override the settings made with the printer driver, some do not, so you must verify that the printer driver settings match your requirements.*

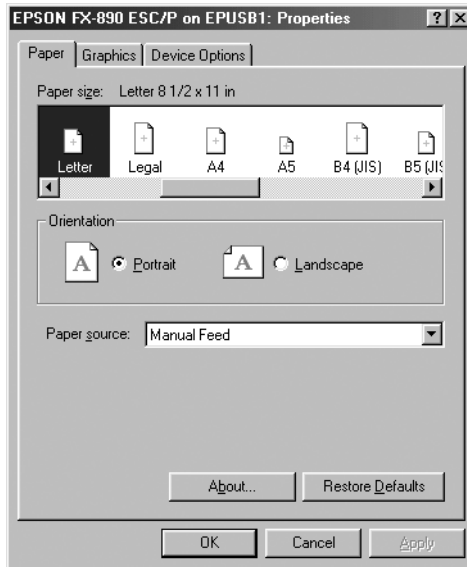
Accessing the printer driver from Windows applications

Follow these steps to access the printer driver from a Windows application:

1. Select Print Setup or Print from the File menu of your application software. In the Print or Print Setup dialog box displayed, make sure that your printer is selected in the Name drop-down list.



2. Click Printer, Setup, Properties, or Options. (You may need to click a combination of these buttons.) The Properties window appears, and you see the Paper, Graphics, and Device Options menu. These menus contain the printer driver settings.



3. To view a menu, click the corresponding tab at the top of the window. See “Changing the printer driver settings” on page 77 for information on how to change the settings.

Accessing the printer driver from the Start menu

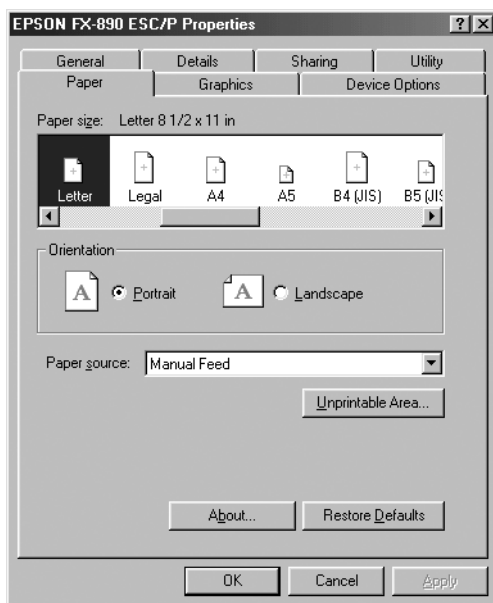
Follow these steps to access the printer driver from the Start menu:

1. Click the Start button, and then go to Settings.
2. Click Printers.

3. Right-click your printer icon, and click Properties. The screen displays the Properties window, which contains the Paper, Graphics, Device Options, and Utility menus. These menus display the printer driver settings.
4. To view a menu, click the corresponding tab at the top of the window. See “Changing the printer driver settings” on page 77 for information on how to change the settings.

Changing the printer driver settings

Your printer driver has four menus: Paper, Graphics, Device Options, and Utility. For an overview of the available settings, see “Printer Driver Settings Overview” on page 84. You can also view online help by right-clicking items in the driver and selecting What’s this?



When you finish making printer driver settings, click **OK** to apply the settings, or click **Restore Defaults** to return the settings to their default values.

Once you have checked your printer driver settings and made any necessary changes, you are ready to print.

Using the Printer Driver with Windows Vista, XP, 2000 and NT 4.0

You can access the printer driver from your Windows applications or from the Start menu.

- ❑ When you access the printer driver from a Windows application, any settings you make apply only to the application you are using. See “Accessing the printer driver from Windows applications” on page 79 for more information.
- ❑ When you access the printer driver from the Start menu, the printer driver settings you make apply to all your applications. See “Accessing the printer driver from the Start menu” on page 81 for more information.

To check and change printer driver settings, see “Changing the printer driver settings” on page 83.

Note:

- ❑ *The examples in the following section are from the FX-890. If you have the FX-2190, substitute FX-2190 for the model name in the examples. The instructions are the same for both models.*
- ❑ *While many Windows applications override the settings made with the printer driver, some do not, so you must verify that the printer driver settings match your requirements.*

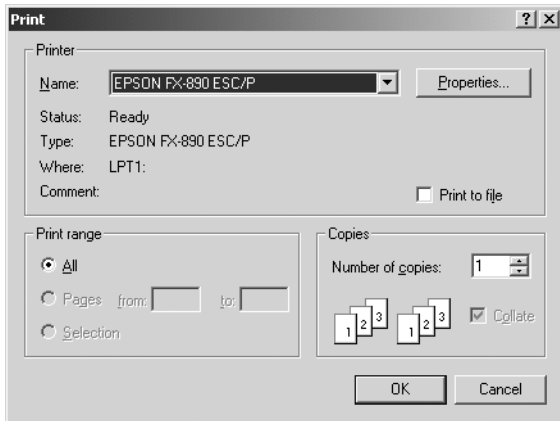
Accessing the printer driver from Windows applications

Follow these steps to access the printer driver from a Windows application:

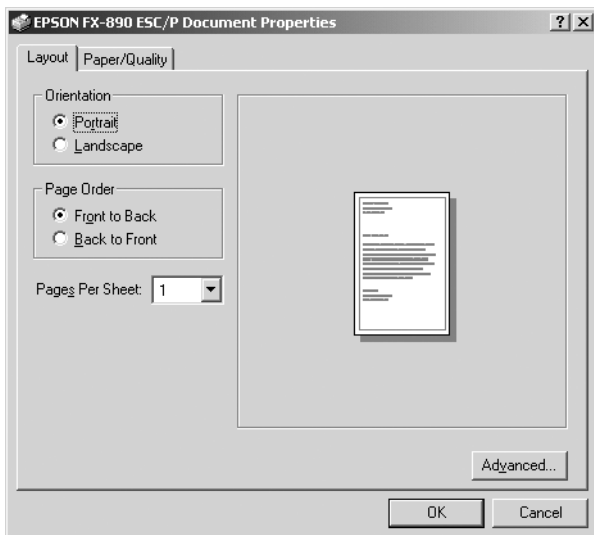
Note:

The examples in the following section are from the Windows 2000 operating system. They may vary in appearance from what actually appears on your screen; however, the instructions are the same.

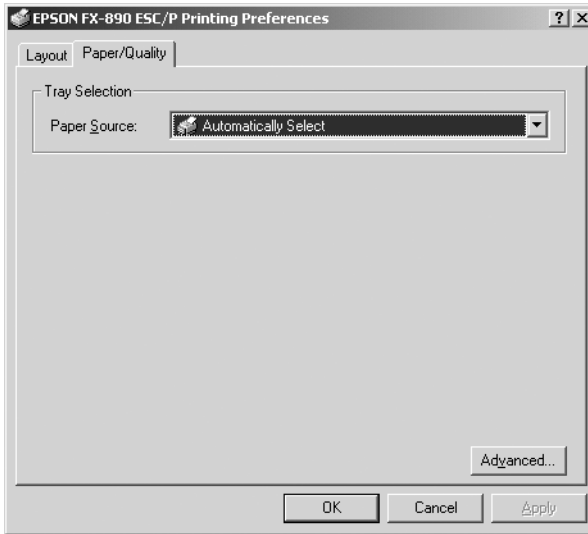
1. Select Print Setup or Print from the File menu of your application software. In the Print or Print Setup dialog box displayed, make sure that your printer is selected in the Name drop-down list.



2. Click Printer, Setup, Properties, or Options. (You may need to click a combination of these buttons.) The Document Properties window appears, and you see the Layout and Paper/Quality menus (Windows XP and 2000) or Layout, Paper/Quality, User Defined Paper and Extension Settings menus (Windows Vista). These menus contain the printer driver settings.



3. To view a menu, click the corresponding tab at the top of the window. See “Changing the printer driver settings” on page 83 to change the settings.



Accessing the printer driver from the Start menu

Follow these steps to access the printer driver from the Start menu:

Note:

The screen shots used in this procedure are from the Windows 2000 operating system. They may vary in appearance from what actually appears on your screen; however, the instructions are the same.

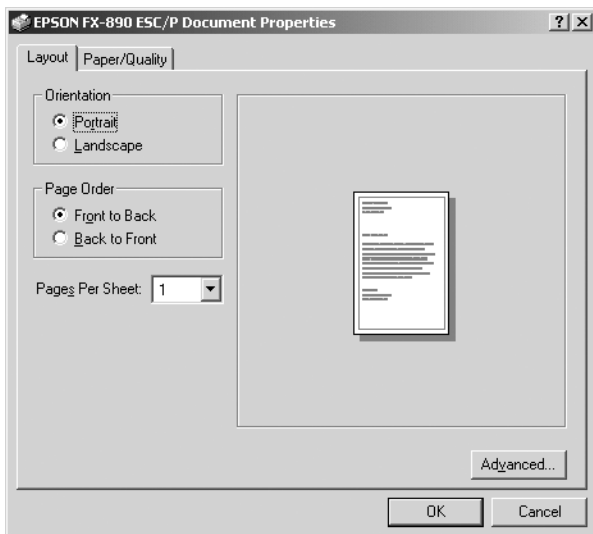
1. For Windows Vista:
Click Start, click Control Panel, click Hardware and Sound, and then click Printers.

For Windows 2000, XP, NT4.0:

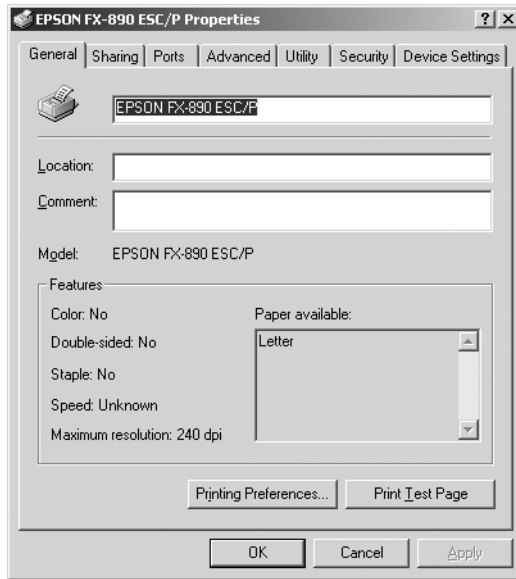
Click Start, point to Settings, and then select Printers.

2. Right-click your printer icon, and click Printing Preferences (in Windows Vista, XP or 2000) or Document Defaults (in Windows NT 4.0).

The screen displays the Document Properties window, which contains the Layout and Paper/Quality menus (Windows XP, 2000 and NT4.0) or Layout, Paper/Quality, User Defined Paper and Extension Settings menus (Windows Vista). These menus display the printer driver settings.



When you click Properties in the menu displayed by right-clicking the printer icon, the printer software window appears, which includes menus used to make the printer driver settings.

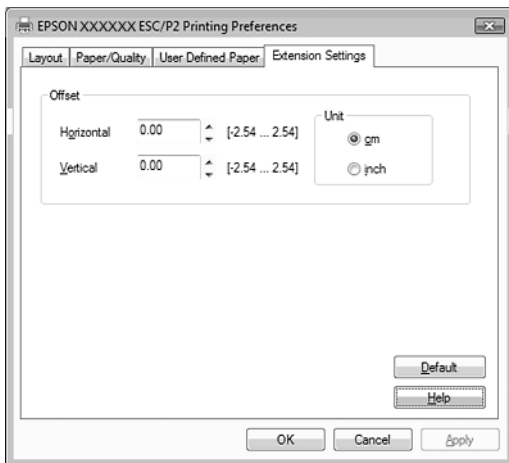


3. To view a menu, click the corresponding tab at the top of the window. See "Printer Driver Settings Overview" on page 84 for information on how to change the settings.

Changing the printer driver settings

Your printer driver has two menus from which you can change the printer driver settings; Layout and Paper/Quality. You can also change settings on the Utility menu in the printer software. For an overview of the available settings, see "Printer Driver Settings Overview" on page 84. For Windows XP/2000, you can also view online help by right-clicking items in the driver and selecting What's this?

If you are using Windows Vista, click the Help button on the Printer Driver screen.



When you finish making your printer driver settings, click **OK** to apply the settings, or click **Cancel** to cancel your changes.

Once you have checked your printer driver settings and changed them if necessary, you are ready to print.

Printer Driver Settings Overview

The following tables show the Windows printer driver settings. Note that not every setting is available in all versions of Windows.

For more details, see Help for the printer driver.

Printer settings

Note:

Depending on the type of printer, some functions may not be displayed.

Settings	Explanations
Paper size	Select the size of the paper you want to use. If you do not see your paper size, use the scroll bar to scroll through the list. If your paper size is not included in the list, click Custom or User Defined Size and enter the paper size in the dialog box that appears.
Orientation	Select Portrait or Landscape.
Paper source	Select the paper source you want to use.
Resolution/ Graphics Resolution	Select the printing resolution you want. The higher the resolution you select, the more detailed your printout will be; however, increasing the resolution slows printing.
Dithering	You can leave this option set to Fine, which is the default setting, or select another dithering pattern depending on the kind of printout you want.
Intensity/ Intensity Control	Move the slider to make your printout lighter or darker.
Print quality	Select a print quality option from the Print quality list. If you turn on Hi-speed, you will enter bidirectional printing mode and printing speed will increase. Turning Hi-speed off will return the printer to unidirectional printing mode. Printing speed will decrease, but printing precision will improve. Printing with the default settings uses the settings stored in the printer.
EPSON Status Monitor 3	You can access EPSON Status Monitor 3 when you click this button. To monitor the printer, make sure the Monitor the printing status check box is selected.
Monitoring Preferences	Click this button to open the Monitoring Preferences dialog box where you can make settings for EPSON Status Monitor 3.

Settings	Explanations
Paper/Output	Check the Paper Size, Orientation, and Paper Source settings you made on the Page Setup menu and change them if necessary. Select the setting and then choose an option from the Change Setting list box.
Halftone	Click this button to set the brightness and contrast, input the RGB gamma, or make other settings. The Halftone Color Adjustment dialog box appears. For details, click the Help button in this dialog box.
Printer Fonts Support	<p>Select a character table group to use. You can select one of three character table groups, Standard, Expanded, and None (Bit Image printing).</p> <p>When Standard or Expanded is selected, the printer uses the device fonts. Expanded includes more fonts than Standard.</p> <p>When None is selected, the printer uses bit map images instead of the device fonts.</p> <p>For details on the fonts which are included in each table, see "Electronic" on page 218.</p>
Printable Area	If Standard is selected, the size of the top margin is .@4.2mm. If Maximum is selected, it is 0mm.
Top Margin Priority**	Select which setting for the print-start position is to be used; driver setting or printer setting. For more details, see Help for the printer driver.
Packet Mode**	Ordinarily, there is no need to change this setting. If you change the printer's Packet Mode settings, change this setting to match. If the printer and printer driver settings are different, you may not be able to print correctly. For more details, see Help for the printer driver.
User Defined Paper**	If your paper is not included in the Paper Size drop-down list, you can add the size to the list. For more details, see Help for the printer driver.
Offset**	This setting allows you to offset the image on the page. That is, you can adjust the position of the printed image. If the offset you specify moves a portion of the image out of the printer's printable area, that portion will not be printed.

* For details, see Windows help.

** For Windows Vista and XP Professional x64 Edition.

Monitoring settings

Settings	Explanations
EPSON Status Monitor 3	You can access EPSON Status Monitor 3 when you click this button. To monitor the printer, make sure the Monitor the printing status check box is selected.
Monitoring Preferences	Click this button to open the Monitoring Preferences dialog box where you can make settings for EPSON Status Monitor 3. See "Setting up EPSON Status Monitor 3" on page 88 for more information.

Using EPSON Status Monitor 3

EPSON Status Monitor 3 that comes with your printer is available for Windows Me, 98, 95, Vista, XP, 2000, and NT 4.0. It allows you to monitor your printer's status, alerts you when printer errors occur, and provides troubleshooting instructions when needed.

EPSON Status Monitor 3 is available only when:

- The printer is connected directly to the host computer via the parallel port [LPT1].
- Your system is configured to support bidirectional communication.

EPSON Status Monitor 3 is installed when you install the printer driver as described in the *Setup Sheet*.

Note:

- If you are using a computer running Windows Vista x64 Edition with multiple users are logged on, a communication error message may be displayed when monitoring printers at the same time.*

- ❑ *When connecting to a shared printer beyond a router, error and warning notification for shared printers during printing is not available in some cases because of the router's settings.*

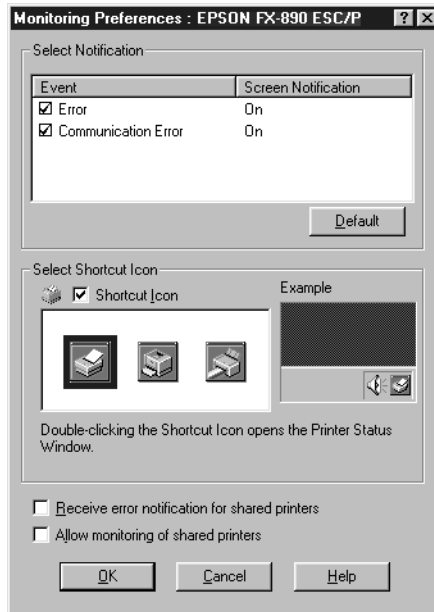
Before using EPSON Status Monitor 3, be sure to read the README file on the printer software CD-ROM. This file contains the latest information on the utility.

Setting up EPSON Status Monitor 3

Follow these steps to set up EPSON Status Monitor 3:

1. Open the Utility menu as described in "Using the Printer Driver with Windows Me, 98, and 95" on page 73 or "Using the Printer Driver with Windows Vista, XP, 2000 and NT 4.0" on page 78.

- Click the Monitoring Preferences button. The Monitoring Preferences dialog box appears.



- The following settings are available:

Select Notification	<p>Displays the error item check box ON/OFF status.</p> <p>Turn on this check box to display the selected error notification.</p>
Select Shortcut Icon	<p>The selected icon is displayed in the system tray on the taskbar on the computer screen. The setting's example is shown on the right window. By clicking the shortcut icon, you can access the Monitoring Preferences dialog box easily.</p>

Receive error notification for shared printers	Error notification for a shared printer can be received when this check box is selected. Note: <i>If the server's OS is Windows Vista, select Run as Administrator when opening the printer properties before checking.</i>
Allow monitoring of shared printer	When this check box is selected, a shared printer can be monitored by other PCs.

Note:

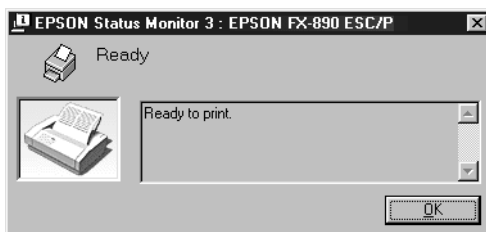
Click the Default button to revert all items to the default settings.

Accessing EPSON Status Monitor 3

Do one of the following to access EPSON Status Monitor 3;

- ❑ Double-click the printer-shaped shortcut icon on the taskbar. To add a shortcut icon to the taskbar, go to the Utility menu and follow the instructions.
- ❑ Open the Utility menu, then click the EPSON Status Monitor 3 icon. To find out how to open the Utility menu, See “Using the Printer Driver with Windows Me, 98, and 95” on page 73 or “Using the Printer Driver with Windows Vista, XP, 2000 and NT 4.0” on page 78.

When you access EPSON Status Monitor 3 as described above, the following printer status window appears.



You can view printer status information in this window.

Setting Up Your Printer on a Network

Sharing the printer

This section describes how to share the printer on a standard Windows network.

