

Color Laser Printer

EPSON AcuLaser™ C2000

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Printed on Recycled Paper.

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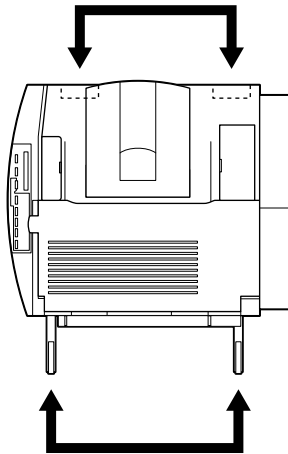
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Glossary

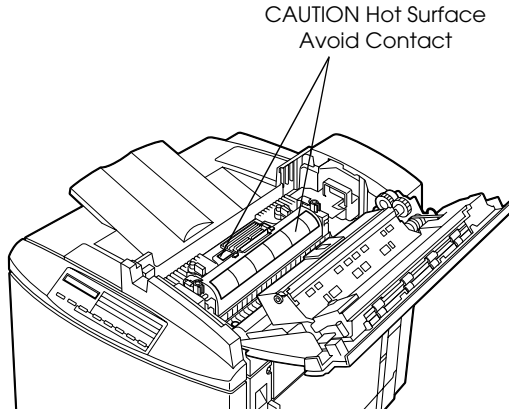
Safety Precautions

Be sure to follow these precautions carefully to ensure safe, efficient operation:

- ❑ Because the printer weighs approximately 39.5 kg (87 lb) without the consumable or optional products installed, you should not lift or carry it by yourself. Two or more people should carry it, lifting it by the correct positions as shown below.

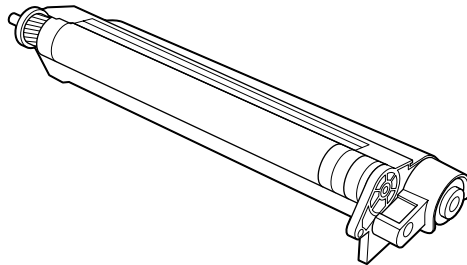


- ❑ Be careful not to touch the fuser, which is marked CAUTION Hot Surface Avoid Contact, or the surrounding areas. If the printer has been in use, the fuser and the surrounding areas may be very hot.



- ❑ Avoid touching the components inside the printer unless instructed to do so in this guide.
- ❑ Never force the printer's components into place. Although the printer is designed to be sturdy, rough handling can damage it.
- ❑ When handling developer cartridges, photoconductor units, and fuser oil rolls, always place them on a clean, smooth surface.
- ❑ Do not attempt to modify or take the developer cartridge apart. It cannot be refilled.
- ❑ Do not touch the toner and avoid all contact with your eyes.
- ❑ Do not dispose of used developer cartridges, fuser oil rolls, or waste toner collectors in fire, as they can explode and cause injury. Dispose of them according to local regulations.

- ❑ Wait for at least one hour before using a developer cartridge or a photoconductor unit after moving it from a cool to a warm environment to prevent damage from condensation.
- ❑ Keep the fuser oil roll horizontal at all times. Do not tilt or lean it against something, as it can cause oil to leak and reduce print quality.
- ❑ When removing the photoconductor unit, avoid exposing it to room light any longer than necessary. The unit contains a green-colored light-sensitive drum. Exposure to light can damage the drum, causing dark or light areas to appear on the printed page and reducing the service life of the drum. If you need to keep the unit out of the printer for long periods, cover it with an opaque cloth.



- ❑ Be sure not to scratch the surface of the drum. When you remove the photoconductor unit from the printer, always place the unit on a clean, smooth surface. Avoid touching the drum, since oil from your skin can permanently damage its surface and may affect print quality.
- ❑ To get the best print quality, do not store the photoconductor unit in an area subject to direct sunlight, dust, salty air, or corrosive gases (such as ammonia). Avoid locations subject to extreme or rapid changes in temperature or humidity.

- ❑ Be sure to keep all consumable components out of the reach of children.
- ❑ Do not leave jammed paper inside the printer. This can cause the printer to overheat.
- ❑ Avoid using outlets that other appliances are plugged into.
- ❑ Use only an outlet that meets the power requirements of this printer.

Important Safety Instructions

- ❑ Connect your printer to an electrical outlet that meets the power requirements of this printer. Your printer's power requirements are indicated on a label attached to the printer. If you are not sure of the power supply specifications in your area, contact your local power company or consult your dealer.
- ❑ If you are unable to insert the AC plug into the electrical outlet, contact an electrician.
- ❑ Adjust only those controls that are covered by the operating instructions, as improper adjustment of other controls may result in damage and may require repairs by a qualified service representative.

ENERGY STAR® Compliance



As an International ENERGY STAR Partner, EPSON has determined that this product meets the International ENERGY STAR Program guidelines for energy efficiency.®® The International ENERGY STAR® Office Equipment Program is a voluntary partnership with the computer and office equipment industry to promote the introduction of energy-efficient personal computers, monitors, printers, fax machines, copiers, and scanners, in an effort to reduce air pollution caused by power generation.

Warnings, Cautions, and Notes



Warnings must be followed carefully to avoid bodily injury.



Cautions must be observed to avoid damage to your equipment.

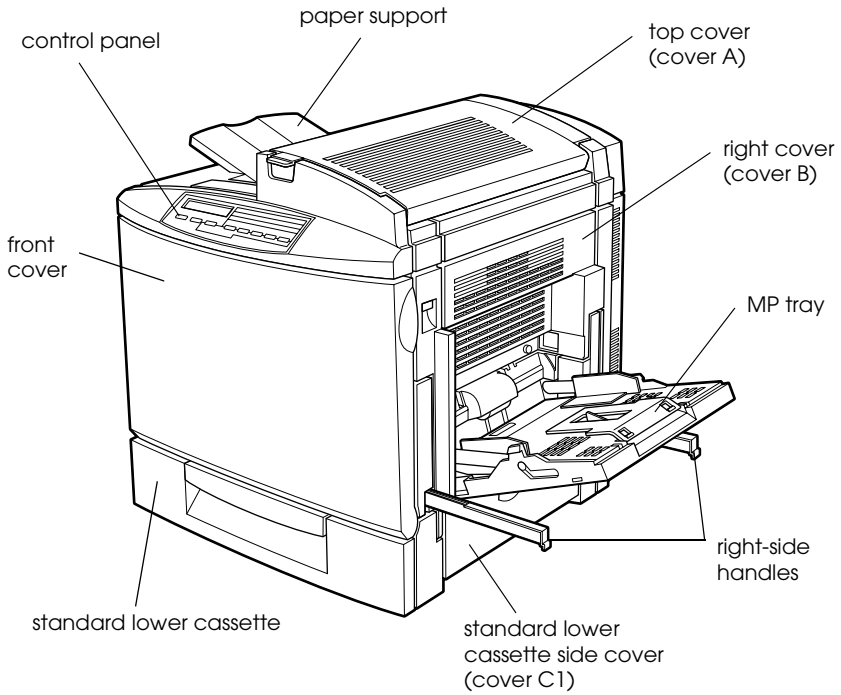
Notes contain important information and useful tips about the operation of your printer.

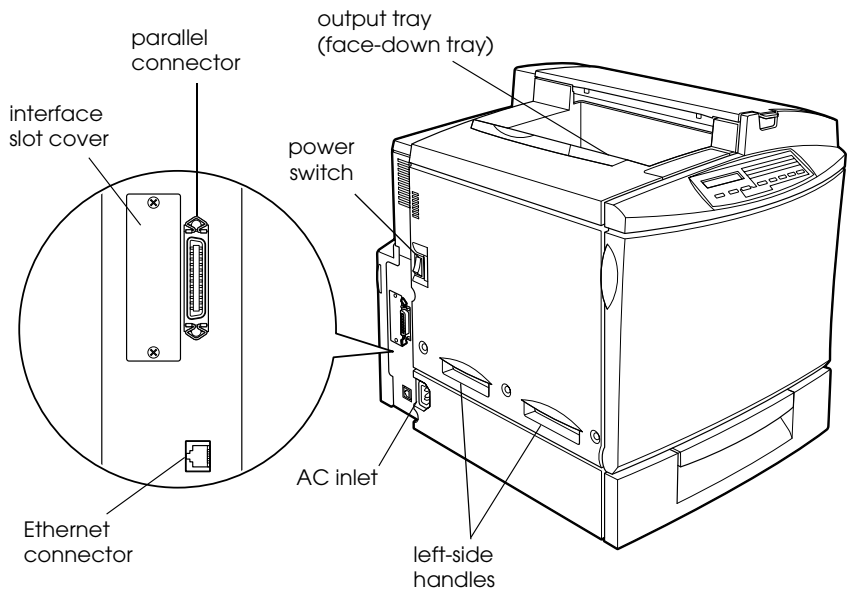
Chapter 1

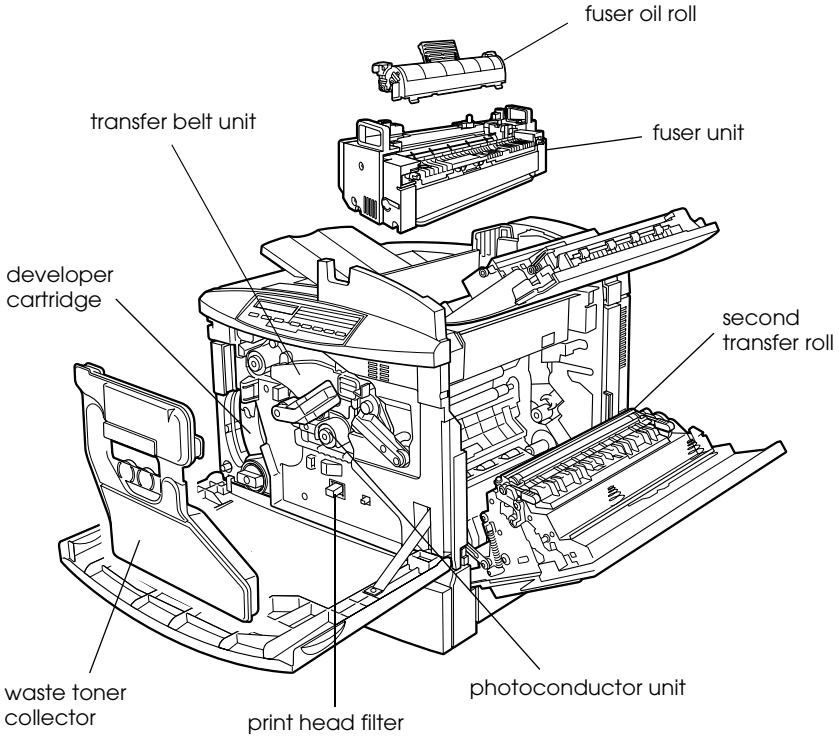
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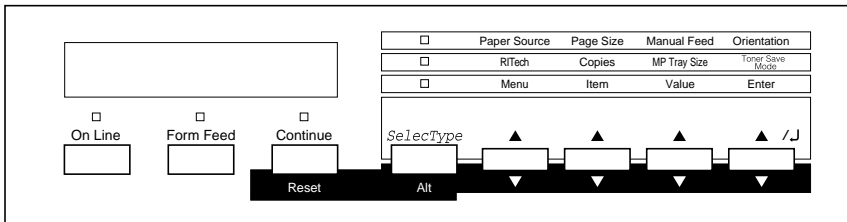
Printer Parts







Control panel



Options and Consumable Products

Options

You can add to your printer's capabilities by installing any of the following options:

- ❑ The 500-Sheet Paper Cassette Unit (C813461) holds one paper cassette. It increases paper-feeding capacity.
- ❑ The Duplex Unit (C813471) provides for automatic printing on both sides of the paper.
- ❑ The Hard Disk Drive (C82377*) expands your printer's capacity by allowing you to collate large print jobs, download PostScript 3 fonts (when the optional Adobe PostScript 3 ROM module is installed), and increase the receive buffer when using the printer over a network.
- ❑ An optional memory module expands your printer's memory, allowing you to print complex and graphics-intensive documents.
- ❑ The Adobe® PostScript® 3™ ROM Module (C832421) generates crisp PostScript output.
- ❑ Interface cards provide your printer with serial, parallel, coaxial, twinaxial, or GPIB connections.

Consumable products

The life of the following consumable products is monitored by the printer. The printer lets you know when replacements are needed.

Developer Cartridge (Black)	S050033
Developer Cartridge (Yellow)	S050034
Developer Cartridge (Magenta)	S050035
Developer Cartridge (Cyan)	S050036
Waste Toner Collector	S050037
Transfer Belt Unit	S053001
Fuser Oil Roll	S052003

Some of the consumables are sold as kits, as listed below:

Photoconductor Kit (includes the photoconductor unit, the waste toner collector, and the print head filter)	S051072
Fuser Kit (includes the fuser unit and the second transfer roll)	S05300*

Note:

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

The EPSON special media listed below provide you with the best-quality printouts.

EPSON Color Laser Paper (A4)	S041215
EPSON Color Laser Paper (Letter)	S041218
EPSON Color Laser Transparencies (A4)	S041175
EPSON Color Laser Transparencies (Letter)	S041174

Controlling the Printer

You can control the operation of the printer from your computer by using the printer driver software packaged with the printer, or from the printer's control panel by using the OneTouch modes and SelecType menus. You should use your printer driver to make printer settings whenever you can, since settings made in the printer driver override similar settings you make from the control panel.

Printer driver

Use the printer driver to make every day printer settings easily and conveniently. You can access the printer driver through an application's Print command, or from Windows by choosing the Printers folder. Be aware that settings you make in your application software override printer driver settings. See the printer driver's online help for more information.

Install the printer driver into your computer as instructed by your network administrator. An *Administrator's Guide* is included in this printer package to guide your network administrator when setting up the printer for use on a network.

Control panel

The OneTouch modes are the easiest way to make basic settings from the printer's control panel. See "Using the OneTouch Modes" on page 4-6 for more information.

Use the control panel's SelecType menus to make more detailed settings or to make printer settings that you cannot make from your application or printer driver. See "SelecType Settings" on page 4-13 for more information.

Resolution Improvement Technology (RITech)

Resolution Improvement Technology (RITech) is an original EPSON printer technology that improves the appearance of printed lines, text, and graphics.

The RITech setting

The default setting for RITech is On. RITech gives the best quality text and graphics for nearly all purposes. You may not need to turn the setting off. However, if you are printing gray shading or screen patterns, change the setting to Off.

To change the RITech setting, select or clear the RITech check box in the More Settings dialog box. The More Settings dialog box is accessed by clicking the *Advanced* radio button and then the More Settings button in the printer driver's Basic Settings tab.

Chapter 2

Paper Handling

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Available Paper

This section explains what kind of paper you can use with your printer. Be sure not to use paper not mentioned in this section.

Note:

The printer is extremely sensitive to moisture. Be sure to store your paper in a dry environment.

EPSON special media

EPSON provides special media that are created especially for this printer:

EPSON Color Laser Paper

This media is designed specifically for this printer. You can load this media from the MP tray, the standard lower cassette, or the optional 500-Sheet Paper Cassette Unit.

S041215 (A4)

S041218 (Letter)

EPSON Color Laser Transparencies

This media is designed specifically for this printer. You can load this media only from the MP tray. The MP tray accommodates up to 50 sheets of transparencies.

S041175 (A4)

S041174 (Letter)



Caution:

- Do not use this printer with other EPSON media such as EPSON special media for ink jet printers, as they can cause paper jams and damage the printer.

- Do not use the media listed above in any other printers, except when specified in the documentation.

General paper

You can use the following paper in addition to EPSON special media introduced in the previous section.

Paper Type	Description
Plain paper	Recycled paper is acceptable* Weight: 60 to 90 g/m ² (16 to 24 lb)
Envelopes	No paste and no tape No plastic window (unless specifically designed for laser printers)
Labels	The backing sheet should be covered completely, with no gaps between labels**
Thick paper	Weight: 91 to 163 g/m ²
Colored paper	Non-coated
Letterhead	Paper with preprinted letterhead, provided that the paper and ink are both compatible with laser printers. Paper which printed with laser printer, ink Jet printer, or other printers cannot be used.

* Use recycled paper only under normal temperature and humidity conditions. Poor quality paper may reduce print quality, cause paper jams and other problems.

** Gaps between labels may cause the labels to peel off inside the printer and damage the printer.

Note:

- ❑ *Since the quality of any particular brand or type of media may be changed by the manufacturer at any time, EPSON cannot guarantee the quality of any type of media. Always test samples of media stock before purchasing large quantities or printing large jobs.*
- ❑ *You may use paper with preprinted letterheads, provided that the paper and ink are both compatible with laser printers.*

Paper that should not be used

You cannot use the following paper in this printer. They may cause printer damage, paper jams, and poor print quality.

- Media meant for other color laser printers, black-and-white laser printers, color copiers, black-and-white copiers, or ink jet printers
- Previously printed paper by any other color laser printers, black-and-white laser printers, color copiers, black-and-white copiers, ink jet printers, or thermal transfer printers
- Carbon paper, no-carbon paper, thermal-sensitive paper, pressure-sensitive paper, acid paper, or paper that uses high-temperature-sensitive ink (around 190°C)
- Labels that peel easily or labels that do not cover the backing sheet completely
- Coated paper or special surface-colored paper
- Paper that has binder holes or is perforated
- Paper that has glue, staples, paper clips, or tape on it
- Paper that attracts static electricity
- Moist or damp paper
- Paper of uneven thickness
- Overly thick or thin paper
- Paper that is too smooth or too rough
- Paper that is different on the front and back
- Paper that is folded, curled, wavy, or torn

- ❑ Paper of irregular shape, or paper that does not have right angle corners

Paper Sources

This section describes the combinations of paper sources and paper types that you can use.

MP tray

Paper Type	Paper Size	Capacity
Plain paper	A4, A5, B5, Letter (LT), Half-Letter (HLT), Executive (EXE), Government Letter (GLT), Custom-size paper: 92 × 148 mm minimum 216 × 297 mm maximum	Up to 150 sheets (Weight: 60 to 90 g/m ²)
Envelopes	Monarch (MON), C10, DL, C6, C5, International B5	Up to 10 sheets
Labels	92 × 148 mm minimum 216 × 297 mm maximum	Up to 50 sheets (Weight: 91 to 163 g/m ²)
Thick paper	92 × 148 mm minimum 216 × 297 mm maximum	Up to 50 sheets
EPSON Color Laser Paper	A4, Letter (LT)	Up to 150 sheets
EPSON Color Laser Transparencies	A4, Letter (LT)	Up to 50 sheets

Standard lower cassette

Paper Type	Paper Size	Capacity
Plain paper	A4, Letter (LT)	Up to 500 sheets (Weight: 60 to 90 g/m ²)
EPSON Color Laser Paper	A4, Letter (LT)	Up to 500 sheets

500-Sheet Paper Cassette Unit

Paper Type	Paper Size	Capacity
Plain paper	A4, Letter (LT)	Up to 500 sheets (Weight: 60 to 90 g/m ²)
EPSON Color Laser Paper	A4, Letter (LT)	Up to 500 sheets

Selecting a paper source

The following are the two ways of selecting the printer's paper source:

- Access the printer driver, click the Basic Settings tab, and select the paper source that you want to use from the Paper Source list. Then click OK.
- Access the OneTouch mode or the SelecType mode on the printer's control panel and select the paper source that you want to use under the Paper Source setting. See "OneTouch mode 1" on page 4-7 or "Printing Menu" on page 4-14.

Auto selection

If you select Auto Selection in the printer driver or Auto in the SelecType mode, the paper source that contains paper matching the page size setting will be used.

When there is no paper in the selected paper source, the printer will search for a paper source containing the same-size paper in the following order:

MP tray

Lower Cassette 1 (standard lower cassette)

Lower Cassette 2 (500-Sheet Paper Cassette Unit)

You can change the priority order through the MP Mode setting in the SelecType Tray Menu. For details, see “Tray Menu” on page 4-17.

Note:

If you make paper size settings or paper source settings in your application, these settings may override the printer driver settings.

Manually loading paper

You can load paper manually from the MP tray, the standard lower cassette, or the optional 500-Sheet Paper Cassette Unit. Manually loading paper can be helpful when you want to check the print quality after each page is printed.

The manual loading procedure is almost the same as the procedure for automatic paper feeding, except that you feed paper one sheet at a time by pressing the On Line button.

Follow these steps to load paper manually:

1. Access the printer driver by one of the following ways:
 - Click the Print or Page Setup command on the File menu of your application software. You also need to click Setup, Options, Properties, or a combination of these buttons.

- ❑ Click Start, select Settings, and then click Printers in Windows 98/95 or Windows NT 4.0. Next, right-click the icon of your EPSON printer and click Properties (in Windows Me/98/95), Printing Preference (in Windows 2000), or Document Defaults (in Windows NT 4.0).
- 2. Click the Basic Settings tab. Select the Manual Feed check box.
- 3. Select the correct paper size from the Paper Size list.
- 4. If the correct paper size is already loaded in the printer, skip this step.

Otherwise, load a sheet or a stack of the correct size paper into specified paper source. Adjust the paper guides to match the paper size you are loading.

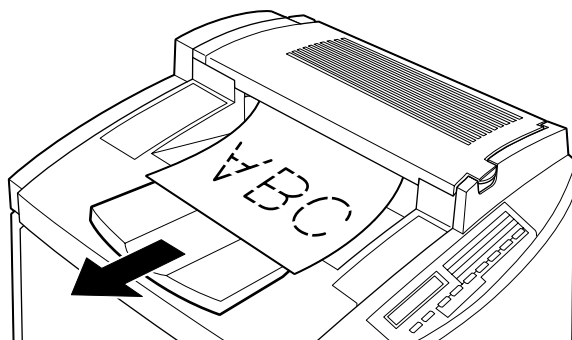
Note:

Load the MP tray with the printable surface down, but load the standard and optional lower cassettes with the printable surface up.

- 5. Send a print job from your application. The LCD panel shows Manual Feed and the selected page size and paper source.
- 6. Press On Line to print. A sheet of paper is loaded and printed.
- 7. Press On Line again to print the next page of print data, if necessary. (Press the On Line button for every page that you want to print.)

Output Tray

The output tray is located on the top of the printer. Since printouts are output face-down, this tray is also referred to as the face-down tray. Raise the paper support to prevent your printouts from slipping off the printer.



You can use the face-down tray with the following types of paper:

Paper type: All paper types supported by the printer
Capacity: Up to 500 sheets

Loading Paper

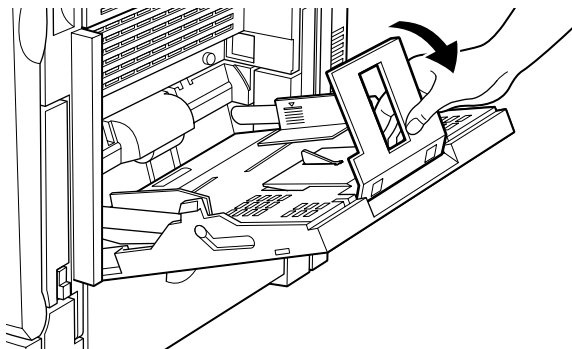
This section describes how to load paper into the MP tray, the standard lower cassette, and the optional 500-Sheet Paper Cassette Unit. If you use special media such as EPSON Color Laser Transparencies or envelopes, see also “Printing on Special Media” on page 2-21.

Loading the MP tray

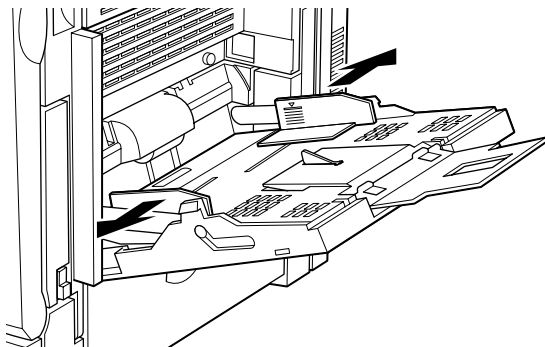
The MP tray is the most flexible paper source, accommodating various paper sizes and media types. See “MP tray” on page 2-5 for details.

Follow these steps to load paper into the MP tray:

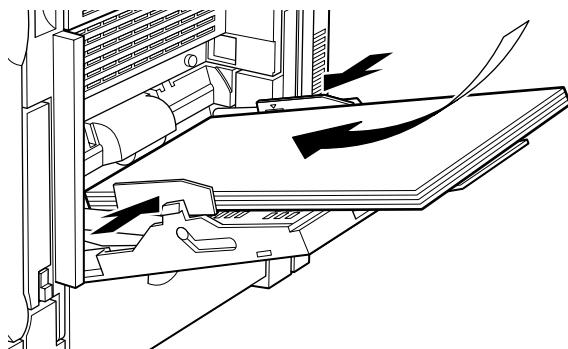
1. Lift the paper support on the MP tray to accommodate the size of the media you want to load.



2. Slide the guides all the way outward.



3. Load a stack of the desired media with the printable surface down, then slide the guides against the sides of the stack to obtain a snug fit.



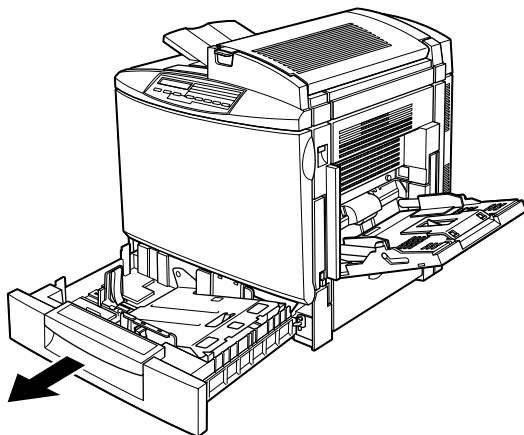
4. Set the Paper Size and Paper Type settings to match the loaded media through the printer driver or the control panel using SelecType.

Loading the standard lower cassette

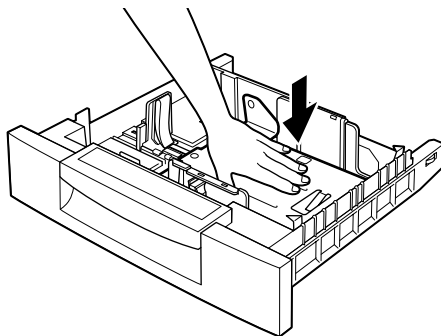
In addition to plain paper, you can also use special media such as EPSON Color Laser Paper in the standard lower cassette. See “Standard lower cassette” on page 2-6 for details.

Follow these steps to load paper into the standard lower cassette:

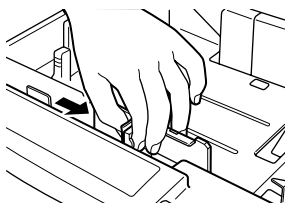
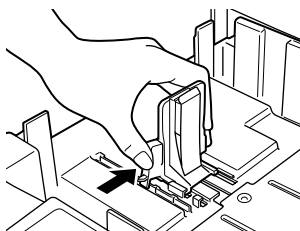
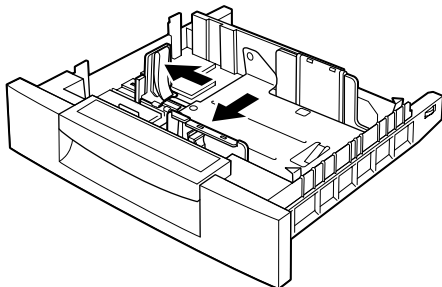
1. Remove the cassette from the printer.



2. Press down on the metal plate in the cassette until it clicks into place.



3. Press on the side of the guides and slide them outward until they are wide open enough to accommodate the size of the paper you want to load.

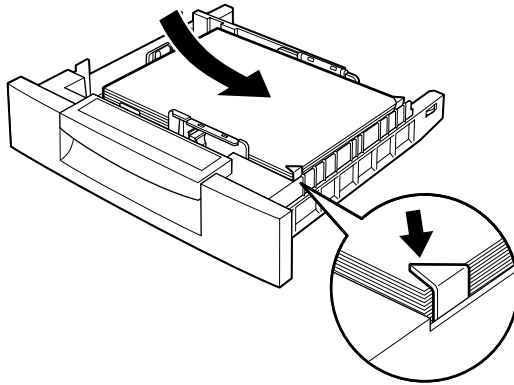


4. Fan a stack of paper to prevent the sheets from sticking together, and tap the edge of the stack on a firm surface to line up the edges of the paper.

Note:

If your printouts are curled or do not stack properly when using plain paper, try turning the stack over and reloading it.

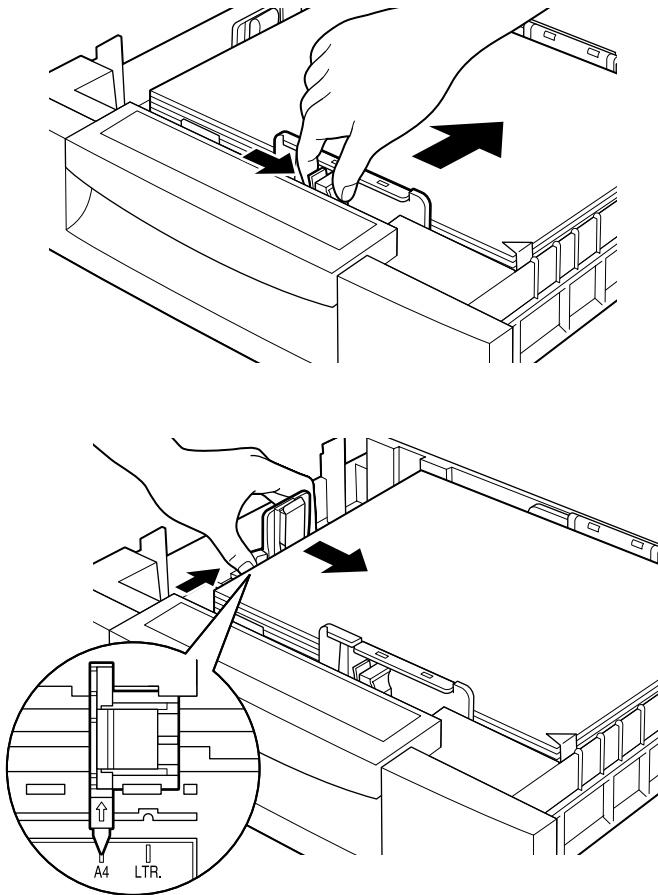
5. Insert the stack into the cassette, lining it up with both the back and right sides of the cassette. Make sure that all the paper is under the metal retaining clip, with the printable surface up.



Note:

Loading the cassette with too much paper may cause paper jams.

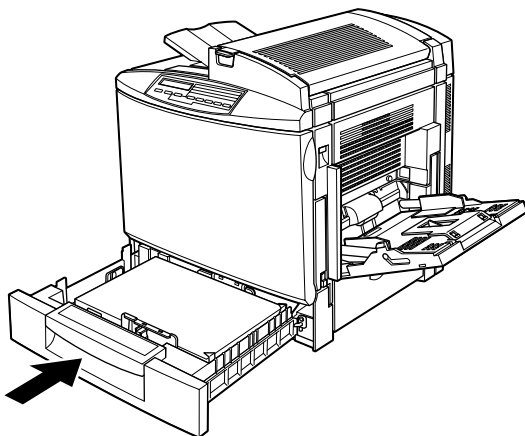
- Slide the edge guides until they just touch the edges of the stack of paper. Be sure to adjust the small edge guide so that it points to the size mark that matches the paper loaded.



Note:

Make sure you adjust the small edge guide to the correct position because the printer automatically senses the size of paper loaded in the cassette from the position of that paper guide.

7. Push the cassette in all the way.



8. Set the **LC1 Type** setting to match the type of loaded paper through the **SelecType Tray Menu**. For details, see “**Tray Menu**” on page 4-17.

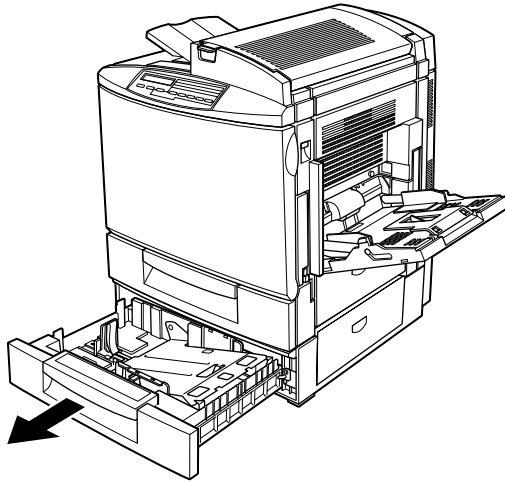
Loading the 500-Sheet Paper Cassette Unit

The optional 500-Sheet Paper Cassette Unit is useful for loading paper that you use regularly or in large amounts. The unit holds 500 sheets, increasing your total paper-feeding capacity to 1,150 sheets when the MP tray, the standard lower cassette and the 500-Sheet Paper Cassette Unit are all loaded to their maximum capacity.

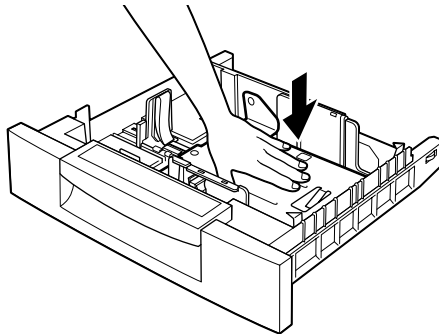
In addition to plain paper, this unit also accommodates special media such as EPSON Color Laser Paper. See “500-Sheet Paper Cassette Unit” on page 2-6 for details.

Follow these steps to load paper into the optional 500-Sheet Paper Cassette Unit:

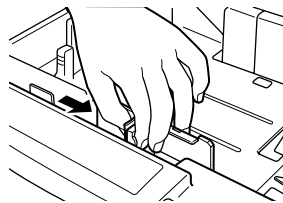
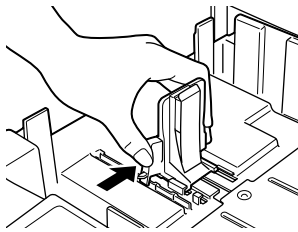
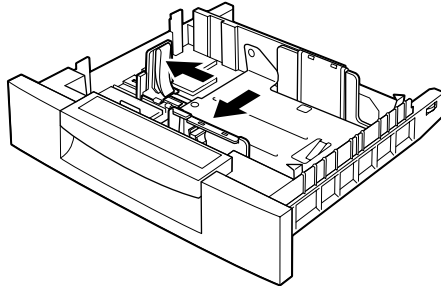
1. Remove the paper cassette from the unit.



2. Press down on the metal plate in the cassette until it clicks into place.



3. Press and slide the two edge guides outward until they are wide open enough to accommodate the size of the paper you want to load.

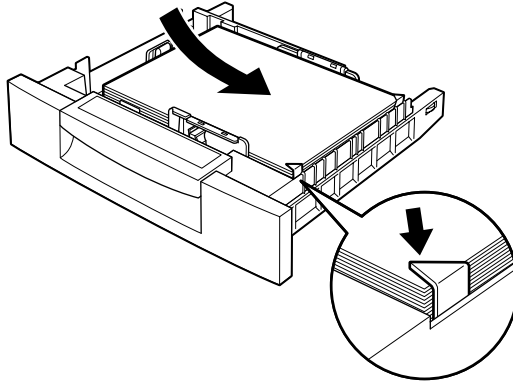


4. Fan a stack of paper to prevent the sheets from sticking together, and tap the edge of the stack on a firm surface to line up the edges of the paper.

Note:

If your printouts are curled or do not stack properly when using plain paper, try turning the stack over and reloading it.

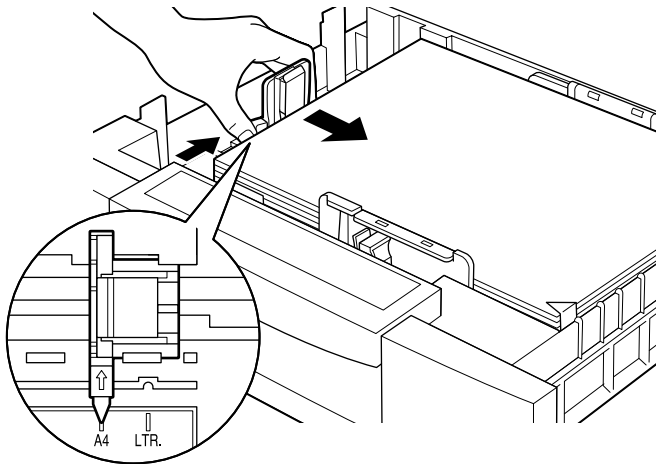
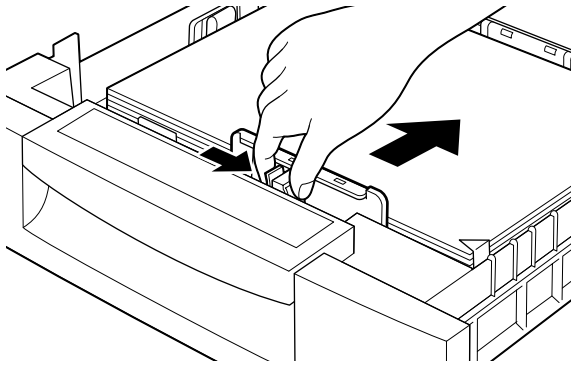
5. Insert the stack into the cassette, lining it up with both the back and the right sides of the cassette. Make sure that all the paper is under the metal retaining clip, with the printable surface up.



Note:

Loading the cassette with too much paper may cause paper jams.

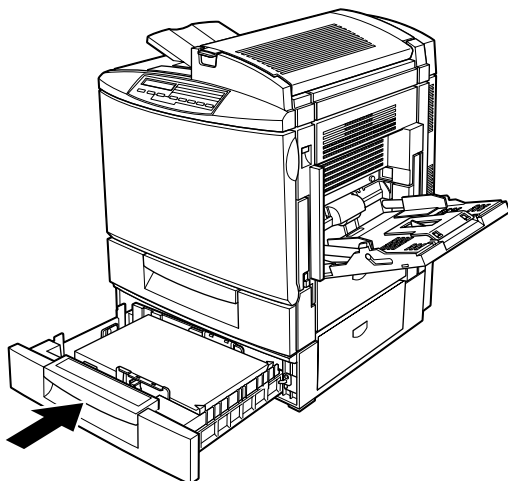
- Slide the edge guides until they just touch the edges of the stack of paper. Be sure to adjust the small edge guide so that it points to the size mark that matches the paper loaded.



Note:

Make sure you adjust the small edge guide to the correct position because the printer automatically senses the size of paper loaded in the cassette from the position of that paper guide.

7. Push the paper cassette in all the way.



8. Set the **LC2 TYPE** setting to match the type of loaded paper through the **SelecType Tray Menu**. For details, see “**Tray Menu**” on page 4-17.

Printing on Special Media

Note:

Since the quality of any particular brand or type of media may be changed by the manufacturer at any time, EPSON cannot guarantee the quality of any type of media. Always test samples of media stock before purchasing large quantities or printing large jobs.

You can print on special paper stock such as EPSON Color Laser Paper, EPSON Color Laser Transparencies, thick paper, envelopes, and labels.

EPSON Color Laser Paper

The following shows important information about the use of EPSON Color Laser Paper:

Paper Source	MP tray, standard lower cassette, optional 500-Sheet Paper Cassette Unit
--------------	--

EPSON Color Laser Transparencies

EPSON recommends the use of EPSON Color Laser Transparencies.

Note:

Duplex printing is not available with transparencies.

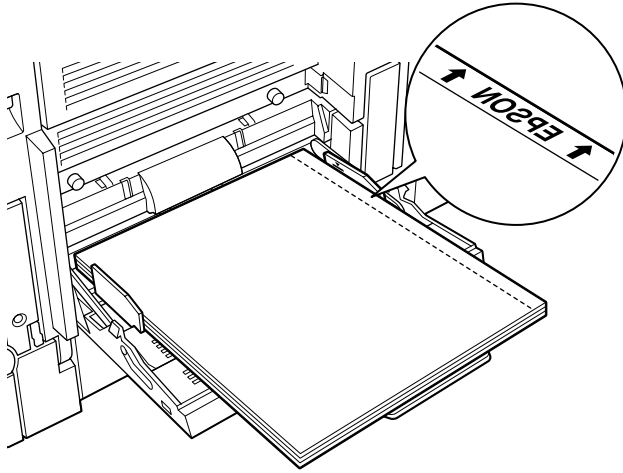
The following table shows important settings you have to make when using EPSON Color Laser Transparencies:

Paper Source	MP tray (up to 50 sheets)
MP Tray Size setting in the SelectType Tray Menu	A4 or LT (Letter)
MP Type setting in the SelectType Tray Menu	TRANSPARENCY
Basic Settings tab in the printer driver	Paper Size: A4 or LT (Letter) Paper Source: MP Tray Paper Type: Transparency

Please note the following tips for handling this media:

- ❑ Hold each sheet by its edges, as oil from your fingers may transfer to the surface and damage the printable surface of the sheet. The EPSON logo appears on the printable side.

- ❑ When loading transparencies into the printer, insert the short edge first and with the printable surface down.



- ❑ If you attempt to load transparencies in any other way, the printer ejects the transparency without printing on it to prevent damage to the printer.

When there are errors with the use of transparencies, the message **Check Media Type** appears on the LCD panel. Load the printer with the correct media, then press the **CONTINUE** button.



Warning:

Sheets that have just been printed on may be hot.

Envelopes

The print quality of envelopes may be irregular because different parts of an envelope have different thicknesses. Print one or two envelopes to check the print quality.



Caution:

Do not use window envelopes unless they are specifically designed for laser printers. The plastic on most window envelopes will melt when it comes into contact with the fuser.

The following table shows important information about the use of envelopes:

Paper Source	MP tray only (up to 10 envelopes)
MP Tray Size setting in the SelecType Tray Menu	Mon, C10, DL, C6, C5, IB5
Basic Settings tab in the printer driver	Paper Size: Mon, C10, DL, C6, C5, IB5 Paper Source: MP Tray Paper Type: Thick

Please note the following tips for handling this media:

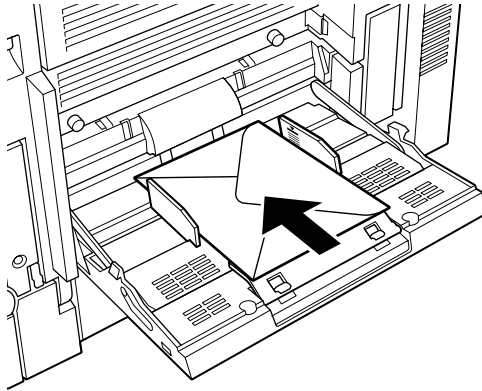


Caution:

Do not load envelopes with the flap open if they have glue on the back of the flap.

- Always load envelopes with the printable surface down.

- ❑ Load envelopes with the flap on the long edge in the orientation shown in the illustration. The flap should be closed.



- ❑ Envelopes with the flap on the short edge should be loaded with the flap first if the flap is closed. If the flap is open, the end opposite to the flap should load first. However, you have to set the size of the envelope to include the open flap.

Labels

You can load more than one sheet of labels into the MP tray at a time. However, you may need to feed some labels one sheet at a time, or load them manually.

You should only use labels designed for laser printers or plain-paper copiers.

To prevent the label adhesive from coming into contact with printer parts, always use labels that completely cover the backing sheet, with no gaps between the individual labels.

You should test all label sheets for leaking adhesive by pressing a sheet of paper on top of a sheet of labels. If the paper sticks to the sheet of labels, do not use the labels in your printer.

The following table shows important information about the use of labels:

Paper Source	MP tray only (up to 50 sheets)
MP Tray Size setting in the SelectType Tray Menu	(Select appropriate size)
Basic Settings tab in the printer driver	Paper Size: (Select appropriate size) Paper Source: MP Tray Paper Type: Thick

Thick paper

The following table shows important information about the use of thick paper.

Note:

Duplex printing is not available with thick paper.

Paper Source	MP tray only (up to 50 sheets)
MP Tray Size setting in the SelectType Tray Menu	(Select appropriate size)
Basic Settings tab in the printer driver	Paper Size: (Select appropriate size) Paper Source: MP Tray Paper Type: Thick

Loading non-standard size paper

You can load non-standard size paper into the MP tray as long as they meet the following size and weight requirements:

Plain paper	92 × 148 mm to 216 × 297 mm (3.6 × 8.3 in. to 8.5 × 14 in.) (Weight: 60 to 90 g/m ²)
Labels	92 × 148 mm to 216 × 297 mm (3.6 × 8.3 in. to 8.5 × 14 in.) (Weight: 91 to 163 g/m ²)

Before printing on non-standard or custom paper sizes, make the paper size setting by using either one of the following ways:

- Access the printer driver, then click the Basic Settings tab. Select User Defined Size from the Paper Size list. In the User Defined Paper Size dialog box, adjust the Paper Width, Paper Length, and Unit settings to match your custom paper. Then click the OK button and your custom paper size will be saved.

