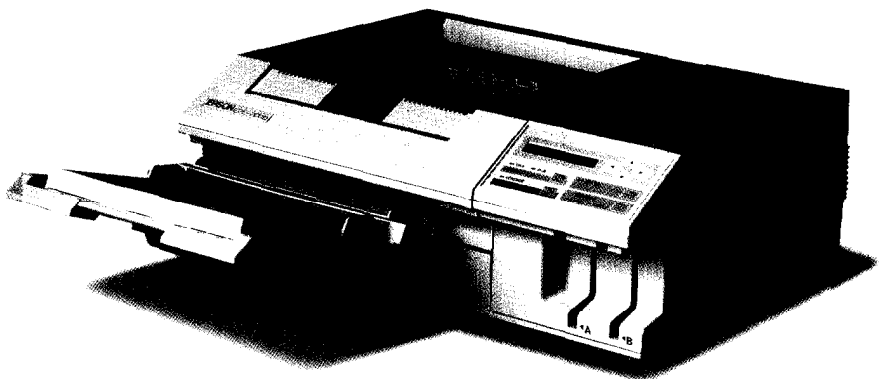


User's Manual



EPL-7000

EPSON®

4000163
G01-03

EPSON®

EPL-7000

User's Manual

FCC COMPLIANCE STATEMENT FOR AMERICAN USERS

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

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

WARNING

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

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FOR CANADIAN USERS

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus as set out in the radio interference regulations of the Canadian Department of Communications.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de Class B prescrites dans le règlement sur le brouillage radioélectrique édicté par le Ministère des Communications du Canada.

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PostScript is a trademark of Adobe Systems Incorporated.

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IMPORTANT SAFETY INSTRUCTIONS

1. Read all of these instructions and save them for later reference.
2. Follow all warnings and instructions marked on the product.
3. Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
4. Do not use this product near water.
5. Do not place this product on an unstable cart, stand, or table. The product may fall, causing serious damage to the product.
6. Slots and openings in the cabinet and the back or bottom are provided for ventilation; to ensure reliable operation of the product and to protect it from overheating, these openings must not be blocked or covered. The openings should never be blocked by placing the product on a bed, sofa, rug, or other similar surface. This product should never be placed near or over a radiator or heat register. This product should not be placed in a built-in installation unless proper ventilation is provided.
7. This product should be operated from the type of power source indicated on the marking label. If you are not sure of the type of power available, consult your dealer or local power company.
8. This product is equipped with a 3-wire grounding-type plug, a plug having a third (grounding) pin. This plug will only fit into a grounding-type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the purpose of the grounding-type plug.
9. Do not locate this product where the cord will be walked on.

10. If an extension cord is used with this product, make sure that the total of the ampere ratings on the products plugged into the extension cord does not exceed the extension cord ampere rating. Also, make sure that the total of all products plugged into the wall outlet does not exceed 15 amperes.
11. Never push objects of any kind into this product through cabinet slots as they may touch dangerous voltage points or short out parts that could result in a risk of fire or electric shock. Never spill liquid of any kind on the product.
12. Except as specifically explained in the User's Manual, do not attempt to service this product yourself. Opening or removing those covers that are marked "Do Not Remove" may expose you to dangerous voltage points or other risks. Refer all servicing in those compartments to service personnel.
13. Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:
 - A. When the power cord or plug is damaged or frayed.
 - B. If liquid has been spilled into the product.
 - C. If the product has been exposed to rain or water.
 - D. If the product does not operate normally when the operating instructions are followed. Adjust only those controls that are covered by the operating instructions since improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to normal operation.
 - E. If the product has been dropped or the cabinet has been damaged.
 - F. If the product exhibits a distinct change in performance, indicating a need for service.

Safety Information

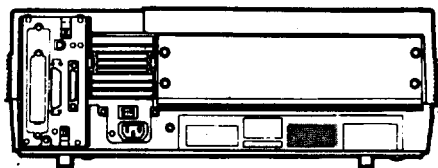
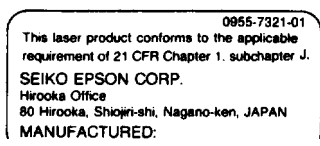
Laser Safety

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 inside the printer 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. These regulations apply to laser products manufactured from August 1, 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.



WARNING: Use of controls, adjustments or performance of procedures other than those specified in this manual may result in hazardous radiation exposure.

Internal Laser Radiation

Maximum Radiation Power 2.42 X 10⁻⁴ (W)
WaveLength 780 (nm)

This is a Class IIb Laser Diode Assay that has an invisible laser beam. The printer head unit is NOT A FIELD SERVICE ITEM. Therefore, the printer head unit should not be opened under any circumstance.

Ozone Emission

During printer operation, a small amount of ozone is released. This amount is not large enough to affect human beings adversely.

However, it is best to make sure the room where you are using the printer has adequate circulation, especially if you are printing a high volume of materials or using the printer continuously over a long period of time.

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Introduction

The EPL-7000 is the latest in Epson's advanced line of laser printers, combining high performance and reliability with a wide range of features.

The EPL-7000 combines a semiconductor laser with the electrophotographic technology used in office copiers to give you high-quality printing that is both fast and quiet.

The imaging system used by the printer is driven by a powerful processor that allows the printer to compose an entire page in internal memory before printing. The printer can manipulate the page it holds in memory to provide you with many features not found on other types of printers, including the ability to mix text and graphics, create pre-defined forms, and print with a range of fonts normally associated with typeset material.

Features

In addition to the high-quality printing and easy operation you'd expect from an Epson printer, these features make the EPL-7000 your best choice for today's printing:

- High quality 300 dots-per-inch (dpi) printing at a speed of up to six pages per minute. You'll appreciate the crisp, professional print quality produced by the EPL-7000... and its leading edge processing speed.
- 0.5 Megabytes of standard Random Access Memory (RAM). You can expand the printer's RAM up to 6 Megabytes with easy-to-install memory chip sets and optional memory boards.
- HP LaserJet series IIP™ emulation. Access the variety of application programs written specifically for Hewlett-Packard® LaserJet printers.

Introduction

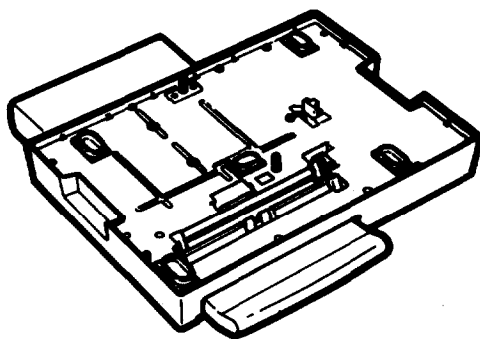
- 14 resident outline fonts to generate and download character fonts in a wide range of sizes. These fonts provide the same character widths used by Adobe PostScript™.
- A standard paper cassette that holds up to 250 sheets of paper. Add the optional lower cassette, which holds an additional 250 sheets, and print up to 500 pages continuously.
- Three built-in interfaces. Choose Centronics® parallel, RS-232 serial, or RS-422 serial.
- Two independent interface channels. Add optional memory and share the printer by connecting it to two computers at the same time. You can store customized configurations in separate channels.
- An all-in-one imaging cartridge that combines the photoconductive, developing, and toner unit in a single, disposable cartridge. Replace it in minutes for simple printer maintenance.
- Two paper delivery methods. Choose standard face-down delivery for your everyday printing needs, or add the optional face-up tray for printing on special media like labels or very heavy paper.
- A SelecType control panel for easy configuration control. Customize your printer's interface and communication settings with the touch of a button from the printer's front panel to create the system that's right for you.
- Two Epson ESC/P® emulation modes for compatibility with the range of applications software written for Epson 9-pin and 24-pin printers.

Options

Many printer options are available for your printer. For detailed information on the installation and use of these options, see Appendix A.

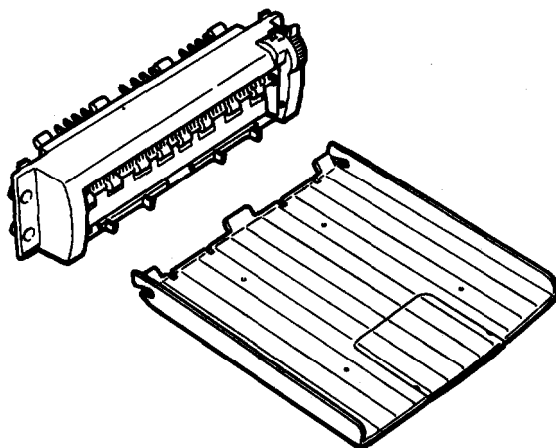
The lower paper cassette (C812051)

The optional lower paper cassette fits directly beneath the printer and allows you to feed up to 250 sheets of paper into the printer. The optional cassette supplements your standard paper cassette's 250-sheet capacity.



The face-up output tray (C812071)

The face-up output tray delivers paper face-up for immediate viewing of your printed output. Use the face-up output tray for printing that requires a straight-through paper path, such as labels, heavy paper, and overhead transparencies.



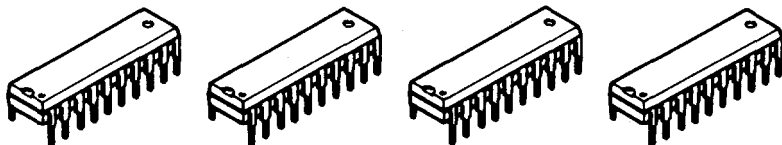
Interface cables

Epson supplies several types of interface cables as listed below. See your computer manual for the required cables.

Cable	Interface	Printer side	Computer side	Length
C836022	Parallel	Amphenol 57	D-SUB, 25 pin	2m
C836041	Serial	D-SUB, 25 pin	D-SUB, 25 pin	2m
C836061	Serial	D-SUB, 25 pin	D-SUB, 9 pin	2m

Memory chip set (#5900, C829041)

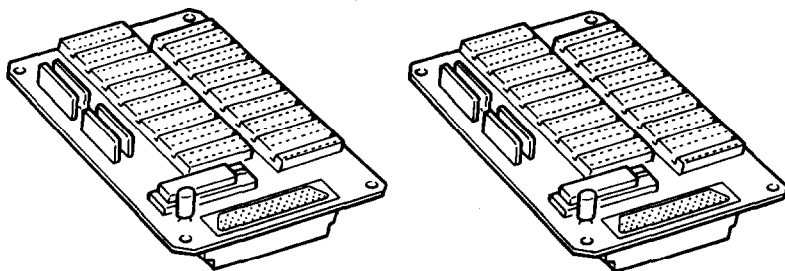
You can increase your printer's current 0.5 MB of RAM to a total of 2.0 MB by installing memory chip sets. Each set of four RAM chips increases the printer memory by increments of 0.5 MB.



Memory expansion boards (C822011, C822031)

Two optional memory expansion boards are available to supplement your printer's memory. The economical C822031 memory board comes with a standard .5 MB of additional RAM. Add memory chip sets to this board and increase your printer's RAM to 4.5 MB, enough memory to print complex graphics.

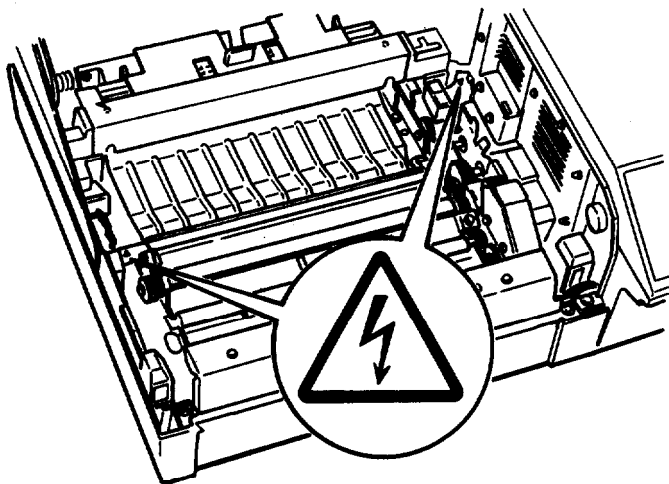
The more powerful C822011 memory board comes with a standard 2 MB of additional RAM. Add memory chip sets to this board and you can increase your printer's RAM to a total of 6 MB to handle the most demanding print jobs.



Laser Printer Precautions

This printer uses laser technology. The following list of precautions applies whenever you open the printer cover. Even if you are familiar with other types of printers, be sure to follow these precautions carefully to ensure safe, efficient operation.

- Be careful not to touch the fuser, which is marked by a **CAUTION: HOT SURFACE** label. If the printer has been in operation, the fuser can be very hot.
- High voltages are present inside the printer when the power is on. Do not touch the areas marked by a high voltage label, as shown below.



- Protect the light-sensitive drum from exposure to light. You should avoid exposing the imaging cartridge to room light for any longer than necessary. Do not open the drum's protective cover. Overexposing the drum may cause abnormally dark or light areas to appear on the printed page, reducing the service life of the drum.

If you must expose the drum either by taking the imaging cartridge out of the printer or by leaving the printer cover open, cover the drum with a soft cloth or sheet of paper.

- Be sure not to scratch the surface of the drum. When you remove the imaging cartridge from the printer, always set the cartridge on a clean, smooth surface. Also, avoid touching the drum, since oils from your skin can permanently damage its surface and may affect print quality.
- Avoid pressing on the top of the toner cartridge. Pressing directly on the cartridge may cause toner to spill into the printer. If there is a spill, see Chapter 6 for cleaning instructions.
- Never try to force the printer's components into place. Although the printer is designed to be sturdy, rough handling can damage it.

Finding Your Way Around

This user's manual provides fully illustrated, step-by-step instructions on setting up and operating your printer.

Chapter 1 contains information on unpacking and setting up the printer. Be sure to read and follow these instructions first.

Chapters 2 and 3 contain information on using the control panel, testing and connecting the printer, and general operation. The information on SelecType options in Chapter **3** is necessary for the day-to-day operation of your printer.

For a detailed discussion of paper handling, see Chapter 4. Make sure you read this chapter before purchasing your paper supply.

Chapter 5 contains information on using the printer with software, while Chapter **6** gives you information on maintaining your printer.

If the printer does not operate properly or the printed results are not what you expect, see Chapter 7 for troubleshooting tips.

Other chapters contain information on technical specifications, printer options, printer modes, and configuring the interfaces. The appendixes contain a list of available symbol sets and character samples. You will also find a glossary of printer terms and an index.

At the back of this guide is a Quick Reference card showing all SelecType menus and options. The SelecType menu maps found on this card can be used as guides whenever you enter SelecType.

On the back cover foldout are illustrations identifying the different parts of your printer. You can refer to these as you set it up.

Warnings, Cautions, and Notes



WARNING: must be followed carefully to avoid bodily injury.



CAUTION: must be observed to avoid damage to your equipment.

Note: contain important information and useful tips on the operation of your printer.

Where to Get Help

Epson America provides local customer support and service through a nationwide network of authorized Epson dealers and Service Centers.

Epson also provides the following support services through the Epson Consumer Resource Center at (800) 92243911:

- Assistance in locating your nearest Authorized Epson Reseller or Service Center
- Technical assistance with the installation, configuration, and operation of Epson products
- Epson technical information library fax service
- Product literature with technical specifications on our current and new products
- Sales of ribbons, supplies, parts, documentation, and accessories for your Epson product
- Customer Relations.

Chapter I

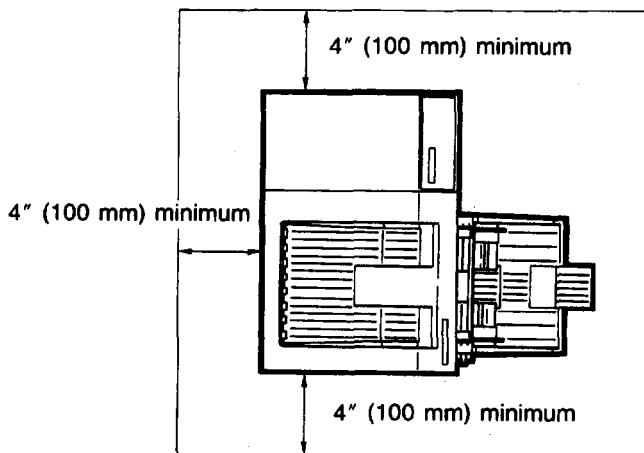
Setting Up the Printer

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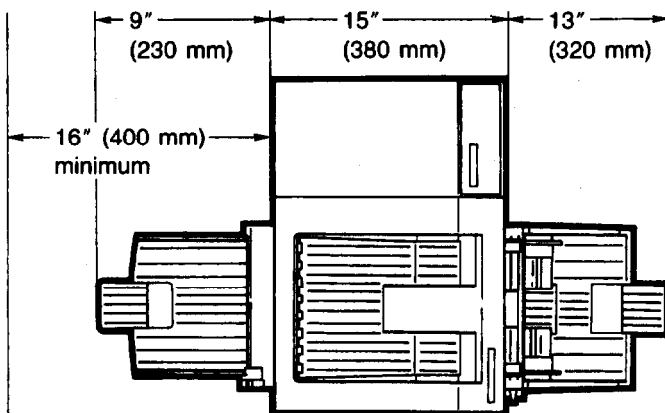
Finding a Place for the Printer

Before unpacking the printer, you need to find a suitable place to use it. Keep the following points in mind when selecting a place for your printer:

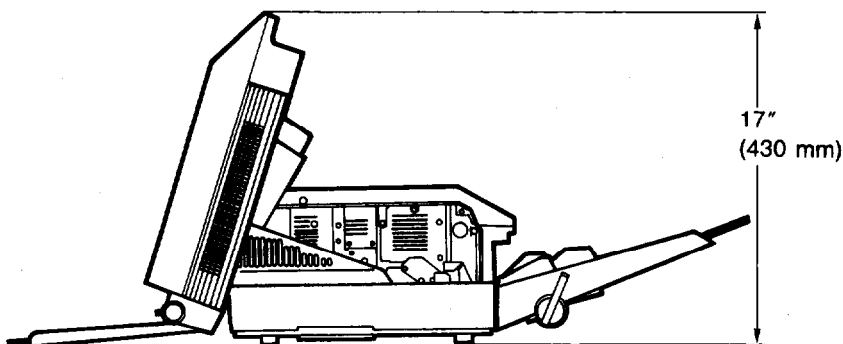
- Place the printer on a flat, stable surface.
- Place the printer close enough to the computer or workstation for its cable to reach.
- Use a grounded outlet, one that has three holes to match the power plug on the printer. Do not use an adapter plug.
- Leave adequate room around the printer to allow easy printer operation and maintenance. The diagram below shows the amount of space recommended.



- If you install the optional face-up tray, you need 16 inches (400 mm) of space behind the printer. Make sure there is 13 inches (330 mm) of flat, unobstructed space to the left of the printer to accommodate the tray.



- To give you enough room to open the printer cover, allow 17 inches or 430 mm from the bottom of the printer to any shelf or surface directly above the printer, as shown below.



If you install the optional lower paper cassette, you need an additional 4 inches (100 mm) directly above the printer.



CAUTIONS:

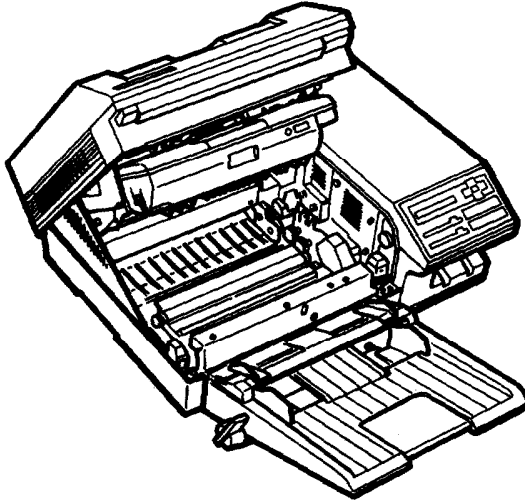
- Avoid locations that are subject to direct sunlight, excessive heat, moisture, or dust.
- Avoid using electrical outlets that are controlled by wall switches or automatic timers. Accidental disruption of power **can** wipe out valuable information in your computer's memory and printer's memory.
- Avoid using outlets **on** the same circuit with large motors or other appliances **that** might disturb the power supply.
- Keep the entire computer and printer **system away** from potential sources of interference, such as loudspeakers or the base units of cordless telephones.

Opening the printer cover

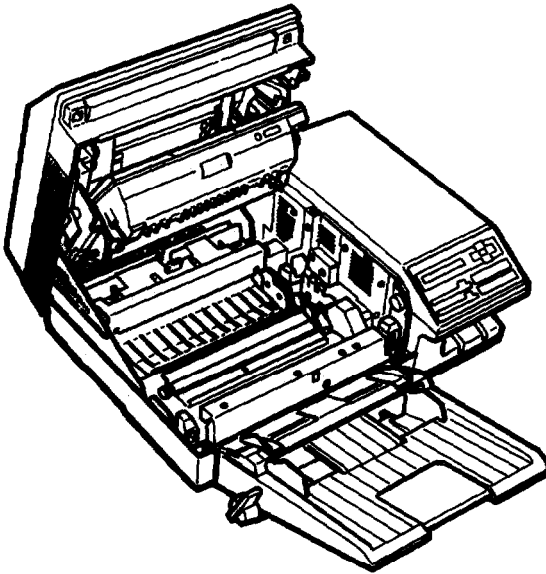
The printer cover opens to two positions, as shown on the following page. When you lift **the** latch to open the printer cover, it stops automatically in the lower position (at an angle of about 45 degrees). This position protects **the** imaging cartridge from overexposure to light. When you lift **the** cover as far as it will go, it stops at the upper position (about 70 degrees). The instructions in this manual tell you which position to use for **each** task.

Finding a Place for the Printer

Lower position (45°)



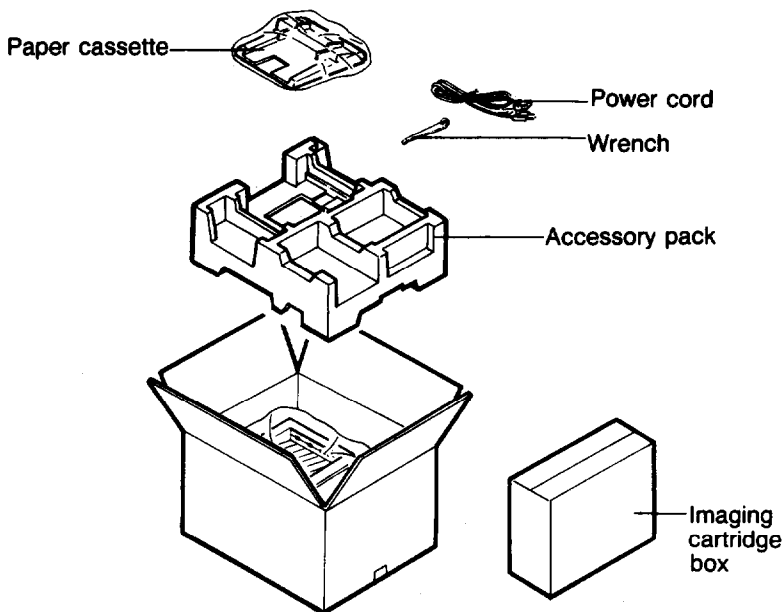
Upper position (70°)



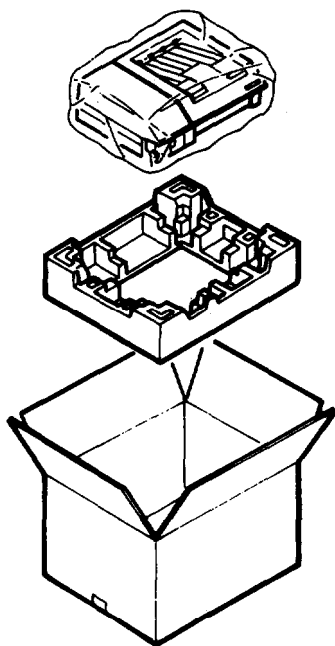
Unpacking the Printer

The printer and the imaging cartridge are packed separately. First, carefully unpack the large main carton. At the top of the carton is the accessory pack containing several printer components. Under this is the printer itself, which is protected by white packing material.

1. Remove the accessory pack and make sure you have the accessories shown below.



2. Carefully remove the printer from the large carton and set it on a flat, stable surface. Since the printer is heavy, you may need someone to help you lift it.

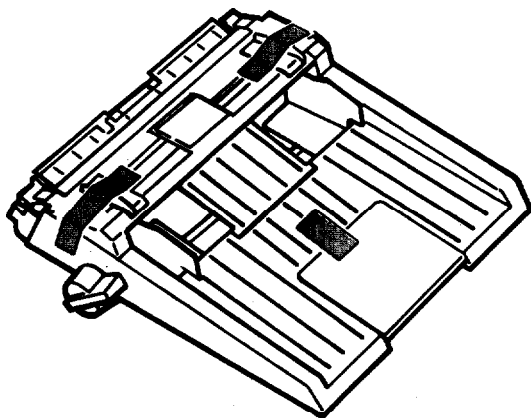


3. Remove the plastic bag protecting the printer. Then remove the plastic bag from the paper cassette.

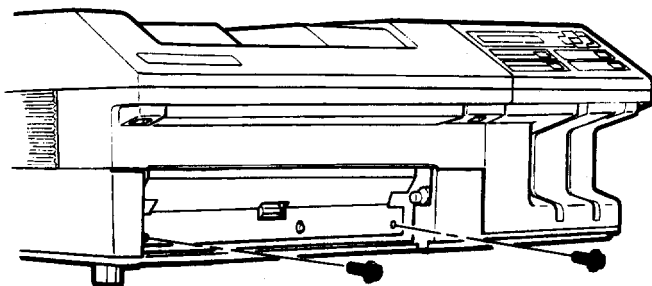
Note: Make sure that you save all packing materials. You must repack the printer in these materials whenever you transport it. See Chapter 6 for details on transporting your printer.

Unpacking the Printer

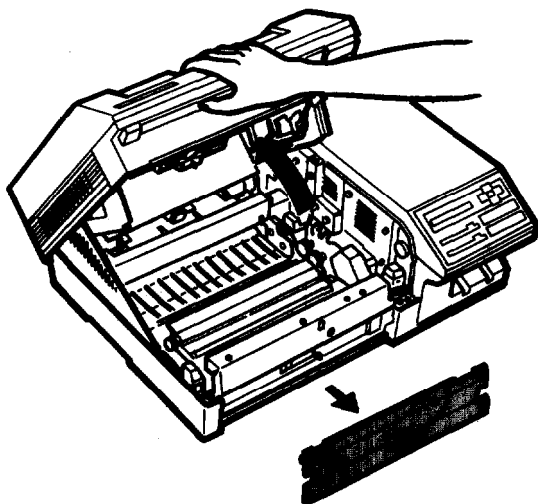
4. Remove the tape from the printer and the paper cassette.