The computers on a network can share a printer that is directly connected to one of them. The computer that is directly connected to the printer is the printer server, and the other computers are the clients which need permission to share the printer with the printer server. The clients share the printer via the printer server.

According to the versions of Windows OS and your access rights on the network, perform the appropriate settings of the printer server and clients.

Setting the printer server

- ❑ For Windows Me, 98, or 95, see “Setting up your printer as a shared printer” on page 92.
- ❑ For Windows Vista, XP, 2000, or NT 4.0, see “Using an additional driver” on page 94.

Setting the clients

- ❑ For Windows Me, 98, or 95, see “With Windows Me, 98, or 95” on page 101.
- ❑ For Windows XP or 2000, see “With Windows XP or 2000” on page 103.
- ❑ For Windows Vista, see “With Windows Vista” on page 106.

- ❑ For Windows NT 4.0, see “With Windows NT 4.0” on page 112.

Note:

- ❑ *When sharing the printer, be sure to set EPSON Status Monitor 3 so that the shared printer can be monitored on the printer server. See “Setting up EPSON Status Monitor 3” on page 88.*
- ❑ *When you are Windows shared printer user in a Windows Me, 98, or 95 environment, on the server, double-click the Network icon in Control panel and make sure that the “File and printer sharing for Microsoft Networks” component is installed. Then, on the server and clients, make sure that the “IPX/SPX-compatible Protocol” or the “TCP/IP Protocol” is installed.*
- ❑ *When connecting to a Windows XP shared printer, error and warning notifications do not appear during printing. Installing Windows XP Service Pack 1 or later will solve this problem.*
- ❑ *When connecting to a shared printer beyond a router, error and warning notification for shared printers during printing is not available in some cases because of the router’s settings.*
- ❑ *The printer server and clients should be set on the same network system, and they should be under the same network management beforehand.*
- ❑ *The on-screen displays on the following pages may differ depending on the version of Windows OS.*

Setting up your printer as a shared printer

When the printer server’s OS is Windows Me, 98, or 95, follow these steps to set the printer server.

1. Click Start, point to Settings, and click Control Panel.
2. Double-click the Network icon.

3. Click File and Print Sharing on the Configuration menu.
4. Select the I want to be able to allow others to print to my printer(s). check box, then click OK.
5. Click OK to accept the settings.

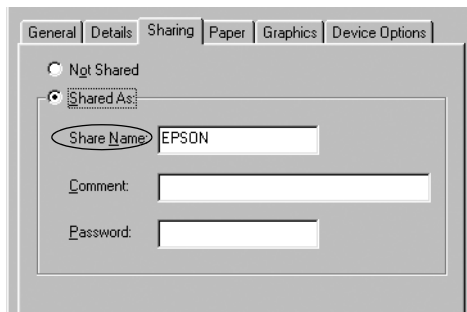
Note:

- ❑ When "Insert the Disk" appears, insert the Windows Me, 98, or 95 CD-ROM in the computer. Click OK and then follow the on-screen instructions.

- ❑ When the prompt to restart the computer appears, restart the computer and continue with the settings. See "For users restarting the computer" on page 93.

For users restarting the computer

1. Double-click the Printers icon on the control panel.
2. Right-click your printer icon, and click Sharing in the menu that appears.
3. Select Shared As, type the name in the Share Name box, and click OK. Type a Comment and Password if needed.



Note:

- ❑ *Do not use spaces or hyphens for the share name, or an error may occur.*

- ❑ *When sharing the printer, be sure to set EPSON Status Monitor 3 so that the shared printer can be monitored on the printer server. See “Setting up EPSON Status Monitor 3” on page 88.*

You need to set the client computers so that they can use the printer on a network. See the following pages for details.

- ❑ “With Windows Me, 98, or 95” on page 101
- ❑ “With Windows XP or 2000” on page 103
- ❑ “With Windows Vista” on page 106
- ❑ “With Windows NT 4.0” on page 112

Using an additional driver

When the printer server’s OS is Windows Vista, XP, 2000, or Windows NT 4.0, you can install the additional drivers in the server. The additional drivers are for client computers that have different OS from the server.

Follow these steps to set a Windows XP, 2000, or Windows NT 4.0 as a printer server, and install the additional drivers.

Note:

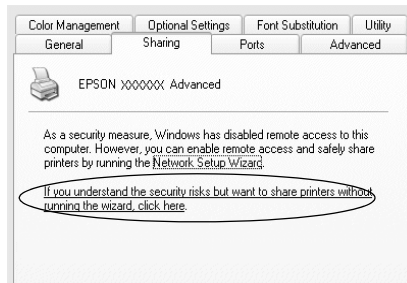
- ❑ *You must access Windows Vista, XP, 2000, or Windows NT 4.0 as the Administrators of the local machine.*

- ❑ *If the Printer server’s OS is Windows NT 4.0, the Additional driver can be used only on Service Pack 4 or later.*

1. For a Windows 2000 or NT 4.0 printer server, click Start, point to Settings, and click Printers.
For a Windows XP printer server, click Start, point to Printers and Faxes. For Windows XP Home edition users, point to Control panel first, then click Printers and Faxes.
For a Windows Vista printer server, click Start, click Control Panel, click Hardware and Sound, and then click Printers.
2. Right-click your printer icon, and click Sharing in the menu that appears.

For Windows XP, if the following menu appears, click either Network Setup Wizard or If you understand the security risks but want to share printers without running the wizard, click here.

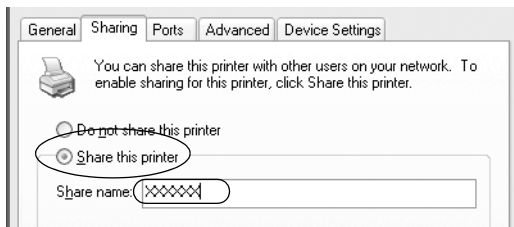
In either case, follow the on-screen instructions.



3. For a Windows 2000 or NT 4.0 printer server, select Shared (for Windows 2000), or Shared as (for Windows NT 4.0), then type the name in the Share Name box.



For a Windows Vista or XP printer server, select Share this printer, then type the name in the Share name box.



Note:

- ❑ Do not use spaces or hyphens for the share name, or an error may occur.
- ❑ In Windows Vista, you cannot select share this printer until you click the Change sharing options button.

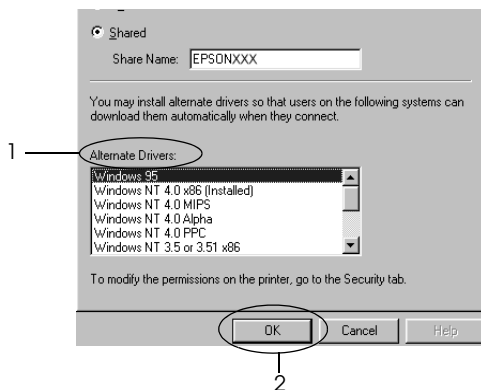
4. Select the additional drivers.

Note:

If the computers of the server and clients use the same OS, you do not have to install the additional drivers. Just click OK after step 3.

On a Windows NT 4.0 printer server

Select Windows being used for clients. For example, select Windows 95 to install the additional driver for the Windows Me, 98, or 95 clients. Then click OK.

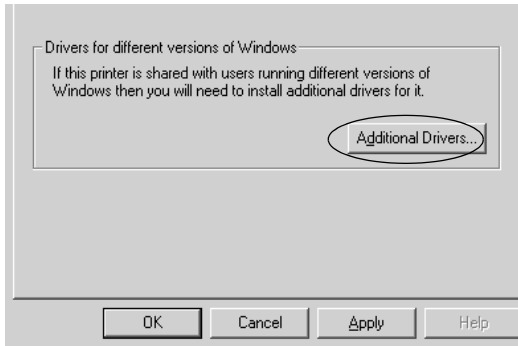


Note:

- You do not have to select Windows NT 4.0x86, because that driver has been already installed.
- Do not select additional drivers other than Windows 95. The other additional drivers are not available.

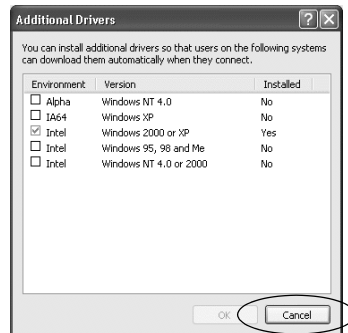
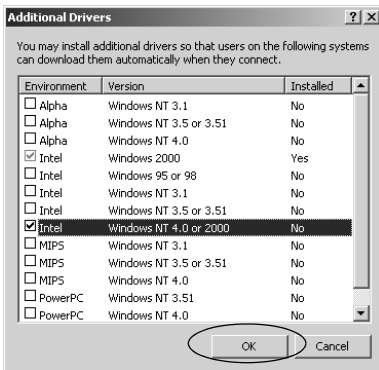
On the Windows XP or 2000 printer server

Click Additional Drivers.



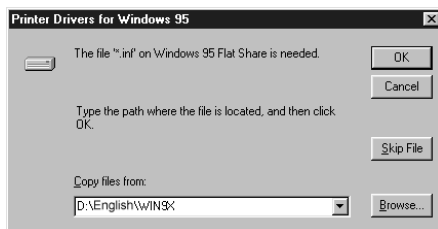
Select Windows being used for clients then click OK.

For Windows Me, 98, or 95 clients	Select Intel Windows 95 or 98 (and Me)
For Windows NT 4.0 clients	Select Intel Windows NT 4.0 or 2000
For Windows XP or 2000 clients	Intel Windows XP (or 2000) may be already selected.



Note:

- ❑ *You do not have to install the additional driver for Intel Windows 2000 (or XP) only, because that driver is preinstalled.*
 - ❑ *Do not select additional drivers other than Intel Windows 95 or 98 (and Me) and Intel Windows NT 4.0 or 2000. The other additional drivers are not available.*
5. When a prompt appears, insert the CD-ROM that comes with your printer in your CD-ROM drive, then click OK.
 6. According to the message, type the appropriate drive and folder names in which the printer driver for clients is located, then click OK.
Depending on the client's OS, the displayed message may differ.



The folder name differs depending on the OS being used.

Client's OS	Folder Name
Windows Me, 98, or 95	\<Language>\WIN9X
Windows 2000, XP	\<Language>\WIN2000
Windows Vista x86 Edition	\<Language>\WINVISTA
Windows XP Professional x64 Edition, Vista x64 Edition	\<Language>\WINVISTA_XP64
Windows NT 4.0	\<Language>\WINNT40

When installing drivers in Windows Vista, XP or 2000, “Digital Signature is not found.” may appear. Click Yes (for Windows 2000) or , Continue Anyway (for Windows XP) or Install this driver software anyway (for Windows Vista) and continue installing.

7. When installing in Windows 2000 or XP, click Close. When installing in Windows NT 4.0, the property window closes automatically.

Note:

Confirm the following items when sharing the printer.

- Be sure to set the EPSON Status Monitor 3 so that the shared printer can be monitored on the printer server. See “Setting up EPSON Status Monitor 3” on page 88.*
- Set the security for the shared printer (access right for clients). Clients can not use the shared printer without right. For details, see Windows help.*

You need to set the client computers so that they can use the printer on a Network. See the following pages for details:

- “With Windows Me, 98, or 95” on page 101
- “With Windows XP or 2000” on page 103
- “With Windows Vista” on page 106
- “With Windows NT 4.0” on page 112

Setting for the clients

This section describes how to install the printer driver by accessing the shared printer on a network.

Note:

- ❑ *To share the printer on a Windows network, you need to set the printer server. For details, see “Setting up your printer as a shared printer” on page 92 (Windows Me, 98, or 95) or “Using an additional driver” on page 94 (Windows Vista, XP, 2000, or NT 4.0).*
- ❑ *This section describes how to access the shared printer on a standard network system using the server (Microsoft workgroup). If you cannot access the shared printer due to the network system, ask the administrator of the network for assistance.*
- ❑ *This section describes how to install the printer driver by accessing the shared printer from the Printers folder. You can also access the shared printer from Network Neighborhood or My Network on the Windows desktop.*
- ❑ *You cannot use the Additional driver on server system OS.*
- ❑ *When you want to use the EPSON Status Monitor 3 at clients, you have to install both of the printer driver and the EPSON Status Monitor 3 in each client from the CD-ROM.*

With Windows Me, 98, or 95

Follow these steps to set Windows Me, 98, or 95 clients.

1. Click Start, point to Settings, and click Printers.
2. Double-click the Add Printer icon, then click Next.
3. Select Network printer, then click Next.
4. Click Browse, and the Browse for Printer dialog box appears.

Note:

You can also type “\\(the name of the computer that is locally connected to the shared printer)\(the shared printer’s name)” in the Network path or queue name.

5. Click the computer or server that is connected to the shared printer, and the name of the shared printer. Then click OK.



Note:

The name of the shared printer may be changed by the computer or server that is connected to the shared printer. To make sure of the name of the shared printer, ask the administrator of the network.

6. Click Next.

Note:

- If the printer driver is installed in the client beforehand, you need to select the new printer driver or the current printer driver. When the prompt to select the printer driver appears, select the printer driver according to the message.*
- If the printer server's OS is Windows Me, 98, or 95 or the additional driver for Windows Me, 98, or 95 is installed in the Windows Vista, XP, 2000, or NT 4.0 printer server, go to the next step.*
- If the additional driver for Windows Me, 98, or 95 is not installed in the Windows Vista, XP, 2000, or NT 4.0 printer server, go to "Installing the printer driver from the CD-ROM" on page 114.*

7. Make sure of the name of the shared printer, and select whether to use the printer as the default printer or not. Click OK, and then follow the on-screen instructions.

Note:

You can change the shared printer's name so that it appears only on the client computer.

With Windows XP or 2000

Follow these steps to set Windows XP or 2000 clients.

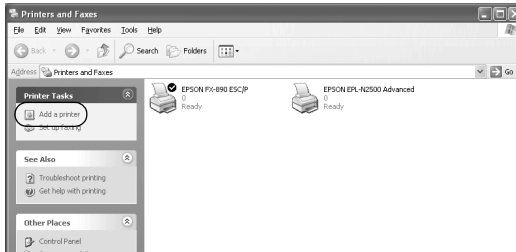
You can install the printer driver of the shared printer, if you have Power Users or more powerful access rights even if you are not the Administrator.

If the printer server's OS is Windows NT 4.0, confirm the following items.

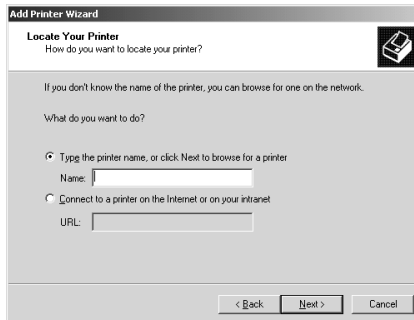
- In a Windows NT 4.0 printer server, the additional driver for Windows XP or 2000 clients is the "Windows NT 4.0 x86" driver which is installed beforehand as the printer driver for Windows NT 4.0. When installing the printer driver in the Windows XP or 2000 clients from Windows NT 4.0 printer server, the driver for Windows NT 4.0 is installed.
 - You can not install the printer driver for Windows XP or 2000 as the additional driver in a Windows NT 4.0 printer server. To install the printer driver for Windows XP or 2000 in Windows XP or 2000 clients, the administrator installs the local printer driver in the clients from the CD-ROM that comes with the printer, then performs the following procedure.
1. For Windows 2000 clients, click Start, point to Settings, and click Printers.
For Windows XP clients, click Start, point to Printers and Faxes. For Windows XP Home edition users, point to Control panel first, then click Printers and Faxes.

2. For Windows 2000, double-click the Add Printer icon, then click Next.

For Windows XP, click the Add a printer in the Printer Tasks menu.



3. Select Network printer (for Windows 2000) or A network printer, or a printer attached to another computer (for Windows XP), then click Next.
4. For Windows 2000, type the name of the shared printer, then click Next.

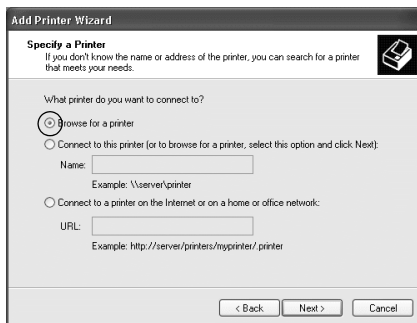


Note:

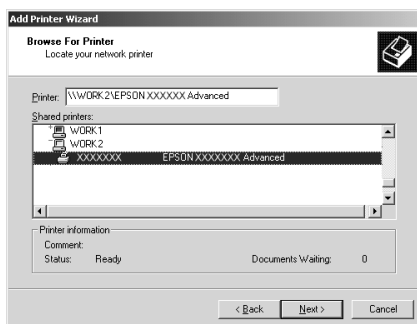
- ❑ You can also type “\\(the name of the computer that is locally connected to the shared printer)\(the shared printer’s name)” in *Network path or queue name*.

- ❑ *You do not necessarily need to type the name of the shared printer.*

For Windows XP, select Browse for a printer.



5. Click the icon of the computer or server that is connected to the shared printer, and the name of the shared printer. Then click OK.



Note:

- ❑ *The name of the shared printer may be changed by the computer or server that is connected to the shared printer. To make sure of the name of the shared printer, ask the administrator of the network.*

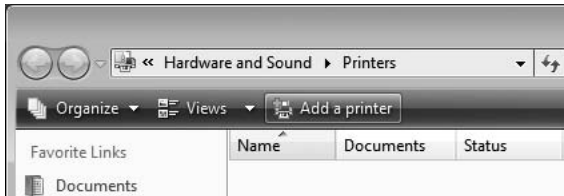
- ❑ *If the printer driver is installed in the client beforehand, you need to select either the new printer driver or the current printer driver. When the prompt to select the printer driver appears, select the printer driver according to the message. If the local printer driver for Windows XP or 2000 is installed beforehand, you can select the printer driver for Windows XP or 2000 as the current printer driver instead of the alternative driver in the Windows NT 4.0 server.*
 - ❑ *Proceed to the next step if the printer server and client have the same OS and the same architecture (x64/x86).*
 - ❑ *If the additional driver is not installed in the Windows NT 4.0 printer server or the printer server's OS is Windows Me, 98, or 95, go to "Installing the printer driver from the CD-ROM" on page 114.*
6. For Windows 2000, select whether to use the printer as the default printer or not, then click OK.
For Windows XP, if another driver is already installed, select whether to use the printer as the default printer or not, then click OK.
 7. Make sure of the settings, then click Finish.



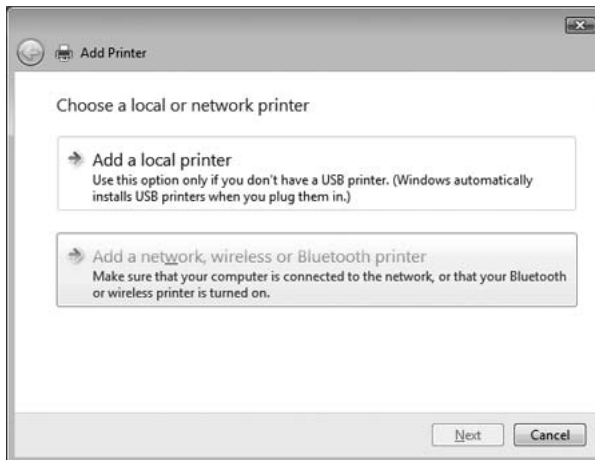
With Windows Vista

Follow these steps to set Windows Vista clients.

