EPSON
EXCEED YOUR VISION

FX-890II/FX-890IIN/FX-2190II/FX-2190IIN

User's Guide

NPD5749-01 EN

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Operating System Versions

In this manual, terms such as "Windows 10", "Windows 8.1", "Windows 8", "Windows 7", "Windows Vista", "Windows XP", "Windows Server 2012", "Windows Server 2008 R2", "Windows Server 2008", "Windows Server 2003 R2" refer to the following operating system. Additionally, "Windows" is used to refer to all versions.

- ❏ Microsoft® Windows® 10 operating system
- ❏ Microsoft® Windows® 8.1 operating system
- ❏ Microsoft® Windows® 8 operating system
- ❏ Microsoft® Windows® 7 operating system
- ❏ Microsoft® Windows Vista® operating system
- ❏ Microsoft® Windows® XP operating system
- ❏ Microsoft® Windows Server® 2016 operating system
- ❏ Microsoft® Windows Server® 2012 R2 operating system
- ❏ Microsoft® Windows Server® 2012 operating system
- ❏ Microsoft® Windows Server® 2008 R2 operating system
- ❏ Microsoft® Windows Server® 2008 operating system
- ❏ Microsoft® Windows Server® 2003 R2 operating system
- ❏ Microsoft® Windows Server® 2003 operating system

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Where to Find Information

Where to Find Information

The following manuals are supplied with your Epson printer.

Start Here (paper manual)
Provides information on setting up the printer and installing the software.

User's Guide (this manual)
Provides overall information and instructions on using the printer.

Network Guide (FX-890IIN/FX-2190IIN only)
Provides network information on management and printer settings.

Safety Instructions

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.

Some of the symbols used on your printer are to ensure safety and proper use of the printer. Visit the following Web site to learn the meaning of the symbols.
http://support.epson.net/symbols

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, stable 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.
- ❏ Leave adequate room around the printer for easy operation and maintenance.
- ❏ Place the printer where you can easily connect it to a network interface cable, if necessary (FX-890IIN/FX-2190IIN only).
- ❏ 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.
- ❏ Be sure the AC power cord meets the relevant local safety standards.
- ❏ Avoid using or storing the printer in places subject to rapid changes in temperature and humidity. Also keep it away from direct sunlight, strong light, heat sources, or excessive moisture or dust.
- ❏ Avoid places subject to shocks and vibrations.
- ❏ Place the printer near a wall outlet where you can easily unplug the power cord.
- ❏ Keep the entire computer system away from potential sources of electromagnetic interference, such as loudspeakers or the base units of cordless telephones.

- ❏ Avoid electrical outlets controlled by wall switches or automatic timers. An interruption in power can erase information in the memory of your printer or computer. Also avoid outlets on the same circuit as large motors or other appliances that can cause voltage fluctuations.
- ❏ Use a grounded power outlet; do not use an adapter plug.
- ❏ If you plan to use a printer stand, follow these guidelines:
  - Use a stand that can support at least twice the weight of the printer.
  - Never use a stand that tilts the printer. The printer should always be kept level.
  - Position your printer's power cord and interface cable so they do not interfere with paper feeding. If possible, secure the cables to a leg of the printer stand.

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.
- ❏ Do not attempt to service the printer yourself except as specifically explained in this guide.
- ❏ 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.
- ❏ Do not use aerosol blowers which contain flammable gas inside or around this product. Doing so may cause fire.
- ❏ 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.
  Bei Anschluss des Druckers an die Stromversorgung muss sichergestellt werden, dass die Gebaudeinstallation mit einer 10A- oder 16 A-Sicherung abgesichert ist.

When Handling the paper

- ❏ 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 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 then 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.

Restriction of use

When this product is used for applications requiring high reliability/safety such as transportation devices related to aviation, rail, marine, automotive etc.; disaster prevention devices; various safety devices etc.; or functional/precision devices etc., you should use this product only after giving consideration to including fail-safes and redundancies into your design to maintain safety and total system reliability. Because this product was not intended for use in applications requiring extremely high reliability/safety such as aerospace equipment, main communication equipment, nuclear power control equipment, or medical equipment related to direct medical care etc., please make your own judgment on this product's suitability after a full evaluation.

For users in Russia, Belarus, and Kazakhstan

Customer information
The model complies with the Technical regulation of Customs Union "About the safety of low voltage equipment" (TP TC 004/2011); with the Technical regulation of Customs Union "On Electromagnetic Compatibility of Technical Devices" (TP TC 020/2011)

Manufacturer: SEIKO EPSON CORPORATION
Address: 3-5, Owa 3-chome, Suwa-shi, Nagano-ken 392-8502 Japan Telephone: 81-266-52-3131

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Telephone: +7 (495) 777-0355/56
web: http://www.epson.ru/
email: info_CIS@epson.ru

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Address: Moscow, 129110, ul. Schepkina, 42, Bldg. 2a, Fl. 3 Business Center Chaika Plaza
Telephone: +7 (495) 777-0355/56
web: http://www.epson.ru/

Production month and year: Labeled on the product with 8 numbers: YYYY.MM.DD
Country of production: Labeled on the product

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 (⏚).

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.

Replace fuses only with a fuse of the correct size and rating.

For Singapore users

Replace fuses only with fuses of the correct size and rating.

For German users

Maschinenlärminformations-Verordnung 3. GPSGV: Der höchste Schalldruckpegel beträgt 70 dB(A) oder weniger gemäss EN ISO 7779.

Das Gerät ist nicht für die Benutzung am Bildschirmarbeitsplatz gemäß BildscharbV vorgesehen.

Importeur
EPSON EUROPE. B.V.
AMSTERDAM. THE NETHERLANDS

For Turkish users

AEEE Yönetmeliğine Uygundur.

For Ukraine users

Обладнання відповідає вимогам Технічного регламенту обмеження використання деяких небезпечних речовин в електричному та електронному обладнанні.

Chapter 1

Paper Handling

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 front, bottom, or rear. Select the paper source that best suits your current printing needs.

Caution:
Do not use paper that is folded, creased, curled, torn, stained, or stamped. Always use new, clean paper that meets the paper specifications. See "Paper" on page 147 for more details.

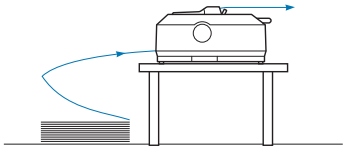
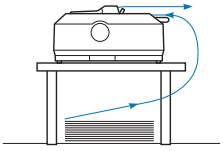
Printing on continuous paper

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 21 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 rear push tractor, you can print on single sheets of paper from the sheet guide without removing the continuous paper from the tractor.

There are two push tractor positions: front and rear. See the table below for details about the push positions and the corresponding paper paths.

Tractor position	Description
 front push	Load paper from the front slot. 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.
 rear push	Load paper from the rear slot. **Caution:** 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. **Note:** 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.

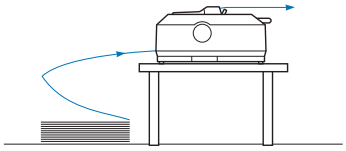
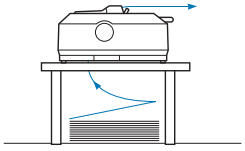
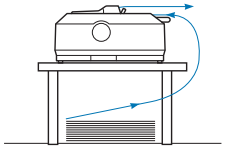
Using the pull tractor position

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.
FX-890II/FX-890IIN:
- C933761 (For worldwide users)
- C933771 (For users in India)
FX-2190II/FX-2190IIN:
- C933791 (For worldwide users)
- C933801 (For users in India)

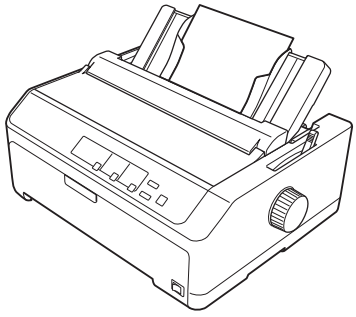
If you use a push tractor with the optional tractor in the pull position, you can create a push/pull tractor combination. This improves the performance of continuous paper, and is recommended for printing on continuous pre-printed forms. See "Using two tractors in a push/pull combination" on page 40 for more information.

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

Paper slot	Description
 front	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.
 bottom	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. **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.
 rear	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. **Caution:** 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.

Printing on single sheets (cut-sheet)

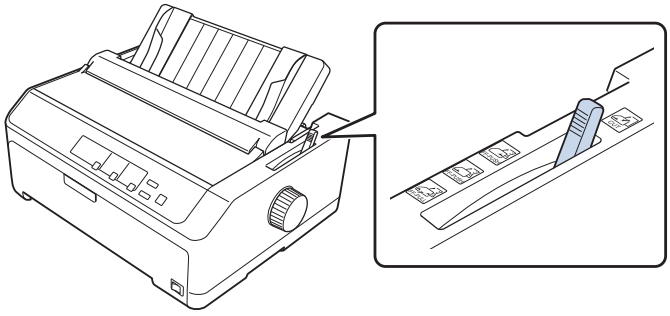
You can load ordinary single sheets and envelopes one at a time from the rear paper entry slot of the printer, using the sheet guide.



You can also load a stack of single-sheet paper using the optional cut-sheet feeder. See "Loading Single Sheets" on page 44 for more information. See "Cut-Sheet Feeder" on page 123 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.



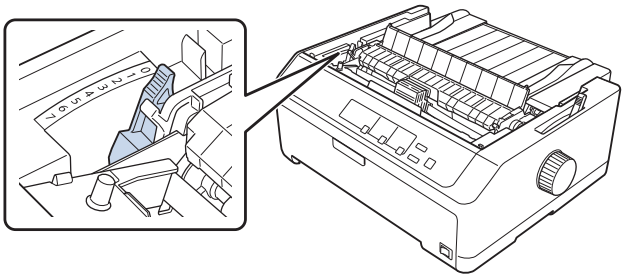
The table below describes each paper release lever position.

Paper release lever position	Description
	**Single-sheet (cut-sheet) position** For loading single-sheet paper from the rear or front slot. See "Loading Single Sheets" on page 44 for instructions.
	**Rear push tractor position** 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.
	**Front push tractor position** 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.
	**Pull tractor position** 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.

Adjusting the Paper Thickness Lever

You can get the best printing quality by adjusting the paper-thickness lever according to the thickness of the paper you are using.

1. Turn off the printer 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*1		**Paper-thickness lever position**
Ordinary paper	Single sheets	0 or 1
	Continuous paper	0
Thin paper		0
Multipart forms*2 (carbonless, 40 g/m^2)	2 parts (original + 1 copy)	1
	3 parts (original + 2 copies)	2
	4 parts (original + 3 copies)	4
	5 parts (original + 4 copies)	6
	6 parts (original + 5 copies)	7
	7 parts (original + 6 copies)*3	7
Labels		2
Cards		3
Envelopes*2	20 lb	4
	24 lb	5

*1 See the paper specifications in "Paper" on page 147 for more details.

*2 Change the lever position to one level down if the printed results are too light. Change the lever position to one level up if the printed results are dirty or smeared.

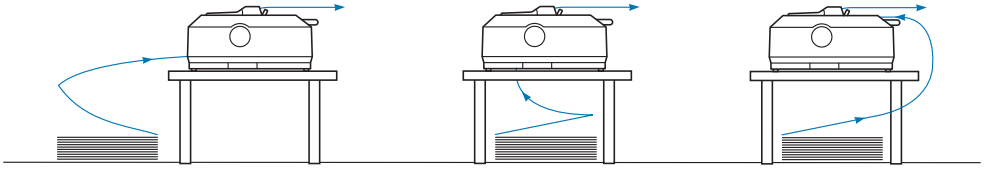
*3 Available when using a bottom pull position or front pull position.

Loading Continuous Paper

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

Positioning your continuous paper supply

When you load continuous paper, make sure you align your paper supply with the tractor so the paper feeds smoothly into the printer, as shown below.



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 of following:
- "Using the tractor in the rear push position" on page 21
- "Using the tractor in the front push position" on page 26
- "Using the tractor in the pull position" on page 31
- "Using two tractors in a push/pull combination" on page 40

Using the tractor in the rear push position

If your tractor is in the rear push position, skip to "Loading paper with the rear push tractor" on page 22 for instructions on loading paper.

This section provides instructions for following:
- "Installing the tractor in the rear push position" on page 22
- "Loading paper with the rear push tractor" on page 22
- "Removing the tractor from the rear push position" on page 25

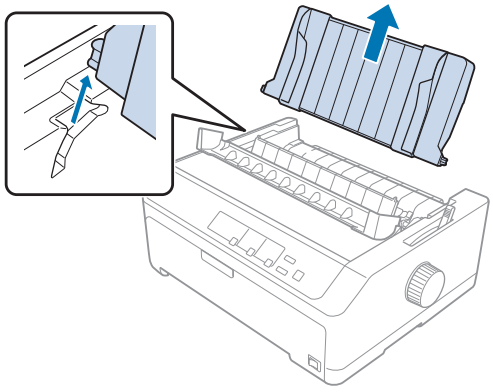
Note:
Thick paper, such as continuous paper with labels or multipart forms with five or six parts, requires a relatively straight paper path to avoid paper jams. When printing on thick continuous paper, use the tractor in the front push position or the pull position.

Installing the tractor in the rear push position

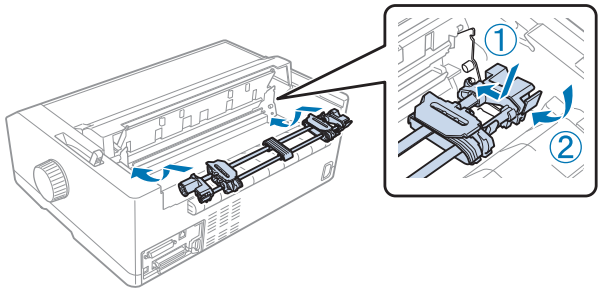
Before installing the tractor in the rear push position, remove it from its current position. If the tractor is in the front push position, remove it by pressing the tractor's lock tabs while lifting it out. If the tractor is in the pull position, remove it as described in "Removing the tractor from the rear push position" on page 25.

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

2. Slide the sheet guide along the path and lift it at an angle to remove it.



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.



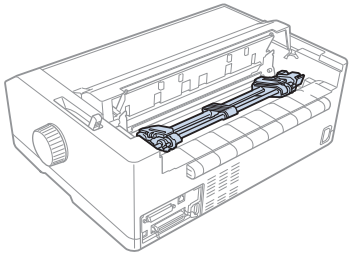
See "Loading paper with the rear push tractor" on page 22 for instructions on loading continuous paper using the rear push tractor.

Loading paper with the rear push tractor

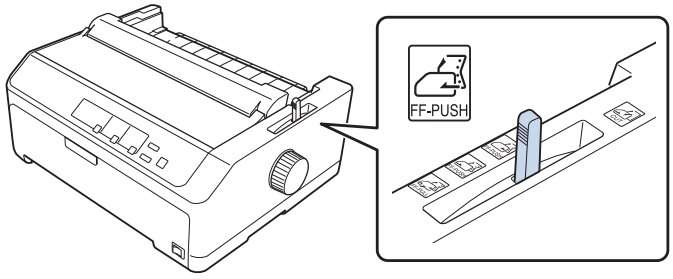
Follow these steps to load paper using the rear push tractor:

1. Make sure the printer is turned off.

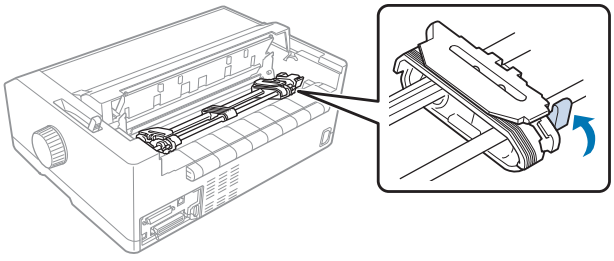
2. Make sure the tractor is installed in the rear push position and the sheet guide is removed from the printer.



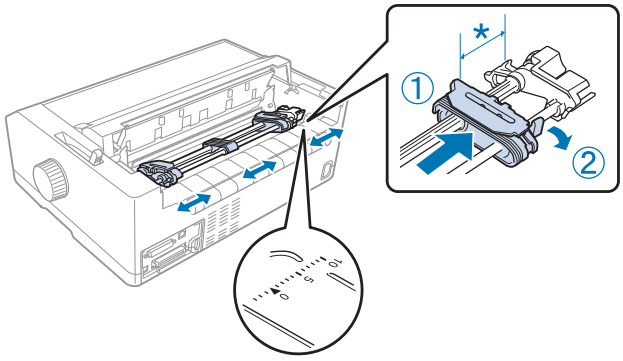
3. Set the paper release lever to the rear push tractor position.



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



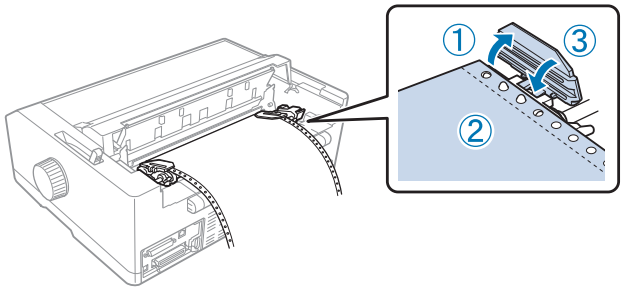
5. Slide the right sprocket (illustration shown below) approximately 12 mm (0.5 inch) from the far position and push the blue lever back to lock in place. Then slide the another sprocket to match the width of your paper, but do not lock it.



* approx. 12 mm (0.5 inch)

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

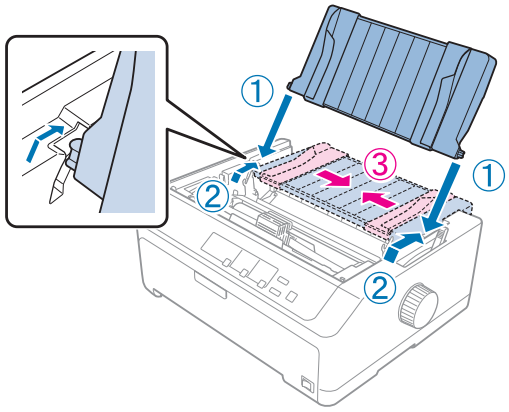
6. Make sure your paper has a clean, straight edge. Then open both sprocket covers and fit the first four holes of the paper, with the printable side down, over the tractor pins.



7. Close the sprocket covers.

8. Slide the right sprocket to remove any slack in the paper; then lock it in place by pushing the blue sprocket lock down.

9. Attach the sheet guide and lay it flat on the printer and slide the edge guides to the middle of the sheet guide.



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

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

11. After you finish printing, follow the steps in "Removing continuous paper" on page 42 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 56.

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.

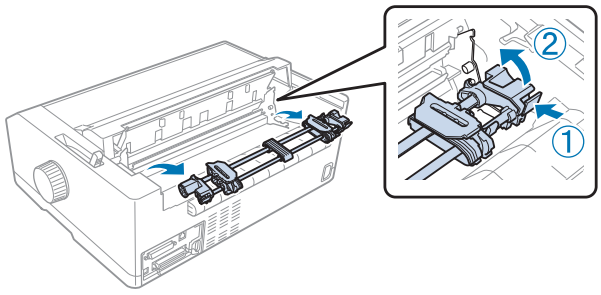
Removing the tractor from the rear push position

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 42.

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



Using the tractor in the front push position

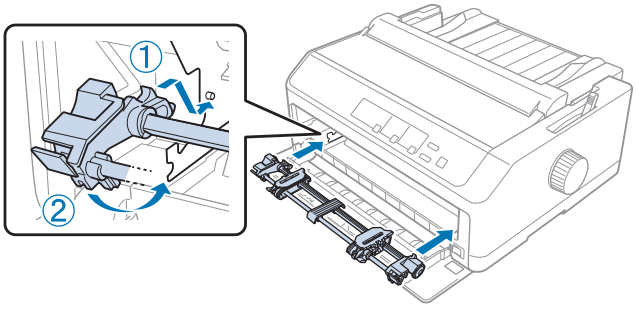
Installing the tractor in the front push position

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 sheet 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 38.

1. Make sure the printer is turned off. If necessary, install the sheet guide on your printer as described in the supplied setup sheet.

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

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 27 for instructions on loading continuous paper with the front push tractor.

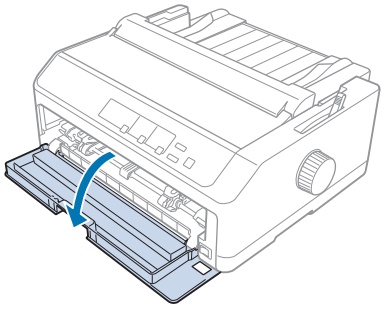
Loading paper with the front push tractor

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 92 for more information.

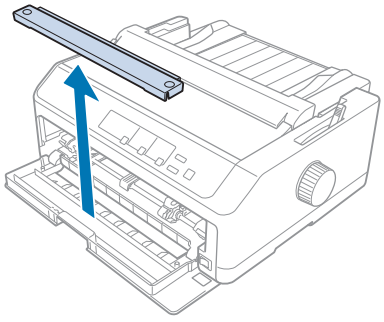
Follow these steps to load paper using the front push tractor:

1. Make sure the printer is turned off.

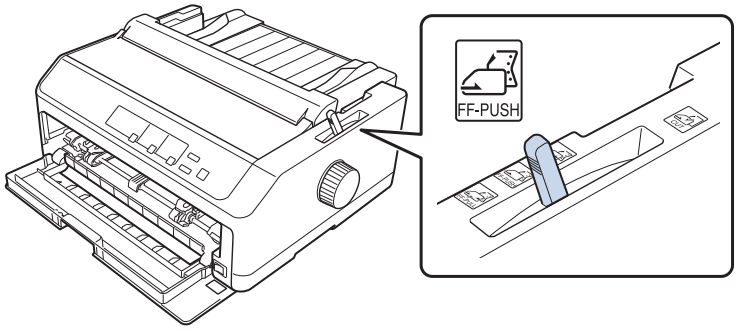
2. Open the front cover. Make sure the tractor is installed in the front push position.