- Access the SelecType Printing Menu and set the Page Size setting to CTM (custom).

Chapter 3

Functions of the Printer Driver

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The Printer Driver

The printer driver lets you choose from a wide variety of settings to get the best results from your printer. For Windows, the printer driver also includes the EPSON Status Monitor 3 utility, which is accessed through the Utility tab. For Macintosh, there comes the EPSON Status Monitor 3 alias in the Apple menu after installing the printer driver. The EPSON Status Monitor 3 utility lets you check the status of your printer. See “EPSON Status Monitor 3” on page 3-16 for more information.

Although the printer driver offers many options in the settings that you can make, the following are the basic ways of configuring the printer driver:

Automatic setting

The quickest and easiest way to start printing. See “Using the Automatic setting” on page 3-4.

Predefined settings

Give you more control over printer settings optimized by the type of printout. See “Using the predefined settings” on page 3-5.

Custom settings

Fit your individual needs. See “Customizing print settings” on page 3-7.

Printout style settings

Convenient functions for selecting the printout method and style. See “Modifying the Printout Style” on page 3-10.

Accessing the printer driver

You can access the printer driver directly from any application programs, from your Windows operating system, or from Macintosh File menu.

The printer settings made from many Windows applications override settings made when the printer driver is accessed from the operating system, so you should access the printer driver from your application to make sure you get the result you want.

Note:

Online help provides details on printer driver settings.

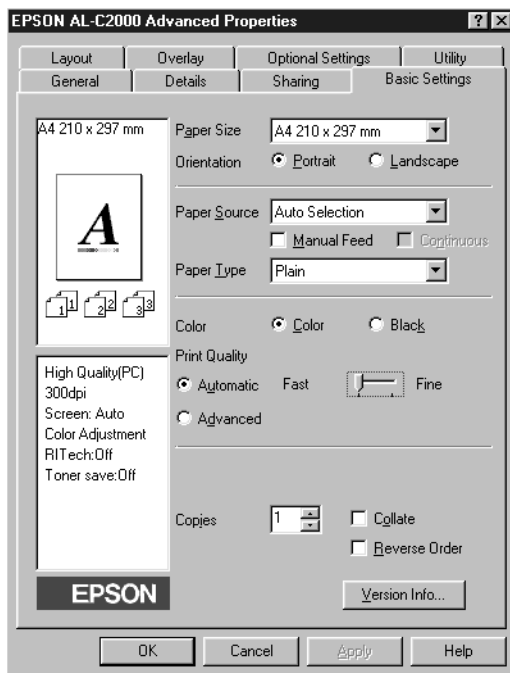
- ❑ To access the printer driver from your application, click the Print or Page Setup command on the File menu. You also need to click Setup, Options, Properties, or a combination of these buttons.
- ❑ To access the printer driver from Windows, click Start, point to Settings, and click Printers. Next, right-click the icon of the EPSON AL-C2000 Advanced icon and click Properties (in Windows Me/98/95), Printing Preferences (in Windows 2000) or Document Defaults (in Windows NT 4.0).
- ❑ To access the printer driver from Macintosh, select Print Desktop from the file menu.

Making the Print Quality setting

You can change the print quality or resolution of printouts through settings in the printer driver. The printer driver provides you with the choice of letting the printer make the settings automatically, choosing from a list of predefined settings, or customizing your own settings.

Using the Automatic setting

When the Automatic radio button is selected in the Basic Settings tab, the printer driver takes care of all detailed settings according to the color setting you select. Color is the only setting you need to make. Most Windows applications feature Paper Size and Orientation settings which override similar settings in the printer driver, but if your application does not, you should verify the settings in the printer driver.



Note:

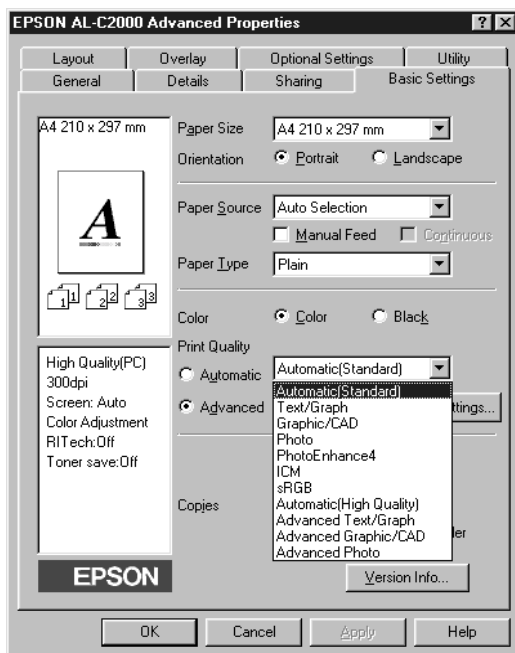
- ❑ This screen is a Windows 98/95 screen.
- ❑ Online help provides more information on printer driver settings.

Using the predefined settings

The predefined settings are provided to help you optimize print settings for a particular kind of printout, such as presentation documents or images taken by a video or digital camera.

Follow these steps to use the predefined settings:

1. Select the Advanced radio button in the Basic Settings menu. You will find the predefined settings in the list to the right of the Automatic radio button.



Note:

This screen is a Windows 98/95 screen.

2. Select the most appropriate setting from the list according to the type of document or image you want to print.

When you choose a predefined setting, other settings such as Printing Mode, Resolution, Screen, and Color Management are set automatically. Changes are shown in the current settings list on the left of the Basic Settings tab.

This printer driver provides the following predefined settings:

Automatic (Standard)

Good for regular printing, especially photos.

Text/Graph

Good for printing documents that include text and graphs, such as presentation documents.

Graphic/CAD

Good for printing graphs and charts.

Photo

Good for printing photos.

PhotoEnhance4

Good for printing images captured using the video input, a digital camera, or scanner. EPSON PhotoEnhance 4 automatically adjusts the contrast, saturation, and brightness of the original image data to produce sharper, more vivid color printouts. This setting does not affect your original image data.

ICM (Except for Windows NT 4.0 and Macintosh)

ICM stands for Image Color Matching. This feature automatically adjusts printout colors to match colors on your screen.

ColorSync (Macintosh only)

Automatically adjust printout colors to match colors on your screen.

Advanced Text/Graph

Good for printing high-quality presentation documents that include text and graphs.

Advanced Graphic/CAD

Good for printing high-quality graphs, charts, and photos.

Advanced Photo

Good for printing high-quality scanned photos and digitally-captured images.

Note:

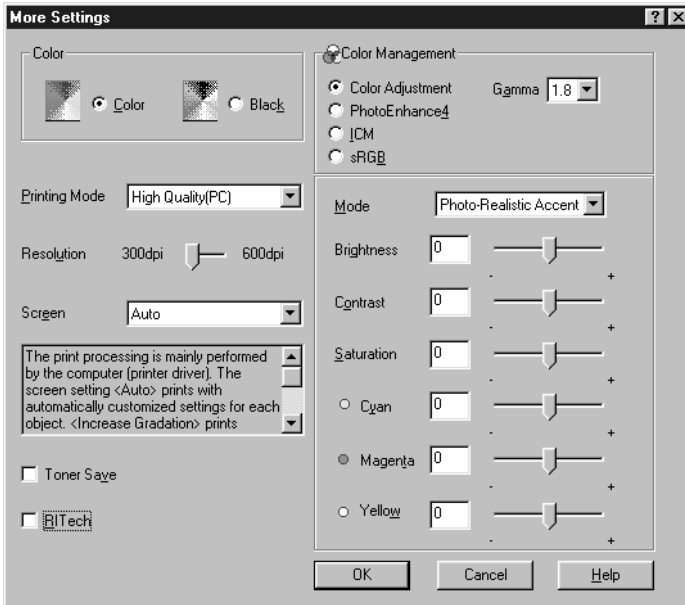
Other than the above settings, sRGB and Automatic (High Quality) are also available.

Customizing print settings

Many users will never need to make their own print settings manually. However, your printer provides for customized print settings if you need more control over the printout, want to make the most detailed settings available, or just want to experiment.

Follow these steps to customize your print settings:

1. Select the Advanced radio button in the Basic Settings tab, then click the More Settings button. The following dialog box appears.



Note:

This screen is a Windows 98/95 screen.

2. Choose Color or Black as the Color setting, then make other settings. For details on each setting, see online help.
3. Click OK to apply your settings and return to the Basic Settings tab. Click Cancel to return to the Basic Settings tab without applying your settings.

Saving your settings

To save your custom settings, click Save Settings in the Basic Settings tab. The Custom Settings dialog box appears.

Type a unique name for your custom settings in the Name box, and click the Save button. Your settings will appear in the list to the right of the Automatic radio button in the Basic Settings tab.

Note:

- You cannot use a predefined setting name for your custom settings.*
- To delete a custom setting, click Save Settings in the Basic Settings tab, select the setting in the Custom Settings dialog box and then click Delete.*
- You cannot delete predefined settings.*

If you change any setting in the Advanced Settings dialog box when one of your custom settings is selected in the Advanced Settings list in the Basic Settings tab, the setting selected in the list changes to Custom Settings. The custom setting that was previously selected is not affected by this change. To return to your custom setting, simply reselect it from the current settings list.

Making the Paper Type setting

On the Basic Setting menu, select the Paper Type setting that matches the paper which is loaded in the printer. Find your paper in the list below, and select the corresponding Paper Type setting, shown in Bold.

Plain

Plain paper, EPSON Color Laser Paper

Thick

Envelopes, Labels, Thick paper

Transparency

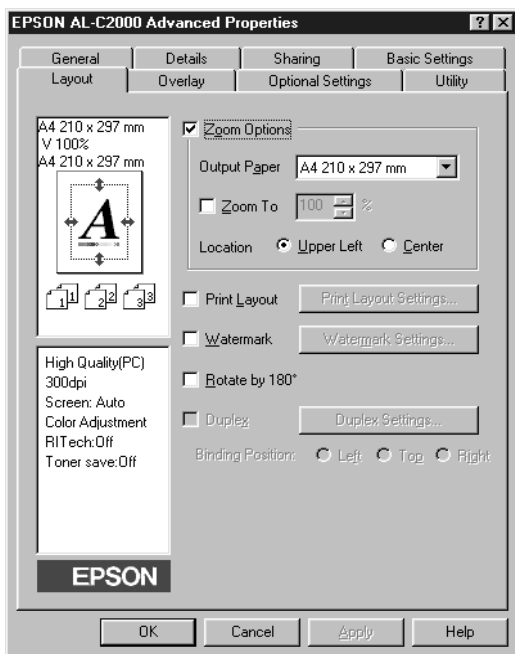
EPSON Color Laser Transparencies

Modifying the Printout Style

The Layout menu and the Overlay menu allow you to make various print settings that affect the way your document is printed and the look of your printout.

This section describes the features provided on those menus. For more details on the Layout and Overlay menus, see online help.

Using features in the Layout menu



Zoom Options

This feature allows you to enlarge or reduce documents.

Print Layout

Select the **Print Layout** check box to activate the currently-selected print layout settings and to enable the **Print Layout Settings** button, which opens the **Print Layout Settings** dialog box.

Settings in this dialog box gives you the option to print two or more pages onto a single page and to specify the printing order. You can also choose to print documents surrounded by a frame.

Watermark

Select the **Watermark** check box to activate the currently selected watermark and to enable the **Watermark Settings** button, which opens the **Watermark** dialog box.

In the **Watermark** dialog box, you can select from a list of predefined watermarks, or you can select a bitmap (.BMP) file as your own custom watermark. The **Watermark** dialog box also allows you to make a variety of detailed watermark settings. For example, you can select the size, color, and position of your watermark.

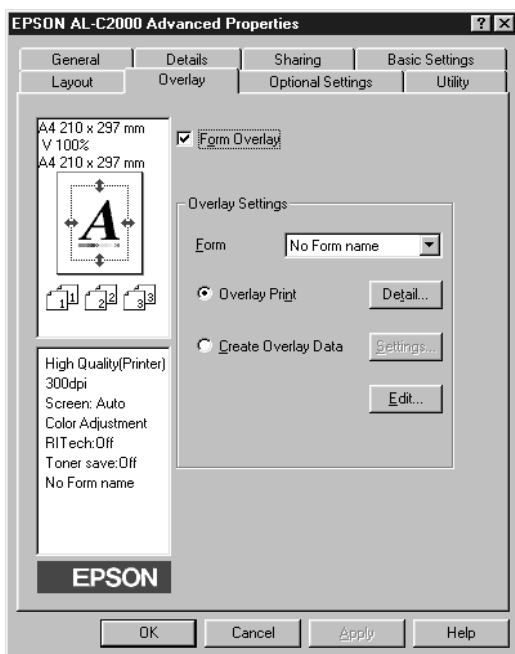
Rotate by 180°

Select this check box to print pages rotated by 180 degrees.

Duplex

Select this check box to print on both sides of the paper using the optional **Duplex Unit**. Once this check box is selected, you can make other more detailed duplex printing settings.

Using features in the Overlay menu



Note:

This screenshot is a Windows 95/98 screen.

The form overlay feature is accessed through the Overlay menu. This feature allows you print form data overlaid with data made by another application. You can create form data and save it.

Making Settings for Printer Options

When you install options in the printer, you need to make certain settings before you start printing.

For Windows Me/98/95 users

If you have installed any options in the printer, you need to make sure that the printer driver has properly recognized the installation.

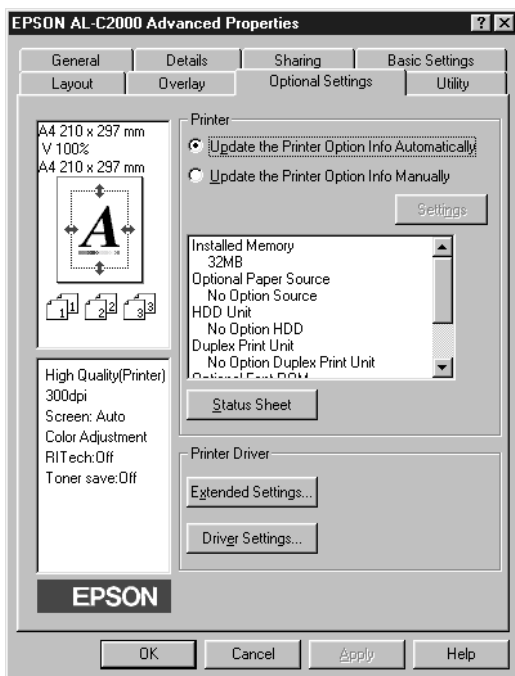
Note:

When the EPSON Status Monitor 3 utility is running and the printer is turned on, information on installed options is automatically transmitted to the computer and made to appear in the printer driver's Optional Settings menu.

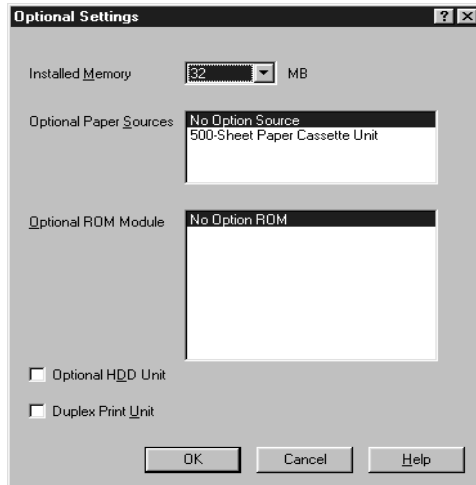
Follow these steps to make the necessary settings for your installed options:

1. Double-click the My Computer icon and double-click the Printers folder.
2. Right-click the icon of your printer, and click Properties.
3. Click the Optional Settings tab.

4. If Update the Printer Option Info Automatically is selected in the Optional Settings menu and the EPSON Status Monitor 3 utility is running while the printer is turned on, information on installed options is automatically transmitted to the computer. If Update the Printer Option Info Manually is selected instead, you will have to set this information manually as described in steps 5 and 6.



5. Click the Settings button in the Optional Settings menu. The Optional Settings dialog box appears.



6. Make the appropriate settings for the installed options, then click OK.

For Windows 2000/NT 4.0 users

If you have installed any options in the printer, you need to make sure that the printer driver has properly recognized the installation before using the option.

Note:

When the EPSON Status Monitor 3 utility is running and the printer is turned on, information on installed options is automatically transmitted to the computer and made to appear in the printer driver's Optional Settings menu.

Follow these steps to make the necessary settings for your installed options:

1. Click Start, select Settings and then Printers.

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

Note:

The Optional Settings menu is also available when you click Properties. However, the available settings will differ.

3. Click the Optional Settings tab. Make the appropriate settings for the installed options, then click OK.

Note:

You do not need to make any settings if information on the installed options already appears in the Optional Settings menu.

4. Click the Basic Settings tab. Select the paper size for each paper source, including the optional paper source.

Note:

You do not need to make any settings if information on the installed options already appears in the Optional Settings menu.

EPSON Status Monitor 3

The EPSON Status Monitor 3 is a utility program that monitors your printer and gives you information about its current status. For example, you can find out the amount of remaining toner or the remaining functional life of the photoconductor unit through this utility. If a print error occurs, the utility provides you with a message describing the error. See the following section for more information.

Before using Status Monitor 3, be sure to read the printer driver's README file. This file contains the latest information on the printer driver and Status Monitor 3.

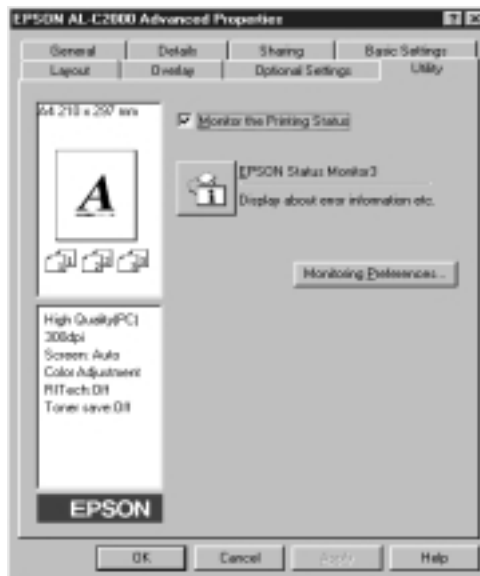
Accessing the EPSON Status Monitor 3

EPSON Status Monitor 3 monitors the printer during printing and while the EPSON Status Monitor 3 dialog box is open. The Status Monitor 3 utility is accessed from within the printer driver.

For Windows users

Follow these steps to access the EPSON Status Monitor 3:

1. Double-click the My Computer icon.
2. Double-click the Printers folder.
3. Right-click the icon for your printer, and click Properties.
4. Click the Utility tab.



5. Click the EPSON Status Monitor 3 icon to start the EPSON Status Monitor 3 utility.

Note:

Clearing the Monitor the printing status check box during normal operation causes the Status Alert window to stop monitoring some errors. See “Status Alert window” on page 3-24 for more information on this function.

For Macintosh users

You can access the EPSON Status Monitor 3 utility by selecting the EPSON Status Monitor 3 alias on the Apple menu.

Note:

- ❑ *The appropriate printer port must already be selected in the Chooser so that necessary information can be received from the selected printer driver when the EPSON Status Monitor 3 starts. If the printer port is incorrect, an error will occur.*
- ❑ *If you change the printer driver in the Chooser while the spool file is printing in the background, output to the printer may be disrupted.*
- ❑ *Printer and consumable products status information appears in the status window only if the Chooser is acquiring status normally.*

Getting printer status details

You can monitor printer status and obtain information on consumable products using the EPSON Status Monitor 3 dialog box.

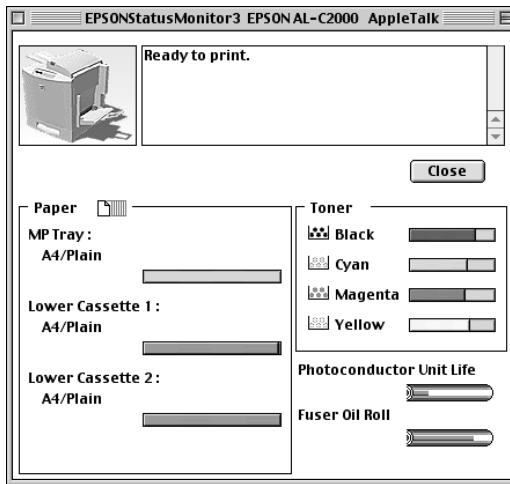
For Window users



- Printer image: The image at the upper left shows the printer status graphically.
- Text box: The text box next to the printer image displays the current status of the printer. When a problem occurs, the most probable solution is displayed.
- OK button: Clicking this button closes the dialog box.
- Paper: Displays the paper size, paper type, and the approximate amount of paper remaining in the paper source. Information for the optional 500-Sheet Paper Cassette Unit is displayed only if this option is installed.

Toner:	Indicates the amount of remaining toner. The toner icon flashes if toner is low (10 percent or less).
Photoconductor Unit Life:	Indicates the remaining functional life of the photoconductor unit.
Fuser Oil Roll Life:	Indicates the remaining functional life of the fuser oil roll.

For Macintosh users



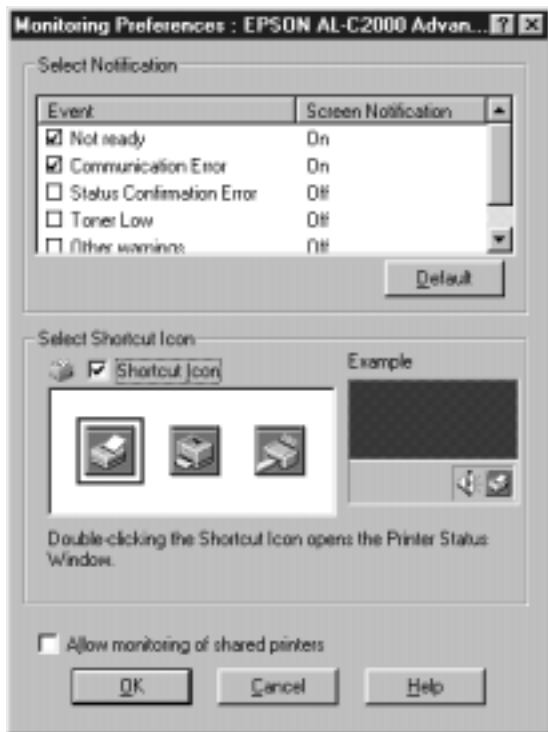
Printer image:	The image at the upper left shows the printer status graphically.
----------------	---

Text box:	The text box next to the printer image displays the current status of the printer. When a problem occurs, the most probable solution is displayed.
Close button:	Clicking this button closes the dialog box.
Paper:	Displays the paper size, paper type, and the approximate amount of paper remaining in the paper source. Information for the optional 500-Sheet Paper Cassette Unit is displayed only if this option is installed.
Toner:	Indicates the amount of remaining toner.
Photoconductor Unit Life:	Indicates the remaining functional life of the photoconductor unit.
Fuser Oil Roll Life:	Indicates the remaining functional life of the fuser oil roll.

Setting monitoring preferences

For Windows users

To make specific monitoring settings, click the Monitoring Preferences button in the Utility tab of the printer driver. The Monitoring Preferences dialog box appears.



The following settings and buttons appear in the dialog box:

Select Notification: Use the check boxes in this area to select the types of error that you wish to be notified about.

Default button: Restores default settings.

Select Shortcut Icon: To use the shortcut icon, select the Shortcut Icon check box and choose an icon. The icon you select appears on the right side of the task bar. Once the shortcut icon is in the task bar, you can double-click it to open the Status Monitor 3 dialog box. Alternatively, you can right-click the shortcut icon and select Monitoring Preferences to open the Monitoring Preferences dialog box, and EPSON AL-C2000 Advanced to open the EPSON Status Monitor 3 dialog box.

Allow monitoring of shared printers check box: To monitor a shared printer, check this box. You need to make this setting on the server machine.

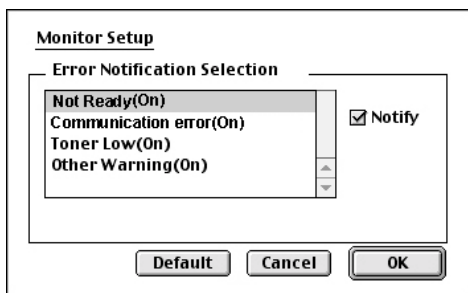
OK button: Saves new changes.

Cancel button: Cancels any changes.

Help button: Opens online help for the Monitoring Preferences dialog box.

For Macintosh users

To make specific monitoring settings, click the Monitor Setup button when you start the status monitor. The monitor Setup dialog box appears.



The following settings and the buttons appear in the dialog box.

Error Notification Selection	Use the check boxes to select the types of error that you wish to be notified about.
Default button:	Restores default settings.
Cancel button:	Cancels any changes.
OK button:	Saves new settings.

Status Alert window

This window indicates what type of error has occurred and offers you a possible solution. It closes automatically once the problem is cleared.

For Windows users

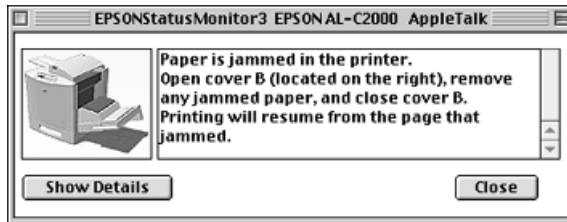
The Status Alert window opens under the conditions you select in the Monitoring Preferences dialog box.



If you wish to see information about printer consumables, click the Consumable Details button. Once this button is clicked, the Status Alert window will not disappear even after a problem is cleared. To close the box you need to click the OK button.

For Macintosh users

The Status Alert window automatically appears when a problem occurs with your printer.



Stopping monitoring (Windows only)

The EPSON Status Monitor 3 monitors the printer during printing and while the EPSON Status Monitor 3 dialog box is open.

To monitor during printing only, close the EPSON Status Monitor 3 dialog box.

To stop all monitoring completely, clear the Monitor the Printing Status check box in the printer driver's Utility tab. You may want to do this to speed up printing or if you don't need to monitor the printer at all.

If you clear the Monitor the Printing Status check box, the Status Alert window no longer comes up to notify you when an error occurs. However, you can still find out the current printer status by clicking the EPSON Status Monitor 3 icon in the printer driver's Utility tab.

Note:

The Monitor the Printing Status check box is displayed in the Utility tab of Document Defaults in Windows NT 4.0, or in the Utility tab of Printing Preference in Windows 2000.

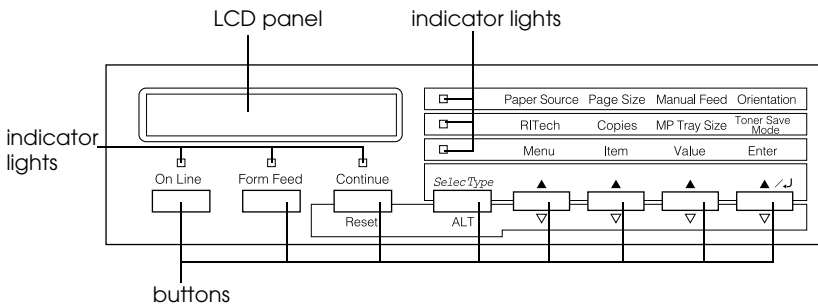
Chapter 4

Functions of the Control Panel

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Control Panel Operation

The control panel is made up of three elements: a liquid crystal display (LCD) panel, indicator lights, and buttons. The LCD panel and indicator lights tell you the current status of the printer, and you can use the printer buttons to select settings and functions. However, settings made in application software and the printer driver usually override settings made at the control panel.



LCD panel

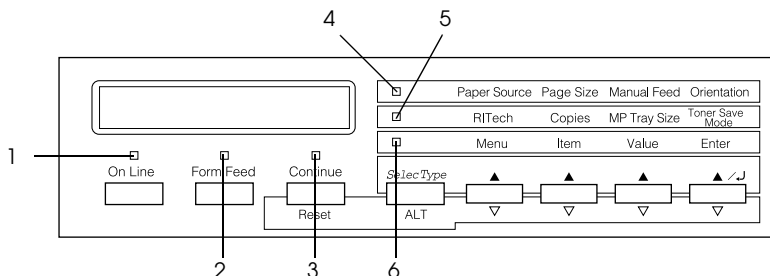
The LCD panel shows the following:

- ❑ Status messages, such as `Warming UP`, indicating the printer's current status
- ❑ Error messages, such as `Paper Out`, identifying maintenance procedures you must perform or error conditions you need to correct
- ❑ SelecType menus, such as `Emulation Menu`, allowing you to control printer modes, font selection, paper handling, and many other printer functions

For information on problem-solving and routine maintenance, see the sections under “Problem Solver” and “Replacing Consumable Products.” For more information on the SelectType mode, see “Using SelectType” on page 4-9.

Indicator lights

This section describes the various indicator lights on the control panel.

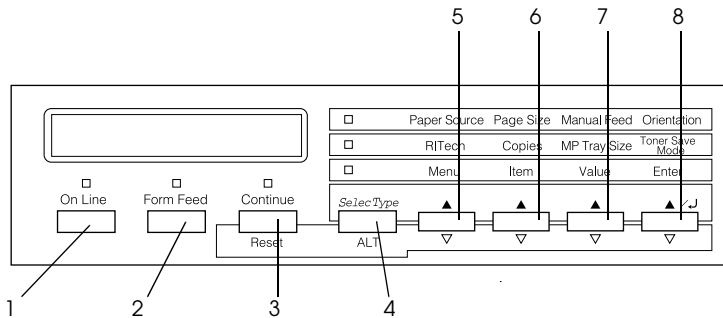


- | | | |
|---|-----------|--|
| 1 | On Line | On when the printer is online, indicating that the printer can receive and print data. When the printer is offline, this light is off. The light flashes as the system switches between online and offline status. |
| 2 | Form Feed | On when data is received and stored in the printer buffer (printer memory reserved for receiving data), but not yet printed. Flashing indicates that the printer is processing data. When no data remains in the printer buffer, this light turns off. |

- | | | |
|---|-----------------|--|
| 3 | Continue | Flashes when an error is detected or a maintenance procedure must be performed. Check the LCD panel for error or maintenance messages when this light is flashing. |
| 4 | OneTouch mode 1 | On when the printer is in OneTouch mode 1. For details, see “OneTouch mode 1” on page 4-7. |
| 5 | OneTouch mode 2 | On when the printer is in OneTouch mode 2. For details, see “OneTouch mode 2” on page 4-8. |
| 6 | SelectType | On when the printer is in the SelectType mode. For more information on the SelectType mode, see “Using SelectType” on page 4-9. |

Buttons

This section explains how to use the control panel buttons.



- 1 On Line Switches the printer between online and offline status.
- 2 Form Feed When the printer is offline and data remains in the printer's memory (Form Feed light is on), pressing this button prints out the data and clears the buffer.
- 3 Continue/
Reset Enables the printer to resume printing after certain maintenance-required conditions or errors have been cleared. If the Continue light is flashing, read the status or error message on the LCD panel and correct the problem as described in "Status and Error Messages" on page 7-39. If used in combination with the ALT button, the printer is reset.
- 4 Selectype/
ALT Selects a OneTouch mode or the Selectype mode. Press this button once to enter OneTouch mode 1. Press this button again to enter OneTouch mode 2. Press this button once more to enter the Selectype mode. Pressing this button while in the Selectype mode puts the printer online. For more information, see "Using Selectype" on page 4-9.
- 5 Menu Selects the corresponding OneTouch mode setting listed above this button if in OneTouch mode 1 or 2, or selects the Selectype menu if in the Selectype mode. Press this button when the printer is online to enter the Selectype mode.

- | | | |
|---|----------------------------|---|
| 6 | Item | Selects the corresponding OneTouch mode setting listed above this button if in OneTouch mode 1 or 2, or selects the function available within the current menu after entering the SelecType mode. |
| 7 | Value | Selects the corresponding OneTouch mode option listed above this button if in OneTouch mode 1 or 2, or selects the value available for the current item after entering the SelecType mode menu. |
| 8 | Enter
(Status Sheet) | Selects the corresponding OneTouch mode option listed above this button if in OneTouch mode 1 or 2, or activates the setting currently shown on the LCD panel when in the SelecType mode. Press this button twice when the printer is online to print a status sheet. |
| | ALT + Menu, Item, or Value | Returns the shown parameter or setting in each group to its previous value. |

Using the OneTouch Modes

The OneTouch modes allow you to make the most common printer settings from the control panel when printing from an application or operating system that does not support your printer driver. Be sure to use the printer driver to make these settings whenever you can, since settings made in the application software always override OneTouch mode settings.

To make OneTouch mode settings, access one of the modes as described below and press the button located under the setting you want to change to cycle forward through the available options. You can also cycle backward through available options by holding down the ALT button while pressing the button under the setting you want to change.

OneTouch mode 1

To enter OneTouch mode 1, press the SelectType button (repeatedly if necessary) until the light next to Paper Source turns on. The current OneTouch mode 1 settings for Paper Source, Page Size, Manual Feed, and Orientation are shown on the LCD panel in this order.



Paper Source

Specifies whether paper feeds into the printer from the MP tray or from a standard or optional lower cassette. If you select Auto, the paper source containing the paper that matches the Page Size setting will be used.

Page Size

Specifies the image size.

Manual Feed

Turns the manual feed mode on or off. For details on the manual feed mode, see “Manually loading paper” on page 2-7.

Orientation

Specifies whether the page is printed in portrait or landscape orientation.

OneTouch mode 2

To enter OneTouch mode 2, press the SelectType button (repeatedly if necessary) until the indicator light next to RITech turns on. The current OneTouch mode 2 settings for RITech, Copies, MP Tray Size, and Toner Save Mode are shown on the LCD panel in this order.



RITech

Turns the RITech setting on or off. RITech produces smoother and crisper lines, text, and graphics.

Copies

Specifies the number of copies to be printed, up to 999.

MP Tray Size

Allows you to specify the paper size for the MP tray.

Toner Save Mode

Turns the Toner Save mode on or off. When turned on, the printer saves toner by substituting a gray shade for the black inside of characters. The characters are outlined in full black on the right and lower edges.

Using SelectType

When to use SelectType

In general, use SelectType only for settings you cannot make in your software or printer driver, including the following:

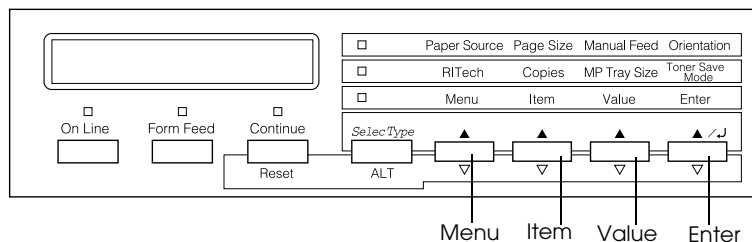
- ❑ Changing the emulation modes and selecting the IES (Intelligent Emulation Switching) mode
- ❑ Specifying a channel and configuring the interface
- ❑ Choosing the size of the memory buffer used to receive data

Keep in mind the following when using SelectType settings:

- ❑ A number of SelectType settings can be made directly using the OneTouch modes
- ❑ Print a status sheet to see the current SelectType settings

How to make the settings

Use the buttons on the printer's control panel to enter the SelectType mode. SelectType settings appear on the LCD panel.



Note:

You can directly access certain menu items using the OneTouch modes. For more information, see "Using the OneTouch Modes" on page 4-6.

Follow these steps to enter, navigate, and exit the SelectType mode:

1. Press the SelectType button several times until the light above the SelectType button turns on.
2. Press the Menu button to enter the SelectType mode.
3. Use the Menu, Item, and Value buttons to display settings, like this:

To display menus, press Menu.

To display items in a menu, press Item.

To display values for an item, press Value.

An asterisk (*) appears beside the currently activated value.

Press ALT in combination with each button to display menus, items, or values in reverse order.

See "SelectType menu table" on page 4-11 for a list of SelectType menus and items.

4. To activate a new setting, press Enter. An asterisk (*) appears beside the setting.
5. To exit the SelectType mode, press the On Line or SelectType button.

See "SelectType Settings" on page 4-13 for a detailed description of SelectType settings.

SelectType menu table

The following table shows the order in which SelectType menus and menu items appear on the LCD panel.

Press the Menu button to display the next menu. Press the Alt and Menu buttons to display the previous menu.

Menu	Items
Test Menu	Status Sheet, Network Status Sheet, AUX Status Sheet*, PS3 Status Sheet*, PS3 Font Sample*, LJ4 Font Sample, ESCP2 Font Sample, FX Font Sample, I239X Font Sample
Emulation Menu	Parallel, Network, AUX*
Printing Menu	Paper Source, Page Size, Wide A4, Orientation, Copies, Manual Feed, Resolution, Skip Blank Page, Auto Eject Page, Duplex*, Binding*, Start Page*
Tray Menu	MP Mode, MP Tray Size, LC1 Size, LC2 Size*, MP Type, LC1 Type, LC2 Type*
Config Menu	RItech, Toner Save, Top Offset, Left Offset, T Offset B*, L Offset B*, Size Ignore, Auto Cont, Page Protect, Image Optimum, Paper Type
Setup Menu	Time Out, Standby, Lang, C Toner, M Toner, Y Toner, K Toner, Toner Out, Photoconductor, Total Pages, Color Pages, B/W Pages, SelecType Init
Clock Menu	LocalTimeDif, Year, Month, Date, Hour, Minute
Parallel Menu	Parallel I/F, Speed, Bi-D, Buffer Size
Network Menu	Network I/F, Network Config, Get IPAddress, IP Byte1, IP Byte2, IP Byte3, IP Byte4, SM Byte1, SM Byte2, SM Byte3, SM Byte4, GW Byte1, GW Byte2, GW Byte3, GW Byte4, Buffer Size
AUX Menu*	AUX I/F, AUX Config, Get IPAddress, IP Byte1, IP Byte2, IP Byte3, IP Byte4, SM Byte1, SM Byte2, SM Byte3, SM Byte4, GW Byte1, GW Byte2, GW Byte3, GW Byte4, NetWare, AppleTalk, NetBEUI, AUX Init, Buffer Size
LJ4 Menu	Font Source, Font Number, Pitch, Height, SymSet, Form, Source SymSet, Dest SymSet, CR Function, LF Function, Tray Assign
GL2 Menu	GL Mode, Scale, Origin, Pen, End, Join, Pen0 to Pen6

Menu	Items
PS3 Menu*	Error Sheet, Coloration, Image Protect
ESCP2 Menu	Font, Pitch, Condensed, T.Margin, Text, CG Table, Country, Auto CR, Auto LF, Bit Image, ZeroChar
FX Menu	Font, Pitch, Condensed, T.Margin, Text, CG Table, Country, Auto CR, Auto LF, Bit Image, ZeroChar
I239X Menu	Font, Pitch, Code Page, T.Margin, Text, Auto CR, Auto LF, Alt. Graphics, Bit Image, ZeroChar, CharacterSet

* These items appear only when the corresponding options are installed.

SelectType Settings

Read this section for a complete description of the settings available on the SelectType menus.

Test Menu

From this menu you can print status and sample sheets showing the printer's current settings, available fonts, and a brief summary of available features.

Press the **Item** button to select a sheet or font sample, then press **Enter** to print. There are no settings to select by pressing the **Value** button.

Status Sheet, Network Status Sheet, AUX Status Sheet, PS3 Status Sheet***

Prints a sheet describing the current printer settings. Use this function to check whether your printer is working correctly.

*PS3 Font Sample***, *LJ4 Font Sample*, *ESCP2 Font Sample*, *FX Font Sample*, *I239X Font Sample*

Prints a sample of the fonts available for your selected printer emulation.

* Available only when an optional interface card is installed.

** Available only when the optional Adobe PostScript 3 ROM module is installed.

Emulation Menu

Use this menu to select the printer emulation mode. You can specify different emulations for each interface; in other words, for each computer you connect the printer to. Since each emulation mode has its own specific options, make settings in the LJ4, ESCP2, FX, GL2, or I239X menu, as necessary. The values you can choose from are the same for every interface.

Item	Values (default in bold)
Parallel	Auto , LJ4, ESCP2, FX, I239X, PS3*, GL2
Network	Auto , LJ4, ESCP2, FX, I239X, PS3*, GL2
AUX**	Auto , LJ4, ESCP2, FX, I239X, PS3*, GL2

* Available only when the optional Adobe PostScript 3 ROM module is installed.

** Available only when an optional interface card is installed.

Printing Menu

This menu allows you to make standard print settings, such as Paper Source and Page Size, when printing from an application or operating system that does not support your printer driver. Be sure to use the printer driver to make these settings whenever you can, since settings made in the application software always override SelectType settings.

Most of the items in the Printing Menu can be accessed directly through the OneTouch modes. These items are listed on your printer's control panel beside the OneTouch mode indicator lights. For more information, see "Using the OneTouch Modes" on page 4-6.

Item	Values (default in bold)
Paper Source	Auto , MP, LC1, LC2*
Page Size	A4 , A5, B5, LT, HLT, GLT, EXE, MON, C10, DL, C5, C6, IB5, CTM
Wide A4	Off , On
Orientation	Port , Land
Copies	1 to 999
Manual Feed	Off , On
Resolution	600 , 300
Skip Blank Page	Off , On
Auto Eject Page	Off , On
Duplex*	Off , On
Binding*	Long Edge , Short Edge
Start Page*	Front , Back

* These values appear only when the corresponding options are installed.

Paper Source

Specifies whether paper feeds into the printer from the MP tray, the standard lower cassette, or from the optional 500-Sheet Paper Cassette Unit.

If you select **Auto**, paper feeds from the paper source containing paper that matches your **Page Size** setting.

Note:

You can also make this setting directly from OneTouch mode 1.

Page Size

Specifies the paper size.

Note:

You can also make this setting directly from OneTouch mode 1.

Wide A4

Enables you to print 80 columns on A4 size paper in portrait orientation when you print from a DOS application. Selecting this setting changes the left and right margins from 4 mm to 3.4 mm.

Orientation

Specifies whether the page is printed in portrait or landscape orientation. For example, this page is printed in portrait orientation.

Note:

You can also make this setting directly from OneTouch mode 1.

Copies

Designates the number of copies to be printed, from 1 through 999.

Note:

You can also make this setting directly from OneTouch mode 2.

Manual Feed

Allows you to select the manual feed mode for all the paper sources. For details on the manual feed mode, see “Manually loading paper” on page 2-7.

Note:

You can also make this setting directly from OneTouch mode 1.

Resolution

Switches the resolution between 300 and 600 dpi.

Skip Blank Page

Enables you to skip blank pages when printing. This setting is not available when you print in the GL2 or PS3 mode.

Auto Eject Page

Sets whether or not to output paper when the time-out limit is reached according to the *Time Out* setting in the Setup Menu. The default is off, or paper is not printed when the time-out limit is reached.

Duplex

Turns duplex printing on or off. This item is available only when the optional Duplex Unit is installed.

Binding

Specifies the binding direction of the printout when you set *Duplex* to *On*. This item is available only when the optional Duplex Unit is installed.

Start Page

Specifies whether printing starts from the front or back side of the page. This item is available only when the optional Duplex Unit is installed.

Tray Menu

This menu allows you to specify the size and type of paper loaded in the MP tray. Accessing this menu also lets you check the size of the paper currently loaded in the lower cassettes.

The paper type settings in this menu can also be made from your printer driver. Settings you make in your printer driver override SelecType settings, so use your printer driver whenever you can.

Item	Values (default in bold)
MP Mode	Normal , Last
MP Tray Size	A4** , A5, B5, LT** , HLT, GLT, EXE, MON, C10, DL, C5, C6, IB5
LC1 Size	A4, LT
LC2 Size*	A4, LT
MP Type	Plain , Letterhead, Recycled, Color, Trnspncy, Labels
LC1 Type	Plain , Recycled, Color
LC2 Type*	Plain , Recycled, Color

* Available only when the optional 500-Sheet Paper Cassette Unit is installed.

** Default setting varies according to the country of purchase.

MP Mode

This setting is valid in SelecType only when the Paper Source setting in the printer driver is set to *Auto*. When **Normal** is selected, the MP tray has the highest priority as the paper source. If you select **Last**, the MP tray has the lowest priority.

MP Tray Size

Select your paper size from this menu.

Note:

You can also make this setting directly from OneTouch mode 2.

LC1 Size, LC2 Size

Displays the paper size loaded in the standard or optional paper cassette. You cannot change the paper size from this menu.

MP Type

Lets you set the paper type loaded in the MP tray.

LC1 Type, LC2 Type

Lets you select the paper type loaded in the standard or optional paper cassette.

Config Menu

This menu allows you to control certain printer settings, such as RITech, Toner Save, and Paper Type.