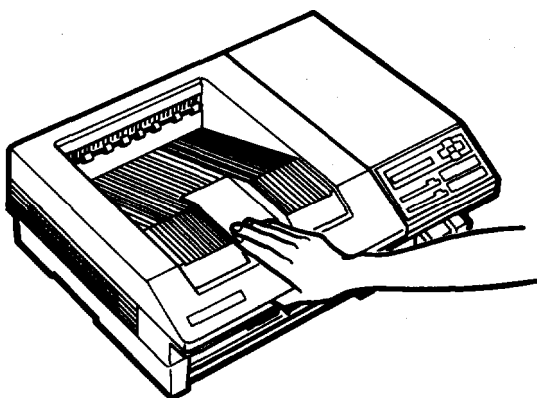
5. Use the wrench to unscrew the two screws on the front of the printer, as shown below.



6. Lift up the front latch and open the printer cover as far as it will go, as shown below. Remove the protective plate.



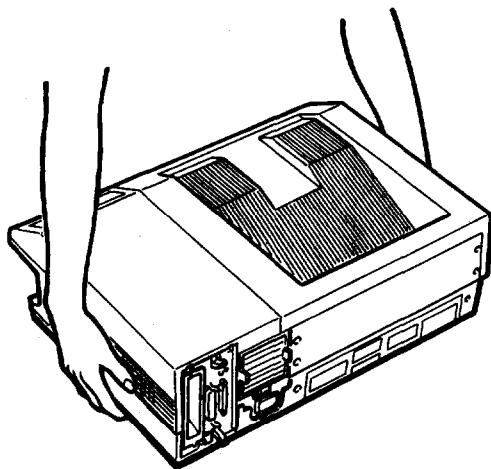
7. To close the printer, gently press down on the top of the case until the latch clicks shut.



8. Finally, check to see that neither the printer nor any of the accessories has been damaged during transportation.

Carrying the printer

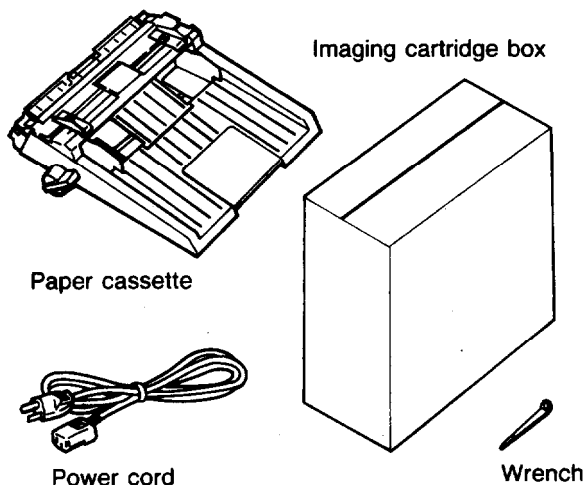
When you move your printer to the location you selected for it, carry it by grasping the recesses on each side of the printer, as shown below.



Note: The printer weighs about 40 lb. (18kg) and should be carried with care. You may need someone to help you lift it.

Assembling the Printer

Before you can use the printer, you need to install a few important parts. Make sure your printer is at its operating location before you install the parts.

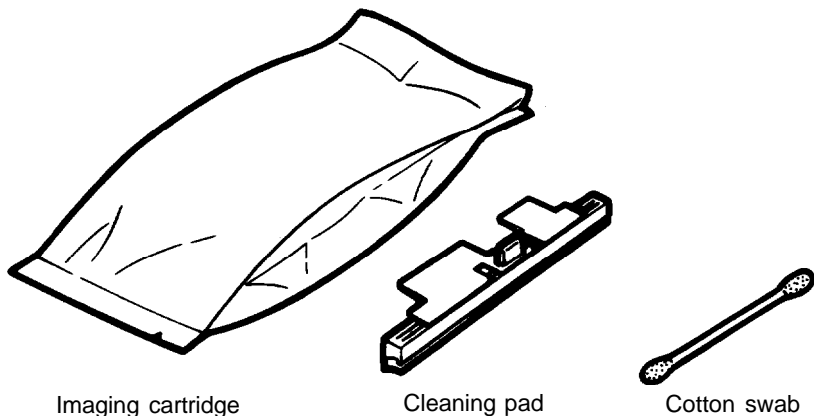


Installing the cleaning pad

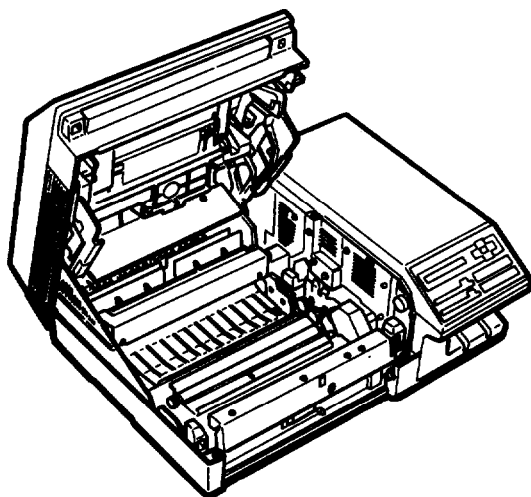
The first component that you need to install is the cleaning pad. It is packaged inside the imaging cartridge box. The felt cleaning pad cleans the surface of the fusing roller, which fixes toner onto the paper.

Assembling the Printer

1. Open the imaging cartridge box and take out the cleaning pad. Leave the imaging cartridge, cotton swab, and packing materials inside the box for now; you will use them later.



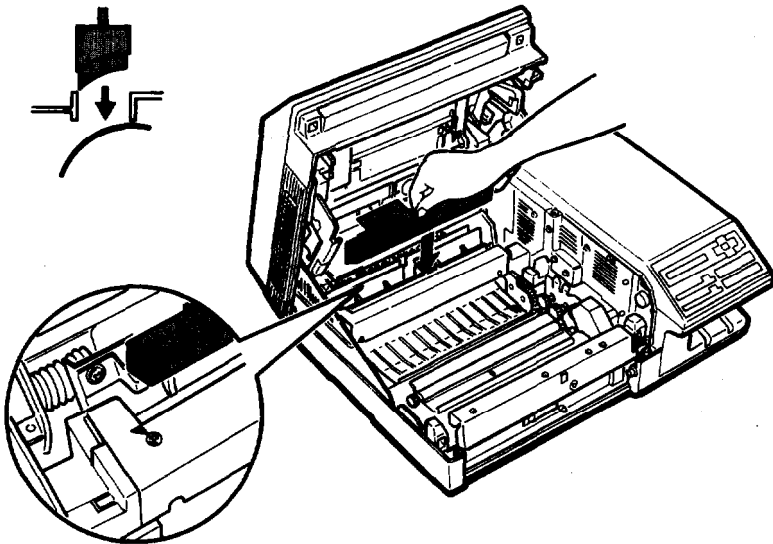
2. Lift up the front latch and open the printer cover to the upper position, as shown below.





WARNING: Never touch the fuser. When the printer is in operation, the fuser becomes very hot.

3. Hold the cleaning pad by the yellow handle and place the cleaning pad into the indentation on top of the fuser. To make sure you install the pad in the correct position, match the triangle on the cleaning pad with the triangle on the fuser, as shown below.



Installing the imaging cartridge

The imaging cartridge forms the image and transfers it onto the paper. See Chapter 6 for information on imaging cartridge life.

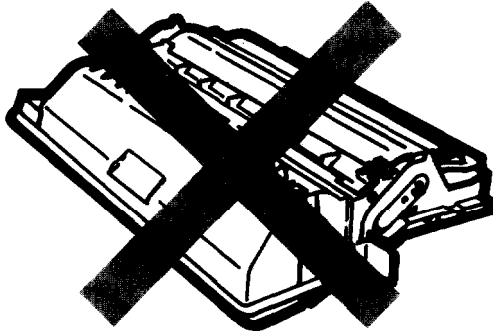


CAUTION: The drum is light-sensitive. Do not expose it to light any longer than necessary and do not expose it to light brighter than normal room light.

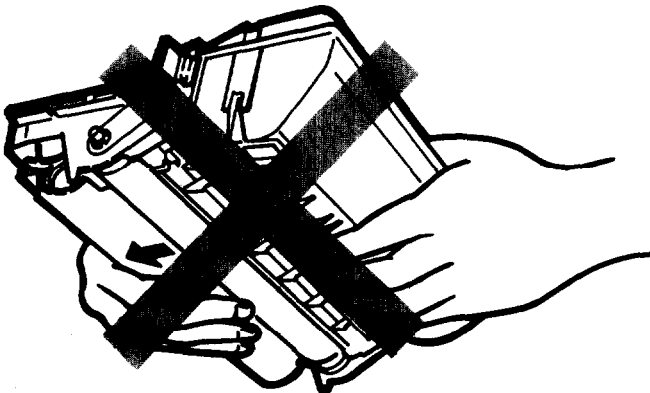
Handling the imaging cartridge

Keep the following cautions in mind whenever you handle the imaging cartridge:

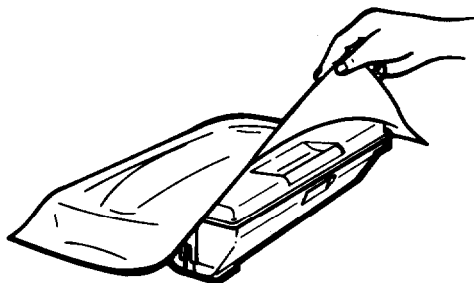
- Do not turn the cartridge upside down.



- Do not open the drum's protective cover. Do not scratch or mar the surface of the drum. **Also**, do not touch the drum, since oils from your skin can permanently mar its surface and may affect print quality.



- Do not expose the cartridge to direct sunlight. If you must expose the drum, first cover it with the aluminum packing bag provided or a soft cloth.



- When handling the imaging cartridge, always set it on a clean, smooth surface.
- Do not attempt to modify or take apart the cartridge. It cannot be refilled.
- Do not use a cartridge for at least one hour after moving it from a cool to a warm environment.

Storing the imaging cartridge

Follow these storage precautions to get the best print quality from your imaging cartridge:

- Do not store in direct sunlight.
- Do not store in dusty places.
- Do not store where salty air or corrosive gasses (such as ammonia) are present.
- Do not store where the temperature or humidity are high or subject to abrupt changes.

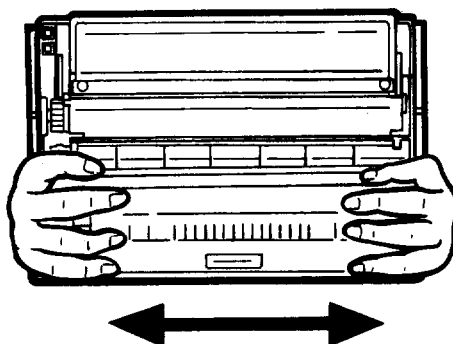
Follow these steps to install the imaging cartridge:

1. Remove the imaging cartridge from its aluminum packing bag.

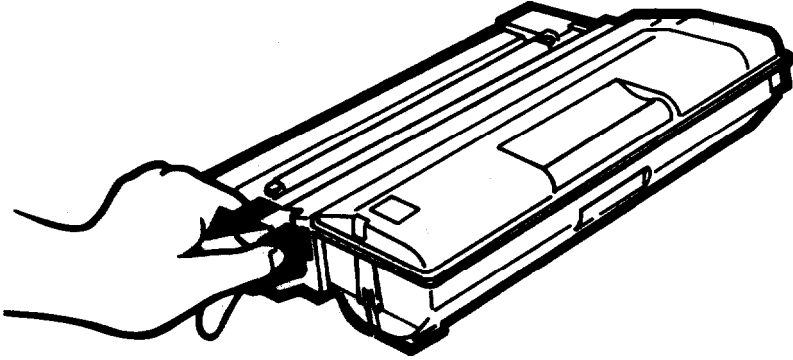


CAUTION: Do not open the drum's protective cover. It protects the drum from light and **contact**.

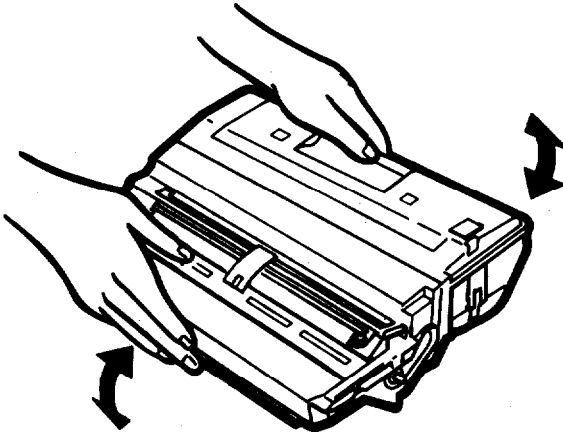
2. Hold the imaging cartridge as shown below and shake the cartridge from side to side a few times to distribute the toner.



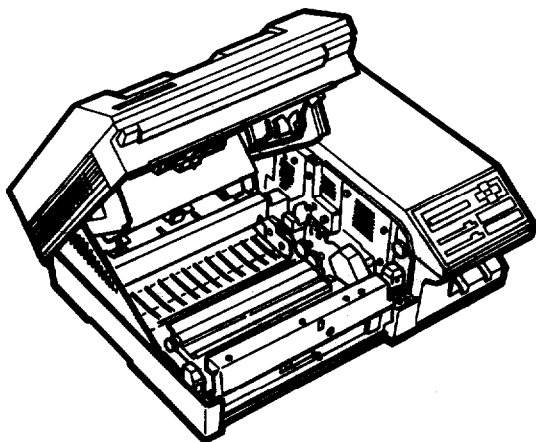
3. Pull the yellow tab firmly, as shown below, to remove the clear seal completely.



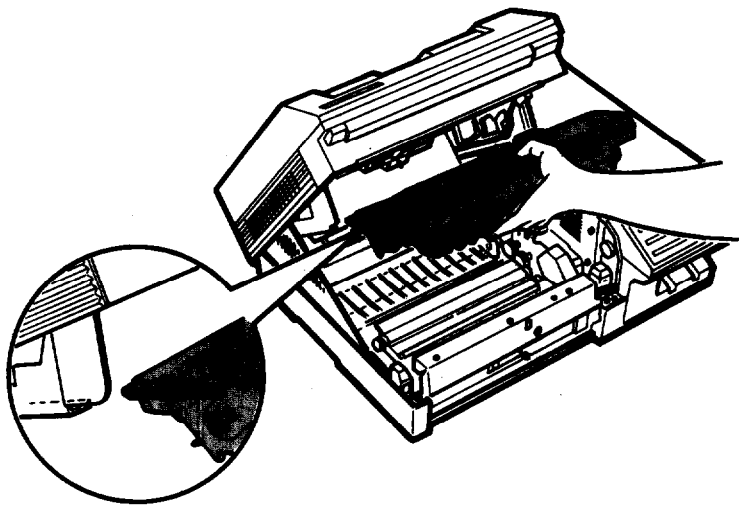
4. After you remove the seal, gently shake the imaging cartridge again four or five times.



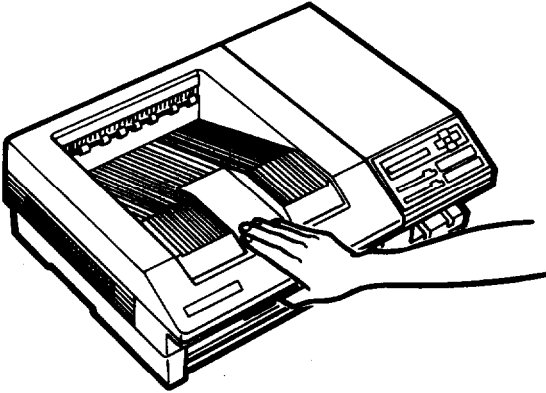
5. Make sure the printer cover is in the lower position.



6. Hold the imaging cartridge as shown below. Carefully place the plastic runners on either side of the cartridge into the green grooves inside the printer. Slide the cartridge forward as far as it will go.



7. **Now that** you **have** installed the internal components, close the printer and gently press down on the top of the case until the latch clicks shut.

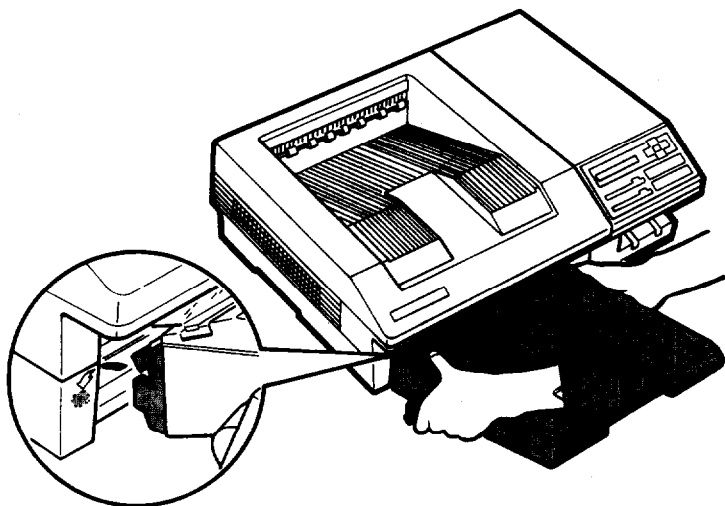


CAUTION: Never transport **the** printer with the imaging cartridge installed. See Chapter 6 for details on moving or transporting the printer.

Installing the paper cassette

Before you install the paper cassette, make sure you **have** removed **the** packing tape from the cassette.

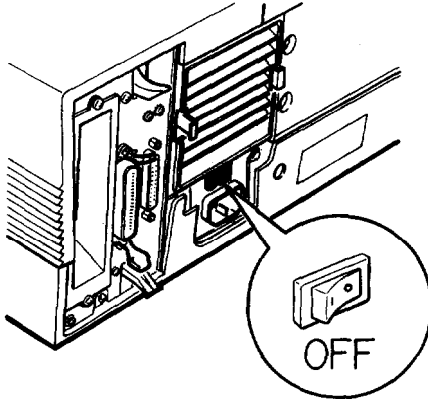
Locate the paper cassette opening at the front of the printer. Align the small notches on either side of the paper cassette with the metal pins inside the printer; then lower the paper cassette into place, as shown below.



Note: Make sure the notches fit securely onto the pins on the printer. If the paper cassette is not installed properly, a **PAPER OUT** error may appear on the display.

Attaching the power cord

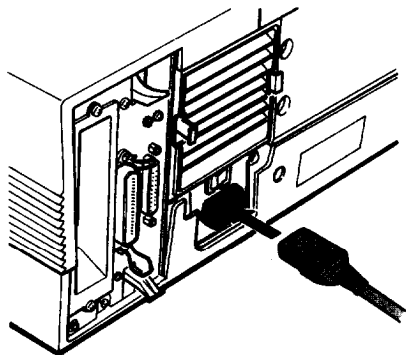
1. Before you attach the power cord, make sure the power switch at the rear of the printer is turned off. It is off when the O on the switch is pressed toward the printer, as shown below.



WARNING: If the rated voltage of the printer and your outlet voltage do not match, contact your dealer for assistance. Do not plug in the power cable.

Assembling the Printer

2. Insert the power cord into the socket at the back of the printer, as shown below. Then plug the other end of the power cord into a properly grounded outlet.



Chapter 2

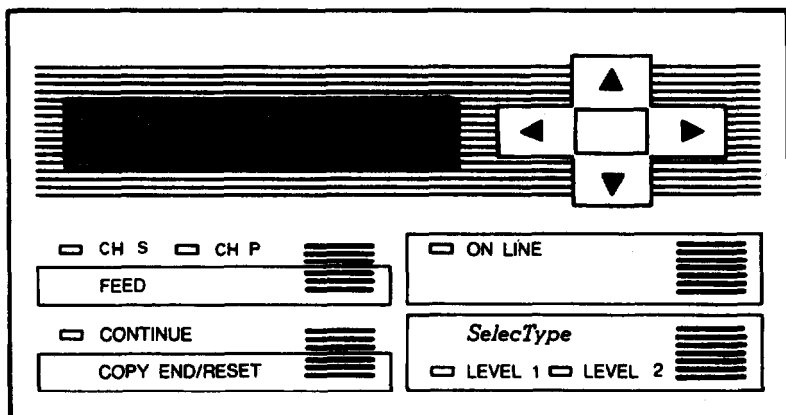
Testing and Connecting Your Printer

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The Control Panel

The printer control panel gives you easy control over many printer operations. The panel is made up of three elements: buttons, indicator lights, and a liquid crystal display. You use the buttons to select printer settings and functions, and the indicator lights and display show the current status of the printer.

Display

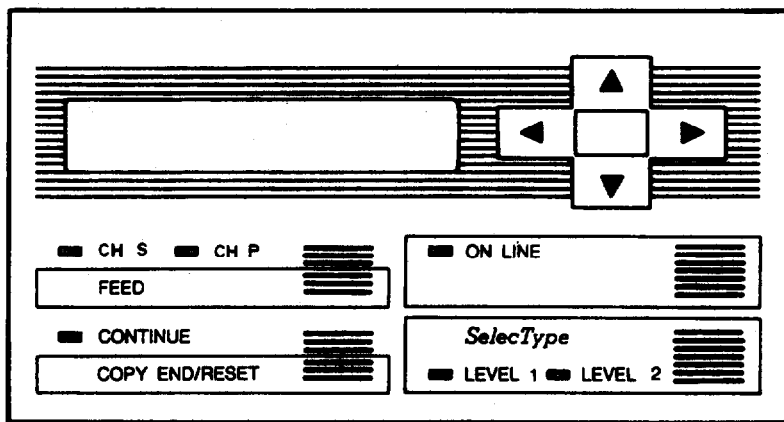


The display shows the printer's status and available options. The types of information displayed are given below.

- Status messages, such as WARMING UP, indicate the printer's current status.
- Maintenance and error messages, such as PAPER OUT, inform you of maintenance procedures that must be performed or of error conditions.
- SelectType options, such as MODE, allow you to control printer mode, font selection, paper handling, and many other printer functions.

For information on using SelectType, see Chapter 3. For a complete list of maintenance and error messages, see Chapter 7.

Indicator lights



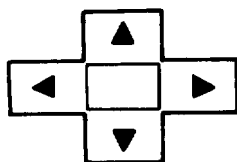
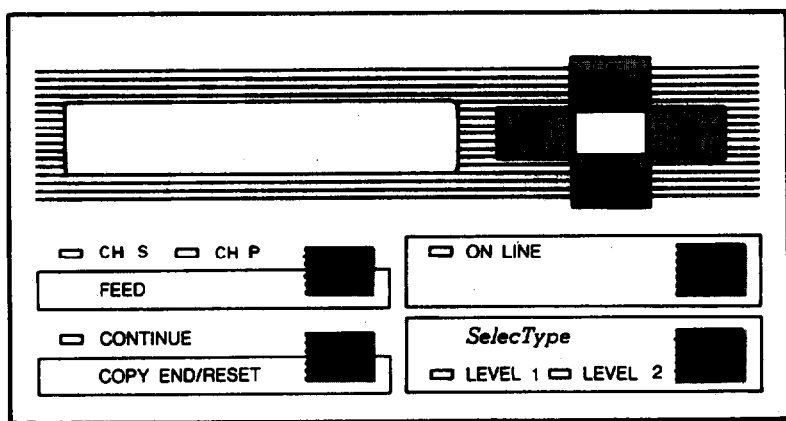
LEVEL 1, LEVEL 2 One of these lights is on when the printer is in the **SelectType** mode, depending on which level you enter. These lights are off if the printer is not in **SelectType** mode.

ON LINE On when the printer is on line, indicating that the printer can receive and print data, off when the printer is off line. The light flashes as the system switches from on line to off line status.

CONTINUE Flashes when an error is detected or a maintenance procedure must be performed. At the same time, an error or maintenance message appears on the display.



CH S, CH P One of these lights goes on when data is received by the indicated channel and is stored in the printer without being printed -out. The **CH S** light goes on if you are using the serial interface. The **CH P** light goes on if you are using the parallel interface. A flashing light indicates that the printer is receiving data from the computer.

Buttons



You use these four arrows to select and set printer options in *SelecType* mode. Their functions are described in detail in Chapter 3.

FEED

When the printer is off line and the **CH P** or **CH S** light is lit, press this button to print out received data. If you use both channels, you can print data received by either channel. If you press , , or the **ON LINE** button, the printer returns to its previous status without printing data.

ON LINE

Switches the printer between on line and off line status. This switch is disabled when you are in *SelecType* mode.



CONTINUE COPY END/RESET

This button has three functions, so it has three names.

CONTINUE — Enables the printer to resume printing after some error or maintenance

messages. If the **CONTINUE** light is flashing, read the corresponding error or status message on the display and correct the problem as described in Chapter 7.

COPY END — Cancels the remaining copies during multiple-copy printing. This button is effective only **when** the printer is off line.

RESET — Cancels some settings made with *SelectType* or software commands. When you hold down this button for several seconds, 'RESET' appears on the display and all settings return to their previously saved values. The page being printed when this button is pressed is finished. However, all remaining data is discarded. If you press  or  , the printer returns to its previous status without printing data. If you continue to hold down this button after RESET appears, INITIALIZE appears on the display and the printer settings return to the power-on default settings.

SelectType

Enters or exits *SelectType* mode. Press once to enter Level 1; hold down to enter Level 2. When you enter **each** level, the corresponding indicator light goes on. For a complete description of *SelectType*, see Chapter 3.

Other control panel features

Data dump

Hold down the *SelectType* button while you turn on printer to turn on data dump (or hex dump) mode. This feature allows advanced users to find the cause of communication problems between the computer and the printer. See Chapter 7.