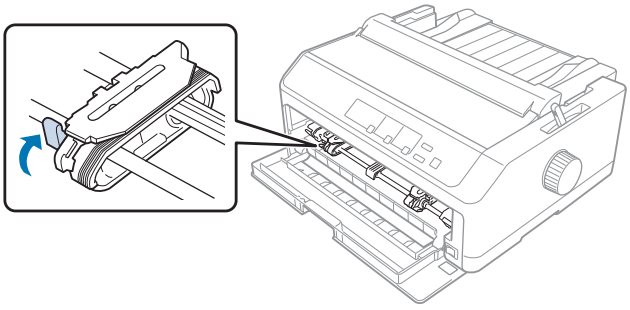
3. Remove the sub cover to insert the paper.



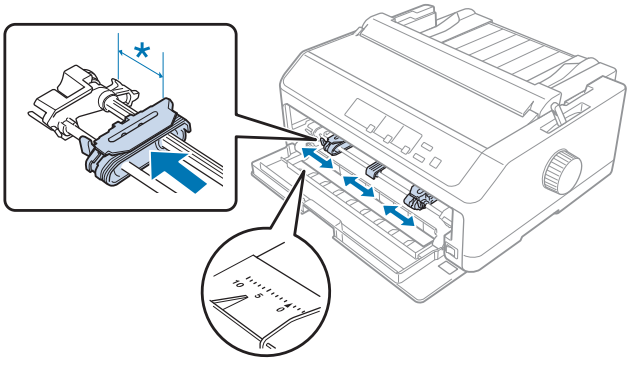
4. Set the paper release lever to the front push tractor position. Also set the paper-thickness lever (located under the printer cover) to the proper position for your paper's thickness. See "Adjusting the Paper Thickness Lever" on page 19 for instructions.



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

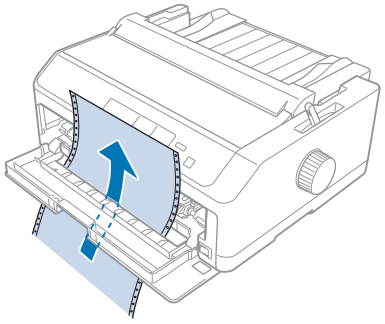


6. Slide the left sprocket approximately 12 mm (0.5 inch) from the far left position and pull the blue lever forward to lock it in place. Then slide the right sprocket to match the width of your paper, but do not lock it.

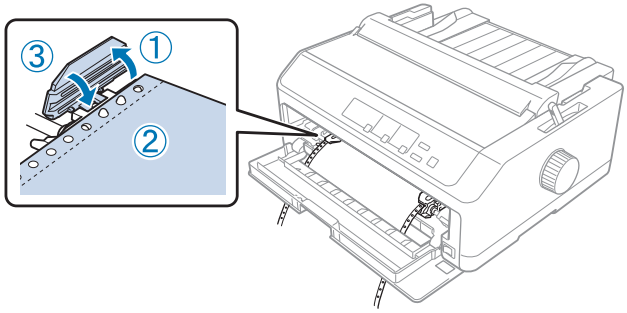


* approx. 12 mm (0.5 inch)

7. Insert the paper into the bottom slot as shown in the illustration below.

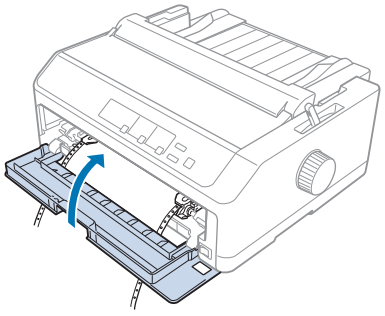


8. Make sure your paper has a clean, straight edge. Then open both sprocket covers and fit the first four holes of the paper, with printable side up, over the tractor pins. Then close the sprocket covers.



9. Slide the right sprocket to remove any slack in the paper; then lock it in place by pushing the sprocket lock down.

10. Close the front cover with the continuous paper positioned as shown below.



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

Note:
For your safety, Epson recommends operating the printer with the printer cover closed. The printer will function with the printer cover opened 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 42 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 56.

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.

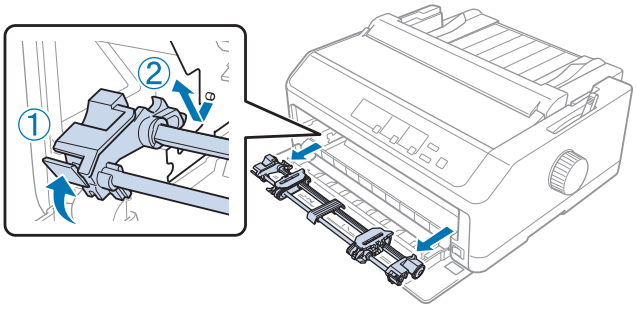
Removing the tractor from the front push position

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

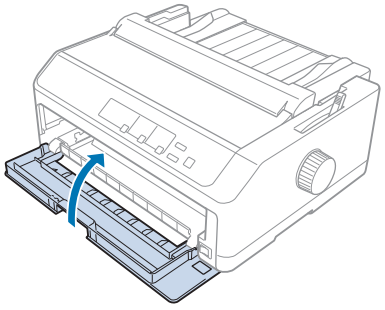
1. Make sure the printer is turned off.

2. Remove any paper from the tractor as described in "Removing continuous paper" on page 42.

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 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 40 for more information.

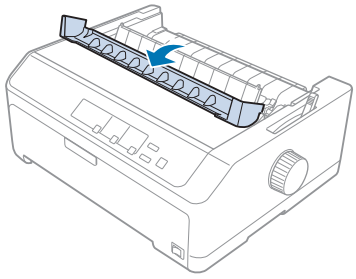
This section provides instructions of following:
- "Installing the tractor in the pull position" on page 31
- "Loading paper with the pull tractor" on page 33
- "Removing the tractor from the pull position" on page 38

Installing the tractor in the pull position

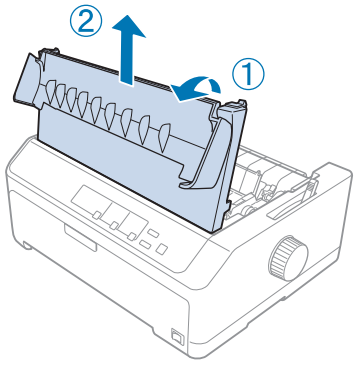
Before installing the tractor in the pull position, remove it from its current position. If the tractor is in the front push position, remove it by pressing the tractor's lock tabs while lifting it out. If the tractor is in the rear push position, remove the sheet guide and then press the tractor's lock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

Note:
If you plan to load paper from the rear, you need to insert the paper into the paper path before installing the sheet guide and tractor. See "Loading paper with the pull tractor" on page 33 for instructions.

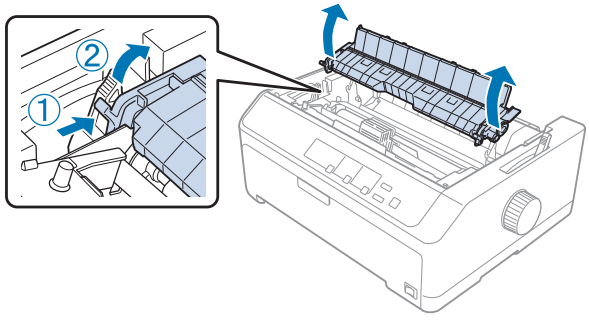
1. Make sure the printer is turned off. Then open the paper guide cover by pulling its back edge forward.



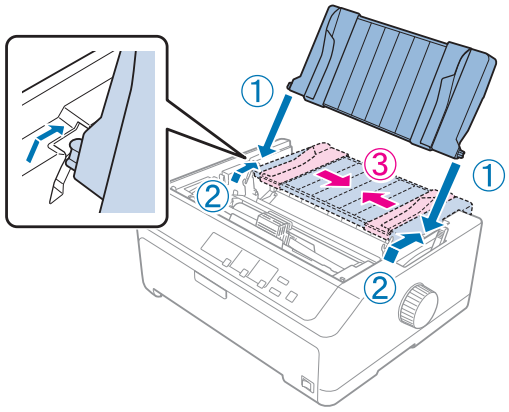
2. Lift the printer cover and pull it straight up.



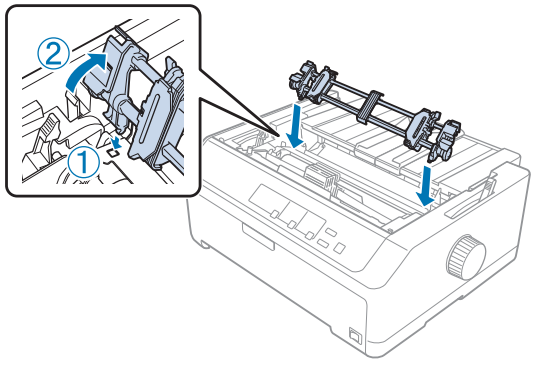
3. Press the tabs on each side of the paper tension unit upward and pull it towards you. Store the paper tension unit in a safe place.



4. Attach the sheet guide if necessary then lay it flat on the printer. Then slide the edge guides to the middle of the sheet guide.



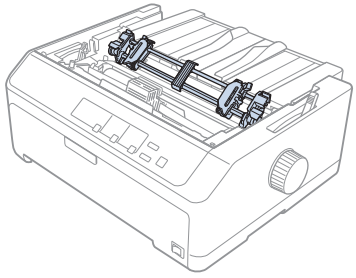
5. Lower the tractor into the printer's mounting slots and press down both ends of the tractor to make sure it is firmly seated.



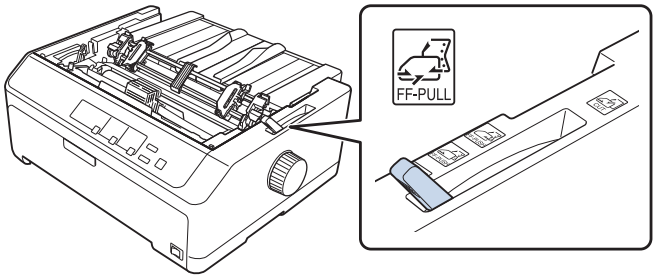
Loading paper with the pull tractor

Follow these steps to load paper using the pull tractor:

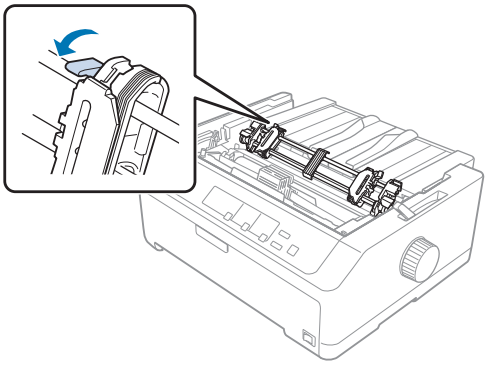
1. Before loading a paper, make sure the following:
   - the printer is turned off
   - the printer cover is removed
   - the tractor is installed in the pull position
   - the sheet guide is lying flat on the printer



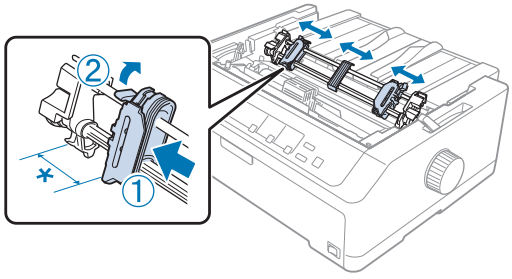
2. Set the paper release lever to the pull tractor position.



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.



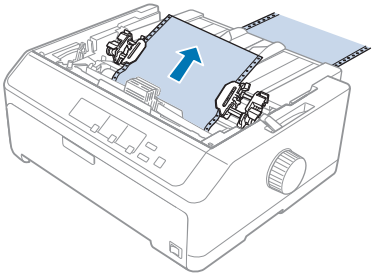
* approx. 12 mm (0.5 inch)

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

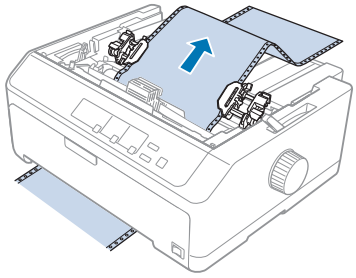
Note:
Make sure the printer is off before you insert the paper in the paper slot. If you insert the paper while it is on, a paper jam may occur.

6. Insert the paper into the rear, 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.

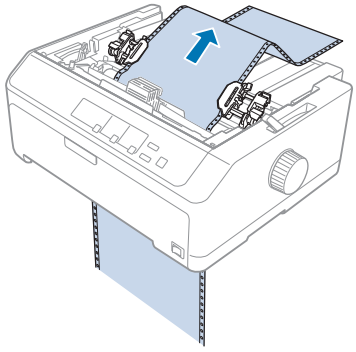
Rear slot:
Load paper in the rear slot with the printable side facing up.



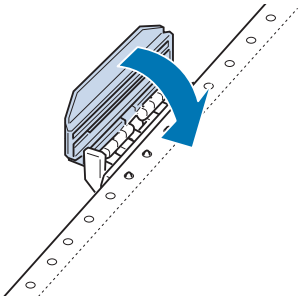
Front slot:
Load paper with the printable side facing up.



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

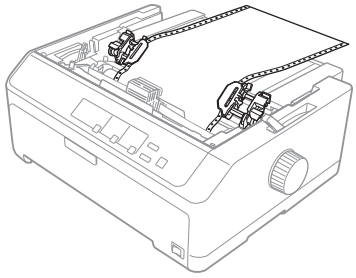


7. Fit four holes of the paper over the tractor pins on both sprockets. Then close the sprocket covers.

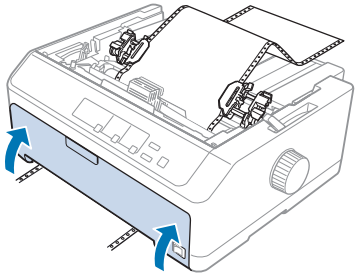


8. Slide the right sprocket to remove any slack in the paper, then lock it in place.

9. Slide the edge guides on the sheet guide to the center.



10. Close the front cover as shown below.



Note:
When using the bottom slot, you do not need to open the front cover.

11. Turn on the printer.

12. 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.

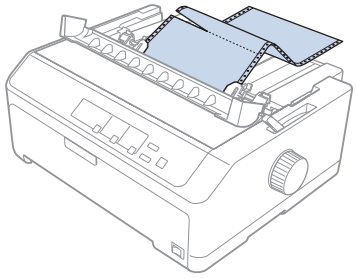
13. If necessary, follow the steps in "Adjusting the top-of-form position" on page 56 to adjust the current position of the paper.

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 opened or removed, but maximum safety and print speed are achieved when the cover is closed.

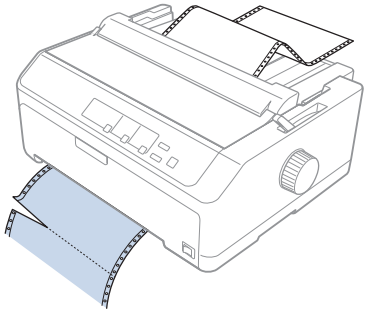
15. The printer starts printing from the top-of-form position. After you finish printing, open the paper guide cover.



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

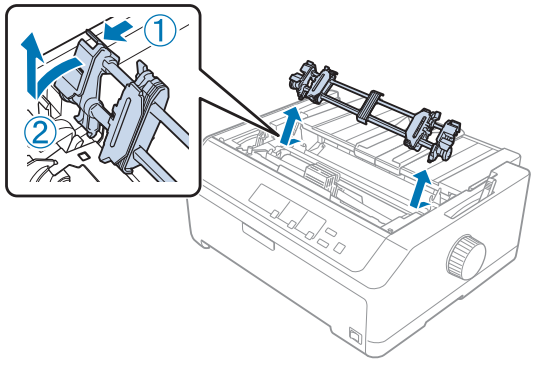
Follow these steps to remove the tractor from the pull position:

1. Remove any paper loaded on the pull tractor as described in "Removing paper from the pull tractor" on page 38.

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

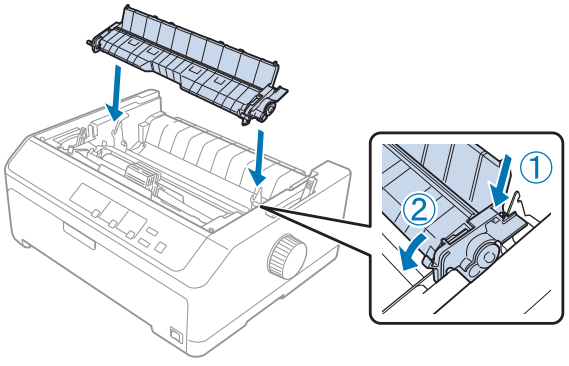
3. Lift the printer cover and pull it straight up and off the printer.

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 26 or "Using the tractor in the rear push position" on page 21.

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 pull tractor unit.
FX-890II/FX-890IIN:
- C933761 (For worldwide users)
- C933771 (For users in India)
FX-2190II/FX-2190IIN:
- C933791 (For worldwide users)
- C933801 (For users in India)

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 26 or "Installing the tractor in the rear push position" on page 22.

2. Load continuous paper using the front or rear push tractor as described in "Loading paper with the front push tractor" on page 27 or "Loading paper with the rear push tractor" on page 22.

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 and 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 31.

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 55) 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.

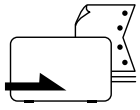
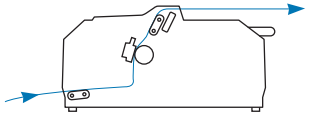
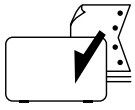
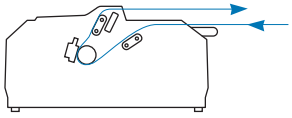
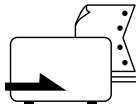
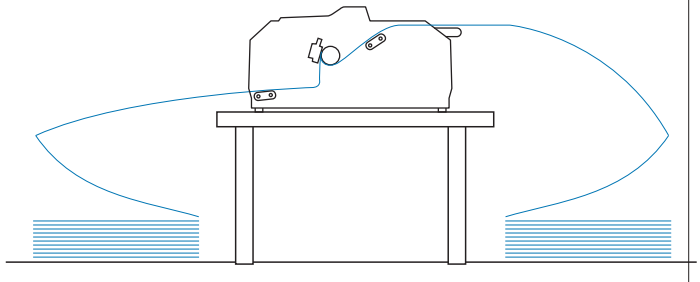
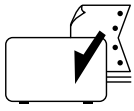
9. When the printer receives data, it will start printing at the current position without advancing the paper. If necessary, follow the steps in "Adjusting the top-of-form position" on page 56 to adjust the current position of the paper.

10. Attach the printer cover. Make sure the sheet 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 opened or removed, but maximum safety and print speed are achieved when the cover is closed.

11. The printing starts 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: Press the **Tear Off/Bin** button
- ❏ Automatically: Turn 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 55 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 you finish printing, make sure 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 55.

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

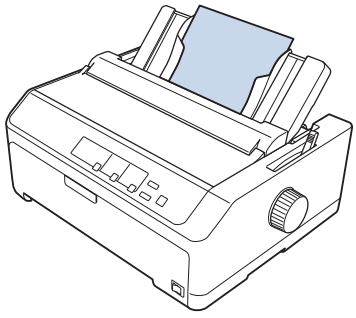
Advancing paper to the tear-off position automatically

To automatically advance the 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 97 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

You can load ordinary single sheets and envelopes one at a time from the rear and front bypass tray of the printer, using the sheet guide.



You can also load single-sheet paper using an optional cut-sheet feeder and sheet guide. See "Front sheet guide" on page 45 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 19 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)	front and rear
	3 parts (original and two copies)	
	4 parts (original and three copies)	
	5 parts (original and four copies)	
	6 parts (original and five copies)	
Envelopes		rear

Note:
Do not load paper that is curled or has been folded.

Using the sheet guide

You can use the supplied sheet guide to load one single sheet, multipart forms, or envelopes at a time from the rear of the printer. Your single-sheet paper can be up to 257 mm (10.1 inches) wide on the FX-890II/FX-890IIN and 420 mm (16.5 inches) wide on the FX-2190II/FX-2190IIN. See "Printer Specifications" on page 141 for more details.

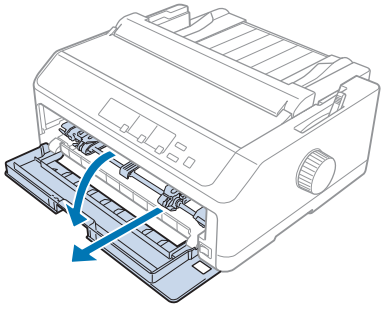
Caution:
Do not load carbon paper or labels in the sheet guide.

Front sheet guide

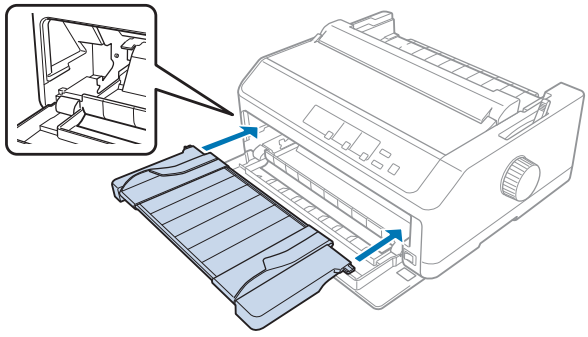
Installing the front sheet guide

Follow these steps to install the sheet guide in the front position:

1. Open the front cover, and then 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 sheet guide over the mounting notches on the printer as shown below.



You are now ready to load paper in the front using the sheet guide. See "Loading paper in the rear sheet guide" on page 47 for instructions.