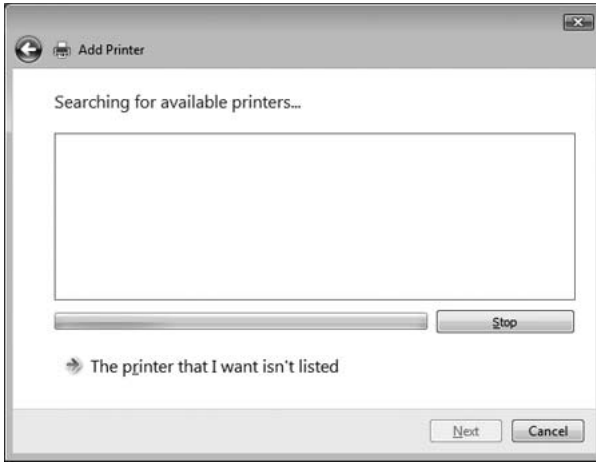
1. Click Start, click Control Panel, click Hardware and Sound, and then click Printers.
2. Click the Add a Printer icon.



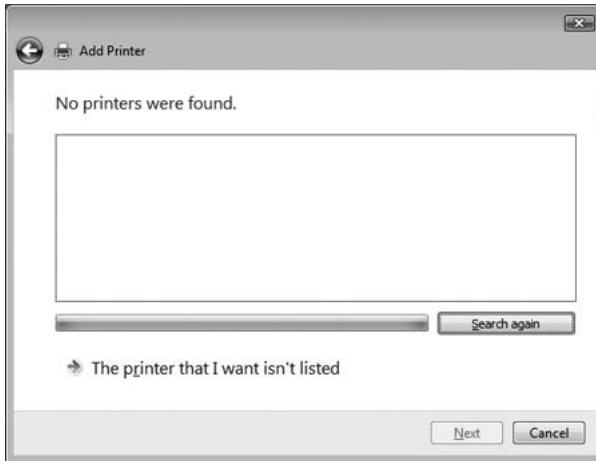
3. Click Add a network, wireless or Bluetooth printer.



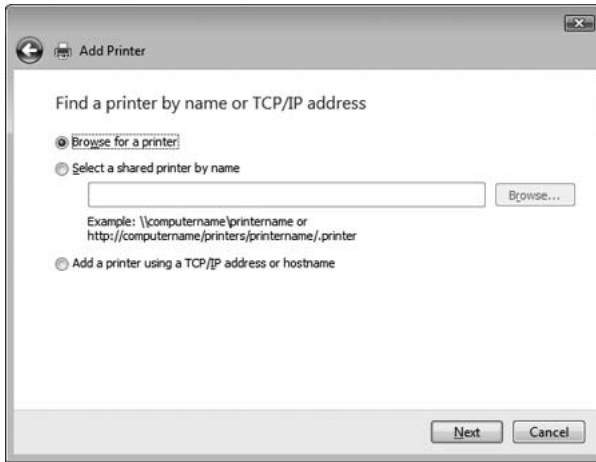
4. A shared printer is automatically searched for.



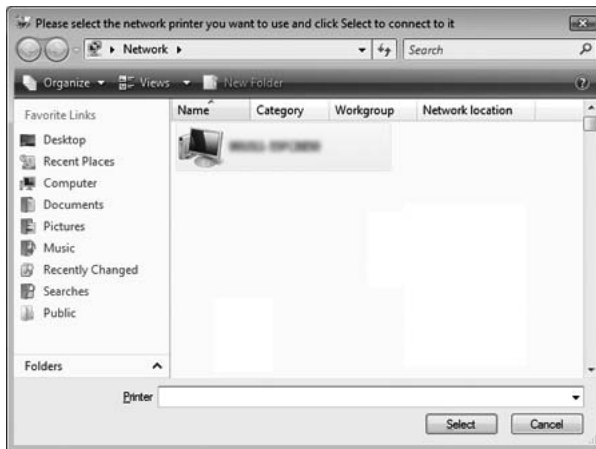
If a shared printer is found, click its icon and click Next.
If no shared printer is found, click the The printer that I want isn't listed button.



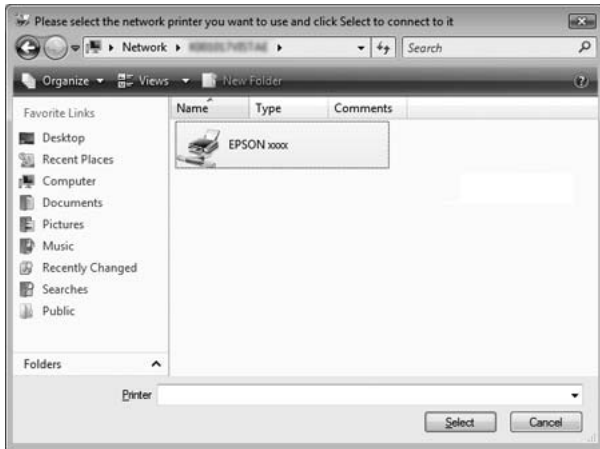
5. Select Browse for a printer and click Next.



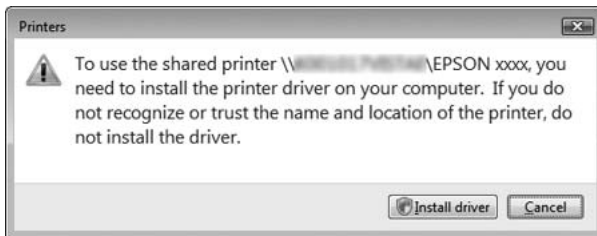
6. A PC icon on your network appears.



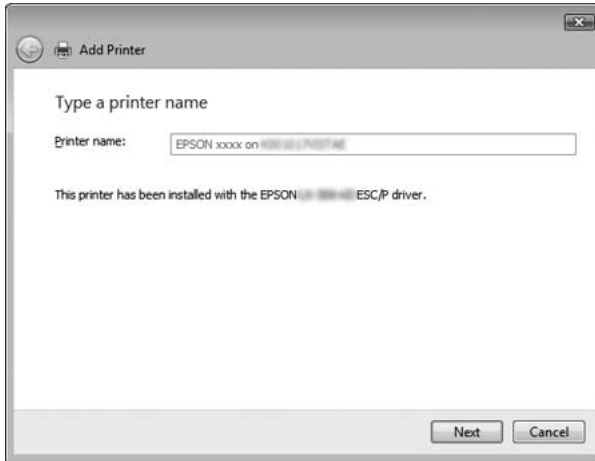
7. Click the PC icon. A shared printer icon appears.



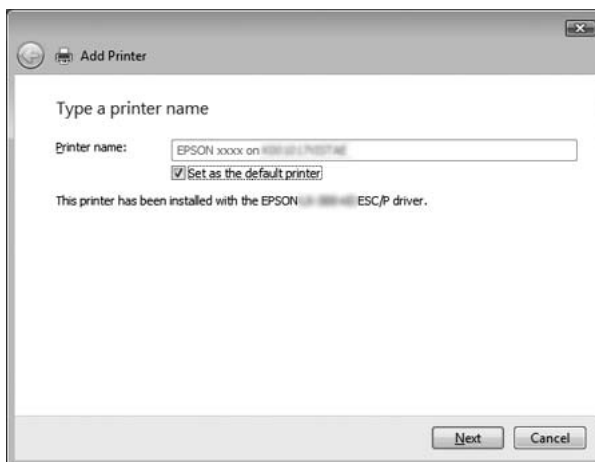
8. Click Install driver.



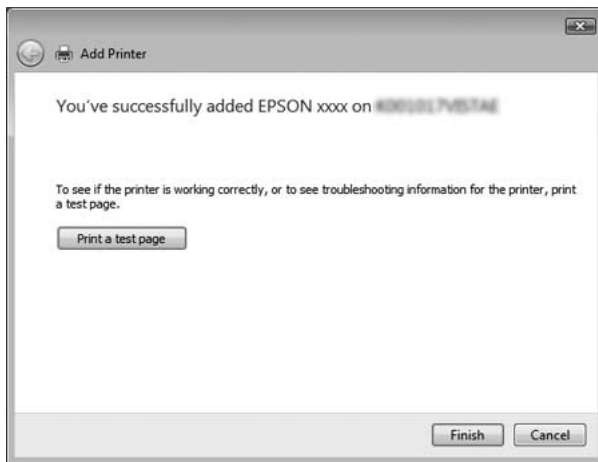
9. Make sure that the appropriate printer driver name is shown, and click Next.



If any other printer driver has already been installed, the **Set as the default printer** checkbox will appear. If you want to set the shown printer as the default printer, select the checkbox and click Next.



10. Click Finish.



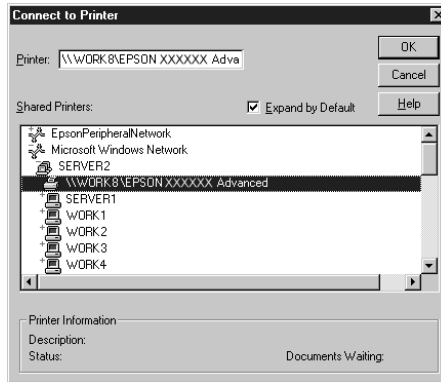
With Windows NT 4.0

Follow these steps to set Windows NT 4.0 clients.

You can install the printer driver of the shared printer, if you have Power Users or more powerful access rights even if you are not the Administrator.

1. Click Start, point to Settings, and click Printers.
2. Double-click the Add Printer icon.
3. Select Network printer server, then click Next.

4. Click the icon of the computer or server that is connected to the shared printer and the name of the shared printer. Then click OK.



Note:

- ❑ You can also type "\\(the name of the computer that is locally connected to the shared printer)\(the shared printer's name)" in Network path or queue name.
- ❑ The name of the shared printer may be changed by the computer or server that is connected to the shared printer. To make sure of the name of the shared printer, ask the administrator of the network.
- ❑ If the printer driver is installed in the client beforehand, you need to select the new printer driver or the current printer driver. When the prompt to select the printer driver appears, select the printer driver according to the message.
- ❑ If the additional driver for Windows NT 4.0 is installed in the Windows Vista, XP or 2000 printer server, go to the next step.

- ❑ *If the additional driver for Windows NT 4.0 is not installed in the Windows Vista, XP or 2000 printer server or the printer server's OS is Windows Me, 98, or 95, go to "Installing the printer driver from the CD-ROM" on page 114.*
5. Select whether to use the printer as the default printer or not, then click OK.
 6. Click Finish.

Installing the printer driver from the CD-ROM

This section describes how to install the printer driver in the clients when setting the network system as follows:

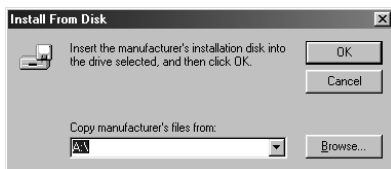
- ❑ The additional drivers are not installed in the Windows Vista, XP, 2000, or NT 4.0 printer server.
- ❑ The printer server's OS is the Windows Me, 98, or 95 and the client's OS is the Windows Vista, XP, or 2000, or NT 4.0.

The on-screen displays on the following pages may differ depending on the version of Windows OS.

Note:

- ❑ *When installing in Windows Vista, XP, 2000, or NT 4.0 clients, you must access Windows Vista, XP, 2000, or NT 4.0 with the Administrator.*
 - ❑ *If the additional drivers are installed or the computers of the server and clients use the same OS and the same architecture, you do not have to install the printer drivers from the CD-ROM.*
1. Access the shared printer and a prompt may appear. Click OK, and then follow the on-screen instructions to install the printer driver from the CD-ROM.

2. Insert the CD-ROM, then the EPSON Installation Program dialog box appears. Cancel the dialog box by clicking Cancel, then type the appropriate drive and folder names in which the printer driver for clients is located, then click OK.



When installing drivers in Windows Vista, XP or 2000, “Digital Signature is not found.” may appear. Click Yes (for Windows 2000) or, Continue Anyway (for Windows XP) or Install this driver software anyway (for Windows Vista), and continue installing.

The folder name differs depending on the OS being used.

Client's OS	Folder Name
Windows Me, 98, or 95	\<Language>\WIN9X
Windows 2000, XP	\<Language>\WIN2000
Windows Vista x86 Edition	\<Language>\WINVISTA
Windows XP Professional x64 Edition, Vista x64 Edition	\<Language>\WINVISTA_XP64
Windows NT 4.0	\<Language>\WINNT40

3. Select the name of the printer, then click OK. Then follow the on-screen instructions.

Note:

- ❑ *If you want to use EPSON Status Monitor 3 for the shared printer, reinstall the printer driver as instructed in “Setting for the clients” after installing the printer driver and EPSON Status Monitor 3 from the CD-ROM. Before printing, be sure to select the printer driver installed in “Setting for the clients”.*

- ❑ *If EPSON Status Monitor 3 is installed with the Windows Firewall feature turned on (recommended), the shared printer may not be able to be monitored. If this occurs, follow the steps below to enable monitoring.*

Canceling Printing

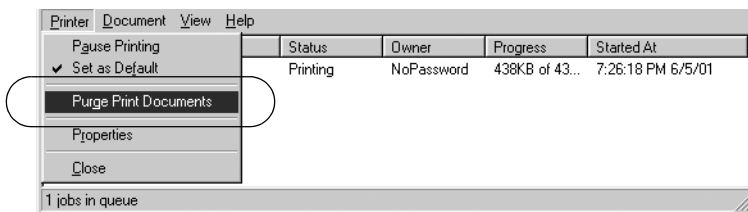
If the printouts are not what you expected and display incorrect or garbled characters or images, you may need to cancel printing. When the printer icon is displayed on the taskbar, follow the instructions below to cancel printing.

1. Double-click the printer icon on the task bar, then click Purge Print Documents on the Printer menu.



2. When canceling all printing documents, select Purge Print Documents (For Windows Me, 98, or 95) or Cancel All Documents (For Windows Vista, XP, 2000, or NT 4.0) on the Printer menu.

When canceling a specified document, select a document you want to cancel and select Cancel Printing (For Windows Me, 98, or 95) or Cancel (For Windows Vista, XP, 2000, or NT 4.0) on the Document menu.



The printing job is canceled.

Uninstalling the Printer Software

When you wish to reinstall or upgrade the printer driver, uninstall the printer driver that has been installed already.

Note:

- When uninstalling EPSON Status Monitor 3 from a multi-user Windows XP/2000 environment, remove the shortcut icon from all clients before uninstalling. You can remove the icon by clearing the Shortcut Icon check box in the Monitoring Preferences dialog box.*

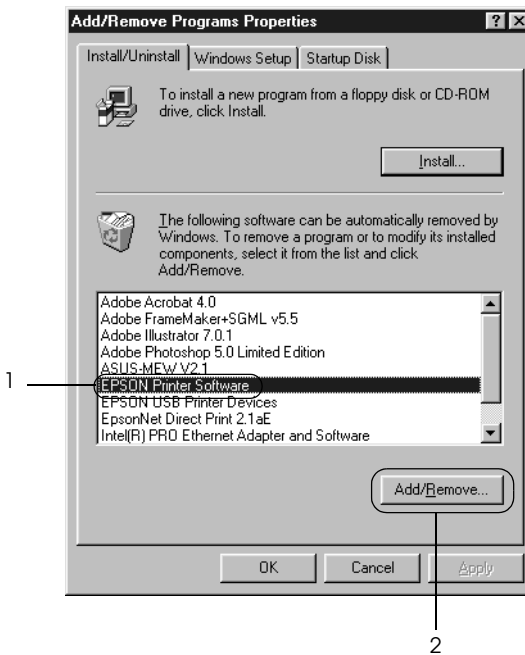
Uninstalling the printer driver and EPSON Status Monitor 3

1. Quit all applications.

2. Click Start, point to Settings, and click Control Panel.
3. Double-click the Add/Remove Programs icon.



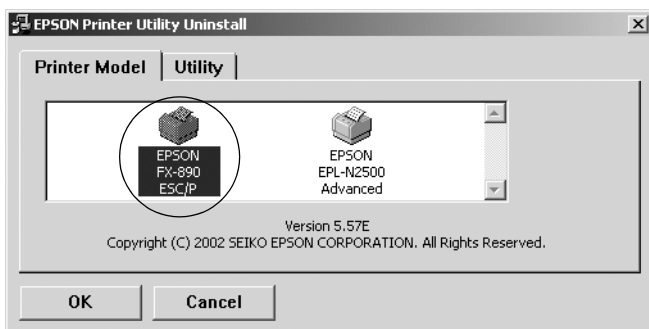
4. Select EPSON Printer Software, and click the Add/Remove.



Note:

When using the Windows XP or Windows 2000 computer, click Change or Remove Programs, select the EPSON Printer Software, then click Change/Remove.

5. Click the Printer Model menu, select the EPSON FX-890 Advanced or EPSON FX-2190 Advanced icon, then click OK.



6. If you uninstall Monitored Printers, click Yes in the displayed dialog box.

Note:

You can uninstall only the Monitored Printers utility of EPSON Status Monitor 3. When the utility is uninstalled, you cannot change the setting of Monitored Printers from EPSON Status Monitor 3.

7. If you uninstall EPSON Status Monitor 3, click Yes in the displayed dialog box.
8. Follow the on-screen instructions.

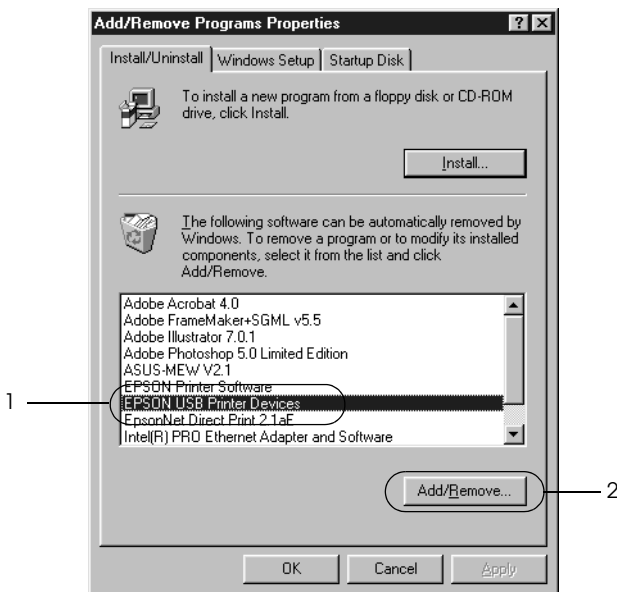
Uninstalling the USB device driver

When you connect the printer to your computer with a USB interface cable, the USB device driver is also installed. When you uninstalled the printer driver, you also need to uninstall the USB device driver.

Follow these steps to uninstall the USB device driver.

Note:

- ❑ *Uninstall the printer driver before uninstalling the USB device driver.*
 - ❑ *Once you uninstalled the USB device driver, you cannot access any other EPSON printers connected with a USB interface cable.*
1. Follow steps 1 through 3 of “Uninstalling the Printer Software” on page 117.
 2. Select EPSON USB Printer Devices, and click Add/Remove.



Note:

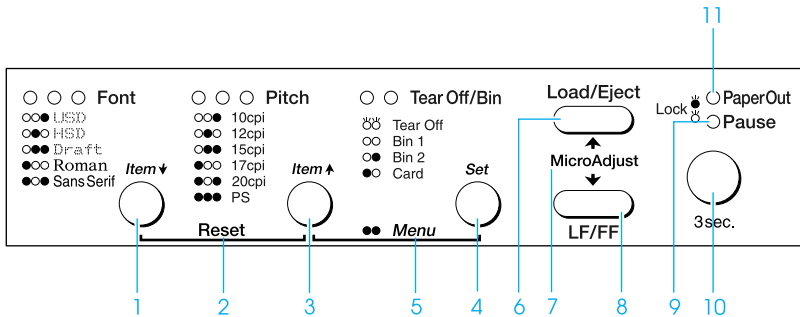
- ❑ *EPSON USB Printer Devices appears only when the printer is connected to Windows Me or 98 with a USB interface cable.*

- ❑ *If the USB device driver is not installed correctly, EPSON USB Printer Devices may not appear. Follow these steps to run the “Epusbun.exe” file in the CD-ROM that comes with your printer.*
 1. Insert the CD-ROM in your computer’s CD-ROM drive.
 2. Access the CD-ROM drive.
 3. Double-click the Win9x folder.
 4. Double-click the Epusbun.exe icon.
3. Follow the on-screen instructions.