Item	Values (default in bold)
RITech	On , Off
Toner Save	Off , On
Top Offset	-99 ... 0.0 ... 99 mm in 0.5-mm increments
Left Offset	-99 ... 0.0 ... 99 mm in 0.5-mm increments
T Offset B*	-99 ... 0.0 ... 99 mm in 0.5-mm increments
L Offset B*	-99 ... 0.0 ... 99 mm in 0.5-mm increments
Size Ignore	Off , On
Auto Cont	Off , On
Page Protect	Auto , On
Image Optimum	Auto , Off, On
Paper Type	Normal , Thick, Trnspnc

* Available only when the optional Duplex Unit is installed.

RITech

When you select **On**, the RITech setting is turned on and you can produce smoother and crisper lines, text, and graphics.

Note:

You can also make this setting directly from OneTouch mode 2.

Toner Save

When you select **On**, the printer saves toner by substituting a gray shade for the black inside of characters. The characters are outlined in full black on the right and lower edges.

Note:

You can also make Toner Save settings directly from OneTouch mode 2.

Top Offset

Makes fine adjustments to the vertical printing position of the page.



Caution:

Make sure that the printed image does not extend beyond the edge of the paper. Otherwise, you may damage the printer.

Left Offset

Makes fine adjustments to the horizontal printing position of the page. This is useful for fine adjustments when using the manual feed mode.



Caution:

Make sure that the printed image does not extend beyond the edge of the paper. Otherwise, you may damage the printer.

T Offset B

Adjusts the vertical printing position on the back side of the paper when printing on both sides. Use this if the printout on the back side is not where you expected. This item is available only when the optional Duplex Unit is installed.

L Offset B

Adjusts the horizontal printing position on the back side of the paper when printing on both sides. Use this if the printout on the back side is not where you expected. This item is available only when the optional Duplex Unit is installed.

Size Ignore

If you want to ignore a paper size error, select *On*. When you turn this item on, the printer keeps printing even if the image size exceeds the printable area for the specified paper size. This may cause smudges because of toner that is not transferred onto the paper properly. When this item is turned off, the printer stops printing if a paper size error occurs.

Auto Cont

When you turn this setting on, the printer automatically continues printing after a certain period of time when one of the following errors occurs: *Paper Set*, *Print Overrun* or *Mem Overflow*. When this option is off, you must press the *Continue* button to resume printing.

Page Protect

Allocates additional printer memory for printing data, as opposed to receiving it. You may need to turn this setting on if you are printing a very complex page. If a *Print Overrun* error occurs, change the setting to *On* and reprint your data. This reduces the amount of memory reserved for receiving data so your computer may take longer to send the print job, but it will allow you to print complex jobs. *Page Protect* usually works best if set to *Auto*. You will need to increase your printer's memory if memory errors continue to occur.

Note:

*Changing the *Page Protect* setting reconfigures the printer's memory, which causes any downloaded fonts to be deleted.*

Image Optimum

When this mode is on, the quality of graphics is reduced. It reduces the amount of graphics data when the data reaches the memory limit, allowing complex documents to be printed.

Paper Type

Use this setting when you print on thick paper or transparencies.

Setup Menu

This menu allows you to customize various printer modes, select an LCD panel display language, determine the total number of pages printed to date, and check the toner counter.

Item	Values (default in bold)
Time Out	0, 5 ... 60 ... 300 in increments of 1
Standby	Enable , Disable
Lang	English , Français, Deutsch, ITALIANO, ESPAÑOL, SVENSKA, Dansk, Nederl., SUOMI, Português
C Toner	E****F
M Toner	E****F
Y Toner	E****F
K Toner	E****F
Toner Out	Stop , Continue
Photoconductor	100% to 0%
Total Pages	0 to 99999999
Color Pages	0 to 99999999
B/W Pages	0 to 99999999
SelectType Init	-

Time Out

Sets the length of time the printer waits when it is online and no new data is received. When this time is up, the printer searches for new print data on other channels.

Standby

Saves power by reducing the power to the fixing heater if the printer receives no data for 60 minutes. In this mode, the printer begins warming up as soon as you send a print job and is ready to print in about 160 seconds at the rated voltage.

Lang

Specifies the language displayed on the LCD panel and that printed on the status sheet.

C Toner/M Toner/Y Toner/K Toner

Displays the amount of toner left in the developer cartridges as shown below:

E****	F	(100 to 76%)
E***	F	(75 to 51%)
E**	F	(50 to 26%)
E*	F	(25 to 1%)
E	F	(0%)

Toner Out

Printing automatically stops when the xxxx Toner Out message appears. You can continue to print by pressing the Continue button for every page that you want to print. However, this procedure can be circumvented by setting Toner Out to Continue.

Photoconductor

Indicates the remaining service life of the photoconductor unit. When the value reaches 20%, the *Worn Photoconductor* message appears on the LCD panel. The counter is reset when a new photoconductor unit is installed.

Total Pages

Displays the total number of sheets printed, both color and black-and-white, by the printer.

Color Pages

Displays the total number of sheets printed in color by the printer.

B/W Pages

Displays the total number of sheets printed in black-and-white by the printer.

SelectType Init

Erases all the SelectType settings you have changed with the exception of interface settings, and resets them to their defaults.

Parallel Menu

These settings control communication between the printer and the computer when using the parallel interface.

Item	Values (default in bold)
Parallel I/F	On , Off
Speed	Fast , Normal
Bi-D	Nibble, ECP , Off
Buffer Size	Normal , Maximum, Minimum

Parallel I/F

Allows you to activate or deactivate the parallel interface.

Speed

Specifies the pulse width of the ACKNLG signal when receiving data in the Compatibility mode or Nibble mode. When this option is set to *Fast*, the pulse width is about 1 μ s. When this option is set to *Normal*, the pulse width is about 10 μ s.

Bi-D

Allows you to specify the bidirectional communication mode. When you select *Off*, bidirectional communication is disabled.

Buffer Size

Determines the amount of memory to be used for receiving data from the parallel interface and for printing data. If set to *Maximum*, more memory is allocated for receiving data. If set to *Minimum*, more memory is allocated for printing data.

Note:

- To make new settings effective, press the ALT and Reset buttons simultaneously until Reset All appears on the LCD panel. Alternatively, turn off the printer for more than 5 seconds, then turn it back on.*
- Resetting the printer erases all print jobs. Make sure the On Line light is not flashing when you reset the printer.*

Network Menu

These items are for making network settings. Have your network administrator make these settings while referring to the *Administrator's Guide*.

Item	Values (default in bold)
Network I/F	On , Off
Network Config	No , Yes
Get IPAddress*	Panel, Auto** , PING
IP Byte 1*	0... 192 ... 255
IP Byte 2*	0... 168 ... 255
IP Byte 3*	0... 192 ... 255
IP Byte 4*	0... 168 ... 255
SM Byte 1*	0 to 255
SM Byte 2*	0 to 255
SM Byte 3*	0 to 255
SM Byte 4*	0 to 255
GW Byte 1*	0 to 255
GW Byte 2*	0 to 255
GW Byte 3*	0 to 255
GW Byte 4*	0 to 255
Buffer Size*	Normal , Maximum, Minimum

* Available only when Network Config is set to Yes.

** When Get IPAddress is set to Auto, all items between and including IP Byte 1 and GW Byte 4 are not available. Their default values will be used.

Note:

- ❑ *To make new settings effective, press the ALT and Reset buttons simultaneously until Reset All appears on the LCD panel. Alternatively, turn off the printer for more than 5 seconds, then turn it back on.*

- ❑ *Resetting the printer erases all print jobs. Make sure the On Line light is not flashing when you reset the printer.*

AUX Menu

This menu allows you to control the optional interface settings.

Item	Values (default in bold)
AUX I/F	On , Off
AUX Config*	No , Yes
Get IPAddress**	Panel, Auto, PING
IP Byte 1**	0 to 255
IP Byte 2**	0 to 255
IP Byte 3**	0 to 255
IP Byte 4**	0 to 255
SM Byte 1**	0 to 255
SM Byte 2**	0 to 255
SM Byte 3**	0 to 255
SM Byte 4**	0 to 255
GW Byte 1**	0 to 255
GW Byte 2**	0 to 255
GW Byte 3**	0 to 255
GW Byte 4**	0 to 255
NetWare**	On, Off
AppleTalk**	On, Off
NetBEUI**	On, Off
AUX Init**	-
Buffer Size	Normal , Maximum, Minimum

* Available only when an optional interface card that has a configurable Network Config setting is installed. This item does not appear for a Type-B parallel interface card.

** Available only when AUX Config is set to Yes.

AUX I/F

Allows you to activate or deactivate the AUX interface when an optional interface card is installed.

Buffer Size

Determines the amount of memory to be used for receiving data from the AUX interface and for printing data. If set to **Maximum**, more memory is allocated for receiving data. If set to **Minimum**, more memory is allocated for printing data.

Note:

- ❑ *To make new settings effective, press the ALT and Reset buttons simultaneously until Reset All appears on the LCD panel. Alternatively, turn off the printer for more than 5 seconds, then turn it back on.*
- ❑ *Resetting the printer erases all print jobs. Make sure the On Line light is not flashing when you reset the printer.*

LJ4 Menu

These settings control the fonts and symbol sets when in the LJ4 mode.

Item	Values (default in bold)
Font Source	Resident , Download, ROM A, ROM B
Font Number	0 to 65535 (depending on your settings)
Pitch*	0.44 ... 10.00 ... 99.99 cpi in 0.01-cpi increments
Height*	4.00 ... 12.00 ... 999.75 pt in 0.25-pt increments
SymSet	IBM-US , Roman-8, Roman-9, ECM94-1, 8859-2 ISO, 8859-9 ISO, 8859-10ISO, 8859-15ISO, PcBlt775, IBM-DN, PcMultiling, PcE.Europe, PcTk437, PcEur858, Pc1004, WiAnsi, WiE.Europe, WiTurkish, WiBALT, DeskTop, PsText, VelInternati, VeUS, MsPublishin, Math-8, PsMath, VeMath, PiFont, Legal, UK, ANSI ASCII, Swedis2, Italian, Spanish, German, Norweg1, French2, Windows, McText, Pclcelandic, Pclt774, PcTurk1, PcPortugues, PcEt850, PcTurk2, PcCanFrench, PcS1437, PcNordic, 8859-3 ISO, 8859-4 ISO, WiBaltic, WiEstonian, WiLatvian, Mazowia, CodeMJK, BpBRASCII, BpAbicomp, PcGk437, PcGk851, PcGk869, 8859-7 ISO, WiGreek, Europe3, PcCy855, PcCy866, Pclt866, PcUkr866, Pclit771, 8859-5 ISO, WiCyrillic, Bulgarian, Hebrew7, 8859-8 ISO, Hebrew8, PcHe862, Arabic8, PcAr864, 8859-6 ISO, OCR A, OCR B
Form	5 ... 60/64 ** ... 128 lines
Source SymSet	0 ... 277 ... 3199
Dest SymSet	0 ... 277 ... 3199
CR Function	CR , CR + LF
LF Function	LF , CR + LF
Tray Assign	4, 4K , 5S

* Depending on the font set installed.

** Depending on whether Letter (60) or A4 (64) paper has been selected.

Note:

If you normally use the HP LaserJet 4 printer driver when printing, you should change settings using this driver whenever you can. Printer driver settings always override the LJ4 Menu options.

Font Source

Sets the default font source.

Font Number

Sets the default font number for the default font source. The available number depends on the settings you made.

Pitch

Specifies the default font pitch if the font is scalable and of fixed-pitch. You can select from 0.44 to 99.99 cpi (characters per inch), in 0.01-cpi increments. This item may not appear depending on the `Font Source` or `Font Number` settings.

Height

Specifies the default font height if the font is scalable and proportional. You can select from 4.00 to 999.75 points, in 0.25-point increments. This item may not appear depending on the `Font Source` or `Font Number` settings.

SymSet

Selects the default symbol set. If the font you selected in `Font Source` and `Font Number` is not available in the new `SymSet` setting, the `Font Source` and the `Font Number` values are automatically replaced with the default value, IBM-US.

Form

Selects the number of lines for the selected paper size and orientation. This also causes a line spacing (VMI) change, and the new VMI value is stored in the printer. This means that later changes in *Page Size* or *Orientation* settings cause changes in the *Form* value, based on the stored VMI.

Source SymSet, Dest SymSet

Available only in certain locations where printers are sold with a special ROM module installed to handle specific languages.

CR Function, LF Function

These functions are included for users of particular operating systems, such as Unix.

Tray Assign

Changes the assignment for the paper source select command. When **4** is selected, the commands are set as compatible with the HP LaserJet 4. When **4K** is selected, the commands are set as compatible with the HP LaserJet 4000, 5000, and 8000. When **5S** is selected, the commands are set as compatible with the HP LaserJet 5Si.

GL2 Menu

This menu lets you set the printer to emulate a plotter, allowing you to use software which requires a plotter for output. The LJ4GL2 mode is similar to the GL/2 mode supported in the HP LaserJet 4 mode. The GLlike mode emulates some of the HP-GL plotter commands and includes all the commands found in HP's GL/2 mode, as well as two additional commands.

Item	Values (default in bold)
GL Mode	LJ4GL2 , GLlike
Scale	Off , A0, A1, A2, A3
Origin	Corner , Center
Pen	Pen0 , Pen1, Pen2*, Pen3*, Pen4*, Pen5*, Pen6*
End	Butt , Square, Triangular, Round
Join	Mitered , Miteredbeveled, Triangular, Round, Beveled, None
Pen 0 through 6	0.05 ... 0.35 ... 5.00 mm in 0.05 increments

* Available only when in the GLlike mode.

Before you start printing in the GL/2 mode

You may need to change the following print options in your application, depending on your output needs. Check these settings to make sure they match the data you are trying to print.

Print Options	Settings
Paper size	Printer's paper size setting
Driver (plotter selection)	HP-GL/2 or HP-GL
Pen configuration	Pen thickness
Plot origin	Center or Corner
Orientation	GL1like offers landscape only. LJ4GL2 offers landscape and portrait.

If you need to configure the printer settings, first switch to the GL/2 emulation mode, then change the settings using the printer driver, or SelecType.

Note:

Settings or data saved in the printer's RAM (such as downloaded fonts) may be erased when you change the emulation mode.

GL Mode

Specifies whether the printer uses a direct emulation of the GL/2 plotter language, or the HP LaserJet 4 emulation of GL/2.

Scale

Specifies whether the output from the software is scaled. The scale factor is based on the output paper size of the application.

Origin

Specifies whether the logical origin of the "plotter" is the corner or the center of the paper.

Pen

Allows you to choose a pen which you can then set the thickness for in the **Pen 0** through **Pen 6** menu item. The LJ4GL2 mode supports two pens (0 and 1), while the GLlike mode supports seven pens (0 through 6).

End

Specifies the way in which lines end.

Join

Specifies the way in which lines are joined.

Pens 0 through 6

Allows you to set the thickness of the “pens” used to make the printout. **Pen 0** and **Pen 1** are available in the LJ4GL2 mode, and **Pen 0** through **Pen 6** are available in the GLlike mode.

PS3 Menu

These settings are available only when the optional Adobe PostScript 3 ROM module is installed. For installation instructions, see “Adobe PostScript 3 Kit” on page 5-36. See also your Adobe PostScript 3 Kit documentation.

Item	Values (default in bold)
Error Sheet	Off , On
Coloration	Color , Mono, TrueCol.
Image Protect	Off , On

Error Sheet

When you select **On**, the printer prints out an error sheet.

Coloration

Allows you to specify the method of color printing. `Color` refers to color printing at 1 bit/pixel, `Mono` refers to monochrome printing, while `TrueCol` refers to color printing at 8 bit/pixel.

Image Protect

Allows you to specify whether to employ lossy compression. Lossy compression refers to a data compression technique in which some amount of data is lost.

ESCP2 Menu

This menu allows you to make settings which affect the printer when it is in the ESCP2 emulation mode.

Item	Values (default in bold)
Font	Courier , Prestige, Roman, Sans Serif, Roman T, Orator S, Sans H, Script, OCR A, OCR B
Pitch	10 , 12, 15 cpi, Prop.
Condensed	Off , On
T. Margin	0.40 ... 0.50 ... 1.50 inch in 0.05-inch increments
Text	1... 62/66 * ... (available) lines
CGTable	PcUSA , Italic, PcMultilin, PcPortugue, PcCanFrenc, PcNordic, PcTurkish2, Pclcelandic, PcE.Europe, BRASCII, BpAbicomp, Roman-8, PcEur858, ISO Latin1, 8859-15ISO, PcS1437, PcTurkish1, 8859-9 ISO, Mazowia, CodeMJK, PcGk437, PcGk851, PcGk869, 8859-7 ISO, PcCy855, PcCy866, PcUkr866, PcLit771, Bulgarian, Hebrew7, Hebrew8, PcHe862, PcAr864
Country	USA , France, Germany, UK, Denmark, Sweden, Italy, Spain1, Japan, Norway, Denmark2, Spain2, LatinAmeric, Korea, Legal
Auto CR	On , Off
Auto LF	Off , On
Bit Image	Dark , Light, BarCode
ZeroChar	0 , (or the zero character with a slash)

* Depending on whether Letter (62) or A4 (66) paper has been selected.

Font

Selects the font.

Pitch

Selects the pitch (the horizontal spacing) of the font in fixed pitch, measured in cpi (characters per inch). You can also choose proportional spacing.

Condensed

Turns condensed printing on or off.

T. Margin

Sets the distance from the top of the page to the baseline of the first printable line. The distance is measured in inches. The smaller the value, the closer the printable line is to the top.

Text

Sets the page length in lines. For this option, a line is assumed to be 1 pica (1/6 inch). If you change the *Orientation*, *Page Size*, or *T. Margin* settings, the page length setting automatically returns to the default for each paper size.

CG Table

Use the character generator (CG) table option to select the graphics character table or the italics table. The graphics table contains graphic characters for printing lines, corners, shaded areas, international characters, Greek characters, and mathematical symbols. If you select *Italic*, the upper half of the character table is defined as italic characters.

Country

Use this option to select one of the fifteen international symbol sets. See "International character sets" on page B-33 for samples of the characters in each country's symbol set.

Auto CR

Specifies whether the printer performs a carriage-return/line-feed (CR-LF) operation whenever the printer position goes beyond the right margin. If this setting is off, the printer does not print any characters beyond the right margin and does not perform any line wrapping until it receives a carriage-return character. This function is handled automatically by most applications.

Auto LF

If you set this option to `Off`, the printer does not send an automatic line-feed (LF) command with each carriage-return (CR). If this is set to `On`, a line-feed command is sent with each carriage-return. Set to `On` if your text lines overlap.

Bit Image

The printer is able to emulate the graphics densities set with the printer commands. If you select `Dark`, the bit image density is high, and if you select `Light`, the bit image density is low.

If you select `BarCode`, the printer converts bit images to bar codes by automatically filling in any vertical gaps between dots. This produces unbroken vertical lines that can be read by a bar code reader. This mode will reduce the size of the image being printed, and may also cause some distortion when printing bit image graphics.

ZeroChar

Specifies whether the printer prints a slashed or unslashed zero.

FX Menu

This menu allows you to make settings which affect the printer when it is in the FX emulation mode.

Item	Values (default in bold)
Font	Courier , Prestige, Roman, Sans Serif, Script, Orator S, OCR A, OCR B
Pitch	10 , 12, 15 cpi, Prop.
Condensed	Off , On
T. Margin	0.40 ... 0.50 ... 1.50 inch in 0.05-inch increments
Text	1... 62/66* ... (available) lines
CGTable	PcUSA , Italic, PcMultilin, PcPortugue, PcCanFrenc, PcNordic, PcTurkish2, Pclcelandic, PcE.Europe, BpBRASCI, BpAbicomp, Roman-8, PcEur858, ISO Latin1, 8859-15ISO
Country	USA , France, Germany, UK, Denmark, Sweden, Italy, Spain1, Japan, Norway, Denmark2, Spain2, LatinAmeric
Auto CR	On , Off
Auto LF	Off , On
Bit Image	Dark , Light, BarCode
ZeroChar	0 , (or the zero character with a slash)

* Depending on whether Letter (62) or A4 (66) paper has been selected.

Font

Selects the font.

Pitch

Selects the pitch (the horizontal spacing) of the font in fixed pitch, measured in cpi (characters per inch). You can also choose proportional spacing.

Condensed

Turns condensed printing on or off.

T. Margin

Sets the distance from the top of the page to the baseline of the first printable line. The distance is measured in inches. The smaller the value, the closer the printable line is to the top.

Text

Sets the page length in lines. For this option, a line is assumed to be 1 pica (1/6 inch). If you change the Orientation, Page Size, or T. Margin settings, the page length setting automatically returns to the default for each paper size.

CG Table

Use the character generator (CG) table option to select the graphics character table or the italics table. The graphics table contains graphic characters for printing lines, corners, shaded areas, international characters, Greek characters, and mathematical symbols. If you select *Italic*, the upper half of the character table is defined as italic characters.

Country

Use this option to select one of the fifteen international symbol sets. See “International character sets” on page B-33 for samples of the characters in each country’s symbol set.

Auto CR

Specifies whether the printer performs a carriage-return/line-feed (CR-LF) operation whenever the printer position goes beyond the right margin. If this setting is off, the printer does not print any characters beyond the right margin and does not perform any line wrapping until it receives a carriage-return character. This function is handled automatically by most applications.

Auto LF

If you set this option to `Off`, the printer does not send an automatic line-feed (LF) command with each carriage return (CR). If this is set to `On`, a line-feed command is sent with each carriage return. Set to `On` if your text lines overlap.

Bit Image

The printer is able to emulate the graphics densities set with the printer commands. If you select `Dark`, the bit image density is high, and if you select `Light`, the bit image density is low.

If you select `BarCode`, the printer converts bit images to bar codes by automatically filling in any vertical gaps between dots. This produces unbroken vertical lines that can be read by a bar code reader. This mode will reduce the size of the image being printed, and may also cause some distortion when printing bit image graphics.

ZeroChar

Selects whether the printer prints a slashed or unslashed zero.

I239X Menu

The I239X mode emulates IBM[®] 2390/2391 Plus commands. For detailed information on most of the settings and parameters in the table below, refer to the previous section.

These settings are available only when the printer is in the I239X mode.

Item	Values (default in bold)
Font	Courier , Prestige, Gothic, Orator, Script, Presentor, Sans Serif
Pitch	10 , 12, 15, 17, 20, 24 cpi, Prop.
Code Page	437 , 850, 858, 860, 863, 865
T. Margin	0.30 ... 0.40 ... 1.50 inch in 0.05-inch increments
Text	1 ... 63/67* ... (available) lines
Auto CR	Off , On
Auto LF	Off , On
Alt. Graphics	Off , On
Bit Image	Dark , Light
ZeroChar	0 , (or the zero character with a slash)
CharacterSet	1** , 2**

* Depends on whether Letter (63) or A4 (67) paper has been selected.

** Depending on whether Letter (1) or A4 (2) paper has been selected.

Font

Selects the font.

Pitch

Selects the pitch (the horizontal spacing) of the font in fixed pitch, measured in cpi (characters per inch). You can also choose proportional spacing.

Code Page

Selects the character tables. Character tables contain the characters and symbols used by different languages. The printer prints text based on the selected character table.

T. Margin

Sets the distance from the top of the page to the baseline of the first printable line. The distance is measured in inches. The smaller the value, the closer the printable line is to the top.

Text

Sets the page length in lines. For this option, a line is assumed to be 1 pica (1/6 inch). If you change the *Orientation*, *Page Size*, or *T. Margin* settings, the page length setting automatically returns to the default setting for each paper size.

Auto CR

Specifies whether the printer performs a carriage-return/line-feed (CR-LF) operation whenever the printer position goes beyond the right margin. If this setting is off, the printer does not print any characters beyond the right margin and does not perform any line wrapping until it receives a carriage-return character. This function is handled automatically by most applications.

Auto LF

If you set this option to *Off*, the printer does not send an automatic line-feed (LF) command with each carriage return (CR). If this is set to *On*, a line-feed command is sent with each carriage return. Set to *On* if your text lines overlap.

Alt. Graphics

Turns the Alternate Graphics option on or off.

Bit Image

The printer is able to emulate the graphics densities set with the printer commands. If you select *Dark*, the bit image density is high, and if you select *Light*, the bit image density is low.

If you select *BarCode*, the printer converts bit images to bar codes by automatically filling in any vertical gaps between dots. This produces unbroken vertical lines that can be read by a bar code reader. This mode will reduce the size of the image being printed, and may also cause some distortion when printing bit image graphics.

ZeroChar

Selects whether the printer prints a slashed or unslashed zero.

CharacterSet

Selects character table 1 or 2.

Chapter 5

Using Options

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500-Sheet Paper Cassette Unit

The optional 500-Sheet Paper Cassette Unit (C813461) lets you load up to 500 sheets of A4 or Letter size paper.

To install this option, see the following section or the manual for this option. To load paper into the paper cassette, see “Loading the 500-Sheet Paper Cassette Unit” on page 2-16.

The following table summarizes the paper types and sizes that you can use with the 500-Sheet Paper Cassette Unit:

Paper Type	Paper Size	Capacity
Plain paper EPSON Color Laser Paper	A4, Letter (LT)	Up to 500 sheets (Weight: 60 to 90 g/m ²)

Note:

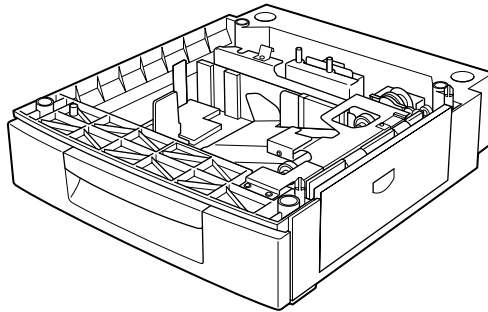
Load paper with the printable surface facing up.

Installing the 500-Sheet Paper Cassette Unit

Follow these steps to install the optional 500-Sheet Paper Cassette Unit:

1. Turn off the printer.
2. Unplug the printer’s power cord from the electrical outlet.
3. Remove all interface cables from the interface connectors.

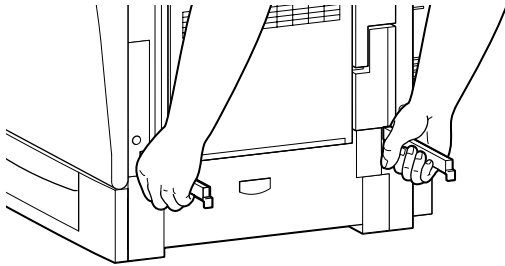
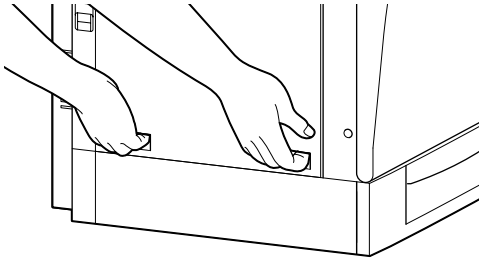
4. Carefully remove the 500-Sheet Paper Cassette Unit from its carton and place it on the floor or a flat stable surface.



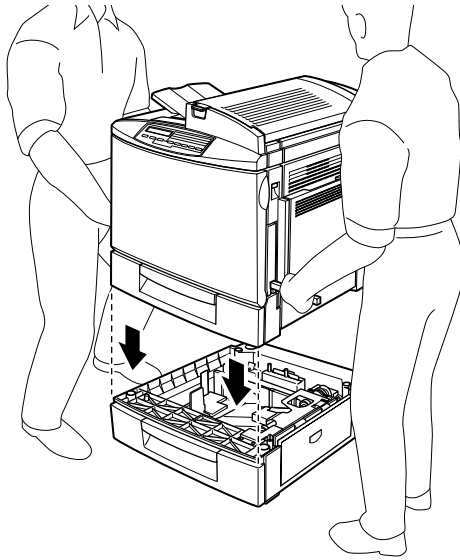
Note:

- Make sure you have the three screws and three small metal fittings packaged with the 500-Sheet Paper Cassette Unit.*
- Remove the packaging materials from the unit.*
- Keep all packaging materials in case you want to ship the 500-Sheet Paper Cassette Unit in the future.*

5. With the assistance of two or more people, grasp the printer at the positions indicated below and lift it carefully.



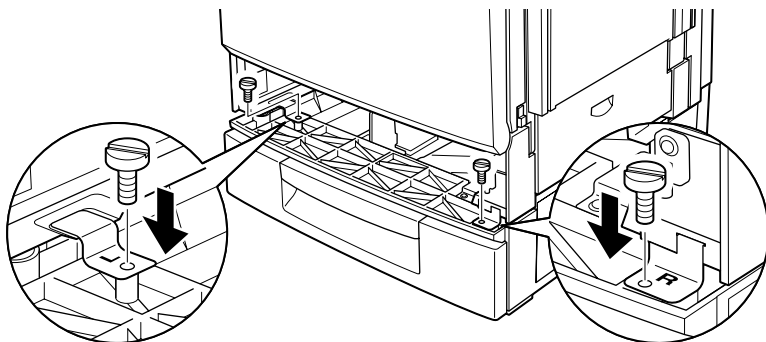
6. Align each of the printer's corners with those of the 500-Sheet Paper Cassette Unit, then lower the printer until it rests securely on the unit.



Caution:

The printer weighs about 45 kg (99.2 lb); always lift it with two or more people.

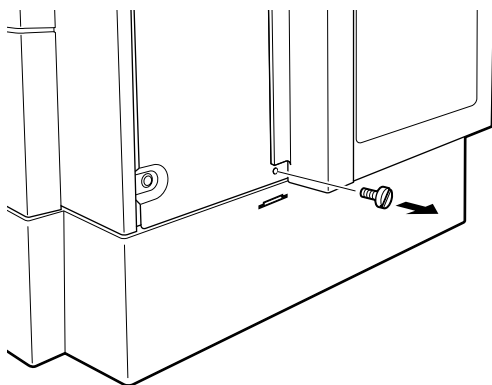
7. Remove the standard lower cassette from the printer. Attach the metal fittings labeled L (left) and R (right) to the indicated positions, and tighten them with the screws provided.



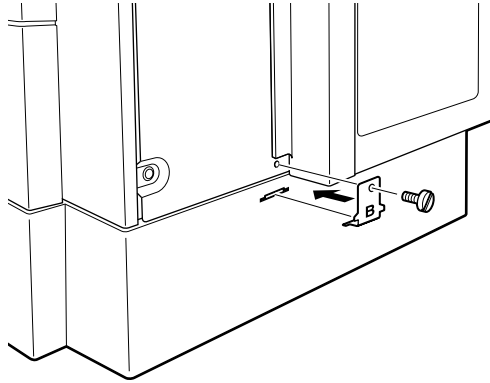
Note:

Use a coin to fasten the screws because a normal screwdriver will probably not fit into the slot of the paper cassette.

8. Reinsert the standard lower cassette into the printer.
9. Face the back of the printer and remove the screw as shown below.



10. Attach the third metal fitting labeled B (back) to the position indicated, and fasten it with the screw you just removed.



11. Reconnect all interface cables.
12. Plug the power cord into an electrical outlet.
13. Turn on the printer.

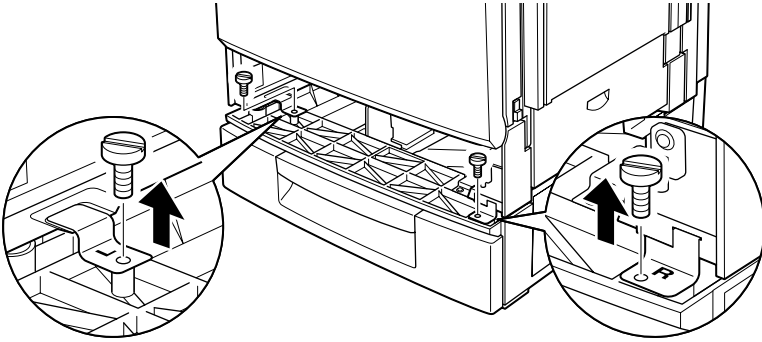
To confirm that the 500-Sheet Paper Cassette Unit is installed correctly, print a status sheet. If the unit is not listed on the status sheet, make sure the electronic connectors connecting the 500-Sheet Paper Cassette Unit to the printer are connected securely.

Removing the 500-Sheet Paper Cassette Unit

Follow these steps to remove the optional 500-Sheet Paper Cassette Unit:

1. Turn off the printer.
2. Unplug the printer's power cord from the electrical outlet.
3. Remove all interface cables from the interface connectors.

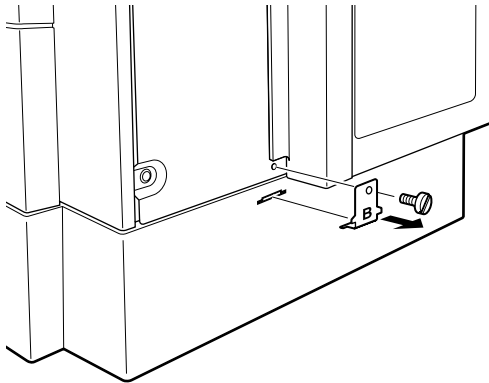
4. Remove the standard lower cassette from the printer.
5. Remove the two screws and metal fittings labeled L (left) and R (right) as shown below.



Note:

Use a coin to remove the screws because a normal screwdriver will probably not fit into the slot of the paper cassette.

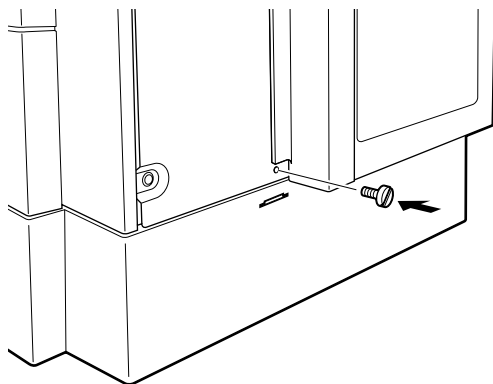
6. Replace the standard lower cassette in the printer.
7. Face the back of the printer. Remove the screw and the metal fitting labeled B (back) as shown below.



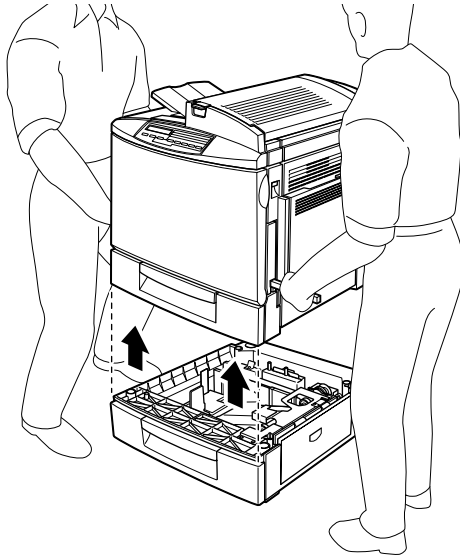
Note:

Keep the two screws and three metal fittings in a safe place. You will need these items when you install the 500-Sheet Paper Cassette Unit onto the printer again.

8. Refasten the screw you just removed, but without the metal fitting.



- Carefully lift the printer off the 500-Sheet Paper Cassette Unit with two or more people and place it on a flat stable surface.



- Repack the optional 500-Sheet Paper Cassette Unit in its original carton.
- Reconnect all interface cables.
- Plug the printer's power cord into an electrical outlet
- Turn on the printer.

Duplex Unit

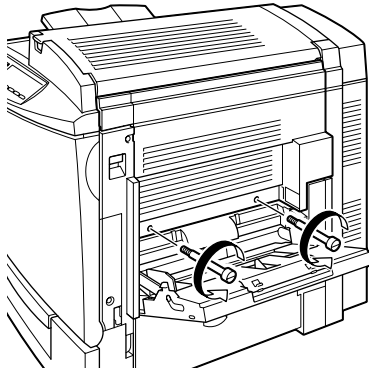
The optional Duplex Unit (C813471) allows you to print on both sides of paper (A4/LT) automatically.

To install the Duplex Unit, see the following section or the manual for this option.

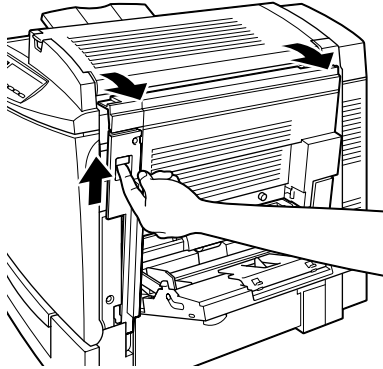
Installing the Duplex Unit

Follow these steps to install the optional Duplex Unit:

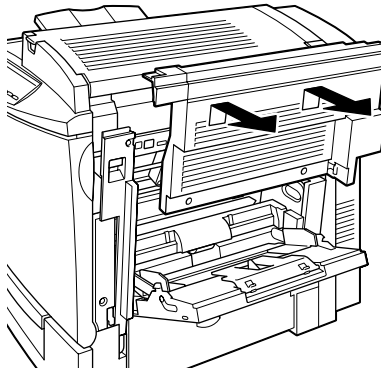
1. Turn off the printer.
2. Unplug the printer's power cord from the electrical outlet.
3. Remove all interface cables from the interface connectors.
4. Face the right side of the printer and remove the screws on the right side cover.



5. Open the printer's right cover.



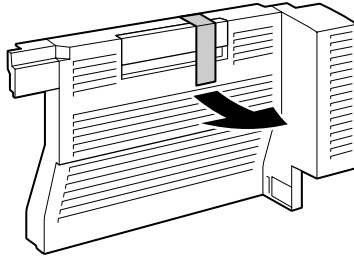
6. Remove the right side cover from the printer, then push in the printer's side until it clicks closed.



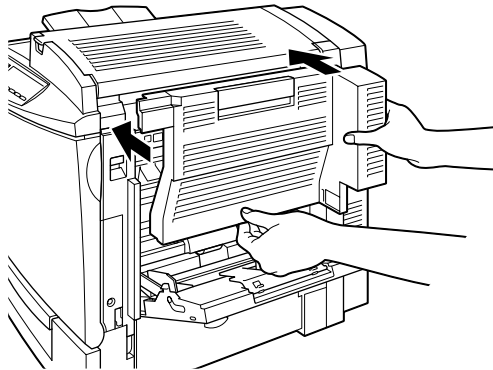
Note:

- ❑ *The cover cannot be removed if the printer's right cover is closed.*
- ❑ *Keep the right side cover and the two screws in a safe place as you will need them when you remove the Duplex Unit.*

7. Unpack the Duplex Unit and remove the tape that keeps the cover of the unit in place.

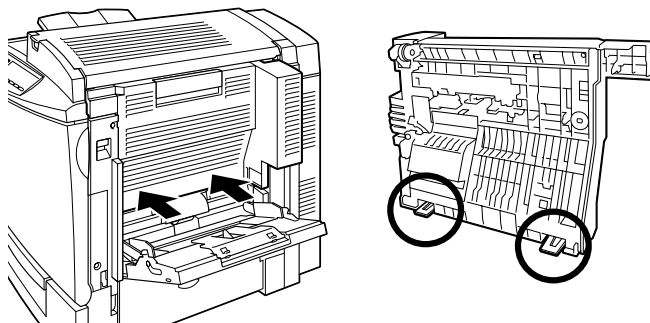


8. Lift the Duplex Unit with both hands and fit it onto the right side of the printer, making sure that the fit is snug and that the electronic connectors snap into place.

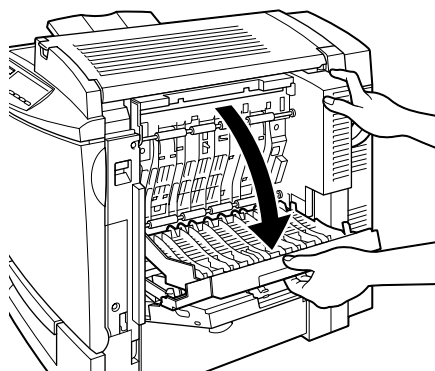


Note:

When you install the Duplex Unit, press the back of the unit firmly at the location indicated by the arrow to confirm that the hooks are fully inserted into the printer. Improper installation could cause the paper to jam.



9. Open the cover of the unit.

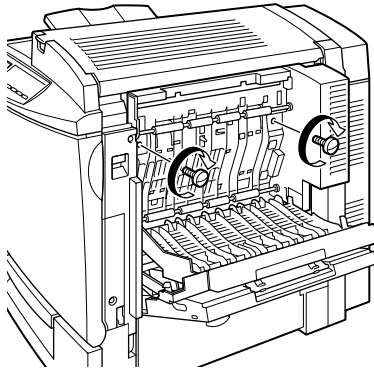




Caution:

- ❑ *Be sure to hold the unit in place with one hand while opening the cover. The unit is rather heavy and may slip off the side of the printer before it is fastened with screws.*
- ❑ *The MP tray has to be open to be able to open the cover of the Duplex Unit.*

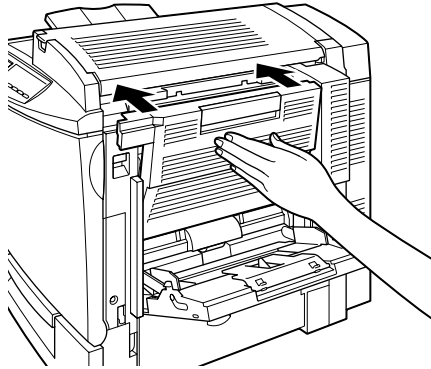
10. Fasten the unit with the two screws provided with the unit.



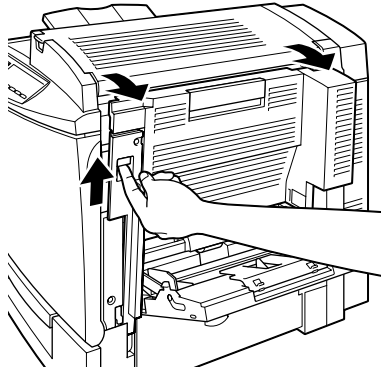
Caution:

The unit is heavy and may slip off the side of the printer before the screws are fastened. To be safe, have someone hold the unit in place for you while you fasten the screws.

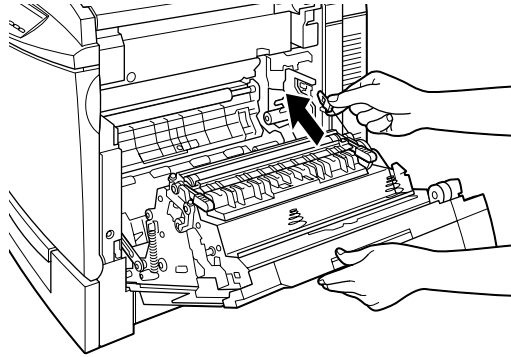
11. Close the cover of the unit.



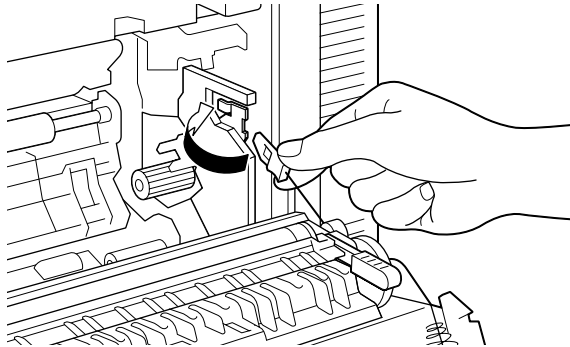
12. Open the printer's right cover.



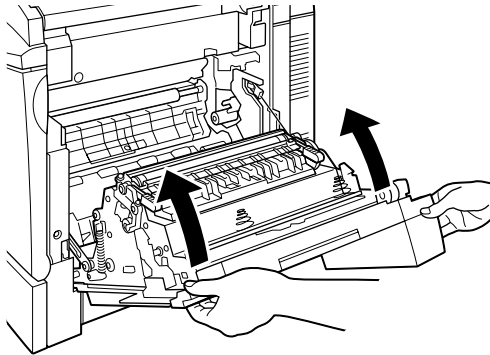
13. Pull out the small plastic piece that is attached to a self-retrieving string on the right side of the Duplex Unit.



14. Attach the plastic piece onto the hook on the side, as shown below.



15. Gently close the printer's right cover.



16. Reconnect all interface cables.
17. Plug the printer's power cord into an electrical outlet.
18. Turn on the printer.

To confirm that the Duplex Unit is installed correctly, print a status sheet. If the unit is not listed on the status sheet, make sure the electronic connectors connecting the Duplex Unit to the printer are connected securely.

Note:

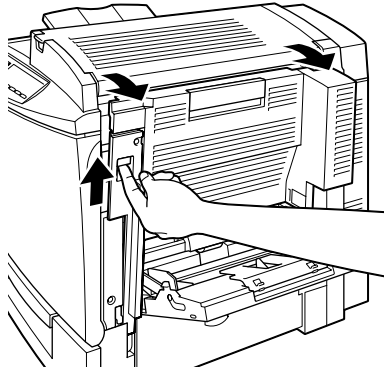
Keep the packaging materials in case you want to ship the Duplex Unit in the future.