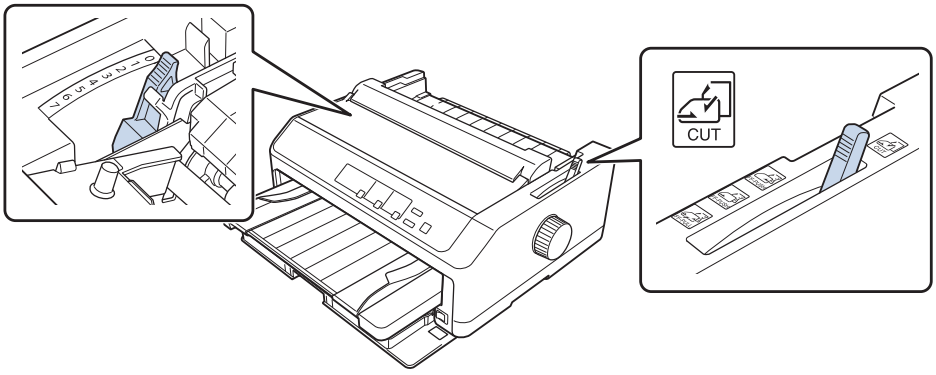
Loading paper in the front sheet guide

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

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

1. Make sure the sheet 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.



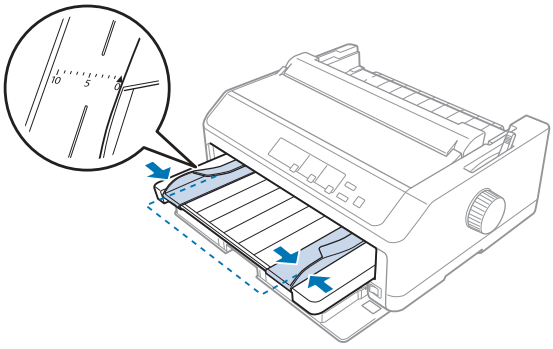
If you are loading a single-sheet multipart form, set the paper-thickness lever to the proper position, as shown in the table below.

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

3. Turn on the printer, if necessary.

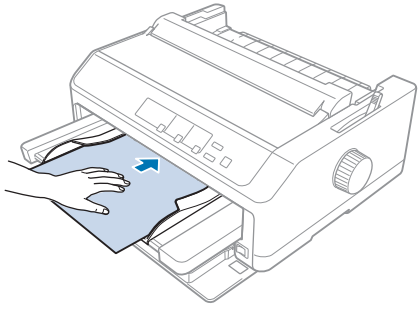
4. Slide the left edge guide to the triangle mark on the sheet guide. Then adjust the right edge guide to match the width of your paper.

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.



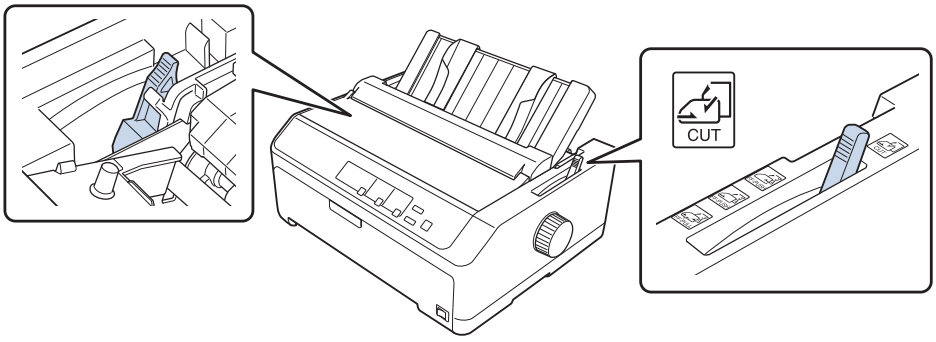
If the first line on your page appears too high or low, you can adjust its position using the Micro Adjust function. See "Adjusting the top-of-form position" on page 56.

Loading paper in the rear sheet guide

Follow these steps to load paper in the rear sheet guide:

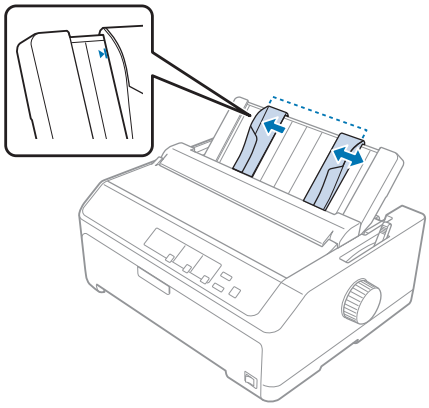
Note:
Make sure the sheet guide is in the upright position.

1. Set the paper-thickness lever (located under the printer cover) to 0 if you are using ordinary single-sheet paper. Also move the paper release lever to the single-sheet position.

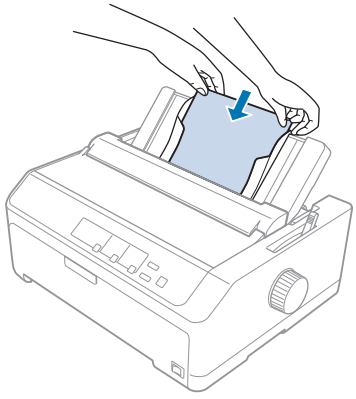


2. Turn on the printer, if necessary.

3. Slide the left edge guide until it locks in place next to the triangle mark on the sheet 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 opened 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 56 for more information.

Loading Special Paper

Multipart forms

Your printer can print on both single-sheet and continuous multipart forms. It can use multipart forms with up to six parts including the original.

Caution:
- ❏ *Use only carbonless multipart forms.*
- ❏ *When using multipart forms with a line of glue at the top of the form, load the forms with the glued side first.*

Before printing, set the paper-thickness lever to the appropriate position for your multipart forms referring to the table in "Adjusting the Paper Thickness Lever" on page 19.

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 21 for more information.

Note:

- ❏ *Be sure your multipart forms do not exceed 0.49 mm (0.019 inch) in thickness.*
- ❏ *Do not load paper that is curled or has been folded.*
- ❏ *Thick paper, such as multipart forms with six or seven parts, requires a straight paper path to avoid paper jams. Load thick paper in the front or bottom slots.*

Single-sheet multipart forms

You can load single-sheet multipart forms from the front and rear position by using the sheet guide.

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 33 for more information.

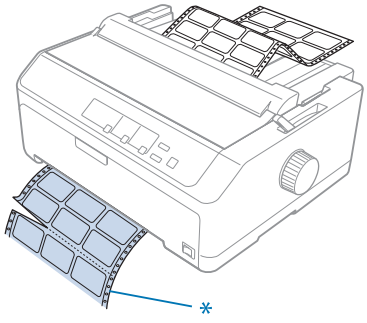
Caution:

- ❏ *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.*
- ❏ *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.*

Tear off and eject labels

When using continuous forms, always tear off and eject labels as described below.

1. Tear off the last label form that has entered the printer.



* perforation nearest the paper entry slot

2. Press 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.*

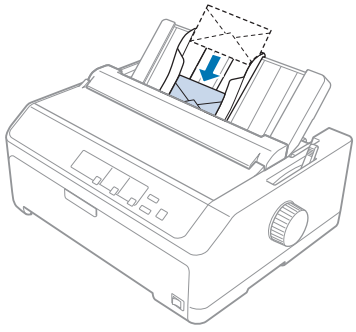
Envelopes

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

Note:
Envelopes can be loaded only in the rear paper slot.

Before loading envelopes, set the paper-thickness lever to a position 5 (for thin envelopes) or 6 (for thick envelopes).

To load a single envelope, follow the instructions in "Loading paper in the rear sheet guide" on page 47. To load multiple envelopes, see "Loading paper in the high-capacity cut-sheet feeder" on page 129. 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 recommended printable area of your envelope. See "Recommended printable area" on page 151 for more information.*
- ❏ *If you are using No. 6 envelopes, make sure the left edge guide is aligned with the arrow on the sheet guide.*

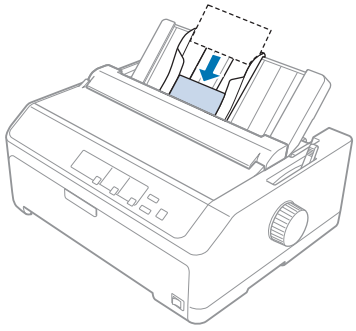
Cards

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

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

Before loading cards, set the paper-thickness lever to position 2 and set the paper release lever to the single-sheet position.

To load a single card, follow the instructions in "Loading paper in the rear sheet guide" on page 47.



Note:
- ❏ *When you are loading postcards long edge first, always load them in the rear 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 Continuous Paper and Single Sheets

You can easily switch between continuous paper with a rear push tractor and single sheets without removing the continuous paper from the tractor.

Switching to single sheets

Follow these steps to switch from continuous paper from a push tractor to single sheets:

Note:

- ❏ *If continuous labels are loaded in the printer, remove them before switching to single-sheet printing. See "Tear off and eject labels" on page 51 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 38 for more information.*

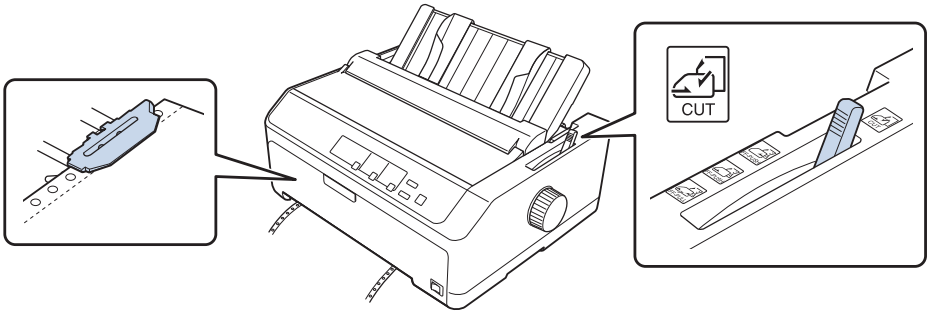
1. If any printed pages remain in the printer, press the **Tear Off/Bin** button to advance the paper to the tear-off position. Then tear off the printed pages.

   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 sheet 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 44.

Switching to continuous paper

Follow these steps to switch from single sheets to continuous paper with a push tractor:

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 21.

3. Set the paper release lever to the front or rear push position, depending on the tractor position you are using.

The 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

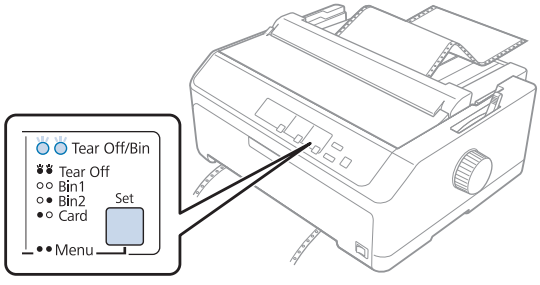
If your paper perforation is not aligned with the tear-off edge, you can use the Micro Adjust function to move the perforation to the tear-off position.

⚠ ***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:
The tear-off position setting remains in effect until you change it, even if you turn off the printer.

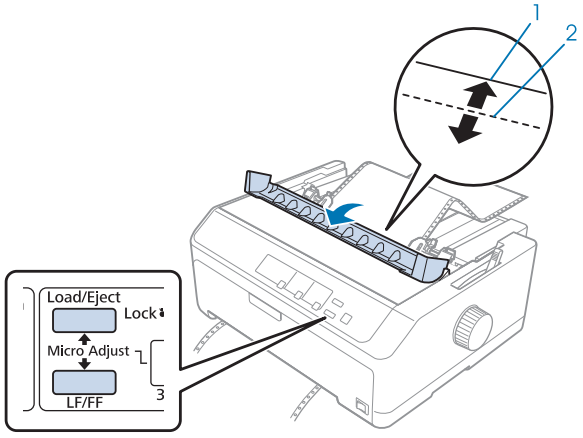
Follow these steps to adjust the tear-off position:

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 forward, or press the **Load/Eject** button to feed paper backward, until the paper perforation is aligned with the tear-off edge of the paper tension unit.



1. tear-off edge of the paper tension unit
2. paper perforation

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 save the adjusted setting.

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 the printing appears too high or low on the page, you can use the Micro Adjust function 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.

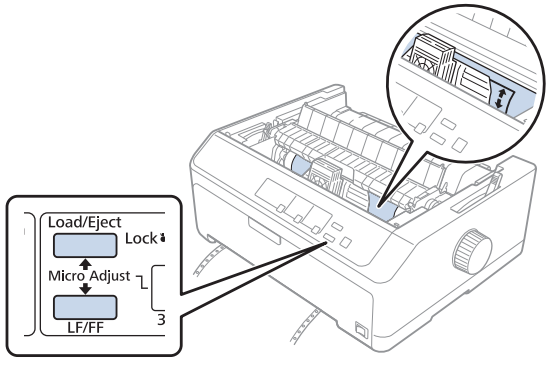
Note:
- ❏ *This mode can be used even when the printer cover is opened.*
- ❏ *The top-of-form position setting remains in effect until you change it, even if you turn off the printer.*
- ❏ *The top margin setting made in some application software overrides the top-of-form position setting you make with the Micro Adjust function. If necessary, adjust the top-of-form position in your software.*

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

1. Make sure the printer is turned on.
2. Load paper then lift up the printer cover.

   Note:
   *If the tractor is in a push position, press the **Load/Eject** button to advance continuous paper to the current top-of-form 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 down on the page, or press the **Load/Eject** button to move the top-of-form position up 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 save the adjusted setting.

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

Chapter 2

Printer Software

About Your Printer Software

The Epson software 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. See "Installing EPSON Status Monitor 3" on page 72 for instructions.

Note:

- ❏ *Before proceeding, make sure you have installed the printer driver on your computer described in the supplied setup sheet.*
- ❏ *On-screen displays on the following pages may differ depending on the version of the printer driver.*
- ❏ *When you wish to reinstall or upgrade the printer driver, uninstall the printer driver that has been installed already.*

Using the Printer Driver

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

Screens and procedures that appear in this manual are mostly from Windows 10 unless otherwise specified.

- ❏ 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 60 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 62 for more information.

See "Changing the printer driver settings" on page 65 to check and change printer driver settings.

Note:

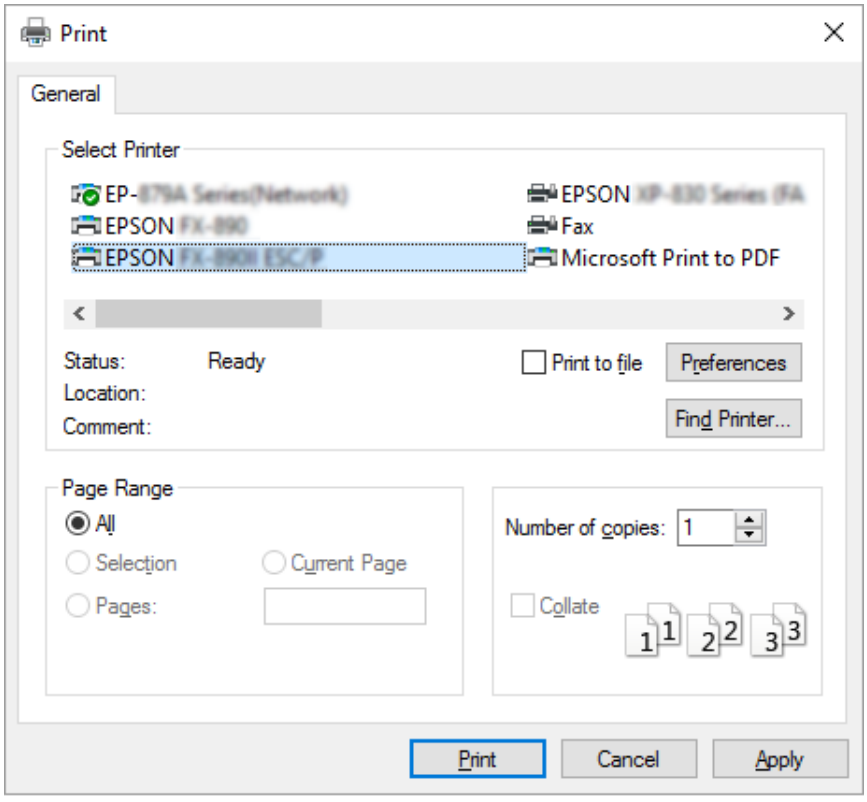
- ❏ *The examples in the following section are from the FX-890II. If you have the FX-890IIN, FX-2190II, and FX-2190IIN, substitute the model that has been used. The instructions are the same all models.*
- ❏ *While many Windows applications override the settings made with the printer driver, some do not, so you must verify that the printer driver settings match your requirements.*

Accessing the printer driver from Windows applications

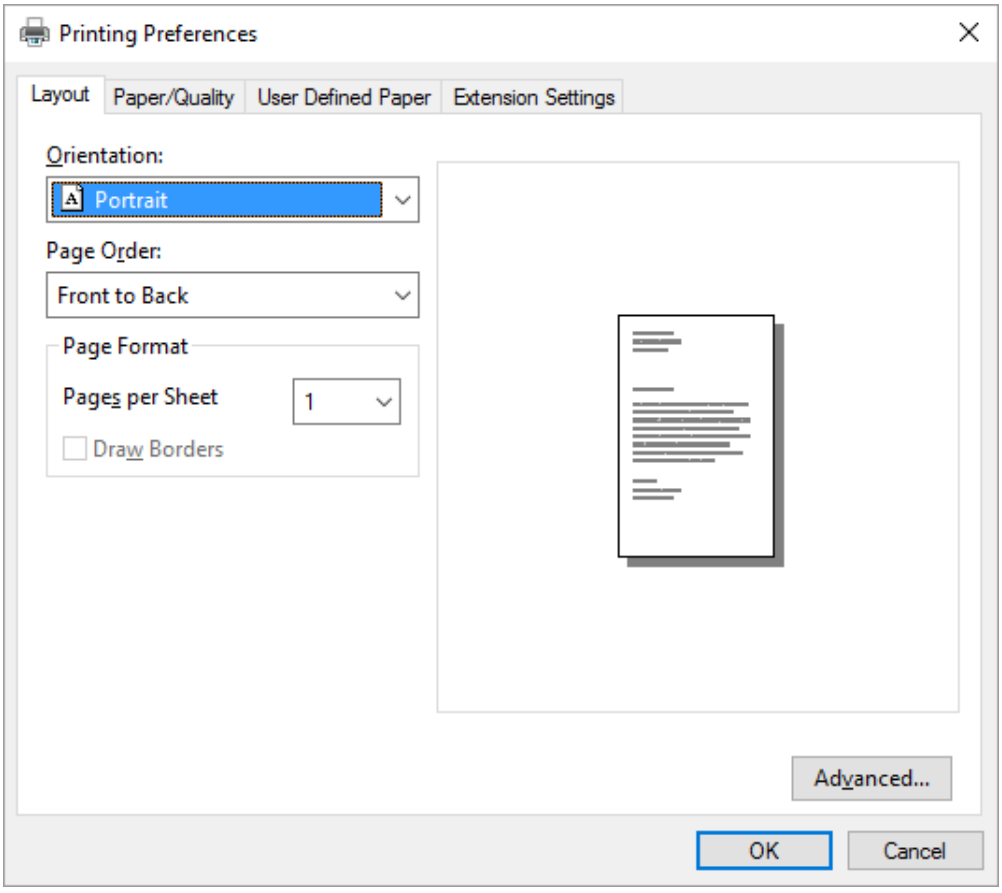
Follow these steps to access the printer driver from a Windows application:

Note:
The screen shots used in this procedure are from the Windows 10 operating system. The content on the screen may vary depending on your computer's environment.

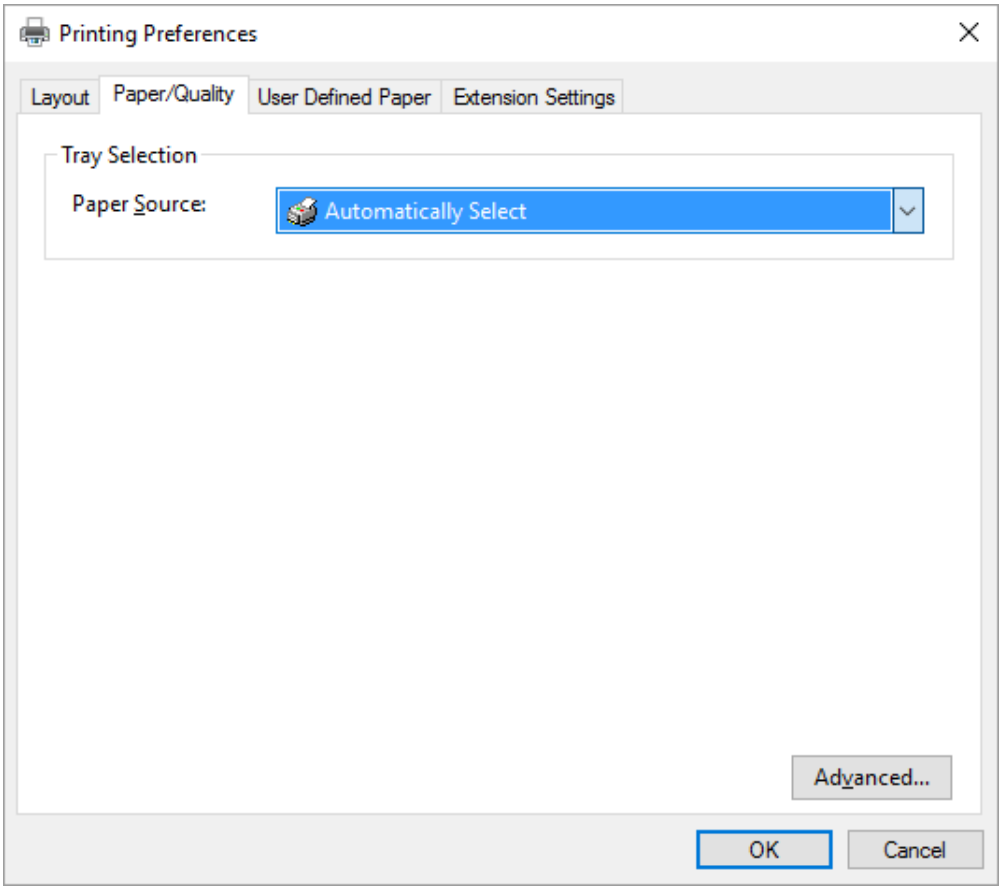
1. Select **Print** from the File menu of your application software. Make sure that your printer is selected in the Select Printer of Print dialog box.