Testing the Printer

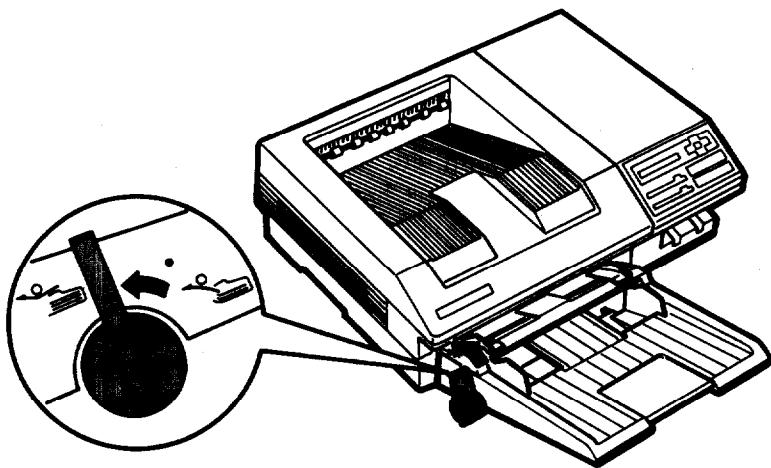
The printer has two built-in print tests: the self test and the status sheet. These tests let you check the operation of your printer and print a list of current printer settings. Before running a test, make sure you have removed all packing materials from the printer, as described in Chapter 1 , and that you have installed all of the components.

You do not need to connect the printer to your computer to run these tests.

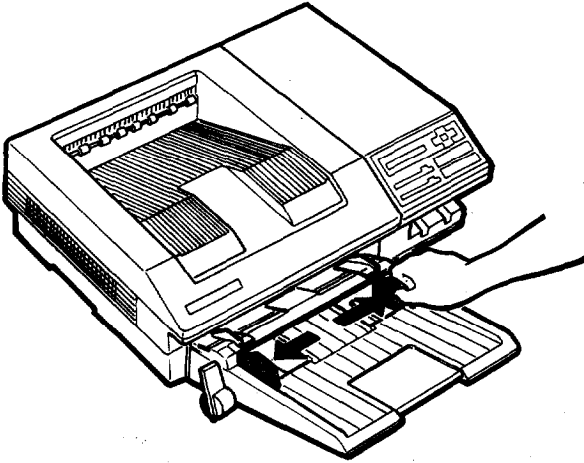
Loading paper for a test print

The standard paper cassette can automatically feed up to **250** sheets of paper. To load paper, follow the steps below. See Chapter 4 if you need more information on paper handling.

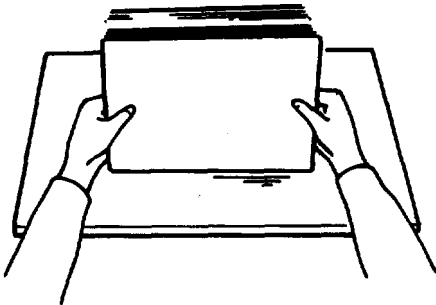
1. Push the paper set lever forward to the manual position.



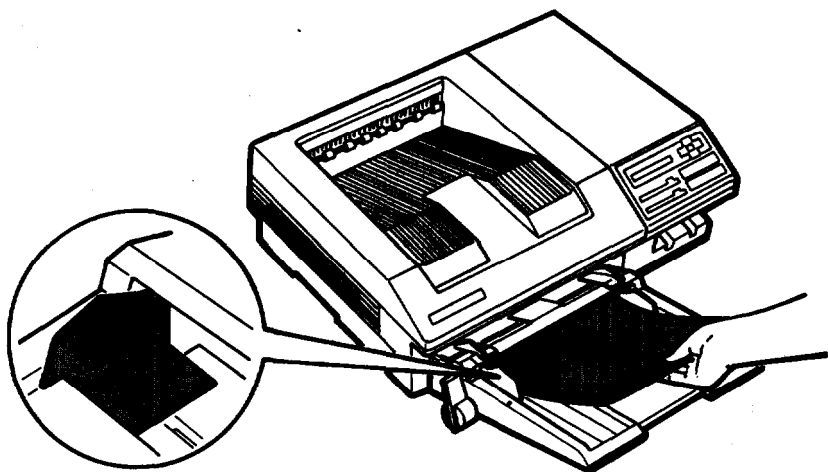
2. Slide the paper guides all the way open, as shown below.



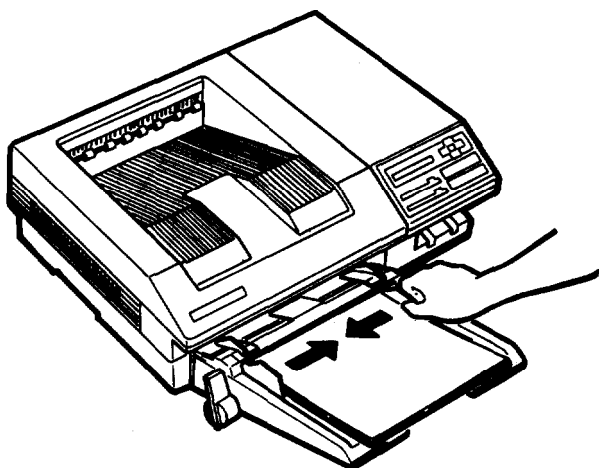
3. Take a stack of A4 or letter-size paper (high-quality copier paper is recommended) and tap the edges of the paper on a flat surface to even up the stack.



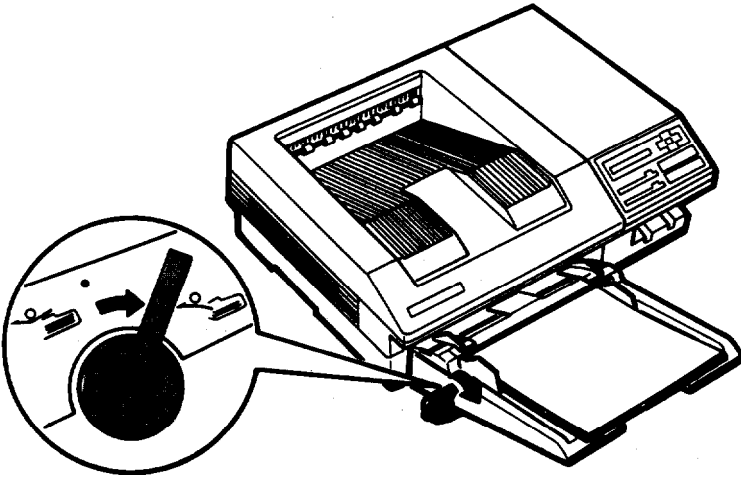
4. Insert the stack of paper into the paper cassette, making sure **that** the top of the stack does not exceed the maximum height mark inside the cassette, as shown below. Gently push the paper in as far as it will go.



5. Slide the paper guides together until they both rest lightly against the paper.



6. Pull the paper set lever back to the automatic position.



Note: The paper set lever must be in the automatic position before paper can be fed automatically from the paper cassette. If you set the lever to the manual position **when** the printer is on, automatic paper feeding is disabled and the **PAPER OUT message** appears on the display, **even** if there is paper in the paper cassette.

Now you're ready to turn on the printer and run a test print.

Turning on the printer

Make sure the printer is plugged in and the imaging cartridge is installed; then turn on the power by pressing the vertical bar (|) on the power switch located at the back of the printer. All of the lights on the control panel light briefly at power on.

The following messages appear as the printer performs a series of internal tests and warms up:

ROM Check

RAM Check x.xMB

WARMING UP

READY L-JET2P



CAUTIONS:

- Do not open the printer cover while the printer is warming up or printing.
- After you turn off the printer, always wait at least five seconds before turning it back on.

It takes approximately 70 seconds for the printer to complete its power-on routine. When the READY message appears, you can continue with the test print operation. If the display remains blank, see Chapter 7 for troubleshooting information.

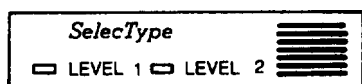
Selecting and running a test print

The printer has two SelectType levels. The status sheet feature is in SelectType Level 1 and the test print feature is in Level 2.

Note: For a complete description of *SelectType* levels and functions, see Chapter 3. You may also find the Quick Reference card located at the back of this manual useful as a guide whenever you use *SelectType*.

Follow these steps to select and run the test print:

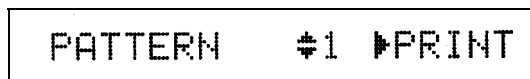
1. Hold down the *SelectType* button until the **LEVEL 2** indicator light goes on and TEST PRINT appears on the display.




If you have entered *SelectType* before, TEST PRINT may not be the first option to appear. If the **Level 2** indicator is on, you can press the up or down arrow until TEST PRINT appears on the display. Then go on to step 2.

If you did not hold down the button long enough to enter Level 2, the **LEVEL 1** indicator goes on. If this happens, press the *SelectType* button once to exit *SelectType* and repeat step 1.

2. Press  once. The display reads as follows:

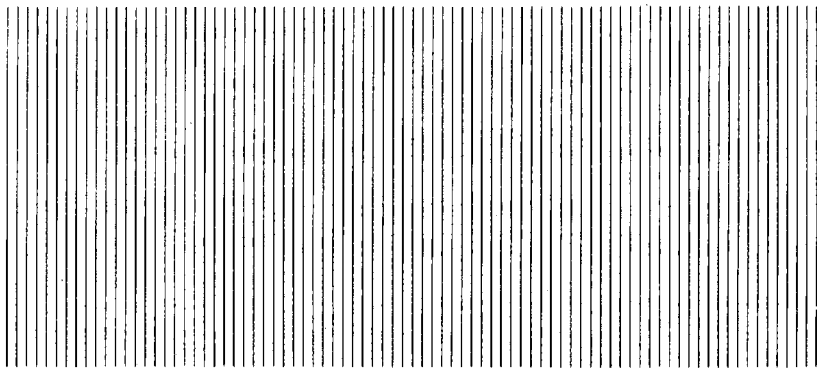


3. To run the test, press  once more. The printer prints a test pattern of vertical lines and ejects the page face-down on top of the printer.





CAUTION: Never open the printer cover during printing.

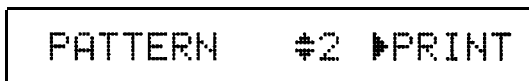
Part of a typical pattern 1 test print is shown below:



After the page has been printed, the printer returns to the main menu and the display shows TEST PRINT.

If you want to print the second test print pattern, follow these additional steps:

4. Press I,(once; then change the test pattern number by pressing  or  once to display the following:



5. Press I,(to print the second pattern.

After you print the test pattern, press *SelectType* once to exit *SelecType* mode.

If the test pattern prints correctly, you can skip to the section on connecting the printer to your computer later in this chapter. If the test print does not operate properly, see Chapter 7 for troubleshooting information.

Printing a status sheet

In addition to the test print patterns, you can print a status sheet that lists printer settings for your selected channel.



Note: The status sheet prints the printer's current settings. If you change the macro number setting for the LOAD MACRO option in the SYSTEM CONFIG submenu, the status sheet prints out the new macro settings. MACRO 0 is the factory default setting.

Follow these steps to print the status sheet:

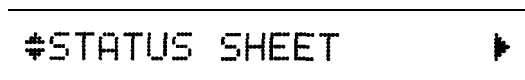
1. Make sure that your printer is plugged in and the power is on.
2. Press *SelectType* once to enter SelecType Level 1.

Note: If you have used SelecType before, and if the printer is set up to use both channels, the following option appears on the display:



Press  or  to choose your channel, then go on to step 3.

3. Hold down  until STATUS SHEET appears on the display.



4. Press  to print the status sheet.

A portion of the status sheet printout is shown below.

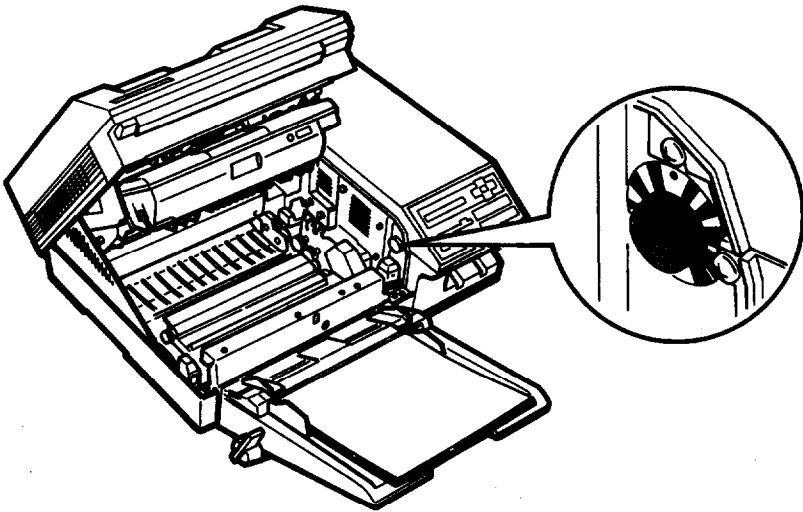
Printer Configuration		STATUS SHEET		EPSON	
Installed Memory : 0.5kbytes		Controller Version : 02.07 06.03			
Memory Share : S 0:10P		CH Time out : 10			
Auto Continue : OFF		Beeper : ON			
standby : DISABLE					
CH : P					
Mode : L-JET2P		Version		: 09.36	
I/F : PARALLEL					
PARALLEL (CH P)					
SLCTIN : OFF		AUTOFEED : OFF		BUSY Delay(μ6) : 0	
SERIAL (CH S) : RS232C					
word Length(bit) : 8		Baudrate(bps) : 9600		Parity : NONE	
Stop Bit : 2		DTR : ON		XON/XOFF : ON	
DSR : OFF		CTS : OFF		ENQ/ACK : OFF	
Receive Buffer : 1kbytes					
Mode Configuration					
Input Tray : AUTO		Font : RD-0		Paper Size : LETTER	
Copies : 1		orientation : PORT			
Sub Configuration					
Form Length : 60		Symbol Set : Roman			

Adjusting print density

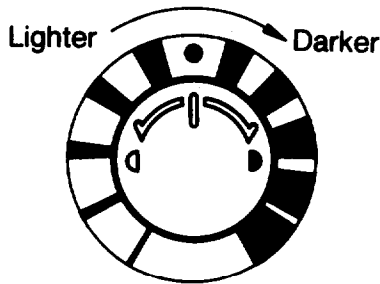
You can control the overall density of the printed image with the print density control knob. If your test print is too light or too dark, adjust the print density as follows:

1. Lift the latch to open the printer cover to the lower position.

2. Find the yellow density control knob inside the front right corner of the printer, as shown below.



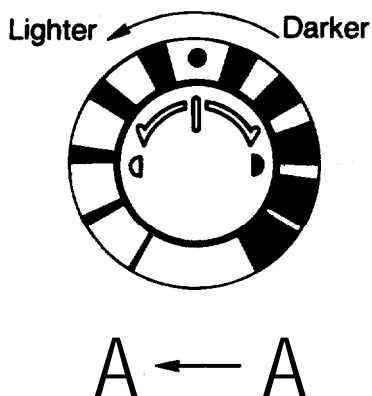
3. For darker print, turn the knob clockwise as shown.



A → A

Note: Increasing the print density increases toner consumption. If you select darker print, you may need to replace the imaging cartridge more often.

4. For lighter print, turn the knob counterclockwise as shown.



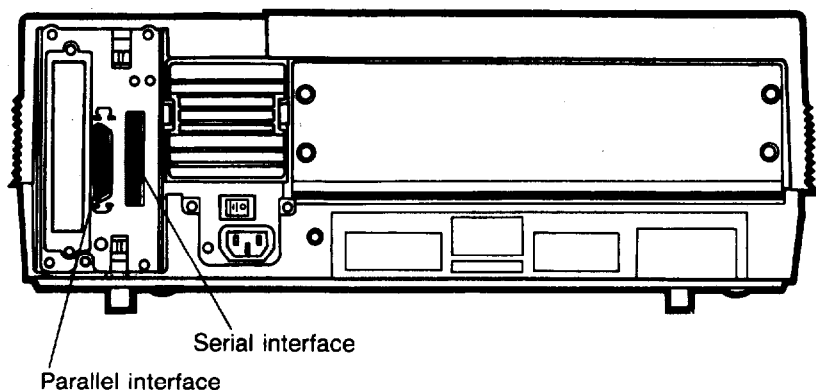
Note: If you want to return the print density setting to the factory setting (center position), align the vertical line on the knob with the dot on the scale.

5. Close the printer cover.
6. Run the test print again to check the new print density setting.

Connecting the Printer to Your Computer

For the printer to receive and interpret information from your computer, both devices must be set up so they can communicate properly. This requires the correct interface cable and the right communication setting. You can select from the following built-in interfaces:

- Centronics[®] compatible parallel
- RS-232C/RS-422 serial



Sharing the printer

One of the unique features of your printer is that you can connect it to two different computers at the same time. Simply use the serial interface for one computer and the parallel interface for the other. Once you have connected the interfaces, you use SelecType to divide the printer's memory between Channel S (serial interface) and Channel P (parallel interface), and to change serial interface settings as necessary.

If you want to share the printer, skip the section on choosing an interface. You must first add memory to your computer's main board as described in the section on installing memory chip sets in Appendix A. Next, follow the instructions in *Connecting the Parallel Interface* and *Connecting the Serial Interface* to connect each interface; then see Chapter 3 for details on using SelecType to configure each channel.

Choosing an interface

When connecting the printer to your computer, first determine whether you should use a parallel or serial connection. Many computers provide only **one** type of connection for a printer. If both types of connections are available, it is usually better to use the parallel interface for the printer, leaving the serial port of your computer free for other devices such as modems. If you are in **any** doubt about which type of connection to make, consult your dealer.

The printer is set up for parallel communication at the factory. If your computer has a parallel interface, you should be able to connect it to the printer with a properly shielded cable and **not** change any factory settings.

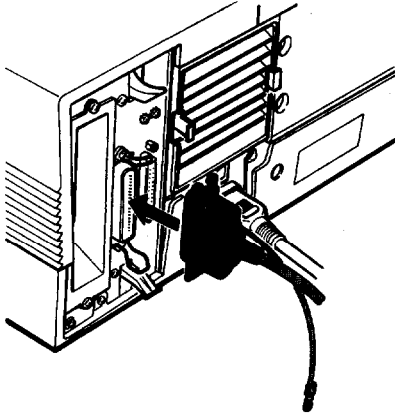
If, however, you find **that** you need a serial interface, you must set up Channel S with SelecType. You may also need to use SelecType to change some of the serial settings, such as baud rate or parity, to suit your needs. See Chapter 3 for instructions **on** using SelecType to change printer settings.

Connecting the parallel interface cable

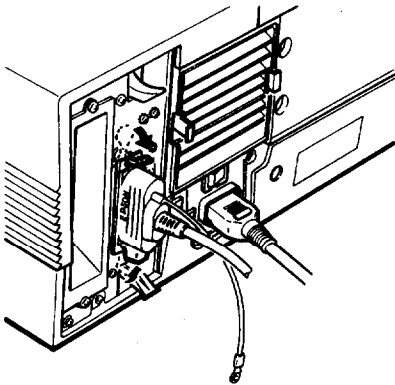
If you want to use the printer's standard parallel interface, make sure you **have** a shielded cable suitable for a Centronics-compatible interface.

Connecting the Printer to Your Computer

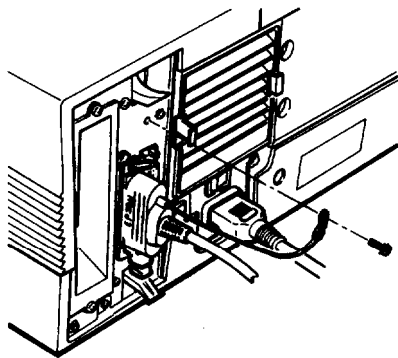
1. Turn off both your printer and computer. Then unplug the power cord from the electrical outlet.
2. Plug the connector securely into the parallel interface of the printer, as shown below.



3. Squeeze the wire clips together until they lock in place on either side of the connector.



4. If your cable has a grounding wire, connect it to the printer's ground connector as shown.



5. Plug the other end of the connector into your computer. Some parallel cables have grounding wires at the computer end as well. If so, connect this wire to the ground screw **on** the computer.

Note: You can use the SelecType CH CONFIG option to change some of the parallel interface settings. However, you will probably never need to change these settings.

Now that you **have** connected the parallel interface, see Chapter 5 for information on operating your printer with your application program.

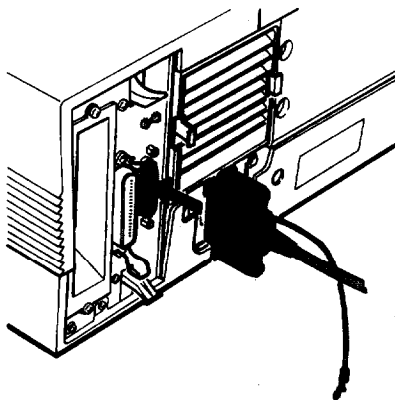
Connecting the serial interface cable

If you want to use the printer's standard serial interface, make sure that you have a properly shielded cable and that it is the correct one for your printer.

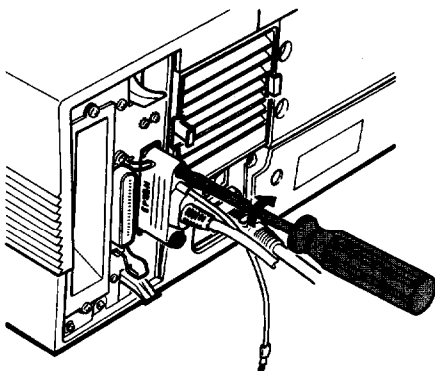
Follow these steps to connect the serial interface cable:

1. Turn off both the printer and computer. Then unplug the power cord from the electrical outlet.

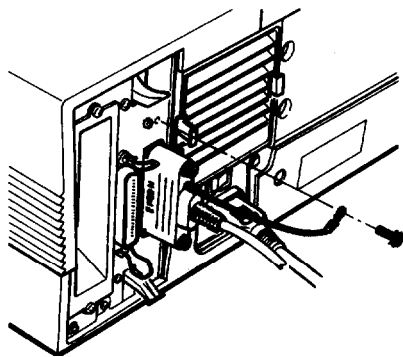
2. Plug the cable connector securely into the serial interface as shown below.



3. Use a screwdriver to fasten the screws of the connector, if required.



4. If your cable has a grounding wire, connect it to the printer's ground connector.



5. Plug the other end of the cable into your computer. (Fasten the connector screws to the interface, if required.)

This completes the connection of the serial interface cable. Before you can use the printer, you need to set it up for serial communication using the SelecType CH CONFIG option in Level 2. You may also need to change some interface settings, such as baud rate and parity, before your printer and computer can communicate properly. See Chapter 3 for instructions on setting up the serial interface to work with your computer.

Chapter 3
SelectType

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SelecType Overview

The SelecType function on the printer control panel allows you to control many of the printer's functions. Use SelecType's menu-based system to change your printer's configuration without using DIP switches and to select most font and print options without using software commands.

Your application program may send printer commands that temporarily override the SelecType settings. If you are not getting the results you expect, check your application software settings,

Note: New SelecType settings are in effect only until you turn off the printer, unless you save them with the Level 1 SYSTEM CONFIG option or the Level 2 P-CONFIG.SAVE option described later in this chapter.

SelecType is divided into two levels as shown below. Level 1 contains everyday printing and font selection functions, and Level 2 contains functions that are less likely to be changed frequently, such as printer mode and printer configuration. A brief description of each main menu option follows. See SelecType Options later in this chapter for detailed descriptions of all SelecType options.

Level 1	Level 2
CH SELECT	TEST PRINT
INPUT	CH CONFIG
P-SIZE	MEMORY SHARE
COPIES	CH TIMEOUT
ORIENT.	AUTO CONT.
FONT	BEEPER
STATUS SHEET	P-CONFIG. SAVE
SUB CONFIG.	FACTORY RESET
SYSTEM CONFIG.	VERSION
	STANDBY

Note: See the Quick Reference Card at the back of this manual for a map of SelecType menus and options.

SelecType Level 1 functions

CH SELECT	Selects the parallel (P) or serial (S) channel when you have set up both interfaces.
INPUT	Selects the standard or optional paper cassette.
P-SIZE	Paper size. Specifies the size of paper.
COPIES	Selects the number of copies to be printed.
ORIENT.	Orientation. Selects portrait (vertical) or landscape (horizontal) printing orientation.
FONT	Selects one of the available fonts.
STATUSSHEET	Prints a report listing the current printer settings.
SUB CONFIG.	Subconfiguration. Depending on the printer mode, controls such features as symbol set and number of text lines.
SYSTEM CONFIG.	System configuration. Saves Level 1 settings, displays the amount of memory remaining, changes top and left offsets, and controls printing of complex pages.

SelecType Level 2 functions

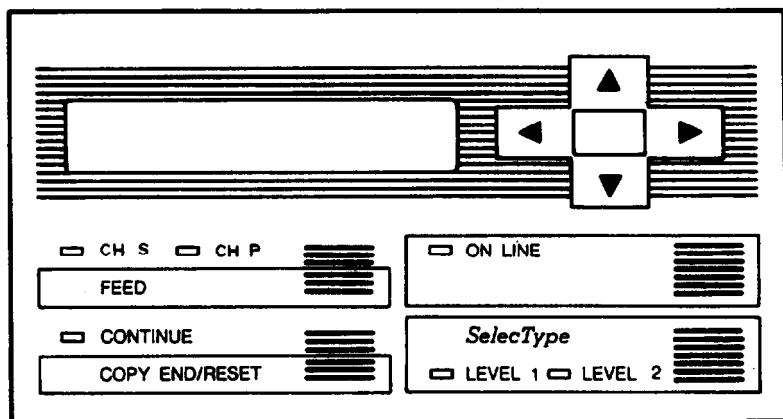
TEST PRINT	Prints two test patterns to check printer operation.
CH CONFIG.	Channel configuration. Sets up the operating mode, interface configuration, and the size of the printer's input buffer for each channel.
MEMORY SHARE	Memory share. Specifies the proportion of the printer's memory shared between channel S and P.
CH TIMEOUT	Channel time out. If no data is sent during the specified time period, the printer switches from one channel to the other.
AUTO CONT.	Automatic continue. Permits the printer to continue printing instead of stopping under certain error conditions.
BEEPER	Turns the beeper on or off.
P-CONFIG. SAVE	Printer configuration save. Saves all Level 2 settings as defaults so they take effect each time you turn the printer on.
FACTORY RESET	Returns all Level 1 and Level 2 settings to their factory settings.
VERSION	Displays the version numbers of the printer's firmware components such as the controller and font.
STANDBY	Conserves power by reducing power to the fixing heater when the printer is not used for 30 minutes.