To reinstall a printer driver, see the *Setup Sheet*.

Control Panel

Buttons and Lights



1 Font (Item↓) button

- ❑ Selects one of the fonts. To select a font, see “Selecting a Font and Pitch” on page 127.
- ❑ When the printer enters the default setting mode, the button works as an Item↓ button. You can press the Item↓ button to select the next menu. See “Changing default settings” on page 136.

Font lights

Indicate which font is selected.

2 Reset

When you press both the Font and Pitch buttons simultaneously, the printer clears buffer and returns to its default settings.

3 Pitch (Item▲) button

- Selects one of the pitch settings. To select a pitch, see “Selecting a Font and Pitch” on page 127.
- When the printer enters the default setting mode, the button works as an Item▲ button. You can press the Item▲ button to select the previous menu.

Pitch lights

Indicate which pitch is selected.

Tear Off/Bin (Set) 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.
- ❑ When the printer enters the default setting mode, the button works as the Set button. You can press the Set button to select the next value of a setting menu.

Tear Off/Bin lights

- ❑ Both of the two lights flash when continuous paper is in the tear-off position, and both of the lights are off when continuous paper is not in the tear-off position.
- ❑ The left light is on when Card mode is selected.
- ❑ Both the lights are off when bin 1 of the optional cut-sheet feeder is selected.
- ❑ The right light is on when bin 2 of the optional cut-sheet feeder is selected.

5 Menu

- ❑ When you press the Pitch and Tear Off/Bin buttons at the same time, the printer enters or exits the default setting mode and you can set the various printer settings. See “About Your Printer’s Default Settings” on page 129.
- ❑ When the printer is in the default setting mode, the Menu lights (both the Tear Off/Bin lights) stay on.

6 Load/Eject button

- ❑ Loads a single sheet of paper.
- ❑ Ejects a single sheet of paper if a sheet is loaded.
- ❑ Loads continuous paper from the standby position.
- ❑ Feeds continuous paper backward to the standby position if a sheet is loaded.

7 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 67.

8 LF/FF button

- ❑ Feeds paper line by line when pressing shortly.
- ❑ Ejects a single sheet or advances continuous paper to the next top-of-form position when held down.

- 9 Pause light
- On when the printer is paused.
 - Flashes when the printer is in the Micro Adjust mode.
- 10 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.
- 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

You can select one of the printer's five fonts and pitch by using the buttons on the printer's control panel, as described below.

Note:

- Settings you make in application programs usually override settings you make from the printer's control panel. For best results, use your application to select a font and make other settings.*

- *The available pitch depends on the font you select. See the table below for more information.*

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. If it is, press the **Pause** button to stop printing.
2. Press the **Font** button until the three Font lights indicate the desired font as shown below.

○ ○ ●	USD
○ ● ○	HSD
○ ● ●	Draft
● ○ ○	Roman
● ○ ●	Sans Serif

●=On, ○=Off

3. Press the **Pitch** button until the Three Pitch lights indicate the desired pitch as shown below.

○ ○ ●	10 cpi
○ ● ○	12 cpi
○ ● ●	15 cpi
● ○ ○	17 cpi
● ○ ●	20 cpi
● ● ●	PS

●=On, ○=Off

4. ● ● ● Make sure that the desired font and pitch are selected.

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.

For a detailed description of the settings you can change in the default-setting mode, see "Understanding default settings" on page 129. For instructions on changing the settings, see "Changing default settings" on page 136.

Understanding default settings

This section describes the settings and options available in the default-setting mode. These settings are shown in the following table and explained in detail after the table.

To access and change a setting, see “Changing default settings” on page 136.

Default-setting mode

Menu	Values (default in bold)
Print the current settings*	Execute
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 line feed	Off , On
Print direction	Bi-D , Uni-D
Software	ESC/P , IBM PPDS
0 slash	0 , ∅ (the zero character with a slash)
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	Auto , Off
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, ISO8859-15 All other models: Italic, PC 437 , PC 850, PC 437 Greek, PC 853, PC855, PC 852, PC 857, PC 866, PC 869, MOZOWIA, Code MJK, ISO 8859-7, ISO Latin 1T, Bulgaria, PC 774, Estonia, ISO 8859-2, PC 866 LAT., PC 866 UKR, PC APTEC, PC708, PC720, PC AR864, PC 860, PC 865, PC 861, PC 863, BRASCII, Abicomp, Roman 8, ISO Latin 1, PC858, ISO8859-15, PC771, PC437 Slovenia, PC MC, PC1250, PC1251
International character set for italic table**	Italic U.S.A. , Italic France, Italic Germany, Italic U.K., Italic Denmark 1, Italic Sweden, Italic Italy, Italic Spain 1

Menu	Values (default in bold)
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 , Table1

* After this is printed, press the Set (Tear Off/Bin) button to print all current settings.

** The options available for this setting vary depending on the country.

***This setting is 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 automatically advances the paper perforation to the tear-off position, where you can easily tear off the printed page(s). When the printer receives data again, it automatically 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 “Using the Tear-off Function” on page 52 for more information.

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

When you select ESC/P, the printer operates in the EPSON ESC/P mode. When you select IBM PPDS, the printer emulates 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 provides a slot for an optional interface in addition to its built-in parallel interface and USB interface. 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, and uses that interface until the end of the print job. The Auto setting allows you to 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 the 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 for the auto interface wait time.

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 to select AUTO when you print from Windows applications using the printer driver included in the Printer Software CD-ROM that comes with the printer. Turn this feature off if you have connection troubles while printing from applications based on other operating systems such as DOS.

Character table

You can select among various character tables. This setting is used when you print without using the printer driver.

When using the printer driver, change the settings on the printer driver. For details, see “Printer Driver Settings Overview” on page 84.

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

This setting allows you to set the amount of wait time between when paper is inserted into the paper guide and it is fed. If the paper feeds before you can adjust its position properly, you should increase the wait time.

Buzzer

The printer beeps when an error occurs. See “Using the error indicators” on page 144 for more information on printer errors. If you do not 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.

Changing default settings

The following table shows the basic function of each button in the default setting mode.

Button	Basic function
Menu (Pitch and Tear Off/Bin) buttons	Enters or exits the default setting mode.
Item▼ button	Selects the next menu parameter.
Item▲ button	Selects the previous menu parameter.
Set button	Changes the value in the selected menu.

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

Note:

- ❑ *Before entering the default-setting mode, you need to load A4 or letter size single-sheet paper or continuous paper that is at least 210 mm (8.3 inches) wide. See "Loading Continuous Paper" on page 22 and "Loading Single Sheets" on page 54 for instructions on loading continuous paper and single sheets.*
- ❑ *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.*

- ❑ *For your safety, EPSON recommends operating the printer with the printer cover closed. The printer will function with the printer cover open or removed, but maximum safety and print speed are achieved when the cover is closed.*
 - ❑ *If you turn off the printer prior to exiting default-setting mode, any changes you may have made are canceled and not saved.*
1. Make sure paper is loaded.
 2. Press the Menu (Pitch and Tear Off/Bin) buttons until the printer beep once and the Menu lights (both the Tear Off/Bin lights) turn on.

The printer enters the default-setting mode and prints a message prompting you to select the language for the default-setting menu. The language which is underlined indicates the current setting.

3. If the language you want is not selected, press the Item▼ (Font) button until the printout indicates the language you want.

Note:

You cannot change the language by the Item▲ (Pitch) button.

4. Press the Set (Tear Off/Bin) button to select the desired language.

The printer prints a message asking if you wish to print all of the current settings.

Note:

The language you select is also effective when you are entering the lock-out setting mode or bidirectional adjustment mode.

5. If you want to print the current settings, press the Set button. If you want to bypass printing of the current settings, press the Item▼ button or the Item▲ button.

The printer prints the first menu and the current value of the menu.

6. Press the **Item**↓ button or the **Item**↑ button to select the menu parameters which you wish to change. Press the **Set** button to scroll through the values within the selected parameter until you find the desired setting. After setting the selected parameter to the desired setting, you may either continue to make changes to other parameters by pressing the **Item**↓ button or the **Item**↑ button, or exit the default-setting mode by pressing the **Menu (Pitch and Tear Off/Bin)** buttons.

Note:

*You cannot change the setting value to the previous item. You have to press the **Set** button until the value you want is selected.*

7. When you finish making settings, press the **Menu (Pitch and Tear Off/Bin)** buttons.

The **Menu** lights (both of the **Tear Off/Bin** lights) turn off and the printer exits the default-setting mode.

The settings you made is saved as new default value.

Note:

If you turn off the printer prior to exiting default-setting mode, any changes you may have made are canceled and not saved.

Lock-Out Mode

You can restrict the use of buttons on the control panel by using the lock-out mode. In the basic setting, you can only use the **Pause**, **Load/Eject** and **Tear Off/Bin** buttons, when the lock-out mode is on.

Turning on or off the lock-out mode

You can turn on or off the lock-out mode easily by using buttons on the control panel.

Follow these steps to turn on the lock-out mode:

1. Make sure the printer is turned off.



Caution:

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

2. Turn on the printer while holding down both 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 when the locked buttons are pushed.

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

See “Changing the lock-out mode setting” on page 139 for instructions on how to change the functions to be locked.

Changing the lock-out mode setting

The following table shows the basic function of each button in the lock-out setting mode.

Button	Basic function
Item▼ button	Selects the next menu parameter.
Item▲ button	Selects the previous menu parameter.

Button	Basic function
Set button	Changes the value in the selected menu.

You can select the printer functions to be locked while the lock-out mode is on according to your needs.

Note:

- ❑ *Before entering the lock-out setting mode, you need to load A4 or letter size single-sheet paper or continuous paper that is at least 210 mm (8.3 inches) wide. See “Loading Continuous Paper” on page 22 and “Loading Single Sheets” on page 54 for instructions on loading continuous paper and single sheets.*
- ❑ *The setting instructions are printed in the language that you set in the default-setting mode. If you want to change the language of the setting instructions, change the language setting by changing the default setting. See “Changing default settings” on page 136 for instructions on changing the default setting.*
- ❑ *For your safety, EPSON recommends operating the printer with the printer cover closed. The printer will function with the printer cover open or removed, but maximum safety and print speed are achieved when the cover is closed.*

Follow these steps to change the lock-out mode setting:

1. Make sure paper is loaded and the printer is turned off.



Caution:

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

2. Turn on the printer while holding down both the LF/FF and Pause buttons.

The printer beeps and enters the lock-out setting mode and prints a message asking if you wish to print all of the current settings.

3. If you want to print the current settings, press the **Set** button. If you want to bypass printing of the current settings, press the **Item**↓ button or the **Item**↑ button.

The printer prints the first menu and the current value of the menu.

4. Press the **Item**↓ button or the **Item**↑ button to select the menu parameters which you wish to change. Press the **Set** button to scroll through the values within the selected parameter until you find the desired setting. After setting the selected parameter to the desired setting, you may continue to make changes to other parameters by pressing the **Item**↓ button or the **Item**↑ button.
5. Turn off the printer and exit the lock-out setting mode.

Note:

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

See “Turning on or off the lock-out mode” on page 139 for instructions on how to turn the lock-out mode on after you change the lock-out mode setting.

Diagnosing the Problem

For problems that may be related to USB connections, see “Correcting USB Problems” on page 162 for details.

If your problem is not USB related, troubleshooting printer problems is best handled in two easy steps; first diagnose the problem, then apply likely solutions until the problem is fixed.

The information that you need to diagnose and solve most common problems is provided by the printer’s control panel, EPSON Status Monitor 3, or by printing a self test or Hex Dump. Refer to the appropriate section below.

If you have a specific problem relating to print quality, a printout problem not related to print quality, or a paper feeding problem, or if the printer does not print at all, refer to the appropriate section in this chapter.

To solve a problem, you may need to cancel printing. For details, see “Canceling Printing” on page 116.

Using the error indicators

You can identify many common printer problems using the lights on the control panel. 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 using this table, see “Problems and Solutions” on page 149.

State of panel lights	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 “Loading Continuous Paper” on page 22 or “Loading Single Sheets” on page 54 for instructions on loading the type of paper you want to use.
● 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.

State of panel lights	Beep pattern	Problem
		Solution
○ 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.
	●●●	Paper is jammed in the printer.
		To clear the paper jam, see "Clearing Paper Jams" on page 166.
○ Pause	—	The print head is overheated.
		Wait for a few minutes; the printer resumes printing automatically once the print head cools.
○ Paper Out ○ Pause ○ Tear Off/Bin ○ ○ Font ○ ○ Pitch	●●●●●	An unknown 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, ○ = off, ○ = flashing

●●● = short series of beeps (three beeps), ●●●●● = long series of beeps (five beeps)

Note:

The printer beeps once if you press a control panel button when the corresponding function is not available.

EPSON Status Monitor 3

EPSON Status Monitor 3 provides status messages and a graphic display showing the current status of the printer.

If a problem occurs while printing, an error message appears in the Progress Meter window.

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 149 for possible causes and solutions to the problem.

You can print the self test using either single sheets or continuous paper. See "Loading Continuous Paper" on page 22 for instructions on loading continuous paper, or "Loading Single Sheets" on page 54 for instructions on loading single sheets.

Note:

Use paper of at least the following width:

Paper type	FX-890	FX-2190
Continuous paper	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.

**Caution:**

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

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 Hex Dump

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. See “Loading Continuous Paper” on page 22 or “Loading Single Sheets” on page 54 for instructions on how to load paper.

Note:

- ❑ *The Hex Dump feature is designed for use with DOS-based PC.*
- ❑ *Use paper that is at least 210 mm (8.3 inches) wide, such as A4 or letter size paper.*

Follow these steps to print a hex dump:

1. Make sure paper is loaded and the printer is turned off.



Caution:

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

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.

```
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.

Problems and Solutions

Most problems you may encounter while operating your printer have simple solutions. Use the information in this section to find the source 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 150

“Paper loading or feeding problems” on page 151

“Printing position problems” on page 153

“Printing or printout quality problems” on page 156

“Network problems” on page 161

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 146 for instructions on printing a self test. To pinpoint communication problems, experienced users may want to use the printer’s hex dump mode described in “Printing Hex Dump” on page 147.

To clear a paper jam, see “Clearing Paper Jams” on page 166.

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 65 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 “Loading Single Sheets” on page 54 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 “Adjusting the Paper-Thickness Lever” on page 20 for instructions.
Paper is creased, old, too thin, or too thick.	See “Paper” on page 221 for information on paper specifications and 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 in "Paper" on page 221. 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 "Installing the cut-sheet feeder" on page 179.
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 "Cut-Sheet Feeder" on page 178 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 19 for instructions.

Single-sheet paper is in the paper path.	Press the Load/Eject button to eject the sheet.
Continuous paper is not loaded properly.	See “Loading Continuous Paper” on page 22 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. See “Adjusting the Paper-Thickness Lever” on page 20 for instructions.

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 "Changing default settings" on page 136.

The top margin or top-of-form position setting is incorrect.

Check and adjust the margin or top-of-form position settings in your application software. See the printable area specifications in "Recommended Printable Area" on page 227.

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 69.

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 69.



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 top-of-form position” on page 69.
<hr/> ! Caution: <i>Never use the knob to adjust the tear-off position; this may damage the printer or cause it to lose the tear-off position.</i>	
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 top-of-form position” on page 69.
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 “Changing default settings” on page 136.

Printing or printout quality problems

The printer is on but it doesn't print.

Cause

What to do

The interface cable is broken or twisted.

Check that the interface cable is not broken or twisted. If you have another interface cable, replace the cable and check whether the printer works correctly.

The printer is not connected directly to your computer.

When you use a printer changer, printer buffer, or an extension cable, the printer does not print correctly due to the combination of these devices. Make sure that the printer works correctly when it is connected to your computer without these devices.

The printer driver is not installed correctly.

Check that the printer driver is installed properly. If necessary, reinstall the printer driver.

Paper is jammed or the ribbon or guard mechanism is stuck.

Turn the printer off, open the printer cover and remove the jammed paper or things that are stuck.

The USB setting is incorrect.

Confirm the USB setting is correct. See "Correcting USB Problems" on page 162 for details.

The printer is hung-up (stopping in abnormal situations).

Turn the printer off and wait for a while. Then, turn the printer on again, and start printing.

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 in "Printing a Self Test" on page 146.
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 "Electronic" on page 218 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 in the <i>Setup Sheet</i> .

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 Lever" on page 20 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 in the section under "Replacing the ribbon cartridge" on page 171.

The printer does not load single sheets of paper or does not feed paper properly. (Two or more sheets of paper are fed at the same time.)

Cause	What to do
The paper is stuck together with static electricity.	Fan the paper well before you use it.

The printout is pale.

Cause	What to do
The printing speed is set to Ultra high speed draft (USD).	Change the printing speed setting as described in “Selecting a Font and Pitch” on page 127.
The ribbon is worn out.	Replace the ribbon cartridge as described in “Replacing the ribbon cartridge” on page 171.

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 Lever” on page 20 for instructions.
The ribbon is worn out.	Replace the ribbon cartridge as described in “Replacing the ribbon cartridge” on page 171.

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

Cause	What to do
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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 in “Replacing the ribbon cartridge” on page 171.
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The ribbon is worn out.	Replace the ribbon cartridge as described in “Replacing the ribbon cartridge” on page 171.
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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
No line feed command is 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 “Changing default settings” on page 136.

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 136.
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 that you use the correct interface cable and that the communications protocol is correct. See "Electronic" on page 218 and your computer documentation.
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 in the <i>Setup Sheet</i> .

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.
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Cause	What to do
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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 166.
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Network problems

The printer does not print when using a network.

Cause	What to do
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The network setting is wrong.

Check whether or not print jobs from other computers are being printed through the network.

When the print job is executed, the printer or your computer may have a problem. Check the connection between the printer and your computer, settings on the printer driver, and settings of your computer.

When the print job is not executed, network settings may be incorrect. Ask your network administrator for help.

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, 98, Vista, XP, or 2000 pre-installed model

Your computer must be a Windows Me, 98, Vista, XP, or 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, XP, or 2000.

For details about your computer, contact your dealer.

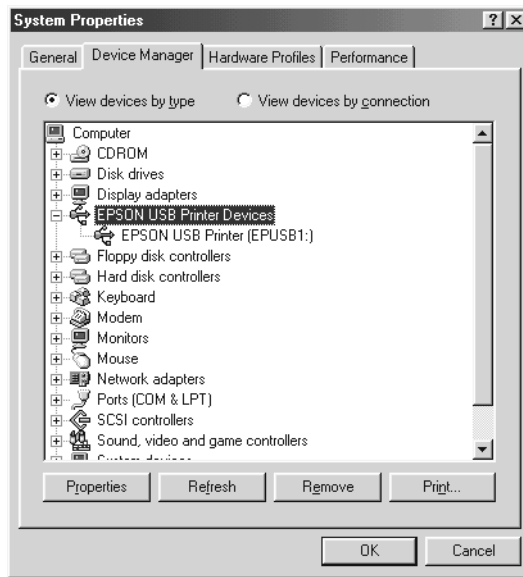
Make sure that EPSON USB Printer Devices appears on the Device Manager menu (for Windows Me and 98 only)

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.



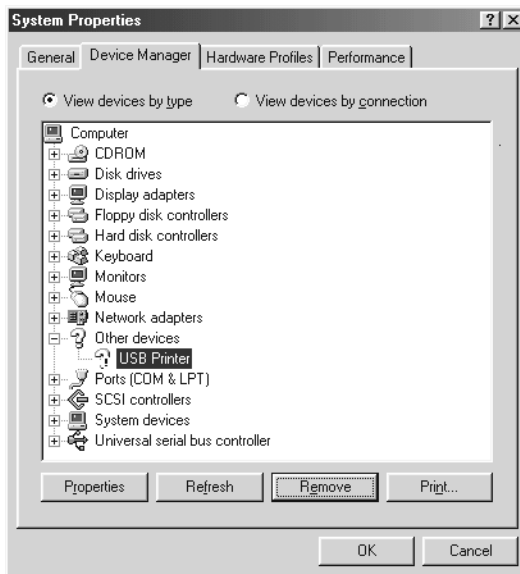
If EPSON USB Printer Devices does not appear on the Device Manager menu, click the plus (+) sign beside Other devices to view the installed devices.



If USB Printer appears under Other devices, the USB printer device driver is not installed correctly. If EPSON FX-890 (for the FX-890 users) or EPSON FX-2190 (for the FX-2190 users) appears, the printer driver is not installed correctly.

If USB Printer, or EPSON FX-890 (for the FX-890 users) or EPSON FX-2190 (for the FX-2190 users) does not appear 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-890(for the FX-890 users) or EPSON FX-2190 (for the FX-2190 users) and click Remove. Then, click OK.



5. When the following dialog box appears, 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 in the *Setup Sheet*.


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 in the *Setup Sheet*. 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. The printer is off when the power switch is pressed down to the  side.
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). As described below, you select the best alignment pattern from each sheet.

Note:

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

Paper type	FX-890	FX-2190
Continuous paper	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.*
- ❑ *The setting instructions are printed in the language that you set in the default-setting mode. If you want to change the language of the setting instructions, change the language setting by changing the default setting. See “Changing default settings” on page 136 for instructions on changing the default setting.*

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 and save your selection by pressing the Tear Off/Bin button, turn off the printer and exit the bidirectional adjustment mode.

Canceling Printing

If you encounter problems while printing, you may need to cancel printing.

You can cancel printing from your computer by using the printer driver, or from the printer's control panel.

Using the printer driver

To cancel a print job before it is sent from your computer, see "Canceling Printing" on page 116.

Using the printer's control panel

Pressing the Font and Pitch buttons at the same time stops printing, clears the print job being received from the active interface, and clears errors that may have occurred at the interface.

Note:

This operation also returns the printer's settings to defaults. When you do not want to change settings to defaults, cancel printing by using the printer driver.

Contacting Customer Support

If your EPSON product is not operating properly and you cannot solve the problem using the troubleshooting information in your product documentation, contact customer support services for assistance. Check your Pan-European Warranty Document for information on how to contact EPSON Customer support. They will be able to help you much more quickly if you give them the following information:

- Product serial number
(The serial number label is usually on the back of the product.)
- Product model
- Product software version
(Click About, Version Info, or similar button in the product software.)
- Brand and model of your computer
- Your computer operating system name and version
- Names and versions of the software applications you normally use with your product

Technical Support Web Site

Go to <http://www.epson.com> and select the Support section of your local EPSON web site for the latest drivers, FAQs, manuals and other downloadables.

Epson's Technical Support Web Site provides help with problems that cannot be solved using the troubleshooting information in your printer documentation.

Ribbon Cartridge

Genuine EPSON ribbon cartridge

When printing becomes faint, you need to replace the ribbon cartridge. Genuine EPSON ribbon cartridges are designed and manufactured to work properly with your EPSON printer. They ensure proper operation and long life of the print head and other printer parts.

Your printer uses the following ribbon cartridge:

EPSON black ribbon cartridge

FX-890: S015329

FX-2190: S015327

Replacing the ribbon cartridge

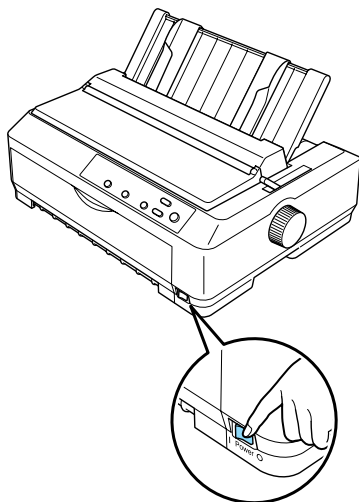
Follow these steps to replace the ribbon cartridge:



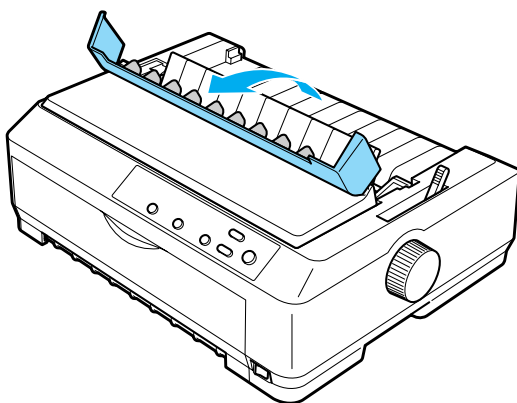
Warning:

You need to move the print head by hand to replace 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.

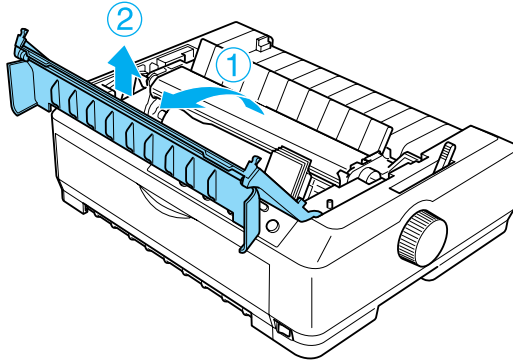
1. Make sure the printer is turned off. The printer is off when the power switch is pressed down to the \circ side.



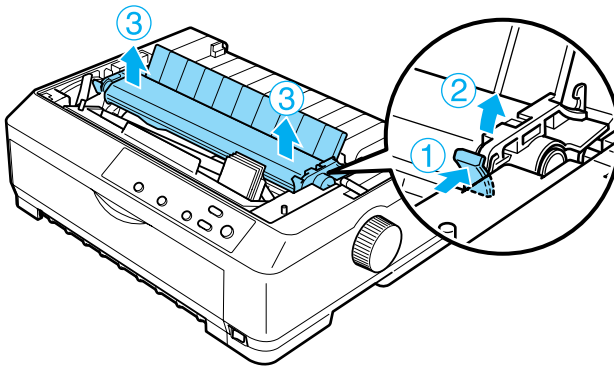
2. If the printer is connected to an electrical outlet, unplug it from the outlet.
3. Open the paper guide cover by pulling its back edge toward.



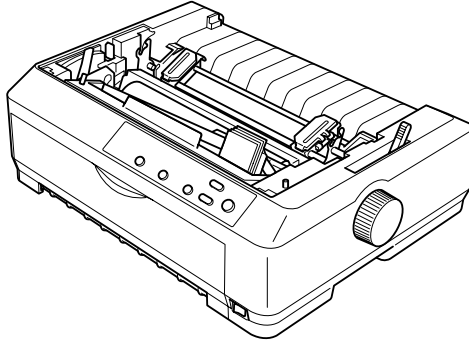
4. Open the printer cover to the upright position, then pull it up to remove it.



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



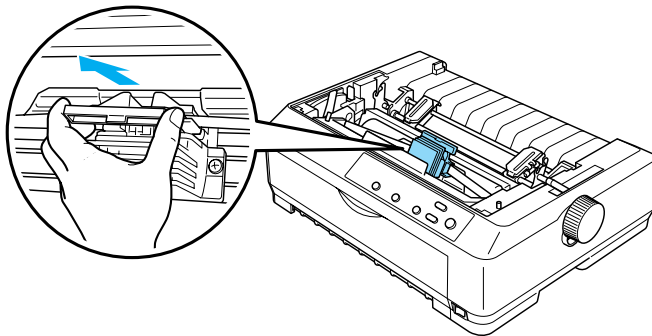
6. Make sure that the print head is not hot; if it is, let it cool for a few minutes before touching it. Then slide the print head to the middle of the printer by hand.



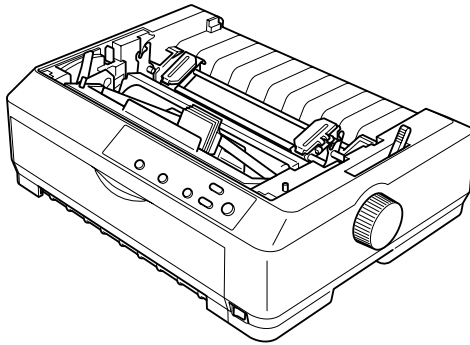
Caution:

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

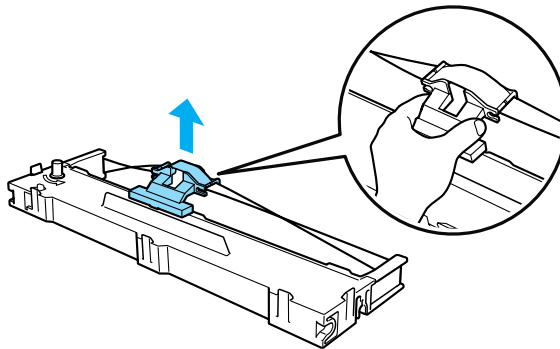
7. Grasp the ribbon guide and pull it until it is out of the print head.



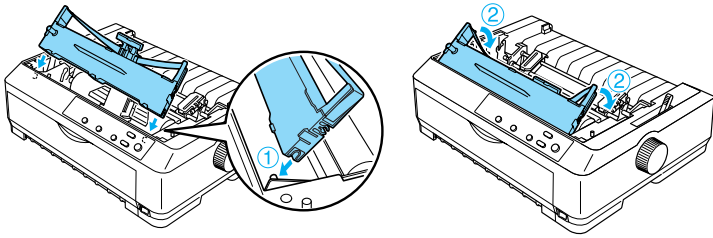
8. Grasp the used cartridge by its handle and pull it up and out of the printer.



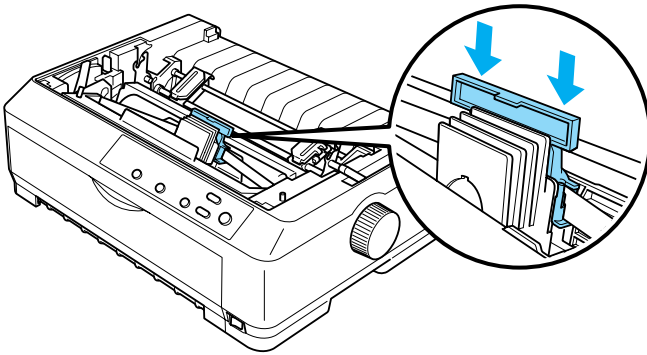