Removing the Duplex Unit

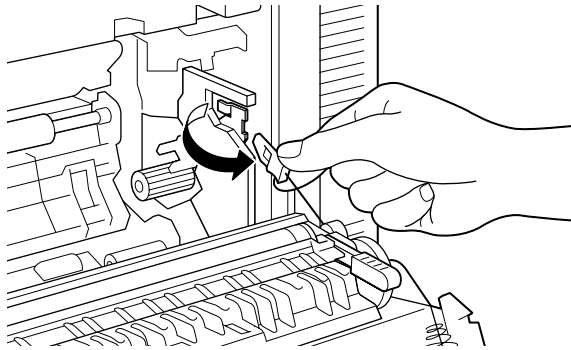
Follow these steps to remove the Duplex Unit:

1. Turn off the printer.
2. Unplug the printer's power cord from the electrical outlet.
3. Remove all interface cables from the interface connectors.

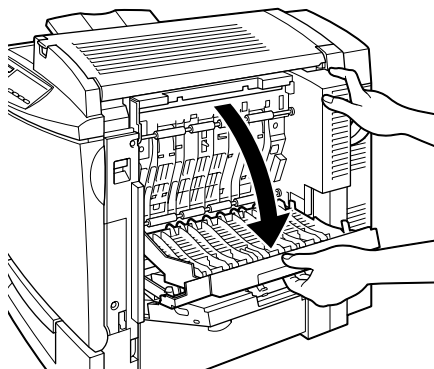
4. Open the printer's right cover.



5. Unhook the plastic piece from the side of the printer, then close the right cover.



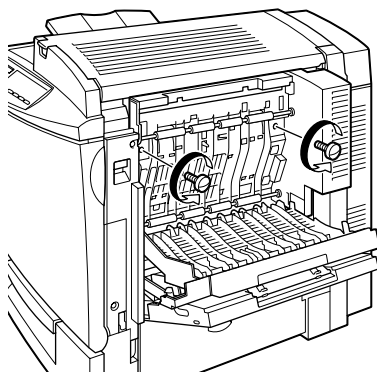
6. Open the cover of the Duplex Unit.



Caution:

The MP tray has to be open to be able to open the cover of the Duplex Unit.

7. Remove the two screws.



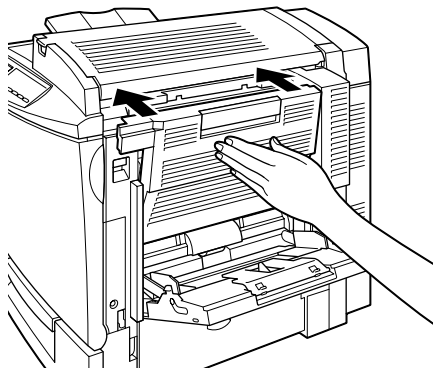
Caution:

The unit is heavy and may slip off the side of the printer after the screws are removed. To be safe, have someone hold the unit in place as you remove the screws.

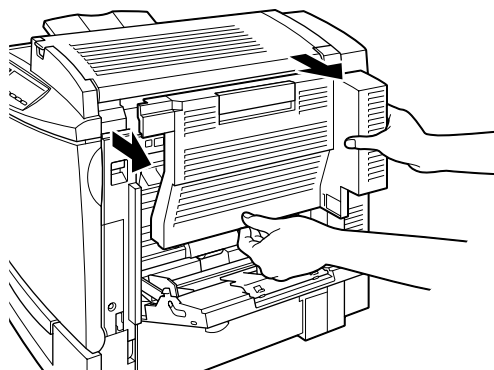
Note:

Keep the two screws with the Duplex Unit because you will need them to reinstall the unit.

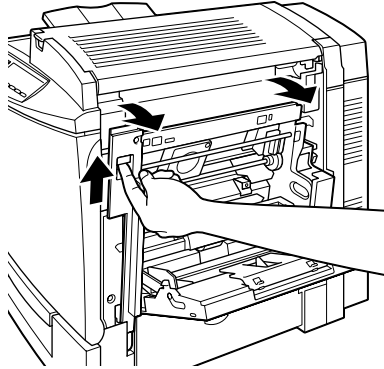
8. Close the cover of the Duplex Unit.



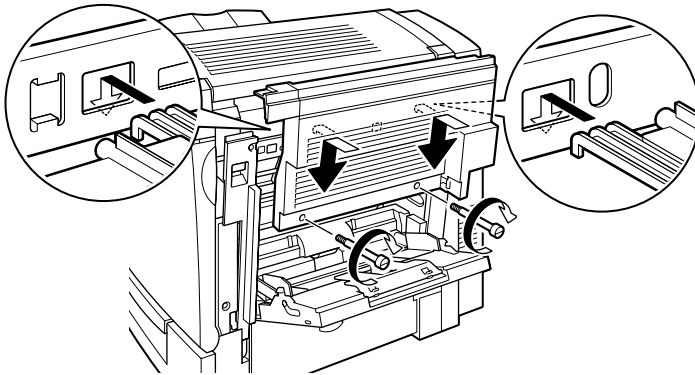
9. Gently pull the Duplex Unit straight off the side of the printer, taking care not to bend the electronic connectors.



10. Open the printer's right cover.



11. Reattach the original right side cover with the screws that came with the printer.



Note:

The cover cannot be attached if the printer's right cover is closed.

12. Reconnect all interface cables.

13. Plug the printer's power cord into an electrical outlet.

14. Turn on the printer.

Hard Disk Drive

The optional Hard Disk Drive (C82377*) allows you to expand the printer's receive buffer when the Ethernet interface is used, and gives you additional memory for graphics and faster multi-page, multi-output sorting.

When the optional Adobe PostScript 3 ROM module is also installed, downloaded PostScript 3 fonts require 1 GB of free hard disk space on the optional Hard Disk Drive.

Installing the Hard Disk Drive

Follow these steps to install the optional Hard Disk Drive:



Caution:

Before you install the Hard Disk Drive, be sure to discharge any static electricity by touching a grounded piece of metal. Otherwise, you may damage static-sensitive components.

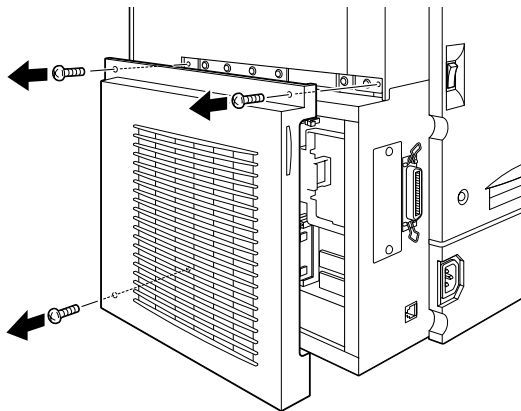


Warning:

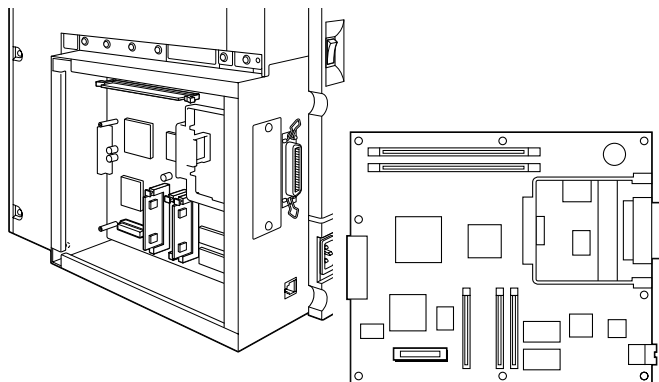
Be careful when working inside the printer as some components are sharp and may cause injury.

1. Turn off the printer.
2. Unplug the printer's power cord from the electrical outlet.
3. Remove all interface cables from the interface connectors.

4. Remove the screws and the circuit board cover on the back of the printer.

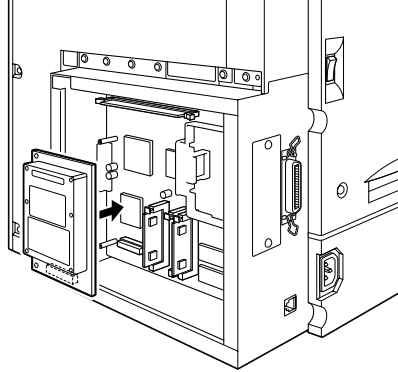


5. Identify the Hard Disk Drive socket. It's relative position is shown below.

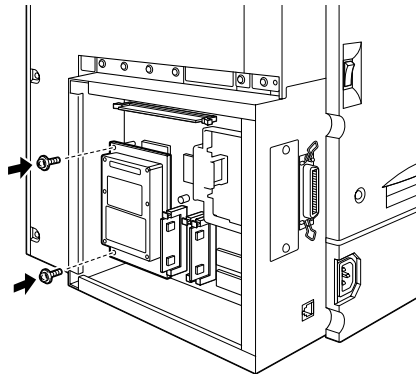


6. Remove the Hard Disk Drive from its package.

7. Hold the Hard Disk Drive such that its electrical connector is on the same end as the Hard Disk Drive socket, then press the Hard Disk Drive down until the socket and connector are firmly connected.



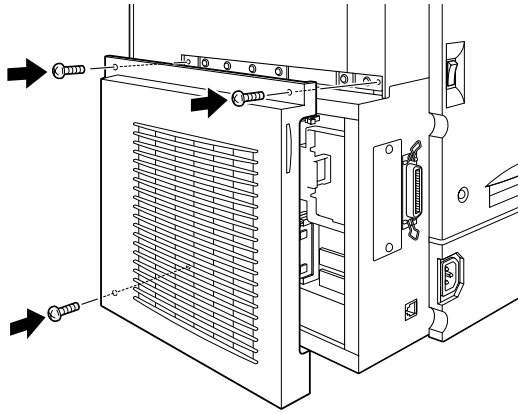
8. Secure the Hard Disk Drive by fastening it with the provided screws.



Caution:

You should not remove any modules from the circuit board. Otherwise, the printer will not work.

9. Replace the circuit board cover and fasten the screws.



10. Reconnect all interface cables.
11. Plug the printer's power cord into an electrical outlet.
12. Turn on the printer.

To confirm that the Hard Disk Drive is installed correctly, print a status sheet. If the drive is not listed on the status sheet, try reinstalling the drive. Make sure that the electronic connector on the Hard Disk Drive is securely connected to the socket on the circuit board.

Removing the Hard Disk Drive

Follow these steps to remove the Hard Disk Drive:



Caution:

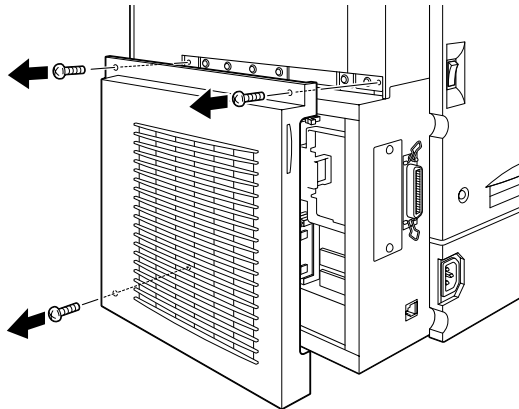
Before you remove the Hard Disk Drive, be sure to discharge any static electricity by touching a grounded piece of metal. Otherwise, you may damage static-sensitive components.



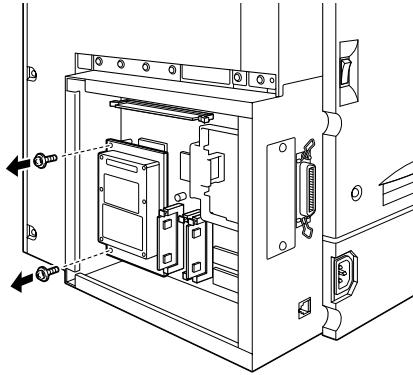
Warning:

Be careful when working inside the printer as some components are sharp and may cause injury.

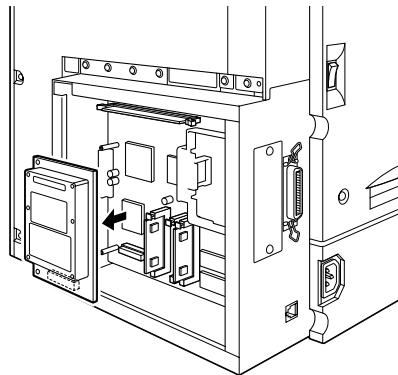
1. Turn off the printer.
2. Unplug the printer's power cord from the electrical outlet.
3. Remove all interface cables from the interface connectors.
4. Remove the screws and the circuit board cover on the back of the printer.



5. Remove the screws that secure the Hard Disk Drive onto the circuit board.

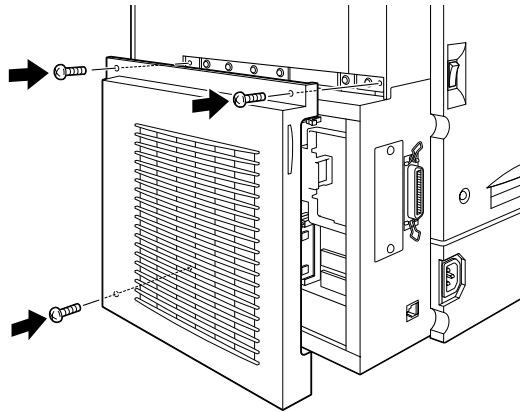


6. Grasp both sides of the Hard Disk Drive and pull it out of the socket.



7. Keep the Hard Disk Drive in an anti-static packet such as the one it came packaged in.

8. Replace the circuit board cover and fasten the screws.



9. Reconnect all interface cables.
10. Plug the printer's power cord into an electrical outlet.
11. Turn on the printer.

Memory Module

Your printer is provided with 32 MB of standard memory. You can increase printer memory up to 512 MB by installing optional DIMMs (Dual In-line Memory Module). Increasing the printer's memory allows you to print complex or graphics-intensive documents.

This printer has two DIMM slots, but one slot has a 32 MB DIMM already installed in it at the time of manufacture. To increase printer memory to its maximum of 512 MB, you have to purchase two 256 MB DIMMs and remove the original 32 MB DIMM.

To install DIMMs, see the following section or the *Setup Guide*.

You can purchase DIMMs from various vendors. Make sure that the DIMM you purchase meets the following requirements:

DRAM type	Synchronous Dynamic RAM Dual In-line Memory Module (SDRAM DIMM)
Memory size	32 MB, 64 MB, 128 MB, or 256 MB
Type	168-pin type, 64 bit, with SPD
Access speed	66.66 MHz or higher (15 ns or less)
Height	Less than 40 mm

Note:

The total printer memory is the standard 32 MB plus the optional DIMM. For example, if you install an optional 32 MB DIMM, the total printer memory is 64 MB.

Installing a Memory Module

Follow these steps to install an optional memory module:



Caution:

Before you install a memory module, be sure to discharge any static electricity by touching a grounded piece of metal. Otherwise, you may damage static-sensitive components.

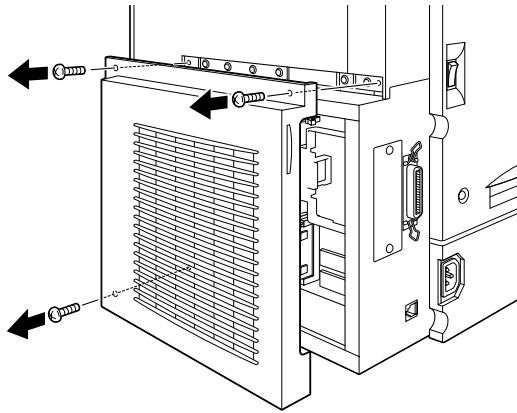


Warning:

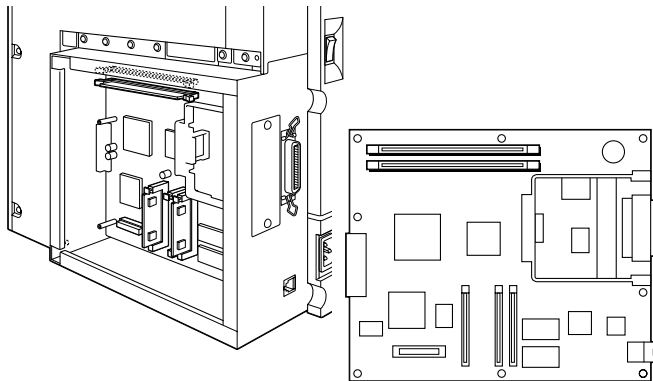
Be careful when working inside the printer as some components are sharp and may cause injury.

1. Turn off the printer.
2. Unplug the printer's power cord from the electrical outlet.
3. Remove all interface cables from the interface connectors.

4. Remove the screws and the circuit board cover on the back of the printer.

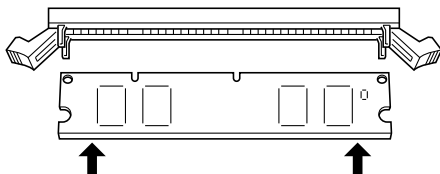


5. Identify the DIMM slot. It's relative position is shown below.



6. Remove the DIMM from its package.

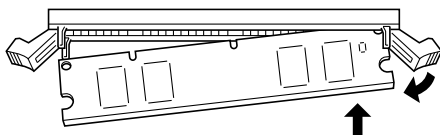
7. Hold the memory module above the DIMM slot in the following orientation, then insert it into the slot. Do not apply too much force.



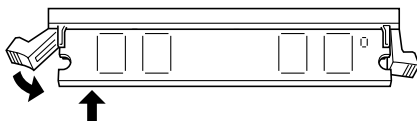
Caution:

Be sure to install the DIMM into the S1 slot.

8. Push one end of the DIMM into the slot until the clip comes up.



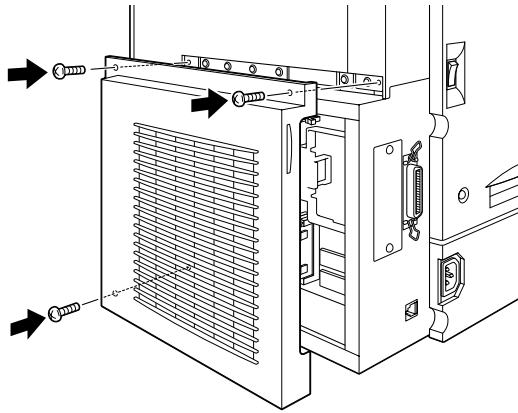
9. Push the other end of the DIMM into the slot until the clip comes up to retain the memory module securely.



Caution:

- Do not force the DIMM into the slot.*
- Be sure to insert the DIMM facing the correct way.*
- You should not remove any modules from the circuit board. Otherwise, the printer will not work.*

10. Replace the circuit board cover and fasten the screws.



11. Reconnect all interface cables.

12. Plug the printer's power cord into an electrical outlet.

13. Turn on the printer.

To confirm that the memory module is installed correctly, print a status sheet. If the total amount of memory listed does not include the size of the optional memory module, try reinstalling the module. Make sure that the module is securely attached to the DIMM slot.

Removing a Memory Module

Follow these steps to remove a memory module:



Caution:

Before you remove a memory module, be sure to discharge any static electricity by touching a grounded piece of metal.

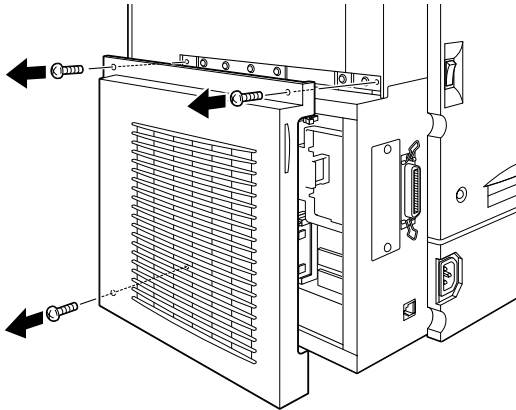
Otherwise, you may damage static-sensitive components.



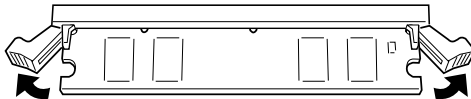
Warning:

Be careful when working inside the printer as some components are sharp and may cause injury.

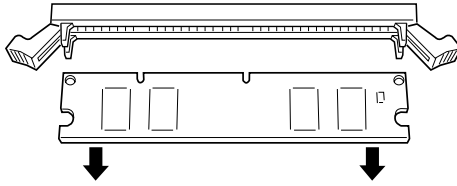
1. Turn off the printer.
2. Unplug the printer's power cord from the electrical outlet.
3. Remove all interface cables from the interface connectors.
4. Remove the screws and the circuit board cover on the back of the printer.



5. Push the clips on each side of the DIMM slot outward to release the memory module.



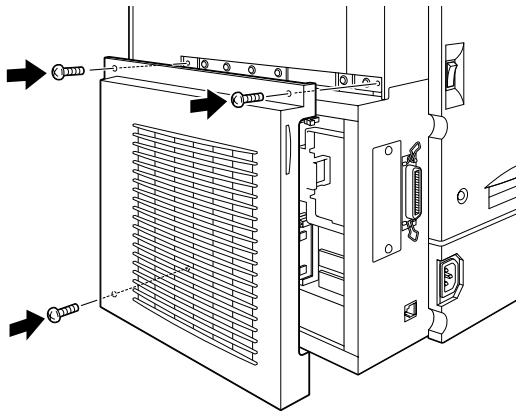
6. Grasp both sides of the memory module and pull the module out.



Caution:

You should not remove any other modules from the circuit board. Otherwise, the printer will not work.

7. Replace the circuit board cover and fasten the screws.



8. Reconnect all interface cables.
9. Plug the printer's power cord into an electrical outlet.
10. Turn on the printer.

Adobe PostScript 3 Kit

In some locations, the Adobe PostScript 3 Kit (C832421) ROM module is available as an option. This module allows your printer to print documents in the PostScript printing language. When installed, it requires 1 GB of free disk space for downloaded fonts.

To install the Adobe PostScript 3 ROM module, see the following section or the *Setup Guide*.

Installing the Adobe PostScript 3 ROM module

Follow these steps to install the optional Adobe PostScript 3 ROM module:



Caution:

Before you install the ROM module, be sure to discharge any static electricity by touching a grounded piece of metal. Otherwise, you may damage static-sensitive components.

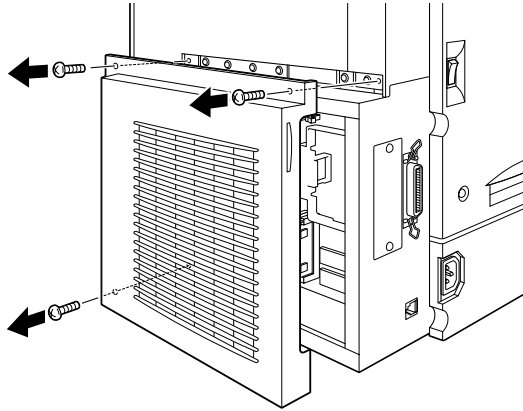


Warning:

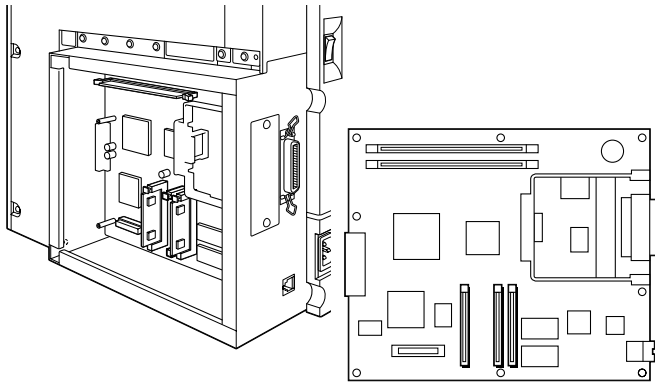
Be careful when working inside the printer as some components are sharp and may cause injury.

1. Turn off the printer.
2. Unplug the printer's power cord from the electrical outlet.
3. Remove all interface cables from the interface connectors.

4. Remove the screws and the circuit board cover on the back of the printer.



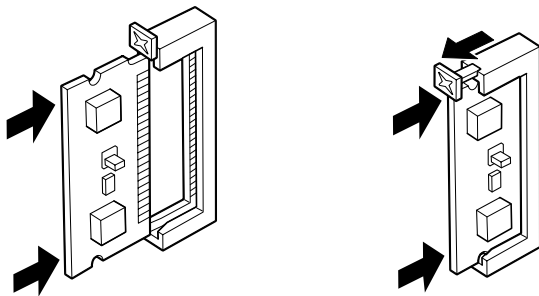
5. Identify the ROM slot. It's relative position is shown below.



Caution:

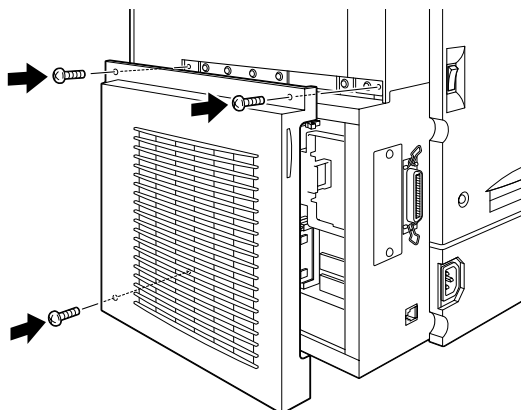
You should not remove any modules from the circuit board. Otherwise, the printer will not work.

6. Remove the ROM module from its package.
7. Insert the module all the way into slot A in the orientation shown below. The X tab at the top of the slot will jut out when the module is inserted correctly.



Caution:

- ❑ Do not force the ROM module into the slot.
 - ❑ Be sure to insert the module facing the correct way.
8. Replace the circuit board cover and fasten the screws.



9. Reconnect all interface cables.

10. Plug the printer's power cord into an electrical outlet.
11. Turn on the printer.

To confirm that the Adobe PostScript 3 ROM module is installed correctly, print a status sheet. If PS3 is not listed as an installed emulation on the status sheet, try reinstalling the module making sure that it is securely fastened to the ROM slot.

Removing the Adobe PostScript 3 ROM module

Follow these steps to remove the Adobe PostScript 3 ROM module:



Caution:

Before you remove the ROM module, be sure to discharge any static electricity by touching a grounded piece of metal. Otherwise, you may damage static-sensitive components.

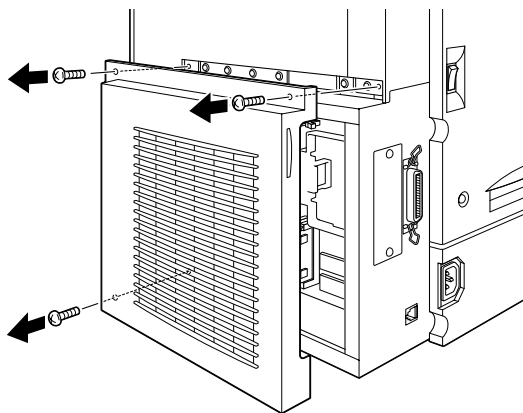


Warning:

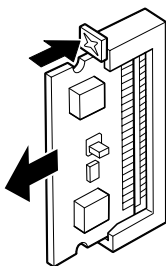
Be careful when working inside the printer as some components are sharp and may cause injury.

1. Turn off the printer.
2. Unplug the printer's power cord from the electrical outlet.
3. Remove all interface cables from the interface connectors.

4. Remove the screws and the circuit board cover on the back of the printer.



5. Push the tab on slot A to release the ROM module.



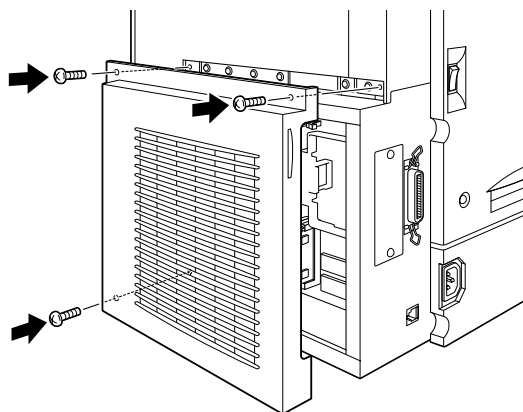
6. Gently but firmly pull the ROM module out of slot A.



Caution:

You should not remove any other modules from the circuit board. Otherwise, the printer will not work.

7. Replace the circuit board cover and fasten the screws.



8. Reconnect all interface cables.
9. Plug the printer's power cord into an electrical outlet.
10. Turn on the printer.

Interface Cards

You can install an optional interface card to supplement your printer's built-in parallel and Ethernet interfaces and provide added network compatibility. The EPSON interface cards in the table below are compatible with your printer. (Not all interface cards are available in all countries.)

Model number	Name
C82362*/C82363*/C82364*	Ethernet Interface Card
C82307*	32KB Serial Interface Card
C82310*	32KB Parallel Interface Card
C82314*	Coax Interface Card

Model number	Name
C82315*	Twinax Interface Card
C82313*	GPIB Interface Card

Note:

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

If you are unsure whether you need an optional interface or would like to know more about interfaces, contact your dealer.

Installing an Interface Card

Follow these steps to install an optional interface card:

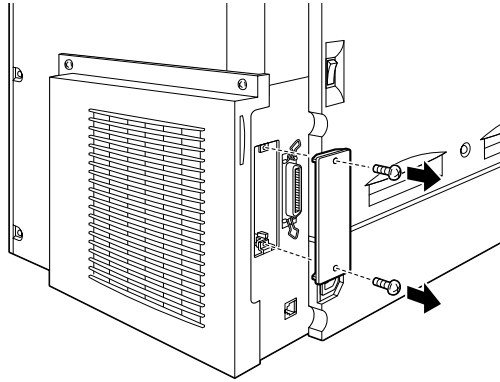


Caution:

Before you install the interface card, be sure to discharge any static electricity by touching a grounded piece of metal. Otherwise, you may damage static-sensitive components.

1. Turn off the printer.
2. Unplug the printer's power cord from the electrical outlet.
3. Remove all interface cables from the interface connectors.

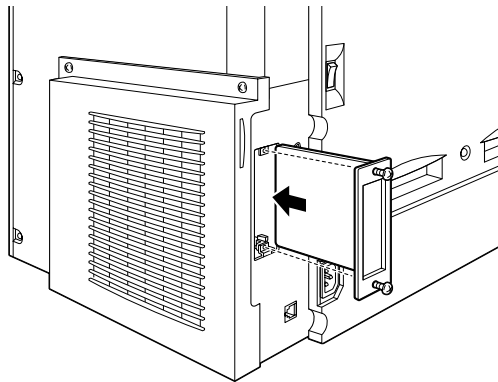
4. Remove the screws that secure the interface slot cover on the far left side of the printer and remove the cover.



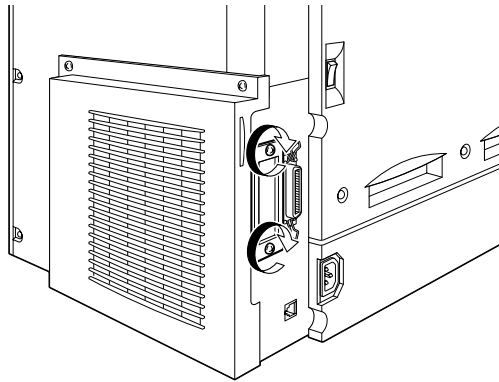
Note:

Keep the slot cover in a safe place. You will need to reattach it if you remove the interface card later.

5. Slide and push the interface card into the slot firmly, making sure that the connector at the back of the interface card is fully inserted into the printer's internal socket.



6. Secure the interface card by fastening the retaining screws.



7. Reconnect all interface cables.
8. Plug the printer's power cord into an electrical outlet.
9. Turn on the printer.

To confirm that the interface card is installed correctly, print a status sheet. If the interface is not listed on the status sheet, try reinstalling the card making sure the card is securely fastened to the socket on the printer.

Removing an Interface Card

Follow these steps to remove an optional interface card:

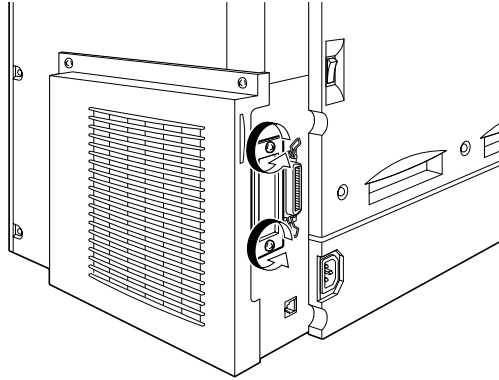


Caution:

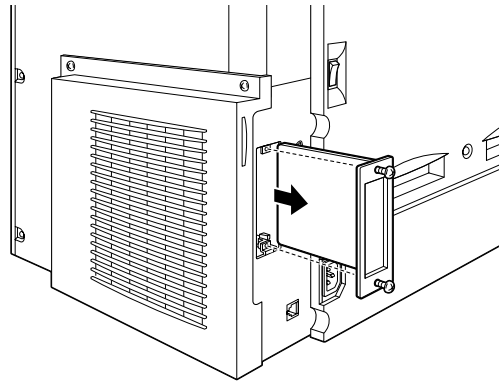
Before you remove an interface card, be sure to discharge any static electricity by touching a grounded piece of metal. Otherwise, you may damage static-sensitive components.

1. Turn off the printer.
2. Unplug the printer's power cord from the electrical outlet.

3. Remove all interface cables from the interface connectors.
4. Remove the screws that secure the interface card.



5. Gently but firmly pull the interface card out until it is released from the printer's internal socket.



6. Replace the interface slot cover (removed when the interface card was installed) over the now empty slot. Use the two screws to secure it.

7. Keep the interface card in an anti-static packet such as the one it came packaged in.
8. Reconnect all interface cables.
9. Plug the printer's power cord into an electrical outlet.
10. Turn on the printer.

Chapter 6

Maintenance and Transportation

Replacing Consumable Products	6-2
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Replacing Consumable Products

You need to replace the following consumable products when a notice message is displayed on the LCD panel or the window of the EPSON Status Monitor 3 utility.

Precautions when replacing consumable products

When replacing consumable products, please be sure to:

- Provide enough space for the replacement procedure. You will have to open some parts (such as the front cover) of the printer when you are replacing consumables.
- Do not install used consumable products into the printer.



Warning:

- Be careful not to touch the fuser, which is marked CAUTION Hot Surface Avoid Contact, or the surrounding areas. If the printer has been in use, the fuser and surrounding areas may be very hot.*
- Do not dispose of used consumable products in fire, as they may explode and cause injury. Dispose of them according to local regulations.*

Replacement messages

When you see the following messages on the LCD panel or on the window of the EPSON Status Monitor 3 utility, replace the appropriate consumable products. You can continue to print for a short time after a message appears, but EPSON recommends early replacement to maintain print quality and extend the life of your printer.

Control Panel Message	EPSON Status Monitor 3 Message	Description
XXXX* Toner Low	The X (and X) developer cartridge is almost empty.	The amount of remaining toner in the developer cartridge(s) is low.
Oil Roll Near Empty	The fuser oil roll is near the end of its service life.	The fuser oil roll is near the end of its service life.
Worn Photoconductor	The photoconductor unit is near the end of its service life.	The photoconductor unit and print head filter are near the end of their service life.
Worn Fuser	The fuser unit is near the end of its service life.	The fuser unit and the second transfer roll are near the end of their service life.
Worn Transfer Belt	The transfer belt unit is near the end of its service life.	The transfer belt unit is near the end of its service life.
Waste T Box Nearfull	The waste toner collector is almost full.	The waste toner collector is almost full.

* C, M, Y, and/or K are indicated for the color of the toner to be replaced. For example, the message Y Toner Low means that you need to replace the yellow developer cartridge.

Note:

- ❑ If you press the Continue button, the message on the LCD panel disappears.

- ❑ When more than one consumable product needs to be replaced at the same time, each message will appear after you press the Continue button.

If you continue to use the printer without replacing consumable products and a consumable product reaches the end of its service life, the printer stops printing and displays the following messages on the LCD panel or the window of the EPSON Status Monitor 3 utility. When this happens, the printer cannot resume printing until you replace the depleted consumable products.

Control Panel Message	EPSON Status Monitor 3 Message	Description
XXXX* Toner Out	The X (and X) developer cartridge is empty.	The developer cartridge is empty.
Replace Oil Roll	The fuser oil roll is at the end of its service life.	The fuser oil roll is at the end of its service life.
Replace Photoconductor	The photoconductor unit is at the end of its service life.	The photoconductor unit and print head filter have reached the end of their service life.
Replace Waste T Box	The waste toner collector is full.	The waste toner collector is full of toner.
Replace Fuser	The end of the fuser unit life has been reached.	The fuser unit and the second transfer roll have reached the end of their service life.
Replace TransferBelt	The transfer belt unit is at the end of its service life.	The transfer belt unit has reached the end of its service life.

* C, M, Y, and/or K are indicated for the color of the toner to be replaced. For example, the message Y Toner Out means that you need to replace the yellow developer cartridge.

Note:

Messages appear for each consumable product at a time. After replacing a consumable product, check the LCD panel for replacement messages for other consumables products.

Developer cartridge

When developer cartridges run out of toner, a message appears on the LCD panel or the EPSON Status Monitor 3 utility to inform you of the condition. According to the message on the LCD panel or on the window of the EPSON Status Monitor 3 utility, replace the correct developer cartridge from the list below:

Developer Cartridge (Black)	S050033
Developer Cartridge (Yellow)	S050034
Developer Cartridge (Magenta)	S050035
Developer Cartridge (Cyan)	S050036

Handling precautions

Always pay attention to the following handling precautions before replacing developer cartridges:

- Do not install used developer cartridges into the printer.
- Wait for at least one hour before installing a developer cartridge after moving it from a cool to a warm environment to prevent damage from condensation.



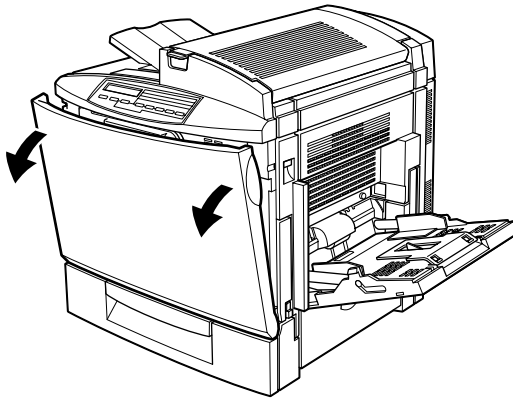
Warning:

- ❑ *Do not touch the toner and avoid all contact with your eyes. If toner gets on your skin or clothes, wash it off with soap and water immediately.*
- ❑ *Keep developer cartridges out of the reach of children.*
- ❑ *Do not dispose of used developer cartridges in fire, as they may explode and cause injury. Dispose of them according to local regulations.*

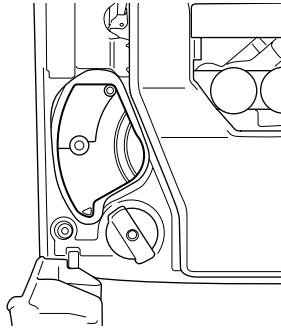
Replacing a developer cartridge

Follow these steps to replace a developer cartridge:

1. Confirm the color of the developer cartridge that needs to be replaced by checking the LCD panel.
2. Open the front cover.



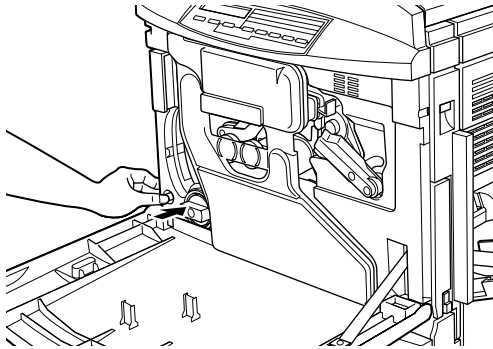
3. Check which color currently appears in the cartridge installation window.



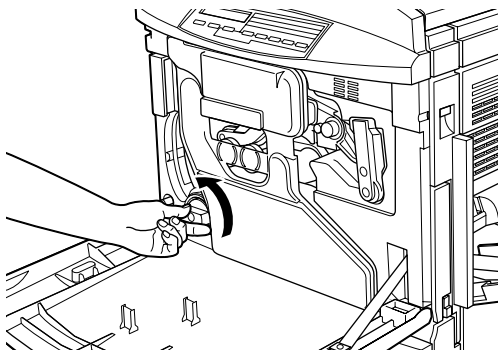
If you see the color that you need to replace, go to step 6.

If you see a different color, go to the next step.

4. Press the green button, as shown below.



5. Turn the knob counterclockwise until it stops. The next cartridge appears in the cartridge installment window.

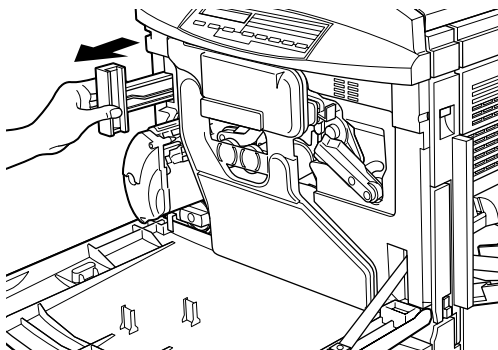


Repeat steps 4 and 5 until you see the color that you need to replace.

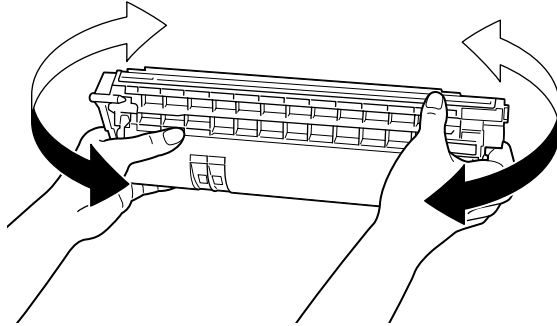
Note:

The knob does not turn if the photoconductor unit's protective sheet is not yet removed. To remove the protective sheet, see "Replacing the photoconductor unit, waste toner collector, and print head filter" on page 6-12.

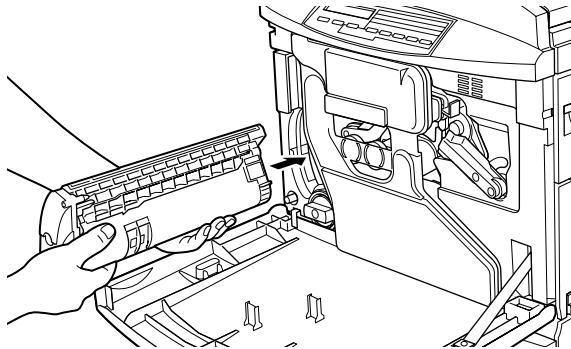
6. Pull the cartridge eject lever until the cartridge protrudes from the slot, then remove the cartridge.



7. Take a new cartridge of the color to be replaced out of its package, and gently shake it from side to side and front to back to distribute the toner evenly.

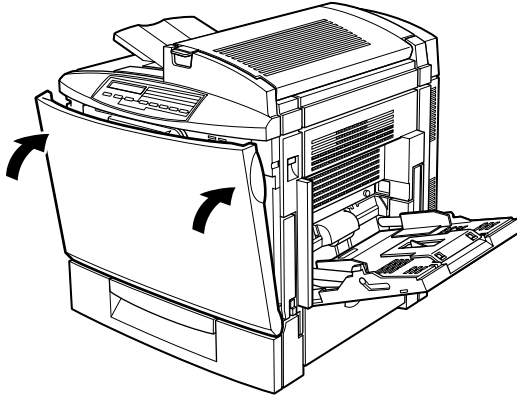


8. Hold the cartridge as shown below, and insert it all the way into the developer cartridge slot until it clicks.



9. If you need to replace another cartridge, repeat steps 3 to 8.

10. Close the front cover.



Photoconductor kit

The photoconductor kit consists of the following items:

- Photoconductor unit
- Waste toner collector
- Print head filter

These items are sold as a kit because they usually need replacement at the same time. However, the waste toner collector is also sold individually as you may need to replace it separately depending on use.

Photoconductor unit

Prepare a new photoconductor unit for replacement when the you see a message informing you to do so.

Handling precautions

Always pay attention to the following handling precautions before replacing the photoconductor unit:

- ❑ When replacing the photoconductor unit, avoid exposing it to room light any longer than necessary.
- ❑ Be sure not to scratch the surface of the drum. Also, avoid touching the drum, since oil from your skin may permanently damage its surface and affect print quality.
- ❑ To get the best print quality, do not store the photoconductor unit in an area subject to direct sunlight, dust, salty air, or corrosive gases (such as ammonia). Avoid locations subject to extreme or rapid changes in temperature or humidity.
- ❑ Keep the photoconductor unit out of the reach of children.