Using SelecType

This section describes the control panel and explains how to use SelecType. If you want to try a guided practice, see the sample exercise included in Steps to using SelecType, later in this section.

The control panel

The SelecType portion of the control panel contains the *SelecType* button, Level 1 and Level 2 indicator lights, four arrow buttons, and the display.



The display

When you enter SelecType, menus and options appear on the display. The display shows SelecType main menus on the left side. On the right side, the display shows the options for each main menu.

The icons in the display are like road signs — they indicate the direction you can move using the arrow buttons.



The icon (up and down arrows) to the left of an option indicates that you can press either or to view other options in the menu,



The icon to the left of an option indicates that the option displayed is the current selection. You can use or to view other options.



These icons indicate that you can press or to enter a submenu, select an option, set an option, or select an action.

Buttons

SelecType

Enters and exits *SelecType* mode. Press once to enter Level 1 or hold down to enter Level 2. The **Level 1** or **Level 2** light goes on to indicate which level is active.

Use the arrow buttons to move through menus and to select, display, and set *SelecType* options.



Enter a submenu, set an option, or select an action.



Return to the main menus.



Display options in the same menu. You can view the options one at a time by pressing the buttons once or you can scroll through them quickly by holding down one of these arrows.

Note: If you press an arrow that is invalid, the printer beeps and does not change the display.

Steps to using SelectType

There are six basic steps to using SelectType:

1. Enter SelectType mode.
2. Select channel, if necessary.
3. Move to the option you want to set.
4. Set the option.
5. Save the new setting, if necessary.
6. Exit SelectType mode.

You'll see how to complete each step on the following pages. This section uses the SelectType Level 1 INPUT option to explain the steps to using SelectType. You may want to try each step as you read it for hands-on practice.

Enter SelectType mode

SelectType has two levels, Level 1 and Level 2. You can press the **SelectType** button once to enter Level 1, or hold it down to enter Level 2. The Level 1 or Level 2 indicator light goes on to indicate which level is active.

Press **SelectType** once to enter SelectType Level 1.

Select channel



If you have connected computers to both interfaces and set the MEMORY SHARE option, whenever you enter SelectType Level 1 , the display shows the channel select option, as shown below. If you have not set up both interfaces, SelectType skips this option and the display shows one of the Level 1 main menu options.




CAUTION: If you have attached a printer to each interface and want to share the printer, you must add additional memory to the printer. (See Appendix A.) Then you must set the MEMORY SHARE option in Level 2 before you select the channel. If you have not set the MEMORY SHARE option, CH P is selected.

After you select the channel, one of the main menu options appears on the display. The printer stores the settings for each channel separately. The settings you choose for one channel do not affect the settings of the other.

Move to the desired option

When you enter SelectType Level 1 or Level 2, one of the main menu options appears on the display. To look at the other options at this level, you can use the  and  buttons.

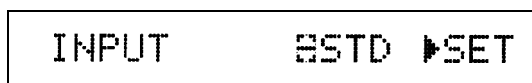
Press  until the INPUT option appears on the display, as shown below.



The display shows one of the choices in the INPUT option to the right. Most options have further levels, called submenus, or a list of choices connected to the option. Some options, like the SUB CONFIG option, may display only the main option until you enter the submenu. And some options, like the VERSION option, simply display information about your printer.

You use the  button to enter the next level of an option.

Press  to enter the next level of the INPUT option.



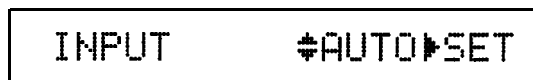
STD indicates that STD is selected, and in **some** cases a message (SET, EXEC, or PRINT) appears to the right of the option shown.


In the INPUT option, you **can** display any of the choices listed below.

STD
OPT
AUTO

OPT appears only **when** you install the optional lower paper cassette.


Press  or  to move to AUTO. Your display should look like this:





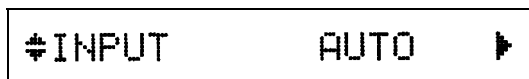
⬅ indicates that the option is not selected and ➡ SET indicates that you **can set** that option by pressing .

Note: Although the main menu options are the same for all operating modes (LQ, FX, and L-JET2P), some Level 1 submenu options are different in each mode. Submenu options for each mode are discussed later in this chapter.

Set the option


To set an option, you can simply press .

Press  to select AUTO. SET disappears from the display and the  icon moves to the right of the display indicating that the new option has been set.



★INPUT AUTO ★

At the same time, ★ moves to the left of the main menu option, indicating that you are back in the main menu.

Note: If you want to back out to the main menu at any time without changing a setting, press .

Your new setting remains in effect until you change it again or turn off the printer.

Save the setting

If you want a setting to remain in effect even when you turn the printer off and on, you can use the SYSTEM CONFIG option to save Level 1 settings, and P-CONFIG. SAVE option to save Level 2 settings.

Exit SelectType mode

To exit SelectType mode from any option, press the **SelectType** button.

Selecting Channel and Mode

Channels

This printer has two channels built-in so that you can connect the printer to two different computers at the same time and share the printer.

Channel P is set for parallel communication and Channel S is set for serial communication. You can store a different group of settings in each channel.



CAUTION: The printer needs at least 0.6 MB RAM to run both channels. Because the printer comes with 0.5 MB RAM, you must install additional memory if you want to share the printer. See Appendix A for information on adding memory to the printer.

Once you have installed the additional memory, change the MEMORY SHARE setting to divide the printer's memory between the two channels. Then you can set the printing options for each channel to meet specific needs. For example, in each channel you might want to use a different printer mode, or size of printer input buffer. SelecType options make it easy to customize the settings of each channel.

Available printer modes

Your printer comes with the following resident printer emulation modes:

- HP LaserJet series IIP
- Epson LQ-2500
- Epson FX-86e/286e

The HP emulation mode offers the widest range of features, but you may also want to select other modes to use software written specifically for other printers. You must change the MODE setting before you can operate your printer as an Epson **LQ-2500** or **FX-86e/286e** printer.



Setting the channel and printer mode with the CH CONFIG option

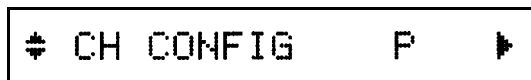
To change the channel and the printer mode, first you must set the rate of printer memory sharing with the MEMORY SHARE option. Until you set this option, you cannot select Channel S.




CAUTION: Do not change the MEMORY SHARE option until you have installed additional memory in the printer. You could damage the printer. See Appendix A for information an adding memory.

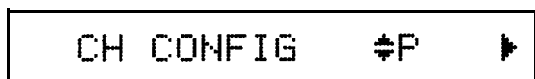
Follow the steps below to change the CH CONFIG option. This example describes selecting Channel P and setting the printer mode to LQ emulation mode.

1. Hold down the *SelcType* button until you enter SelectType Level 2. The Level 2 light goes on. One of the Level 2 main menus appears on the display.
2. Press  or  until the CH CONFIG option appears.






CH CONFIG P ►

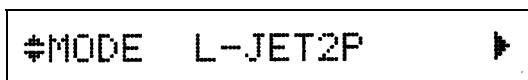
3. Press  to enter the CH CONFIG option. The display shows:






CH CONFIG ⇨P ►

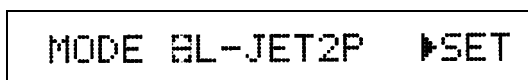
Selecting Channel and Mode


- If you want to change the channel, press  or . If you do not, press . Then you move to a submenu, MODE. The current setting for HP emulation mode is shown on the display:





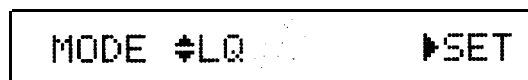
#MODE L-JET2P 


- Press  to enter the MODE option. The  icon appears to the left of the currently set printer mode as shown below.




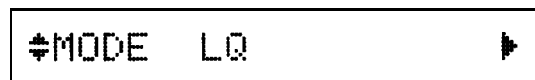
MODE #L-JET2P  SET


- You can choose either the L-JET2P, LQ, or FX mode. Press either  or  until the mode you want to select appears on the display.



MODE #LQ  SET

- Press  to set the new mode. The display returns to the main menu.



#MODE LQ 

- Press the **SelectType** button to exit SelectType.

This mode setting remains in effect until you change the setting again or turn off the printer. If you want this setting to remain in effect even after you turn the printer off and back on, use the P-CONFIG option to save the setting as described later in this chapter.

SelecType Options

This section lists all the options available when you use SelecType. Most options are the same whether you're working in L-JET2P, LQ, or FX emulation mode. Some of the options in Level 1, however, have a different function for each mode. These options are listed later in this chapter. See the Quick Reference Card for a map of all SelecType menus and options.

Level 1 options

When you press **SelecType** once to enter Level 1, one of the Level 1 main menu options listed below appears on the display.

INPUT
P-SIZE
COPIES
ORIENT.
FONT
STATUSSHEET
SUB CONFIG.
SYSTEM CONFIG.

Each of these options is described below. An asterisk (*) indicates the factory default setting for each option.

Note: If you have set the MEMORY SHARE option in Level 2, the display shows CH SELECT whenever you enter Level 1. After you select the channel, one of the main menu options listed above appears on the display.



STD
OPT
* A U T O

This option selects whether paper feeds into the printer from the standard paper cassette or the optional lower paper cassette.

If you choose STD, the printer loads paper from the standard paper cassette.

If you choose OPT, the printer loads paper from the optional lower paper cassette. OPT only appears as an option on the display if the optional lower paper cassette is installed.

If you choose AUTO, the printer loads paper from the paper cassette containing the size of paper specified by the P-SIZE (paper size) option. If both cassettes contain the specified paper size, the printer loads paper from the optional lower paper cassette until it is empty, then switches to the standard paper cassette.

If the paper in any of the cassettes does not match the paper size set with P-SIZE option, the printer returns a paper size error.

P-SIZE
LETTER

A4

A5

B5

* LETTER

HALF LT (Half Letter)

LEGAL

GLT (Government Letter)

GLG (Government Legal)

EXE (Executive)

F4

MONARCH

C10 (Commercial 10)

DL

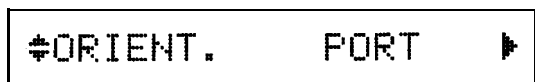
C5

You can choose any of the paper sizes shown above with the P-SIZE option. The factory setting is LETTER.

COPIES
1

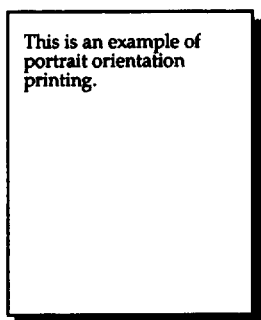
1 to 99

Use this option .to print up to 99 copies of your print job. The factory setting is 1. If you select a number above one, the display keeps count of the number of copies completed and the current setting. For example, if you set the copies option to 10 and 5 copies are complete, the display shows 5/10.

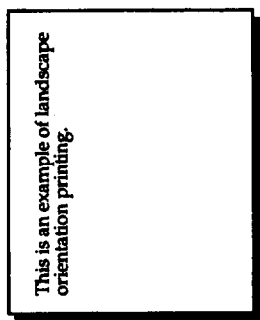


*PORT
LAND

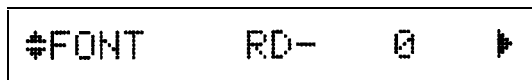
The orientation option selects the direction in which the characters are printed on a page. You can choose portrait (vertical) or landscape (horizontal) orientation.



Portrait orientation




Landscape orientation



Available options in the FONT submenu are different for each printer mode. See Choosing a Font later in this chapter for information on using this option.

➦ STATUS SHEET ➡

Use this option to print a status sheet that lists the current printer settings. When you reach this option, press  to print the status sheet.

Printer Configuration		STATUS SHEET		EPSON	
Installed Memory	: 0.5Mbytes	Controller Version	: 02.07	06.03	
Memory Share	: S 0:10P	CH Time out	: 10		
Auto Continue	: OFF	Beeper	: ON		
standby	: DISABLE				
CH	: P				
Mode	: L-JET2P	Version	: 09.36		
I/F : PARALLEL					
PARALLEL (CH P)					
SLCTIN	: OFF	AUTOFEED	: OFF	BUSY Delay(μs)	: 0
SERIAL (CH S)	: RS232C				
Word Length(bit)	: 8	Baudrate(bps)	: 9600	Parity	: NONE
Stop Bit	: 2	DTR	: ON	XON/XOFF	: ON
DSR	: OFF C T S		: OFF	ENQ/ACK	: OFF
Receive Buffer	: 1kbytes				
Mode Configuration					
Input Tray	: AUTO	Font	: RD-0	Paper Size	: LETTER
Copies	: 1	Orientation	: PORT		
Sub Configuration					
Length	: 60	Symbol	: 0		

➦ SUB CONFIG. ➡

The submenus for the subconfiguration option are different in each printer mode. See Using the SUB CONFIG Option later in this chapter for information on using this option.

➦ SYSTEM CONFIG. ➡

This option includes the eight submenus shown below.

SelecType Options

- FULL PRINT
- T-OFFSET
- L-OFFSET
- MEMORY LEFT
- LOAD MACRO
- SAVE MACRO
- DELETE MACRO
- POWERON MACRO

Each submenu is explained below.



0 to 62

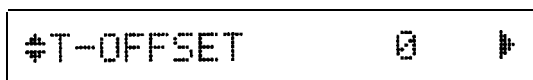
The default setting of 0 is sufficient for most uses of the printer, but printing complex pages may require an increase in the setting. If the message SET FULL PRINT appears on the display, increase this setting. The setting (any number from 0 through 62) times 20 is the number of Kbytes reserved in RAM for page composition. For example, a setting of 5 reserves 100 Kbytes. The following table shows the maximum setting necessary for each size of paper. The setting may be lower than the maximum, but it will never need to be higher.

Paper Size	Setting
A 4	5 1
A 5	3 5
B 5	4 3
L T	4 7
LG	6 2
HLT	3 6
EXE	4 5

Paper Size	Setting
GLG	57
GLT	45
F4	57
MONARCH	31
C10	41
DL	37
C5	38

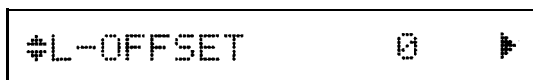
Since the amount of RAM you reserve with this option is not available for any other purpose, it is best to leave the setting at 0 until you see a SET FULL PRINT message. Then, increase the setting in small increments until the error does not occur.

If FULL PRINT is set to the maximum value, the SET FULL PRINT error is not displayed. If an INSUFF. MEMORY or PAGE BUFFER FULL message appears, installing optional memory is the only solution. See Appendix A for information on extra memory options.



-64 to +63

You can use the T-OFFSET (top offset) option to make fine adjustments in the position of the printing on the page. The setting is in dots; each dot is 1/300th of an inch (0.0846 mm) so you can use this option to raise or lower the printing on the page up to approximately 1/5th of an inch. The factory setting is 0.

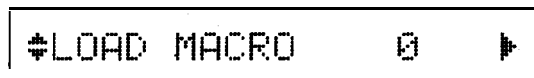


-64 to +63


Use the L-OFFSET (left offset) option to make fine adjustments in the position of the printing on the page. The setting is in dots; each dot is 1/300th of an inch (0.0846 mm). With this option, you can move the printing on the page approximately 1/5th of an inch to the left (settings from -1 to -64) or to the right (settings from 1 to +63). The factory setting is 0.

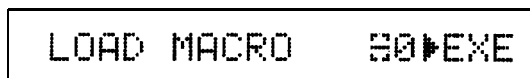
A screenshot of a menu option. It consists of a rectangular box with a thin border. Inside the box, the text "MEMORY LEFT" is displayed in a pixelated font on the left, and a single letter "K" is displayed on the right.





This option displays the amount of memory available. You can use this information to see whether a newly-installed memory option is working correctly or to see how much memory you have available for fonts or complex graphics.

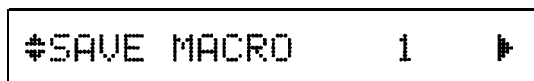
A screenshot of a menu option. It consists of a rectangular box with a thin border. Inside the box, the text "LOAD MACRO" is displayed in a pixelated font on the left, followed by the number "0" in the center, and a right-pointing arrow on the right.

0 to 4


Use this option to load one of the macros you've created using the macro save option. The factory setting is 0. When you press , the following appears on the display:

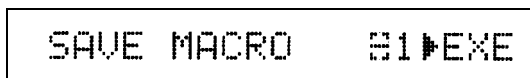
A screenshot of a submenu. It consists of a rectangular box with a thin border. Inside the box, the text "LOAD MACRO" is displayed in a pixelated font on the left, followed by the number "0" in the center, and a right-pointing arrow on the right.




Press  or  to choose the number of the macro you want to use. Then press  to load the selected macro. Whenever you select macro 0, all Level 1 settings return to their factory settings. Press  to exit this submenu without loading a macro.


A screenshot of a menu option. It consists of a rectangular box with a thin border. Inside the box, the text "SAVE MACRO" is displayed in a pixelated font on the left, followed by the number "1" in the center, and a right-pointing arrow on the right.

1 to 4

This option lets you save your current Level 1 settings as a macro and recall them anytime. You can save up to four macros for each channel using the numbers 1 through 4. When you press , the display shows:

A screenshot of a submenu. It consists of a rectangular box with a thin border. Inside the box, the text "SAVE MACRO" is displayed in a pixelated font on the left, followed by the number "1" in the center, and a right-pointing arrow on the right.

Select a macro number for your setting by pressing  or . Then press  to save the current SelecType Level 1 settings to the non-volatile memory so that they are in effect each time you turn the printer on.

Press  at any time to exit this submenu without saving a macro.






CAUTION: Do not turn off the printer while it is saving macro, or you may see a START UP ERROR message the next time you turn the printer on.


You can save up to four different settings for each channel. However, if you are sharing the printer, and if you use the same operating mode for both channels, avoid using the same macro number for both channels to save different settings. Changes in the channel P macro 1 setting may affect the setting in Channel S macro 1 settings.

⚡DELETE MACRO 1 ▶

This option lets you delete any macros you create. When you press , the display shows the following:

DELETE MACRO 01▶EXE

Move to the number of the macro you want to delete by pressing  or . Then press  to delete the macro. All the settings saved with the specified macro are deleted.

Press  to return to the main menu without deleting a macro.

A rectangular LCD display with a black border. Inside, the text "#POWERON MACRO 0" is shown in a pixelated font. A small cursor icon is positioned at the end of the line.

0 to 4

Use this option to specify the macro number you want to use as the power-on default for each operating mode. Each time you turn the printer on, the macro you have set with this option is in effect. Select macro 0 to use the factory default settings.


Level 2 options

When you hold down the *SelecType* button to enter Level 2, one of the main menu options listed below appears on the display.




TEST PRINT
CH CONFIG
MEMORY SHARE
CH TIMEOUT
AUTO CONT.
BEEPER
P-CONFIG. SAVE
FACTORY RESET
VERSION
STANDBY

Each of these options is described below. An asterisk (*) indicates the factory default setting.


A rectangular LCD display with a black border. Inside, the text "# TEST PRINT" is shown in a pixelated font. A small cursor icon is positioned at the end of the line.

Print two different test patterns to check whether your printer is working correctly. After TEST PRINT appears, press  once to see the following display.

```
PATTERN      #1  ▶PRINT
```




Press  to print Pattern 1 (vertical lines) or press  to display Pattern 2 (horizontal lines); then press  to print Pattern 2.

```
# CH CONFIG.      P  ▶
```

The channel configuration option allows you to choose settings for the MODE (operating mode), I/F (interface configuration), and RX-BUFFER (size of receive buffer) for each channel. You select the channel you are going to use. After CH CONFIG appears, press  to see the following display:

```
CH CONFIG.      #P  ▶
```

* P or S

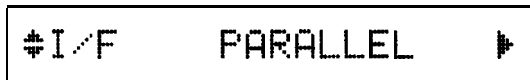
Press  to select Channel I'. If you share the printer and want to select Channel S, press  to display option S; then press  to select channel S. Once you select a channel, you enter the submenus of CH CONFIG option:

```
MODE
i/F
RX-BUFFER
```


A rectangular LCD display with a black border. Inside, the text "#MODE L-JET2P" is shown in a pixelated font. To the right of the text is a small right-pointing arrow.

- * L-JET2P
- LQ
- FX

This option selects one of three operating modes that the printer can use. You can set a different mode for each channel. See *Selecting Channel and Mode* earlier in this chapter for more information.

A rectangular LCD display with a black border. Inside, the text "#I/F PARALLEL" is shown in a pixelated font. To the right of the text is a small right-pointing arrow.

- * PARALLEL
- SERIAL

This option selects the printer interface. The settings are parallel for Channel P and serial for Channel S. The PARALLEL option has these three submenus:

- SLCTIN
- AUTOFEED
- BUSY DELAY

A rectangular LCD display with a black border. Inside, the text "#SLCTIN OFF" is shown in a pixelated font. To the right of the text is a small right-pointing arrow.

- ON
- * OFF

With SLCTIN set to OFF, the printer is continuously selected and device control codes DC1 and DC 3 are ignored. In almost all cases, leave SLCTIN set to OFF. When SLCTIN is ON, the SLCTIN signal goes HIGH at power-on and the control codes DC1 and DC3 are valid.

#AUTOFEED OFF ▶

ON

* OFF

When this option is set to OFF, the AUTOFEED signal on pin 14 is ignored and the printer does not send an automatic line feed (LF) command with each carriage return (CR). When AUTOFEED is set to ON, a line feed is added to each carriage return the printer receives. If your text lines overprint each other, you may need to set AUTOFEED to ON.

#BUSY DELAY 0 ▶

- 5

* 0

+ 5

This option sets the delay period from the $\overline{\text{ACKNLG}}$ to the BUSY signal. Available settings are 0, -5, and +5 microseconds. For most applications, leave this option set to 0 microseconds. The factory setting is 0.

Before you can set options on the SERIAL submenus, you must choose either RS-232C or RS-422 to match your interface communication.

SERIAL RS232C ▶ SET

* RS232C

RS422

SelectType Options

After you select the type of serial interface, you enter one of the submenus for the SERIAL option shown below.

WORD LENGTH
BAUDRATE
PARITY
STOP BIT
DTR
XON/XOFF
ENQ/ACK
DSR
CTS

A brief description of each serial interface option follows.

Note: The interface options are the same for both the RS-232C and M-422 serial interface modes.

#WORD LENGTH 8 ▶

7
* 8

You can select a word length for serial communications from two options: B-bit word length or 7-bit word length. See your computer manual and software documentation for the proper setting. The factory setting is B-bit.

#BAUDRATE	9600	▶
-----------	------	---

- 300
- 600
- 1200
- 2400
- 4800
- * 9600
- 19200

Use this option to set the data transfer rate (baud) for the serial interface. The baud rate is measured in bits per second (bps). See your computer manual and software documentation for the proper setting. The factory setting is 9600.

#PARITY	NONE	▶
---------	------	---

- * NONE
- ODD
- EVEN

When this option is set to NONE, parity checking is disabled. The parity bit, if used, provides a basic form of error detection. See your computer manual and software documentation for the proper setting.

#STOP BIT	2	▶
-----------	---	---

- 1
- * 2

This option sets the number of stop bits on each character of information sent to the printer. Stop bits signal the end of a character.

SelectType Options

#DTR	ON	▶
------	----	---

- * ON
- OFF

This option turns the printer ready communications protocol on or off. DTR protocol can be used in combination with the XON/XOFF option setting.

#XON/XOFF	ON	▶
-----------	----	---

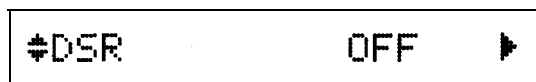
- * ON
- OFF

This option turns the XON/XOFF communications protocol on or off. XON/XOFF protocol can be used in combination with the DTR option setting.

#END/ACK	OFF	▶
----------	-----	---

- ON
- * OFF

This option appears on the display but is not effective in your printer. Just leave it set to OFF.



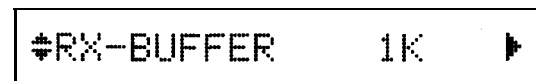
ON
* OFF

When DSR (Data Set Ready) is off, the signal level is permanently set HIGH, allowing the printer to send data to the computer. For most communications purposes, this option should be set to OFF (signal level HIGH). When DSR is on, data is sent to the computer only when DSR is HIGH.



ON
* OFF

When CTS (Clear To Send) is off, the signal level is permanently set HIGH. The factory setting is OFF (signal level is HIGH). This setting should be set to OFF for most communications purposes. When CTS is on, data is sent to the computer only when CTS is HIGH.




1 to 99 (Kbytes)

The receive buffer option allows you to change the size of the printer's input buffer. By choosing an appropriate buffer size, you can quickly transfer the contents of a file from the computer's memory to the printer's memory. The printer then prints the information from its own memory and frees up the computer for other tasks. The factory setting is 1K.

MEMORY SHARE 0.5M ▶



CAUTION: Do not set this option unless you have installed optional memory as described in Appendix A. The printer has 0.5 MB RAM, however; you must have 0.6 MB RAM to share the printer. If you set this option before adding memory, you could damage your printer.



This option specifies the proportion of memory for channel S and Channel P. The numbers at the right indicate the current available memory. If you want to share the printer, press  to display:

MEMORY BS 0:10P▶SET

* S 0:10P

S 1: 9P

S10: 0P

The proportion of memory for each channel can be set from 10:0 to 0:10 by increments of 1. The factory settings is P10: OS. Press  or  to change the setting.



CAUTION: When you share the printer, each printer channel requires at least 0.3 Kbytes of RAM, the printer always needs some portion of RAM for general operation. If you use one memory chip set to increase the printer's memory to 1.0 MB, your best setting would be 4:6 or 6:4.

When you select the memory sharing proportion, save the setting with P-CONFIG SAVE option and turn the printer off. Wait at least 5 seconds and turn it back on. Then the setting becomes effective.

#CH TIMEOUT 10 ▶

5 to 95 (in steps of 5)

This option sets the time for a channel timeout. If the printer is on line and no new data is sent for the number of seconds specified, and there is data in the other channel, the printer automatically switches the current channel to the other. The factory setting is 10 .