9. Hold both sides of the ribbon guide and pull it until it is out of the cartridge.



10. Insert the ribbon cartridge into the printer at an angle as shown below, then press firmly on both sides of the cartridge to fit the plastic hooks into the slots on the printer.



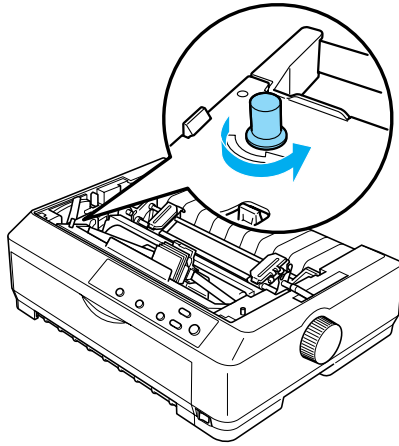
11. Slide the ribbon guide into the print head until it clicks in place.



Caution:

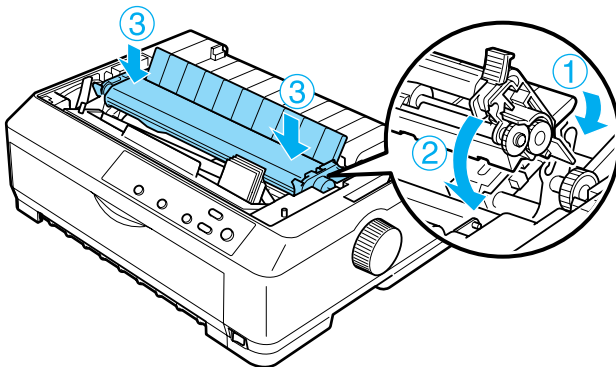
When inserting the ribbon guide, press firmly until it clicks.

12. Turn the ribbon-tightening knob to help feed the ribbon into place.



Caution: The ribbon should not be twisted or creased.

13. Reinstall the paper tension unit by lowering it onto the printer's mounting pegs. Then press down on both ends of the unit until it clicks into place.





Caution:

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

To install the single-bin, high-capacity, or double-bin cut-sheet feeder, see “Installing the cut-sheet feeder” on page 179.

However, you must assemble the double-bin cut-sheet feeder before installing it. To load paper in a bin, see “Loading paper in the single-bin cut-sheet feeder” on page 182, or “Loading paper in the high-capacity cut-sheet feeder” on page 187.

Note:

You cannot install and use the optional cut-sheet feeders when the tractor unit is installed in the pull position. See “Removing the tractor from the pull position” on page 47 for instructions on removing the tractor from the pull position.

Installing the cut-sheet feeder

The installation procedure is the same for the single-bin, high-capacity, and double-bin cut-sheet feeders.

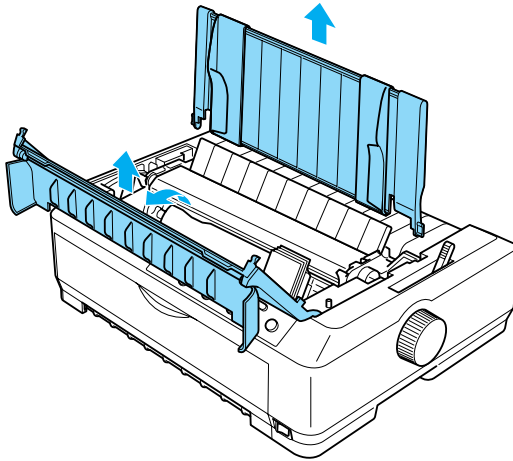
Follow these steps to install the cut-sheet feeder:

Note:

Before you install the double-bin cut-sheet feeder, you need to assemble it. See “Assembling the double-bin cut-sheet feeder” on page 192 for instructions.

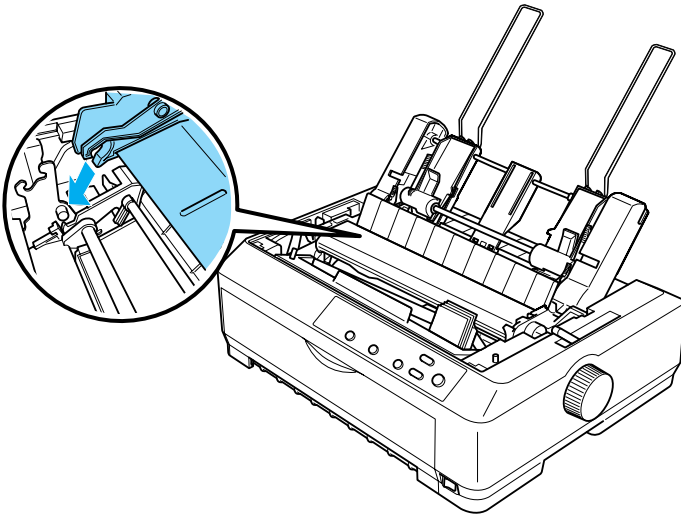
1. Make sure the printer is turned off. Then open the paper guide cover by pulling its back edge toward.

2. Remove the paper guide by moving it to the upright position and pulling it straight up. Lift the printer cover by its back edge and then pull it straight up and off the printer.

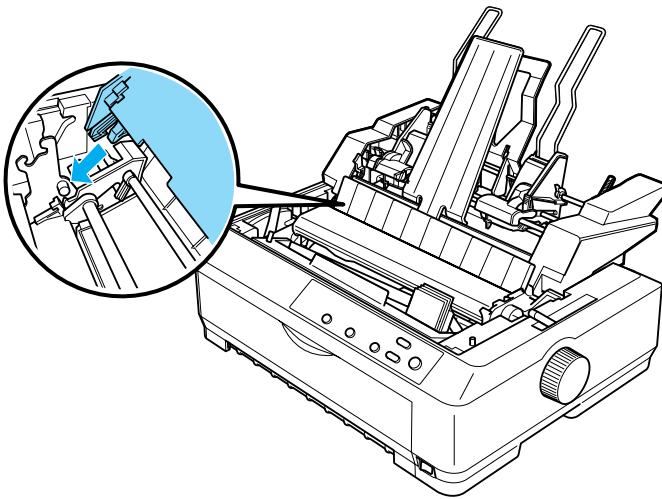


3. Holding the cut-sheet feeder in both hands, press down on the latch levers and fit the notches over the printer's mounting posts, as shown below. Release the latch levers to lock the feeder in place. If you are installing the high-capacity or double-bin cut-sheet feeder, see the following illustration.

single-bin cut-sheet feeder



high-capacity cut-sheet feeder



4. To replace the printer cover, first insert the front tabs into the slots on the printer, then lower the cover into place.

If you installed the double-bin cut-sheet feeder, you need to select your paper path (bin 1 or bin 2). See “Selecting the paper path (bin 1 or bin 2)” on page 194 for more information.

You are now ready to load paper in your single-bin, high-capacity, or double-bin cut-sheet feeder. For instructions, see “Loading paper in the single-bin cut-sheet feeder” on page 182 or “Loading paper in the high-capacity cut-sheet feeder” on page 187.

Loading paper in the single-bin cut-sheet feeder

The single-bin cut-sheet feeder holds up to 50 sheets of paper. When it is installed, you still can use the paper guide to load single sheets and envelopes one at a time.

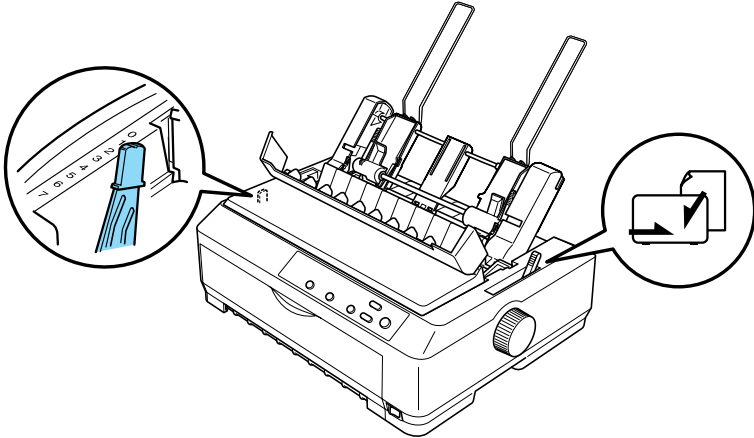
Follow these steps to load paper in the single-bin cut-sheet feeder:



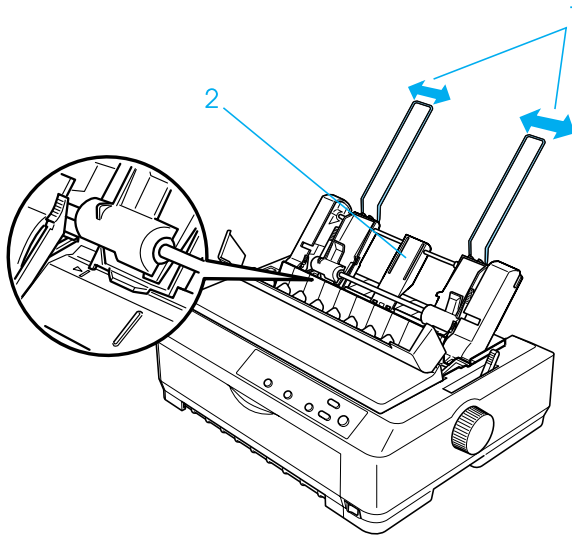
Caution:

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

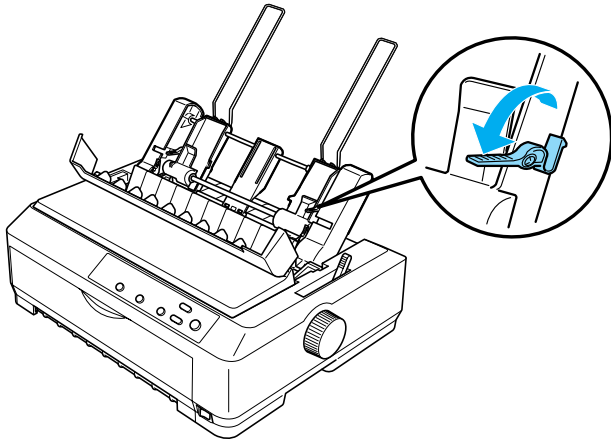
1. Make sure the paper guide is removed, and set the paper release lever to the single-sheet position. Also make sure the paper-thickness lever (located under the printer cover) is set to 0 and the paper guide cover is open.



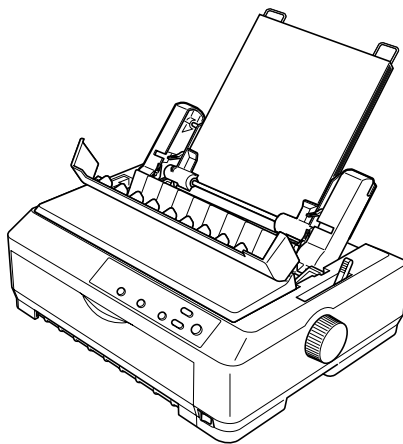
2. Slide the left paper guide of the cut-sheet feeder so it is aligned with the triangle mark. Next, slide the right paper guide to roughly match the width of your paper. Slide the paper support midway between the paper guides.



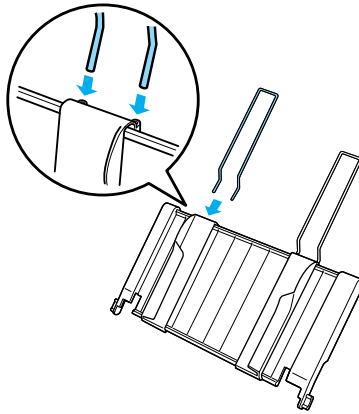
3. Pull both paper set levers forward until the paper guides retract and lock open to allow paper loading.



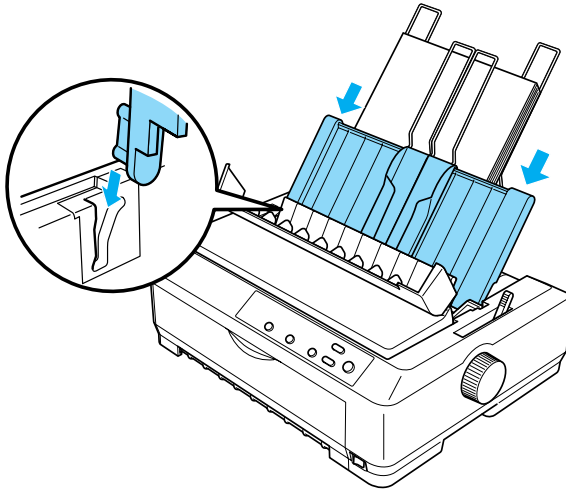
4. Take a stack of paper (up to 50 sheets) and fan it. Next, tap the side and bottom edges of the paper on a flat surface to even up the stack.
5. Insert the paper stack printable side down along the left paper guide.



6. 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.
7. Push back the paper set levers to clamp the paper against the guide rollers.
8. Attach the stacker-support wires to the paper guide as shown below, if necessary.



9. 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 “Adjusting the top-of-form position” on page 69.

Loading paper in the high-capacity cut-sheet feeder

The high-capacity cut-sheet feeder holds up to 150 sheets of paper or up to 25 envelopes.

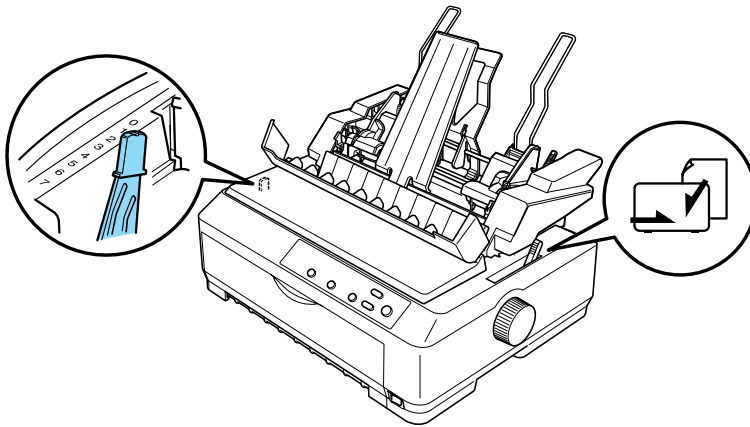
Follow these steps to load paper in the high-capacity cut-sheet feeder:



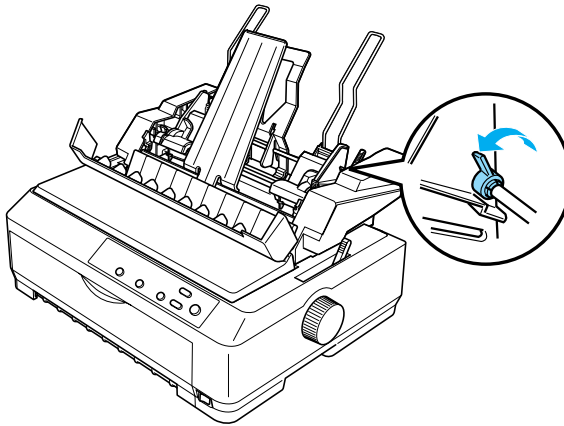
Caution:

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

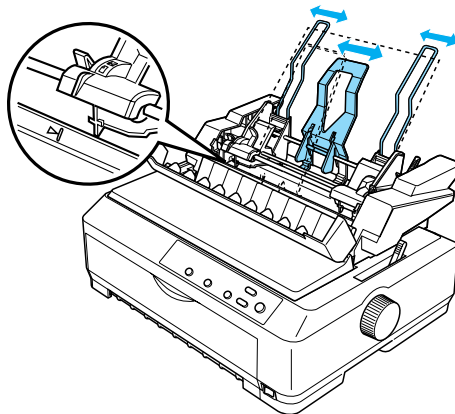
1. Set the paper release lever to the single-sheet position. Also make sure the paper-thickness lever (located under the printer cover) is set to 0 if you are using ordinary single-sheet paper. (If you are using envelopes, see “Envelopes” on page 62 for instructions on setting the paper-thickness lever.) Then open the paper guide cover.



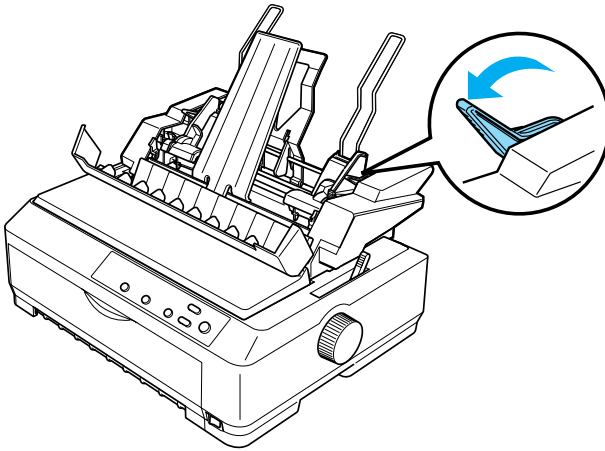
2. Pull the lock levers on the edge guides forward to release them.



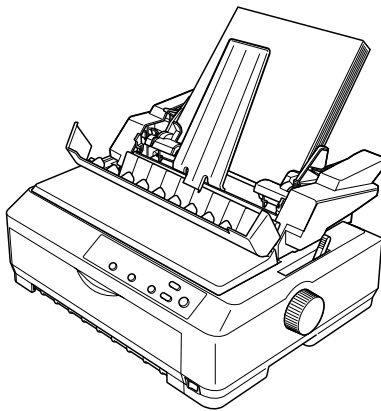
3. Slide the left paper guide until it is aligned with the triangle mark; then lock it in place by pushing back its lock lever. Next, slide the right paper guide to roughly match the width of your paper. Slide the paper support to midway between the paper guides.



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

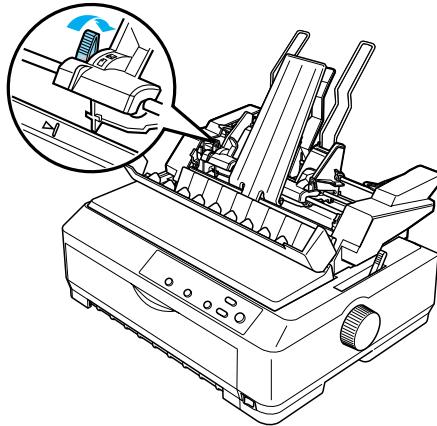


5. Take a stack of paper (up to 150 sheets) and fan it. Next, tap the side and bottom edges of the paper on a flat surface to even up the stack.
6. Insert the paper stack printable side down along the left paper guide.



7. Adjust the right paper guide so that it matches your paper's width 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.



8. 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.

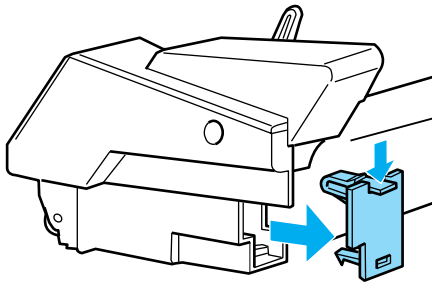
If the first line on your page appears too high or low, you can adjust its position using the Micro Adjust function. See “Adjusting the top-of-form position” on page 69 for more information.

Assembling the double-bin cut-sheet feeder

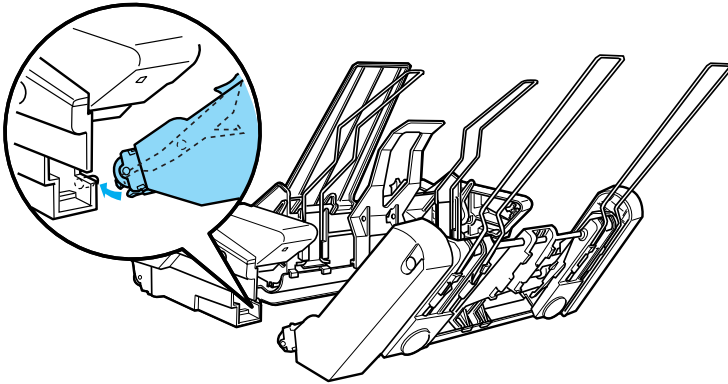
Using the double-bin cut-sheet feeder allows you to load two types of single-sheet paper in the printer at the same time and easily switch between them. Before you install the double-bin cut-sheet feeder, you need to connect the single-bin cut-sheet feeder (C80637*/ C80639*) to the high-capacity cut-sheet feeder (C80638*/C80640*).

Follow these steps to assemble the double-bin cut-sheet feeder:

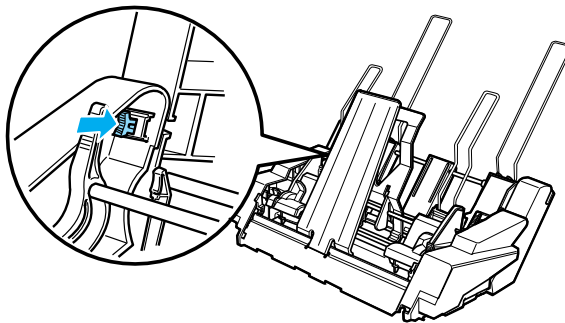
1. Remove the gear cover from the back of the high-capacity cut-sheet feeder by pressing down the tab and pulling the cover backward. Store it in a safe place.



2. Hold the single-bin cut-sheet feeder in both hands. Fit the notches in the single-bin cut-sheet feeder over the mounting posts on the back of the high-capacity cut-sheet feeder.



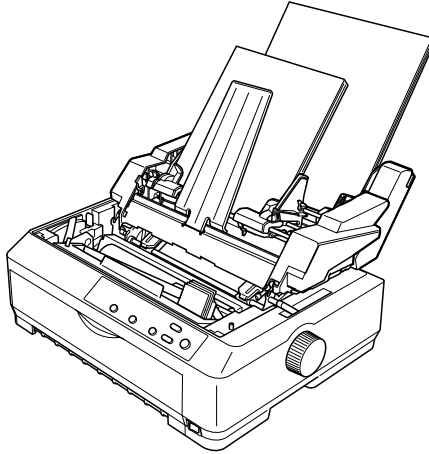
3. Lock the two cut-sheet feeders together by pushing firmly on the tab locks.



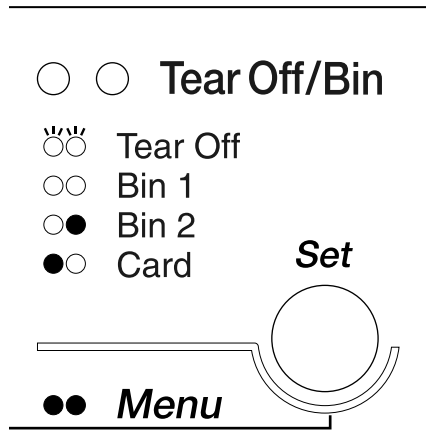
To install the double-bin cut-sheet feeder on your printer, see “Installing the cut-sheet feeder” on page 179.

Selecting the paper path (bin 1 or bin 2)

When the double-bin cut-sheet feeder is installed, the high-capacity cut-sheet feeder becomes bin 1 and the single-bin cut-sheet feeder becomes bin 2 for paper path selection purposes.



It is best to select the paper path in your application program because software settings usually override the printer's control panel settings. However, if you cannot select the paper path in your application, select a path by pressing the Tear Off/Bin button until the light indicates the bin you want as shown below.



●=On ○=Off ○^{〃〃}=Flashing

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

Front Sheet Guide and Front Paper Guide

The optional front sheet guide (C81400*/C80401*) and front paper guide (C81402*/C80403*) fit inside the front of the printer. These options allow you to load single sheets and carbonless single-sheet multipart forms of up to 6 parts (one original and five copies). Paper used with front guides must be 148 to 257 mm (5.8 to 10.1 inches) wide and can only be loaded one sheet at a time.

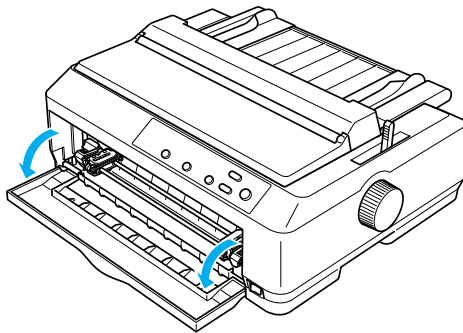
The optional front sheet guide provides you with the best paper jam prevention, but you need to remove the tractor from the front push position to use it. You can use the optional front paper guide without removing the tractor from the front push position.

The installation and paper loading procedures described below apply to both the front paper guide and the front sheet guide. Separate illustrations are provided where necessary; refer to the appropriate illustrations when installing and using these options.

Installing the front sheet guide or front paper guide

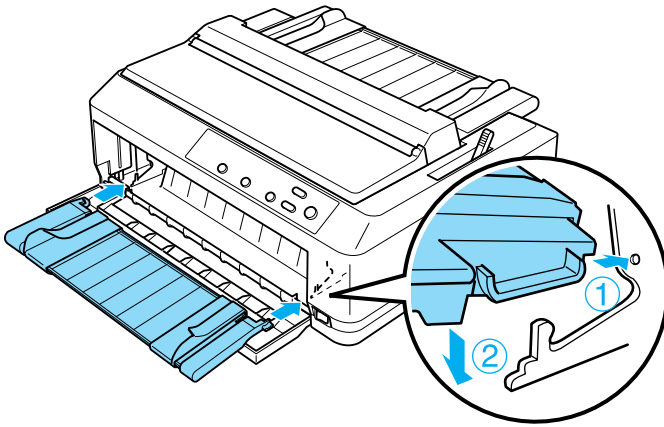
Follow these steps to install the front sheet guide or front paper guide:

1. Open the front cover. If you are installing the front sheet guide, remove the tractor unit if it is installed in the front push position. To remove it, press the tractor's lock tabs, then tilt the tractor up and pull it out of the printer.

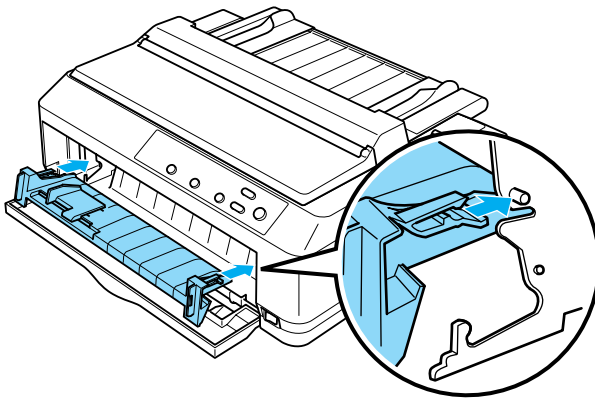


2. Fit the plastic tabs on the front paper or front sheet guide over the mounting notches on the printer as shown below.

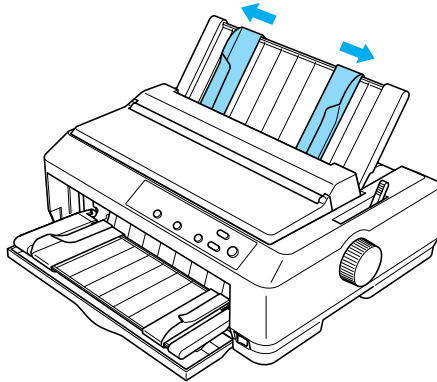
front sheet guide



front paper guide



3. Open the edge guides on the paper guide all the way to the left and right, then place the paper guide in the upright position.



You are now ready to load paper in the front sheet guide or front paper guide. See “Loading paper in the front sheet guide or front paper guide” on page 198 for instructions.

Loading paper in the front sheet guide or front paper guide

You can load single sheets or multipart forms one at a time in the front sheet guide or front paper guide. Follow these steps:

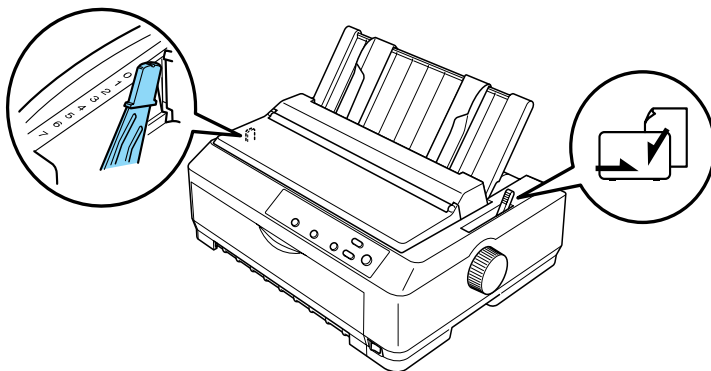


Caution:

Do not load labels or envelopes in the front sheet guide or front paper guide.

1. Make sure the paper guide is in the upright position and the edge guides are open all the way to the left and right. Set the paper release lever to the single-sheet position.

2. If you are using ordinary single-sheet paper, set the paper-thickness lever (located under the printer cover) to 0 as shown below.



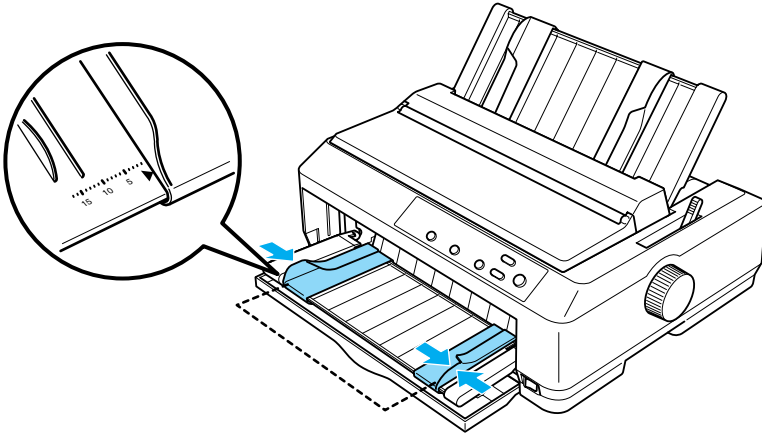
If you are loading a single-sheet multipart form, set the paper-thickness lever to the proper position, as shown in the table below.

Multipart form type	Paper-thickness lever position
2 parts (original + 1 copy)	1
3 parts (original + 2 copies)	3
4 parts (original + 3 copies)	5
5 parts (original + 4 copies)	6
6 parts (original + 5 copies)	7

3. Turn on the printer, if necessary.
4. Slide the left edge guide to the triangle mark on the front paper or front sheet guide. Then adjust the right edge guide to match the width of your paper.

Note:

You can slide the left edge guide to the left in 1/10-inch increments to increase the left margin on your printout.

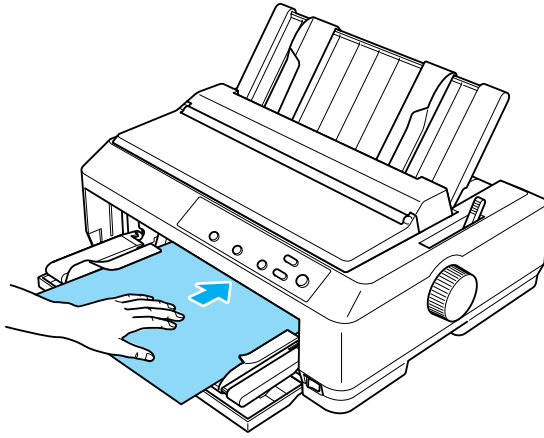


5. Slide the paper printable side up between the edge guides until it meets resistance. The printer loads the paper automatically.

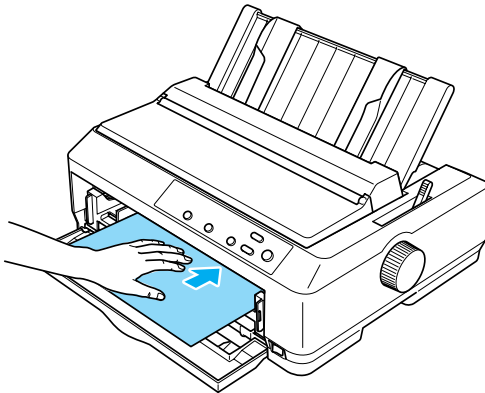
Note:

When feeding paper, place your hand flat on the paper and push it to completely into the feed slot.

front sheet guide



front paper guide



If the first line on your page appears too high or low, you can adjust its position using the Micro Adjust function. See “Adjusting the top-of-form position” on page 69.

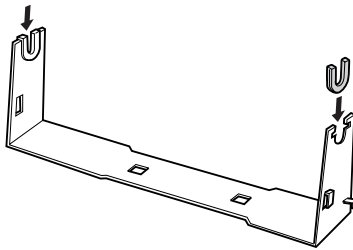
Roll Paper Holder

The optional roll paper holder allows you to use 8.5-inch roll paper like that used with telex machines. This provides an inexpensive alternative to using continuous paper for applications requiring variable paper lengths. Before you install and use the roll paper holder, you need to assemble it.

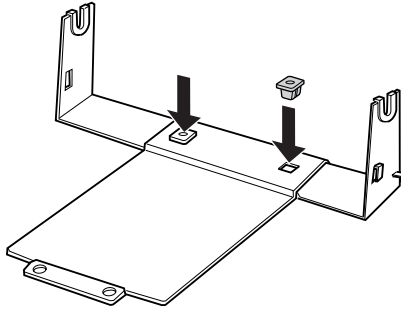
Assembling the roll paper holder

Follow these steps to assemble the roll paper holder:

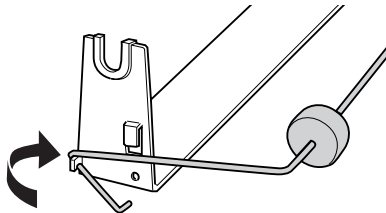
1. Fit the arc bearings into the stand as shown.