Warning:

Do not dispose of the used photoconductor unit in fire, as it may explode and cause injury. Dispose of it according to local regulations.

Waste toner collector

Prepare a new waste toner collector for replacement when the you see a message informing you of to do so. The waste toner collector is sold as part of the Photoconductor Kit because it usually needs replacement at the same time as the photoconductor unit.

However, the waste toner collector is also sold individually as sometimes you may need to replace the waste toner collector separately depending on use.

Handling precautions

Always pay attention to the following handling precautions before replacing the waste toner collector:

- ❑ Do not reuse toner found in the waste toner collector.

- ❑ Keep the waste toner collector out of the reach of children.



Warning:

Do not dispose of the used waste toner collector in fire, as it may explode and cause injury. Dispose of it according to local regulations.

Print head filter

The print head filter is sold as part of the Photoconductor Kit because it needs replacement at the same time as the photoconductor unit.

Handling precautions

Always pay attention to the following handling precautions before replacing the print head filter:

- ❑ Do not reuse toner found on the print head filter.
- ❑ Keep the print head filter out of the reach of children.



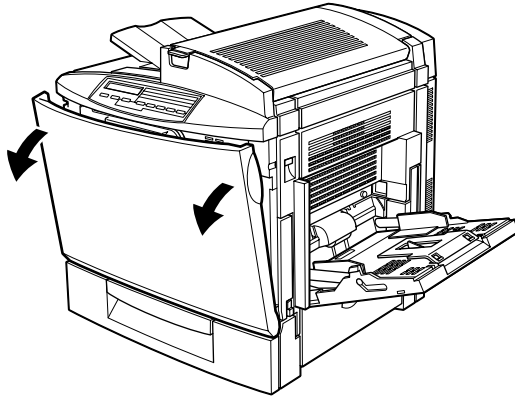
Warning:

Do not dispose of the used print head filter in fire, as it may explode and cause injury. Dispose of it according to local regulations.

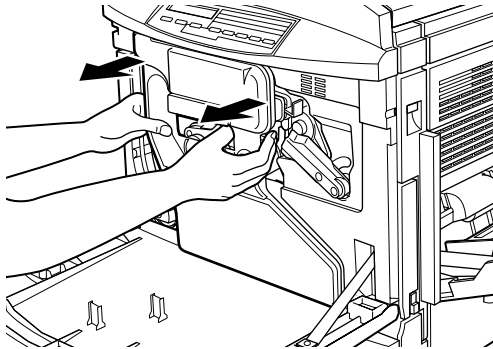
Replacing the photoconductor unit, waste toner collector, and print head filter

Follow these steps to replace the photoconductor unit, waste toner collector, and print head filter:

1. Open the front cover.



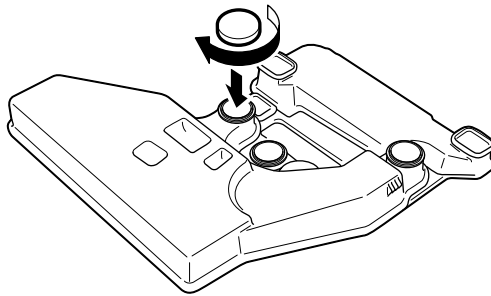
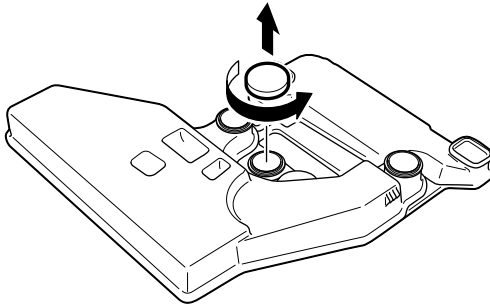
2. Detach the waste toner collector, as shown below.



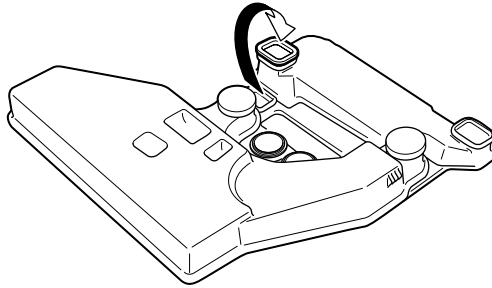
Note:

Be careful not to spill toner when handling the waste toner collector.

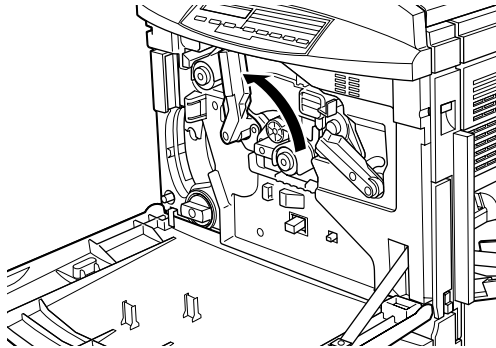
3. Turn and remove the two round caps off the center of the used waste toner collector and attach them to the openings. (The illustrations show the procedure for one cap only.)



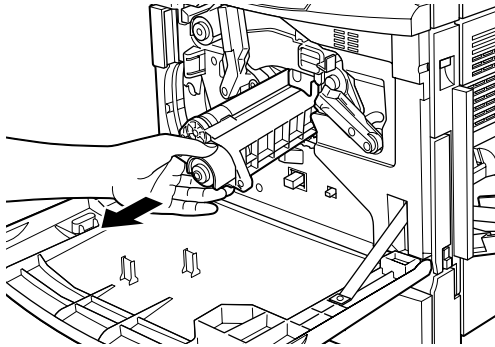
4. Remove the rectangular cap and attach it to the rectangular opening, as shown in the illustration below.



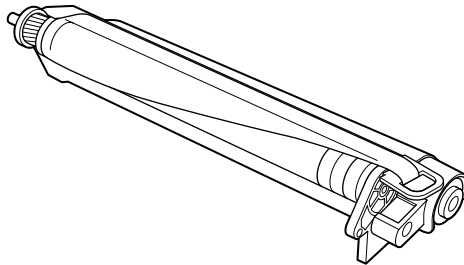
5. Turn the large lever counterclockwise to an upright position.



6. Pull the photoconductor unit out of the printer.



7. Take the new photoconductor unit out of its package.



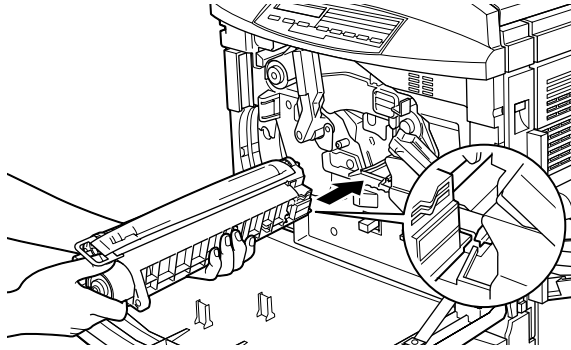
Caution:

- ❑ Be sure not to touch or scratch the surface of the drum.
- ❑ Avoid touching the drum, since oil from your skin may permanently damage its surface and affect print quality.

Note:

Install the photoconductor unit with its protective sheet in place. Do not remove it yet.

8. Hold the photoconductor unit as shown below, and insert it firmly into the slot making sure that the bottom of the unit slide into the guide rails.



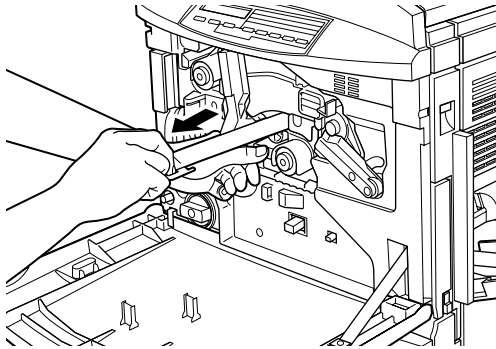
Caution:

Make sure the photoconductor unit is inserted correctly. Otherwise, it may damage the printer.

Note:

Be sure the unit is completely inserted into the slot. Otherwise, the large lever cannot be restored to a position that accommodates the waste toner collector.

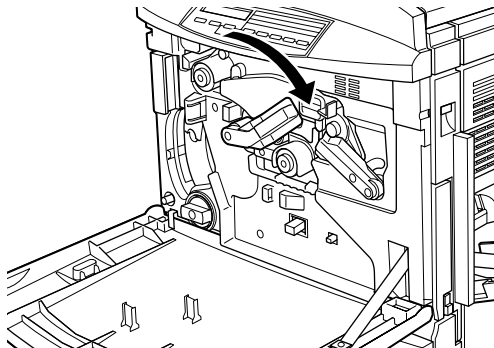
9. While keeping the photoconductor unit in place with your left hand, pull the ring toward you to remove the protective sheet.



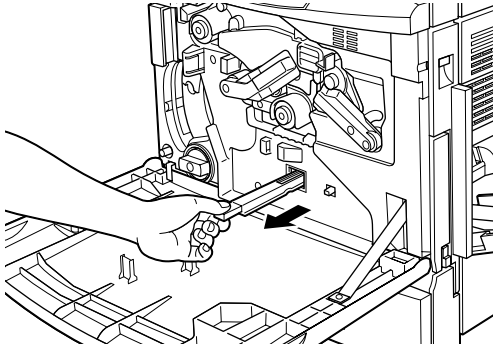
Caution:

Failure to remove the protective sheet may damage your printer.

10. Turn the large lever clockwise, until the lever rests on the photoconductor unit as shown below.



11. Press down on the handle of the print head filter with your thumb and gently pull it straight out of the slot.



Note:

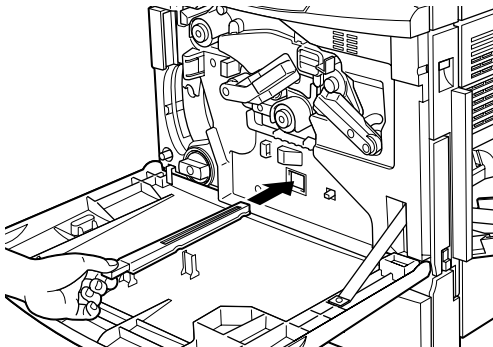
Be careful not to spill toner that has accumulated on the print head filter.

12. Remove the new print head filter from its package.

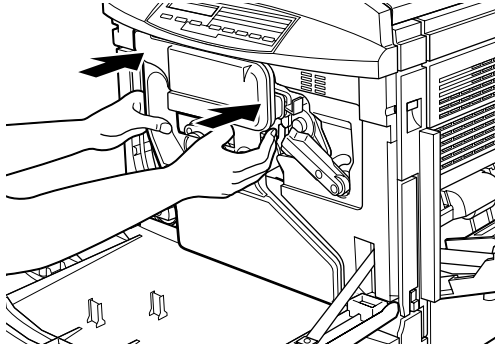
Note:

Be careful not to touch the glass surface. Oil from your skin may cause the print quality to decline.

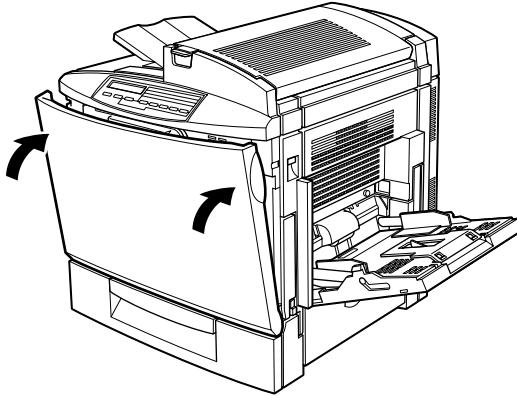
13. Hold the new print head filter by the handle and gently insert it all the way into the slot.



14. Take out the new waste toner collector.
15. Attach the new waste toner collector, making sure that it is securely in place.



16. Close the front cover.



Fuser kit

The fuser kit consists of the following items:

- Fuser unit
- Second transfer roll

These items are sold as a kit because they need replacement at the same time.

Fuser unit

Prepare a new fuser unit for replacement when the you see a message informing you of to do so.

Handling precautions

Always pay attention to the following handling precautions before replacing the fuser unit:

- Keep the fuser unit out of the reach of children.



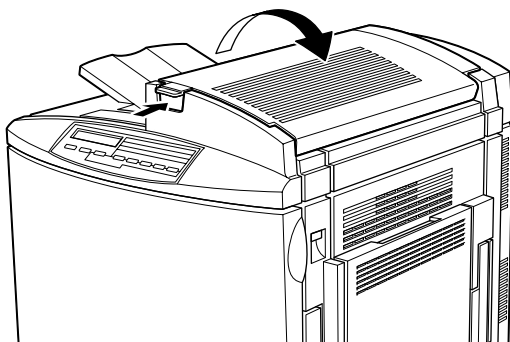
Warning:

The fuser unit can be very hot if the printer has been in use. Turn the printer's power off and wait till the temperature has subsided before changing the fuser unit.

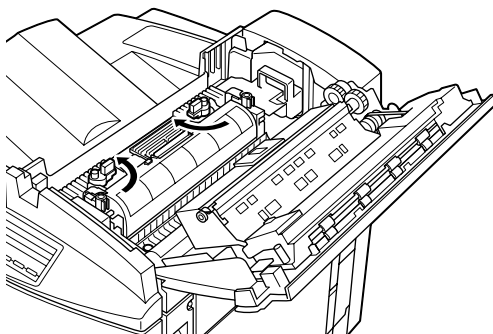
Replacing the fuser unit

Follow these steps to replace the fuser unit:

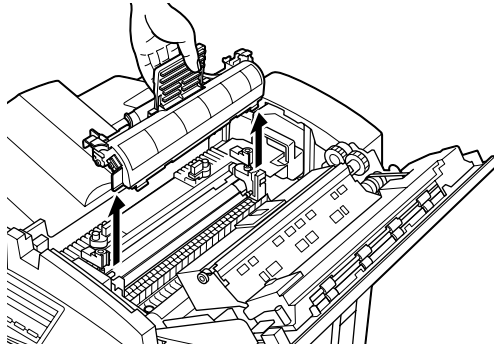
1. Push the lever and lift the printer's top cover.



2. Turn the two fuser oil roll levers inward, as shown below.



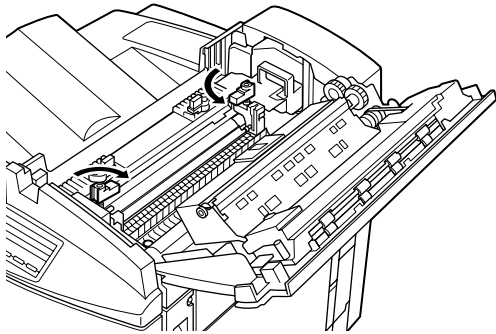
3. Hold the fuser oil roll by the handle and lift it gently out of the printer.



Note:

- ❑ *Keep the fuser oil roll in a safe place during the replacement procedure of the fuser unit.*
- ❑ *If oil gets on your skin or clothes, wash it off immediately.*
- ❑ *Do not touch the white roll surface of the fuser oil roll.*
- ❑ *The roll should always be kept horizontal. Do not tilt or lean it against anything. Doing so might cause oil to leak and impair print quality.*

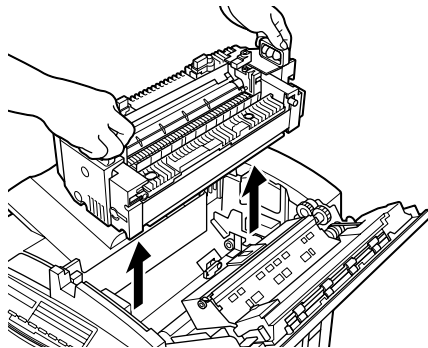
4. Turn the two fuser unit levers inward by 90 degrees to release the fuser unit from the printer.



Note:

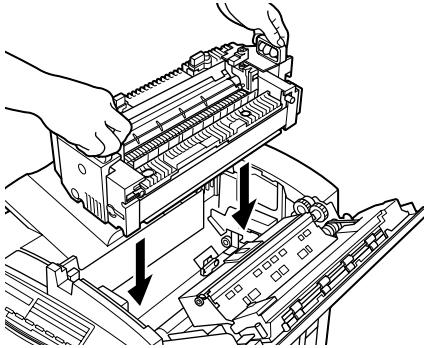
The two levers spring upward when they are turned inward.

5. Hold the fuser unit by the handles and lift it straight out of the printer.

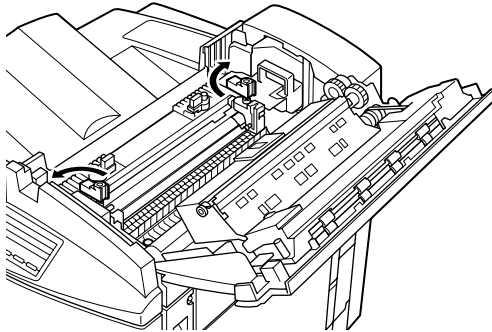


6. Remove the new fuser unit from its package.

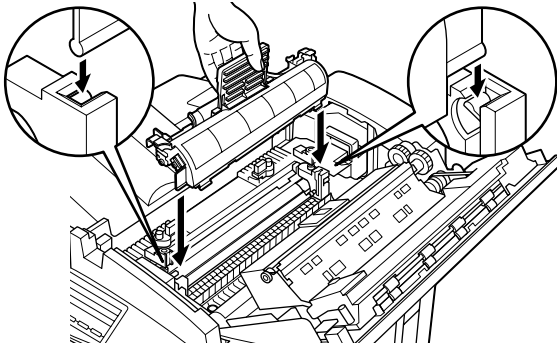
7. Hold the new fuser unit by the handles and lower it until it is secure inside the printer.



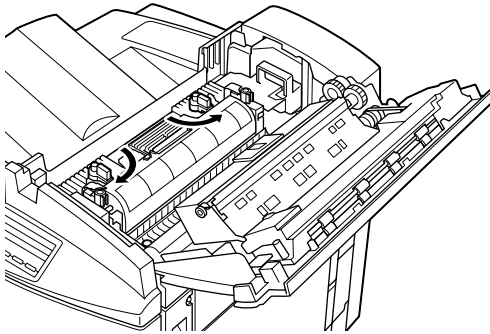
8. Push and turn the two fuser unit levers outward by 90 degrees, as shown below.



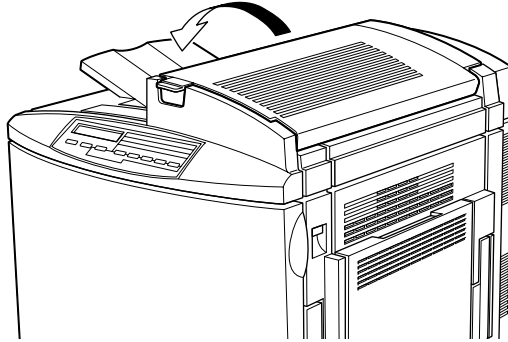
9. Replace the fuser oil roll by lowering it into the printer, making sure that the two side flaps fit into their corresponding slots on the fuser unit.



10. Turn the two levers outward such that they rest above the fuser oil roll.



11. Gently close the top cover until it clicks.



Second transfer roll

Replace the second transfer roll after replacing the fuser unit.

Handling precautions

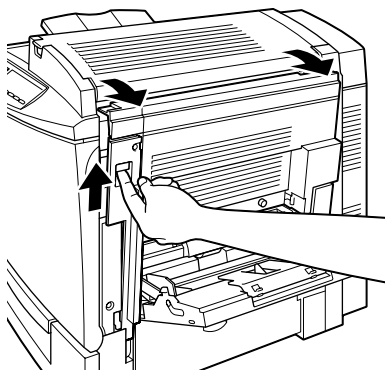
Always pay attention to the following handling precautions before replacing the second transfer roll:

- Do not touch the surface of the second transfer roll. Doing so may impair print quality.

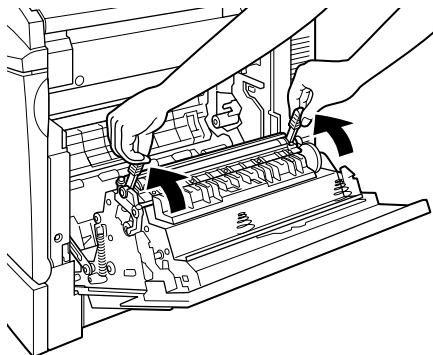
Replacing the second transfer roll

Follow these steps to replace the second transfer roll:

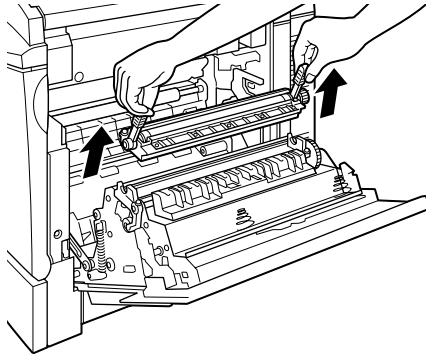
1. Open the right cover.



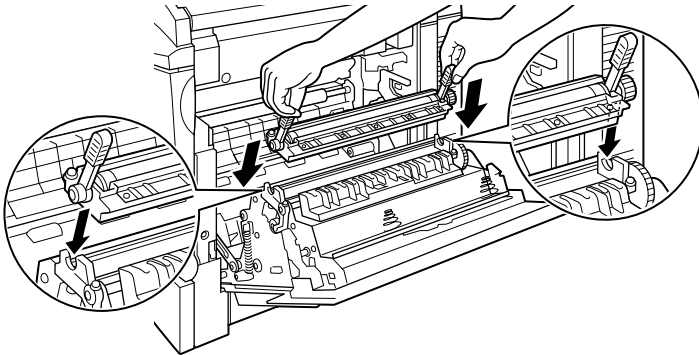
2. Raise the two levers of the second transfer roll.



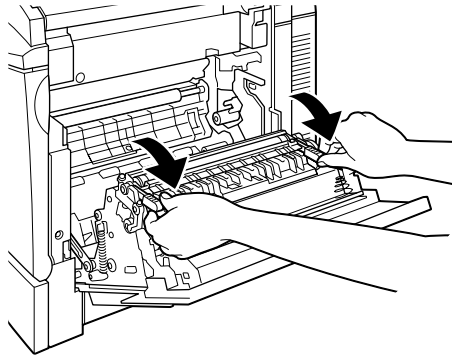
3. Lift the second transfer roll off the right side cover of the printer.



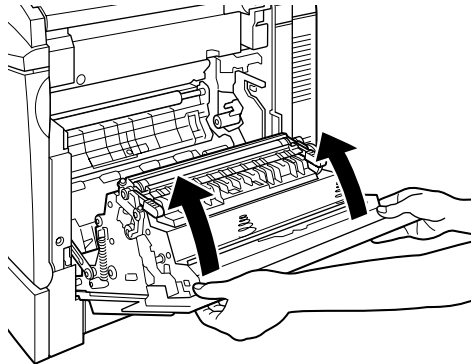
4. Remove the new second transfer roll from its package.
5. Hold the new second transfer roll by the levers and lower it into the hollow on the right side cover of the printer.



6. Push the two levers downward.



7. Close the right cover.



Fuser oil roll

Prepare a new fuser oil roll for replacement when the you see a message informing you of to do so.

Handling precautions

Always pay attention to the following handling precautions before replacing the fuser oil roll:

- ❑ Do not touch the white roll surface. It is covered with silica oil.
- ❑ If oil gets on your skin or clothes, wash it off immediately.
- ❑ The roll should always be kept horizontal. Do not tilt or lean it against anything. Doing so might cause oil to leak and impair print quality.
- ❑ Keep the fuser oil roll out of the reach of children.



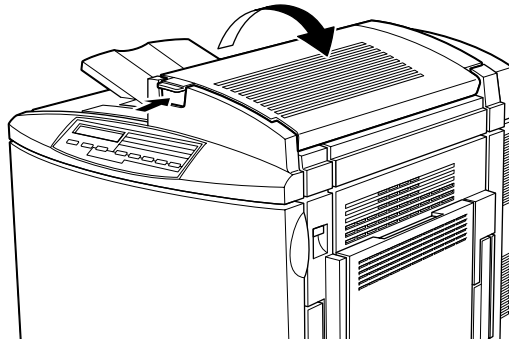
Warning:

- ❑ *Do not dispose of the used fuser oil roll in fire, as it may explode and cause injury or fire. Dispose of it according to local regulations.*
- ❑ *The fuser oil roll can be very hot if the printer has been in use. Turn the printer's power off and wait till the temperature has subsided before changing the fuser oil roll.*

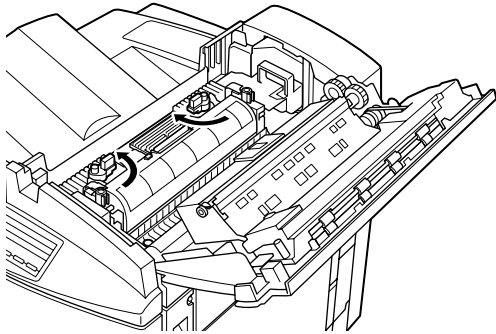
Replacing the fuser oil roll

Follow these steps to replace the fuser oil roll:

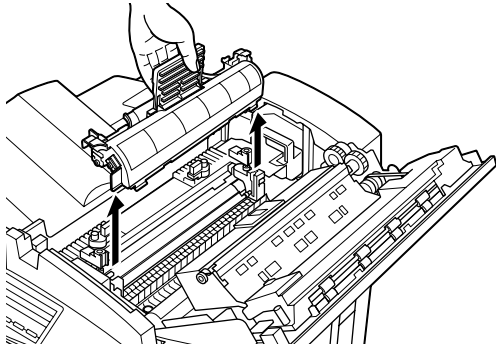
1. Push the lever and lift the printer's top cover.



2. Turn the two fuser oil roll levers inward, as shown below.



3. Hold the fuser oil roll by the handle and lift it gently out of the printer.

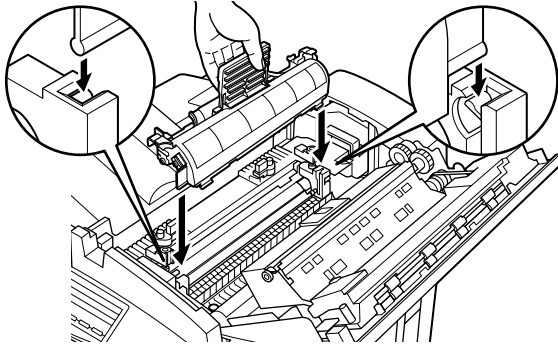


4. Remove the new fuser oil roll from its package.

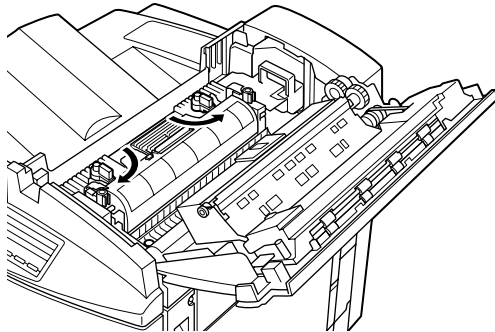
Note

Do not touch the white roll surface.

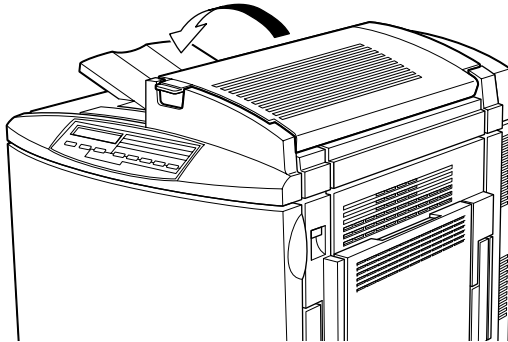
5. Hold the new fuser oil roll by the handle and lower it into the printer, making sure that the two side flaps fit into their corresponding slots on the fuser unit.



6. Turn the two levers outward such that they rest above the fuser oil roll, as shown below.



7. Gently close the top cover until it clicks.



Waste toner collector

Prepare a new waste toner collector for replacement when you get a message informing you to do so. The waste toner collector is sold as part of the Photoconductor Kit because it usually needs replacement at the same time as the photoconductor unit.

However, the waste toner collector is also sold individually as sometimes you may need to replace the waste toner collector separately depending on use.

Handling precautions

Always pay attention to the following handling precautions before replacing the waste toner collector:

- Do not reuse toner found in the waste toner collector.
- Keep the waste toner collector out of the reach of children.



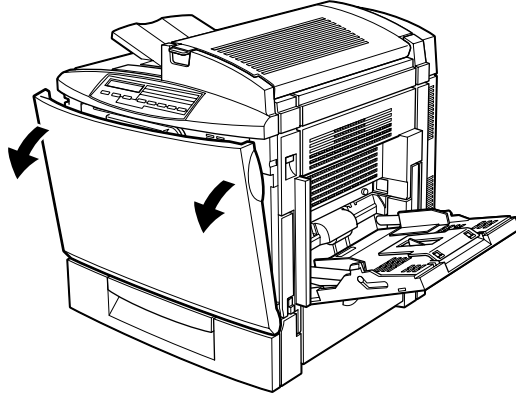
Warning:

Do not dispose of the used waste toner collector in fire, as it may explode and cause injury. Dispose of it according to local regulations.

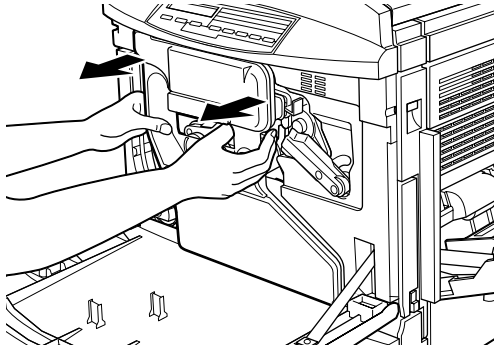
Replacing the waste toner collector

Follow these steps to replace the waste toner collector:

1. Open the front cover.



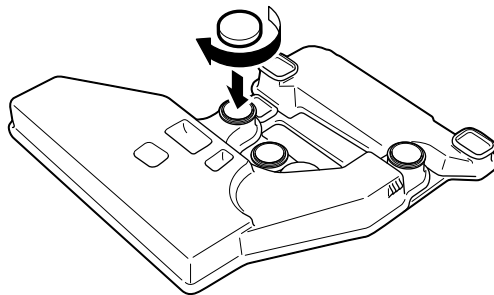
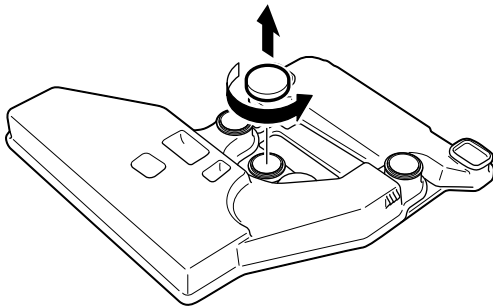
2. Detach the waste toner collector.



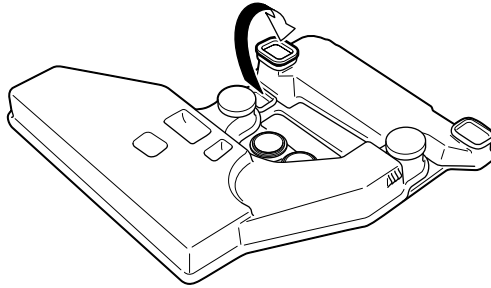
Note:

Be careful not to spill toner when handling the waste toner collector.

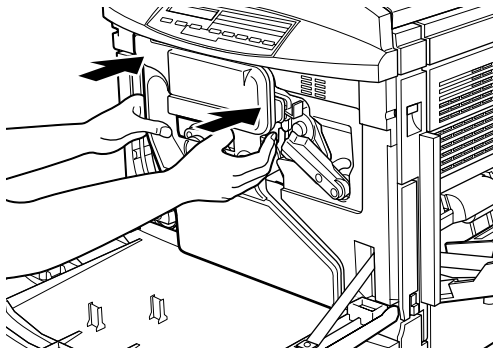
3. Turn and remove the two round caps off the center of the used waste toner collector and attach them to the openings. (The illustrations show the procedure for one cap only.)



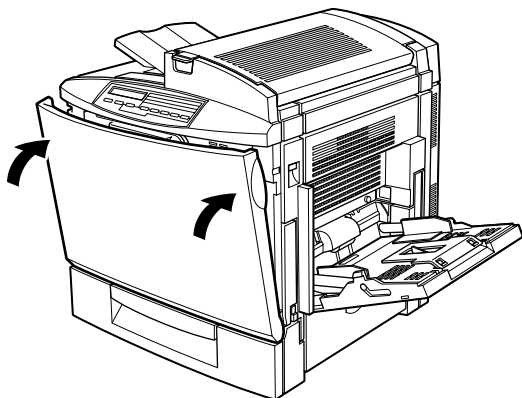
4. Remove the rectangular cap and attach it to the rectangular opening, as shown in the illustration below.



5. Take out the new waste toner collector.
6. Attach the new waste toner collector, making sure that it is securely in place.



7. Close the front cover.



Transfer belt unit

Prepare a new transfer belt unit for replacement when you get a message informing you to do so.

Handling precautions

Always pay attention to the following handling precautions before replacing the transfer belt unit:

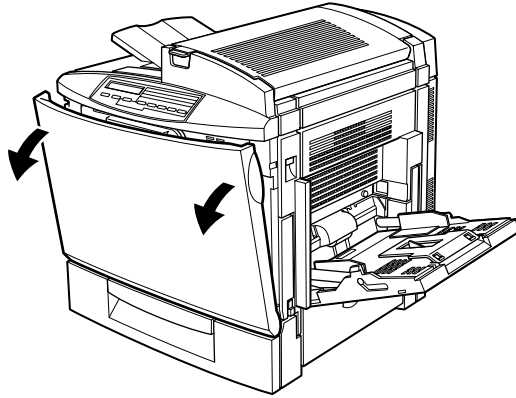
- Make sure you hold the transfer belt unit by its handle. Do not touch the belt area.
- Keep the transfer belt unit out of the reach of children.

Replacing the transfer belt unit

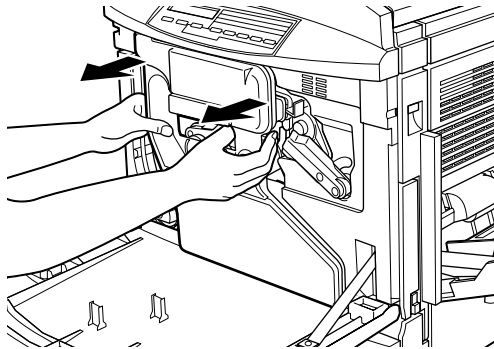
Follow these steps to replace the transfer belt unit:

1. Turn off the printer.

2. Open the front cover.



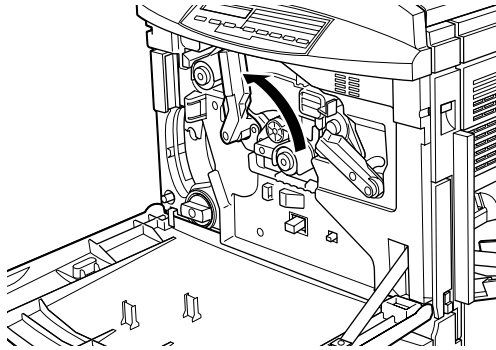
3. Detach the waste toner collector.



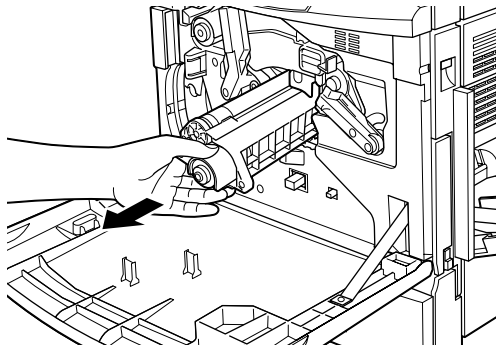
Note:

- ❑ *Be careful not to spill toner when handling the waste toner collector.*
- ❑ *Place the waste toner collector in a safe place during the replacement procedure.*

4. Turn the large lever counterclockwise to an upright position.



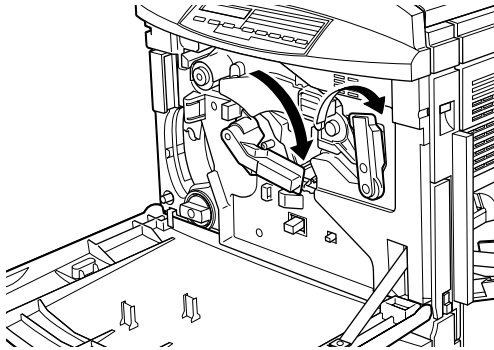
5. Pull the photoconductor unit out of the printer.



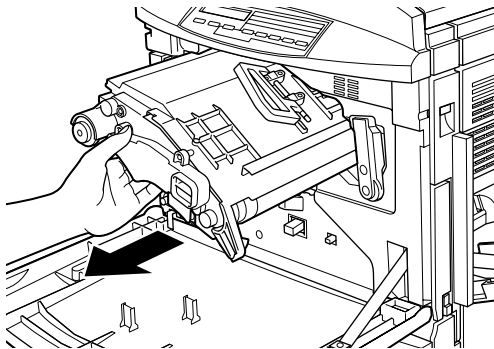
Note:

Keep the photoconductor unit in a safe place during the replacement procedure. Be sure not to touch the green drum.

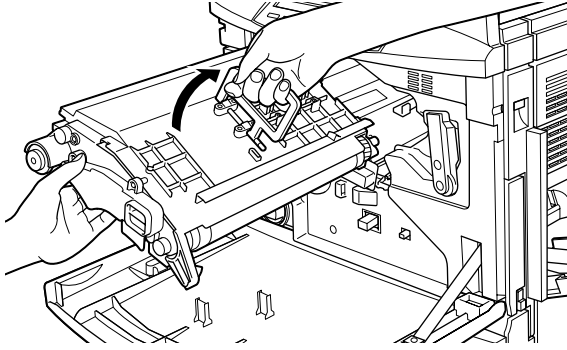
6. Turn both the large lever and right lever clockwise until they are in the positions shown in the illustration.



7. Gently pull the transfer belt unit out about 20 cm and the handle will spring up.



8. Hold the transfer belt unit by the handle and slowly pull the whole unit out of the printer while tilting the unit slightly downward.

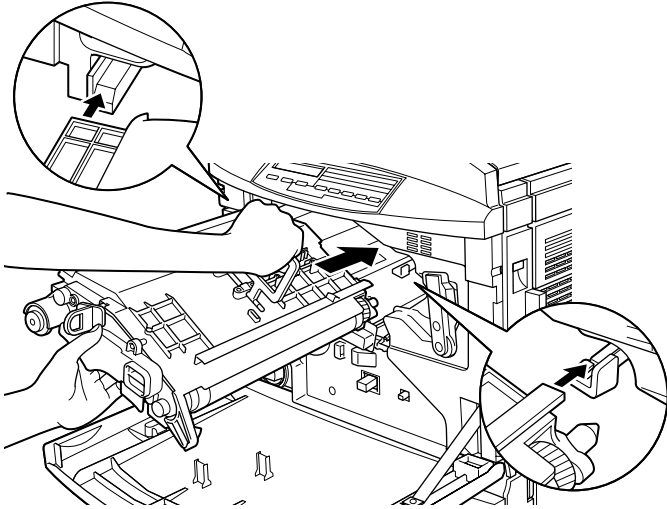


9. Remove the new transfer belt unit from its package.

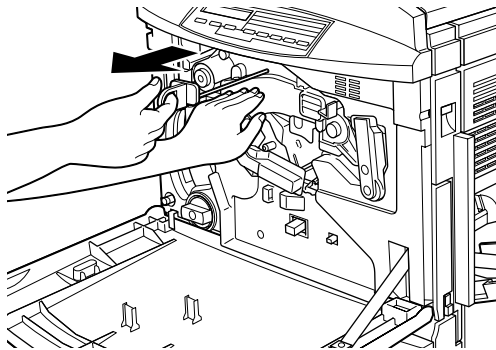
Note:

All new transfer belt units have a tension release rod with a yellow ring handle inserted into the unit. Do not pull it out yet.

10. Holding the new transfer belt unit by the handle, insert it into the slot making sure that the sides on the top sit on the guide rails as you push it all the way in.



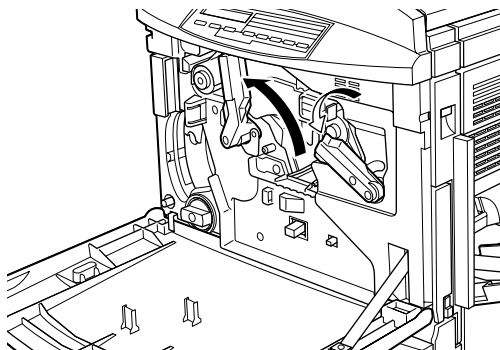
11. While keeping the transfer belt unit in place with your left hand, pull the ring toward you to remove the tension release rod.



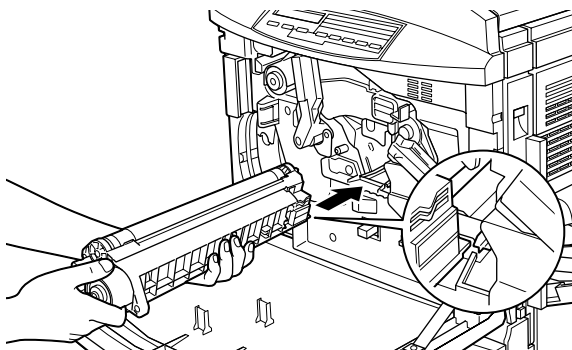
Note:

The tension release rod is used to prevent damage to the belt during transportation and when the printer is not being used for long periods. Make sure you keep the rod in a safe place so you can reinsert it when you need to transport the printer.

12. Turn both the large lever and the right lever counterclockwise until they are in the positions shown in the illustration.



13. Reinstall the photoconductor unit, making sure that the bottom of the unit slide into the guide rails.



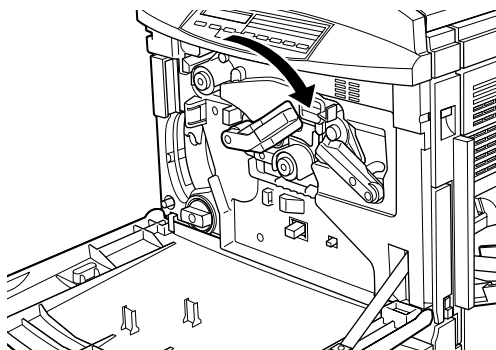
Caution:

Make sure the photoconductor unit is inserted correctly. Otherwise, it may damage the printer.

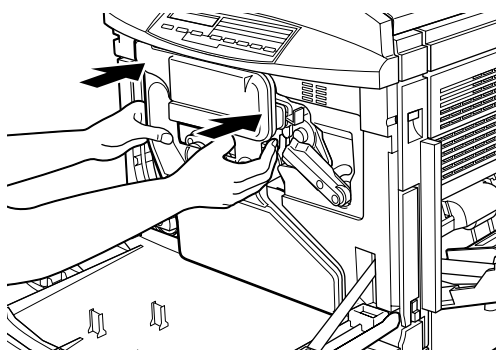
Note:

Be sure the unit is completely inserted into the slot. Otherwise, the large lever cannot be restored to a position that accommodates the waste toner collector.

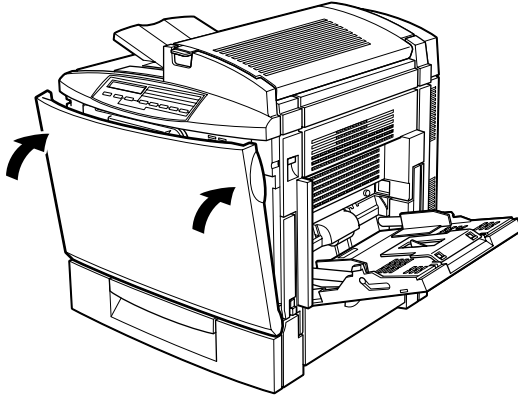
14. Turn the large lever clockwise, until the lever rests on the photoconductor unit as shown below.



15. Reattach the waste toner collector, making sure not to spill toner.



16. Close the front cover.



Cleaning the Printer

The printer needs only minimal cleaning. If you notice a paper-feeding problem and there is no problem with your paper, you may be able to alleviate the problem by cleaning the paper path rollers as described in this section.

Cleaning the outside of the printer

If the printer's outer case is dirty or dusty, turn off the printer and clean it with a soft, clean cloth moistened with a mild detergent.



Caution:

Never use alcohol or paint thinner to clean the printer cover; these chemicals can damage the components and the case. Be careful not to get water onto the printer mechanism or any electrical components.