#AUTO COUT. OFF ▶

ON

* (OFF

When automatic continue is set to ON, the printer automatically continues to print after a certain period of time when one of the following errors occurs: SET FULL PRINT, PAGE BUFFER FULL, PAPER SIZE ERROR, TRAY SET XXX, and INSUFF. MEMORY. When this option is off, you must press the **CONTINUE** button to resume printing. In most cases, leave this option set to OFF.

#BEEPER ON ▶

* ON

OFF

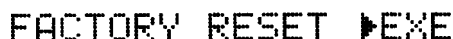
When this option is on, a buzzer sounds when a printer error occurs. When the option is off, the buzzer does not sound.



A rectangular box with a black border containing the text "P-CONFIG. SAVE" in a pixelated font, followed by a right-pointing arrow.

This option (printer configuration save) is similar to the SAVE MACRO option in Level 1. Use it to save settings you make in Level 2 so they take effect each time you turn the printer on.


A rectangular box with a black border containing the text "FACTORY RESET" in a pixelated font, followed by a right-pointing arrow.

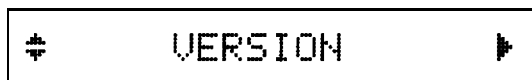
FACTORY RESET returns all Level 1 and Level 2 settings to their factory settings. When you select the FACTORY RESET option, the display shows the following:



A rectangular box with a black border containing the text "FACTORY RESET" in a pixelated font, followed by a right-pointing arrow and the text "EXEC".

Press  to execute the reset, or press  to return to the main menu without resetting the printer.

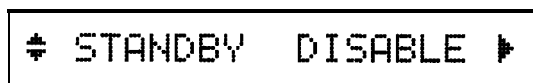


CAUTION: When you press  to execute the reset, the display flashes until the reset procedure is complete. Do not turn off the printer until the READY message appears on the display, or you may see a START UP ERROR message the next time you turn the printer on.



This option displays the version number of the printer's controller and font. Press  to enter the version display mode, and then press  several times to see the version number of the following components:

C-ROM1
C-ROM2
FONT



ENABLE
*DISABLE

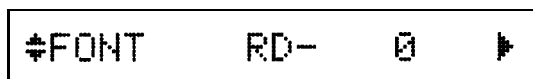
The standby mode is designed to save power by reducing the power to the fixing heater whenever no panel buttons are pushed or no data sent to the printer for 30 minutes. In this mode the printer begins warming up as soon as you press any button or send any data, becoming ready to print within 70 seconds. The default is DISABLE, which keeps the printer warmed up and ready to print at all times.

Choosing a Font

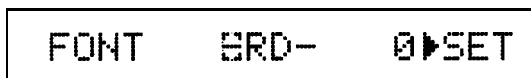
The FONT option is different for each printer mode. This section describes the available submenus of the FONT option in each mode. You can use the STATUS SHEET option to print out a list of the fonts that are available.

HP emulation mode

When you are in the L-JET2P mode, the FONT option display shows:



Press  to enter the FONT option.



You first choose the font source. The five possible choices are listed below:

*f RD	Resident font
A	Font card slot A
B	Font card slot B
C	Font cartridge slot C
DL	Downloadable soft font

Only available options appear on the display. Options A, B, and C are available only if you insert a font card or cartridge in those slots. The DL option appears only when a font has been downloaded from your computer. See Appendix B and C for a description of the resident HP fonts.

After you choose the font source, you choose the font by number based on the font source option selected above. Only fonts that match the current orientation setting can be selected. If you change the SYMSET or ORIENT settings, the available font numbers may change. To save selected font as the default font, use the SAVE MACRO option in the Level 1 SYSTEM CONFIG menu.

LQ and FX emulation modes

When you use either LQ or FX emulation mode, the FONT option display shows:



*Courier
Prestige
DL

This FONT option allows you to select a font by typeface. The factory setting is Courier. After selecting the desired font, you can also adjust the character spacing and size of the font with the PITCH and CONDENSED settings found in this option's submenu.

Note: Resident and optional fonts specifically designed for the HP emulation mode cannot be used in the LQ or FX mode.

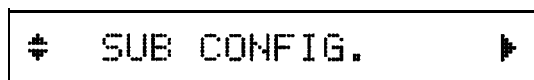
Using the SUB CONFIG Option

The subconfiguration option is different for each printer mode. The function and submenus of the SUB CONFIG option for each mode is described below.

Once you set new settings with the SUB CONFIG option, each setting remains in effect until you change it again or turn off the printer. If you want a setting to remain in effect even when you turn the printer off and on, use the Level 1 SAVE MACRO option described on page 3-22.

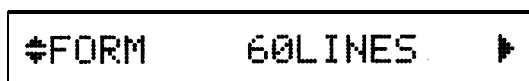
HP emulation mode

When you are in L-JET2P emulation mode, the SUB CONFIG option includes two submenus:



FORM
SYMSET

Press  to enter the SUB CONFIG option submenu.



0 through 128

Use the FORM option to set the number of lines for the selected paper size and orientation. The setting you choose also changes the line spacing. This setting is affected by P-SIZE, ORIENT and FONT settings. If 0 is selected, the line spacing changes to 1/6-inch.

If *** appears on the display, the number of lines you set is out of the possible range of 0 to 128.

```
⌘SYMSET  Roman-8  ▶
```

Use the SYMSET option to choose from 26 resident HP symbol sets. (The HP LaserJet series IIP printer has 24 symbol sets.) In most cases, you will never need to change this setting.

***Roman-8**

Norweg1	(ISO60)
Roman E	
French	(ISO25)
HP Germ	
Italian	(ISO15)
JIS ASC	(ISO14)
ECM94-1	(ISO100)
Swedis2	(ISO11)
ANSI AS	(ISO6)
Norweg2	(ISO61)
UK	(ISO4)
French2	(ISO69)
German	(ISO21)
HP Span	
Legal	
Chinese	(ISO57)
Spanish	(ISO17)
IRV	(ISO2)
Swedish	(ISO10)
Portugu	(ISO16)
IBM Por	(ISO84)
IBM Spa	(ISO85)
IBM-US	
IBM-DN	
PcMulti	

LQ and FX emulation modes

When you set up your printer to operate in LQ or FX mode, the SUB CONFIG option includes the fourteen submenus shown below:

```
⌘ SUB CONFIG. ▶
```

PITCH	CGTABLE
CONDENSED	COUNTRY
L-MARGIN	J-REPRINT
R-MARGIN	AUTO CR
FORM TOP	ZERO CHAR.
TEXT	WIDE PAGE
SKIPBOTTOM	B-IMAGE

Press **▶** to enter the SUB CONFIG option.

```
⌘PITCH 10CPI ▶
```

* 10
12
15
PROP.

You can select a character pitch of 10 , 12 , or 15 characters per inch (cpi), or choose proportional spacing.

Using the SUB CONFIG Option

#CONDENSED OFF ▶

* OFF
ON

You can use this option to change the character spacing. Condensed printing is useful for spreadsheets and other applications where you need to fit the maximum amount of information on each line. The 15 cpi character pitch cannot be condensed.

#L-MARGIN 0 ▶

0 to available

This option allows you to set the left margin position. Margin units are determined by the current pitch (characters per inch) and the condensed setting (on or off). If you select proportional, 10 cpi and condensed are used to determine margin units. If you change the setting of ORIENT, P-SIZE, or WIDE PAGE (when P-SIZE is set to A4 or F4) the left margin defaults to 0. The factory setting is 0.

#R-MARGIN 80 ▶

1 to available

This option allows you to set the right margin. Margin units are determined by current pitch (characters per inch) and the condensed setting (on or off). If proportional is selected, 10 cpi and condensed are used to determine margin units. The factory setting is 80. If you change the setting of ORIENT, P-SIZE, or WIDE PAGE (when P-SIZE is set to A4 or F4) the right margin defaults to the following settings:

Default right margin

Paper Size	Condensed	Portrait			Landscape		
		10 cpi	12 cpi	15 cpi	10 cpi	12 cpi	15 cpi
A4	OFF	77	93	116	111	134	167
	ON	133	155	116	191	223	167
A4 (80 col)	OFF	80	96	120	111	134	167
	ON	137	160	120	191	223	167
A5	OFF	53	63	79	77	93	116
	ON	91	106	79	133	155	116
B5	OFF	66	80	100	96	115	144
	ON	114	133	100	164	192	144
Letter	OFF	80	96	120	105	126	157
	ON	137	160	120	180	210	157
Legal	OFF	80	96	120	135	162	202
	ON	137	160	120	231	270	202
Half Letter	OFF	50	60	75	80	96	120
	ON	85	100	75	137	167	120
Executive	OFF	67	81	101	100	120	150
	ON	115	135	101	171	200	150
G Legal	OFF	80	96	120	125	150	187
	ON	137	160	120	214	250	187
G Letter	OFF	75	90	112	100	120	150
	ON	128	150	112	171	200	150
F4	OFF	77	93	116	124	149	187
	ON	133	155	116	214	249	187
F4 (80 col)	OFF	80	96	120	124	149	187
	ON	137	160	120	214	249	187

#FORM TOP 0.50 

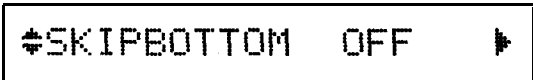
0.50 - 1.50 (inch)

This option specifies the distance from the top of the sheet to the baseline of the first printable line. This is measured in 0.05-inch increments. The factory setting is 0.50 inches.



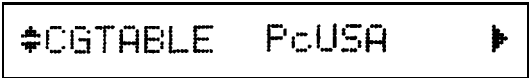
1 to available

Use this option to set the page length. The unit of measure for this option is 1/6th of an inch. If you change the ORIENT, P-SIZE, or FORM TOP settings with SelecType, the form length setting automatically returns to the default setting for each paper size. The factory setting is 62 (line spacing 6 lines per inch).



- * OFF
- ON

When SKIPBOTTOM is set to ON, the printer inserts the number of line spaces specified by the ESC N (skip over perforation) command between the last line printed on one page and the first printable line on the next page. The total number of lines skipped equals the FORM TOP setting plus the amount of skip over perforation set with ESC N. Since most application programs insert their own top and bottom margins, you should use this feature only if your program does not provide them.



- * PcUSA
- PcMult
- PcPort
- PcCanF
- PcNord
- DLoad
- ITALIC

The CGTABLE (character generator table) option allows you to select the graphics character table, the italics character table, or the download table. The graphics table contains graphics characters for printing lines, corners, and shaded areas; international characters; Greek characters; and mathematical symbols. Selecting the italics table defines the upper half of the character table as italic characters. The download table is not available when you are in FX emulation mode.

```
#COUNTRY  USA  ▶
```

- * USA
- France
- German
- UK
- Denmak
- Sweden
- Italy
- Spain1
- Japan
- Norway
- Denmk2
- Spain2
- LatinA

Use this option to select a symbol set from the list above. You can select one of the thirteen international symbol sets. See Appendix B for samples of the characters in country symbol set.

◆J-REPRINT OFF ▶

OFF

* ON

Use this option to reprint after a paper jam. When it is set to ON and a page jams in the printer, the page is reprinted after the jam is cleared. If this option is set to OFF, a jammed page does not reprint automatically, but complex pages may print faster.

◆AUTO CR ON ▶

OFF

* ON

When AUTO CR (automatic carriage return) is ON, the printer performs a carriage-return line-feed (CR-LF) operation whenever the print position exceeds the right margin. If it is OFF, characters beyond the right margin are not printed, and a linewrap is not performed until a CR is received. Most software programs take care of this function.

◆ZERO CHAR. 0 ▶

* 0

Ø

This option determines whether the printer prints a slashed zero (0) or an open zero (Ø). This feature is useful for clearly distinguishing between an uppercase letter O and a zero when printing documents such as programming lists.

WIDE PAGE ON ▶

OFF

* ON

When this option is ON, you can print up to 80 characters at 10 cpi across an A4 or F4-size page. When it is OFF, you can print up to 77 characters at 10 cpi. This setting is only valid when P-SIZE is set to A4 or F4. If you change the WIDE PAGE setting when sizes other than A4 or F4 are selected with the P-SIZE option, L-MARGIN automatically defaults to 0 and the R-MARGIN and the TEXT LINES return to the default setting for the currently selected paper size.

B-IMAGE DARK ▶

* DARK

LIGHT

BCODE

With B-IMAGE set to DARK or LIGHT, your printer can correctly emulate the graphics densities set with the printer commands. When DARK is selected, the bit image density is high. When LIGHT is selected, the bit image density is low.

The BCODE setting converts bar codes to bit images by automatically filling in any vertical gaps between dots. This produces unbroken vertical lines that can then be read by a bar code reader.

Note: This mode reduces the size of the image being printed and may cause some distortion when printing bit image graphics.

Chapter 4

Paper Handling

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Choosing Paper

With this printer you **can** print on **many** sizes and types of paper. You can also use other types of media, such as envelopes, labels and overhead projector transparencies. The printer feeds most types of media automatically from **the** paper cassette, while some media require hand-feeding for greater control. This chapter describes the paper delivery choices and how to select and load paper.

The type of paper you use in your printer directly affects the quality of your printed output. The printed image is made up of many tiny dots of toner **that** are transferred to the paper. If the paper is rough, the edges of the letters become ragged because some of the dots fall into indentations **on** the paper. The smoother **the** paper you use, **the** better your printing looks.

You should use especially smooth paper for printing originals **that** will be used to make reproductions. Because reproduction introduces its **own** raggedness to the edges of the letters, you want to start with **the** best original possible.

For best results, store your paper supply in its original wrapper. Printing is sensitive to moisture absorbed by the paper. Do **not** store paper in a humid or damp environment.

Below are some recommendations for selecting paper and other print media for **the** printer.

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

Standard office paper - You can use the printer's paper cassette to automatically feed most types of 16 to 24 lb. (60 g/m² to 90 g/m²) paper. This typically includes such paper as copier paper, memo **sheets**, cotton bond, and letterhead. If you feed paper manually or load it one sheet at a time through the paper **cassette**, you can use 16 to 42 lb. (60 g/m² to 157 g/m²) paper.

For best results, use paper made especially for laser printers. Paper made for plain-paper copiers is also a good choice.

If you want to use less expensive paper, test it before regular use. Paper should be of good quality and relatively smooth. Also keep in mind that if the paper is textured or too rough, the printed output **may** not be as clear.

Some letterheads use inks or dyes that may smear or come off when subjected to the high temperatures of the fuser. Try a few sheets before you print **on** letterhead or other special paper.

Special paper-You can use colored paper as long as it meets the weight limits given above for standard office paper. Do not, however, use coated paper (paper to which a colored coating has been added).

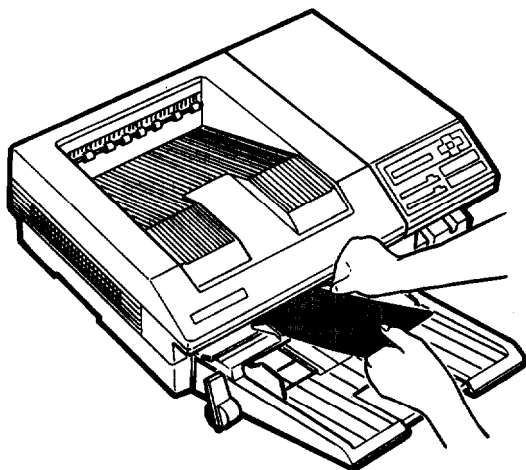
Labels - Use only labels designed for laser printers or plain-paper copiers in your printer. When printing labels, your best choice is to use the optional face-up output tray; this keeps the labels from curling or coming off the backing sheet.

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

You should also test the label sheet for leaking adhesive by pressing a sheet of paper **on** top of a sheet of labels. If **the** paper sticks at all, do not use **the** labels.

Envelopes - You can load envelopes as shown below. Load envelopes along the length of an envelope. The printing quality on envelopes may be irregular because different parts of an envelope have different thicknesses. If the printing is too light, turn the print density knob counterclockwise. Always return the print density knob to the center position when you go back to printing on ordinary paper. For best results, use the optional face-up output tray when you print envelopes.

Other materials -You can use overhead projector transparencies and adhesive drafting film if they are made for use with plain-paper copiers or laser printers. When printing these materials, use the optional face-up output tray for best results.



Choosing a Paper Size

The printer can feed several sizes of paper automatically. To select a paper size, simply change the paper size (P-SIZE) setting with SelecType. You may also need to adjust the paper guides on the paper cassette to match the size of the paper you want to use.

Note: If you are using the optional lower paper cassette, see Appendix A for instructions on selecting a paper size.

The table below lists all of the paper sizes on the SelecType menu. Not all the sizes in this table are marked on the paper cassette, just the more commonly used paper sizes.

Paper	Dimensions
A4	210 X 297 mm
A5	148 X 210 mm
B5	182 X 257 mm
LETTER	8 1/2 X 11 inches
HALF LT (Half letter)	5 1/2 X 8 1/2 inches
LEGAL	8 1/2 X 14 inches
GLT (Government letter)	8 X 10 1/2 inches
GLG (Government legal)	8.5 X 13 inches
EXE (Executive)	7 1/4 X 10 1/2 inches
F4	210 X 330 mm
Envelopes	Dimensions
MONARCH	3 7/8 X 7 1/2 inches
C10 (Commercial-10)	4 1/8 X 9 1/2 inches
DL	110 X 220 mm
C5	162 X 229 mm

You will probably use one paper size most of the time. For your convenience, you can use the SelecType Level 1 SAVE MACRO option so that the paper size you use most often is automatically selected whenever you turn on, reset, or initialize your printer. See Chapter 3 for details.

Choosing Printing Methods

The EPL-7000 offers you several printing methods. Your choices depend mainly on the type of paper or other print media you want to use.

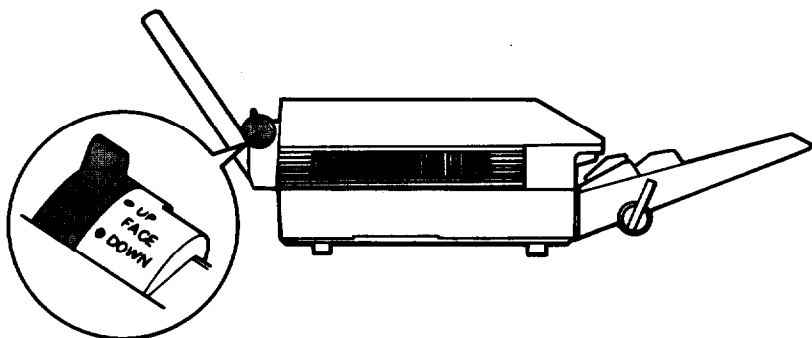
- **Paper delivery method** — Choose face-up output (with the optional face-up tray) or face-down output.
- **Paper feed method** — Select either automatic or manual paper feed.

Paper delivery method

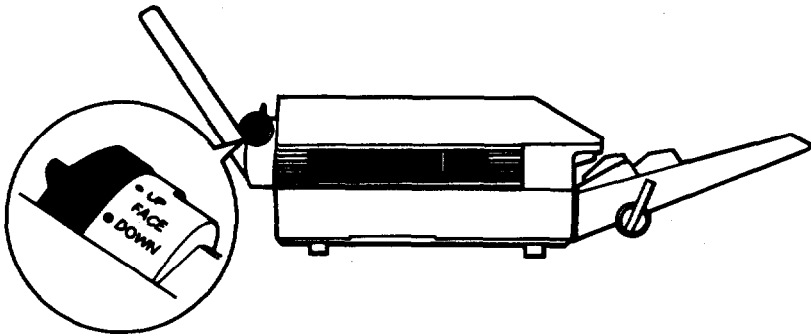
The printer can deliver paper face-down on top of the printer or face-up into the optional face-up tray. The advantage of printing face-down is that when the printed stack is turned over, the first page of the document is on top and the last page on bottom. The printer is factory-set for face-down delivery.

The optional face-up tray gives you an immediate look at your printed output. This method of delivery is recommended for printing on media such as labels, envelopes, and overhead transparencies that require a straight-through paper path.

To choose face-up delivery, install the optional face-up output tray as described in Appendix A. Move the paper path lever on the drive unit to the **FACE UP** position, as shown below.



Even with the optional face-up tray installed, you can still choose either face-up or face-down delivery. To choose face-down delivery when the face-up output tray is installed, **move** the paper path lever to **FACE DOWN**, as **shown** below.



Paper feed method

The printer feeds **most** types of media automatically from the paper cassette; however, some media require hand-feeding for greater control.

The following table lists recommended settings for different print media. (If you **want** to try other settings, be sure to test-print a few sheets before regular use.)

Choosing Printing Methods

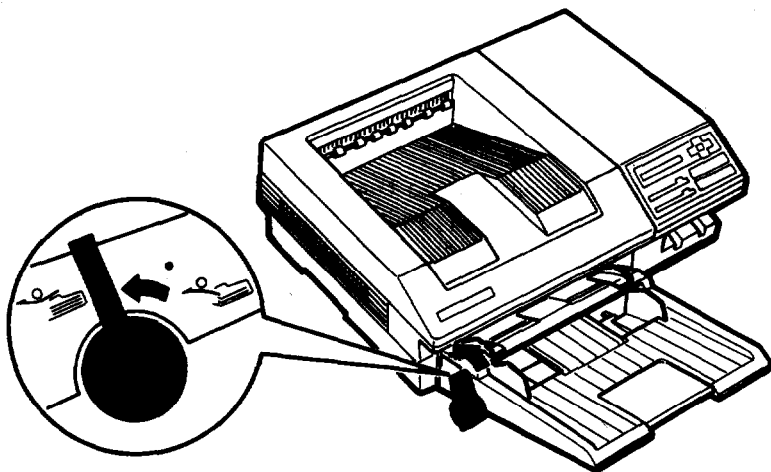
Material	Feed	Delivery
Regular Paper (60 – 90 g/m ²) (16-24 lb.)	Auto or manual	Face-up or face-down
Heavy Paper (90 - 157 g/m*) (24 - 42 lb.)	Manual or auto	Face-up
Envelopes	Manual or auto	Face-up or face-down
Transparencies	Manual	Face-up or face-down
Labels	Manual	Face-up

Note: To print on letterhead paper, load the paper face-up with the top of the page entering the printer first.

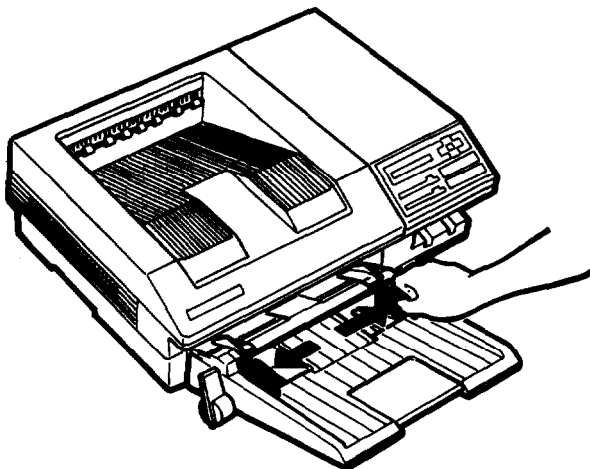
Loading Paper in the Cassette

The standard paper cassette holds up to 250 sheets of paper for automatic printing. To load paper in the cassette, follow these steps:

1. Push the paper set lever forward to the manual position, as shown below.

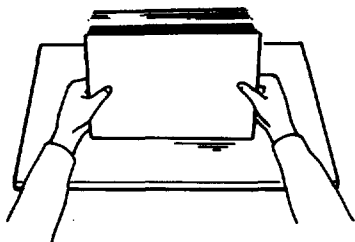


2. Slide the paper guides all the way apart, as shown below.

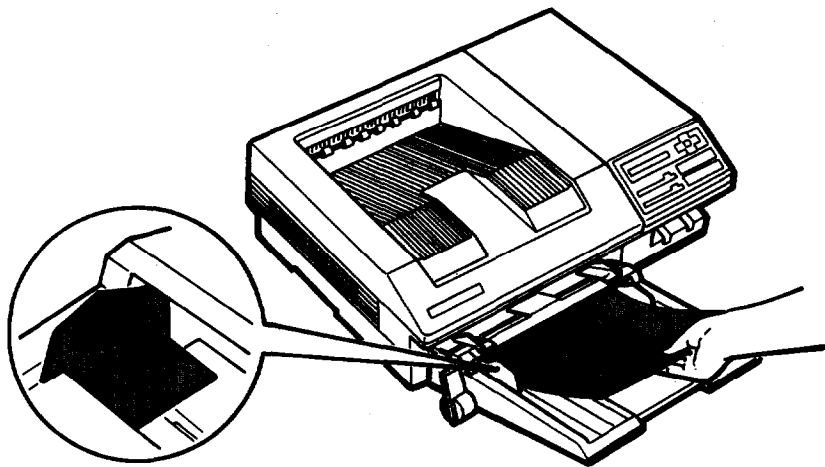


Loading Paper in the Cassette

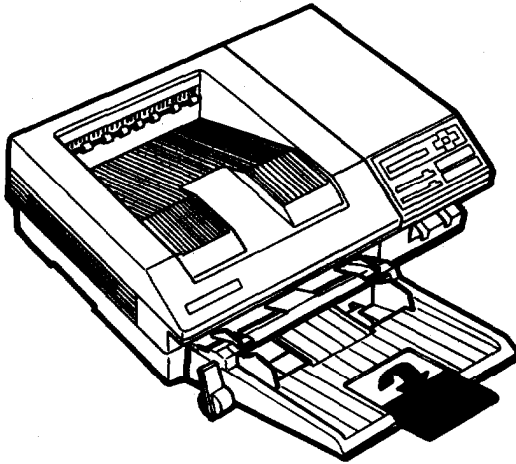
3. Take a stack of paper and tap the edges of the paper on a flat surface to even up the stack as shown.