2. Click **Preferences**. The Printing Preferences window appears, and you see the Layout, Paper/Quality, User Defined Paper, and Extension Settings menus. 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 65 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 10 operating system. The content on the screen may vary depending on your computer's environment.

1. For Windows 10:
   Right-click the **Start** menu, click **Control Panel**, and then click **View devices and printers** from the **Hardware and Sound** category.

For Windows 8, 8.1/Server 2012:
Click **Desktop** on the **Start** screen, move the cursor to the top-right corner of the screen, click Settings, and then click **Control Panel**. Next, click **View devices and printers** from the **Hardware and Sound** category.

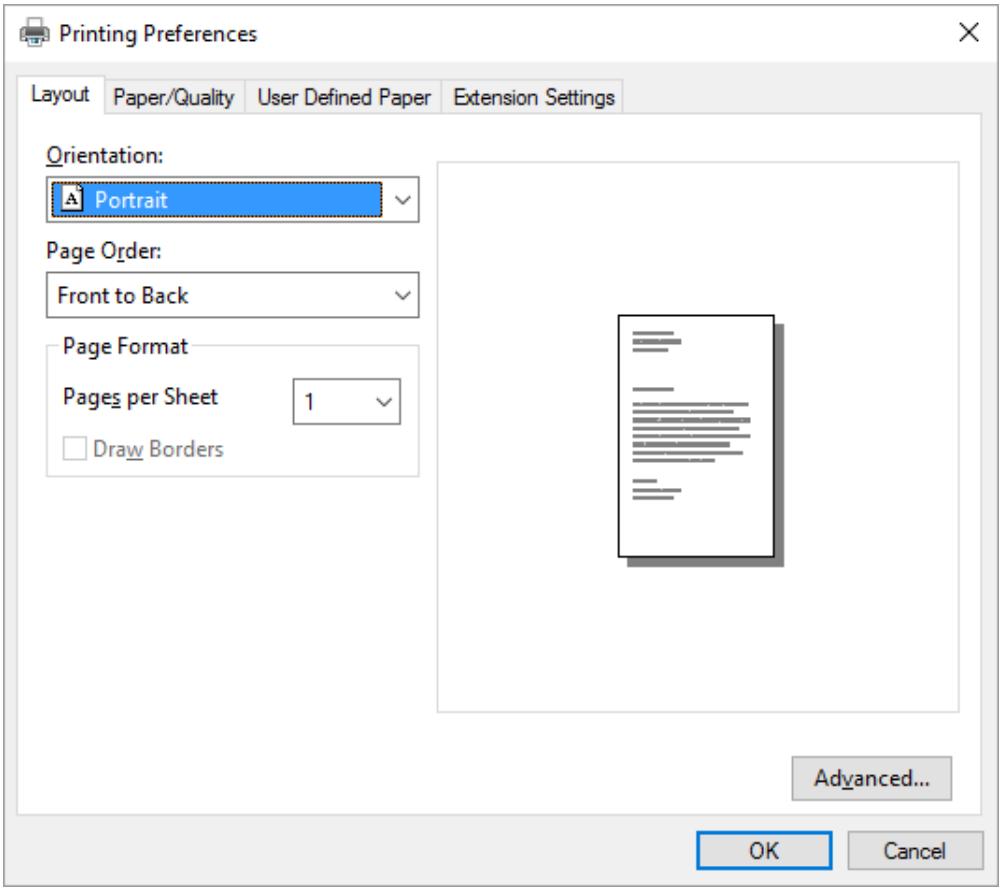
For Windows 7/Server 2008 R2:
Click **Start**, and click **Devices and Printers**.

For Windows Vista/Server 2003 R2:
Click **Start**, click **Control Panel**, click **Hardware and Sound**, and then click **Printers**.

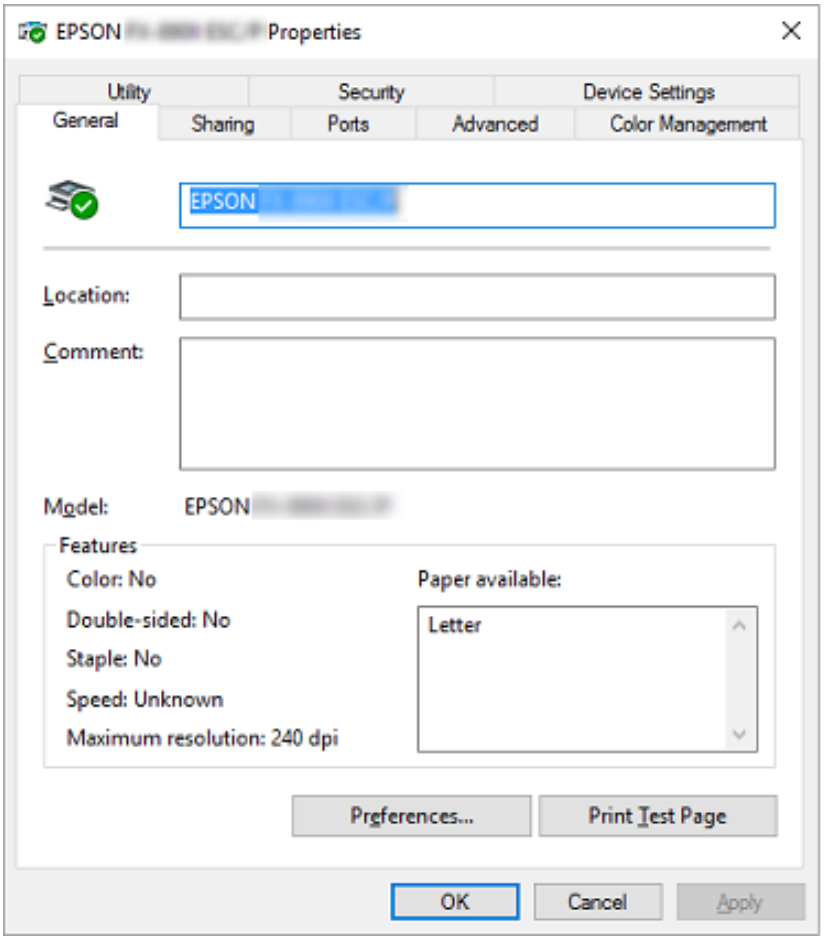
For Windows XP Professional edition:
Click **Start**, and click **Printers and Faxes**.

For Windows XP Home edition:
Click **Start**, click **Control Panel** first, and then click **Printers and Faxes**.

2. Right-click your printer icon, and click **Printing preferences**. The screen displays the Layout, Paper/Quality, User Defined Paper and Extension Settings menus. These menus display the printer driver settings.



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



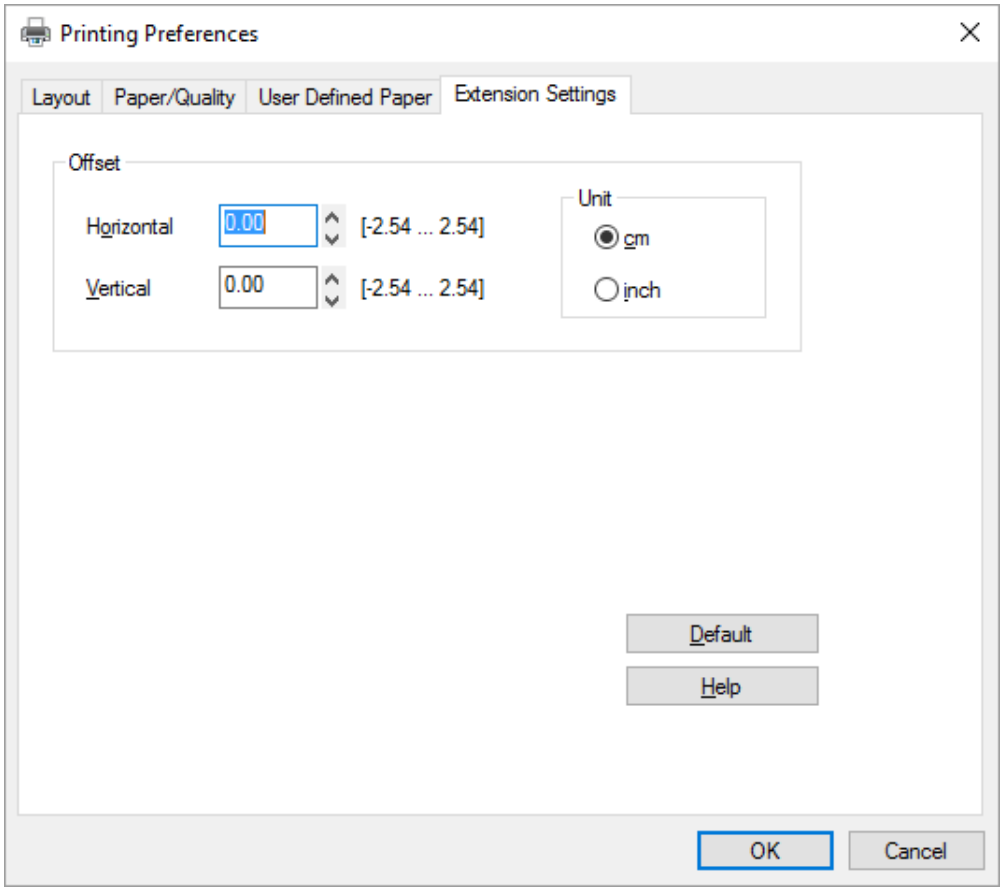
3. To view a menu, click the corresponding tab at the top of the window. See "Printer Driver Settings Overview" on page 66 for more information.

Changing the printer driver settings

Your printer driver has two menus from which you can change the printer driver settings; Layout, 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 66.

Note:
For Windows XP, you can also view online help by right-clicking items in the driver and selecting ***What's this?****.*

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

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.
Orientation	Select **Portrait** or **Landscape**.
Page Order	Select whether to print from front to back or back to front.
Pages per Sheet	Select the number of pages that you want to print onto a single page.
Paper Source	Select the paper source you want to use.
Graphics	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.
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 **Help** in this dialog box.
Printer Font Setting	Select a character table group to use. You can select one of three character table groups, Standard, Expanded, and None (Bit Image printing). When Standard or Expanded is selected, the printer uses the device fonts. Expanded includes more fonts than Standard. When None is selected, the printer uses bit map images instead of the device fonts. For details on the fonts which are included in each table, see "Electronic" on page 144.
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.

Settings	Explanations
Print Speed	This setting allows you to select print speed. Select **Printer Setting** when you want to print using the settings stored in the printer. When **Standard** is selected, prints in standard printing mode. When **High Speed** is selected, prints in high-speed printing mode.
Print Direction	This setting allows you to select bidirectional printing. Selecting the **Printer Setting** will use the setting stored in the printer. Selecting **Bidirectional** will print in bidirectional printing mode. Selecting **Unidirectional** will print in unidirectional printing mode.

Definition of Custom Paper Size

If your paper is not included in the Paper Size drop-down list, you can add the size to the list.

1. For Windows 10:
   Right-click the **Start** menu, click **Control Panel**, and then click **View devices and printers** from the **Hardware and Sound** category.

   For Windows 8, 8.1:
   Click **Desktop** on the Start screen, move the cursor to the top-right corner of the screen, click **Settings**, and then click **Control Panel**. Next, click **View devices and printers** from the **Hardware and Sound** category.

   For Windows 7:
   Click **Start**, and click **Devices and Printers**.

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

   For Windows XP:
   Click **Start**, and click **Printers and Faxes**.

   For Windows XP Home Edition:
   Click **Start**, click **Control Panel**, and then click **Printers and Faxes**.

2. Right click your printer icon, and click **Printing preferences**.

3. Select the **User Defined Paper** menu.

4. Enter the paper size in the Paper Size fields.

5. Click **Apply** and then click **OK**.

Note:
For more details, see Help for the printer driver.

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 70 for more information.

Setting Utility

Settings	Explanations
Bi-D Adjustment	Click this button to open the Bi-D Adjustment dialog box where you can adjust misalignment in vertical lines.
Printer Setting	Click this button to open the Printer Settings utility dialog box where you can change the printer settings.

Using EPSON Status Monitor 3

EPSON Status Monitor 3 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 when:

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

EPSON Status Monitor 3 is installed when the printer is connected directly and the printer driver is installed. When sharing the printer, be sure to set EPSON Status Monitor 3 so that the shared printer can be monitored on the printer server and clients. See "Setting up EPSON Status Monitor 3" on page 70 and "Setting Up Your Printer on a Network" on page 76.

Note:

- ❏ *If you are using a computer running with different OS by multiple users are logged on, a communication error message may be displayed when monitoring printers at the same time.*
- ❏ *Although you can print to the printer directly connected to the computer in a remote location by using Remote Desktop function, communication error may occur.*
- ❏ *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. This problem can be resolved by adding ENAGENT.EXE to Exceptions of the firewall function.*

Setting up EPSON Status Monitor 3

Follow these steps to set up EPSON Status Monitor 3:

1. For Windows 10:
   Right-click the **Start** menu, click **Control Panel**, and then click **View devices and printers** from the **Hardware and Sound** category.

   For Windows 8, 8.1:
   Click **Desktop** on the Start screen, move the cursor to the top-right corner of the screen, click **Settings**, and then click **Control Panel**. Next, click **View devices and printers** from the **Hardware and Sound** category.

   For Windows 7:
   Click **Start**, and click **Devices and Printers**.

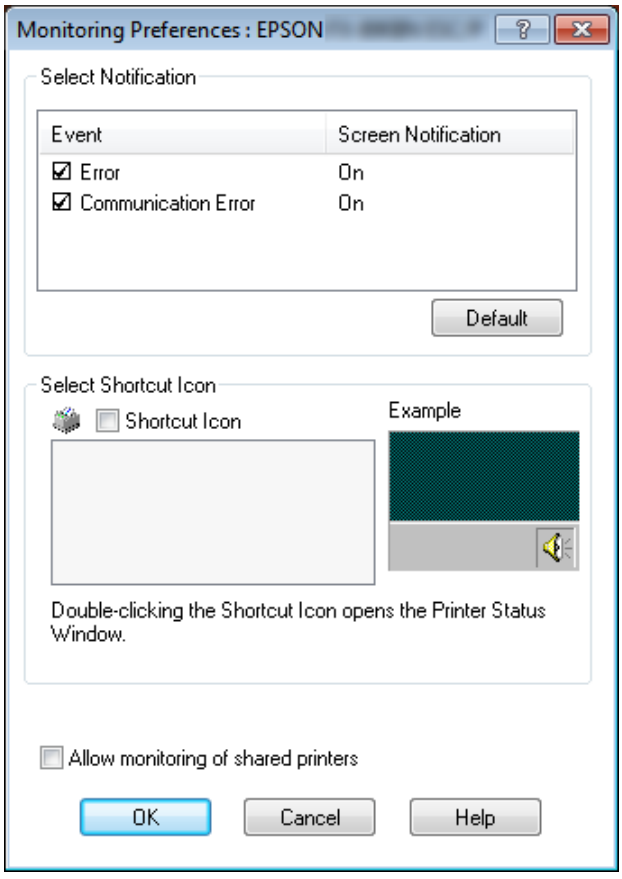
   For Windows Vista:
   Click **Start**, click **Control Panel**, click **Hardware and Sound**, and then click **Printers**.

   For Windows XP:
   Click **Start**, and click **Printers and Faxes**.

   For Windows XP Home edition:
   Click **Start**, click **Control Panel** first, and then click **Printers and Faxes**.

2. Right-click your printer icon, click **Printer properties** (Windows 10, 8 and 7) or **Properties** (Windows Vista and XP), and then click the **Utility** tab.

3. Click the **Monitoring Preferences** button. The Monitoring Preferences dialog box appears.



4. The following settings are available:

Select Notification	Displays the error item check box On/Off status. Turn on this check box to display the selected error notification.
Select Shortcut Icon	The selected icon is displayed on the taskbar. The setting's example is shown on the right window. By clicking the shortcut icon, you can access the Monitoring Preferences dialog box easily.
Allow monitoring of shared printers	When this check box is selected, a shared printer can be monitored by other PCs. **Note:** If the server's OS is Windows Vista, select **Run as Administrator** when opening the printer properties before checking.

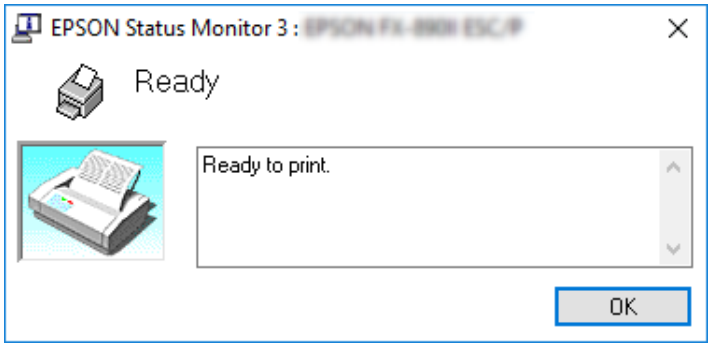
Note:
*Click the **Default** button to revert all items to the default settings.*

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" on page 59.

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.

Note:
It might not be possible to retrieve the printer status during printing. In this situation, click the ***EPSON Status Monitor 3*** *button in the Utility tab, and use the printer with the status window left open.*

Installing EPSON Status Monitor 3

Follow the steps below to install EPSON Status Monitor 3.

1. Make sure that the printer is off and that Windows is running on your computer.
2. Insert the Software Disc in the CD-ROM drive.

   Note:
   Before proceeding, make sure you have installed the printer driver on your computer.

3. Follow the on-screen instructions to install the software.

You can also run the executable file that locates in the following.

Client's OS	Folder Name
Windows XP/Vista/7/8/8.1/10 (x64)	\Apps\StatusMonitor\STM3x64
Windows XP/Vista/7/8/8.1/10 (x86)	\Apps\StatusMonitor\STM3

Using Bi-D Adjustment

This utility tool allows you to make adjustment when you find a misalignment in vertical line.

Making adjustment with Bi-D Adjustment

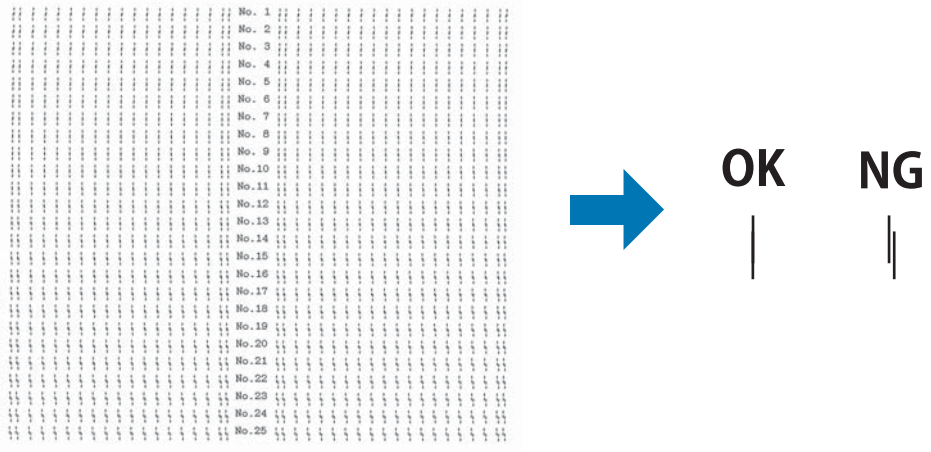
To make Bi-D Adjustment, follow the steps below.

Caution:

- ❏ *Do not turn off the printer while the printer is printing adjustment pattern. Doing so may cause the printer to store incorrect settings. If you turned off the printer during the adjustment process, restart Bi-D Adjustment again.*
- ❏ *Do not turn off Packet mode setting.*
- ❏ *Network connection is not supported.*
- ❏ *Make sure that the printer's status is ready before making Bi-D Adjustment.*
- ❏ *If Bi-D Adjustment is not printed properly, set the printer's font setting to default and try again.*

1. Open the **Utility** menu, then click the **Bi-D Adjustment** icon. To find out how to open the **Utility** menu, see "Using the Printer Driver" on page 59. The Bi-D Adjustment window appears.
2. Click **Next**.
3. Click **Print**. The printer prints three sets of adjustment pattern. To see the adjustment pattern, you need to prepare the necessary number of sheets.

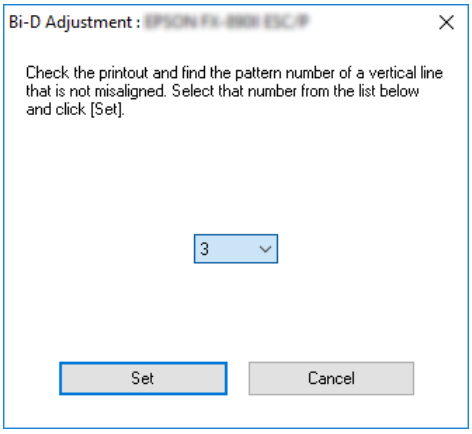
FX-890II/FX-890IIN: A4 or 8 inches continuous paper
FX-2190II/FX-2190IIN: A3 Rotated or 13.6 inches continuous paper



Note:
The image on the right above is an example of good and bad patterns in the print results.

4. Look at the adjustment patterns and find the vertical line that is aligned the best. Then, select the corresponding line number in the Bi-D Adjustment window.

5. Click **Set**. The adjustment value will be stored in the printer.



Using Printer Setting

This utility tool allows you to display current settings stored in the printer, change settings of the printer, and read settings stored in the file or save settings to the file.