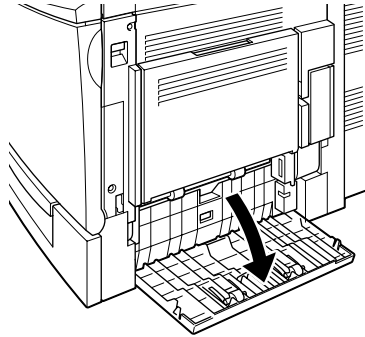
Cleaning the paper path rollers

If paper-feeding problems occur when you are using the correct paper, the paper path rollers in the standard lower cassette or the optional 500-Sheet Paper Cassette Unit may be dirty.

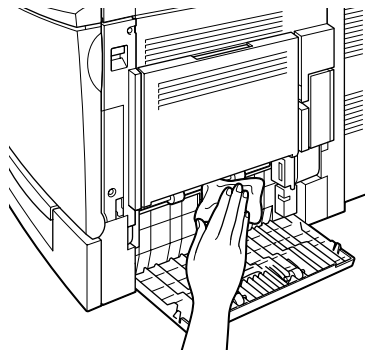
The cleaning procedure for both the standard lower cassette and the optional 500-Sheet Paper Cassette Unit is the same. The illustrations below show the standard lower cassette.

Follow these steps to clean the paper path rollers:

1. Open the side cover of the standard lower cassette.



2. Wipe the two paper path rollers gently with a clean moistened cloth.



Caution:

Be careful not to get water onto the printer mechanism or any electrical components.

3. Close the side cover of the standard lower cassette.

Transporting the Printer

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

Follow these steps to repack your printer:

1. Turn off the printer.
2. Unplug the power cord from the electrical outlet.
3. Remove all installed developer cartridges, the photoconductor unit, the fuser oil roll, and the waste toner collector. For information on removing these consumable products, see “Replacing Consumable Products” on page 6-2.

Note:

Pack all consumable products that you remove in their original boxes and protective materials.

4. Insert the tension release rod back into the transfer belt unit. The rod was removed and stored when the printer was first assembled or the new transfer belt unit was installed. See “Replacing the transfer belt unit” on page 6-38 for information.
5. Remove all installed options. For information on removing options, see Chapter 5, “Using Options.”

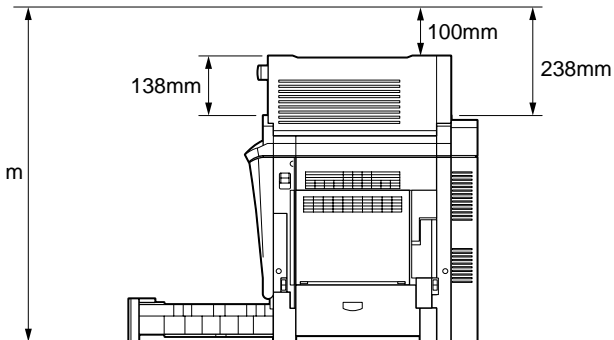
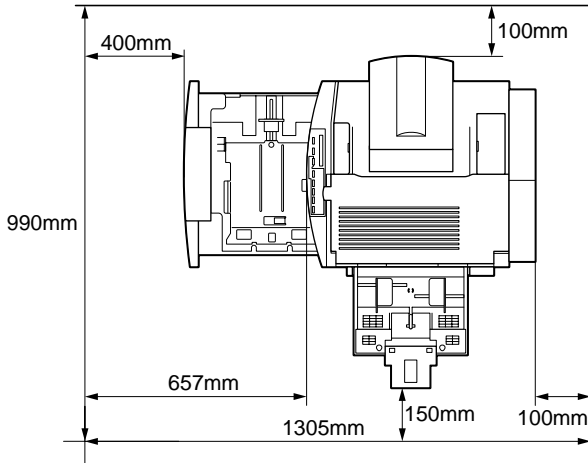
Note:

Pack all optional products that you remove in their original boxes and protective materials.

6. Repack the printer in its original box using the protective materials that it came with.

Finding a place for the printer

When relocating the printer, always choose a location that has adequate space for easy operation and maintenance. Use the following illustrations as a guide for the amount of space required around the printer to ensure smooth operation.



To install and use any of the following options, you will need the indicated amount of additional space.

The **500-Sheet Paper Cassette Unit** adds 114 mm (4.5 in.) to the bottom of the printer.

The **Duplex Unit** adds 33 mm (1.3 in.) to the right side of the printer.

In addition to space consideration, always heed the following precautions when finding a place to locate the printer:

- ❑ Place the printer where you can easily unplug the power cord.
- ❑ Keep the entire computer and printer system away from potential sources of interference, such as loudspeakers or the base units of cordless telephones.
- ❑ Avoid using an electrical outlet that is controlled by wall switches or automatic timers. Accidental disruption of power can erase valuable information in your computer's and printer's memory.



Caution:

- ❑ *Leave adequate room around the printer to allow for sufficient ventilation.*
- ❑ *Avoid locations that are subject to direct sunlight, excessive heat, moisture, or dust.*
- ❑ *Avoid using outlets that other appliances are plugged into.*
- ❑ *Use a grounded outlet that matches the printer's power plug. Do not use an adapter plug.*
- ❑ *Only use an outlet that meets the power requirements for this printer.*

Chapter 7

Troubleshooting

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Clearing Jammed Paper

When paper is jammed in the printer, the printer's LCD panel and the EPSON Status Monitor 3 utility provide alert messages.

Error messages for paper jams

If the following message appears on the LCD panel, you must clear all jammed paper.

Jam xxxx

The location, one of Feed, Exit, or Duplex, where the paper jam occurred is displayed at xxxx. If a paper jam occurs at two or more locations simultaneously, the corresponding multiple locations are displayed.

Feed:	Jam B, Jam C1, Jam C2 B: MP tray or main paper path C1: side cover of the standard lower cassette C2: side cover of the 500-Sheet Paper Cassette Unit Paper is jammed at the corresponding loading entrance area. For instructions on how to remove jammed paper at the paper feed areas, see "Jam B (MP tray)" on page 7-7, "Clearing the main paper path" on page 7-20, "Jam C1 (standard lower cassette)" on page 7-10, and "Jam C2 (optional 500-Sheet Paper Cassette Unit)" on page 7-15.
Exit:	Jam A Paper is jammed in the output area. Check by opening the printer's top cover. For instructions on how to remove jammed paper at the paper exit area, see "Jam A (fuser unit and top cover)" on page 7-3.
Duplex:	Jam DM Paper is jammed at the Duplex Unit. Check by opening the cover of the unit. For instructions on how to remove jammed paper at the Duplex Unit, see "Jam DM (optional Duplex Unit)" on page 7-19.

Precautions for clearing jammed paper

Be sure to observe the following points when you clear jammed paper:

- ❑ Do not remove jammed paper by force. Torn paper can be difficult to remove and might cause other paper jams. Pull it gently in order to avoid tearing.
- ❑ Always try to remove jammed paper with both hands to avoid tearing it.
- ❑ If jammed paper is torn and remains in the printer, or if paper is jammed in a place not mentioned in this chapter, contact your dealer.



Warning:

Be careful not to touch the fuser, which is marked CAUTION Hot Surface Avoid Contact, or the surrounding areas. If the printer has been in use, the fuser and the surrounding areas may be very hot.

Jam A (fuser unit and top cover)

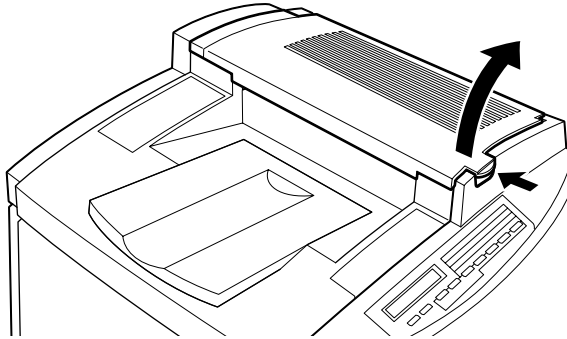
The Jam A error message appears on the LCD panel when there is a paper jam at the fuser unit or the top cover. If you don't find paper jammed in the fuser unit, always check the top cover and vice-versa.

Clearing the fuser unit

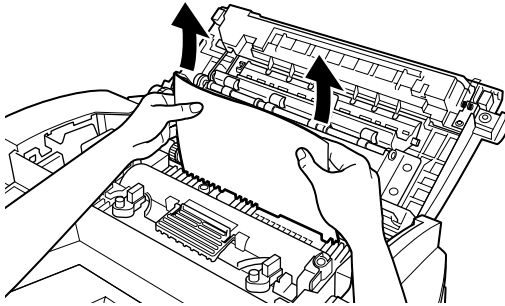
When there is paper jammed at the fuser unit, the LCD panel displays the Jam A error message.

Follow these steps to clear paper jams in the fuser unit:

1. Push the lever and lift the printer's top cover.



2. Gently remove any jammed paper with both hands.

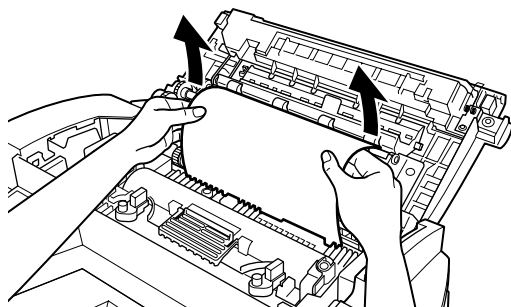


Caution:

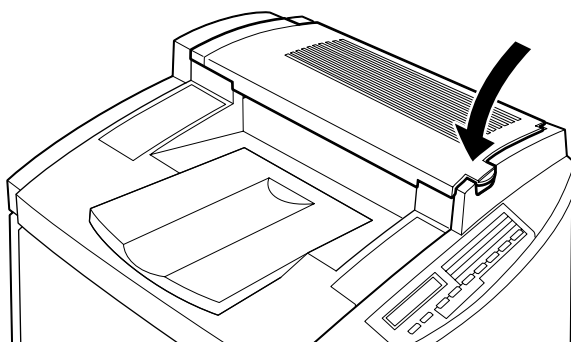
Be careful not to touch the fuser, which is marked CAUTION Hot Surface Avoid Contact, or the surrounding areas. If the printer has been in use, the fuser and the surrounding areas may be very hot.

Note:

The jammed paper may be in the position illustrated below. Gently pull the jammed paper out with both hands.



3. Close the top cover until it clicks.



Clearing the top cover

When there is paper jammed at the top cover, the LCD panel displays the **Jam A** error message.

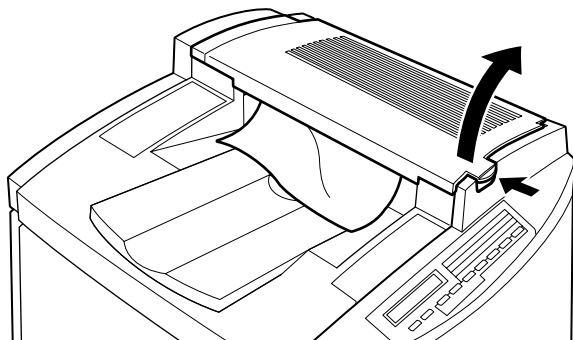


Caution:

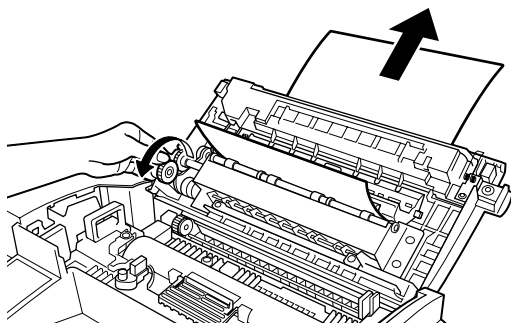
Even if you see part of the jammed paper in the output tray, do not pull it out from the output tray. Follow the procedures in this section to clear the jammed paper.

Follow these steps to clear paper jams in the printer's top cover:

1. Push the lever and lift the printer's top cover.



2. Rotate the gear in the counterclockwise direction until the jammed paper is totally removed from the paper path in the top cover.

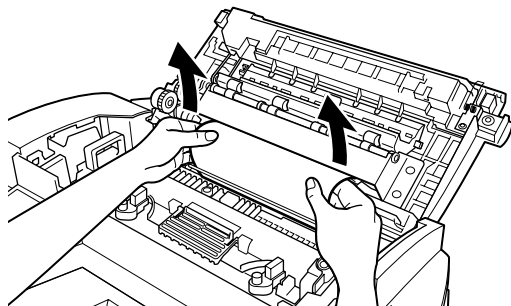


Caution:

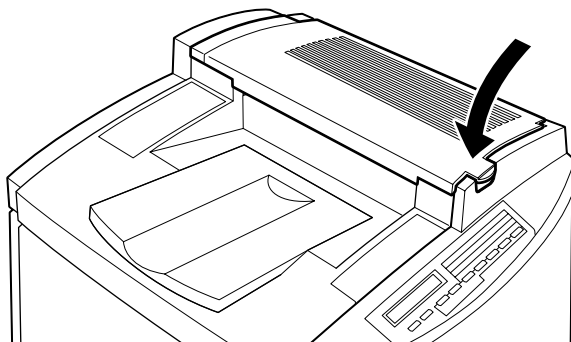
Be careful not to touch the fuser, which is marked **CAUTION Hot Surface Avoid Contact**, or the surrounding areas. If the printer has been in use, the fuser and the surrounding areas may be very hot.

Note:

If paper is jammed at the top cover while using the optional Duplex Unit, the jammed paper may be in the position illustrated below. Gently pull out the jammed paper with both hands, making sure not to tear the paper.



3. Close the top cover until it clicks.

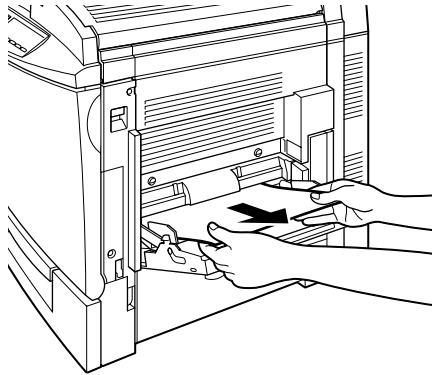


Jam B (MP tray)

When there is paper jammed at the MP tray, the LCD panel displays the **Jam B** error message.

Follow these steps to clear paper jams at the MP tray:

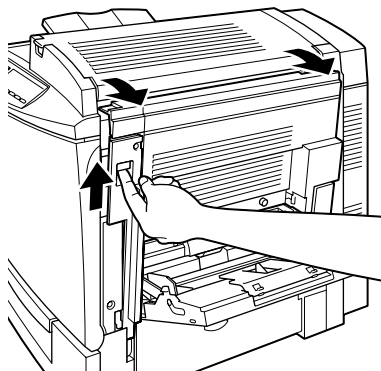
1. Pull the jammed paper out gently.



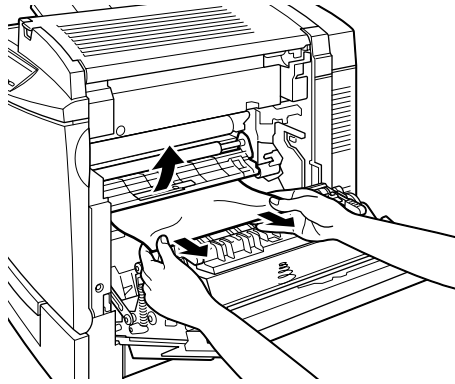
Note:

If the jammed paper feels tight, do not pull it out by force. Proceed to the next step.

2. Open the right side cover. Be careful not to tear the jammed paper.



3. Lift the inner panel by its handle and remove any jammed paper inside. Then close the panel.



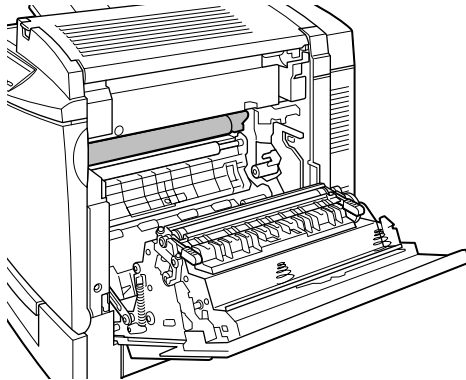
Note:

If paper is torn, be sure to remove all torn pieces.

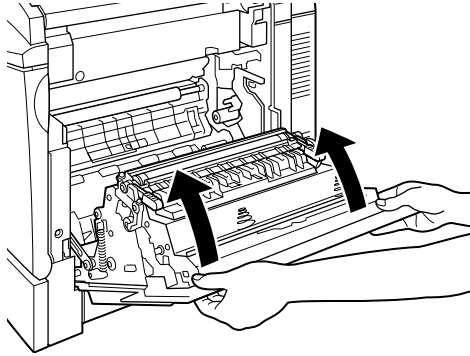


Warning:

Be careful not to touch the transfer belt unit as it gets hot during use.



4. Close the right side cover.



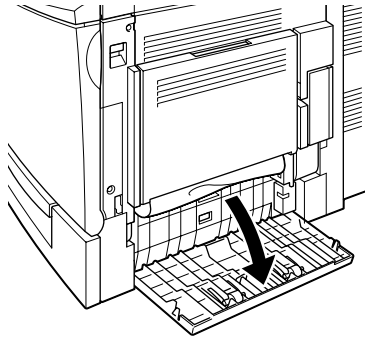
When the paper jam is cleared completely and the printer cover closed, the jammed page's print data is automatically reprinted.

Jam C1 (standard lower cassette)

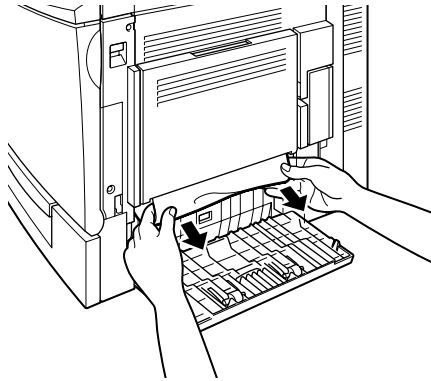
When there is paper jammed at the standard lower cassette, the LCD panel displays the **Jam C1** error message.

Follow these steps to clear paper jams in the standard lower cassette:

1. Open the standard lower cassette's right cover.



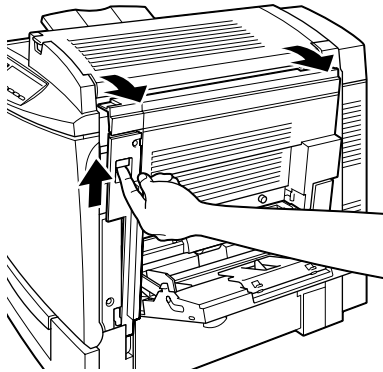
2. Gently pull out any jammed paper with both hands, then close the standard lower cassette's right cover.



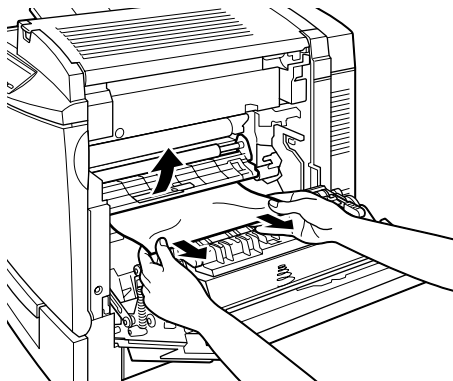
Note:

If the jammed paper has fed part way into the main paper path and is difficult to remove, proceed to the next step.

3. Open the printer's right cover.



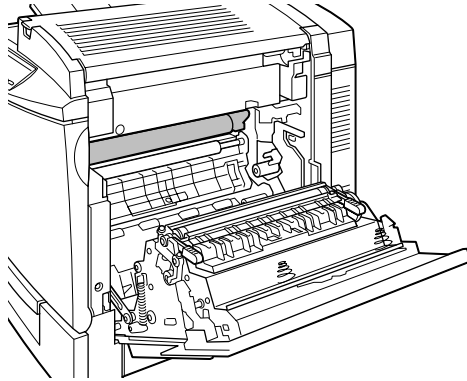
4. Lift the inner panel by its handle and remove any jammed paper inside. Then close the panel.



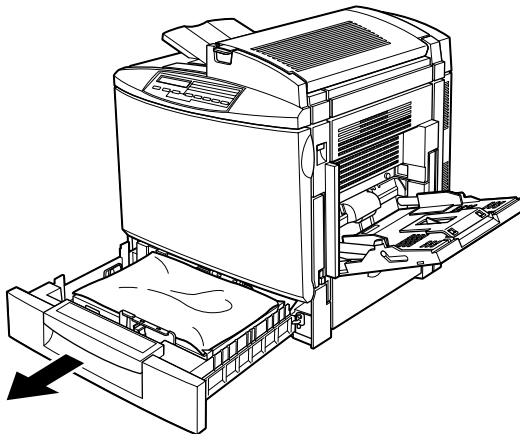


Warning:

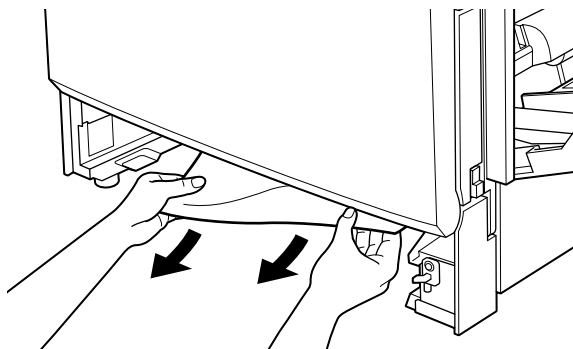
Be careful not to touch the transfer belt unit as it gets hot during use.



5. Remove the paper cassette from the printer and discard any crumpled paper.



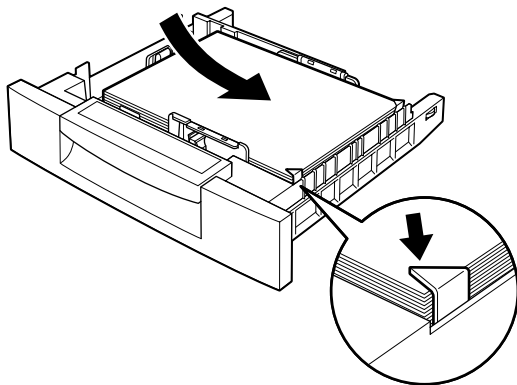
6. Gently remove any paper that has fed part way into the printer.



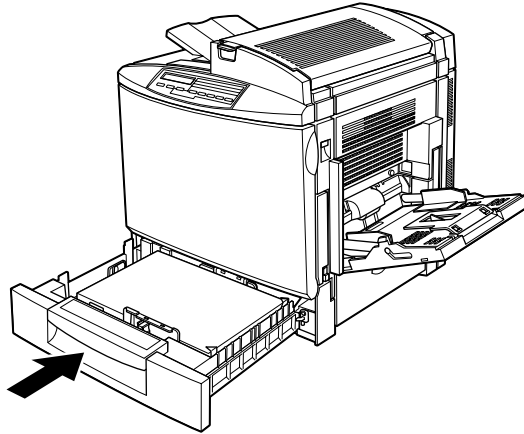
Note:

If paper is torn, be sure to remove all pieces.

7. Remove the stack of paper from the cassette, tap it on a flat surface to even out the edges, then reinsert it into the paper cassette. Be sure the paper is evenly aligned and the top of the stack is below the metal retaining clip and the maximum paper mark.



8. Reinsert the paper cassette back into the printer.



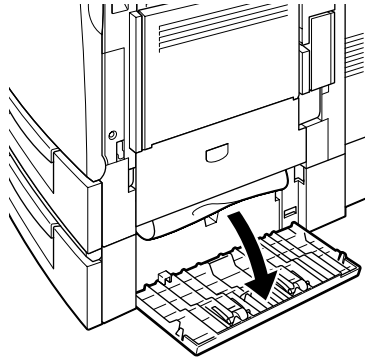
When the paper jam is cleared completely, the jammed page's print data is automatically reprinted.

Jam C2 (optional 500-Sheet Paper Cassette Unit)

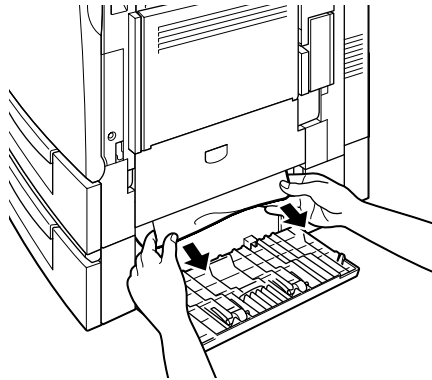
When there is paper jammed at the optional 500-Sheet Paper Cassette Unit, the LCD panel displays the **Jam C2** error message. Clearing paper jams at this unit is very similar to clearing paper jams in the standard lower cassette.

Follow these steps to clear paper jams in the optional 500-Sheet Paper Cassette Unit:

1. Open the 500-Sheet Paper Cassette Unit's right cover.



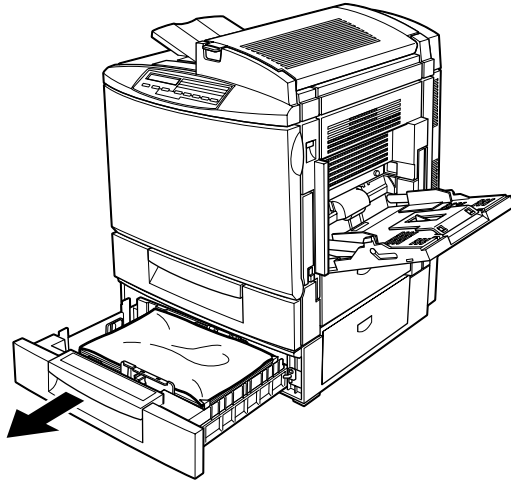
2. Gently pull out any jammed paper with both hands, then close the 500-Sheet Paper Cassette Unit's right cover.



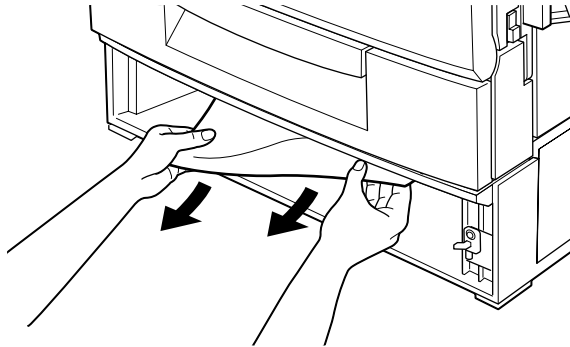
Note:

If the jammed paper has fed part way into the standard lower cassette, refer to steps 1 to 4 of the procedure for clearing paper jams in the standard lower cassette before proceeding to the next step. For instructions, see "Jam C1 (standard lower cassette)" on page 7-10.

3. Remove the paper cassette from the unit and discard any crumpled paper.



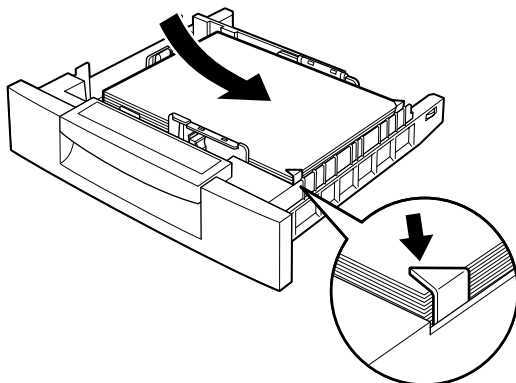
4. Gently remove any paper that has fed part way into the printer.



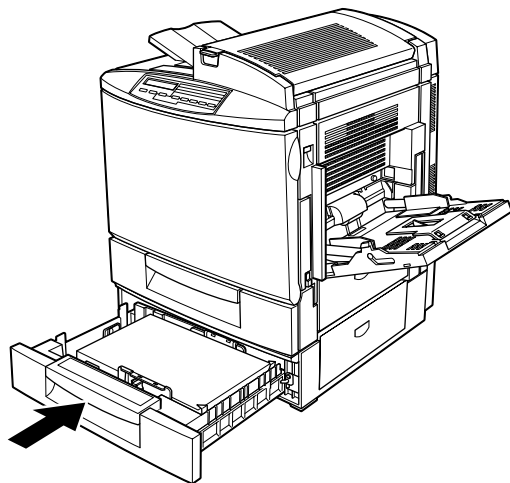
Note:

If paper is torn, be sure to remove all pieces.

5. Remove the stack of paper from the cassette, tap it on a flat surface to even out the edges, then reinsert it into the paper cassette. Be sure the paper is evenly aligned and the top of the stack is below the metal retaining clip and the maximum paper mark.



6. Reinsert the paper cassette back into the unit.



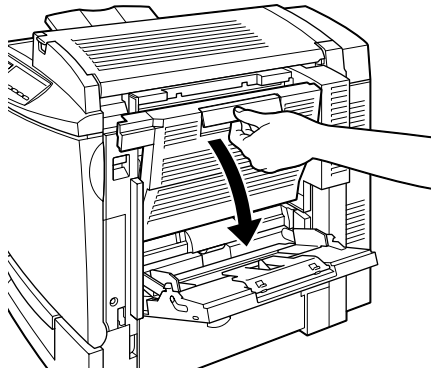
When the paper jam is cleared completely, the jammed page's print data is automatically reprinted.

Jam DM (optional Duplex Unit)

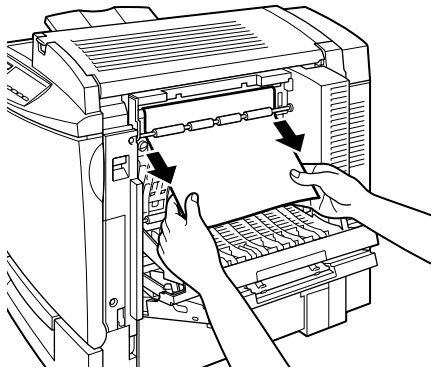
When there is paper jammed in the Duplex Unit, the LCD panel displays the **Jam DM** error message.

Follow these steps to clear paper jams in the Duplex Unit:

1. Open the cover of the Duplex Unit.



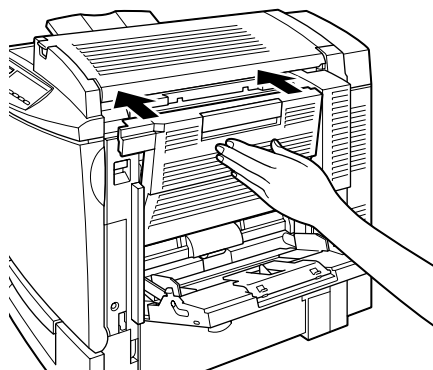
2. Gently remove any jammed or crumpled paper.



Note:

- ❑ *If the paper is torn, be sure to remove all pieces.*
- ❑ *Open the printer's right side cover if you are unable to remove the jammed paper from within the Duplex Unit. See "Clearing the main paper path" on page 7-20 for more information.*

3. Close the cover of the Duplex Unit.



When the paper jam is cleared completely, the jammed page's print data is automatically reprinted.

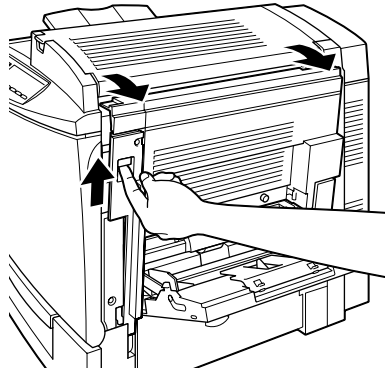
Clearing the main paper path

When paper is jammed at the main paper path, the LCD panel displays the **Jam B** error message.

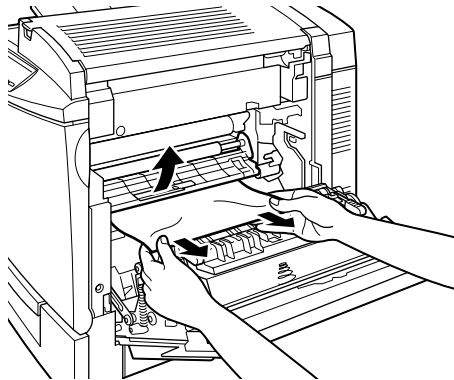
The **Jam B** message also indicates paper jammed at the MP tray. It is always good to check the main paper path for paper jams even if the jam seems to be located at the MP tray, the standard lower cassette, the fuser unit, or the optional Duplex Unit because these components are all connected to and share the same main paper path.

Follow these steps to clear paper jams in the main paper path:

1. Remove any paper that is loaded in the MP tray.
2. Open the printer's right cover.



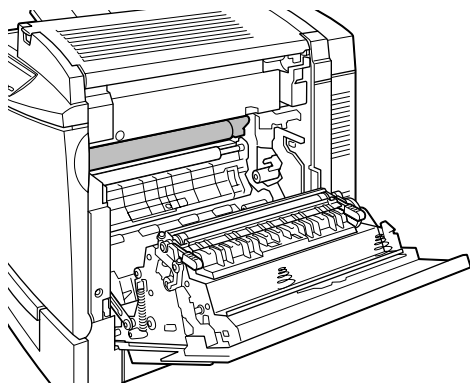
3. Lift the inner panel by its handle and remove any jammed paper inside. Then close the panel.





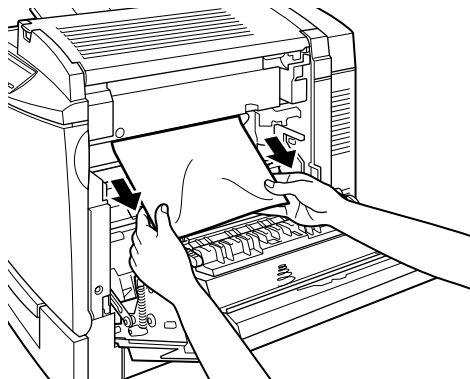
Warning:

Be careful not to touch the transfer belt unit as it gets hot during use.

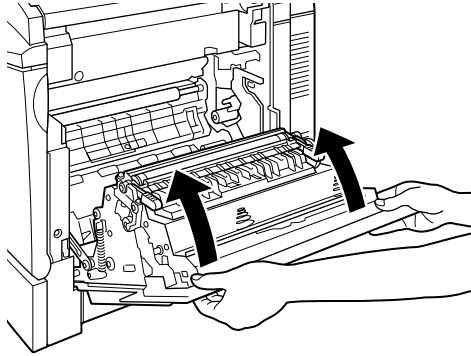


Note:

Paper may be jammed in the location shown below. Gently remove any jammed paper with both hands.



4. Close the printer's right cover.



Problems and Solutions

You can solve most printer problems with the help of this guide. Look through this section to find the kind of problem you have, then try the recommended solutions in the order they are presented until your problem is solved.

Note:

If the problem persists after you work through the suggestions in this section, contact your dealer for assistance.

Operational problems

The On Line light does not turn on when you turn the printer on.

Cause	What to do
The power cord may not be properly plugged into the electrical outlet.	Turn off the printer and check the power cord connections between the printer and the electrical outlet. Then turn the printer back on.
The electrical outlet may be controlled by an outside switch or an automatic timer.	Make sure that the switch is turned on or plug another electrical device into the outlet to check whether the outlet is operating properly.

The printer does not print and the On Line light is off.

Cause	What to do
The printer is offline.	Press the On Line button once to put the printer online (the On Line light turns on).

The On Line light is on but nothing prints.

Cause	What to do
Your computer may not be properly connected to the printer.	Perform the procedure described in "Testing and Connecting to the Computer" in the <i>Setup Guide</i> .
The interface cable may not be plugged in securely.	Check both ends of the interface cable between the printer and the computer. If you are using the parallel interface, be sure to secure the connector using the wire retaining clips.
You may not be using the correct interface cable.	If you are using the parallel interface, make sure that the cable is a double-shielded, twisted-pair interface cable no more than six feet in length.
Some error may have occurred.	Check the LCD panel to see if an error message appears.
Your application software is not properly set up for your printer.	Make sure that your printer is selected in your application software.
Your computer system's memory is too small to handle the volume of data in your document.	Try reducing the image resolution of your document in the application software, or install more memory in your computer if you can.

Printout problems

The font selected in the application software won't print.

Cause	What to do
You may be using printer fonts substituted for specified TrueType fonts.	In the printer driver, select the Print TrueType fonts as bitmap radio button in the Extended Settings dialog box accessed through the Optional Settings tab.
The selected font is not supported by your printer.	Make sure that you have installed the correct font. See "Available Fonts" on page D-2 for more information.

Some or all of the printout is garbled or printed as asterisks.

Cause	What to do
The interface cable may not be plugged in securely.	Make sure that both ends of the interface cable are plugged in securely.
You may not be using the correct interface cable.	If you are using the parallel interface, make sure that the cable is a double-shielded, twisted-pair interface cable no more than six feet in length.
The emulation setting for the port may not be correct.	Specify the emulation mode by using SelecType. See "Emulation Menu" on page 4-14.
If the printer still does not print correctly, contact your dealer or a qualified service representative.	

Position of the printout is not correct.

Cause	What to do
The page length and margins are set incorrectly in your application software.	Make sure that you are using the correct page length and margin settings in your application software.

Graphics don't print correctly.

Cause	What to do
The printer emulation setting in your software program may be incorrect.	Make sure that your application software is set for the printer emulation you are using. For example, if you are using the LJ4 emulation mode, make sure that your software program is set to use a LaserJet 4 printer.
You may need more memory.	Graphics require large amounts of memory. For more information, see "Memory problems" on page 7-34.

Print quality problems

The background is dark or dirty.

Cause	What to do
The paper path inside the printer may be dusty.	Clean internal printer components by printing three pages with only one character per page.
There may be a problem with the photoconductor unit.	Replace the photoconductor unit. See “Replacing the photoconductor unit, waste toner collector, and print head filter” on page 6-12.
You may not be using the correct type of paper for your printer.	If the surface of your paper is too rough, printed characters may appear distorted or broken. EPSON special paper, or smooth, high-quality copier paper is recommended for best results. See “Available Paper” on page 2-2 for information on choosing paper.

Black or white bands appear in the printout.

Cause	What to do
The paper path inside the printer may be dusty.	Clean internal printer components by printing three pages with only one character per page.
There may be a problem with the photoconductor unit.	Replace the photoconductor unit. See “Replacing the photoconductor unit, waste toner collector, and print head filter” on page 6-12.

Uneven print quality on the page

Cause	What to do
Your paper may be moist or damp.	Do not store paper in a humid or damp environment.
There may be a problem with the photoconductor unit.	Replace the photoconductor unit. See "Replacing the photoconductor unit, waste toner collector, and print head filter" on page 6-12.

Toner smudges

Cause	What to do
Your paper may be moist or damp.	Do not store your paper in a humid or damp environment.
You may not be using the correct type of paper for your printer.	EPSON special paper or smooth, high-quality copier paper is recommended for best results. See "Available Paper" on page 2-2 for information on choosing paper.
The paper path inside the printer may be dusty.	Clean internal printer components by printing three pages with only one character per page.
There may be a problem with the photoconductor unit.	Replace the photoconductor unit. See "Replacing the photoconductor unit, waste toner collector, and print head filter" on page 6-12.

Missing areas on printed image

Cause	What to do
Your paper may be moist or damp.	This printer is sensitive to moisture absorbed by the paper. The higher the moisture content in the paper, the lighter the printed output. Do not store paper in a humid or damp environment.
You may not be using the correct type of paper for your printer.	If the surface of your paper is too rough, printed characters may appear distorted or broken. EPSON special paper or smooth, high-quality copier paper is recommended for best results. See "Available Paper" on page 2-2 for information on choosing paper.

Completely blank pages

Cause	What to do
The printer may have loaded more than one sheet at a time.	Remove the paper stack and fan it. Tap it on a flat surface to even the edges. Then reload the paper.
There may be no toner in the developer cartridge.	If a message indicates that the amount of toner is low on the LCD panel or in the EPSON Status Monitor 3 utility, see "Replacing a developer cartridge" on page 6-6.
There may be a problem with the photoconductor unit.	Replace the photoconductor unit. See "Replacing the photoconductor unit, waste toner collector, and print head filter" on page 6-12.
The problem may be with your application software or interface cable.	Print out a status sheet by using the control panel. Press the Enter button, wait for Status Sheet to appear on the LCD panel, then press Enter again. If blank pages continue to appear, the problem may be with the printer. Turn off the printer and contact your dealer.
The Paper Type setting may be wrong for the media you loaded. You may have loaded plain paper when the Paper Type setting is Transparency, or vice versa.	Load the printer with the correct media and press the Continue button.

The printed image is light or faint

Cause	What to do
Your paper may be moist or damp.	The higher the moisture content in the paper, the lighter the printed output. Do not store paper in a humid or damp environment.
The Toner Save mode may be on.	Turn off the Toner Save mode using the printer driver.
There may be a problem with the photoconductor unit.	Replace the photoconductor unit. See "Replacing the photoconductor unit, waste toner collector, and print head filter" on page 6-12.

Non-printed side of the page is dirty

Cause	What to do
Toner may have spilled onto the paper feed path.	Clean internal printer components by printing three pages with only one character per page.

Memory problems

The message `Collate was disabled` appears on the LCD panel.

Cause	What to do
The printer has insufficient memory to collate the print job. Only one copy was printed.	Increase printer memory. See “Memory Module” on page 5-29 for details.

The message `Duplex Mem Overflow` appears on the LCD panel.

Cause	What to do
There is not enough memory for duplex printing. The printer prints only on the top side and ejects the paper.	<p>If <code>Auto Cont</code> is set to <code>Off</code> in the <code>SelecType Config Menu</code>, either press <code>Continue</code> or reset the printer by pressing the <code>ALT</code> and <code>Reset</code> buttons at the same time.</p> <p>If <code>Auto Cont</code> is set to <code>On</code> in the <code>SelecType Config Menu</code>, the error is automatically corrected after a certain period of time.</p>

The message `Image Optimum` appears on the LCD panel.

Cause	What to do
The printer has insufficient memory to print the page at the specified print quality.	<p>The printer automatically reduces the print quality so that it can continue printing. If the quality of the printout is not acceptable, try simplifying the page by limiting the number of graphics or reducing the number and size of fonts.</p> <p>Lower the resolution setting to 300 dpi.</p>

The message `Mem Overflow` appears on the LCD panel.

Cause	What to do
The printer has insufficient memory to execute the current task.	<p>To correct the error, press the <code>Continue</code> button on the control panel. If the message remains, reset the printer as described in "Resetting the Printer" on page 7-52. You can also clear this message by turning the printer off, waiting 10 seconds, and then turning it back on.</p>

The message `Need Memory` appears on the LCD panel.

Cause	What to do
The printer has insufficient memory available for the current task.	To correct the error, press the <code>CONTINUE</code> button on the control panel. If the message remains, reset the printer as described in “Resetting the Printer” on page 7-52. You can also clear this message by turning the printer off, waiting 10 seconds, and then turning it back on.
You may need to increase the amount of printer memory.	For more information on adding memory, see “Memory Module” on page 5-29.

The message Print Overrun appears on the LCD panel.

Cause	What to do
<p>The required time to process the print data exceeds the print engine speed because the current page is too complex.</p>	<p>To correct the error, press the Continue button to resume printing. If this message appears again, turn on Page Protect in the SelecType Config Menu.</p> <p>If you continue to receive this message when printing a particular page, try simplifying the page by limiting the number of graphics or reducing the number and size of fonts.</p>
<p>You may need to increase the amount of printer memory to avoid getting this error repeatedly.</p>	<p>For more information on adding memory, see "Memory Module" on page 5-29.</p>

Paper handling problems

Paper does not feed from the proper paper source.

Cause	What to do
The paper source setting may not be correct.	Make sure that you have selected the correct paper source in your application software.
There may be no paper in the paper cassette or MP tray.	Load it with paper.
Too many sheets may be loaded in the paper cassette or MP tray.	Make sure that you have not tried to load too many sheets of paper. The MP tray accommodates 150 sheets of paper, while the standard lower cassette can hold a maximum of 500 sheets of paper.
If paper does not feed from the optional 500-Sheet Paper Cassette Unit, the unit may not be installed properly.	For instructions on installing the unit, see "Installing the 500-Sheet Paper Cassette Unit" on page 5-2.
The paper type settings in SelecType do not match the settings of the printer driver. This happens when the SelecType Paper Source setting is set to Auto.	Set the correct paper type for each paper source in the SelecType Tray Menu. Then set the feeding priority by using the MP Mode setting.

Status and Error Messages

This section contains a list of error messages shown on the LCD panel, giving a brief description of each message and suggestions for correcting the problem. Not every message shown on the LCD panel indicates a problem as some are status messages.

Calibrating Printer

The printer automatically calibrates itself when any of its covers is opened and when there is no paper jammed inside. This is not an error message, and will clear itself after one minute.

Can't Print Duplex

The printer has encountered problems during duplex printing. Make sure you are using an appropriate type and size of paper for the Duplex Unit. The problem could also be a result of incorrect settings for the paper source you are using. Pressing the Continue button will resume single-side printing.