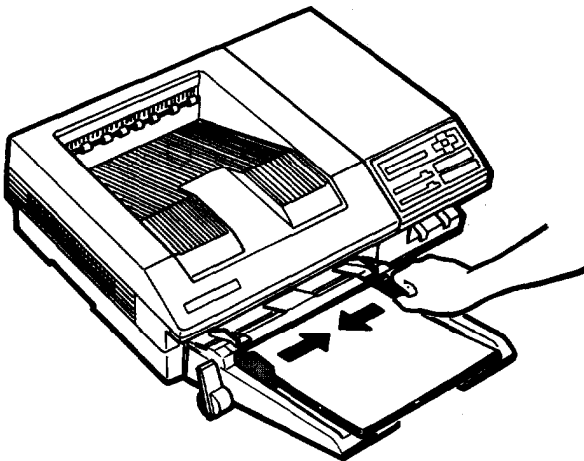
4. Insert the stack of paper into the paper cassette, making sure that the top of the stack is below the maximum height mark inside the paper cassette. Push the paper in gently as far as it will go.



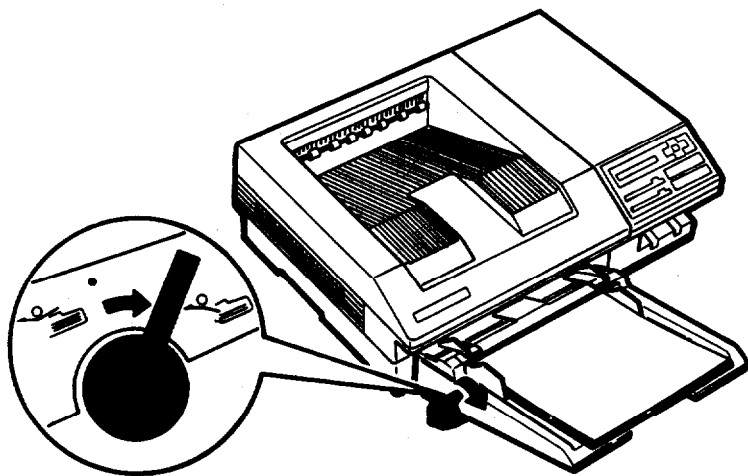
Note: To print on long paper, such as legal-size paper (8 1/2 X 14 inches), open the paper support as shown below.



5. Slide the paper guides together until they both rest lightly against the stack of paper.



6. Pull the paper set lever to the automatic position until it clicks into place.



Note: The paper set lever must be set back to the automatic position before paper can be fed automatically from the paper cassette. If the paper set lever is forward while the printer is on, the control panel displays the PAPER OUT message, even if there is paper in the cassette.

7. If you have changed the paper size, use SelecType to choose the correct paper size, as described in Chapter 3.
8. Press **ON LINE** to set the printer on line.

Note: When you reload paper, make sure the output roller stops rotating before you insert a new stack of paper into the paper cassette.

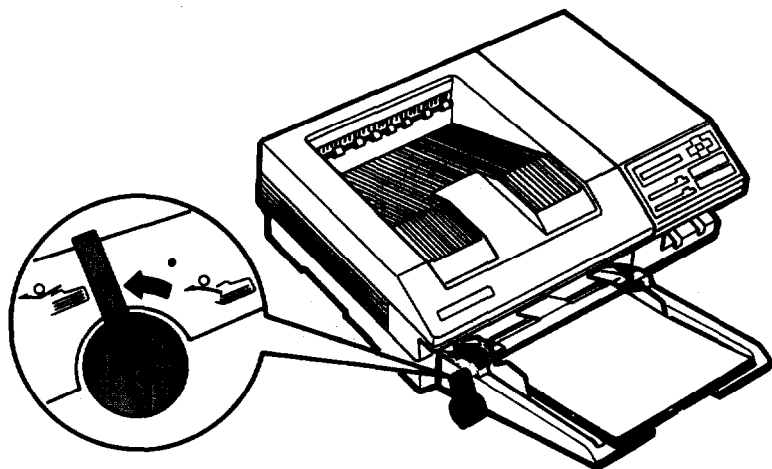
Loading Paper Manually

If you want to print labels, envelopes, transparencies, heavy paper (over 24 lb. or 90 g/m²), or other special papers, you can load the paper one sheet at a time in the paper cassette or you can hand-feed it using the manual feed slot. Hand-feeding is more convenient, especially when you want to print a small job on a different type of paper than that already loaded in the cassette.

You can hand-feed paper ranging in size from 3.6 X 6.3 inches (92 X 160 mm) to 8.5 X 14 inches (216 X 356 mm).

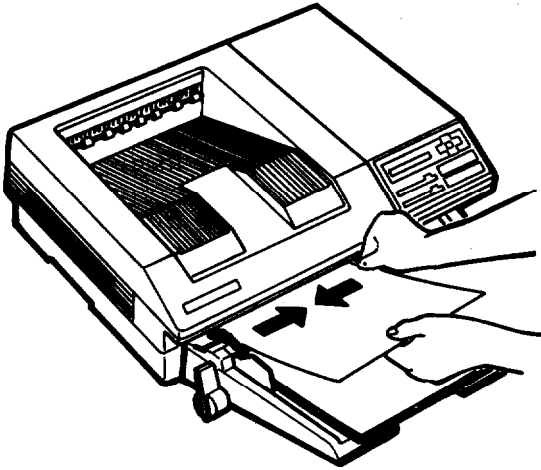
It is easy to hand-feed paper with this printer; just follow the steps below:

1. If necessary, use SelectType to choose the new paper size as described in Chapter 3.
2. If the printer is on line, press **ON LINE** to set the printer off line.
3. Push the paper set lever forward to the manual position.

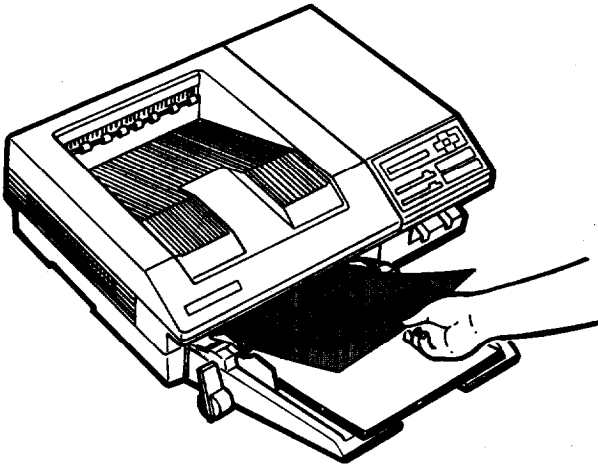


Loading Paper Manually

4. Adjust the manual feed paper guides to match the size of paper you are using as shown below.



5. Insert a sheet of paper into the manual feed slot as far as it will go. (The control panel displays the READY message when you insert the paper correctly.)



Note: Insert the paper with the side you want to print on face-up. For example, to print on the back of a printed page, load the page with the blank side up.

6. For best results **when** printing labels, envelopes, transparencies and **heavy** paper, install **the** optional face-up output tray. Set **the** paper path selector on **the** output tray for face-up delivery.
7. Press **ON LINE** to set the printer on line; then print the page.

Note: When you hand-feed consecutive pages, make sure the output roller stops rotating before you insert a **new sheet** of paper.

8. To return to automatic loading from the paper cassette, pull the paper set lever back to the automatic position.

Chapter 5

Application Software

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Using Your Printer with Application Software

Once you've set up the printer and are more familiar with its operation, you can start using it with your application programs. Most application programs ask you to specify the type of printer you are using so that the program can take full advantage of the printer's features. Many programs have an installation or setup menu that presents a list of printers to choose from.

If your program has a printer selection menu, follow the instructions below to get the best performance from your printer.

Using printer selection menus

Your printer has three printer operating modes, also called emulations. It is factory-set to the HP LaserJet series IIP emulation (L-JET2P) mode and this setting gives you the fullest range of features. If you choose another emulation mode with the SelecType Level 2 MODE option, make sure you also set up your software to match the emulation mode you want to use.

The following sections describe how to set up your application programs for each emulation mode.

HP LaserJet series IIP emulation mode

If you have not changed the factory setting, your printer is in HP emulation mode. Simply **use** your application program's setup menu to choose the first printer available from the list of printers below. They are listed in order of preference. (For more about HP emulation, see Appendix C.)

HP LaserJet series IIP™

HP LaserJet series II™

HP LaserJet Plus™

HP LaserJet 500™

HP LaserJet™

If none of these printers are listed among your program's options, select any printer that uses the HP Printer Command Language (PCL).

Epson LQ and FX emulation modes

Make sure you have set the SelecType Level 2 MODE option to LQ or FX as described in Chapter 3. Then, use your application program's setup menu to select a corresponding printer driver from the list below. They are listed in order of preference.

LQ Mode

SQ-2500

LQ-2500

LQ-1050/850

LQ-1000/800 (expanded ESC/P)

LQ-500

LQ-1500 (with version 2 ROM)

LQ printer

FX Mode

FX-1000/800 (286e/86e)

FX-85

FX-80

If none of the printers listed above are available from your program, choose the first available of the following: EX, JX, LX, RX, MX, Epson printer, Standard printer, or Draft printer.

Printing a test file

After you install the software, create a test file using the fonts, symbols, and formats that you use most often. Printing the test file shows you which characters you can print with your application program and whether you need to make any changes to your printer settings with SelecType.

Your test file should contain as many of the following items as possible:

- More than one full page of text
- Text on every line
- Some lines that extend completely to the margins
- Features that you can control with your software, such as bold or underlined text
- Some graphics (if you choose an EPL-7000 or HP LaserJet series IIP driver)
- Headers and footers (if your software supports them).

If you select the first printer recommended for your operating mode, you should be able to use all of the features of your application program. Even if you have to choose an alternative printer from the lists, you should still obtain a wide range of printing effects.

Controlling the Printer

Most application programs contain a number of built-in functions that you can use to control the printer. When you use these features, special codes are inserted into your document by the program. When you print a document, these special codes are converted by the application program into commands understood by the printer.

Word processors

Word processors usually let you use a fixed set of printer features by tagging the text to be altered. When the document is printed, the tags are recognized and translated into suitable commands for your printer. Some programs display these tags on screen; others display the text exactly as it will appear **when** printed, for example, in **bold** or ***italics***. This method is normally restricted to features that can be found on almost all printers, such as **as** bolding and underlining.

Spreadsheets

Although spreadsheets seldom use as many printing **enhancements** as word processors, they do have some very specific requirements. If your spreadsheet program has a printer selection menu, **choose** the first available printer recommended for your emulation mode. If your spreadsheet doesn't **have** a printer setup routine, read **the** program's manual carefully for printing information.

Unlike word processors, spreadsheet programs usually don't let you change printer commands within a spreadsheet. Instead, one style of printing is used for the whole spreadsheet. You can take advantage of your printer's features to control spreadsheet printing.

You can use SelecType to change the printer's settings. Since most spreadsheets require a large number of columns, use SelecType to increase the number of characters per line by first setting the orientation to landscape and then widening the margin settings.

Note: Your application program may override SelecType settings. If printing results are not what you expected, check the spreadsheet manual for more information.

If you want to change a specific part of your spreadsheet, say to highlight the text, the easiest way to do this is to print the file to disk; then you can use your word processor to make fine adjustments to your text.

Graphics programs

The printer is capable of producing finely detailed graphic images. The easiest way to take advantage of your printer's capabilities is by using one of the many graphics programs available.

When buying graphics software, make sure the program has an option to print on an EPL-7000 or HP LaserJet series IIP printer. Programs listing these options should provide you with excellent results.

Most graphics programs have a printer selection procedure similar to that described in the section in this chapter on setting up software.

Integrated packages

When you install an integrated package, you should select the available printer recommended for the emulation mode you are using from the printer selection menu. Most integrated packages include a wide range of features such as:

- Word processing
- Spreadsheets
- Graphics
- Database capabilities

If the HP LaserJet IIP is not available from the printer selection menu, you can still print with the non-graphics portion of your package. Simply follow the instructions in the section on setting up your application program earlier in this chapter.

Desktop publishing programs

When you set up a desktop publishing application program, select either the EPL-7000 or HP LaserJet series IIP from the program's printer selection menu. If neither driver comes with your package, contact your software dealer to see if an update is available.

<p>Note: To print complex pages, you may find that you need to increase the printer's 0.5 MB of RAM. See Appendix A for more about memory options.</p>

Chapter 6

Maintenance and Transportation

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TONER LOW Message

The TONER LOW message warns you that the printer is almost out of toner. After you see the TONER LOW message, you can keep printing until the TONER OUT message appears (about **25 more pages**), but print quality may decline. For best print quality, change the imaging cartridge as described in the next section as soon as the TONER LOW message appears.

TONER OUT message

When the TONER OUT message appears, you must replace the imaging cartridge and cleaning pad before printing any more pages. Follow this list of procedures in order whenever you see the TONER OUT message. Detailed instructions are given in the following sections.

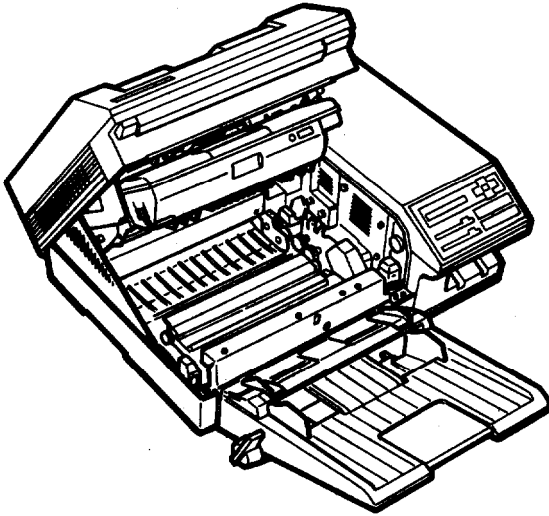
1. Remove the imaging cartridge
2. Clean the transfer charger wire
3. Clean the glass lens
4. Replace the cleaning pad
5. Replace the imaging cartridge

Removing the imaging cartridge

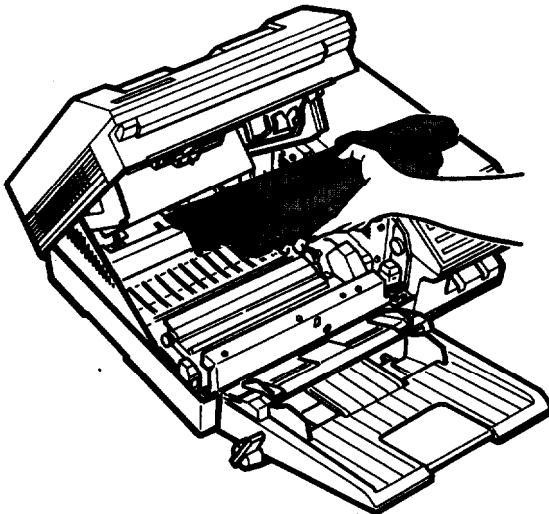
Follow these steps to remove the imaging cartridge:

1. Make sure the printer is turned off; then unplug the power cord from the wall outlet.

2. Lift the latch to open the printer case. Stop at the lower position, as shown below.



3. Hold the imaging cartridge as shown below and gently slide it toward you to remove it.



4. Discard the imaging cartridge.

The imaging cartridge is made of non-hazardous materials. However, when you discard a used imaging cartridge, follow local regulations regarding waste disposal.

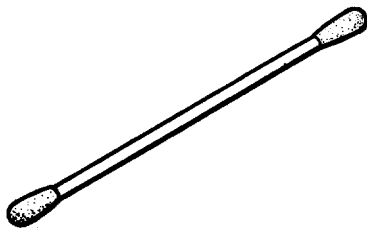
Cleaning the transfer charger wire

Next, you should clean the transfer charger wire. The transfer charger wire transfers images from the imaging cartridge to the paper.

You should also clean the transfer charger wire if the print quality declines. See Chapter 7 for a discussion of print quality problems that can be solved by cleaning the charger wire.

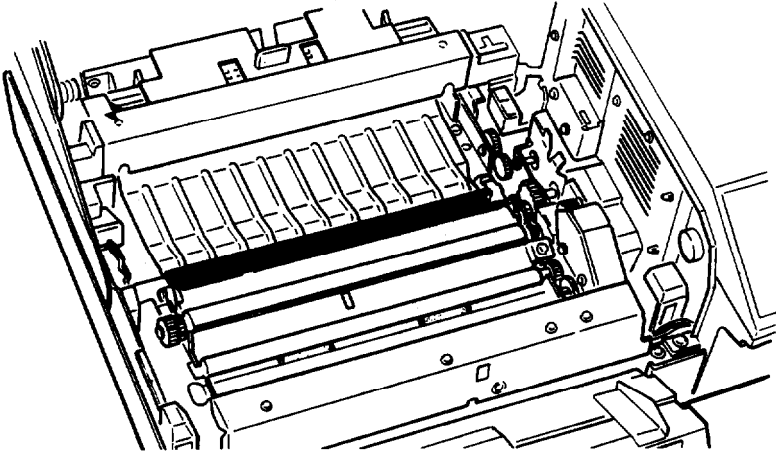
Follow these steps to clean the transfer charger wire:

1. Locate the cotton swab provided in the imaging cartridge box, or use a commercially available cotton swab.



2. Open the printer to the upper position.

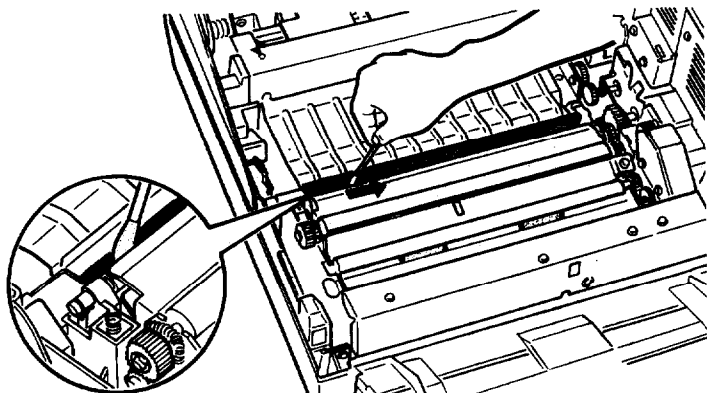
3. Locate the transfer charger wire in the paper path. It is thin and difficult to spot instantly.



CAUTION: When cleaning the transfer charger wire, be sure that you do not press too hard. The wire is delicate and can break if you apply too much pressure. Also; never touch the wire with your fingers; the oil on your fingers may damage it.

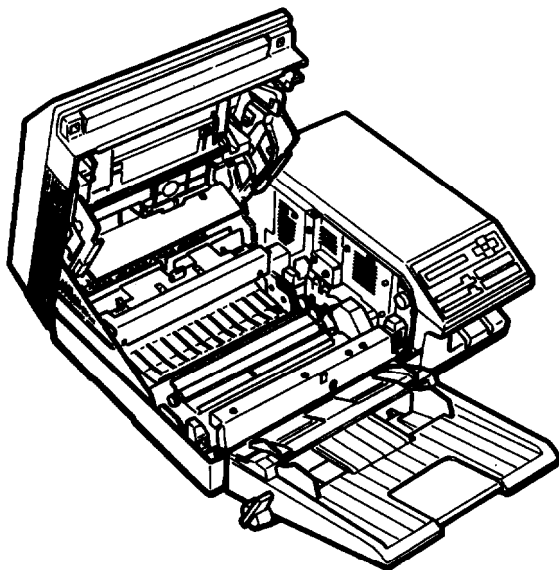
TONER LOW Message

4. Clean the transfer charger wire by gently rubbing the cotton swab along the length of the wire, as shown below. Only wipe from left to right when cleaning the transfer charger wire. Do not moisten the cotton swab.

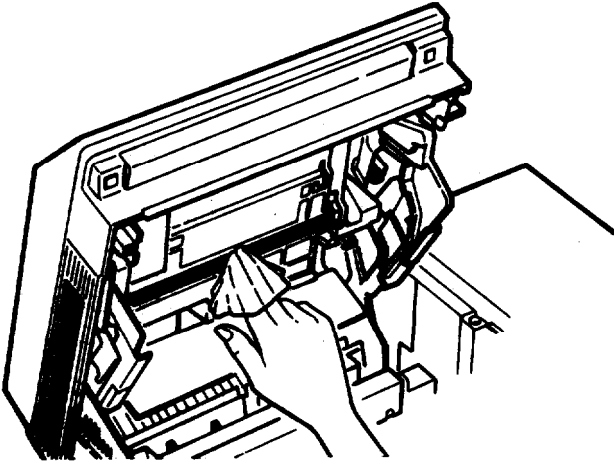


Cleaning the glass lens

1. Locate the glass lens on the inside printer cover.



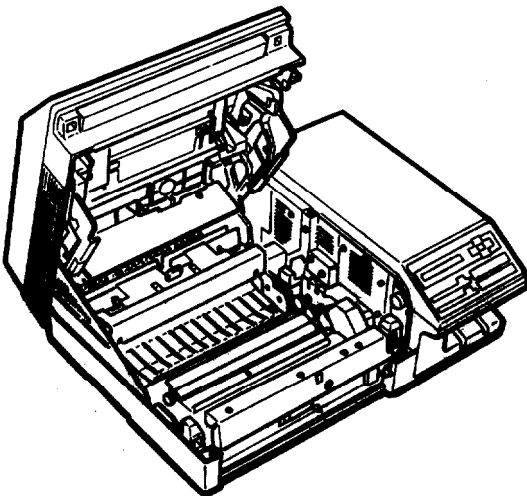
2. Gently wipe the glass lens with a dry, soft cloth.



Replacing the cleaning pad

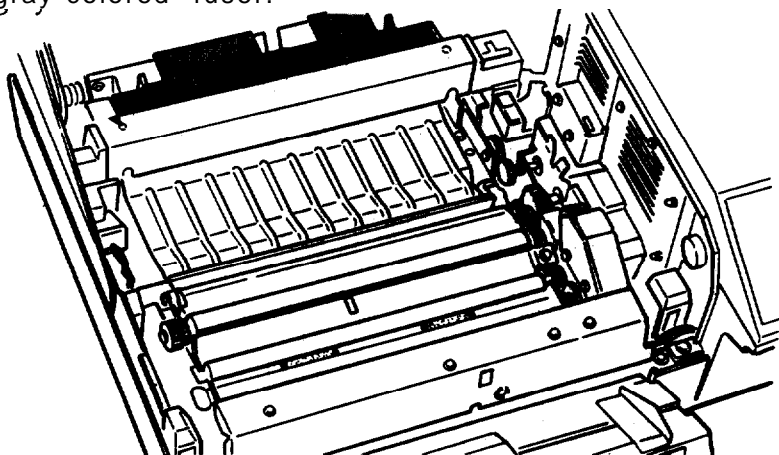
After you clean the transfer charger wire and the glass lens, you can replace the cleaning pad and install a new imaging cartridge.

1. Make sure the printer is open to the upper position as shown below.



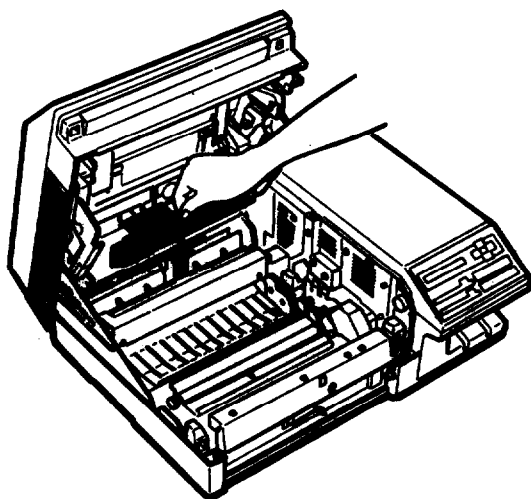
TONER LOW Message

2. Locate the cleaning pad inside the printer. The cleaning pad is the long black pad with the yellow felt handle in a slot on the gray-colored fuser.

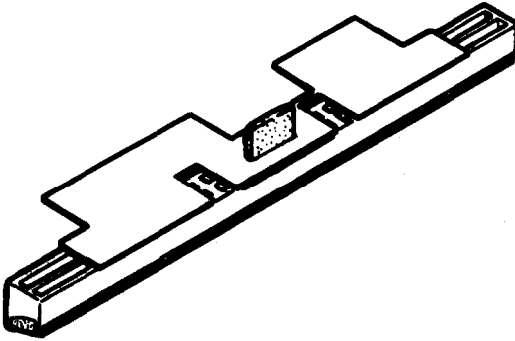


WARNING: If the printer has been used recently, the fuser may be hot. Let it cool before you replace the cleaning pad.

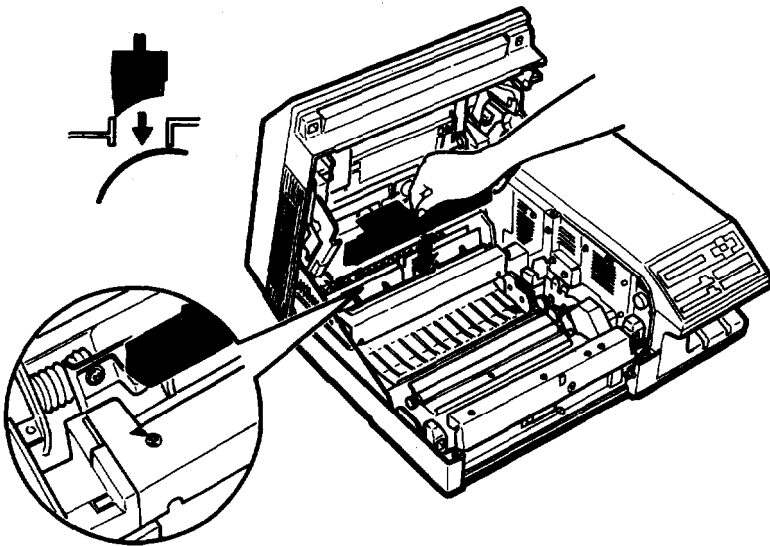
3. Carefully grasp the yellow felt handle and lift out the used cleaning pad, as shown below. (Be careful not to let dirt from the pad drop into the printer.) Discard the cleaning pad.



4. Locate the new cleaning pad packed with your replacement imaging cartridge.

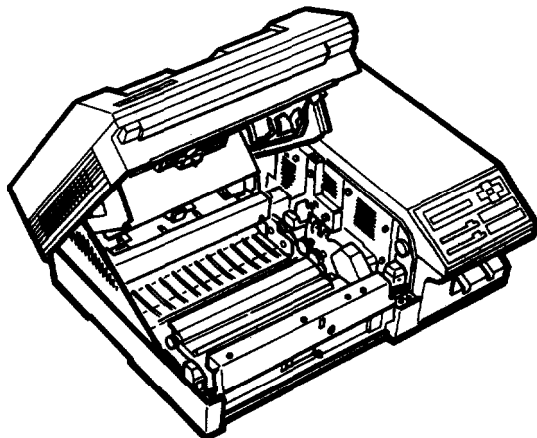


5. Hold the yellow felt handle on the new cleaning pad and insert the pad into the indentation on the fuser. Match the triangle on the cleaning pad with the triangle on the fuser, as shown below.