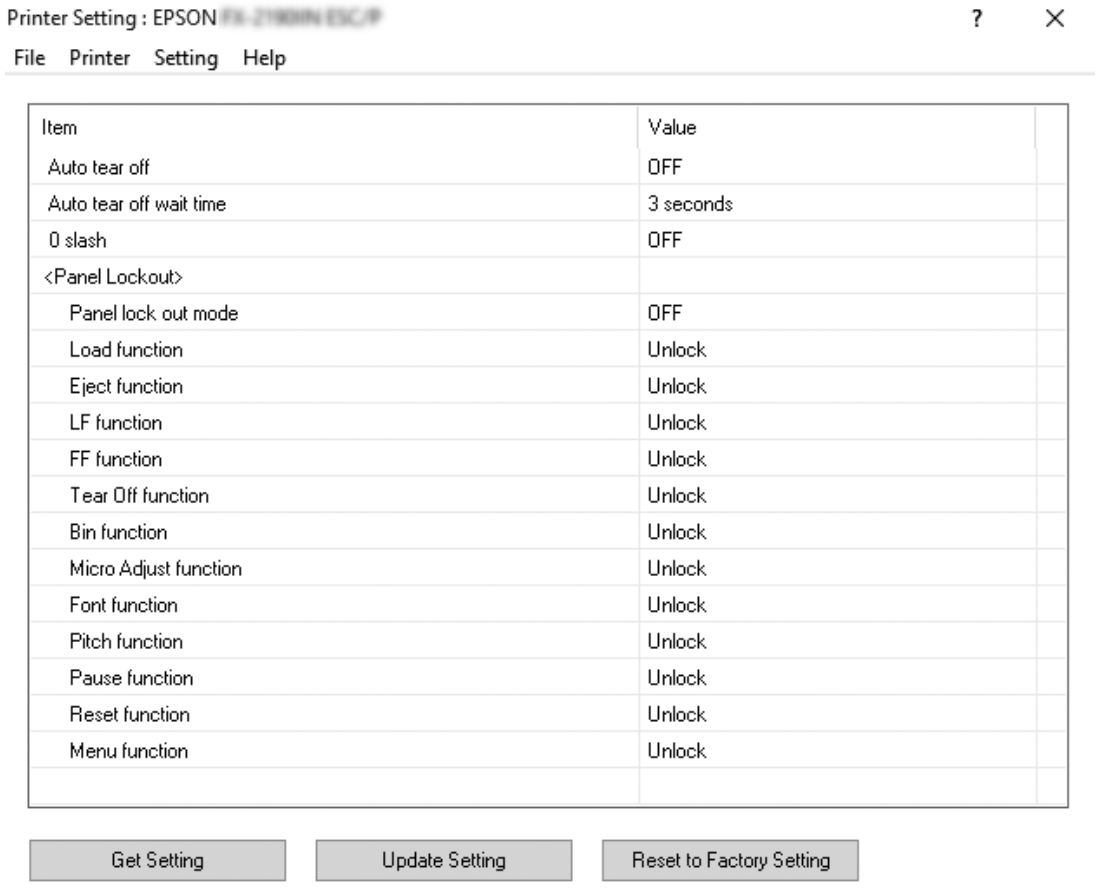
Caution:

- ❏ *Do not turn off Packet mode setting.*
- ❏ *Network connection and serial connection are not supported.*
- ❏ *Make sure that the printer status is ready before getting setting from the printer or updating the printer settings.*

Changing printer setting

To change printer settings, follow the steps below.

1. Open the **Utility** menu, then click the **Printer Setting** icon. To find out how to open the Utility menu, see "Using the Printer Driver" on page 59. The Printer Setting windows appears.



2. Change the necessary printer settings. For details on how to use this tool, refer to the printer driver Help.

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.

❏ See "Setting up your printer as a shared printer" on page 76.

❏ See "Setting for the clients" on page 80.

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 and clients. See "Setting up EPSON Status Monitor 3" on page 70.*

❏ *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.*

Setting up your printer as a shared printer

Follow these steps to set the printer server.

Note:
You must access as the Administrators of the local machine.

1. For Windows 10:
   Right-click the **Start** menu, click **Control Panel**, and then click **View devices and printers** from the **Hardware and Sound** category.

For Windows 8, 8.1:
Click **Desktop** on the **Start** screen, move the cursor to the top-right corner of the screen. Click **Settings**, and then click **Control Panel**. Next, click **View devices and printers** from the **Hardware and Sound** category.

For Windows 7:
Click **Start**, and then click **View devices and printers**.

For Windows XP:
Click **Start**, and click **Printers and Faxes**.

For Windows XP Home Edition:
Click **Start**, click **Control Panel**, then click **Printers and Faxes**.

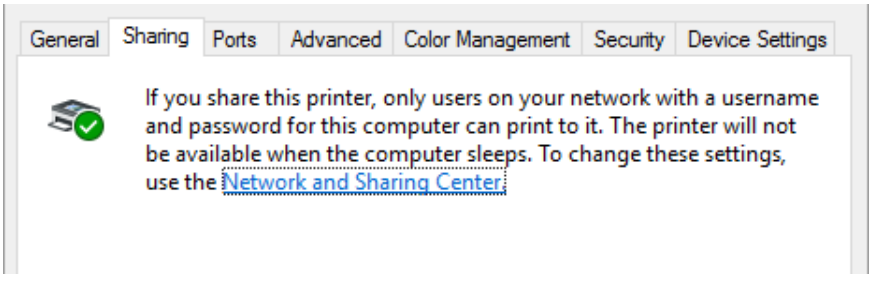
For Windows Vista:
Click **Start**, click **Control Panel**, click **Hardware and Sound**, and then click **Printers**.

2. For Windows 10, 8, 8.1, or 7:
Right-click your printer icon, click **Printer properties**, and then click the **Sharing** tab in the appearing screen.

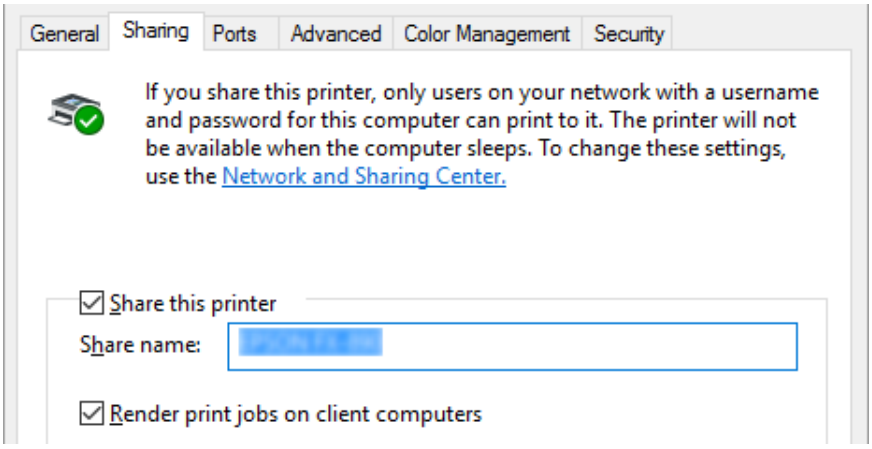
For Windows Vista or XP:
Right-click your printer icon, and click **Sharing** in the menu that appears.

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.



Select **Share this printer**, then type the name in the Share name box and click **OK**.



Note:

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

❏ *In Windows 8, 8.1, 7, or Vista, you cannot select* ***Share this printer*** *until you click the* ***Change sharing options*** *button.*

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

❏ See "Setting for the clients" on page 80.

Sharing the printer when the firewall is on

Note:
To share files and printers when Windows Firewall is on, perform the following procedure.

Windows 10

1. Right-click the **Start** menu, click **Control Panel**, click **System and Security**, and then click **Windows Firewall**.

2. Click **Turn Windows Firewall on or off** in the window on the left. Make sure that **Block all incoming connections, including those in the list of allowed apps** is not selected, and then click **OK**.

3. Click **Allow an app or feature through Windows Firewall** in the window on the left.

4. Select **File and Printer Sharing**, and then click **OK**.

Windows 8, 8.1

1. Click **Desktop** on the Start screen, move the cursor to the top-right corner of the screen, click **Settings**, and then click **Control Panel**. Next, click **System and Security**, and then click **Windows Firewall**.

2. Click **Turn Windows Firewall on or off** in the window on the left. Make sure that **Block all incoming connections, including those in the list of allowed apps** is not selected, and then click **OK**.

3. Click **Allow an app or feature through Windows Firewall** in the window on the left.

4. Select **File and Printer Sharing**, and then click **OK**.

Windows 7

1. Click **Start**, click **Control Panel**, click **System and Security**, and then click **Windows Firewall**.

2. Click **Turn Windows Firewall on or off** in the window on the left. Make sure that **Block all incoming connections, including those in the list of allowed programs** is not selected, and then click **OK**.

3. Click **Allow a program or feature through Windows Firewall** in the window on the left.

4. Select **Share file and printer**, and then click **OK**.

Windows Vista

1. Click **Start**, and then click **Control Panel**.

2. Click **Security**, and then click **Windows Firewall** to open the **Windows Firewall** window.

3. Click **Turn Windows Firewall on or off** in the window on the left. When the **User Account Control** screen is displayed, click **Continue**.

4. Make sure that **Block all incoming connections** is not selected from the **General** tab.

5. Open the **Exceptions** tab, select **File and Printer Sharing**, and then click **OK**.

Windows XP

1. Click **Start**, and then click **Control Panel**.
2. Click **Security Center**.
3. Click **Windows Firewall** to open the **Windows Firewall** window.
4. Make sure that **Don't allow exceptions** is not selected from the **General** tab.
5. Open the **Exceptions** tab, select **File and Printer Sharing**, and then click **OK**.

Setting for the clients

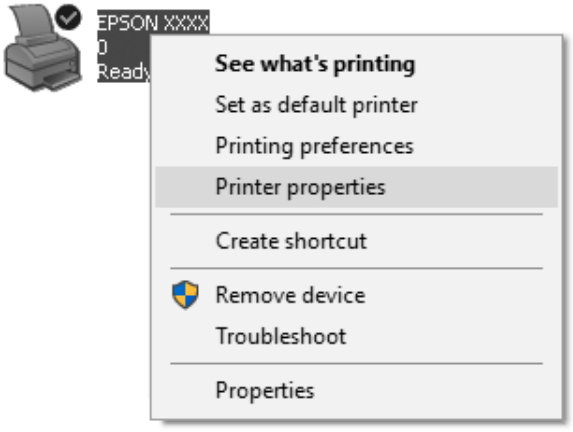
This section describes how to install the printer driver by accessing the shared printer on a network.

Note:

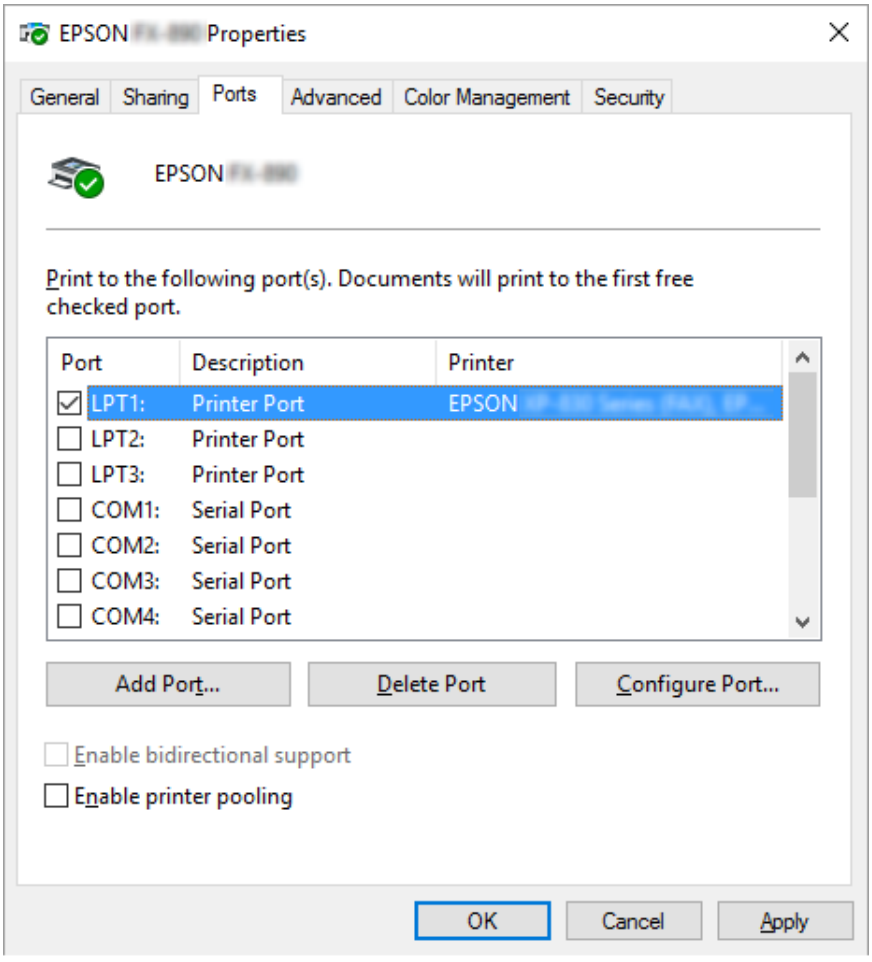
- ❏ *To share the printer on a Windows network, you need to set the printer server. For details, see "Setting up your printer as a shared printer" on page 76.*
- ❏ *This section describes how to access the shared printer on a standard network system using the server (Microsoft workgroup). If you cannot 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.*
- ❏ *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.*
- ❏ *If the printer drivers are not already installed on the client, please install them before performing these settings.*

1. Right-click the **Start** menu, click **Control Panel**, then click **View devices and printers**.

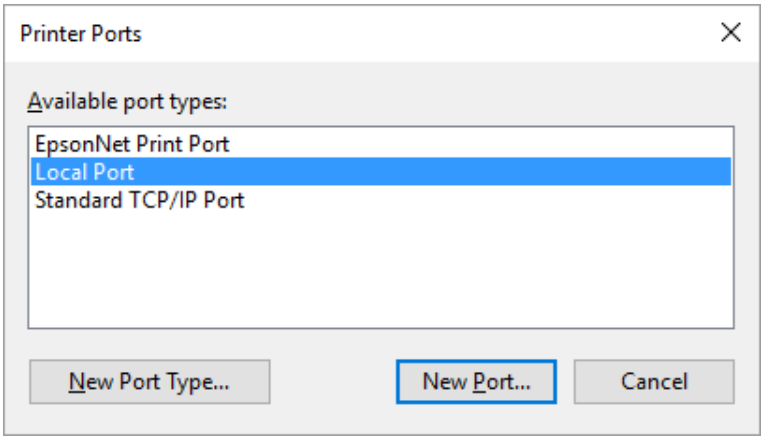
2. Right-click the icon for the printer you wish to change the settings for, and then click **Printer properties**.



3. Click the **Ports** tab and then click **Add Port**.

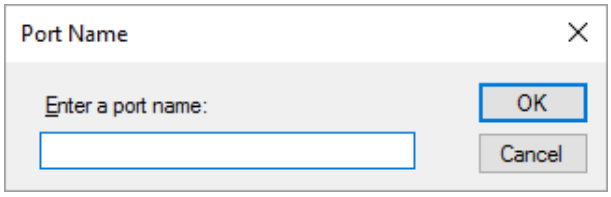


4. When the **Printer Ports** window appears, select **Local Port**, and then click **New Port**.



5. Enter the following information for the port name and then click **OK**.

   \\Name of computer connected to the target printer\name of shared printer



6. After returning to the **Printer Ports** window, click **Cancel**.

7. Check that the name you entered for the port has been added and selected, and then click **Close**.

Installing the printer driver from the CD-ROM

This section describes how to install the printer driver in the clients when the computers of the server and clients use different OS.

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

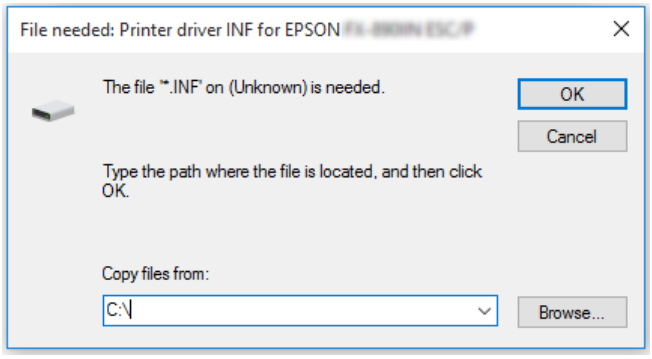
Note:

❏ *When installing in Windows 10, 8, 8.1, 7, Vista, and XP clients, you must access Windows 10, 8, 8.1, 7, Vista, and XP with the Administrator.*

❏ *If the computers of the server and clients have 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 Install Navi 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, "Digital Signature is not found." may appear. Click **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 XP/Vista/7/8/8.1/10 (x64)	\Driver\Printer\Driver\WINX64
Windows XP/Vista/7/8/8.1/10 (x86)	\Driver\Printer\Driver\WINX86

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

Note:

❏ *If you also want to install EPSON Status Monitor 3, see "Installing EPSON Status Monitor 3" on page 72 for instructions.*

❏ *If you want to use EPSON Status Monitor 3 for the shared printer, reinstall the printer driver as instructed in "Setting for the clients" on page 80 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" on page 80.*

❏ *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. This problem can be resolved by adding ENAGENT.EXE to Exceptions of the firewall function.*

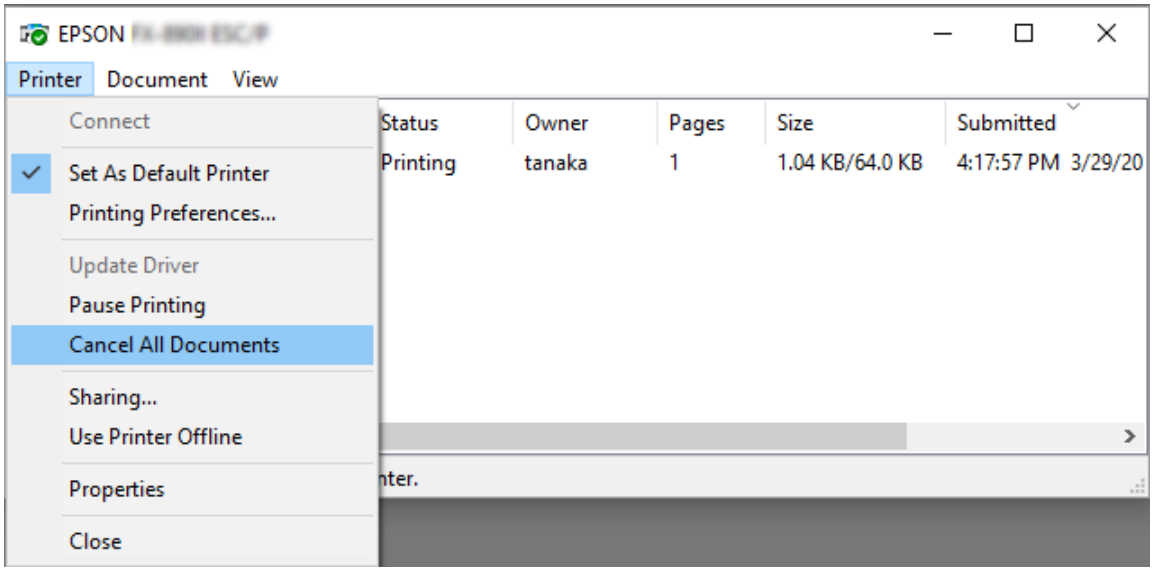
Cancelling Printing

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.



2. When cancelling all printing documents, select **Cancel All Documents** on the Printer menu.



When cancelling a specified document, select a document you want to cancel and select **Cancel** 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 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.

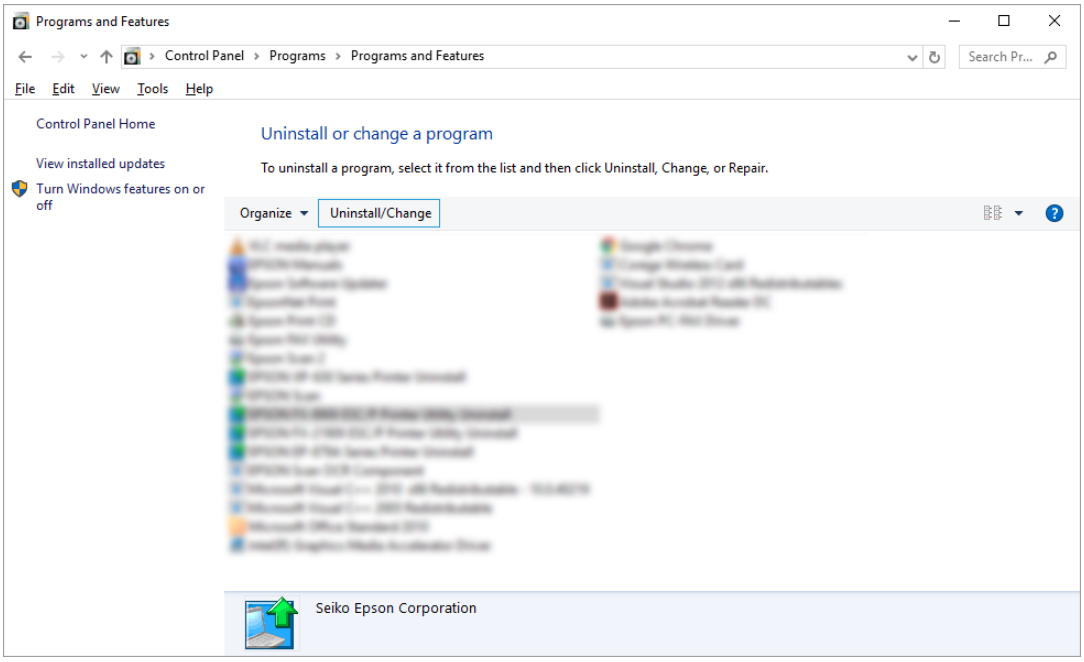
Uninstalling the printer driver and EPSON Status Monitor 3

1. Quit all applications.

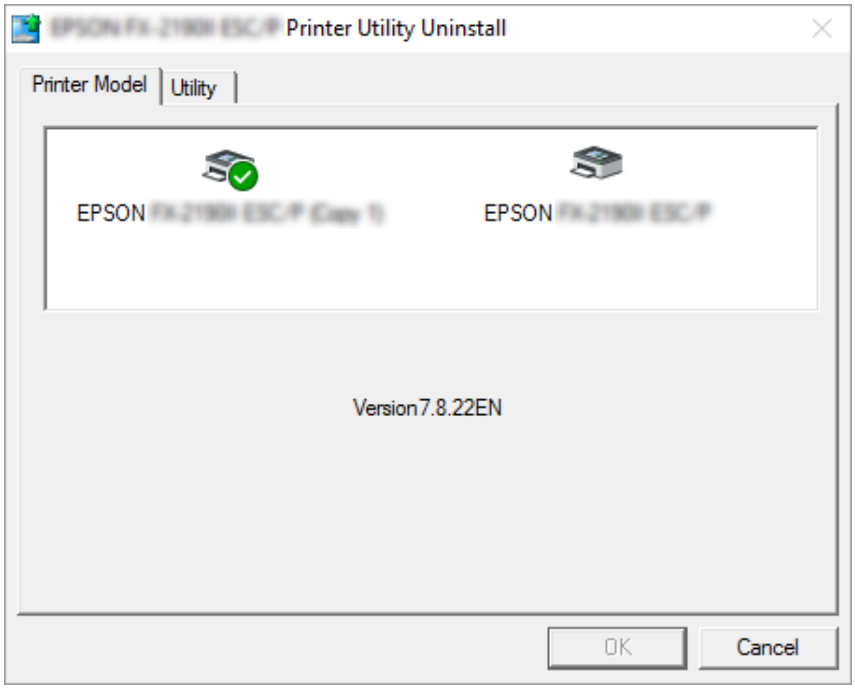
2. Right-click the **Start** menu, and then click **Control Panel**.