Check Duplex P-size

The size of paper being printed on is different from the specified paper size during duplex printing and printing stops. Load the specified paper source with the correct paper size. Then open the cover of the Duplex Unit and remove any jammed paper. The jammed page's print data is automatically reprinted once you close the cover of the Duplex Unit.

Check Media Type

You have loaded media other than transparencies when the Paper Type setting in the printer driver is Transparency. The printer ejects the sheet without printing on it. Load transparencies into the specified paper source, then press the Continue button.

Alternatively, you may have set the Paper Type to Plain, but loaded transparencies instead. The printer ejects the sheet without printing on it. Load plain paper into the specified paper source, then press the Continue button.

Check Paper Size

The paper size setting is different from the size of paper loaded in the printer. Check to see if the correct size of paper is loaded in the specified paper source, then press the Continue button.

Check Paper Type

This message appears when Paper Type is specified with Paper Source set to Auto and there is no paper feed unit with paper that matches the Paper Size and Paper Type settings.

Clean Sensor

The engine sensor is dirty. Open the front cover and remove the waste toner collector temporarily. Turn the large green lever counterclockwise to an upright position, then return it to its original position. Reinstall the waste toner collector and close the front cover to clear this error.

Collate was disabled

Printing by specifying the number of copies is no longer possible due to a lack of memory (RAM) or free disk space on the optional Hard Disk Drive. If this error occurs, print only one copy and end printing.

Cooling Down

This message is displayed when you try to print on transparencies when the printer's internal temperature is too high. The printer needs to cool down before it will resume printing. Wait for about one minute and printing will resume.

Cover C1 Open

The side cover of the standard lower cassette (cover C1) is open. Close the cover and the error is automatically cleared.

Cover C2 Open

The cover of the optional 500-Sheet Paper Cassette Unit is open. Close the cover and the error is automatically cleared.

Duplex Mem Overflow

There is not enough memory for duplex printing. The printer prints only on the top side and ejects the paper. To correct this error, follow the directions below.

If `Auto Cont` is set to `Off` in the `SelecType Config Menu`, either press `Continue` or reset the printer by pressing the `ALT` and `Reset` buttons at the same time.

If `Auto Cont` is set to `On` in the `SelecType Config Menu`, the error is automatically corrected after a certain period of time.

Format Error ROM A/Format Error ROM B

An unformatted ROM module has been inserted. If the ROM module has been formatted, but is unreadable, format it again. If the ROM is still unreadable after reformatting, take it to your dealer for repair or replacement.

To clear this error, either press the `Continue` button or turn off the printer and remove the ROM.

Image Optimum

There is insufficient memory to print the page at the specified print quality. The printer automatically lowers the print quality so that it can continue printing. If the quality of the printout is not acceptable, try simplifying the page by limiting the number of graphics or reducing the number and size of fonts.

Press the Continue button or reset the printer to clear the message.

Turn the Image Optimum setting off in the SelectType Config Menu if you do not want the printer to automatically lower the print quality to continue printing.

You may need to increase the amount of printer memory to be able to print at the desired print quality for your document. For more information on adding memory, see “Memory Module” on page 5-29.

Install Fuser

There is no fuser unit installed, or the fuser unit is not installed properly. Install the fuser unit if it is not installed.

If a fuser unit is already installed, open the printer’s top cover, remove the fuser oil roll, and then remove the fuser unit. Reinsert the fuser unit, making sure it fits properly into the slot. Reinstall the fuser oil roll and close the top cover. The error automatically clears itself if the fuser unit is properly installed and the printer rebooted.

Install Oil Roll

The fuser oil roll is not installed. Install a fuser oil roll into the printer. See “Replacing the fuser oil roll” on page 6-31 for instructions.

Install Photoconductor

The photoconductor unit is not installed, or is installed incorrectly. Install the photoconductor unit if it is not installed.

If the photoconductor unit is already installed, try removing it and then reinstalling it into the printer. See “Replacing the photoconductor unit, waste toner collector, and print head filter” on page 6-12 for instructions.

Install Transfer Belt

There is no transfer belt unit installed in the printer. Install a transfer belt unit into the printer. See “Replacing the transfer belt unit” on page 6-38 for instructions.

Install Waste T Box

The waste toner collector is not installed, or is installed incorrectly. If there is no waste toner collector installed, install one into the printer. If there is a waste toner collector already installed, try removing it and reinstalling it. See “Replacing the waste toner collector” on page 6-35 for instructions.

Invalid AUX I/F Card

This message means that the printer cannot communicate with the installed optional interface card. Turn off the printer, remove the card, then reinstall it.

Invalid HDD

Either the optional Hard Disk Drive is damaged or it cannot be used with this printer. Turn off the power and remove the Hard Disk Drive.

Invalid PS3

An optional PostScript 3 ROM module that cannot be used on this printer is installed. Turn off the power and remove the module.

Invalid ROM A/Invalid ROM B

The printer cannot read the installed optional ROM module. Turn off the power and remove the ROM module.

Jam xxxx

The location, one of Feed, Exit, or Duplex, where the paper jam occurred is displayed in place of xxxx. If a paper jam occurs at two or more locations simultaneously, the corresponding multiple locations are displayed.

The table below summarizes the various paper jam error messages and provides you with information on how to clear them.

Feed:	<p>Jam B, Jam C1, Jam C2</p> <p>B: MP tray or main paper path C1: side cover of the standard lower cassette C2: side cover of the 500-Sheet Paper Cassette Unit</p> <p>Paper is jammed at the corresponding loading entrance area.</p> <p>For instructions on how to remove jammed paper at the paper feed areas, see "Jam B (MP tray)" on page 7-7, "Clearing the main paper path" on page 7-20, "Jam C1 (standard lower cassette)" on page 7-10, and "Jam C2 (optional 500-Sheet Paper Cassette Unit)" on page 7-15.</p>
Exit:	<p>Jam A</p> <p>Paper is jammed in the output area. Check by opening the printer's top cover.</p> <p>For instructions on how to remove jammed paper at the paper exit area, see "Jam A (fuser unit and top cover)" on page 7-3.</p>
Duplex:	<p>Jam DM</p> <p>Paper is jammed at the Duplex Unit. Check by opening the cover of the unit.</p> <p>For instructions on how to remove jammed paper at the Duplex Unit, see "Jam DM (optional Duplex Unit)" on page 7-19.</p>

Manual Feed XXX YYY

XXX: The selected paper source is indicated.

YYY: The selected paper size is indicated.

The printer is waiting for media to be inserted manually.

Mem Overflow

The printer has insufficient memory to execute the current task. To correct the error, press the **Continue** button on the control panel. If the message remains, reset the printer as described in “Resetting the Printer” on page 7-52. You can also clear this message by turning the printer off, waiting 10 seconds, and then turning it back on.

Menus Locked

This message appears if you try to change the printer’s settings through the control panel when the buttons are locked. You can unlock them by using the EPSON WinAssist utility or WebAssist. Refer to the *Administrator’s Guide* for information.

Need Memory

The printer has insufficient memory to execute the current task. Add more memory to your printer as described in “Memory Module” on page 5-29.

Oil Roll Near Empty

This message warns you that the fuser oil roll is near the end of its service life. You can continue to print until the **Replace Oil Roll** error message appears, but early replacement is recommended to maintain high print quality.

You can clear this warning by performing one of the following:

- Pressing the **Continue** button.
- Resetting the printer. See “Resetting the Printer” on page 7-52 for instructions.
- Replacing the fuser oil roll. See “Replacing the fuser oil roll” on page 6-31.

Paper Out XXX YYY

XXX: The selected paper source is indicated.

YYY: The selected paper size is indicated.

There is no paper in the specified paper source (XXX). Load paper of the indicated size (YYY) into the paper source.

Paper Set XXX YYY

XXX: The selected paper source is indicated.

YYY: The selected paper size is indicated.

The paper loaded in the specified paper source (XXX) does not match the required paper size (YYY). Replace the loaded paper with the correct size paper and press Continue.

If you press Continue without replacing the paper, the printer will print on the loaded paper even though it does not match the required size.

Print Overrun

The required time to process the print data exceeds the print engine speed because the current page is too complex. Press the Continue button to resume printing. If this message appears again, turn on Page Protect in the SelecType Config Menu.

If you continue to receive this message when printing a particular page, try simplifying the page by limiting the number of graphics or reducing the number and size of fonts.

You can also add more memory to the printer as described in "Memory Module" on page 5-29.

Printer Open

One or more of the printer's covers are open. Make sure that the front cover, top cover, right cover, Duplex Unit cover, and the side covers of the standard and optional lower cassettes are all closed properly. The error clears itself once all the covers are closed.

PS3 Hard Disk full

The writing of PostScript 3 commands on the optional Hard Disk Drive is no longer possible as the amount of space allocated to PostScript 3 on the Hard Disk Drive is used up.

Replace Fuser

The fuser unit has reached the end of its service life. The error automatically clears itself after you replace both the fuser unit and the second transfer roll. See “Fuser unit” on page 6-21 and “Second transfer roll” on page 6-27 for instructions.

Replace Oil Roll

The fuser oil roll has reached the end of its service life. Replace it with a new fuser oil roll. See “Replacing the fuser oil roll” on page 6-31 for instructions.

Replace Photoconductor

The photoconductor unit has reached the end of its service life. You have to replace all items included in the photoconductor kit, which includes the photoconductor unit, the waste toner collector, and the print head filter. See “Photoconductor kit” on page 6-10 for instructions.

The error clears itself once you have replaced all the items and close the front and top covers. The photoconductor level counter is automatically reset.

Replace TransferBelt

The transfer belt unit has reached the end of its service life. Replace it with a new transfer belt unit. See “Replacing the transfer belt unit” on page 6-38 for instructions.

Replace Waste T Box

The waste toner collector is full of toner. Replace it with a new waste toner collector. See “Replacing the waste toner collector” on page 6-35.

The error clears itself after you have replaced the waste toner collector and close the front cover.

Service Req Exxx/Service Req Cxxxx

Exxx/Cxxxx: Any number may be indicated.

A controller error or a print engine error has been detected. Write down the error number shown on the LCD panel and turn off the printer. Wait at least 10 seconds and then turn it back on. If this error still occurs, turn off the printer, unplug the power cord, and contact a qualified service representative.

Worn Fuser

This message warns you that the fuser unit is near the end of its service life. You can continue to print until the `Replace Fuser` error message appears, but early replacement is recommended to maintain high print quality.

You can clear this warning by performing one of the following:

- Pressing the Continue button.
- Resetting the printer. See “Resetting the Printer” on page 7-52 for instructions.
- Replacing the fuser unit and the second transfer roll with new ones.

Worn Photoconductor

This message warns you that the photoconductor unit is near the end of its service life. You can continue to print until the `Replace Photoconductor` error message appears, but early replacement is recommended to maintain high print quality.

You can clear this warning by performing one of the following:

- Pressing the `Continue` button.
- Resetting the printer. See “Resetting the Printer” on page 7-52 for instructions.
- Replacing the photoconductor unit, the waste toner collector, and the print head filter. See “Photoconductor kit” on page 6-10.

Worn Transfer Belt

This message warns you that the transfer belt unit is near the end of its service life. You can continue to print until the `Replace TransferBelt` error message appears, but early replacement is recommended to maintain high print quality.

You can clear this warning by performing one of the following:

- Pressing the `Continue` button.
- Resetting the printer. See “Resetting the Printer” on page 7-52 for instructions.
- Replacing the transfer belt unit with a new one. See “Replacing the transfer belt unit” on page 6-38.

Waste T Box Nearfull

The waste toner collector is nearly full of toner. You can continue to print until the `Replace Waste T Box` error message appears, but early replacement is recommended to maintain high print quality. See “Replacing the waste toner collector” on page 6-35.

Write Error ROM A/Write Error ROM P

This message indicates an internal error in the printer. Reset the printer. If this error persists, consult your dealer.

XXXX Toner Crtg Out

XXXX: The letters C, M, Y, and/or K appear in place of XXXX. C, M, Y, and K stand for Cyan, Magenta, Yellow, and Black respectively.

The indicated (XXXX) developer cartridge is not installed in the printer. Install the appropriate developer cartridge. See "Replacing a developer cartridge" on page 6-6.

When the black developer cartridge is not installed, only K appears on the LCD panel even though other developer cartridges may not be installed as well.

XXXX Toner Low

XXXX: The letters C, M, Y, and/or K appear in place of XXXX. C, M, Y, and K stand for Cyan, Magenta, Yellow, and Black respectively.

The amount of remaining toner in the indicated (XXXX) developer cartridge is very small. You can continue to print until the XXXX Toner Out error message appears, but early replacement is recommended to maintain high print quality. See "Replacing a developer cartridge" on page 6-6.

XXXX Toner Out

XXXX: The letters C, M, Y, and/or K appear in place of XXXX. C, M, Y, and K stand for Cyan, Magenta, Yellow, and Black respectively.

The developer cartridge is out of toner. Press the Continue button to print one more page. If you set the Toner Out setting to Continue in the SelecType Setup Menu, this error message will not be displayed and printing can continue although toner is being depleted. Reset the Toner Out setting to Stop after you replace the developer cartridge.

Although you can continue to print by changing the Toner Out setting, EPSON recommends that you replace the developer cartridge when this message appears to maintain a high print quality.

Hex Dump Mode

Hex Dump mode (also called data dump) is a special feature that makes it easy for experienced users to find the cause of communication problems between the printer and the computer. In the Hex Dump mode, the printer produces an exact printout of the codes it receives.

Follow these steps to print in the Hex Dump mode:

1. Make sure the paper is loaded and the printer is off.
2. Hold down the Form Feed button while you turn on the printer. Make sure you hold the button down until you see the message `HEX DUMP` on the LCD panel.
3. Run any program that causes the printer to print. Your printer prints out all the codes it receives in hexadecimal format.

To turn off the Hex Dump mode, turn off the printer or reset it by pressing and holding down the ALT and Continue buttons at the same time. When `Reset All` appears on the LCD panel, release the buttons.

Resetting the Printer

Reset

Resetting the printer stops printing and clears the current print job received from the active interface. You may want to reset the printer when there is a problem with the print job itself and the printer cannot print successfully.

To reset the printer, hold down the ALT and Reset buttons until **Reset** appears on the LCD panel. Your printer is now reset and ready to receive a new print job.

Reset All

Performing a Reset All stops printing, clears the printer memory, and restores the printer settings to their default values. The print jobs received in printer memory from all interfaces are erased. Current settings and downloaded fonts are also erased.

To perform a Reset All, hold down the Alt and Reset buttons until **Reset All** appears on the LCD panel.

You can also perform a Reset All by turning off the printer.

Note:

Performing a Reset All clears print jobs received from all interfaces. Be careful not to interrupt someone else's job.

Reformatting the Hard Disk Drive

To reformat the Hard Disk Drive, follow the instructions below.

1. Make sure the printer is off.
2. Hold down the Value button while you turn on the printer.

3. When you see the message `Support Mode` on the LCD panel, Select `HDD format` in the support menu.

Note:

- After reformatting the Hard Disk Drive, the printer will automatically reboot.*
- When you want to erase only the fonts installed from the optional Adobe PostScript 3 (PS3), follow steps 1 through 3 above. Select PS3 HDD Init when the optional Adobe PostScript 3 Kit is installed.*
- Other fonts installed from PS3 will also be erased.*
- When installing a Hard Disk Drive from a different printer, reformat it with this function.*

Appendix A

Technical Specifications

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Paper

Since the quality of any particular brand or type of paper may be changed by the manufacturer at any time, EPSON cannot guarantee the quality of any type of paper. Always test samples of paper stock before purchasing large quantities or printing large jobs.

Available paper types

Paper Type	Description
Plain paper	General copier paper (Recycled paper is acceptable*)
Envelopes	No paste and no tape No plastic window (unless specifically designed for laser printers)
Labels	The backing sheet should be covered completely, with no gaps between each label
Thick paper	Weight: 91 to 163 g/m ²
Normal paper	EPSON Color Laser Paper
Transparencies	EPSON Color Laser Transparencies
Colored paper	Non-coated
Letterhead	Paper with preprinted letterhead, provided that the paper and ink are both compatible with laser printers. Paper which printed with laser printer, Ink Jet printer, or other printers cannot be used.

* Use recycled paper only under normal temperature and humidity conditions. Poor quality paper may reduce print quality, cause paper jams and other problems.

Paper type specifications

Plain paper

Weight:	60 to 90 g/m ² , 16 to 24 lb*
Size:	A4 (210 × 297 mm) A5 (148 × 210 mm) B5 (182 × 257 mm) Letter (216 × 279 mm, 8.5 × 11 in.) Half-Letter (140 × 216 mm, 5.5 × 8.5 in.) Government Letter (203 × 267 mm, 8.5 × 10.5 in.) Executive (184 × 267 mm, 7.25 × 10.5 in.) Custom (92 to 216 mm × 148 to 297 mm)
Paper Sources:	MP tray for all sizes Standard lower cassette for A4, Letter Optional 500-Sheet Paper Cassette Unit for A4, Letter

* lb: Ream Weight (lb/500 sheets/17 in. × 22 in.)

Envelopes

Size:	Monarch (98 × 191 mm, 3 7/8 × 7 1/2 in.) Commercial 10 (105 × 241 mm, 4 1/8 × 9 1/2 in.) DL (110 × 220 mm) C6 (114 × 162 mm) C5 (162 × 229 mm) International B5 (176 × 250 mm, 7 × 9.8 in.)
Paper Source:	MP tray

Labels

Weight: 91 to 163 g/m², 24.2 to 43.3 lb
Size: 92 to 216 mm × 148 to 297 mm
Paper Source: MP tray

Thick paper

Weight: 91 to 163 g/m², 24.2 to 43.3 lb
Size: 92 to 216 mm × 148 to 297 mm
Paper Source: MP tray

EPSON Color Laser Paper

Size: A4 (210 × 297 mm)
Letter (8.5 × 11 inches)
Paper Sources: MP tray
Standard lower cassette
Optional 500-Sheet Paper Cassette Unit

EPSON Color Laser Transparencies

Size: A4 (210 × 297 mm)
Letter (8.5 × 11 inches)
Paper Source: MP tray

Printable area

4-mm minimum margin on all sides

Note:

The printable area varies, depending on the emulation mode in use.

Printer

General

Printing method:	Laser beam scanning and dry electrophotographic process
Resolution:	600 × 600 dpi, 300 × 300 dpi,
Continuous printing speed (with A4/Letter):	
Color printing:	5 pages per minute or more
Black only printing:	20 pages per minute or more
First print (with A4/Letter):	
Color printing:	Less than 25 seconds
Black only printing:	Less than 16 seconds
Warm-up time:	About 160 seconds (220V) or 150 seconds (120V) at normal temperature
Paper feed:	Automatic or manual feed
Paper feed alignment:	Center alignment for all sizes

Input paper supply:

MP tray: Up to 150 sheets of plain paper, EPSON Color Laser Paper
Up to 10 envelopes
Up to 50 sheets of labels, thick paper, or transparencies

Standard lower cassette: Up to 500 sheets of plain paper, EPSON Color Laser Paper

Optional 500-Sheet Paper Cassette Unit: Up to 500 sheets of plain paper, EPSON Color Laser Paper

Paper output: For all paper types

Paper output capacity: Up to 500 sheets of plain paper, EPSON Color Laser Paper

Internal emulation: HP listed LaserJet 4 emulation (LJ4 mode)
HP-GL/2 emulations (GL2 mode)
ESC/P2 24-pin printer emulation (ESCP2 mode)
ESC/P 9-pin printer emulation (FX mode)
IBM Proprinter emulation (I239Xmode)

Resident fonts: 49 scalable fonts, and seven bitmap fonts

RAM: 32 MB, expandable up to 512 MB
(you need to remove the standard 32 MB module and install two 256 MB modules to expand your printer memory to 512 MB)

Environmental

Temperature:	Operation:	10 to 32 °C (50 to 90 °F)
	Storage:	0 to 35 °C (32 to 95 °F)
Humidity:	Operation:	15 to 85% RH
	Storage:	30 to 85% RH
Altitude:	2,500 meters (8,200 feet) maximum	

Safety approvals

Safety standards:

U.S. model:	UL 1950 CSA C22.2 No.950
European model:	Directive 73/23/EEC EN60950

EMC:

U.S. model:	FCC part 15 subpart B class B
European model:	Directive 89/336 /EEC EN 55022 (CISPR Pub. 22) class B EN 50082-1 IEC 60801-2 IEC 60801-3 IEC 60801-4 EN 61000-3-2 EN 61000-3-3
Australian model:	AS/NZS 3548 class B

Laser safety

This printer is certified as a Class 1 laser product under the U.S. Department of Health and Human Services (DHHS) Radiation Performance Standard according to the Radiation Control for Health and Safety Act of 1968. This means that the printer does not produce hazardous laser radiation.

Since radiation emitted by the laser is completely confined within protective housings and external covers, the laser beam cannot escape from the machine during any phase of user operation.

CDRH regulations

The Center for Devices and Radiological Health (CDRH) of the U.S. Food and Drug Administration implemented regulations for laser products on August 2, 1976. Compliance is mandatory for products marketed in the United States. The label shown below indicates compliance with the CDRH regulations and must be attached to laser products marketed in the United States.

This laser product conforms to the applicable
requirement of 21 CFR
Chapter I, subchapter J.

SEIKO EPSON CORP.
Hirooka Office
80 Hirooka, Shiojiri-shi, Nagano-ken,
Japan

MANUFACTURED:

Mechanical

Dimensions and weight:	Height:	511 mm (20.1 inches)
	Width:	463 mm (18.2 inches)* *When extending all trays, 620 mm (24.4 inches)
	Depth:	548 mm (21.6 inches)
	Weight:	Approx. 45 kg (about 99.2 lb) excluding options Approx. 39.5 kg (about 86 lb) excluding options and consumables
Durability:	5 years or 500,000 sheets, whichever comes first	

Electrical

	110 V/120 V Model	220 to 240 V Model
Voltage	120 V 10%	220 V/240 V 10%
Rated frequency	50 Hz \pm 3 Hz /60 Hz \pm 3 Hz	50 Hz \pm 3 Hz /60 Hz \pm 3 Hz
Rated current	Less than 8 A	Less than 6 A
Power consumption	Less than 1,000 W	Less than 1,100 W
Power consumption in standby mode	Less than 45 W	Less than 45 W

Interfaces

Parallel interface

The table below shows parallel (IEEE 1284-I compliant) interface connector pin assignments. The column heading “Direction” refers to the direction of signal flow as viewed from the printer.

Pin No.	Direction	IEEE 1284-B connector		
		Compatibility	Nibble	ECP
1	IN	nStrobe	HostClk	
2	IN/OUT	DATA1		
3	IN/OUT	DATA2		
4	IN/OUT	DATA3		
5	IN/OUT	DATA4		
6	IN/OUT	DATA5		
7	IN/OUT	DATA6		
8	IN/OUT	DATA7		
9	IN/OUT	DATA8		
10	OUT	nACK	PtrClk	PeriphClk
11	OUT	Busy	PrtBusy	PeriphAck
12	OUT	PError	AckDataReq	nAckReverse
13	OUT	Select	Xflag	
14	IN	nAutoFd	HostBusy	HostAck
15	-	NC		
16	-	GND		
17	-	CG		
18	-	PeripheralLogic High		
19 - 30	-	GND		

Pin No.	Direction	IEEE 1284-B connector		
		Compatibility	Nibble	ECP
31	IN	nInIt		nReverse Request
32	OUT	nFault	nDataAvail	nPeriph Request
33	-	GND		
34	-	NC		
35	-	+5V		
36	IN	nSelectIn	IEEE1284 Active	

nstrobe/HostClk

Compatibility mode: Latch pulse used to read in print data.
When low, data is valid.

Negotiation phase: Latch pulse used to read in extensibility request values.

Nibble mode: Always high.

ECP mode: Used to transfer data and addresses from the host to the printer with handshaking via PeriphAck (Busy).

DATA 1 to DATA 8 (bidirectional, but may always be an input if ECP or EPP mode is not supported)

Compatibility mode: Forward channel data.

Negotiation phase: Extensibility request value.

Nibble mode: Not used.

ECP mode: Bidirectional data.

nACK/PtrClk/PeriphClk

All modes:	DATA 8 is the MSB, DATA 1 is the LSB.
Compatibility mode:	Acknowledgment low pulse in order to indicate that data was transferred from the host.
Negotiation phase:	Low signal indicates IEEE 1284 is supported; set to high to indicate that the Xflag and “data available” flag are valid.
Transfer phase:	Reverse data in the nibble mode. A low signal indicates that the nibble data is valid.
Reverse idle phase:	When switched from low to high, generates an interrupt that notifies the host that there is data available.
ECP mode:	Used to transfer data from the printer to the host with handshaking via HostAck (nAutoFd).

Busy/PtrBusy/PeriphClk

- Compatibility mode: High signal indicates that the printer is not ready to receive data.
- Negotiation phase: Reflects the BUSY status of the forward channel.
- Reverse data transfer phase: In the nibble mode, this signal serves as nibble data bit 3 and then 7.
- Reverse idle phase: Reflects the BUSY status of the forward channel.
- ECP mode: Used for forward direction flow control. In reverse direction, this signal is used as a ninth data bit that indicates whether the data signals indicate a command or data.

PError/AckDataReq/nAckReverse

Compatibility mode:	High signal indicates that a feed jam has occurred in the paper supply section, or that there is no paper in the paper tray.
Negotiation phase:	High signal indicates whether or not IEEE 1284 is supported. This signal conforms with NDataAvail (nFault).
Reverse data transfer phase:	In the nibble mode, this signal serves as nibble data bit 2 and then 6.
Reverse final phase:	High until the host requests a data transfer. This signal conforms with NDataAvail (nFault).
ECP mode:	Low signal authorizes nReverseRequest. The host looks at this signal in order to determine whether or not it has permission to drive the data signals.

Set/Xflag

Compatibility mode:	Always high.
Negotiation phase:	Xflag indicates the extensibility flag. Used to respond to the extensibility request value sent from the host.
Reverse data transfer phase:	In the nibble mode, this signal serves as nibble data bit 1 and then 5.
Reverse idle phase:	Same as negotiation phase.
ECP mode:	Same as negotiation phase.

nAutoFd/HostBusy/HostAck

- Compatibility mode: Not used.
- Negotiation phase: In order to request the 1284 mode, this signal is set low and IEEE 1284 Active (nSelectIn) is set high. This signal is set high when PtrClk (nAck) is set low.
- Reverse data transfer phase: In the nibble mode, setting this signal low indicates to the printer that the host is ready to receive data. When this signal is subsequently set high, it indicates that the host received the data.
- Reverse idle phase: This signal is set high in response to a PtrClk (nAck) low pulse in order to return to the reverse data phase. If this signal is set high at the same time that IEEE 1284 Active (nSelectIn) is set low, the IEEE 1284 idle phase is aborted and the interface returns to the compatibility mode.
- ECP mode: Used for reverse direction flow control. Also used for handshaking via PeriphClk (nAck).

NC

Not used.

PeripheralLogicHigh

Pull up to + 5 V with 3.9 k Ω .

nInit/nReverseRequest

Compatibility mode:	When a low signal is detected, the printer is judged to be busy until the low signal is released.
Negotiation phase:	Always high.
Reverse data transfer phase:	Always high.
ECP mode:	Low when switching to reverse direction. The peripheral device has permission to drive the data signal only when this signal is low and IEEE 1284 Active is set high.

nFault/DataAvail/nPeriphRequest

Compatibility mode:	Low signal indicates that an error occurred.
Negotiation phase:	This signal is set high in order to authorize 1284 compatibility. In the nibble mode, after the host sets HostBusy (nAutoFd) high, this signal is set low in order to indicate that the transmission data is ready.
Reverse data transfer phase:	This signal is set low in order to indicate to a nibble mode host that the transmission data is ready. This signal serves as nibble data bit 0 and then 4.
Reverse final phase:	Indicates whether or not the data is valid.
ECP mode:	This signal is set low to request communications with the host. Valid in both forward and reverse directions.

nSelectIn/IEEE1284active

Compatibility mode:	Always low.
Negotiation phase:	This signal is set high at the same time that HostBusy is low in order to request the 1284 mode.
Reverse data transfer phase:	This signal is set high to indicate that the bus direction is from the printer to the host. This signal is set low to terminate 1284 mode, setting the bus direction from the host to the printer.
Reverse idle phase:	Same as reverse data transfer phase.
ECP mode:	Always high. This signal is set low to terminate ECP mode and return to compatibility mode.

GND

Twisted pair return signal.

CG

Connected to the printer chassis. This signal and GND are connected.

+5V

Pull up to + 5 V by 1 k Ω .

Using the ECP mode in Windows 98/95

To use the ECP mode with a parallel (IEEE 1284 level I compliant) interface connector, your computer must support the ECP mode.

Note:

The ECP mode is not available with Windows NT 4.0.

Follow these steps to use the ECP mode:

1. Make the ECP mode settings in the BIOS setting program that comes with your computer (for details on the settings and how to use the program, consult your computer's documentation).
2. Click the Start button, point to Settings, and then click Control Panel.
3. Right-click the System icon, and click Open in the menu that appears.
4. Select the Device Manager tab.
5. Select the ECP Printer Port under Ports [COM & LPT], then click the Properties button.
6. Select the Resources tab.
7. Make the appropriate settings in the Resource settings dialog box. The settings depend on your computer system. For details, consult your computer's documentation.
8. Click OK to save the settings.

Ethernet interface

You can use an IEEE 802.3 100BASE-TX/10 BASE-T straight-through shielded, twisted-pair interface cable with the RJ45 connector.

Options and Consumables

500-Sheet Paper Cassette Unit

Product number:	C813461
Paper size:	A4, Letter
Paper weight:	60 to 90 g/m ² (16 to 24 lb)
Paper feed:	One paper cassette mounted Automatic feed delivery system Up to 500 sheets of paper
Paper feed speed (A4 paper):	5 pages per minute for color printing 20 pages per minute for black only printing
Paper types:	Plain paper, EPSON Color Laser Paper, Recycled Paper
Power supply:	DC 5V and DC 24V supplied by the printer
Dimensions and weight:	
Height:	116 mm (4.6 inches)
Width:	435 mm (17.1 inches)
Depth:	488 mm (19.2 inches)
Weight:	6 kg (13.2 lb) including paper cassette

Duplex Unit

Product number:	C813471
Paper size:	A4
Paper weight:	60 to 90 g/m ² (16 to 24 lb)
Feeding speed:	5 pages per minute in black only printing and 2.5 sheets in color printing (from the standard lower cassette to the output tray)
Power supply:	DC 5V and DC 24V supplied by the printer
Dimensions and weight:	
Height:	228 mm (9 inches)
Width:	353 mm (13.9 inches)
Depth:	135 mm (5.3 inches)
Weight:	1.7 kg (3.74 lb)

Memory Module

DRAM type:	Synchronous Dynamic RAM Dual In-line Memory Module (SDRAM DIMM)
Memory size:	32 MB, 64 MB, 128 MB, or 256 MB
Type:	168-pin type, 64 bit, with SPD*
Access speed:	66.66 MHz or higher (15 ns or less)

* SPD stands for Serial Presence Detect, a chip residing on the memory module that contains information about the size, speed, and other specifications of the memory as well as manufacturer information that can be retrieved by the motherboard through electronic signals.

Developer cartridges

Storage temperature: 0 to 35 °C (32 to 95 °F)

Storage humidity: 30 to 85% RH

Life: Black, Yellow, Magenta, Cyan:
(under the conditions Up to 6,000 images*
of A4 size paper,
continuous printing,
and 5% print ratio)

* If the printing ratio is less than 5%, the maximum number of pages is 8,000.

The actual number of pages you can print with developer cartridges varies depending on the type of printing.

Photoconductor unit

Storage temperature: 0 to 35 °C (32 to 95 °F)

Storage humidity: 30 to 85% RH

Life: 30,000 pages for black only printing
(under the conditions 7,500 pages for color printing
of A4 size paper, 4
pages continuous
printing at 5% print
ratio)

The actual number of pages you can print with a photoconductor unit varies depending on the type of printing.

Waste toner collector

Storage temperature: 0 to 35 °C (32 to 95 °F)

Storage humidity: 30 to 85% RH

Life: 30,000 pages for black only printing
(under the conditions of A4 size paper, 4 pages continuous printing at 5% print ratio) 7,500 pages for color printing

The actual number of pages you can print before replacing the waste toner collector varies depending on the type of printing.

Print head filter

Storage temperature: 0 to 35 °C (32 to 95 °F)

Storage humidity: 30 to 85% RH

Life: Needs replacement at the same time as the
(under the conditions of A4 size paper, 4 pages continuous printing at 5% print ratio) photoconductor unit

Fuser oil roll

Storage temperature: 0 to 35 °C (32 to 95 °F)

Storage humidity: 30 to 85% RH

Life: 21,000 pages for black only printing
(under the conditions of A4 size paper, 4 pages continuous printing at 5% print ratio) 7,500 pages for color printing

Fuser kit (includes fuser unit and second transfer roll)

Storage temperature: 0 to 35 °C (32 to 95 °F)

Storage humidity: 30 to 85% RH

Life: 100,000 pages for black only printing
(under the conditions of A4 or Letter size paper, single-side printing) 100,000 pages for color printing

Transfer belt unit

Storage temperature: 0 to 35 °C (32 to 95 °F)

Storage humidity: 30 to 85% RH

Life: 100,000 images

(under the conditions of A4 size paper, 4 pages at 5% print ratio) 130,000 pages of continuous black only printing

30,000 pages of continuous color printing

Symbol Sets

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Introduction to Symbol Sets

Your printer can access a variety of symbol sets. Many of these symbol sets differ only in the international characters specific to each language.

Note:

Since most software handle fonts and symbols automatically, you would probably never need to adjust the printer's settings. However, if you are writing your own printer control programs, or if you are using older software that cannot control fonts, refer to the following sections for symbol set details.

When you are considering which font to use, you should also consider which symbol set to combine with the font. Available symbol sets vary depending on which emulation mode you use and which font you choose.

In LJ4 Emulation/EPSON GL2 Mode

The following table lists the symbol sets available in LJ4 emulation mode.

A table of the characters for each set is included later in this chapter.

Symbol set name	Symbol set ID for ESC (Available typefaces
IBM-US	10U	76 typefaces + Line Printer
Roman-8* (includes another 19 sets)	8U	76 typefaces + Line Printer
Roman Extension	0E	bitmap
Roman-9	4U	76 typefaces + Line Printer
ECM94-1	0N	76 typefaces + Line Printer
8859-2 ISO	2N	76 typefaces + Line Printer
8859-9 ISO	5N	76 typefaces + Line Printer
8859-10 ISO	6N	76 typefaces + Line Printer
8859-15 ISO	9N	76 typefaces + Line Printer
PcBlt775	26U	76 typefaces
IBM-DN	11U	76 typefaces + Line Printer
PcMultilingual	12U	76 typefaces + Line Printer
PcE.Europe	17U	76 typefaces
PcTk437	9T	76 typefaces
PcEur858	13U	76 typefaces + Line Printer
Pc1004	9J	76 typefaces
WiAnsi	19U	76 typefaces
WiE.Europe	9E	76 typefaces
WiTurkish	5T	76 typefaces
WiBALT	19L	76 typefaces
DeskTop	7J	76 typefaces
PsText	10J	76 typefaces
VeInternational	13J	76 typefaces
VeUS	14J	76 typefaces
MsPublishing	6J	76 typefaces
Math-8	8M	76 typefaces
PsMath	5M	76 typefaces
VeMath	6M	76 typefaces
PiFont	15U	76 typefaces
Legal	1U	76 typefaces + Line Printer
Windows	9U	76 typefaces
McText	12J	76 typefaces
Symbol	19M	Symbol Set SWA, Symbol Set SWM
Wingdings	579L	More WingBats SWM
OCR A	0O	OCR A

Symbol set name	Symbolset ID for ESC (Available typefaces
OCR B	1O	OCR B
OCR B Extension	3Q	OCR B
Code 39	0Y	Code 39 (2 types)
EAN/UPC	8Y	EAN/UPC (2 types)

* The other 19 sets are the following: ANSI ASCII, Norweg 1, French, HP German, Italian, JIS ASCII, Swedis 2, Norweg 2, UK, French 2, German, HP Spanish, Chinese, Spanish, IRV, Swedish, Portuguese, IBM Portuguese, and IBM Spanish. These are partial variations of the Roman-8 set.

The 76 typefaces refer to those shown below:

Courier SWC
Dutch 801 SWC
Zapf Humanist 601 SWC
Ribbon 131 SWC
Clarendon Condensed SWC
Swiss 742 SWC
Swiss 742 Condensed SWC
Incised 901 SWC
Original Garamond SWC
Audrey Two SWC
Flareserif 821 SWC
Swiss 721 SWM
Dutch 801 SWM
Swiss 721 SWA

Swiss 721 Narrow SWA
Zapf Calligraphic 801 SWA
ITC Avant Garde SWA
ITC Bookman SWA
Century Schoolbook SWA
Dutch 801 SWA
ITC Zapf Chancery SWA Italic
Letter Gothic SWC
Courier SWA

IBM-US (10U)

Roman-8 (8U)

Roman Extension (0E)

Roman-9 (4U)

ECM94-1 (0N)

8859-2 ISO (2N)

8859-9 ISO (5N)

8859-10 ISO (6N)

8859-15 ISO (9N)

PcBlf775 (26U)

IBM-DN (11U)

PcMultilingual (12U)

PcE.Europe (17U)

PcTk437 (9T)

PcEur858

Pc1004 (9J)

WiAnsi (19U)

WiE.Europe (9E)

WiTurkish (5T)

WiBALT (19L)

DeskTop (7J)

PsText (10J)

VeInternational (13J)

VeUS (14J)

MsPublishing (6J)

Math-8 (8M)

PsMath (5M)

VeMath (6M)

PiFont (15U)

Legal (1U)

Windows (9U)

McText (12J)

Symbol (19M)

Wingdings (579L)

OCR A (00)

OCR B (10)

OCR B Extension (3Q)

Code 39 (0Y)

EAN/UPC (8Y)

International character sets for ISO

To obtain the symbol sets listed below, substitute the characters in the ANSI ASCII sets with the characters in the table below.

ISO set	ASCII code hex											
	23	24	40	5B	5C	5D	5E	60	7B	7C	7D	7E
ANSI ASCII (0U)												
Norweg 1 (0D)												
French (0F)												
HP German (0G)												
Italian (0I)												
JIS ASCII (0K)												
Swedis 2 (0S)												
Norweg 2 (1D)												
UK (1E)												
French 2 (1F)												
German (1G)												
HP Spanish (1S)												
Chinese (2K)												
Spanish (2S)												
IRV (2U)												
Swedish (3S)												
Portuguese (4S)												
IBM Portuguese (5S)												
IBM Spanish (6S)												

In ESC/P2 or FX Modes

	Pc 437 (U.S./Standard Europe)	Pc 850(Multilingual), Pc 860(Portuguese), Pc 863(Canadian-French), Pc 865(Nordic), Roman-8, 8859-15 ISO	Pc 857(Turkish), Pc 861(Icelandic), Pc 852(East Europe), BRASCII, Abicomp, ISOLatin1	PcEur858	OCR A
Courier SWC	available	available	available	available	not available
EPSON Prestige	available	available	not available	available	not available
EPSON Roman	available	available	not available	available	not available
EPSON Sans serif	available	available	not available	available	not available
Swiss 721 SWM*	available	available	available	available	not available
Letter Gothic SWC	available	available	available	available	not available
Dutch 801 SWM*	available	available	available	available	not available
EPSON Script	available	available	not available	available	not available
OCR A	not available	not available	not available	not available	available
OCR B	available	not available	not available	available	not available

* Available only in ESC/P 2 mode.

Note:

- Swiss 721 SWM is a type face compatible with RomanT.*
- Letter Gothic SWC is a type face compatible with OratorS.*
- Dutch 801 SWM is a type face compatible with SansH.*

Pc 437 (U.S./Standard Europe)

Pc 850 (Multilingual)

Pc 860 (Portuguese)

Pc 863 (Canadian-French)

Pc 865 (Nordic)

Roman-8

8859-15 ISO

Pc 857 (Turkish)

Pc 861 (Icelandic)

Pc 852 (East Europe)

BRASCII

Abicomp

ISOLatin 1

PcEur858(13U)

OCR A

No characters are available for hex code 15 in the italic character table.

International character sets

You can select one of the following international character sets using the Remote Control Panel utility or the ESC R command:

Country	ASCII code hex											
	23	24	40	5B	5C	5D	5E	60	7B	7C	7D	7E
USA												
France												
Germany												
UK												
Denmark												
Sweden												
Italy												
Spain												
Japan												
Norway												
Denmark II												
Spain II												
Latin America												
Korea*												
Legal*												

* Available for ESC/P 2 emulation only

Characters available with the ESC (^ command

To print the characters in the table below, use the ESC (^ command.

In I239X Emulation Mode

The available symbol sets in the I239X mode are Pc437, Pc850, Pc858, Pc860, Pc863 and Pc865. See “In ESC/P2 or FX Modes” on page B-26.

The available fonts are EPSON Sans Serif, Courier SWC, EPSON Prestige, EPSON Gothic, EPSON Presentor, EPSON Orator, and EPSON Script.

In EPSON GL/2 Mode

The available symbol sets in the EPSON GL/2 mode are the same as those in LaserJet 4000 emulation mode. See “In LJ4 Emulation/EPSON GL2 Mode” on page B-3.

Appendix C

Command Summary

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Introduction

The information in this section is relevant to you if you do advanced programming related to printers.

Your printer has the ability to emulate the following printers depending on the chosen printer emulation mode:

LJ-4	Hewlett-Packard LaserJet 4000 (PCL 5e)
ESC/P2	EPSON LQ-570/1070, LQ-2170 (24-pin)
FX	EPSON FX-870/1170, FX-880, or LX-100 (9-pin)
GL/2	Hewlett-Packard GL/2 graphics language
I239X	IBM239X plus (24-pin)

In addition, the following printer control languages are supported:

PJL	Printer Job Language
EJL	EPSON Job Control Language

This appendix lists the printer commands for these modes. Most of the commands closely emulate the original printer or the control language; however, some have operational differences because the printers use different technologies.

For more information on selecting emulation modes, see “Using SelecType” on page 4-9. For information on character sets supported in each emulation mode, see Appendix B, “Symbol Sets.”

LaserJet® 4000 (PCL5e) (LJ4) Emulation Commands

This section lists the printer commands supported in the LJ4 emulation mode. For more information on printer commands, see Hewlett-Packard's LaserJet reference manual.