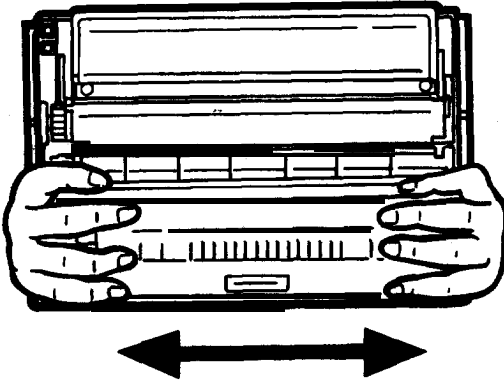
Replacing the imaging cartridge

1. Open the printer case to the lower position.

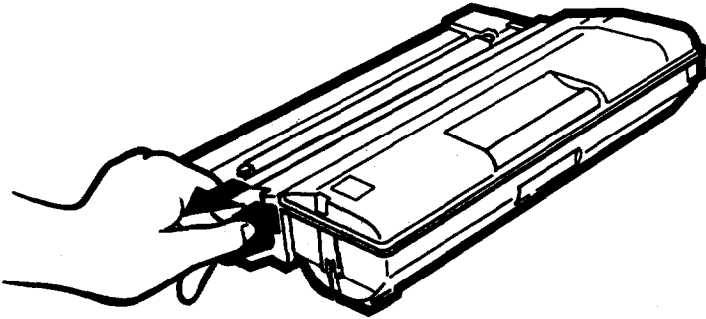


CAUTION: Do not expose the drum on the imaging cartridge to light **any** longer than necessary. Because the drum is light-sensitive, it should not be exposed to lighting brighter than normal room light. Do not open the drum's protective cover.

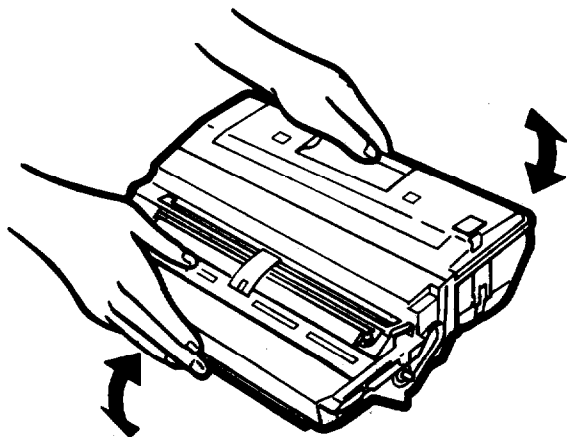
2. Remove the new imaging cartridge from the aluminum bag. Holding the cartridge as shown below, gently shake it from side to side several times to distribute the toner evenly, as shown below.



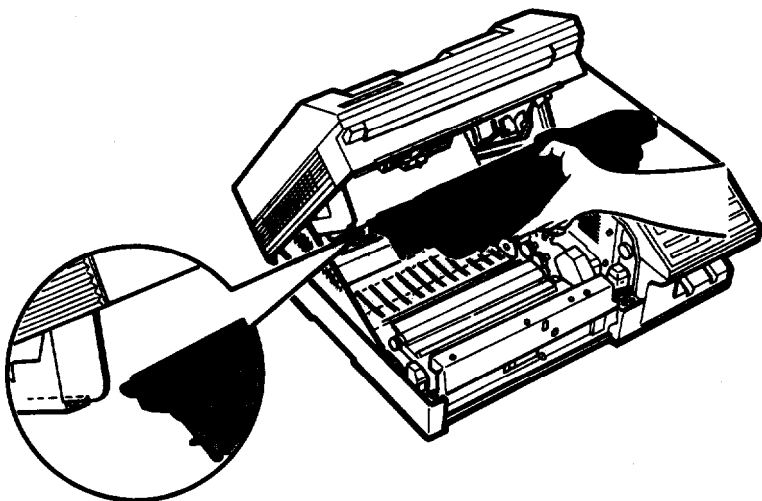
3. Holding the yellow tab as you steady the cartridge, pull the tab hard, as shown below, to remove the clear sealing tape.



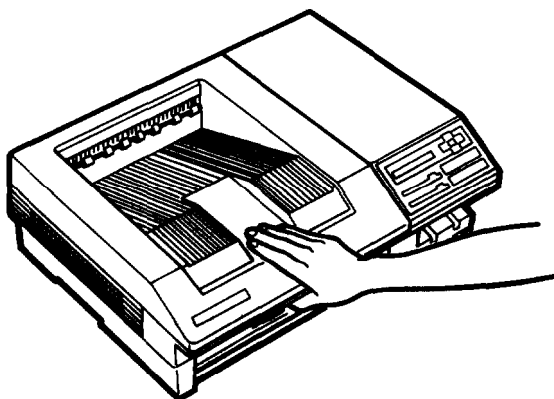
4. Again, gently shake the imaging cartridge a few times to distribute the toner.



5. Hold the imaging cartridge as shown below. Carefully slide the plastic runners on either side of the imaging cartridge into the green grooves inside the printer. Push it in gently **as** far as it will go.



6. Close the printer by pressing down gently on the top of the case until the latch clicks shut.



Routine Cleaning

The maintenance procedures you perform each time you replace the imaging cartridge should keep your printer running at its best; however, fine particles of paper dust and ordinary dust can collect inside the printer. If you notice a decline in print quality, clean the inside of the printer, the roller in the paper path, and the paper feed roller as described below.

You should also clean the paper cassette and the printer case every few months. These procedures are described later in this section.

Whenever you clean the printer or replace the components, perform a test print as described in Chapter 2. If the test print is unsatisfactory, see Chapter 7 for troubleshooting tips.

Replacing the ozone filter

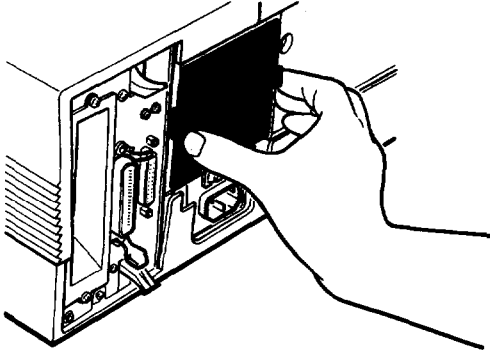
Ozone is generated inside the printer by the high voltages used during the printing process. The ozone filter located at the back of the printer should be replaced every six months.

If you print many pages at a time, you may need to replace the ozone filter more often. If you notice a peculiar smell when you are printing, it is time to change the ozone filter.

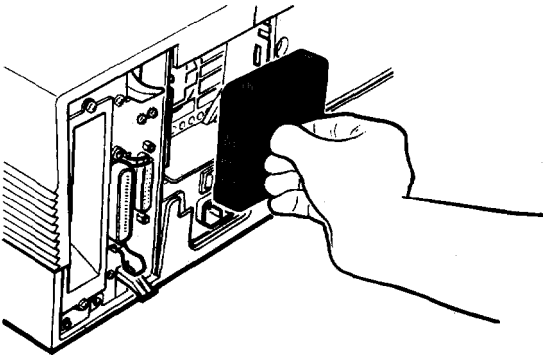
Follow these steps to replace the ozone filter:

1. Make sure the printer is turned off.

2. Remove the ventilation grill from the back of the printer by gently squeezing the two plastic tabs and pulling the grill toward you, as shown below.

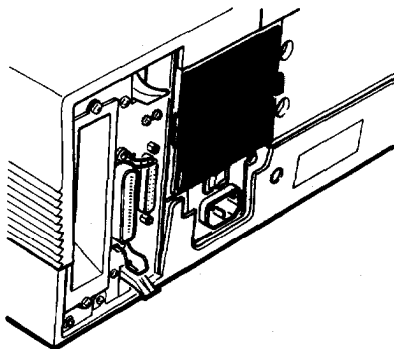


3. Grasp the plastic knob in the center firmly and pull out the ozone filter, as shown below.



Routine Cleaning

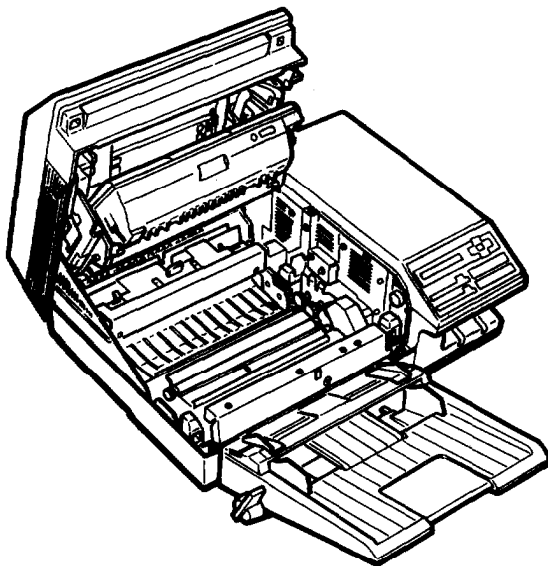
4. Install a new ozone filter and replace the ventilation grill.



Cleaning inside the printer

Fine particles of paper dust and ordinary dust can collect inside the printer. Follow the steps below to clean inside the printer:

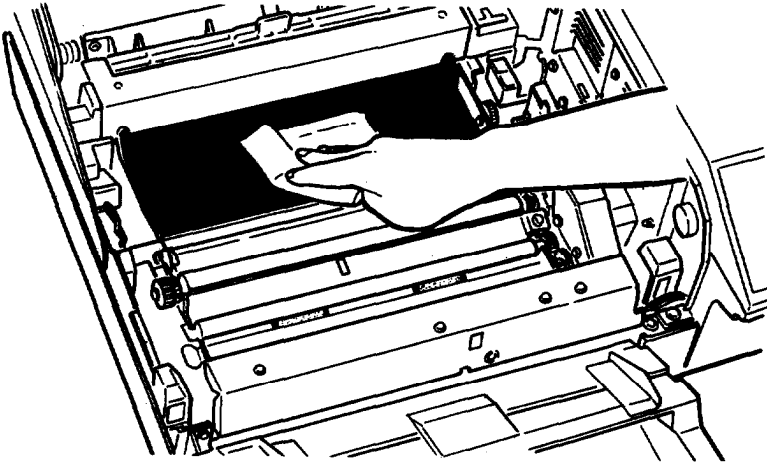
1. Raise the printer case to the upper position, as shown below.





WARNING: Opening the printer exposes the fuser, which is marked by a caution label. If the printer has been used recently, the fuser may be hot; be careful not to touch it. Let the printer cool before you clean inside

2. Remove any dirt from the paper path with a soft, clean cloth.

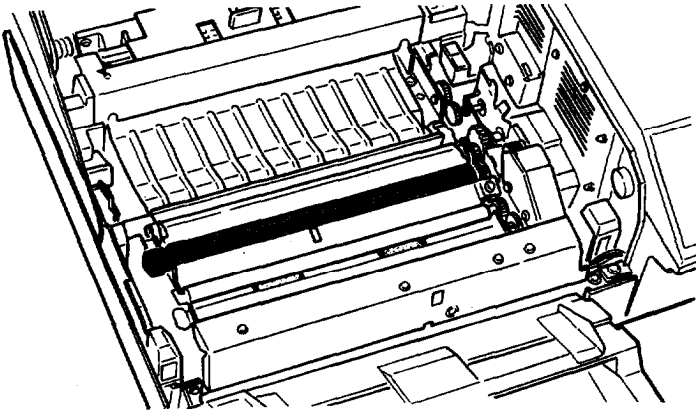


Cleaning the roller in the paper path

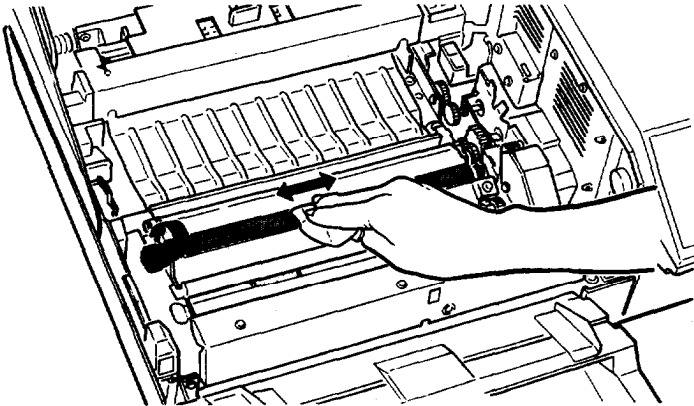
Use a soft, clean cloth to clean the roller as described in the following steps.

Routine Cleaning

1. Locate the roller and its black gear on the left end of the roller.



2. Wipe the dirt off the surface of the roller with a soft cloth, as shown below.

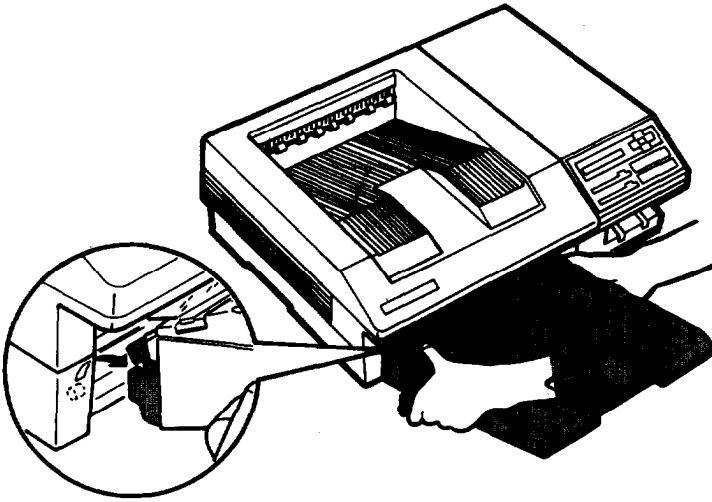


3. Close the printer by pressing down gently on the top of the case until the latch clicks shut.

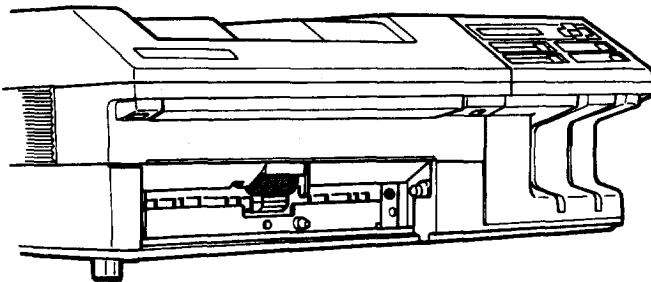
Cleaning the paper feed roller

The paper feed roller is located at the entrance of the paper input path. Follow these steps to clean the paper feed roller:

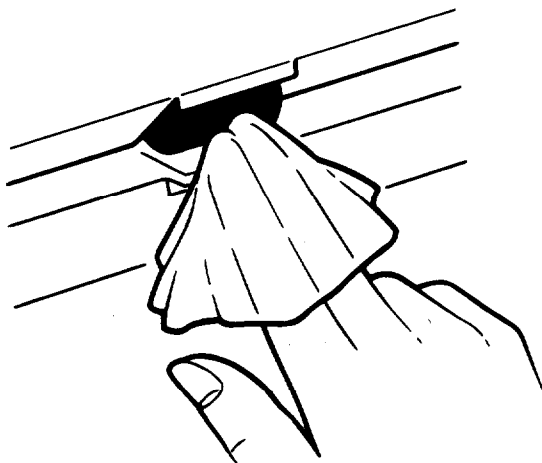
1. Remove the paper cassette as shown below.



2. Locate the paper feed roller at the entrance of the paper input path.



3. Lightly wipe the feed roller with a soft, clean cloth.



Removing spilled toner

If toner spills inside the printer, do not use the printer until you remove all of the spilled toner. Follow these steps to clean up toner spills:

1. If only a small amount of toner is spilled, carefully wipe out the inside of the printer with a damp cloth.
2. If a large amount of toner is spilled, use a small vacuum cleaner (available from computer supply stores) to remove it.



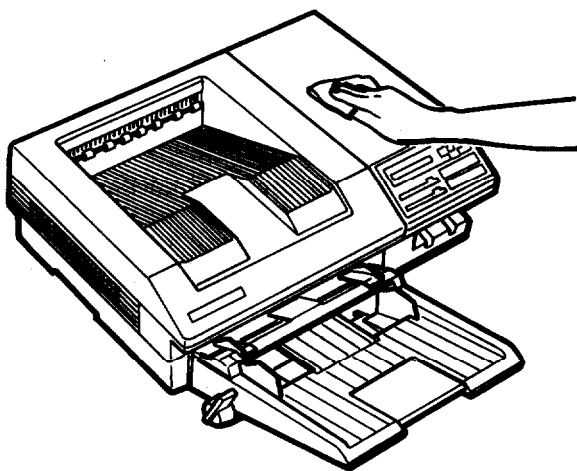
CAUTIONS:

- Toner or any other fine powder can damage some vacuum cleaners. Read the instructions for your vacuum cleaner before you use it on spilled toner.
- When you clean the paper input path, be careful not to touch the transfer charger wire with the vacuum cleaner hose, or you may damage it.

Note: If you spill toner on your clothing, rinse it off with cold water. Do not use hot water or the toner may leave a permanent stain.

Cleaning the printer case

If the printer's outer case is dirty or dusty, clean it with a soft, clean cloth dampened with **a** mild detergent, as shown below. Make sure that the printer is turned off.



CAUTIONS:

- Never use alcohol or thinner to clean the printer case; these chemicals can damage the components as well as the case.
- Be careful not to get water on the printer mechanism or any electronic components.

Transporting Your Printer

If you need to move the printer a short distance, such as from one room to another, remove the paper cassette and make sure that you keep the printer level to avoid spilling toner.

If you are shipping the printer some distance, repackage the printer and its accessories in the original packing materials to avoid damaging it.



CAUTION: Do not ship the printer with the imaging cartridge installed in the printer.

Packing for transportation

To pack the printer, assemble all the original packing materials and some strong packing tape.

Prepare the printer for transportation following the steps below:

1. Be sure your printer and computer are turned off. Then, remove the power cord and the cable connecting your printer and computer.
2. If the optional lower paper cassette or the optional face-up tray is installed, remove and repackage them. Remove any font cards from the card slots.
3. Remove any paper from the paper cassette; then remove the paper cassette and repackage the tray in its original packing materials.
4. Open the printer case to the lower position.



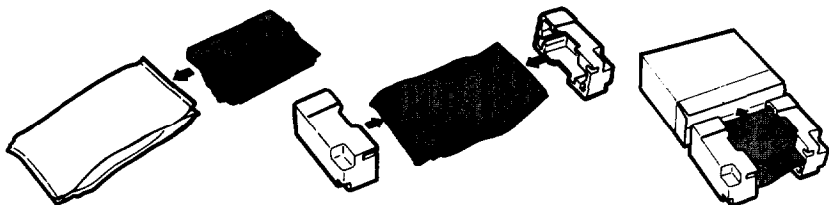
WARNING: If the printer has been used recently, the fuser may be hot. Let it cool before proceeding.

5. Remove the imaging cartridge as described earlier in this chapter; **then** close the printer.

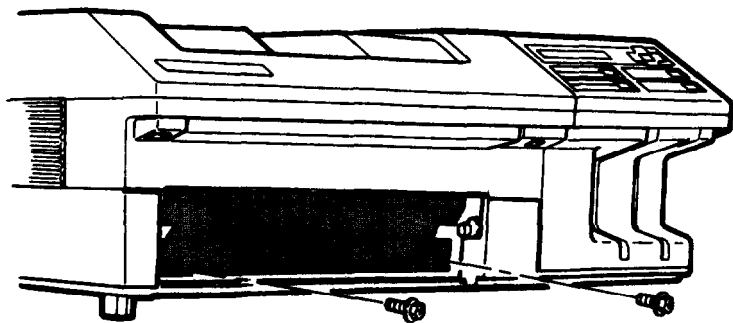


CAUTION: Hold the imaging cartridge level as you remove it to prevent toner spills.

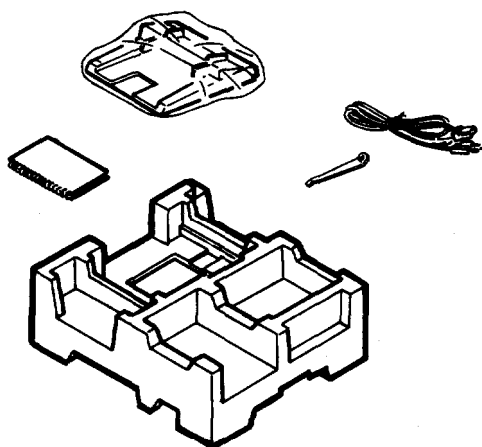
6. Put the imaging cartridge back in its original aluminum bag and pack the bag into the two white packaging pieces as shown below. Then place the cleaning pad and the imaging cartridge in the original box and seal the box with packing tape. When you transport the imaging cartridge box, make sure it is kept level and that the cartridge cannot move around in the box.



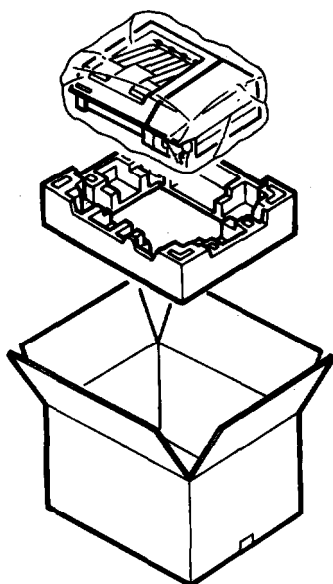
7. Replace the protective plate. Use the wrench provided to secure the two screws.



8. Pack the paper cassette, the power cord, and wrench into the accessory pack as shown below.



9. Pack the printer in its original white packing material and place it in the main carton.



10. Place the accessory pack in the main carton on top of the printer.
11. Seal the main carton with packing tape.

Unpacking the printer after transportation

1. Unpack the printer as described in Chapter 1. When you unpack the imaging cartridge, wipe off any toner that spilled during shipment.
2. Assemble the printer as described in Chapter 1.

Chapter 7

Troubleshooting

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Status and Error Messages

This chapter supplies solutions to problems you **may** encounter.

If an error occurs, your best source of information is **the** display on the control panel. The error messages displayed there tell you what is wrong and, in some cases, indicate the actions you should take to correct the problem. Status messages also appear on the display during the printer's normal operation. They indicate the printer's current status.

This section contains **an** alphabetical list of status and error messages you may encounter and includes the steps you need to take to correct **any** problems.

Note: In some cases, the red **CONTINUE** light flashes when an error is detected. This requires you to correct **the** problem and **then** press the **CONTINUE** button to clear **the** error. However, if **the** AUTO CONT option in SelecType is set to ON, some errors may clear automatically even though the problem remains. In most instances, **you** should leave AUTO CONT set to OFF.

Status **messages** are preceded by [S], warning messages are preceded by [W], and error messages are preceded by [E]. In some cases the message you see on your display also shows the printer mode.

[E] ADD MEMORY FOR CH-X

The printer **has** insufficient memory available in the channel displayed. You **may** have changed the printer mode, increased the RX-BUFFER setting, or changed the MEMORY SHARE setting. To correct the error, add memory. You can also decrease the RX-BUFFER setting or change the MEMORY SHARE setting in SelecType Level **2**.

[E] **CARD MEMORY OVERFLOW**

This message indicates that the combined memory requirement of the cards in slots A and B exceeds 4 Mbytes. To correct this problem, remove one or more of the cards and then press the **CONTINUE** button.

[S] **COPY END X/X**

Multiple-copy printing is cancelled (you pressed the **COPY END** button when the printer was off line).

[E] **COVER OPEN**

The printer cover is open or the imaging cartridge is not installed. Close the printer cover or install the imaging cartridge. Then press **CONTINUE** to continue printing.

[S] **DATA**

The printer has received data but is not yet printing, or the printer has received data and is off line. To resume printing, press **ON LINE** if the printer is off line, or press the **FEED** button.

[E] **FEED JAM**

Paper is not feeding into the printer from the specified cassette or has jammed on its way into the printer. If the paper is jammed at the paper cassette, open the printer case, remove the jammed paper from the standard paper cassette or optional paper cassette and then close the printer. See Clearing a feed jam later in this chapter for more information.

[S] **GRAPHIC DRAWING**

Graphics are being created.

[E] ILLEGAL CARD

A card or cartridge in a particular slot cannot be read. The letter on the right side of the display indicates the slot containing the card or cartridge that cannot be read. To correct this error, take the printer off line and then press **CONTINUE**. If the error message remains, make sure the printer is off line and remove the card or cartridge. If the red **CONTINUE** light still flashes, press **CONTINUE**.

[S] INITIALIZE

The printer is being initialized (reset) to the factory settings.

[E] INSUFF. MEMORY

The printer has insufficient memory available for the task you have given it. To correct the error, press **CONTINUE**. If the message remains, press **RESET** or perform **INITIALIZE** as described in Chapter 2.

This error can also be cleared by turning the printer off and back on again. However, it may be necessary to simplify the page you are trying to print or add more memory to the printer. See Appendix A for information on memory options.

[E] PAGE BUFFER FULL

Text or graphics data has filled the printer's buffer and an incomplete page is ejected. Press **CONTINUE** to clear the error. You may need to add more memory to the printer. See Appendix A for information on memory options.

[S] PAPER FEEDING

The printer is feeding paper.

[E] PAPER JAM

Paper is not being fed into the printer or paper is jammed inside the paper path. You need to open the printer and clear the jammed paper as described later in this chapter.

[E] PAPER OUT

There is no paper in the standard paper cassette and the optional lower paper cassette (if installed). Or, the paper set lever is in the manual position and you are not feeding pages correctly. Insert more paper into the selected paper cassette or manually feed a sheet of a paper into the printer. See Chapter 4 for more information on loading paper.

[E] PAPER OUT SET AUTO XXX

There is no paper in any of the paper cassettes. The right column of the display prompts you to load the correct paper size into the paper cassette.