3. Click **Uninstall a program** (Windows 10, 8, 8.1, 7, or Vista) or double-click the **Add or Remove Programs** icon (Windows XP).

4. Select the desired printer, then right click **Uninstall/Change**.



5. Click the **Printer Model** tab, select the icon of the printer you want to uninstall, then click **OK**.



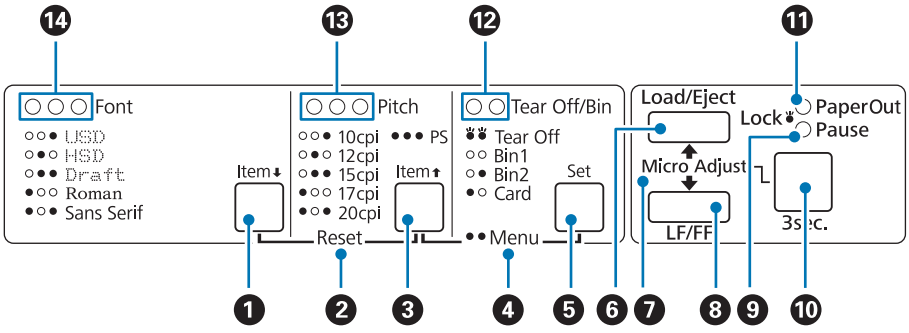
Note:
Make sure that nothing is selected in the Printer Model tab. Open ***Utility*** *tab and select* ***EPSON Status Monitor 3 (for EPSON XXXXXX ESC/P)*** *and click* ***OK****. You can uninstall only the EPSON Status Monitor 3.*

6. Follow the on-screen instructions.

Chapter 3

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 90.

❏ 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 97.

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 90.

❏ 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.

4. 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 92.

❏ When the printer is in the Default Setting mode, the **Menu** lights (both the **Tear Off/Bin** lights) stay on.

5. 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.

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 55.

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.

❏ Flashes when the print head has overheated.

❏ Only this light is on in sleep mode. All other lights are off.

10. Pause button

- ❏ Stops printing temporarily, and resumes printing when pressed again.
- ❏ Press and hold for three seconds to enter Micro Adjust mode. Press again to exit 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.

12. 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.

13. Pitch lights

Indicate which pitch is selected.

14. Font lights

Indicate which font is selected.

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.

Default Setting mode

The following table is the default settings and the options you can select in the Default Setting mode. The settings are explained in detail after the table. For instructions on changing the default settings, see "Changing default settings" on page 97.

Item	**Setting / value** *[1]
Page length for front tractor*[2]	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*[2]	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*[2]	**Off**, On
Auto tear-off wait time*[2]	0.5 seconds, **3 seconds**
Auto line feed	**Off**, On
Print direction	**Bi-D**, Uni-D
Software	**ESC/P**, IBM PPDS
0 slash	**0**, Ø (the zero character with a slash)
I/F (interface) mode	**Auto**, Parallel, Serial*[3], USB, Network*[3]
Auto I/F (interface) wait time	**10 seconds**, 30 seconds
Parallel I/F bidirectional mode	Off, **On**
Packet mode	**Auto**, Off

Item	Setting / value *1
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, KZ1048
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
IPsec/IP Filtering*3	**Off**, On
Link Speed & Duplex*3	**Auto**, 10BASE-T Half Duplex, 10BASE-T Full Duplex, 100BASE-T Half Duplex, 100BASE-T Full Duplex
Baud rate*3	**19200 BPS**, 9600 BPS, 4800 BPS, 2400 BPS, 1200 BPS, 600 BPS
Parity*3	**None**, Odd, Even, Ignore
Data length*3	**8 bit**, 7 bit
Auto CR (IBM PPDS)*3	**Off**, On
Manual feed wait time	1 second, **1.5 seconds**, 2 seconds, 3 seconds
Buzzer	Off, **On**
IBM character table*3*4	**Table 2**, Table1
Low-noise mode	**Off**, On

*1 Settings with bold weight mean the standard factory settings.

*2 Settings may vary depending on the country.

*3 This setting is available only on Network compatible models.

*4 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 as the paper source. 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 pages. When the printer receives the next print job, it automatically moves the unused 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 42 for more information.

Auto tear-off wait time

You can select the time from the point printing finished until the paper moves to the tear-off position for continuous printing. This setting is available when the auto tear-off function is set to on.

Auto line feed

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

Print direction

You can select bidirectional printing (**Bi-D**) or unidirectional printing (**Uni-D**). Printing is normally bidirectional for faster printing; however, unidirectional printing allows for precise vertical printing alignment, which is useful for printing graphics.

Software

When you select **ESC/P** the printer operates in the Epson ESC/P mode. When you select **IBMPPDS**, the printer emulates an IBM® printer.

0 slash

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

I/F (interface) mode

The printer provides built-in slots for four interfaces; Parallel, Serial, USB, and Network. You can choose **Auto** (automatic), **Parallel**, **USB**, **Serial** or **Network** 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**, **Serial**, **USB**, and **Network**, depending on which interface your computer uses.

Note:
Serial *and* ***Network*** *are available only on Network compatible models.*

Auto I/F (interface) wait time

This setting is effective only when I/F mode is set to **Auto**. This setting specifies how long the printer waits when no longer the printer receives data. You can specify **10 seconds** or **30 seconds** for the auto interface wait time.

Parallel I/F (interface) bidirectional mode

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

Note:
To use EPSON Status Monitor 3, always turn this feature on.

Packet mode

Make sure to select **Auto** to print from Windows applications using the printer driver included in the software disc that comes with the printer. Turn off this mode if you encounter connection problems when you are printing from applications based on other operating systems such as DOS.

Character table

You can select among various character table. Make sure that you select same character table as the printer driver if necessary.

When using the printer driver, change the settings on the printer driver. For details, see "Printer Driver Settings Overview" on page 66.

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.

Auto CR (carriage return)

This setting automatically adds a line feed (LF) code to the carriage return (CR) code.
The default setting for this feature is Off. Change this to On for systems that do not have CR code control.

Manual feed wait time

The amount of wait time between the time paper is inserted into the sheet guide and when it is fed. If the paper feeds before adjusting its position, you can increase the wait time.

Buzzer (beeper)

The printer beeps when an error occurs. (See "Using the Error Indicators" on page 101 for more information on printer errors.) If you do not want the printer to beep when an error occurs, turn this setting off.

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.

Low-noise mode

When this mode is set to **On**, the noise is reduced, but the printing speed is slower.

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 21 and "Loading Single Sheets" on page 44 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 sheet guide.*
- ❏ *For your safety, Epson recommends operating the printer with the printer cover closed. The printer will function with the printer cover opened 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. After you finish 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.

Changing the lock-out mode setting

You can turn lock-out mode on, off, or change locked functions from lock-out setting mode.

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

Item	**Setting / value*1**
Panel lock out mode	**Off**, On
Load function	**Unlock**, Lock
Eject function	**Unlock**, Lock
LF function	**Unlock**, Lock
FF function	**Unlock**, Lock
Tear Off function	**Unlock**, Lock
Bin function	**Unlock**, Lock
Micro Adjust function	**Unlock**, Lock
Font function	**Unlock**, Lock
Pitch function	**Unlock**, Lock
Pause function	**Unlock**, Lock
Reset function	**Unlock**, Lock
Menu function	**Unlock**, Lock

*1 Settings with bold weight mean the standard factory settings.

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 21 and "Loading Single Sheets" on page 44 for instructions on loading continuous paper and single sheets.*
- ❏ *For your safety, Epson recommends operating the printer with the printer cover closed. The printer will function with the printer cover opened or removed, but for maximum safety keep the cover closed.*

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

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 **LF/FF** and **Pause** buttons.

   The printer 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.

Chapter 4

Troubleshooting

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 problem using this table, see "Problems and Solutions" on page 102.

Panel light state	**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.
	●●●	Paper is not loaded correctly.
		Remove and reload your paper correctly. See "Loading Continuous Paper" on page 21 or "Loading Single Sheets" on page 44 for paper-loading instructions.
● Pause	●●●	The paper release lever is set to the wrong position.
		Set the paper release lever to the position for the paper source you want to use. If paper from another paper source is currently in the paper path, press the **Load/Eject** button to eject the paper; then move the paper release lever to the desired position.
☼ Paper Out ● Pause	●●●	Single sheet 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 a Paper Jam" on page 111.

Panel light state	Beep pattern	Problem
		Solution
Ö Pause	–	The print head is overheated.
		Wait for a few minutes; the printer resumes printing automatically once the print head cools.
Ö All the lights on the control panel	●●●●●	An unknown printer error has occurred.
		Turn off the printer and leave it off for several minutes; then turn it on again. If the error occurs again, contact your dealer.

● = on, ○= off, Ö = 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.

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 103

"Paper Handling" on page 108

"Printing position problems" on page 107

"Printing or printout quality problems" on page 103

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 113 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 114.

To clear a paper jam, see "Clearing a Paper Jam" on page 111.

Power supply problems

The lights on the control panel do not go on.	
Cause	**What to do**
The power cord may be unplugged.	Check that the power cord is properly plugged into the electrical outlet.
The outlet may not be operating.	If the electrical outlet is controlled by an outside switch or automatic timer, use a different outlet. Plug another electrical device, such as a lamp, into the outlet to determine whether the outlet is operating properly.
The power switch is not in the ON position.	Check the status of the power switch. When Power off timer is enabled, the printer turns off even if the power switch is in the ON position. See "Default Setting mode" on page 92.
The lights come on briefly and then go off. The lights stay off even when the power is turned on again.	
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 with the wrong voltage for your printer.
The printer does not work and the control panel lights are off.	
Cause	**What to do**
The printer is turned off.	Turn on the printer. The **Power** light comes on.
The power cord is not properly plugged into the electrical outlet; or if your power cord is not permanently attached to your printer, the power cord is not properly plugged into the printer.	Turn off the printer and make sure the power cord is firmly plugged into the electrical outlet and the printer. Then turn on the power switch.
The electrical outlet does not work.	Use a different outlet.

Printing

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 a 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 110 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 has been turned off using the Power off timer function.	When Power off timer is enabled, the printer turns off even if the power switch is in the ON position. Turn off the power switch and then turn it back on. See "Default Setting mode" on page 92.
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 113.
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 144 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 supplied setup sheet.
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 19 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 "Replacing the Ribbon Cartridge" on page 119.
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 90.
The ribbon is worn out.	Replace the ribbon cartridge as described in "Replacing the Ribbon Cartridge" on page 119.
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 19 for instructions.
The ribbon is worn out.	Replace the ribbon cartridge as described in "Replacing the Ribbon Cartridge" on page 119.
Part of the printout is missing, or dots are missing in random positions.	
Cause	**What to do**
The ribbon has too much slack, the ribbon has come loose, or the ribbon cartridge is not installed properly.	Remove any slack in the ribbon by turning the ribbon-tightening knob, or reinstall the ribbon cartridge as described in "Replacing the Ribbon Cartridge" on page 119.
The ribbon is worn out.	Replace the ribbon cartridge as described in "Replacing the Ribbon Cartridge" on page 119.
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 97.
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 97.
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 144 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 supplied setup sheet.
Software settings override settings you make using the default-setting mode or the control panel buttons.	Use your application software to select the font.
Vertical printed lines are not aligned.	
Cause	**What to do**
Bidirectional printing, which is the printer's standard printing mode, is out of alignment.	Use the printer's bidirectional adjustment mode to correct this problem. See "Aligning Vertical Lines in Your Printout" on page 111.

Printing position problems

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 setting for the front or rear tractor does not match the size of the continuous paper you are using.	Change page length settings for the front or rear tractor using the printer's default-setting mode. See "Changing default settings" on page 97 for more information.
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 "Recommended printable area" on page 151 for more information. 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 56 for more information.
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 56.
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.	
The printer prints on (or too far away from) the perforation of your continuous paper.	
Cause	**What to do**
The tear-off position setting is incorrect.	Adjust the tear-off position using the Micro Adjust function. See "Adjusting the tear-off position" on page 55 for more information.
Caution: Never use the knob to adjust the tear-off position; this may damage the printer or cause it to lose the tear-off position.	
You moved the paper using the knob while the printer was on.	Adjust the tear-off position using the Micro Adjust function. See "Adjusting the top-of-form position" on page 56.
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 setting for the front or rear tractor does not match the size of the paper you are using.	Change the page length settings for the front or rear tractor using the printer's default-setting. See "Changing default settings" on page 97 for more information.

Paper Handling

Single sheets do not feed properly

Paper does not feed.	
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 feeding position and insert a new sheet. See "Switching to single sheets" on page 53 for more information.
The paper source is set to tractor feeding.	Set the paper release lever to the single-sheet feeding position. See "Setting the Paper Release Lever" on page 19.
The paper on the sheet guide is positioned too far to the left or right far the printer to detect that it is there.	Move the paper (and the edge guides) a little to the left or right.
The paper is not loaded properly.	See "Loading Single Sheets" on page 44 for instructions on loading single-sheet paper.
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 19.
Paper is creased, old, too thin, or too thick.	See "Paper" on page 147 for information on paper specifications and use new, clean sheets of paper.
Paper does not eject completely.	
Cause	**What to do**
The paper may be too long.	Press the **LF/FF** button to eject the page. Use paper that is within the specified range. See the paper specifications in "Paper" on page 147.
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 124.

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 123 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.

Continuous paper does not feed properly

The tractor does not feed the paper.	
Cause	**What to do**
The paper source is set to single-sheet feeding.	Set the paper release lever to the tractor feeding position. See "Setting the Paper Release Lever" on page 19 for more information.
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 21 for instructions on loading continuous paper with the tractor you want to use.
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 19.
Your paper may be the wrong size or thickness for the printer.	Make sure that the paper size and thickness are within the specified ranges. See "Paper" on page 147 for information on the continuous paper specifications.
The paper supply is not aligned with the printer.	Make sure you align your paper supply with the paper loaded in the tractor so the paper feeds smoothly into the printer. See "Positioning your continuous paper supply" on page 21.
The sprocket units are positioned incorrectly for the width of paper you are using.	Adjust the position of the sprockets to remove any slack along the width of the paper. **Note:** If paper is jammed in the paper path, see "Clearing a Paper Jam" on page 111 for instructions.
The paper does not eject properly.	
Cause	**What to do**
Your paper may be too long or too short.	Make sure the page length of your paper is within the specified range. See "Paper" on page 147 for information on the continuous paper specification.

You may be trying to feed too much paper backward.	If you are using normal continuous paper, tear off the last printed page and press the **Load/Eject** button to feed the paper backward. If you are using labels, tear off the paper entering the printer, and then press the **LF/FF** button to feed the labels forward.
The paper size setting in your application or the printer driver may not match the size of the paper you are using.	Check the paper size setting in your application or the printer driver.
Paper is jammed inside the printer.	Clear the paper jam as described in "Clearing a Paper Jam" on page 111.
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.

Network problems

The printer does not print when using a network.	
Cause	**What to do**
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.

If your printer does not work correctly with the USB cable, try following 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.

Clearing a Paper Jam

Follow these steps to clear a paper jam:

⚠ ***Caution:***
Do not pull the jammed paper when the printer is on.

1. Turn off the printer.
2. Open the printer cover.
3. If continuous paper is jammed in the printer, tear off the fresh supply at the perforation nearest the paper entry slot.
4. Turn the knob on the right 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 right 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, then turn on the printer. Make sure the **Paper Out** and **Pause** lights are 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-890II/FX-890IIN	FX-2190II/FX-2190IIN
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 sheet 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 97 for instructions on changing the default setting.*

Follow the steps below to perform bidirectional adjustment.

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. 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.

Cancelling 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 "Cancelling Printing" on page 85.

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.

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 is probably caused by 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 102 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 21 or "Loading Single Sheets" on page 44 for paper-loading instructions.

Note:
Use paper of at least the following width:

Paper type	FX-890II/FX-890IIN	FX-2190II/FX-2190IIN
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 letter-quality fonts, turn on the printer while holding down the **Load/Eject** button. Either self test can help you determine the source of your printing problem; however, the draft self test prints faster than the letter-quality test.

3. When using single-sheet paper, load paper in the printer.

   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.*

4. 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, 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 21 or "Loading Single Sheets" on page 44 for instructions on how to load paper.

Note:
❏ *The hex dump feature is designed for a connection 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 both 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 being received by the printer. 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 exit the hex dump mode, press the **Pause** button and eject the printed page(s), and 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.*

Chapter 5

Where To Get Help

Technical Support Web Site

If you need further help, visit the Epson support website shown below. Select your country or region and go to the support section of your local Epson website. The latest drivers, FAQs, manuals, or other downloadables are also available from the site.

http://support.epson.net/

http://www.epson.eu/Support (Europe)

If your Epson product is not operating properly and you cannot solve the problem, contact Epson support services for assistance.

Contacting Customer Support

Before Contacting Epson

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. If customer support for your area is not listed below, contact the dealer where you purchased your product.

Customer support 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

Help for Users in Europe

Check your Pan-European Warranty Document for information on how to contact Epson support.

Help for Users in Indonesia

Contacts for information, support, and services are:

World Wide Web (http://www.epson.co.id)

- ❏ Information on product specifications, drivers for download
- ❏ Frequently Asked Questions (FAQ), Sales Enquiries, questions through e-mail

Help for Users in Singapore

Sources of information, support, and services available from Epson Singapore are:

World Wide Web (http://www.epson.com.sg)

Information on product specifications, drivers for download, Frequently Asked Questions (FAQ), Sales Enquiries, and Technical Support via e-mail are available.

Help for Users in Malaysia

Contacts for information, support, and services are:

World Wide Web (http://www.epson.com.my)

- ❏ Information on product specifications, drivers for download
- ❏ Frequently Asked Questions (FAQ), Sales Enquiries, questions through e-mail

Help for Users in India

Contacts for information, support, and services are:

World Wide Web (http://www.epson.co.in)

Information on product specifications, drivers for download, and products enquiry are available.

Help for Users in the Philippines

To obtain technical support as well as other after sales services, users are welcome to contact the Epson Philippines Corporation.

World Wide Web (http://www.epson.com.ph)

Information on product specifications, drivers for download, Frequently Asked Questions (FAQ), and E-mail Enquiries are available.

Chapter 6

Options and Consumables

Replacing the 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. Other products not manufactured by Epson may cause damage to your printer, which is not covered by Epson's warranties.

Your printer uses the following ribbon cartridge:

Epson black ribbon cartridge

FX-890II/FX-890IIN:	S015329
FX-2190II/FX-2190IIN:	S015335 (For users in America) S015327 (For worldwide users)

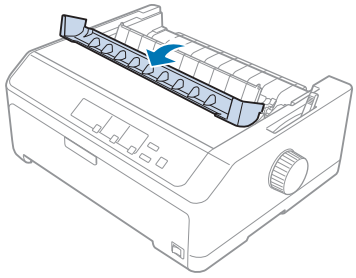
Replacing the ribbon cartridge

Follow these steps to install or replace the ribbon cartridge:

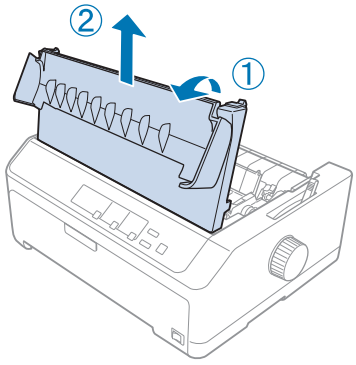
⚠ ***Warning:***
You need to move the print head by hand to replace the ribbon cartridge. If you have just used the printer, the print head may be hot; let it cool for a few minutes before replacing the ribbon cartridge.

1. Make sure the printer is turned off.

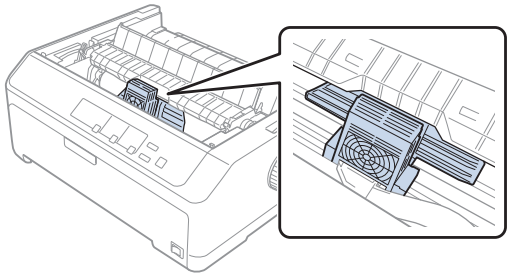
2. Open the paper guide cover by pulling its back edge toward.



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

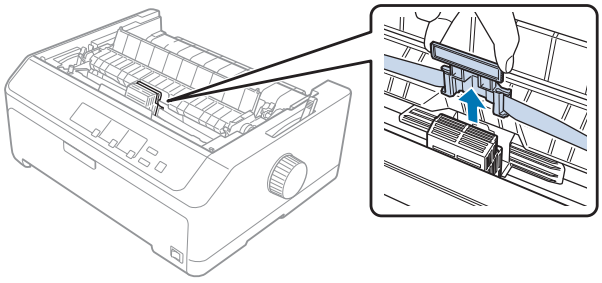


4. Slide the print head so that it does not hit the paper tension unit.

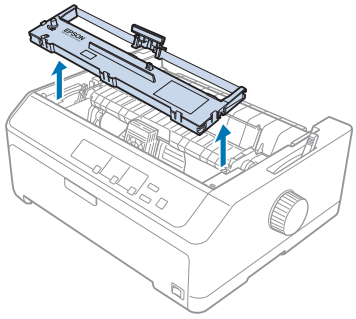


Caution:
Never move the print head while the printer is turned on; this can damage the printer.