Job control

Reset	ESC E
Number of copies	ESC &I#X
Universal exit language	ESC %#X
Long-edge (left) offset registration	ESC &I#U
Short-edge (top) offset registration	ESC &I#Z
Unit of measure	ESC &u#D
Simplex/Duplex print	ESC &I#S
Duplex page side selection	ESC &a#G
Output (Media) bin selection	ESC &I#G

Page control

Paper (Media) source	ESC &I#H
Page size	ESC &I#A
Page length	ESC &I#P
Orientation	ESC &I#O
Print direction	ESC &a#P
Top margin	ESC &I#E
Text length	ESC &I#F

Left margin	ESC &a#L
Right margin	ESC &a#M
Clear horizontal margins	ESC 9
Perforation skip	ESC &l#L
Horizontal Motion Index (HMI)	ESC &k#H
Vertical Motion Index (VMI)	ESC &l#C
Line spacing	ESC &l#D
Alphanumeric ID (Media selection by type only)	ESC &n#W(operation) (string)

Cursor positioning

Vertical position	ESC &a#R ESC *p#Y ESC &a#V
Horizontal position	ESC &a#C ESC *p#X ESC &a#H
Half line feed	ESC =
Line termination	ESC &k#G
Push/pop position	ESC &f#S

Font selection

Primary symbol set	ESC (id
Secondary symbol set	ESC)id
Primary spacing	ESC (s#P
Secondary spacing	ESC)s#P

Primary pitch	ESC (s#H
Secondary pitch	ESC)s#H
Set pitch mode	ESC &k#S
Primary height	ESC (s#V
Secondary height	ESC)s#V
Primary style	ESC (s#S
Secondary style	ESC)s#S
Primary font stroke weight	ESC (s#B
Secondary font stroke weight	ESC)s#B
Primary typeface family	ESC (s#T
Secondary typeface family	ESC)s#T
Primary font default	ESC (3@
Secondary font default	ESC)3@
Enable underline	ESC &d#D
Disable underline	ESC &d@
Transparent print data	ESC &p#X(data)

Font management

Assign font ID	ESC *c#D
Font and character control	ESC *c#F
Set symbol set	ESC *c#R
Define symbol set	ESC (f#W(data)
Symbol set control	ESC *c#S
Select primary font with ID#	ESC (#X
Select secondary font with ID#	ESC)#X

Soft font creation

Font descriptor	ESC)s#W(data)
Download character	ESC (s#W(data)
Character code	ESC *c#E

Raster graphics

Raster resolution	ESC *t#R
Raster graphics presentation	ESC *r#F
Start raster graphics	ESC *r#A
Raster Y offset	ESC *b#Y
Set raster compression mode	ESC *b#M
Transfer raster data by row	ESC *b#W(data)
End raster graphics (version B)	ESC *rB
End raster graphics (version C)	ESC *rC
Raster height	ESC *r#T
Raster width	ESC *r#S

Print model

Select current pattern	ESC *v#T
Select source transparency mode	ESC *v#N
Select pattern transparency mode	ESC *v#O
Rectangle width (PCL unit)	ESC *c#A
Rectangle width (decipoints)	ESC *c#H

Rectangle height (PCL unit)	ESC *c#B
Rectangle height (decipoints)	ESC *c#V
Fill rectangular area	ESC *c#P
Pattern ID	ESC *c#G

User-defined pattern management/creation

Define pattern	ESC *c#W(data)
User-defined pattern control	ESC *c#Q
Set pattern reference point	ESC *p#R

Macros

Macro ID	ESC &f#Y
Macro control	ESC &f#X

Status readback

Set status readback location type	ESC *s#T
Set status readback location unit	ESC *s#U
Inquire status readback entity	ESC *s#I
Flush all pages	ESC &r#F
Free memory space	ESC *s1M
Echo	ESC *s#X

Programming hints

End-of-line wrap	ESC &#C
Enable display functions	ESC Y
Disable display functions	ESC Z

PCL vector graphics switching/set-up picture frame

Enter GL/2 mode	ESC %#B
GL/2 plot horizontal size	ESC*c#K
GL/2 plot vertical size	ESC*c#L
Set picture frame anchor point	ESC*cOT
Picture frame horizontal size	ESC*c#X
Picture frame vertical size	ESC*c#Y

GL/2 context commands

Dual context extensions

Enter PCL mode	ESC %#A
Reset	ESC E
Primary font	FI
Secondary font	FN
Scalable or bitmapped fonts	SB

Palette extensions

Transparency mode	TR
Screened vectors	SV
Number of pens	NP

Vector group

Arc absolute	AA
Arc relative	AR
Absolute arc three point	AT
Bezier absolute	BZ
Bezier relative	BR
Plot absolute	PA
Plot relative	PR
Pen down	PD
Pen up	PU
Relative arc three point	RT
Polyline encoded	PE
Circle	CI

Polygon group

Fill rectangle absolute	RA
Fill rectangle relative	RR
Edge rectangle absolute	EA

Edge rectangle relative	ER
Fill wedge	WG
Edge wedge	EW
Polygon mode	PM
Fill polygon	FP
Edge polygon	EP

Character group

Select standard font	SS
Select alternate font	SA
Absolute direction	DI
Relative direction	DR
Absolute character size	SI
Relative character size	SR
Character slant	SL
Extra space	ES
Standard font definition	SD
Alternate font definition	AD
Character fill mode	CF
Label origin	LO
Label	LB
Define label terminator	DT
Character plot	CP
Transparent data	TD
Define variable text path	DV

Line and fill attribute group

Line type	LT
Line attribute	LA
Pen width	PW
Pen width unit selection	WU
Select pen	SP
Symbol mode	SM
Fill type	FT
Anchor corner	AC
Raster fill definition	RF
User defined line type	UL

Configuration and status group

Scale	SC
Input window	IW
Input P1 and P2	IP
Input relative P1 and P2	IR
Default values	DF
Initialize	IN
Rotate coordinate system	RO
Comment	CO

ESC/P2 and FX Commands

This section lists the printer commands supported in the ESC/P2 and FX emulation modes.

ESC/P2 mode

General operation

Initialize printer	ESC @
Control paper loading/ejecting	ESC EM <i>n</i>
Delete last character	DEL
Cancel	CAN

Paper feeding

Carriage return	CR
Form feed	FF
Line feed	LF
Select 1/8-inch line spacing	ESC 0
Select 1/6-inch line spacing	ESC 2
Set <i>n</i> /180-inch line spacing	ESC 3 <i>n</i>
Set <i>n</i> /360-inch line spacing	ESC + <i>n</i>
Set <i>n</i> /60-inch line spacing	ESC A <i>n</i>
Backspace	BS

Page format

Set page format	ESC (c 40 <i>n</i>
Set page length in defined units	ESC (C 20 <i>n</i>
Set page length in lines	ESC C <i>n</i>
Set page length in inches	ESC C NUL <i>n</i>
Set bottom margin for continuous paper	ESC N <i>n</i>
Cancel top/bottom margin for continuous paper	ESC O
Set left margin	ESC I <i>n</i>
Set right margin	ESC Q <i>n</i>

Print position motion

Set absolute horizontal print position	ESC \$ <i>n1 n2</i>
Set relative horizontal print position	ESC \ <i>n1 n2</i>
Set absolute vertical print position	ESC (V <i>nn</i>
Set relative vertical print position	ESC (v <i>nn</i>
Set horizontal tabs	ESC D <i>nn</i>
Tab horizontally	HT
Set vertical tabs	ESC B <i>nn</i>
Tab vertically	VT
Perform <i>n</i> /180-inch line feed	ESC J <i>n</i>
Reverse <i>n</i> /180-inch line feed	ESC j <i>n</i>

Font selection

Select typeface	ESC k n
Select font by pitch and point	ESC X m nn
Select 10 cpi	ESC P
Select 12 cpi	ESC M
Select 15 cpi	ESC g
Turn proportional mode on/off	ESC p 1/0
Select LQ or draft	ESC x n
Select italic font	ESC 4
Cancel italic font	ESC 5
Select bold font	ESC E
Cancel bold font	ESC F
Master select	ESC ! n
Select print pitch	ESC c nn
Select superscript/subscript printing	ESC S n

Font enhancement

Select condensed printing	SI
Cancel condensed printing	DC2
Select double-width printing (one line)	SO
Turn double-width printing on/off	ESC W 1/0
Cancel double-width printing (one line)	DC4
Turn double-height printing on/off	ESC w 1/0
Select double-strike printing	ESC G

Cancel double-strike printing	ESC H
Select superscript printing	ESC S 0/1
Select condensed printing	ESC S l
Select double-width printing (one line)	ESC S0
Cancel superscript/subscript printing	ESC T
Select line/score	ESC (- 301 nn
Turn underline on/off	ESC - 1/0
Select character style	ESC q n

Spacing

Set intercharacter space	ESC SP n
Define unit	ESC (U 10 n

Character handling

Assign character table	ESC († 30 n dd
Select character table	ESC † n
Select an international character set	ESC R n
Define download character	ESC & nn
Copy ROM to RAM	ESC : NUL n s
Select download character set	ESC % n
Enable printing of upper control codes	ESC 6
Enable upper control codes	ESC 7
Print data as characters	ESC (^ nn

Bit image

Selection and printing of bit image	ESC * <i>nn</i>
Select graphic mode	ESC (G 10 <i>n</i>
Print raster graphics	ESC . c v hm
8-bit single-density bit image	ESC K <i>nn</i>
8-bit double-density bit image	ESC L <i>nn</i>
8-bit double-speed double-density bit image	ESC Y <i>nn</i>
8-bit double-speed quad-density bit image	ESC Z <i>nn</i>
Reassign bit-image mode	ESC ? <i>nm</i>

Barcode

Print barcode	ESC (B <i>nn</i>
---------------	-------------------

FX mode

Printer commands arranged by topic

The following section lists and describes all FX and LQ commands by topic.

Printer operation

Initialize printer	ESC @
Control paper loading/ejecting	ESC EM <i>n</i>

Delete last character	DEL
Cancel	CAN

Data control

Carriage return	CR
Backspace	BS

Vertical motion

Form feed	FF
Set page length in lines	ESC C <i>n</i>
Set page length in inches	ESC C NUL <i>n</i>
Set page length in defined units	ESC (C 20 <i>n</i>
Set or cancel top/bottom margin	ESC (c 40 <i>n</i>
Set skip over perforation	ESC N <i>n</i>
Cancel skip over perforation	ESC O
Line feed	LF
Select 1/8-inch line spacing	ESC 0
Select 7/72-inch line spacing	ESC 1
Select 1/6-inch line spacing	ESC 2
Reverse paper n/216 inch	ESC j
Select n/216-inch line spacing	ESC 3 <i>n</i>
Perform n/216-inch line spacing	ESC J
Tab vertically	VT
Set vertical tabs	ESC B <i>nn</i>

Set n/72-inch line spacing	ESC A <i>n</i>
----------------------------	----------------

Note:

Your printer will not print characters beyond one page in length (set with the ESC C or ESC C 0 commands), while an FX printer might print them.

Horizontal motion

Set absolute horizontal print position	ESC \$ <i>n1 n2</i>
Set relative horizontal print position	ESC \ <i>n1 n2</i>
Set left margin	ESC I <i>n</i>
Set right margin	ESC Q <i>n</i>
Tab horizontally	HT
Set horizontal tabs	ESC D <i>nn</i>

Overall printing style

Select letter quality or draft	ESC x <i>n</i>
--------------------------------	----------------

Note:

The print quality and speed cannot be changed even if you send the ESC x command.

Select typeface family	ESC k <i>n</i>
Master select	ESC ! <i>n</i>

Print size and character width

Select 10 cpi	ESC P
Select 12 cpi	ESC M
Turn proportional mode on/off	ESC p 1/0
Select condensed mode	SI
Cancel condensed mode	DC2
Select double-width mode (one line)	SO
Cancel double-width mode (one line)	DC4
Turn double-width mode on/off	ESC W 1/0
Turn double-height printing on/off	ESC w 1/0
Select condensed mode	ESC S1
Select double-width mode (one line)	ESC S0

Font enhancement

Select emphasized mode	ESC E
Cancel emphasized mode	ESC F
Select double-strike mode	ESC G
Cancel double-strike mode	ESC H

Note:

The ESC G and ESC E commands produce identical effects; you cannot obtain darker print by combining the two.

Select superscript/subscript mode	ESC S 0/1
Cancel superscript/subscript mode	ESC T
Select italic mode	ESC 4

Cancel italic mode	ESC 5
Turn underline mode on/off	ESC - 1/0

Word processing

Set intercharacter space	ESC SP <i>n</i>
Select character tables	ESC † <i>n</i>
Assign character tables	ESC († 30 <i>n dd</i>
Select international character set	ESC R <i>n</i>
Printable code area expansion	ESC 6
Enable upper control codes	ESC 7
Define unit	ESC (U 10 <i>n</i>

User-defined characters

Define characters	ESC & <i>nn</i>
-------------------	-----------------

Note:

The appearance of characters defined using ESC & may differ slightly from an actual FX printer.

Copy ROM to RAM	ESC : NUL <i>n s</i>
Select download character set	ESC % <i>n</i>
Set upper Control Code	ESC <i>n</i>

Bit image

Select graphics mode	ESC * m <i>n</i>
Selection and printing of bit image	ESC ^ m <i>n</i>
8-bit single-density bit image	ESC K <i>nn</i>
8-bit double-density bit image	ESC L <i>nn</i>
8-bit double-speed double-density bit image	ESC Y <i>nn</i>
8-bit double-speed quad-density bit image	ESC Z <i>nn</i>
Reassign bit-image mode	ESC ? <i>nm</i>

Barcode

Print barcode	ESC (B <i>nn</i>
---------------	-------------------

PJL Commands

This section lists the available commands for the printer job language mode (PJL). For more information on PJL, refer to the Printer Job Language Technical Reference Manual from Hewlett-Packard.

COMMENT	@PJL COMMENT (words) <CR> <LF>
DEFAULT	@PJL DEFAULT (LPARM: ***) variable = value <CR> <LF>
DINQUIRE	@PJL DINQUIRE (LPARM: ***) variable <CR> <LF>
ECHO	@PJL ECHO (Words) <CR> <LF>

ENTER	@PJL ENTER LANGUAGE = *** (<CR>) <LF>
EOJ	@PJL EOJ (NAME= ***) (<CR>) <LF>
INFO	@PJL INFO read only variable (<CR>) <LF>
INITIALIZE	@PJL INITIALIZE (<CR>) <LF>
INQUIRE	@PJL INQUIRE (LPARM: ***) variable (<CR>) <LF>
JOB	@PJL JOB (NAME = ***)(START = ***)(END = ***)(<CR>) <LF>
OPMSG	@PJL OPMSG DISPLAY = *** (<CR>) <LF>
RDYMSG	@PJL RDYMSG DISPLAY = *** (<CR>) <LF>
RESET	@PJL RESET (<CR>) <LF>
SET	@PJL SET (LPARM: ***) variable = value (<CR>) <LF>
STMSG	@PJL STMSG DISPLAY = *** (<CR>) <LF>
UEL	<ESC>%-12345X
USTATUS	@PJL USTATUS variable = value (<CR>) <LF>
USTATUSOFF	@PJL USTATUSOFF (<CR>) <LF>
PJL	@PJL (<CR>) <LF>

I239X Emulation Commands

This section lists the printer commands supported in the I239X emulation mode. For more information on these commands, see IBM's 2390/2391 reference manual.

Page format

Printable area

Set page length in lines	ESC C n
Set page length in inches	ESC C NUL n
Set skip perforation	ESC N n
Cancel skip perforation	ESC O
Set horizontal margins	ESC X

Line spacing

Set line space to 1/8 inch	ESC 0
Set line space to 7/72 inch	ESC 1
Activate line spacing for text	ESC 2
Set line spacing for graphics (n/180, n/216, or n/360 inch)	ESC 3 n
Set line spacing for text (n/72 inch)	ESC A n

Unit definition

Set vertical units (1/180, 1/216, or 1/360 inch)	ESC (\
--	---------

Tab

Set vertical tab stops	ESC B
Set default tab stops	ESC R
Set horizontal tab stops	ESC D

Paper feeding/print position motion

Carriage return	CR
Line feed	LF
Form feed	FF
Move paper vertically (n/180, n/216, or n/360 inch)	ESC J
Automatic line feed	ESC 5
Reverse line feed	ESC)
Backspace	BS
Space	SP
Horizontal tab	HT
Vertical tab	VT
Move current print position (1/120 inch)	ESC d
Set top of form	ESC 4

Text

Font selection

Select 10 pitch font	DC2
Select 12 pitch font	ESC:
Start 17 cpi printing	SI
Start 17 cpi printing	ESC SI
Proportional spacing	ESC P
Begin subscript/superscript	ESC S
End subscript/superscript	ESC T
Select font and pitch	ESC(I
Select print or font	ESC I
Select character set 2	ESC 6
Select character set 1	ESC 7
Select page code	ESC(T
Print one character	ESC ^
Print character from a code page	ESC \
Select character quality	ESC(d

Font enhancement

Continuous overscore	ESC_
Continuous underline	ESC-
Score select	ESC(-
Select print type style	ESC(@

Begin double-width printing by line	SO
Begin double-width printing by line	ESC SO
End double-width printing by line	DC4
Double-width printing	ESC W
Begin emphasized (bold) print	ESC E
End emphasized (bold) print	ESC F
Begin double-strike print	ESC G
End double-strike print	ESC H

Bit image

Normal-density bit image graphics	ESC K
Double-density bit image graphics (half speed)	ESC L
Double-density bit image graphics (normal speed)	ESC Y
High-density bit image graphics	ESC Z
Graphic print mode	ESC (g

Barcode

Barcode set up	ESC (f
Barcode transfer	ESC (p-

Auxiliary functions

Initialize

Set initial conditions	ESC (K)
------------------------	---------

Data input control

Cancel 1 line	CAN
---------------	-----

Auxiliary function

Select paper tray	ESC (F)
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AGM mode

Line spacing

Set line spacing for graphics (n/180, n/216, or n/360 inch)	ESC 3
Set line spacing for text (n/60 inch)	ESC A

Paper feeding/print position motion

Move paper vertically (n/180, n/216, or n/360 inch)	ESC J
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Line feed	LF
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Bit image

Normal-density bit image graphics	ESC K
Double-density bit image graphics (half speed)	ESC L
Double-density bit image graphics (normal speed)	ESC Y
High-density bit image graphics	ESC Z
Graphic print mode	ESC (g
Select graphic mode	ESC *

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Printer and Screen Fonts

Fonts are installed on both the printer and the computer. The printer fonts, which reside in printer memory, are used by the printer to print text. Screen fonts, which are stored in your computer, are used to display text on screen to represent the fonts that will be printed.

Two separate sets of fonts are needed because the monitor and the printer have different requirements for producing fonts. The monitor normally uses bitmap fonts that are specially designed for the screen's resolution. A bitmap is a dot-by-dot representation of an image or character. The printer, however, uses an outline font that is created from a mathematical formula that describes the outline of each character. Using outline fonts allows the printer to render any character in the requested size.



printer font



screen font

Note:

The distinction between printer and screen fonts is not as important when you are using TrueType® fonts, which are included with Windows. TrueType is an outline font format that can be used by both the printer and the screen.

Available Fonts

The following table lists the fonts that are installed on your printer. The names of all the fonts appear in your application software's font list if you are using the driver provided with the printer. If you are using a different driver, all of these fonts may not be available.

The fonts provided with the printer are shown below, according to the emulation mode.

LJ4/GL2 mode

Font name	Family	HP equivalent
Courier SWC	Medium, Bold, Italic, Bold Italic	Courier
Dutch 801 SWC	Medium, Bold, Italic, Bold Italic	CG Times
Zapf Humanist 601 SWC	Medium, Bold, Italic, Bold Italic	CG Omega
Ribbon 131 SWC	-	Coronet
Clarendon Condensed SWC	-	Clarendon Condensed
Swiss 742 SWC	Medium, Bold, Italic, Bold Italic	Univers
Swiss 742 Condensed SWC	Medium, Bold, Italic, Bold Italic	Univers Condensed
Incised 901 SWC	Medium, Bold, Italic	Antique Olive
Original Garamond SWC	Medium, Bold, Italic, Bold Italic	Garamond
Audrey Two SWC	-	Marigold
Flareserif 821 SWC	Medium, Extra Bold	Albertus
Swiss 721 SWM	Medium, Bold, Italic, Bold Italic	Arial
Dutch 801 SWM	Medium, Bold, Italic, Bold Italic	Times New
Swiss 721 SWA	Medium, Bold, Italic, Bold Italic	Helvetica
Swiss 721 Narrow SWA	Medium, Bold, Italic, Bold Italic	Helvetica Narrow

Font name	Family	HP equivalent
Zapf Calligraphic 801 SWA	Medium, Bold, Italic, Bold Italic	Palatino Roman
ITC Avant Garde SWA	Medium, Bold, Italic, Bold Italic	ITC Avant Garde Gothic
ITC Bookman SWA	Medium, Bold, Italic, Bold Italic	ITC Bookman
Century Schoolbook SWA	Medium, Bold, Italic, Bold Italic	New Century Schoolbook
Dutch 801 SWA	Medium, Bold, Italic, Bold Italic	Times
ITC Zapf Chancery SWA Italic	-	ITC Zapf Chancery Medium Italic
Symbol Set SWM	-	Symbol
Symbol Set SWA	-	SymbolPS
More WingBats SWM	-	Wingdings
ITC Zapf Dingbats SWA	-	ITC Zapf Dingbats
Letter Gothic SWC	Medium, Bold, Italic	Letter Gothic
Courier SWA	Medium, Bold, Italic, Bold Italic	CourierPS
Line Printer	-	Line Printer
OCR A	-	-
OCR B	-	-
Code 39	9.37 pitch, 4.68 pitch	-
EAN/UPC	Bold, Medium	-

When selecting fonts in your application software, choose the font name listed in the HP equivalent column.

Note:

Depending on the print density, or on the quality or color of the paper, OCR A, OCR B, Code 39, FAN/UPC fonts may not be readable. Print a sample and make sure the fonts can be read before printing large quantities.

ESC/P 2 and FX modes

Font name	Family
Courier SWC	Medium, Bold
EPSON Prestige	-
EPSON Roman	-
EPSON Sans serif	-
Swiss 721 SWM*	Medium, Bold
Letter Gothic SWC	Medium, Bold
Dutch 801 SWM*	Medium, Bold
EPSON Script	-
OCR A	-
OCR B	-

* Available only in ESC/P 2 mode.

Note:

Depending on the print density, or on the quality or color of the paper, OCR A and OCR B fonts may not be readable. Print a sample and make sure the fonts can be read before printing large quantities.

I239X mode

Font name	Family
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Courier SWC	Medium, Bold
EPSON Prestige	-
EPSON Gothic	-
EPSON Orator	-
EPSON Script	-
EPSON Presentor	-
EPSON Sans serif	-
OCR B	-

Note:

Depending on the print density, or on the quality or color of the paper, OCR B font may not be readable. Print a sample and make sure the font can be read before printing large quantities.

You can print font samples for viewing by using the SelecType Test menu. Follow these steps to print font samples:

1. Make sure that paper is loaded.
2. Press Menu while the printer is online.
3. Press Item until the font sample you want appears.
4. Press Enter, a Font Sample sheet is printed.

Adding Fonts

You can install more fonts into your Windows operating system. Most font packages include an installer for this purpose.

If you're running Windows, you can also install fonts from within the Fonts window. To access this window, open the Control Panel and double-click the FONTS icon. Once installed, the fonts are available in all your Windows applications.

Selecting Fonts

Whenever possible select fonts from the font list in your application. See your software documentation for instructions.

If you are sending unformatted text to the printer directly from DOS or if you are using a simple software package that does not include font selection, you can select fonts with SelecType when in the LJ4, ESC/P 2, FX, or I239X menu.

Downloading Fonts

Fonts that reside on your computer's hard disk can be downloaded, or transferred, to the printer so they can be printed. Downloaded fonts, also called soft fonts, remain in printer memory until you turn off the printer or otherwise reinitialize it. If you plan on downloading many fonts, make sure your printer has sufficient memory.

Most font packages make it easy to manage fonts by providing their own installer. The installer gives you the option of having the fonts automatically downloaded whenever you start your computer or having fonts downloaded only when you need to print a particular font.

EPSON BarCode Fonts

EPSON BarCode Fonts let you easily create and print many types of barcodes.

Normally, barcode creation is a laborious process requiring you to specify various command codes, such as Start bar, Stop bar and OCR-B, in addition to the barcode characters themselves. However, EPSON BarCode Fonts are designed to add such codes automatically, allowing you to easily print barcodes that conform to a variety of barcode standards.

EPSON BarCode Fonts support the following types of barcodes:

Barcode Standard	EPSON BarCode	OCR-B	Check Digit	Comments
EAN	EPSON EAN-8	Yes	Yes	Creates EAN (abbreviated version) barcodes.
	EPSON EAN-13	Yes	Yes	Creates EAN (standard version) barcodes.
UPC-A	EPSON UPC-A	Yes	Yes	Creates UPC-A barcodes.
UPC-E	EPSON UPC-E	Yes	Yes	Creates UPC-E barcodes.
Code39	EPSON Code39	No	No	Printing of OCR-B and check digits can be specified with the font name.
	EPSON Code39CD	No	Yes	
	EPSON Code39 CD Num	Yes	Yes	
	EPSON Code39 Num	Yes	No	
Code128	EPSON Code128	No	Yes	Creates Code128 barcodes.

Barcode Standard	EPSON BarCode	OCR-B	Check Digit	Comments
Interleaved 2 of 5 (ITF)	EPSON ITF	No	No	Printing of OCR-B and check digits can be specified with the font name.
	EPSON ITF CD	No	Yes	
	EPSON ITF CD Num	Yes	Yes	
	EPSON ITF Num	Yes	No	
Codabar	EPSON Codabar	No	No	Printing of OCR-B and check digits can be specified with the font name.
	EPSON Codabar CD	No	Yes	
	EPSON Codabar CD Num	Yes	Yes	
	EPSON Codabar Num	Yes	No	

System requirements

To use EPSON BarCode Fonts, your computer system should meet the following requirements:

Printer: EPSON
 AL-C2000/EPL-C8200/EPL-C8000/EPL-5800/EPL-5700/EPL-5700i/EPL-5700L/EPL-N1600/EPL-N4000
 EPL-N2700/EPL-N4000+/
 EPL-N2050 or later printers which have EPSON BarCode Fonts

Computer: IBM PC series or IBM compatible with an i386SX or higher CPU

- Operating system: Microsoft Windows Me/98/95, Windows 2000, Windows NT 4.0
- Hard disk: 15 to 30 KB free space, depending on the font.
- Printer driver: EPSON AL-C2000, EPSON EPL-5800 Advanced, EPSON EPL-5700 Advanced, EPSON EPL-N1600 Advanced, EPSON EPL-N4000 Advanced, EPSON EPL-C8000 Advanced, EPSON EPL-N2700 Advanced, EPL-C8200 Advanced, EPL-N4000+ Advanced, EPL-N2050 Advanced or later drivers which have EPSON BarCode Fonts

Note:

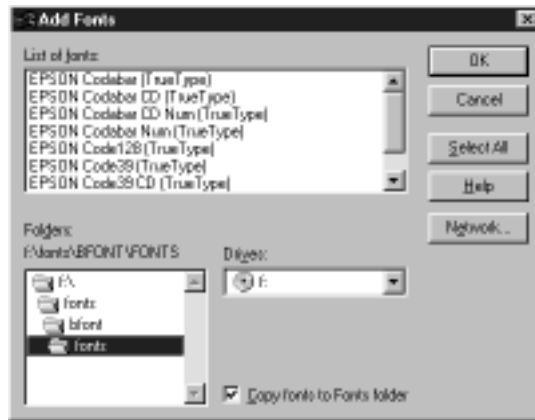
EPSON BarCode Fonts can only be used with EPSON printer drivers.

Installing EPSON BarCode Fonts

Follow these steps to install EPSON BarCode Fonts. The procedure described here is for installation in Windows NT 4.0; the procedure for other Windows operating systems is nearly the same.

1. Turn on the computer and start Windows.
2. Insert the CD-ROM or floppy disk containing the EPSON BarCode Fonts into the appropriate drive.
3. Click Start, point to Settings, then click Control Panel.
4. Double click Fonts.

- From the File menu, select Install New Font.

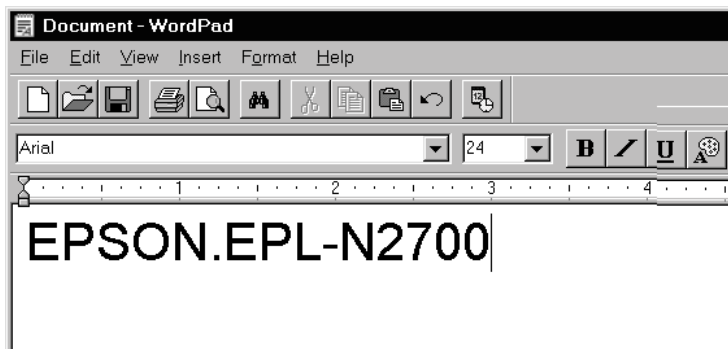


- Select the appropriate CD-ROM or floppy drive, then select the BarCode Fonts folder from the Folders list.
- In the List of fonts box, select the BarCode Font you want to install, or click the Select All button to install all EPSON BarCode Fonts.
- Click OK. The selected EPSON BarCode Fonts are installed in the Windows Fonts folder.

Printing with EPSON BarCode Fonts

Follow these steps to create and print barcodes using EPSON BarCode Fonts. The application featured in these instructions is Microsoft WordPad. The actual procedure may differ slightly when printing from other applications.

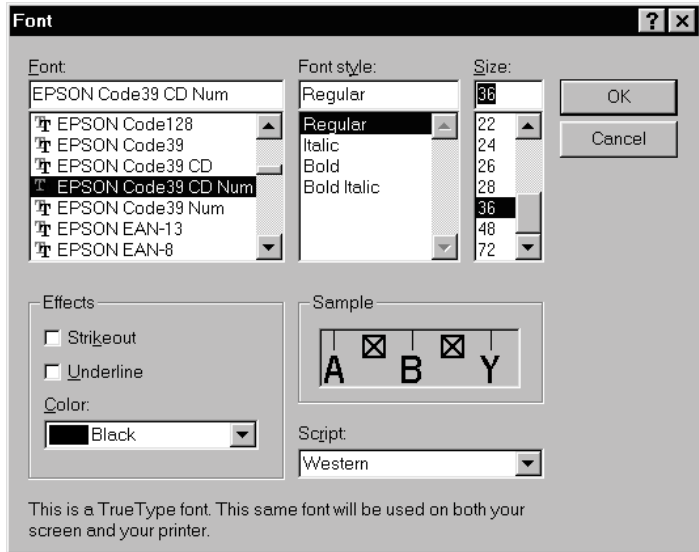
1. Open a document in your application and enter the characters you want to convert to a barcode.



2. Select the characters, then select Font from the Format menu.



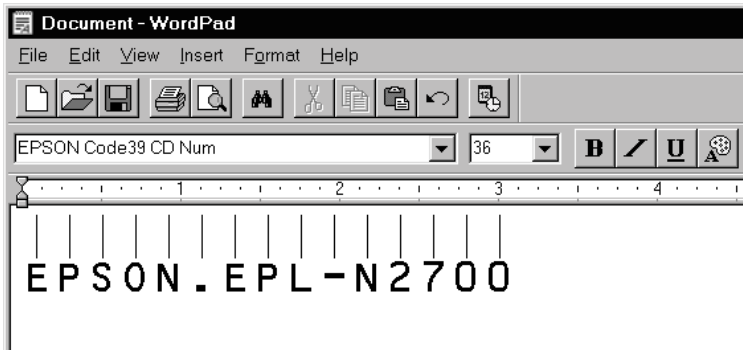
3. Select the EPSON BarCode Font you want to use, then set the font size and click OK.



Note:

In Windows NT 4.0/3.5x, you cannot use font sizes larger than 96 points when printing barcodes.

4. The characters you selected appear as barcodes similar to those shown below.



- Select Print from the File menu, then select your EPSON printer and click Properties. Make the following printer driver settings:

	Monochrome Printer Driver	Color Printer Driver
Color	(not available)	Black
Print Quality	600 dpi	600 dpi
Toner Save	Not selected	Not selected
Zoom Options	Not selected	Not selected
Graphic mode (in the Extended Settings dialog box accessed through the Optional Settings tab)	Standard	(not available)
Printing Mode (in the More Settings dialog box accessed through the Basic Settings tab)	(not available)	Standard

- Click OK to print the barcode.

Note:

If there is an error in the barcode character string, such as inappropriate data, the barcode will be printed as it appears on the screen, but it cannot be read by a barcode reader.

Notes on inputting and formatting barcodes

Please note the following when inputting and formatting barcode characters:

- Do not apply shading or special character formatting, such as bold, italic, or underline.
- Print barcodes in black and white only.
- When rotating characters, only specify rotation angles of 90°, 180° and 270°.

- ❑ Turn off all automatic character and word spacing settings in your application.
- ❑ Do not use features in your application which enlarge or reduce the size of characters in only the vertical or horizontal direction.
- ❑ Turn off your application's auto-correct features for spelling, grammar, spacing, etc.
- ❑ To more easily distinguish barcodes from other text in your document, set your application to show text symbols, such as paragraph marks, tabs, etc.
- ❑ Because special characters such as Start bar and Stop bar are added when an EPSON BarCode Font is selected, the resulting barcode may have more characters than were originally input.
- ❑ For best results, use only the font sizes recommended in "EPSON BarCode Font specifications" on page D-15 for the EPSON BarCode Font you are using. Barcodes in other sizes may not be readable with all barcode readers.

Note:

Depending on the print density, or on the quality or color of the paper, barcodes may not be readable with all barcode readers. Print a sample and make sure the barcode can be read before printing large quantities.

EPSON BarCode Font specifications

This section contains details on the character input specifications for each EPSON BarCode Font.

EPSON EAN-8

- ❑ EAN-8 is an eight-digit abbreviated version of the EAN barcode standard.

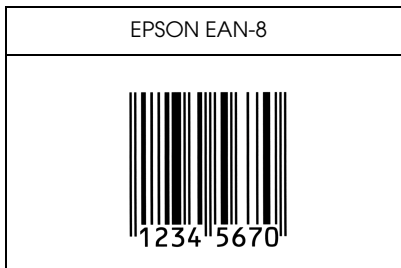
- Because the check digit is added automatically, only 7 characters can be input.

Character type	Numbers (0 to 9)
Number of characters	Up to 7 characters
Font size	52 pt to 130 pt (up to 96 pt in Windows NT). Recommended sizes are 52 pt, 65 pt (standard), 97.5 pt and 130 pt.

The following codes are inserted automatically and need not be input by hand:

- Left/right margin
- Left/right guard bar
- Center bar
- Check digit
- OCR-B

Print Sample



EPSON EAN-13

- EAN-13 is the standard 13-digit EAN barcode.

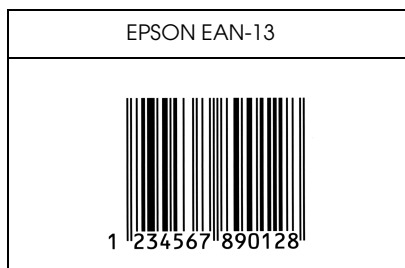
- Because the check digit is added automatically, only 12 characters can be input.

Character type	Numbers (0 to 9)
Number of characters	Up to 12 characters
Font size	60 pt to 150 pt (up to 96 pt in Windows NT). Recommended sizes are 60 pt, 75 pt (standard), 112.5 pt and 150 pt.

The following codes are inserted automatically and need not be input by hand:

- Left/right margin
- Left/right guard bar
- Center bar
- Check digit
- OCR-B

Print Sample



EPSON UPC-A

- UPC-A is the UPC-A standard barcode specified by the American Universal Product Code (UPC Symbol Specification Manual).

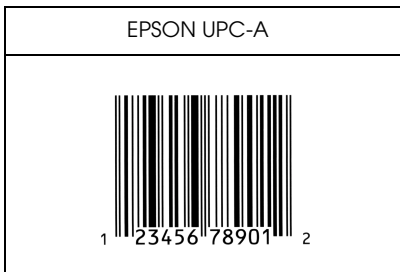
- Only regular UPC codes are supported. Supplementary codes are not supported.

Character type	Numbers (0 to 9)
Number of characters	Up to 11 characters
Font size	60 pt to 150 pt (up to 96 pt in Windows NT). Recommended sizes are 60 pt, 75 pt (standard), 112.5 pt and 150 pt.

The following codes are inserted automatically and need not be input by hand:

- Left/right margin
- Left/right guard bar
- Center bar
- Check digit
- OCR-B

Print Sample



EPSON UPC-E

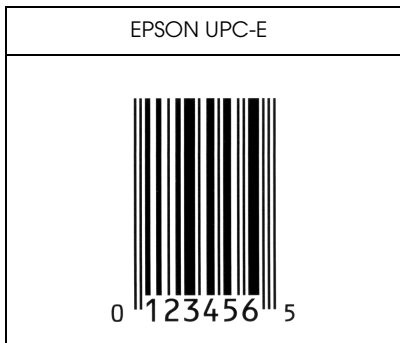
- UPC-E is the UPC-A zero-suppression (deletes extra zeros) barcode specified by the American Universal Product Code (UPC Symbol Specification Manual).

Character type	Numbers (0 to 9)
Number of characters	Up to 6 characters
Font size	60 pt to 150 pt (up to 96 pt in Windows NT). Recommended sizes are 60 pt, 75 pt (standard), 112.5 pt and 150 pt.

The following codes are inserted automatically and need not be input by hand:

- Left/right margin
- Left/right guard bar
- Check digit
- OCR-B
- The numeral "0"

Print Sample



EPSON Code39





- ❑ Four Code39 fonts are available, allowing you to enable and disable the automatic insertion of check digits and OCR-B.
- ❑ The height of the barcode is automatically adjusted to 15% or more of its total length, in conformance to the Code39 standard. For this reason, it is important to keep at least one space between the barcode and the surrounding text to prevent overlapping.
- ❑ Spaces in Code39 barcodes should be input as “_” underbars.
- ❑ When printing two or more barcodes on one line, separate the barcodes with a tab, or select a font other than a BarCode Font and input the space. If a space is input while a Code39 font is selected, the barcode will not be correct.

Character type	Alphanumeric characters (A to Z, 0 to 9) Symbols (- . space \$ / + %)
Number of characters	No limit
Font size	When OCR-B is not used: 26 pt or more (up to 96 pt in Windows NT). Recommended sizes are 26 pt, 52 pt, 78 pt and 104 pt. When OCR-B is used: 36 pt or more (up to 96 pt in Windows NT). Recommended sizes are 36 pt, 72 pt, 108 pt and 144 pt.

The following codes are inserted automatically and need not be input by hand:

- ❑ Left/right quiet zone
- ❑ Check digit
- ❑ Start/Stop character

Print Sample

EPSON Code39	EPSON Code39 CD
	
EPSON Code39 Num	EPSON Code39 CD Num
 1 2 3 4 5 6 7	 1 2 3 4 5 6 7 S

EPSON Code128

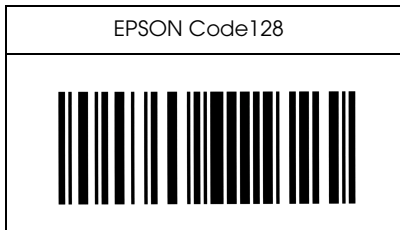
- ❑ Code128 fonts support code sets A, B, and C. When the code set of a line of characters is changed in the middle of the line, a conversion code is automatically inserted.
- ❑ The height of the barcode is automatically adjusted to 15% or more of its total length, in conformance to the Code128 standard. For this reason, it is important to keep at least one space between the barcode and the surrounding text to prevent overlapping.
- ❑ Some application software automatically deletes the spaces at the end of lines or changes multiple spaces into tabs. Barcodes containing spaces may not be correctly printed from applications that automatically delete spaces from the ends of lines or change multiple spaces into tabs.
- ❑ When printing two or more barcodes on one line, separate the barcodes with a tab, or select a font other than a BarCode Font and input the space. If a space is input while Code128 is selected, the barcode will not be correct.

Character type	All ASCII characters (95 in total)
Number of characters	No limit
Font size	26 pt to 104 pt (up to 96 pt in Windows NT). Recommended sizes are 26 pt, 52 pt, 78 pt and 104 pt.

The following codes are inserted automatically and need not be input by hand:

- Left/right quiet zone
- Start/Stop character
- Check digit
- Change code set character

Print Sample



EPSON ITF

- The EPSON ITF fonts conform to the USS Interleaved 2-of-5 standard (American).
- Four EPSON ITF fonts are available, allowing you to enable and disable the automatic insertion of check digits and OCR-B.

- ❑ The height of the barcode is automatically adjusted to 15% or more of its total length, in conformance to the Interleaved 2-of-5 standard. For this reason, it is important to keep at least one space between the barcode and the surrounding text to prevent overlapping.
- ❑ Interleaved 2 of 5 treats every two characters as one set. When there are an odd number of characters, EPSON ITF fonts automatically add a zero to the beginning of the character string.

Character type	Numbers (0 to 9)
Number of characters	No limit
Font size	When OCR-B is not used: 26 pt or more (up to 96 pt in Windows NT). Recommended sizes are 26 pt, 52 pt, 78 pt and 104 pt. When OCR-B is used: 36 pt or more (up to 96 pt in Windows NT). Recommended sizes are 36 pt, 72 pt, 108 pt and 144 pt.

The following codes are inserted automatically and need not be input by hand:

- ❑ Left/right quiet zone
- ❑ Start/Stop character
- ❑ Check digit
- ❑ The numeral “0” (added to the beginning of character strings as needed)

Print Sample

EPSON ITF	EPSON ITF CD
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EPSON ITF Num	EPSON ITF CD Num
 0 1 2 3 4 5 6 7	 1 2 3 4 5 6 7 0

EPSON Codabar

- ❑ Four Codabar fonts are available, allowing you to enable and disable the automatic insertion of check digits and OCR-B.
- ❑ The height of the barcode is automatically adjusted to 15% or more of its total length, in conformance to the Codabar standard. For this reason, it is important to keep at least one space between the barcode and the surrounding text to prevent overlapping.
- ❑ When either a Start or a Stop character is input, Codabar fonts automatically insert the complimentary character.
- ❑ If neither a Start nor a Stop character is input, these characters are automatically input as the letter *A*.

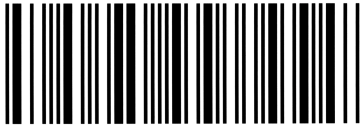



Character type	Numbers (0 to 9) Symbols (- \$: / . +)
Number of characters	No limit

Font size	<p>When OCR-B is not used: 26 pt or more (up to 96 pt in Windows NT). Recommended sizes are 26 pt, 52 pt, 78 pt and 104 pt.</p> <p>When OCR-B is used: 36 pt or more (up to 96 pt in Windows NT). Recommended sizes are 36 pt, 72 pt, 108 pt and 144 pt.</p>
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The following codes are inserted automatically and need not be input by hand:

- Left/right quiet zone
- Start/Stop character (when not input)
- Check digit

Print Sample

EPSON Codabar	EPSON Codabar CD
	
EPSON Codabar Num	EPSON Codabar CD Num
 <p>A 1 2 3 4 5 6 7 A</p>	 <p>A 1 2 3 4 5 6 7 4 A</p>

Glossary

ASCII

American Standard Code for Information Interchange. A standardized way of assigning codes to characters and control codes. The system is widely used by manufacturers of computers, printers, and software.

auto line feed

A printer feature in which each carriage return (CR) code is automatically accompanied by a line feed (LF) code.

bitmap font

The dot-by-dot representation of a font. Bitmap fonts are displayed on computer screens and printed by dot matrix printers. See *outline font*.

buffer

See *memory*.

character set

A collection of letters, numbers, and symbols used in a particular language.

cpi (characters per inch)

A measure of the size of fixed-width text characters.

default

A value or setting that takes effect when the printer is turned on, reset, or initialized.

dots per inch (dpi)

The number of dots per inch is a measure of printer resolution. The higher the number of dots, the higher the resolution.

download

To transfer information from the computer to the printer.

downloaded font

A font that is loaded into the printer's memory from an outside source, such as a computer. Also called soft font.

dpi

See *dots per inch*.

driver

The part of a software program that converts commands from the program into commands used by the printer. Also known as the printer driver.

drum

The part of the printer mechanism where the image is formed and transferred to paper.

emulation

See *printer emulation*.

fixed-width font

A font whose characters are allotted the same amount of horizontal space, no matter the width of the character. Thus the uppercase *M* receives the same amount of space as the letter *l*.

font

A set of characters and symbols that share a common typographic design and style.

font family

The collection of all sizes and styles of a font.

halftone

A grayscale image that is composed of small dots. The dots can be close together to create black or more widely spaced to create gray or white areas in the image. Newspaper photographs are common examples of halftones.

initialization

The act of returning the printer to its defaults (fixed set of conditions).

interface

The connection between the printer and the computer. A parallel interface transmits data one character or code at a time, while a serial interface transmits data one bit at a time.

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.

memory

The part of the printer's electronic system that is used to store information. Some information is fixed and is used to control how the printer operates. Information that is sent to the printer from the computer (such as downloaded fonts) is stored in memory temporarily. See also *RAM* and *ROM*.

orientation

Refers to the direction in which characters are printed on a page. This direction is either portrait, where the length of the page is longer than its width, or landscape, where the width is longer than its length.

outline font

A font whose outline is described mathematically, allowing it to be rendered (printed or drawn) smoothly at any size.

PCL

The command language built into the Hewlett-Packard® LaserJet® series printers.

photoconductor unit

A component of the printer that contains a photosensitive print drum.

pitch

A measure of the number of characters per inch (cpi) for fixed-width fonts.

point size

The height of a particular font as measured from the top of the tallest character to the bottom of the lowest. A point is a typographic unit of measure equivalent to 1/72 of an inch.

portrait

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

printer driver

See *driver*.

printer emulation

A set of operating commands that determines how data sent from the computer is interpreted and acted upon. Printer emulations replicate existing printers, such as the HP LaserJet 4.

proportional font

A font whose characters have 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*.

RAM

Random Access Memory (RAM) is where temporary information is stored.

reset

To refresh the printer's memory and erase the current print jobs.

resident font

A font that is stored permanently in the printer's memory.

resolution

A measure of the fineness and clarity of images produced by the printer or monitor. Printer resolution is measured in dots per inch. Monitor resolution is measured in pixels.

RItech

Resolution Improvement Technology. A feature that smooths the jagged edges of printed lines or shapes.

ROM

Read Only Memory (ROM) is where permanent information is stored.

sans serif font

A font lacking serifs.

scalable font

See *outline font*.

serif

The small decorative strokes that come off the main lines of a character.

status sheet

A report that lists the printer settings and other printer information.

symbol set

A collection of symbols and special characters. Symbols are assigned to specific codes in a character table.

TrueType

An outline font format that was developed jointly by Apple[®] Computer and Microsoft[®] Corporation. TrueType fonts are outline fonts that can be easily resized for screen display or for printing.