2. Place the base plate on the stand and fasten the two together with the plastic spacing clips. Make sure you orient the stand and base plate as shown below.



3. Hook the tension lever onto both ends of the stand as shown below. While pulling up on the tension lever, fit the wire ends of the tension lever into the holes in the stand. The roll paper holder is assembled.

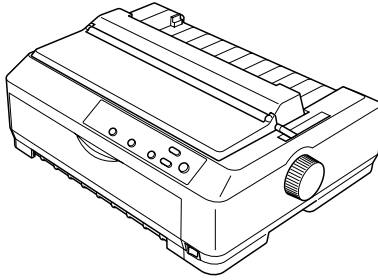


Installing the roll paper holder

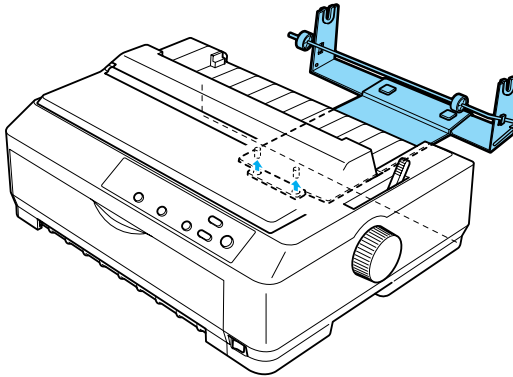
Follow these steps to install the roll paper holder on your printer:

1. Make sure the printer is turned off.

2. Remove the paper guide, then remove the tractor if it is installed in the pull or rear push position. Reinstall the paper tension unit if necessary.



3. Position the roll paper holder underneath the printer as shown below. Fit the two positioning pegs on the bottom of the printer into the two holes in the base plate.



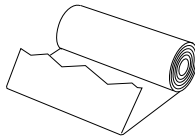
Caution:

The roll paper holder is not fastened to the printer; only the printer's weight and the two positioning pegs hold it in place. If you pick up the printer, be careful not to drop the roll paper holder.

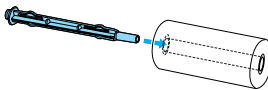
Loading roll paper

Follow these steps to load a roll of paper after you install the roll paper holder:

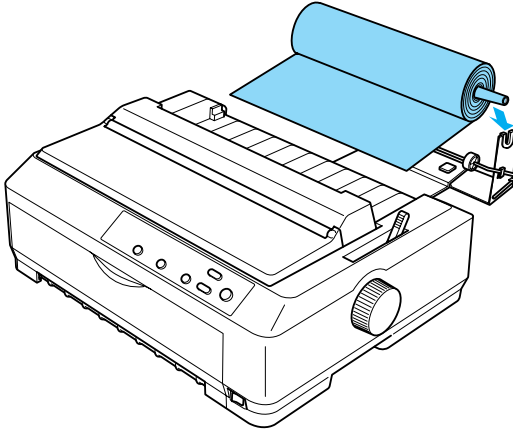
1. Make sure the printer is turned off and the paper guide is removed. Also make sure the tractor is not installed in the pull or rear push position, and the paper tension unit is installed.
2. Set the paper release lever to the single-sheet position. Also set the paper-thickness lever to the proper position for the thickness of your roll paper.
3. Cut the leading edge of the roll paper straight across.



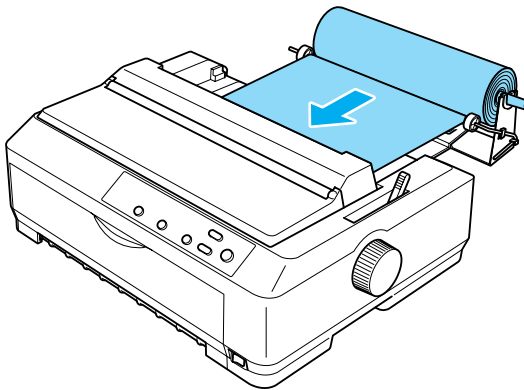
4. Insert the roll paper holder shaft into the center of the paper roll as shown.



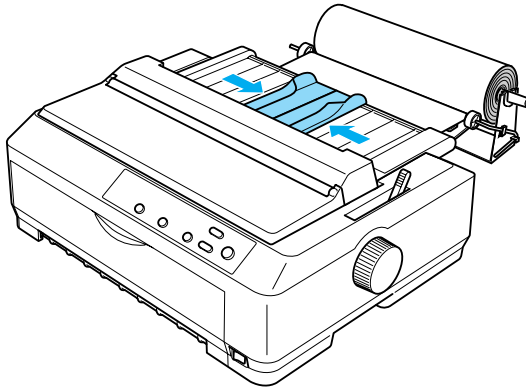
5. Place the shaft and paper roll on the roll paper holder so the paper feeds from the bottom of the roll. Then turn on the printer.



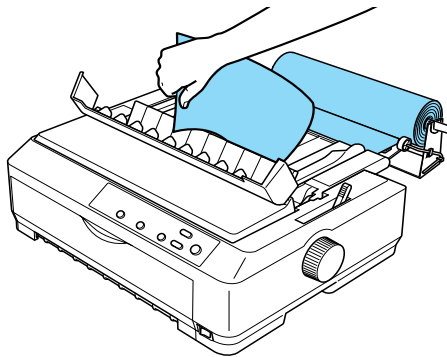
6. Bring the leading edge of the paper up over the rear of the printer and insert it into the printer until it meets resistance. The printer loads the roll paper automatically.



7. Install the paper guide over the roll paper to separate the printout from the unused paper. Slide the edge guides to the middle of the paper guide.

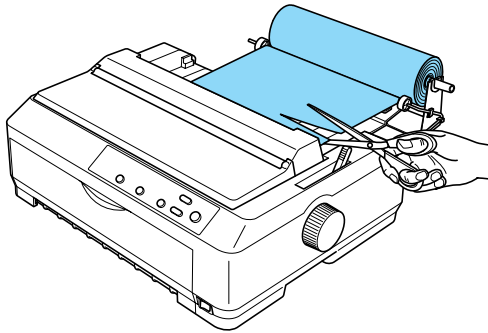


You are now ready to print. When you finish printing, press the LF/FF button to advance the paper; then tear off the paper using the tear-off edge of the tractor unit (pull it toward you for a clean cut).



Removing roll paper

Roll paper cannot be fed backward. To remove roll paper, remove the paper guide, cut the roll paper behind where it feeds into the printer; then press the Load/Eject button to eject the remaining paper.



Additional Tractor Unit

You can install the optional additional tractor unit (C80020* for the FX-890, C80021* for the FX-2190) and use two tractors at the same time.

By using two tractors at the same time, the paper jams are reduced and continuous paper feeding is improved.

For details on installing the additional tractor unit, see “Using two tractors in a push/pull combination” on page 49.

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
C82312*	LocalTalk interface
C82313*	32 KB IEEE-488 interface
C82314*	Coax interface
C82315*	Twinax interface
C82345*	IEEE-1284 parallel interface
C82362*	EpsonNet 10 Base 2/T Int. Print Server
C82363*/C82364*	EpsonNet 10/100 Base TX Int. Print Server
C82384*	EpsonNet 10/100 Base TX Int. Print Server
C82391*	EpsonNet 10/100 Base Tx Int. Print Server 2

The asterisk (*) is a substitute for the last digit, which varies by country.

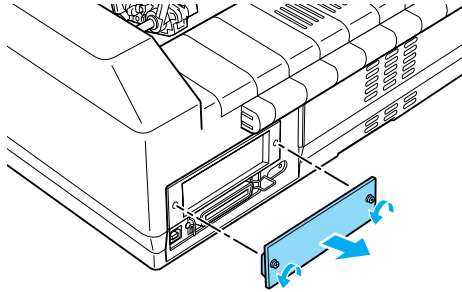
* When you use Ethernet interface card C82363*, you need to attach the optional interface adapter (C82525*) to the interface card.

If you are not sure whether you need an optional interface or would like to know more about interfaces, contact your dealer.

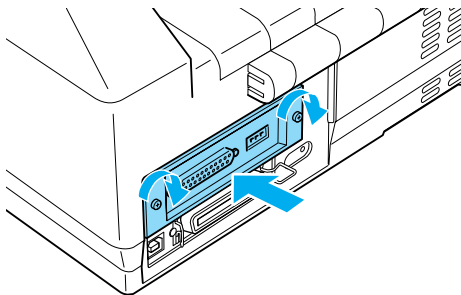
Installing an interface card

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.



Note:

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.

Print Server

You can use this printer as a network printer by installing a print server in the printer's parallel interface port. See the Administrator's Manual packaged with this option for instructions on installation and use.

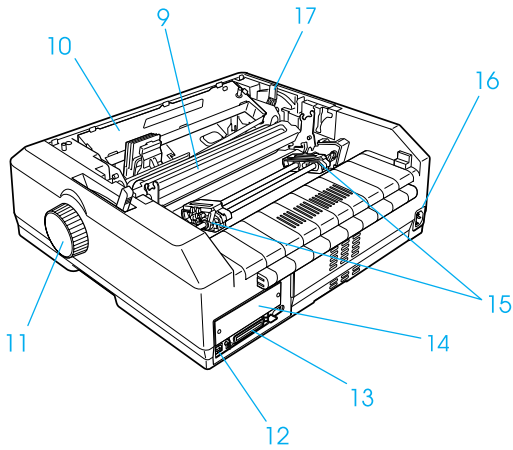
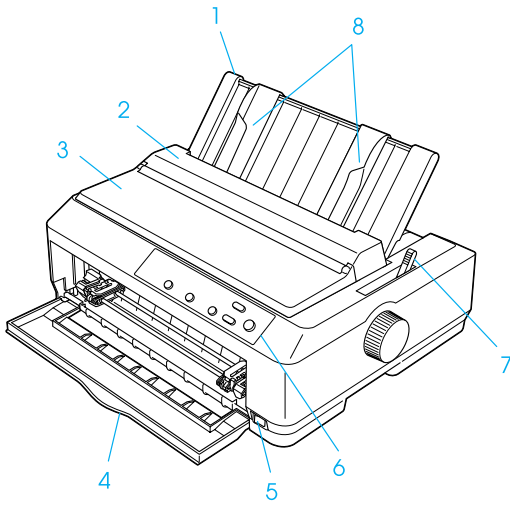
The following Printer Servers can be used:

- EpsonNet 10 Base 2/T Int. Print Server (C82362*)
- EpsonNet 10/100 Base Tx Int. Print Server (C82363**/C82364*)
- EpsonNet 10/100 Base Tx Int. Print Server (C82384*)
- EpsonNet 10/100 Base Int. Print Server 2 (C82391*)
- EpsonNet 802, 11b Wireless Ext.Print Server**

When using this print server, you need to attach the optional interface adapter (C82525).

**The availability of this option varies by location.

Printer Parts



Printer Specifications

Mechanical

Printing method:	9-pin impact dot matrix
Printing speed:	Ultra high speed 566 cps at 10 cpi draft 680 cps at 12 cpi
	High speed draft 559 cps at 10 cpi 627 cps at 12 cpi
	Draft 419 cps at 10 cpi 503 cps at 12 cpi
	Draft emphasized 209 cps at 10 cpi
	Near letter quality 104 cps at 10 cpi 125 cps at 12 cpi
Printing direction:	Bidirectional logic seeking for text and graphics printing. Unidirectional text or graphics printing can be selected using software commands.
Line spacing:	1/6-inch or programmable in 1/216-inch increments
Printable columns:	FX-890: 80 columns (at 10 cpi)
	FX-2190: 136 columns (at 10 cpi)
Resolution:	Maximum 240 × 144 dpi (near letter quality)

Paper feed methods:	Friction (front, rear)
	Push tractor (front, rear)
	Pull tractor (front, bottom, rear)
	Push and pull tractor (additional tractor is required) (front, rear)
	Cut-sheet feeder (optional) Roll paper holder (optional)
Paper feed speed:	Continuous 127 mm/second 5 inches/second
	Intermittent 46 msec/line at 1/6 inch line spacing
Paper capacity:	Single-bin cut-sheet feeder up to 50 sheets of 82 g/m ² (22 lb) paper <i>Note:</i> <i>The total thickness of the paper stack can be up to 5 mm (0.20 inch).</i>
	High-capacity cut-sheet feeder up to 150 sheets of 82 g/m ² (22 lb) paper up to 25 plain or bond envelopes up to 30 airmail envelopes <i>Note:</i> <i>The total thickness of the paper stack can be up to 15 mm (0.59 inch).</i>
Reliability:	Total print volume 52 million lines (except print head) MTBF 20,000 POH (25% duty)
	Print head life 400 million strokes/wire Approx. 400 million characters (Draft, 10 cpi, 14 dots/character)

Dimensions and weight:	FX-890:	
	Height	167.5 mm (6.6 inches)
	Width	414 mm (16.3 inches)
	Depth	350 mm (13.8 inches) (not including the knob, paper guide, and paper release lever)
	Weight	approx. 7.2 kg (15.9 lb)
	FX-2190:	
	Height	167.5 mm (6.6 inches)
Ribbon:	Width	589 mm (20.7 inches)
	Depth	350 mm (13.8 inches) (not including the knob, paper guide, and paper release lever)
	Weight	approx. 9.4 kg (20.7 lb)
	Black ribbon cartridge	S015329 for FX-890 S015327 for FX-2190
	Ribbon life	approx. 7.5 million characters (Draft, 10 cpi, 14 dots/character) for FX-890 approx. 12 million characters (Draft, 10 cpi, 14 dots/character) for FX-2190
Acoustic noise:	Approx. 55 dB (A) (ISO 7779 pattern)	

Electronic

Interfaces:	One standard bidirectional, 8-bit, parallel interface with IEEE 1284 nibble mode support, one USB (ver 1.1) interface and one optional Type B interface slot
Buffer:	128KB
Fonts:	Bitmap fonts
	EPSON Draft 10, 12, 15 cpi
	EPSON Roman 10, 12, 15 cpi, proportional
	EPSON Sans Serif 10, 12, 15 cpi, proportional
	Bar code fonts
	EAN-13, EAN-8, Interleaved 2 of 5, UPC-A, UPC-E, Code 39, Code 128, POSTNET

Character tables: Standard

One italic and 12 graphics character tables:

Italic table,
PC 437 (US, Standard Europe),
PC 850 (Multilingual),
PC 860 (Portuguese),
PC 861 (Icelandic), PC 865 (Nordic),
PC 863 (Canadian-French), BRASCII,
Abicomp, ISO Latin 1, Roman 8, PC 858,
ISO 8859-15

Expanded

One italic and 38 graphics character tables:

Italic table,
PC 437 (US, Standard Europe),
PC 850 (Multilingual),
PC 860 (Portuguese),
PC 861 (Icelandic), PC 865 (Nordic),
PC 863 (Canadian-French), BRASCII,
Abicomp, ISO Latin 1, Roman 8, PC 858,
ISO 8859-15, PC 437 Greek,
PC 852 (Eastern Europe),
PC 853 (Turkish), PC 855 (Cyrillic),
PC 857 (Turkish), PC 866 (Russian),
PC 869 (Greek), MAZOWIA (Poland),
Code MJK (CSFR),
ISO 8859-7 (Latin/Greek),
ISO Latin 1T (Turkish),
Bulgaria (Bulgarian),
PC 774 (LST 1283: 1993),
Estonia (Estonian), PC 771 (Lithuanian),
ISO 8859-2, PC 866 LAT. (Latvian),
PC 866 UKR (Ukrainian),
PC APTEC (Arabic), PC 708 (Arabic),
PC 720 (Arabic), PC AR 864 (Arabic),
PC437 Slovenia, PC MC, PC1250,
PC1251

Character sets: 13 international character sets:
 USA, France, Germany, UK, Denmark I,
 Sweden, Italy, Spain I, Japan, Norway,
 Denmark II, Spain II, Latin America

Electrical

	120 V Model	220 to 240 V Model	Universal (UPS) Model
Rated voltage range	120 V	220 to 240 V	100 to 240 V
Input voltage range	103.5 to 132 V	198 to 264 V	90 to 264 V
Rated frequency range	50 to 60 Hz		
Input frequency range	49.5 to 60.5 Hz		
Rated current	1.1 A (maximum 2.5 A depending on the character type)	0.6 A (maximum 1.3 A depending on the character type)	1.1 A (maximum 3.0 A depending on the character type)
Power consumption	Approx. 53 W (ISO/IEC 10561 letter pattern)		Approx. 56 W (ISO/IEC 10561 Letter pattern)

This product is also designed for IT power systems with a phase-to-phase voltage of 220 to 240 V.

Note:

Check the label on the back of the printer for the voltage of your printer.

Environmental

	Temperature	Humidity (without condensation)
Operation (plain paper)	5 to 35•C (41 to 95•F)	10 to 80% RH
Operation (recycled paper, envelope, label, or roll paper)	15 to 25•C (59 to 77•F)	30 to 60% RH
Storage	-30 to 60•C (-22 to 140•F)	0 to 85%

Paper

Note:

- ❑ *Use recycled paper, multipart paper, labels, envelopes, and roll paper only under normal temperature and humidity conditions described below.*

Temperature 15 to 25•C (59 to 77•F)

Humidity 30 to 60% RH

- ❑ *Do not load paper that is curled, folded, or crumpled.*

Single sheets:

		Front entry			Rear entry		
		Minimum	Maximum		Minimum	Maximum	
Width*	(mm)	100	FX-890: 257	FX-2190: 420	100	FX-890: 257	FX-2190: 420
	(inch)	3.9	10.1	16.5	3.9	10.1	16.5
Length**	(mm)	100	364		100	364	
	(inch)	3.9	14.3		3.9	14.3	
Thickness***	(mm)	0.065	0.14		0.065	0.14	
	(inch)	0.0025	0.0055		0.0025	0.0055	
Weight****	(g/m ²)	52	90		52	90	
	(lb)	14	24		14	24	
Quality		Plain paper and recycled paper					

* 182 to 216 mm (7.2 to 8.5 inches) for the optional cut-sheet feeder for FX-890.
182 to 420 mm (7.2 to 16.5 inches) for the optional cut-sheet feeder for FX-2190.

** 210 to 364 mm (8.3 to 14.3 inches) for the optional cut-sheet feeder.

***0.07 to 0.14 mm (0.0028 to 0.0055 inch) for the optional cut-sheet feeder.

****64 to 90 g/m² (18 to 24 lb) for the optional cut-sheet feeder.

Single-sheet multipart forms (for the optional front sheet or front paper guide only):

		Minimum	Maximum	
Width	(mm)	100	FX-890: 257	FX-2190: 420
	(inch)	3.9	10.1	16.5
Length	(mm)	100	364	
	(inch)	3.9	14.3	
Copies		1 original + 5 copies		

Total thickness	(mm)	0.12	0.46
	(inch)	0.0047	0.018
Weight per sheet of multipart	(g/m ²)	40	58
	(lb)	12	15
Quality		Carbonless multipart forms with a line of glue at the top side of the form	

Cards:

		Front entry			Rear entry	
		Minimum		Maximum	Minimum	Maximum
Width	(mm)	100		148	100	148
	(inch)	3.9		5.8	3.9	5.8
Length		FX-890:	FX-2190:			
	(mm)	148	100	148	100	148
	(inch)	5.8	3.9	5.8	3.9	5.8
Thickness	(mm)	0.22				
	(inch)	0.0087				
Weight	(g/m ²)	192				
	(lb)	51				
Quality		Plain paper and recycled paper				

Continuous paper (ordinary and multipart):

		Minimum	Maximum	
Width	(mm)	101.6	FX-890: 254.0	FX-2190: 406.4
	(inch)	4.0	10.0	16.0
Length, one page	(mm)	101.6	558.8	
	(inch)	4.0	22.0	
Copies		1 original + 5 copies*		
Total thickness	(mm)	0.065	0.46	
	(inch)	0.0025	0.018	
Weight, ordinary paper	(g/m ²)	52	82	
	(lb)	14	22	
Weight, per sheet of multipart	(g/m ²)	40	58	
	(lb)	12	15	
Quality		Plain paper, recycled paper, and carbonless multipart forms with point gluing or paper stapling on both sides		

* When the front or bottom pull tractor is installed and under normal conditions, up to 7 copies (1 original + 6 copies) can be used.

Note:

- Do not load thick paper, such as multipart forms with five or six parts, in the rear slot.
- The ratio of the cut/uncut length at the perforation should be between 3:1 and 5:1.
- The thickness of the perforation part when extended should be 1mm or less.
- The perforation between pages should not extend all the way to the edges of the paper. Uncut length on the edges should be 1mm or more.

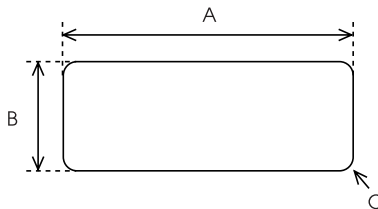
- ❑ *The horizontal and vertical perforation cuts should not cross.*