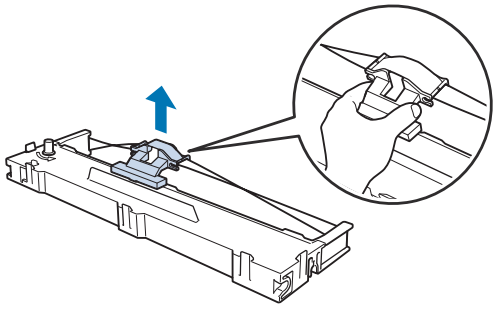
5. Grasp the ribbon guide and pull it until it is out of the print head.



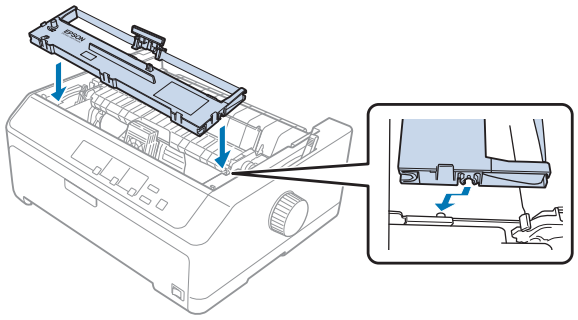
6. Grasp the used cartridge by its handle and pull it up and out of the printer.



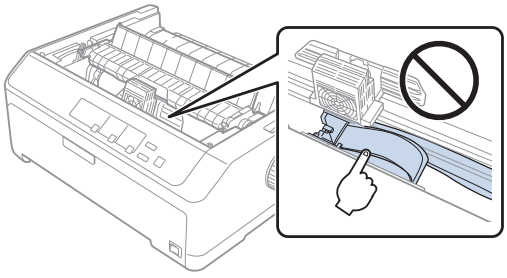
7. Hold both sides of the ribbon guide and pull it until it is out of the cartridge.



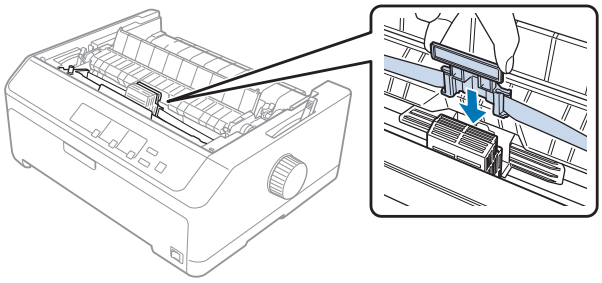
8. Insert the ribbon cartridge into the printer at an angle as shown below, then press firmly on both sides of the cartridge to fit the plastic hooks into the slots on the printer.



Note:
Do not touch the white cable inside the printer.

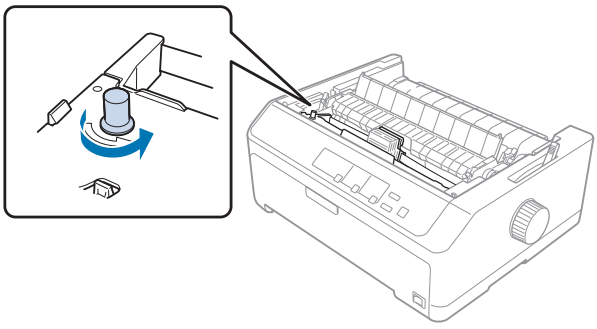


9. Slide the ribbon guide into the print head until it clicks in place.



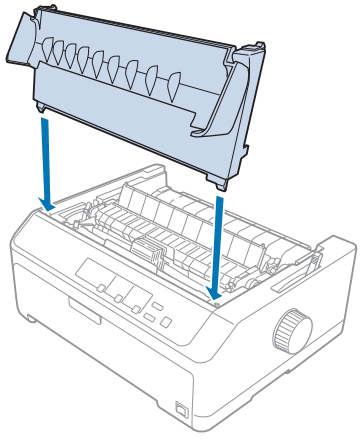
Caution:
When inserting the ribbon guide, press firmly until it clicks.

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



Caution:
The ribbon should not be twisted or creased.

11. Replace the printer cover by inserting the front tabs into the slots on the printer and lowering the cover into place.



Cut-Sheet Feeder

Two types of optional cut-sheet feeders are available for use with your printer as shown below:

Single-bin cut-sheet feeder:	FX-890II/FX-890IIN	C80637*
	FX-2190II/FX-2190IIN	C80639*

High-capacity cut-sheet feeder:	FX-890II/FX-890IIN	C80638*
	FX-2190II/FX-2190IIN	C80640*

You can use either one of these separately, or you can use both feeders together as a double-bin cut-sheet feeder to automatically load two different types of single-sheet paper.

The single-bin cut-sheet feeder holds up to 50 single sheets. The high-capacity cut-sheet feeder holds up to 150 single sheets or up to 25 envelopes.

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 124. 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 126, or "Loading paper in the high-capacity cut-sheet feeder" on page 129.

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 38 for instructions on removing the tractor from the pull position.

Installing the cut-sheet feeder

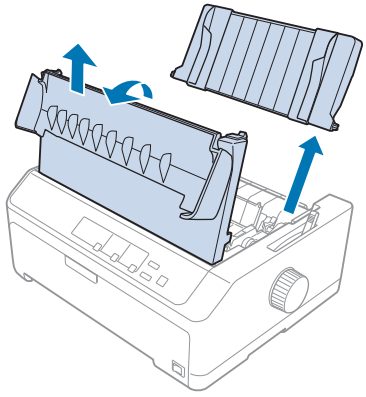
The installation procedure is the same for the single-bin, high-capacity, and double-bin cut-sheet feeders.

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 132 for instructions.

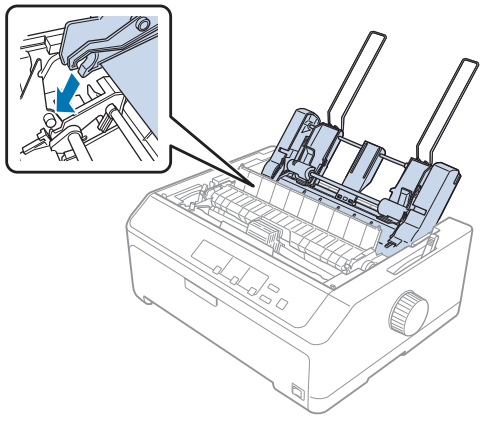
1. Make sure the printer is turned off. Then open the paper guide cover by pulling its back edge toward.

2. Remove the sheet guide by moving it along the path and lifting it at an angle from the printer. Lift the printer cover by its back edge and then pull it straight up and off the printer.

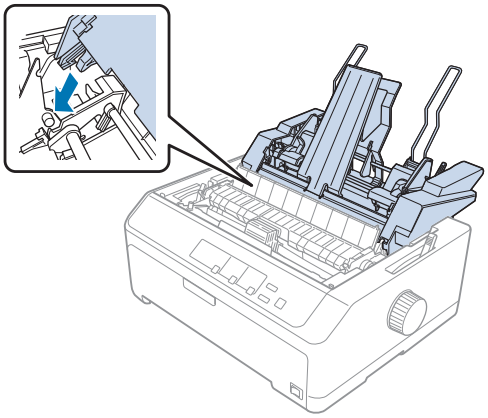


3. Holding the cut-sheet feeder in both hands, press down on the latch levers and fit the notches over the printer's mounting posts, as shown below. Release the latch levers to lock the feeder in place. If you are installing the high-capacity or double-bin cut-sheet feeder, see the following illustration.

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 133 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 126 or "Loading paper in the high-capacity cut-sheet feeder" on page 129.

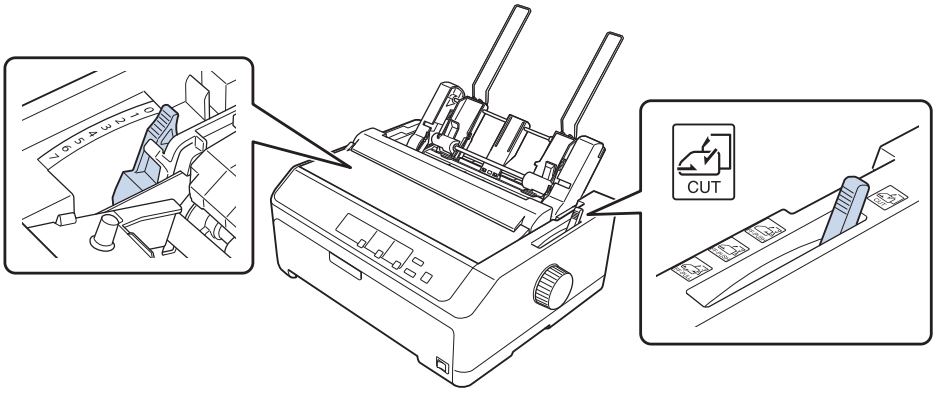
Loading paper in the single-bin cut-sheet feeder

The single-bin cut-sheet feeder holds up to 50 sheets of paper.

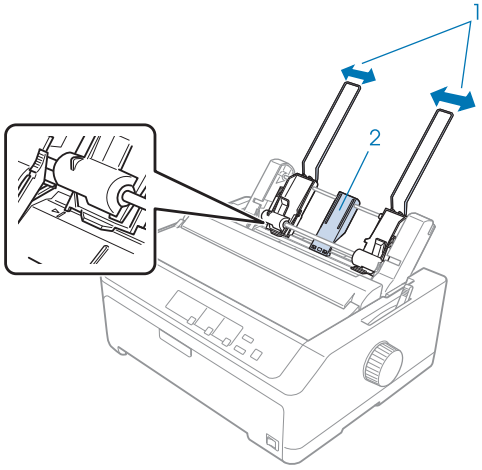
Follow these steps to load paper in the single-bin cut-sheet feeder:

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

1. Make sure the sheet 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.

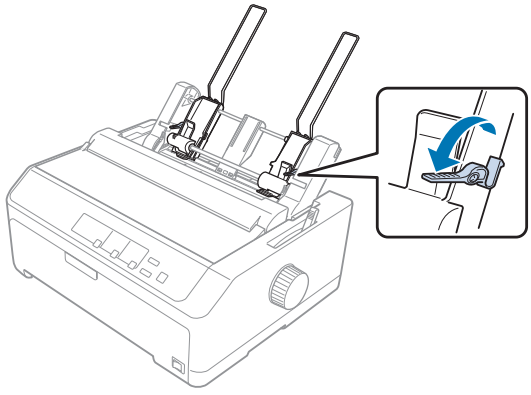


2. Slide the left paper guide of the cut-sheet feeder so it is aligned with the triangle mark. Next, slide the right paper guide to roughly match the width of your paper. Slide the paper support midway between the paper guides.



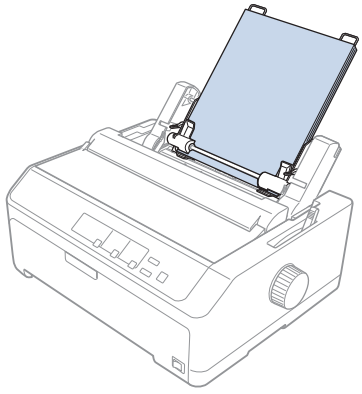
1. Paper guides
2. Paper support

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.

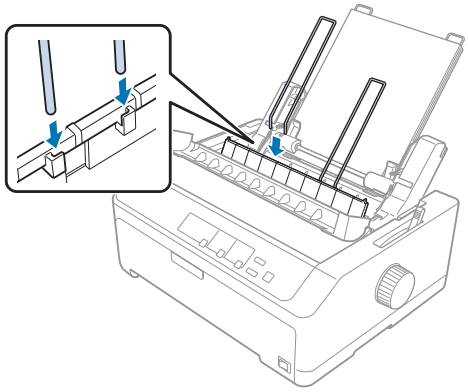
5. Insert the paper stack printable side down along the left paper guide.



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 tension unit as shown below.



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 56.

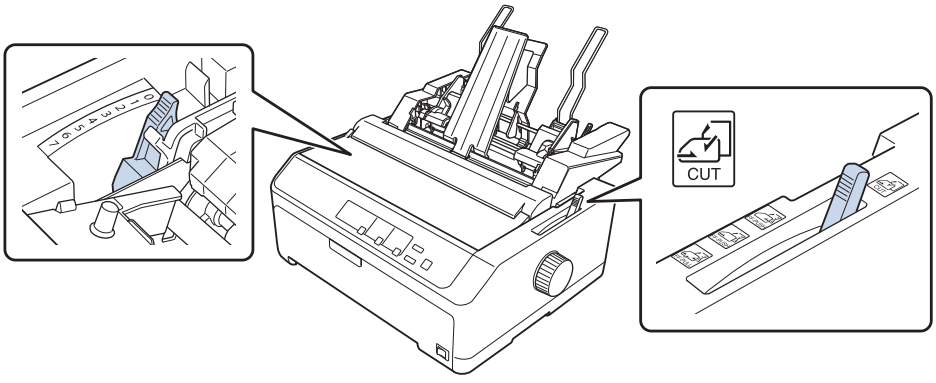
Loading paper in the high-capacity cut-sheet feeder

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

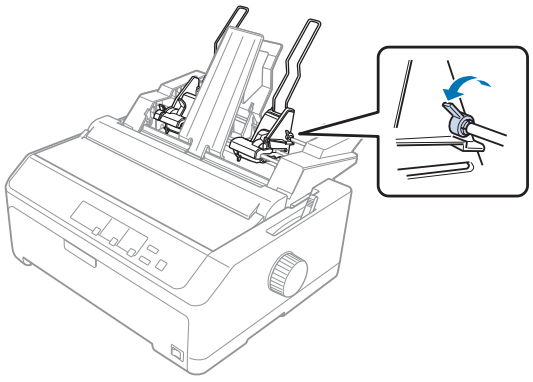
Follow these steps to load paper in the high-capacity cut-sheet feeder:

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

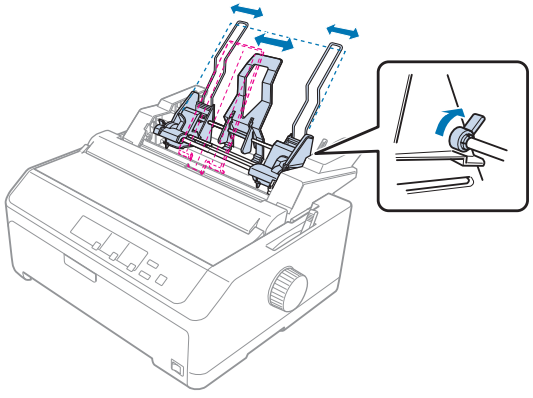
1. Set the paper release lever to the single-sheet position. Also make sure the paper-thickness lever (located under the printer cover) is set to 0 if you are using ordinary single-sheet paper. (If you are using envelopes, see "Envelopes" on page 52 for instructions on setting the paper-thickness lever.)



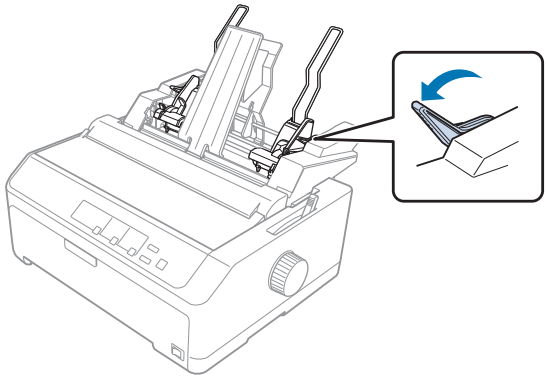
2. Pull the lock levers on the edge guides forward to release them.



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.

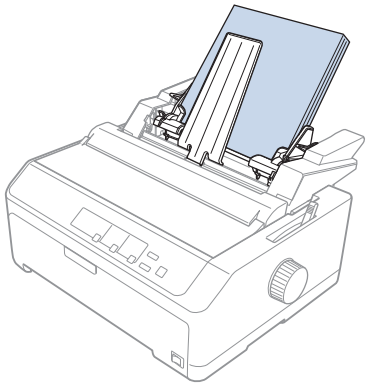


4. Pull both paper set levers forward until the paper guides retract and lock open to allow paper loading.



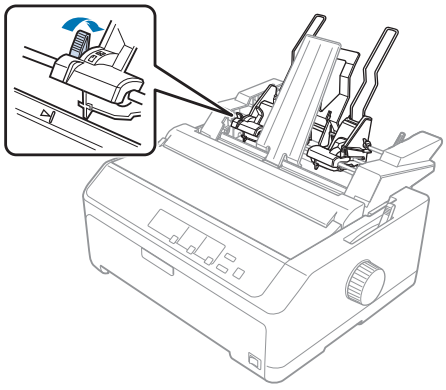
5. Take a stack of paper (up to 150 sheets) and fan it. Next, tap the side and bottom edges of the paper on a flat surface to even up the stack.

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.

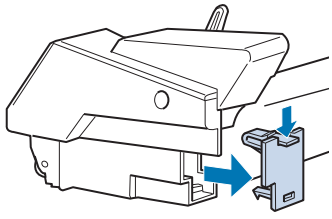
If the first line on your page appears too high or low, you can adjust its position using the Micro Adjust function. See "Adjusting the top-of-form position" on page 56 for more information.

Assembling the double-bin cut-sheet feeder

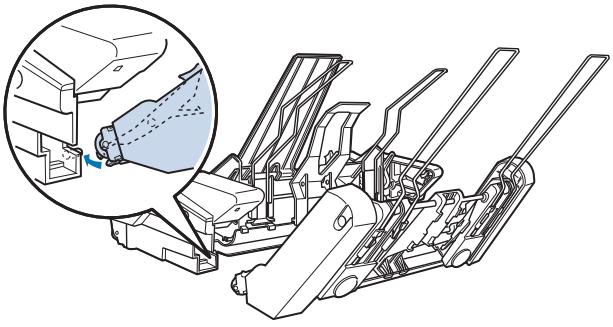
Using the double-bin cut-sheet feeder allows you to load two types of single-sheet paper in the printer at the same time and easily switch between them. Before you install the double-bin cut-sheet feeder, you need to connect the single-bin cut-sheet feeder (C80637*/ C80639*) to the high-capacity cut-sheet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

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

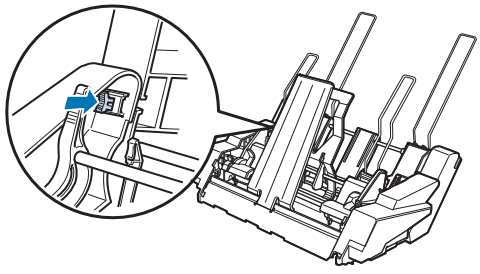
1. Remove the gear cover from the back of the high-capacity cut-sheet feeder by pressing down the tab and pulling the cover backward. Store it in a safe place.



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.



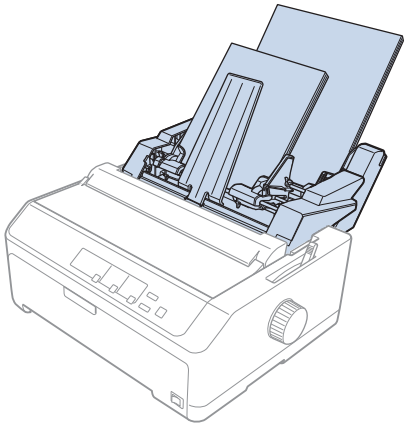
3. Lock the two cut-sheet feeders together by pushing firmly on the tab locks.



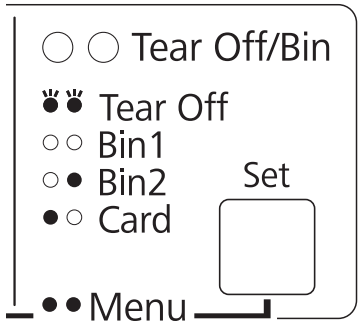
To install the double-bin cut-sheet feeder on your printer, see "Installing the cut-sheet feeder" on page 124.

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.

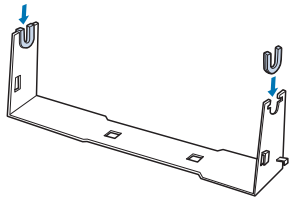
Roll Paper Holder

The optional roll paper holder (C811141) 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.

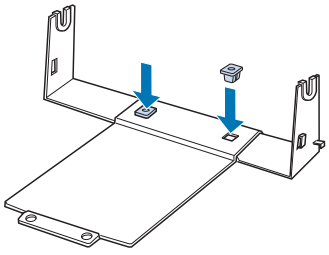
Assembling the roll paper holder

Follow these steps to assemble the roll paper holder:

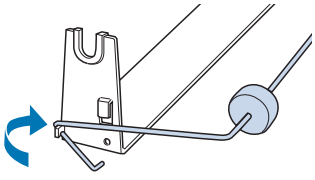
1. Fit the arc bearings into the stand as shown.



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.

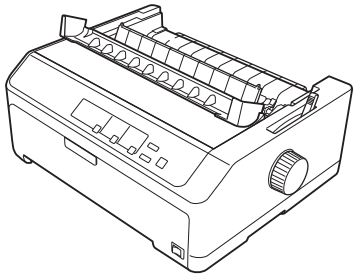


Installing the roll paper holder

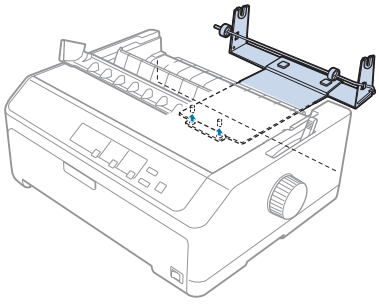
Follow these steps to install the roll paper holder on your printer:

1. Make sure the printer is turned off.

2. Remove the sheet 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.

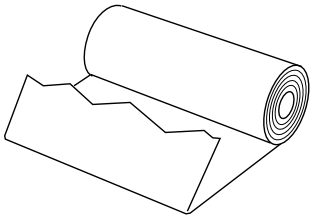
Loading roll paper

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

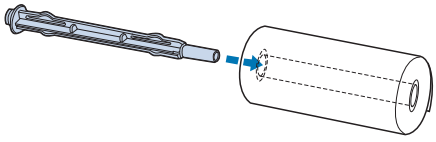
1. Make sure the printer is turned off and the sheet guide is removed. Also make sure the tractor is not installed in the pull or rear push position, and the paper tension unit is installed.

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.

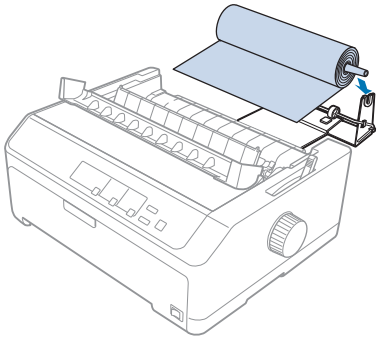
3. Cut the leading edge of the roll paper straight across.



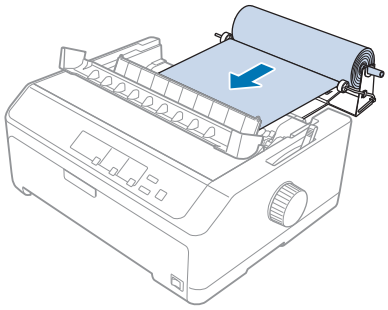
4. Insert the roll paper holder shaft into the center of the paper roll as shown.



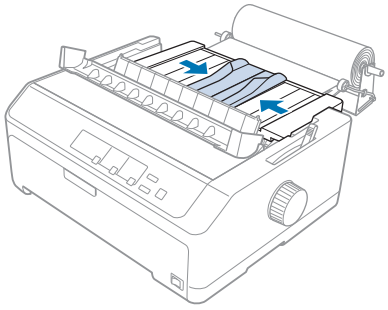
5. Place the shaft and paper roll on the roll paper holder so the paper feeds from the bottom of the roll. Then turn on the printer.



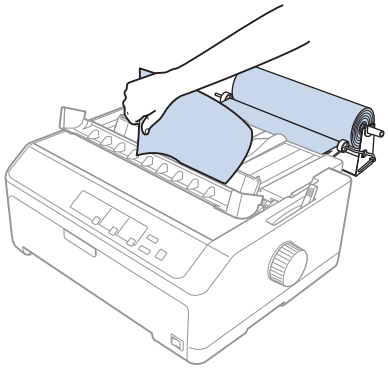
6. Bring the leading edge of the paper up over the rear of the printer and insert it into the printer until it meets resistance. The printer loads the roll paper automatically.



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

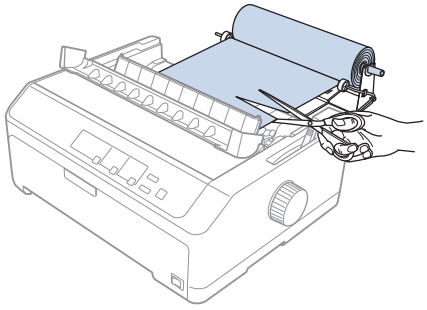


You are now ready to print. When you finish printing, press the **LF/FF** button to advance the paper; then tear off the paper using the tear-off edge of the paper tension unit (pull it toward you for a clean cut).



Removing roll paper

Roll paper cannot be fed backward. To remove a roll paper, remove the sheet 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 pull tractor unit and use two tractors at the same time.
FX-890II/FX-890IIN:
- C933761 (For worldwide users)
- C933771 (For users in India)

FX-2190II/FX-2190IIN:
- C933791 (For worldwide users)
- C933801 (For users in India)

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 40.

Additional Sheet Guide

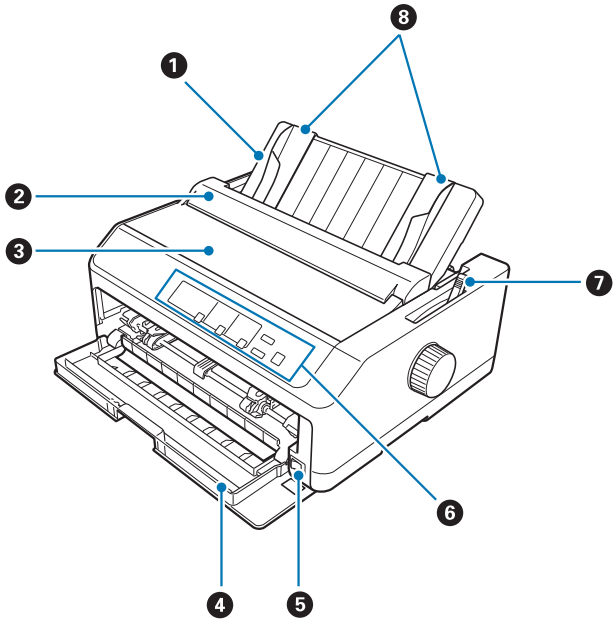
You can install the optional sheet guide (C933781 for the FX-890II/FX-890IIN, C933811 for the FX-2190II/FX-2190IIN) in the front and rear position at the same time.

For details on installing the additional sheet guide, see "Using the sheet guide" on page 45.

Chapter 7

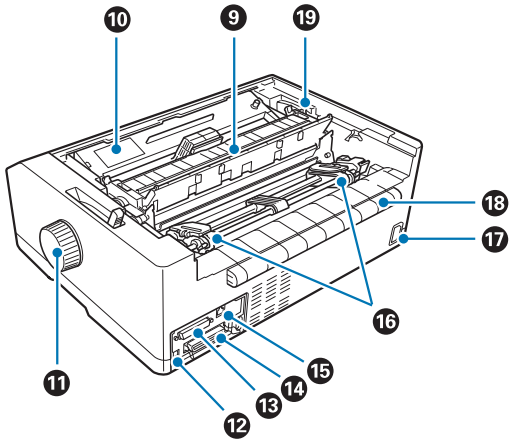
Product Information

Printer Parts



1. sheet guide
2. paper guide cover
3. printer cover
4. front cover
5. power switch
6. control panel
7. paper release lever

8. edge guides



9. paper tension unit

10. ribbon cartridge

11. knob

12. USB interface

13. serial interface*1

14. parallel interface

15. LAN port*1 *2

16. sprockets*3

17. AC inlet

18. wing

19. paper-thickness lever

*1 For Network compatible model.

*2 For Ethernet cable (Category 5 or better shielded twisted-pair cable)

*3 tractor unit parts

Printer Specifications

Mechanical

Printing method:	9 × 2-pin impact dot matrix	
Printing speed:	Ultra high speed draft	615 cps at 10 cpi 738 cps at 12 cpi
	High speed draft	612 cps at 10 cpi 694 cps at 12 cpi
	Draft	463 cps at 10 cpi 555 cps at 12 cpi
	Draft emphasized	231 cps at 10 cpi
	Near letter quality	115 cps at 10 cpi 138 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 1/432-inch increments	
Printable columns:	FX-890II/FX-890IIN: 80 columns (at 10 cpi) FX-2190II/FX-2190IIN: 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) CSF Bin1/Bin2 (optional) Roll paper holder (optional)	

Paper feed speed:	Continuous	134 mm/second 5.3 inches/second
	Intermittent	47.7 msec/line at 1/6 inch line spacing
Paper capacity:	Single-bin cut-sheet feeder up to 50 sheets of 82 g/m² (22 lb) paper **Note:** The total thickness of the paper stack can be up to 5 mm (0.20 inch). High-capacity cut-sheet feeder up to 150 sheets of 82 g/m² (22 lb) paper up to 25 plain or bond envelopes up to 30 airmail envelopes **Note:** The total thickness of the paper stack can be up to 15 mm (0.59 inch).	
Reliability:	Total print volume	52 million lines (except print head) MTBF 25,000 POH (25% duty)
	Print head life	400 million strokes /wire ×2 Approx. 400 million characters (Draft, 10 cpi, 14 dots/character)

Dimensions and weight:	FX-890II/FX-890IIN:	
	Height	176.5 mm (6.9 inches) (not including paper release lever)
	Width	414 mm (16.3 inches) (not including the knob)
	Depth	320 mm (12.6 inches) (not including the sheet guide)
	Weight	approx. 7.2 kg (15.9 lb)
	FX-2190II/FX-2190IIN:	
	Height	176.5 mm (6.9 inches) (not including paper release lever)
	Width	589 mm (23.2 inches) (not including the knob)
	Depth	320 mm (12.6 inches) (not including the sheet guide)
	Weight	approx. 9.4 kg (20.7 lb)
Ribbon:	Black ribbon cartridge	S015329 for FX-890II/FX-890IIN S015335 for FX-2190II/FX-2190IIN (For users in America) S015327 for FX-2190II/FX-2190IIN (For worldwide users)
	Ribbon life	approx. 7.5 million characters (Draft, 10 cpi, 14 dots/character) for FX-890II/FX-890IIN approx. 12 million characters (Draft, 10 cpi, 14 dots/character) for FX-2190II/FX-2190IIN
Acoustic noise:	Approx. 55 dB (A) (ISO 7779 pattern)	

Electronic

Interfaces:	FX-890II/FX-2190II: One standard bidirectional, 8-bit, parallel interface with IEEE 1284 nibble mode support and one Hi-Speed USB interface FX-890IIN/FX-2190IIN: One standard bidirectional, 8-bit, parallel interface with IEEE 1284 nibble mode support, one Hi-Speed USB interface, serial interface, and Network interface.
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 model:

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 model:

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 (Ukranian), PC APTEC (Arabic), PC 708 (Arabic), PC 720 (Arabic), PC AR 864 (Arabic), PC437 Slovenia, PC MC, PC1250, PC1251, KZ1048 (Kazakhstan)

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

	200 V Model	**Universal (UPS) Model**
Rated voltage range	220 to 240 V	100 to 240 V
Input voltage range	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	1.4 A (maximum 1.6 A depending on the character type)	2.0 A - 0.9 A (maximum 3.0 A - 1.1 A depending on the character type)

Power consumption (with USB connection)	**220 to 240 V:** Approx. 54 W (ISO/IEC 10561 Letter pattern) FX-890II/FX-2190II: Approx. 0.5 W in sleep mode* FX-890IIN/FX-2190IIN: Approx. 0.8 W in sleep mode*	**100 to 120 V:** Approx. 57 W (ISO/IEC 10561 Letter pattern) FX-890II/FX-2190II: Approx. 0.4 W in sleep mode* FX-890IIN/FX-2190IIN: Approx. 0.7 W in sleep mode*
		220 to 240 V: Approx. 55 W (ISO/IEC 10561 Letter pattern) FX-890II/FX-2190II: Approx. 0.5 W in sleep mode* FX-890IIN/FX-2190IIN: Approx. 0.8 W in sleep mode*

* When the configured time passes in the following condition, the printer enters sleep mode.
- not error.
- not pause.
- There is no data in input buffer.

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 has been folded or is damaged, wrinkled, or curled.*

Single sheets

	Front entry			**Rear entry**		
	Minimum	**Maximum**		**Minimum**	**Maximum**	
		FX-890II FX-890IIN	**FX-2190II FX-2190IIN**		**FX-890II FX-890IIN**	**FX-2190II FX-2190IIN**
Width*	100 mm (3.9 inch)	257 mm (10.1 inch)	420 mm (16.5 inch)	100 mm (3.9 inch)	257 mm (10.1 inch)	420 mm (16.5 inch)
Length**	100 mm (3.9 inch)	364 mm (14.3 inch)		100 mm (3.9 inch)	364 mm (14.3 inch)	
Thickness***	0.065 mm (0.0025 inch)	0.14 mm (0.0055 inch)		0.065 mm (0.0025 inch)	0.14 mm (0.0055 inch)	
Weight****	52 g/m² (14 lb)	90 g/m² (24 lb)		52 g/m² (14 lb)	90 g/m² (24 lb)	
Quality	Plain paper and recycled paper					

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

** 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:

	Minimum	**Maximum**	
		FX-890II FX-890IIN	**FX-2190II FX-2190IIN**
Width	100 mm (3.9 inch)	257 mm (10.1 inch)	420 mm (16.5 inch)
Length	100 mm (3.9 inch)	364 mm (14.3 inch)	

Copies	1 original + 5 copies	
Total thickness	0.12 mm (0.0047 inch)	0.46 mm (0.018 inch)
Weight per sheet of multipart	40 g/m² (12 lb)	58 g/m² (15 lb)
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	100 mm (3.9 inch)	148 mm (5.8 inch)	100 mm (3.9 inch)	148 mm (5.8 inch)
Length	148 mm (5.8 inch)	148 mm (5.8 inch)	100 mm (3.9 inch)	148 mm (5.8 inch)
Thickness	0.22 mm (0.0087 inch)			
Weight	192 g/m² (51 lb)			
Quality	Plain paper and recycled paper			

Continuous paper (ordinary and multipart):

	Minimum	**Maximum**	
		FX-890II FX-890IIN	**FX-2190II FX-2190IIN**
Width	101.6 mm (4.0 inch)	254.0 mm (10.0 inch)	406.4 mm (16.0 inch)
Length, one page	101.6 mm (4.0 inch)	558.8 mm (22.0 inch)	
Copies	1 original + 5 copies*		
Total thickness	0.065 mm (0.0025 inch)	0.49 mm (0.0193 inch)	
Weight, ordinary paper	52 g/m² (14 lb)	82 g/m² (22 lb)	
Weight, per sheet of multipart	40 g/m² (12 lb)	58 g/m² (15 lb)	

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:

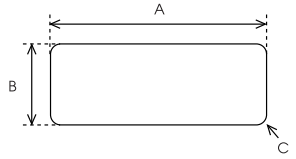
- ❏ *Do not load thick paper, such as multipart forms with six or seven parts, in the rear slot.*
- ❏ *The ratio of the cut/uncut length at the perforation should be between 3:1 and 5:1.*
- ❏ *The thickness of the perforation part when extended should be 1mm or less.*
- ❏ *The perforation between pages 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.*
- ❏ *Print quality may deteriorate when printing on paper that uses paper stapling (single/double stapling).*

Continuous labels (front and bottom entry only):

Note:
Use only labels mounted on continuous backing sheets.

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

Quality	Plain paper or the same quality labels



A. 63.5 mm (2.5 inch) min.

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

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

Envelopes (rear entry only):

	Minimum	**Maximum**
Envelope size (No. 6)	Width: 165 mm (6.5 inch) Length: 92 mm (3.6 inch)	
Envelope size (No10)	Width: 241 mm (9.5 inch) Length: 105 mm (4.1 inch)	
Total thickness	0.16 mm (0.0063 inch)	0.52 mm (0.0205 inch)
	Differences in thickness within the recommended printable area must be less than 0.25 mm (0.0098 inch).	
Weight	45 g/m² (12 lb)	90 g/m² (24 lb)
Quality	Bond envelopes, plain envelopes, and airmail envelopes without glue on the flap	

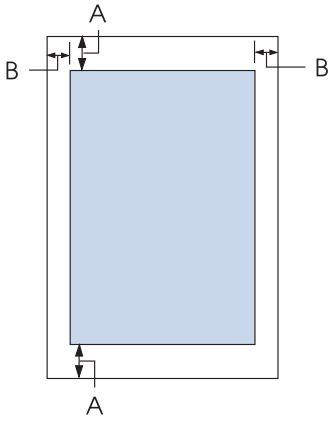
Roll paper (rear entry with optional roll paper holder only):

	Minimum	**Maximum**
Width	216 mm (8.5 inch)	
Length	——	
Thickness	0.07 mm (0.0028 inch)	0.09 mm (0.0035 inch)
Weight	52 g/m² (14 lb)	82 g/m² (22 lb)
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:

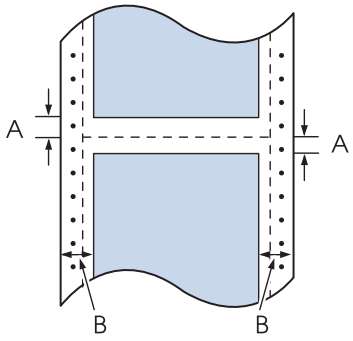


A The minimum top and bottom margins are 4.2 mm (0.17 inch).

B FX-890II/FX-890IIN:
The minimum left and right margins are 3 mm (0.12 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-2190II/FX-2190IIN:
The minimum left and right margins are 3 mm (0.12 inch).
The maximum printable width is 345.4 mm (13.6 inches). For paper wider than 351.4 mm (13.8 inches), the side margins increase to match the width of the paper.

Continuous paper:

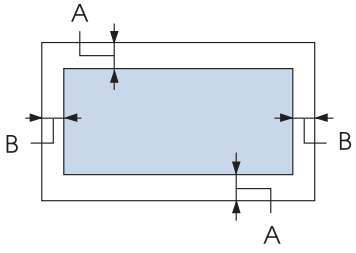


A The minimum top and bottom margins (above and below the perforation) are 4.2 mm (0.17 inch).

B FX-890II/FX-890IIN:
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-2190II/FX-2190IIN:
The minimum left and right margins are 13 mm (0.51 inch).
The maximum printable width is 345.4 mm (13.6 inches). For paper wider than 371.4 mm (14.6 inches), the side margins increase to match the width of the paper.

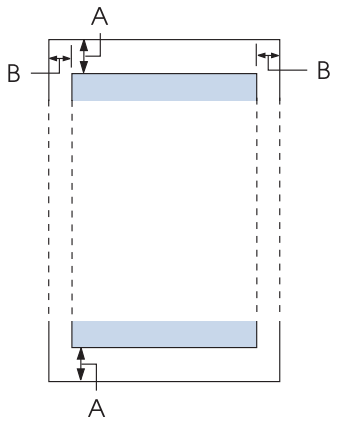
Envelopes:



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 116 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 l, 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

⚠ ***Warning:***

- ❏ *This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.*
- ❏ *The connection of a non-shielded printer interface cable to this printer will invalidate the EMC standards of this device.*
- ❏ *You are cautioned that changes or modifications not expressly approved by Seiko Epson Corporation could void your authority to operate the equipment.*

Safety approvals

For users in U.S. and Canada

Safety	UL60950-1
	CAN/CSA C22.2 No.60950.-1

EMC	FCC part 15 subpart B Class A
	ICES-003 Class A

Note:
This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.
Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

For users in Europe

The following models are CE marked and in compliance with all the applicable EU Directives. For further details, visit the following website to access the full declaration of conformities containing reference to the Directives and harmonized standards used to declare conformity.

https://www.epson.eu/conformity

FX-890II: PB31A
FX-890IIN: PB31B
FX-2190II: PB32A
FX-2190IIN: PB32B

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 your printer:

1. Remove any paper loaded in the printer, and turn off the printer.
2. Remove the sheet 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 sheet guide.

4. If the outer case and the sheet 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 for 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 sheet 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 "Replacing the ribbon cartridge" on page 119.
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 22 for instructions on installation procedure.) Also make sure that the printer cover and front cover are closed.

6. Repack the printer, sheet guide, ribbon cartridge, wing, tractor unit, wire, and power cord (if necessary) in their original packing materials and place them in the printer's original box.

Glossary

ASCII
American Standard Code for Information Interchange. A standardized coding system for assigning numerical codes to letters and symbols.

auto line feed
When this setting is turned on using 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). This increases the print speed but may reduce precise vertical alignment. Bidirectional printing is this printer's standard printing mode.

buffer
The portion of the printer's memory used to store data before it is printed.

character table
A collection of letters, numbers, and symbols that constitute the set of characters used in a particular language.

characters per inch (cpi)
A measurement of the size of text characters.

compress printing
This function reduces the size of the data. You can compress your printing data to the ratio of 75%.

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

control code
A special code used to control a printer function such as performing a carriage return or line feed.

cpi
A measurement of the size of text characters.

cut-sheet feeder
An optional, detachable device that automatically feeds single sheets of paper into the printer.

data 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 and ASCII characters. Also called hex dump.

default
A value that takes effect when the equipment is turned on, reset, or initialized.

dithering
A way of arranging dots on a page to simulate a shade or tone.

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 less dots per character for faster printing.

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

ESC/P ®
Abbreviation for EPSON Standard Code for Printers. This is 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.

ESC/P 2™
The enhanced version of the ESC/P printer command language. Commands in this language produce laser-like results, such as scalable fonts and enhanced graphics.

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

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

form feed (FF)
A control code and control panel button 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.

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 and ASCII characters. Also called data dump.

high speed draft
A mode of draft printing you can select using the default-setting mode. High speed draft uses a minimum number of dots per character to produce extremely high-speed printing.

interface
The connection between the computer and the printer over 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.

letter quality (LQ)
The print mode used by your printer when a font other than Draft is selected. Printing with letter-quality fonts provides better readability and appearance at a reduced print speed.

line feed (LF)
A control code and control panel button that advances the paper one line space.

loading position
The position to which the paper is automatically loaded.

micro adjust
A printer feature 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.

paper positions
There are three paper positions for continuous paper printing: standby, tear-off, and top-of-form. For single sheet printing, there is only the top-of-form position.

pitch
The size of the font, which is measured in the number of characters per inch (cpi). The standard is 10 cpi.

platen
The black flat part that provides a backing for the paper during printing.

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.

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

printing start position
The horizontal position on the paper that the printer recognizes as the first printable column. You can adjust the printing start position with the control panel.

proportional font
A font whose characters take up varying amounts of horizontal space depending on the width of the character. Thus the uppercase M takes up more horizontal space than the lowercase l.

recommended printable area
The area of a page on which the printer can print. It is smaller than the physical size of the page due to margins.

reset
To return a printer to its default settings.

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

self test
A method for checking the operation of the printer. When you run the self test, the printer prints the characters stored in its ROM (Read Only Memory).

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

tear off
A control panel button that feeds the perforation of continuous paper to the tear-off position and then feeds the paper back to the top-of-form position.

tear-off position
The position the printer feeds the paper to when the auto tear-off mode is on. Using the Micro Adjust function, you can adjust the position so that the paper's perforation meets the printer's 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.

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.

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