Continuous labels (front and bottom entry only):

Note:

Use only labels mounted on continuous backing sheets.

		Minimum	Maximum	
Label size		See the figure below.		
Width, backing sheet	(mm)	101.6	FX-890: 254.0	FX-2190: 406.4
	(inch)	4.0	10.0	16.0
Length, backing sheet	(mm)	101.6	558.8	
	(inch)	4.0	22.0	
Thickness, backing sheet	(mm)	0.07	0.09	
	(inch)	0.0028	0.0035	
Total thickness	(mm)	0.16	0.19	
	(inch)	0.0063	0.0075	
Label weight	(g/m ²)	64		
	(lb)	17		
Quality		Plain paper or the same quality labels		



A. 2.5 inches (63.5 mm) min.

B. 15/16 inch (23.8 mm) min.

C. Corner radius = 0.1 inch (2.5 mm) min.

Envelopes (rear entry only):

			Minimum	Maximum
Envelope size (No. 6)	Width	(mm) (Inch)	165 6.5	
	Length	(mm) (Inch)	92 3.6	
Envelope size (No10)	Width	(mm) (inch)	241 9.5	
	Length	(mm) (inch)	105 4.1	
Total thickness		(mm)	0.16	0.52
		(inch)	0.0063	0.0205
			Differences in thickness within the printable area must be less than 0.25 mm (0.0098 inch).	
Weight		(g/m ²)	45	90
		(lb)	12	24
Quality			Bond envelopes, plain envelopes, and airmail envelopes without glue on the flap	

Roll paper (rear entry with optional roll paper holder only):

		Minimum	Maximum
Width	(mm)	216	
	(inch)	8.5	

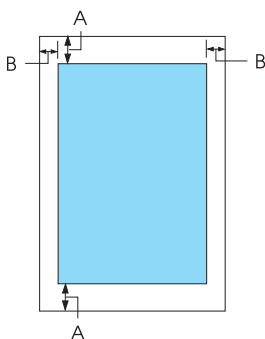
Length	(mm)	---	
	(inch)	---	
Thickness	(mm)	0.07	0.09
	(inch)	0.0028	0.0035
Weight	(g/m ²)	52	82
	(lb)	14	22
Quality		Plain paper	

Recommended Printable Area

Note:

For best results, print within the recommended printable area. The printer may not print outside this area.

Single sheets



A The minimum top and bottom margins are 4.2 mm (0.2 inch).

B FX-890:

The minimum left and right margins are 3 mm (0.1 inch).

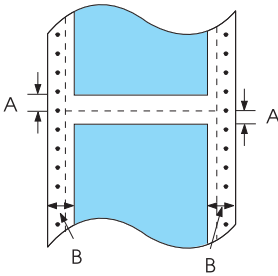
The maximum printable width is 203.2 mm (8.0 inches). For paper wider than 209.2 mm (8.2 inches), the side margins increase to match the width of the paper.

FX-2190:

The minimum left and right margins are 3 mm (0.1 inch).

The maximum printable width is 345.44 mm (13.6 inches). For paper wider than 351.44 mm (13.8 inches), the side margins increase to match the width of the paper.

Continuous paper



A The minimum top and bottom margins (above and below the perforation) are 4.2 mm (0.17 inch).

B FX-890:

The minimum left and right margins are 13 mm (0.51 inch).

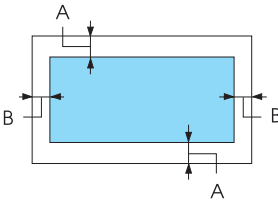
The maximum printable width is 203.2 mm (8.0 inches). For paper wider than 229.2 mm (9.0 inches), the side margins increase to match the width of the paper.

FX-2190:

The minimum left and right margins are 13 mm (0.51 inch).

The maximum printable width is 351.8 mm (13.9 inches). For paper wider than 377.8 mm (14.9 inches), the side margins increase to match the width of the paper.

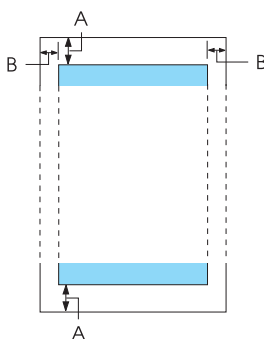
Envelopes



A The minimum top and bottom margins are 4.2 mm (0.17 inch).

B The minimum left and right margins are 3 mm (0.12 inch).

Roll paper



A The minimum top and bottom margins are 4.2 mm (0.17 inch).

B The minimum left and right margins are 3 mm (0.12 inch). The maximum printable width is 203.2 mm (8.0 inches).

Command Lists

Your printer supports the following EPSON ESC/P control codes and IBM PPDS emulation control codes.

For more information about the commands, contact EPSON Customer Services. See “Contacting Customer Support” on page 169 for details.

EPSON ESC/P control codes

Selecting an EPSON ESC/P printer in your software allows you to use advanced fonts and graphics.

General operation:

ESC @, ESC U, ESC EM

Paper feeding:

FF, LF, ESC 0, ESC 2, ESC 3, ESC 1, ESC A, CR

Page format:

ESC (C, ESC C, ESC C 0, ESC Q, ESC I, ESC (c, ESC N, ESC O,
ESC (U

Print position motion:

ESC \$, ESC \, ESC D, HT, ESC B, VT, ESC J

Font selection:

ESC k, ESC x, ESC y, ESC P, ESC M, ESC g, ESC p, ESC 4, ESC
5, ESC E, ESC F, ESC !

Font enhancement:

ESC W, DC4, SO, DC2, SI, ESC w, ESC G, ESC H, ESC T, ESC
S, ESC -

Spacing:

ESC Space

Character handling:

ESC t, ESC (t, ESC R, ESC %, ESC &, ESC :, ESC 6, ESC 7, ESC I

Bit image:

ESC K, ESC L, ESC Y, ESC Z, ESC ^, ESC *

Bar code:

ESC (B

IBM PPDS emulation control codes

This printer emulates the IBM Proprinter using the commands below.

General operation:

NUL, DC3, ESC j, BEL, CAN, DC1, ESC Q, ESC [K, ESC U, ESC [F

Paper feeding:

FF, LF, ESC 5, ESC A, ESC 0, ESC 1, ESC 2, ESC 3, CR, ESC]

Page format:

ESC C, ESC C0, ESC X, ESC N, ESC O, ESC 4

Print position motion:

ESC d, ESC R, ESC D, HT, ESC B, VT, ESC J

Font selection:

DC2, ESC P, ESC :, ESC E, ESC F, ESC I, ESC [d, ESC [I

Font enhancement:

DC4, SO, ESC SO, ESC W, ESC [@, SI, ESC SI, ESC G, ESC H, ESC T, ESC S, ESC -, ESC _

Spacing:

BS, SP

Character handling:

ESC 6, ESC 7, ESC [T, ESC ^, ESC \

Bit image:

ESC K, ESC L, ESC Y, ESC Z

Bar code:

ESC [f, ESC [p

Download:

ESC = (draft mode only)

Standards and Approvals

U. S. model:

Safety	UL60950 CSA C22.2 No. 60950
EMC	FCC part 15 subpart B class B CSA C108.8 class B

European model:

Low Voltage Directive 73/23/EEC	EN 60950
EMC Directive 89/336/EEC	EN 55022 Class B EN 55024 EN 61000-3-2 EN 61000-3-3

Universal (UPS) model:

Safety	UL60950 CSA C22.2 No. 60950 EN 60950
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EMC	FCC part 15 subpart B class B
	CSA C108.8 class B
	EN 55022 Class B
	EN 55024
	EN 61000-3-2
	EN 61000-3-3

Australian model:

EMC	AS/NZS 3548 class B
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Cleaning the Printer

To keep your printer operating at its best, you should clean it thoroughly several times a year.

Follow these steps to clean the printer:

1. Remove any paper loaded in the printer, and turn off the printer.
2. Remove the paper guide. If an optional cut-sheet feeder is installed, remove it.
3. Use a soft brush to carefully brush away all dust and dirt from the outer case and paper guide.
4. If the outer case and the paper guide are still dirty or dusty, clean them with a soft, clean cloth dampened with mild detergent dissolved in water. Keep the printer cover and front cover closed to prevent water from getting inside the printer.



Caution:

- ❑ *Never use alcohol or thinners to clean the printer; these chemicals can damage the printer components as well as the case.*

- ❑ *Be careful not to get water on the printer mechanism or electronic components.*

- ❑ *Do not use a hard or abrasive brush.*

Do not spray the inside of the printer with lubricants; unsuitable oils can damage the printer mechanism. Contact your EPSON dealer if you think lubrication is needed.

Transporting the Printer

If you need to transport your printer some distance, carefully repack it using the original box and packing materials.

Follow these steps to repack the printer in its original packing materials:



Warning:

You need to move the print head by hand to remove 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. Remove any paper loaded in the printer. Make sure the printer is turned off.

2. Unplug the power cord from the electrical outlet; then disconnect the interface cable from the printer. If an optional cut-sheet feeder is installed, remove it.

3. Remove the paper guide. If any options are installed, remove them and pack them in their original boxes.

4. Make sure the print head is not hot. Then remove the ribbon cartridge as described in “Assembling the Printer” in the *Setup Sheet*.
5. Make sure that the paper tension unit is installed and the tractor is installed in the rear push position. (See “Installing the tractor in the rear push position” on page 31 for instructions on installation procedure.) Also make sure that the printer cover and front cover are closed.
6. Repack the printer, paper guide, ribbon cartridge, and power cord (if necessary) in their original packing materials and place them in the printer’s original box.

Glossary

auto line feed

When this option is turned on in the default-setting mode, each carriage return (CR) code is automatically followed by a line feed (LF) code.

bidirectional printing

Printing in which the print head prints in both directions (bidirectionally) from left to right and then right to left. This increases the print speed but may reduce precise vertical alignment. See also *unidirectional printing*.

character table

A collection of letters, numbers, and symbols that provides you with the set of characters used in a particular language.

characters per inch (cpi)

The number of characters that can fit in one inch of a text line, determined by the size of the characters. See also *pitch*.

continuous paper

Paper that has sprocket-feed holes on both long edges, is perforated between pages, and is supplied in a folded stack. Also called fanfold paper.

control codes

Special codes used to control printer functions, such as a carriage return or line feed, instead of printing characters.

cpi

See *characters per inch (cpi)*.

cut-sheet feeder

A device that automatically feeds single sheets of paper into the printer.

default

Value settings that take effect when a device (such as a printer) is turned on, reset, or initialized.

dithering

A halftoning method in which dots are printed in a predetermined pattern to simulate a shade or tone. Dithering works best for images with solid colors, such as charts and graphs. See also *halftoning*.

dot matrix

A method of printing in which each letter or symbol is formed by a pattern (matrix) of individual dots.

draft

The print mode used by your printer when you select Draft as the font. The Draft font uses fewer dots per character for faster printing. See also *near letter quality*.

driver

See *printer driver*.

ESC/P

Abbreviation for EPSON Standard Code for Printers, the system of commands your computer uses to control your printer. It is standard for all EPSON printers and supported by most application software for personal computers.

fanfold paper

See *continuous paper*.

font

A style of type designated by a name such as Roman or Sans Serif.

form feed (FF)

A control panel button and control code that advances the paper to the next top-of-form position.

halftoning

A method of using dot patterns to represent an image. Halftoning makes it possible to produce varying shades of gray using only black dots, or a nearly infinite array of colors using only a few colors of dots. See also *dithering*.

hex dump

A troubleshooting method that helps identify the cause of communication problems between the printer and the computer. When the printer is in hex dump mode, it prints each code that it receives in hexadecimal notation as well as in ASCII codes that stand for characters. Also called data dump.

interface

The connection between the computer and the printer through which print data is transmitted to the printer.

landscape

Printing that is oriented sideways on the page. This orientation gives you a page that is wider than it is high and is useful for printing spreadsheets. See also *portrait*.

line feed (LF)

A control panel button and control code that advances the paper one line space.

Micro Adjust function

A printer function that allows you to precisely adjust the tear-off and top-of-form positions.

near letter quality (NLQ)

The print mode used by your printer to produce near-letter-quality fonts for better readability and appearance. Print speed is slower. See also *draft*.

pitch

The horizontal size of the font, which is measured by the number of characters per inch (cpi). The standard is 10 cpi. See also *characters per inch (cpi)*.

portrait

Printing that is oriented upright on the page (as opposed to landscape, in which printing is sideways on the page). This is the standard orientation for printing letters or documents. See also *landscape*.

printer driver

A software program that sends commands for using the functions of a particular printer.

resolution

A measure of the amount of detail that can be represented. Resolution of printed images is measured by using the number of dots per inch (dpi).

self test

A method for checking the operation of the printer. When you run the self test, an internally stored self-pattern is printed.

standby position

The position of your continuous paper when it is attached to the push tractor but not loaded in the printer.

tear-off position

The position of your continuous paper where you can tear off your printed pages at the printer's tear-off edge. Using the Micro Adjust function, you can adjust the tear-off position so that the paper's perforation is aligned with the tear-off edge.

top-of-form position

The position on the paper that the printer recognizes as the first printable line. This is the default top margin position. Using the Micro Adjust function, you can adjust the top-of-form position.

unidirectional printing

Printing in which the print head prints in one direction only. Unidirectional printing is useful for printing graphics because it provides precise vertical alignment. You can select unidirectional printing using the printer's default-setting mode. See also *bidirectional printing*.

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