[E] PAPER OUT SET OPT XXX

There is no paper in the optional lower paper cassette. The right column of the display prompts you to load the correct paper size into the paper tray of the lower paper cassette.

[E] PAPER OUT SET STD XXX

There is no paper in the standard paper cassette. The right column of the display prompts you to load the correct paper size into the standard paper cassette.

[E] PAPER SIZE ERROR

The paper size you selected with SelecType (or the default size if you have not selected a size) does not match the paper loaded in the selected paper cassette. Press **CONTINUE** to clear the error. Insert the correct paper or change the P-SIZE setting with SelecType as described in Chapter 3.

[S] PRINTING

The printer has received data and is printing.

[S] PRINT STOP X/X

The printer stops printing during a multi-copy print operation.

[S] RAM Check X.X MB

The printer is checking RAM (X.X = capacity).

[S] READY

The printer is ready to print.

[E] REINSERT CARD

If this message appears on the display, you may have removed a font card or cartridge while the **FEED** light was still lit or while the printer was on line. To correct the error, make sure the printer is off line. Next, reinsert the card or cartridge into the correct slot and press **CONTINUE**.

[E] REMOVE CARD

You may have inserted a font card or cartridge while the printer was on line or while the **FEED** light was on. Data still remains in the printer's buffer. To correct this error, take the printer off line. Then remove the card or cartridge and press **CONTINUE**. Before you reinsert the card or cartridge, make sure that all data in the buffer has been printed and that the printer is off line. If the **FEED** light is on, press **FEED** to print out the remaining data.

[E] RESELECT TRAY

The optional lower paper cassette is not installed and the INPUT option is set to OPT or AUTO. Install the optional lower paper cassette and then press **CONTINUE**. If you decide not to use the optional lower paper cassette, simply press **CONTINUE** and paper is automatically selected from the standard paper cassette.

[S] RESET

The printer is being reset to the previous settings in the macro specified with LOAD MACRO option in SelecType Level 1.

[S] ROM Check

The printer is checking ROM.

[E] **SAVE MEMORY OVERFLOW**

If this message appears when you are trying to save a macro with the **SAVE MACRO** option in SelecType Level 1, the printer does not have enough memory to save any additional macros. To correct this error, delete unused macros using the **DELETE MACRO** option in SelecType Level 1.

[E] **SERVICE REQ. CXXX**

A controller error has been detected. Write down the error number that appears in the right column of the display and turn off the printer. Turn the printer back on after a few seconds to see if the error message still appears. If it does, turn off the printer, unplug the power cord from the electrical outlet, and contact a qualified service person.

[E] **SERVICE REQ. E00XX**

A print engine error has been detected. Write down the error number that appears in the right column of the display and turn off the printer. Turn the printer back on after a few seconds to see if the error message still appears. If it does, turn off the printer, unplug the power cord from the electrical outlet, and contact a qualified service person.


[E] **SET FULL PRINT**

This message may appear when you are trying to print graphics or a mix of text and graphics. Press **CONTINUE** and then change the **FULL PRINT** setting in SelecType Level 1. See Chapter 3 for more information about setting this option.

[S] **STANDBY MODE**

When both **CH P** and **CH S** remain off for about thirty minutes, the printer enters standby mode and this message appears. Press any panel button or send data to warm up the printer. You can turn on and off the standby mode by setting the SelecType Level 2 **STANDBY** option.

[E] START UP ERROR

If this message appears when you turn on **the** printer, the power may have been turned off while the printer was performing a save or reset operation. To clear this error, press  or **RESET** to return the printer settings to their defaults.

[W] TONER LOW

The printer is almost out of toner. When you see this message, you can still print up to **25** more pages. The imaging cartridge must be replaced soon.

[E] TONER OUT

The imaging cartridge must be replaced. Replace the imaging cartridge as described in Chapter **6**.

[E] TRAY SET AUTO XXX

The paper size setting does not match the paper loaded in the specified paper cassette. The right column of the display indicates **the** expected paper size and the currently selected cassette. You can either change the paper size setting or load the correct paper size. After you correct the paper mismatch, press **CONTINUE**.

[E] TRAY SET OPT XXX

The paper size setting does not match the paper loaded in the optional lower paper cassette. The right column of the display indicates **the** expected paper size. After you correct the paper mismatch, press **CONTINUE**.

[E] TRAY SET STD XXX

The paper size setting does **not** match the paper loaded in the standard paper cassette. The right column of the display indicates the expected paper size. After you correct the paper mismatch, press **CONTINUE**.

[S] WAIT

Printer is being reset after a START UP ERROR.

[S] WARMING UP

Printer is warming up.

Troubleshooting Directory

Use the directory below to help you locate **the** printing problem you are experiencing; then work through the suggested solutions to **the** problem. If the exact problem is not listed, look for **one** of a similar type. Most printing problems can be corrected easily.

Paper jam problems

Page

- Feed jam. 7-12
- Paper jam in paper input path or paper eject area. 7-15

Power supply

- Power is not being supplied to the printer. 7-20

Test print

- The test prints do **not** print. 7-21

Printing problems

- The printer does not print or stops printing. 7-22
- The printout is not what you expect. 7-23
- The position of the printout is not **what you** expect. 7-25

Problems with graphics

- Graphic images do not print. 7-26

SelecType problems

- SelecType does not function as expected. 7-28

Paper handling

- Paper does not feed properly. 7-31
- Paper feeds crookedly or jams. 7-31
- The printer prints a page and then stops. 7-33

Decline in print quality

- The print quality is **not what you** expect. 7-36

Options

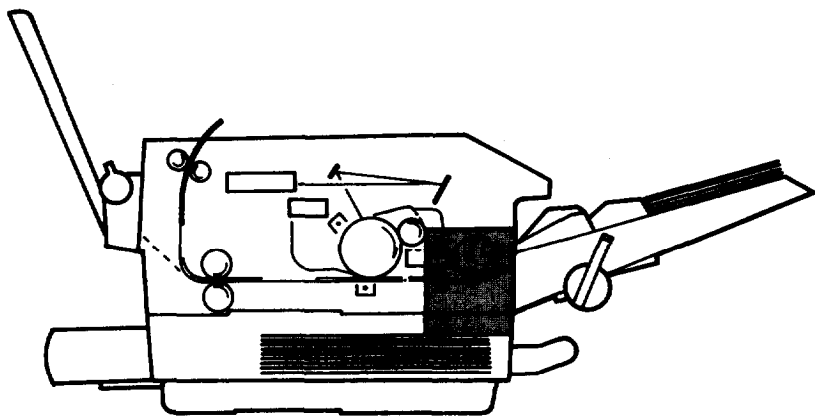
- Using an optional font card or cartridge, the printer does not operate as expected. 7-43
- Using the optional lower paper cassette, the printer does not operate properly. 7-44
- Using the optional face-up tray, the printer does not operate properly. 7-45
- After installing additional memory (memory chip set or a memory expansion board), the printer does not function as expected. 7-46

Paper Jam Problems

To correct paper jams, find the error message on your display and work through the steps below to correct the problem.

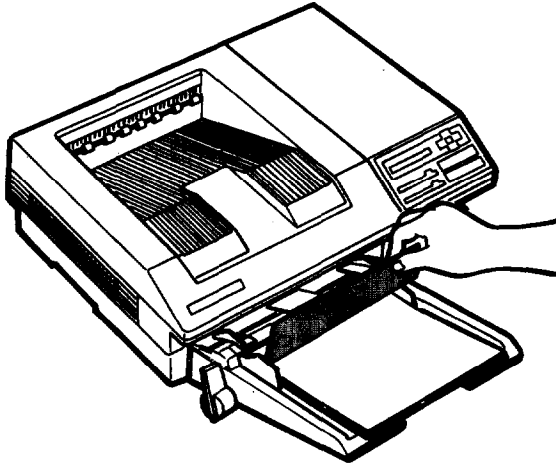
Clearing a feed jam

The FEED JAM message indicates that paper is not feeding into the printer from the specified tray or has jammed on its way into the printer.



When a feed error occurs, the printer stops printing. When you see the FEED JAM message, follow these steps to clear the feed jam.

1. Push the paper set lever forward to the manual position and carefully remove all of the sheets from the paper cassette, including those that have been fed part of the way into the printer.



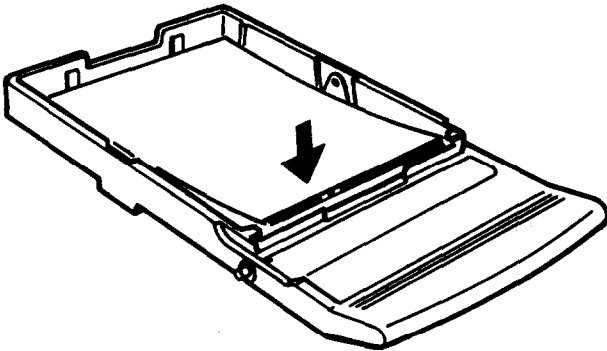
CAUTION: If the paper tears while you remove it, make sure you also remove any pieces remaining in the printer. To do this, open the printer cover, remove any paper pieces from the paper feed path, and close the printer cover.

2. Open and close the printer. This resets the paper jam detector.
3. Tap the edges of the paper stack on a flat surface and reload it into the paper cassette. (Do not reload any curled or wrinkled sheets.)
4. Pull the paper set lever back to the automatic position. Make sure the printer is on line and resume printing. A jammed page is automatically reprinted.

If frequent paper feed jams of this type occur, clean the paper cassette, feed roller, and the roller in **the** paper path as described in Chapter 6. If paper feeding problems continue, see Chapter 4 **to** make sure **that** you are using the correct paper for your printer.

If you have installed **the** optional lower paper cassette and the procedure described above does not clear the error, follow the steps below.

1. Pull out the paper tray from the lower cassette. Make sure that the paper is evenly aligned in the tray.
2. Remove **any** folded or curled paper from the front opening.
3. Press down the pressure plate until it clicks into place and replace the **tray in the lower cassette**.



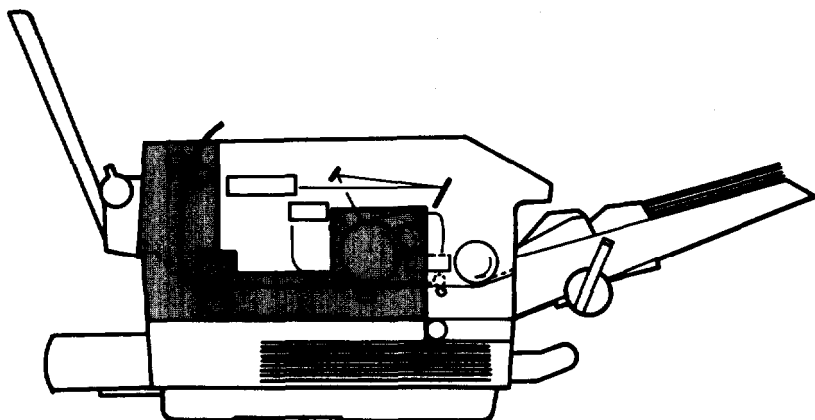
4. Make sure that you are using the correct paper size in the lower paper cassette. See **the** section **on** preparing the optional cassette in Appendix A for more information.

Note: Make sure you are using paper that meets the specifications for this printer. See Chapter 4 for tips on choosing the correct paper.

After a feed jam is cleared, a jammed page is automatically reprinted. If feed errors continue to be a problem, clean the feed roller as described in the maintenance section for the optional lower paper cassette.

Clearing a paper jam

The message PAPER JAM indicates that there is a paper jam either in the paper input path or the paper eject area, as shown below:

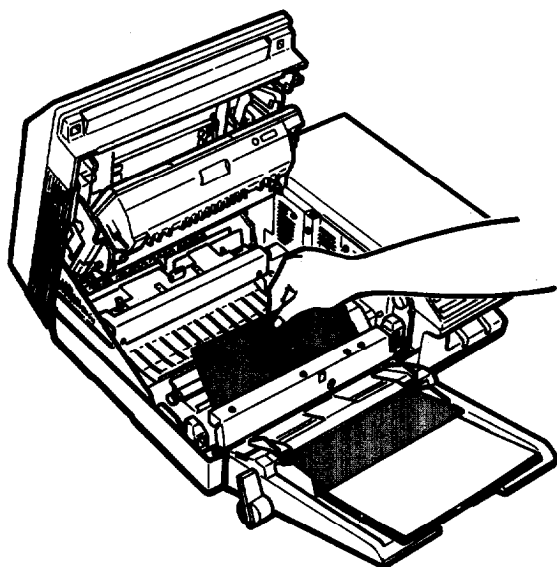


Although they can occur at several places in the print path, most paper jams are easy to correct. Open the printer cover to the upper position and follow these instructions to clear a paper jam.

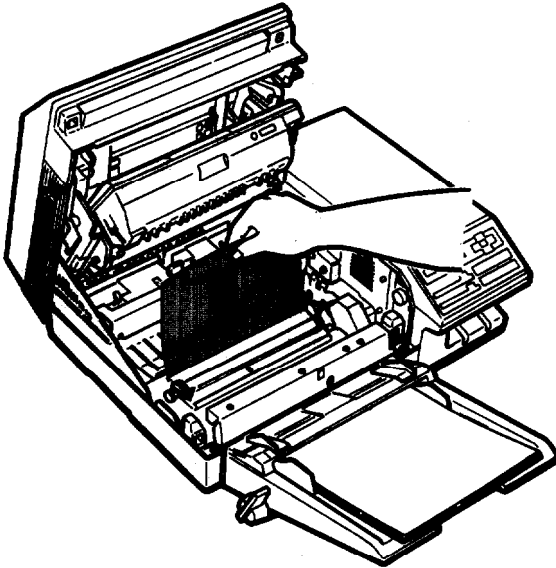


WARNING: Opening the printer exposes the fuser, which is marked by a **CAUTION: HOT SURFACE** label. Be careful not to touch the fuser.

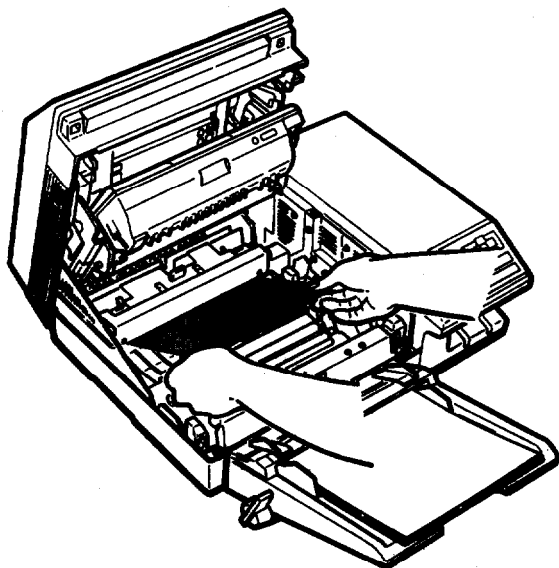
1. If the paper is caught just in front of the roller, gently pull the paper out as shown below.



2. If the paper is caught under the roller, first turn the roller in the direction indicated by the small arrow in the illustration below to free the paper from the roller. Then pull the paper out from under the roller until the page is completely free of the roller. If the paper tears, make sure you remove any pieces remaining in the printer.



3. If the paper is caught at the fuser area, pull the paper out as shown below.

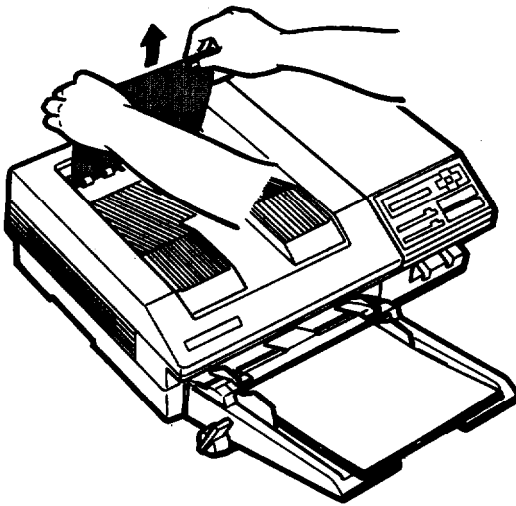
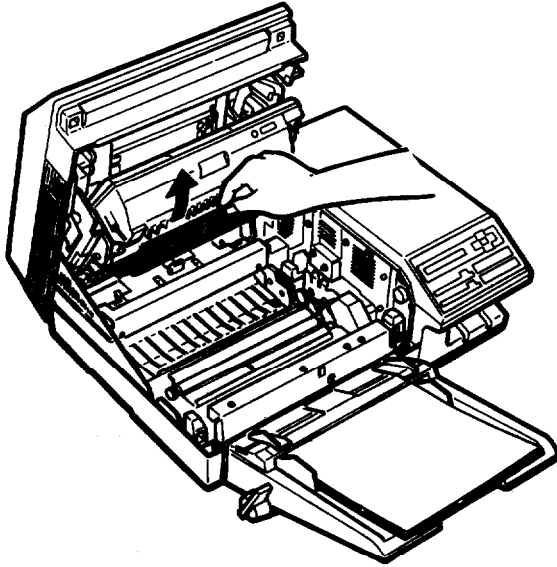


4. If the paper is caught under both the roller and the fuser, first pull the paper out from under the roller in the direction the paper feeds; then pull it in the opposite direction until the page is completely free of the fuser.

Notes:

- Because the toner on the paper inside the printer may not have been fixed on the page, it may come off on your hands while you are removing the paper. If you spill toner on your clothing, rinse it off with cold water. Do not use hot water or the toner may leave a permanent stain.
- If toner spills inside the printer, do not use the printer until you remove all of the spilled toner. When you resume normal printing, the first few pages that pass through the printer may be slightly smeared with excess toner.

5. If the paper is caught in the paper ejection section, gently pull the paper first in one direction, then the other to find the way it is easiest to remove.



Power Supply

Problem

Solution

Power is not being supplied to the printer.

After turning on the printer, the display panel remains blank.

The power cable may be disconnected or may not be completely plugged into the electrical outlet. Turn off the printer and check the power cable connections between the printer and the electrical outlet; then turn the printer back on.



The problem may be with the electrical outlet itself. If the outlet is controlled by an outside source such as a wall switch, make sure it is on.

If the printer still does not operate, the outlet may be faulty. Plug another electrical device into the outlet to check whether the outlet is operating properly.

The printer turns on briefly, but then the display goes blank and the printer motor and fan stop running.

The voltage may not be correct for your printer. Turn off the printer and make sure that the voltage of your electrical outlet matches the rating indicated on the label at the back of the printer. If the voltages match, try turning on the printer again. If the voltages do not match, disconnect the power cable and contact your dealer immediately.

Test Print

Problem	Solution
<p>The test prints do not print.</p> <p><i>The paper does not feed at all.</i></p> <p><i>The paper feeds but nothing is printed.</i></p>	<p>You may not have set the correct INPUT paper path. See Chapter 4.</p> <p>After entering the TEST PRINT option in SelecType Level 2, you may not have pressed  long enough to initiate the test print. Try running the test again. This time, however, hold down  until the display begins to flash.</p> <p>The imaging cartridge may need to be replaced. Replace the imaging cartridge as described in Chapter 6.</p> <p>If the test print still does not print, contact your dealer for assistance.</p>

Printing Problems

Problem	Solution
<p>The printer does not print or stops printing.</p> <p><i>The ON LINE light is on but nothing is printed.</i></p>	<p>The interface cable may not be plugged in securely. Check both ends of the cable between the printer and the computer. If you are using a parallel interface, secure the connector using the wire retaining clips.</p> <p>You may not be using the correct interface cable. Make sure that your interface cable meets the specifications for the printer and computer.</p> <p>You may not have selected the correct interface settings with SelecType. Select the appropriate interface (serial or parallel). If you are using a serial interface, also set the baud rate, protocol, data bit, and related settings. See your computer manual for the correct settings and interface requirements.</p> <p>The software may not be installed properly for your printer. Use the program's setup (or install) procedure to check the printer settings on your computer's display; then reset the values correctly. Make sure the SelecType operating mode (L-JET2P, FX, or LQ) matches your program's printer driver. See Chapter 5.</p>

Problem	Solution
<i>The ONLINE light is off.</i>	The printer is off line. Press the ON LINE button once to set the printer on line (the ON LINE light comes on).
<i>The printer stops printing and the display reads PAPER OUT or TONER OUT.</i>	Replace the component specified. See Chapter 4 for paper loading instructions. See Chapter 6 for imaging cartridge replacement instructions. After replacing the component, close the printer.
<i>The printout is not what you expect.</i>	<p>The correct orientation (portrait or landscape) may not be selected. Make sure that the orientation (portrait or landscape) matches the selected font. The correct font is not selected if the font does not contain the selected orientation.</p> <p>The font you selected with your software may not be available. Be sure you have installed the correct font card or cartridge.</p>
<i>Characters not belonging to the selected symbol set are being printed.</i>	<p>The expected symbol set may not be available in the printer. Be sure you have installed the correct font card or cartridge.</p> <p>The correct symbol set may not be selected. Specify the desired symbol set (containing international characters or symbols) with your software or with SelecType. Available symbol sets in SelecType vary depending on the selected printer mode. See Chapter 3 or Appendix C for more information.</p>

Problem	Solution
<p>The printout is not what you expect (continued).</p> <p><i>Some or all of the output is garbled.</i></p>	<p>The interface cable may not be plugged in completely. Make sure that both ends of the cable are plugged in securely.</p> <p>The interface may not be configured correctly. If you are using a serial interface, make sure that both the computer and printer are set to use the same number of data bits per word and that they both use the same parity, baud rate, and number of stop bits.</p> <p>You can also use the data dump mode to check the data being sent from the computer. See the section on data dumps later in this chapter.</p> <p>If the printer still does not print correctly, contact your dealer.</p>

Problem	Solution
<p>The position of the printout is not what you expect.</p> <p><i>The printed page length differs from the actual length of the paper.</i></p> <p><i>The right or left margin setting does not match the actual width of the paper.</i></p> <p><i>Even after changing the page length or margin positions, you find that the printed position is not correct.</i></p>	<p>The SelecType form length setting may not be correct or your software may be overriding this setting. Check the page length setting in your application program and make sure that it is set correctly for the selected page length. You can also change the page length with SelecType options. The procedure for setting the page length varies depending on the printer mode that you are using. See the SUB CONFIG option in Chapter 3.</p> <p>The margin settings of your software program may not be correct. Change the settings of your application program. If this does not correct the problem, you can change the right or left margin with SelecType. The procedure for changing margin settings varies depending on the selected operating mode. See Chapter 3 or Appendix C.</p> <p>You may need to set the absolute printing position with the T-OFFSET or L-OFFSET option in the SYSTEM CONFIG menu of SelecType Level 1. This feature allows you to adjust the position of the printable area on the page. See Chapter 3 for more information on using this feature.</p>

Problems with Graphics

Problem	Solution
<p>Graphic images do not print.</p> <p><i>After changing the printer mode, you are unable to print graphics.</i></p> <p><i>You cannot print graphics using the serial interface (RS-232C or RS-422).</i></p> <p><i>When printing a mix of text and graphics, the page does not print or is only partially printed. The display may also show SET FULL PRINT.</i></p> <p><i>Graphics cannot be printed and the display shows PAGE BUFFER FULL.</i></p>	<p>You may not have the correct printer driver installed. If you try to print with a software package set for another printer, nothing will be printed. Make sure that the driver matches the currently selected operating mode.</p> <p>The WORD LENGTH option in SelecType Level 2 may not be set correctly. When printing graphics, make sure that you set an B-bit data word.</p> <p>The full print buffer setting needs to be changed. To correct this error, change the FULL PRINT setting in SelecType Level 1 as described in Chapter 3.</p> <p>The full print buffer or the receive buffer setting needs to be changed. To correct this error, change the FULL PRINT or RX-BUFFER setting in SelecType Level 1 as described in Chapter 3.</p>

Problem

Solution

***The message
INSUFF. MEMORY
appears and
graphics cannot be
printed.***

Your printer may not have enough memory installed. You need to simplify the page or install additional memory. Press the **CONTINUE** button to clear the error. For information on memory options, see Appendix A.

The full print buffer or the receive buffer setting needs to be changed. To correct this' error, change the FULL PRINT or RX-BUFFER setting in SelecType Level 1 as described in Chapter 3.

The printer does not have sufficient memory available for the task you have given it. It may be necessary to simplify the page you are trying to print or add more memory to the printer. Press **CONTINUE** or **RESET** to clear the error. See Appendix A for information on memory options.

SelectType Problems

Problem	Solution
<p>SelectType does not function as expected.</p> <p><i>Settings made with SelectType are ignored.</i></p>	<p>You may not have saved your settings before turning off or resetting the printer. Save your settings with SAVE MACRO in SelectType Level 1 or with P-CONFIG SAVE in Level 2. Once you save Level 1 settings in a macro, select a correct macro ID number for the POWERON MACRO option, or SelectType settings return to their previously saved default settings after you turn off or reset the printer.</p> <p>The software may either be changing the defaults on the printer or initializing the printer. This may require that you change the initialization sequence sent by your software. See your software manual for more information.</p> <p>You may be trying to set certain combinations of settings with SelectType that cannot be acted on by the printer. Usually, SelectType does not allow you to make incompatible combinations. However, certain combinations are not checked for compatibility until after you exit SelectType and set the printer on line. Others are not checked at all. See Chapter 3 for more information about SelectType.</p>

Problem	Solution
<i>Desired SelecType settings are not displayed.</i>	<p>You may be trying to select a setting that is not available in the current printer mode. Not all settings are available in all printer modes. For example, some fonts that can be selected in LQ or FX mode are not available in L-JET2P mode. Other factors, such as the page orientation (portrait or landscape), also determine the fonts available to a particular printer mode.</p> <p>You may have entered the wrong level of SelecType. Make sure the SelecType light is on for your selected level. Whenever you enter SelecType, you may find it useful to see Chapter 3 or the SelecType map on the Quick Reference card.</p>
<i>After turning on the printer, the message START UP ERROR is displayed and your previously selected settings have changed.</i>	<p>This message may appear if you turned off the printer while it was in the process of saving settings made with the FACTORY RESET option in SelecType Level 2. If this occurs, the settings may not have been saved. Run the status sheet to check SelecType settings and reset them if necessary as described in Chapter 3.</p>

Problem	Solution
<p>SelecType does not function as expected (continued).</p> <p><i>After changing printer modes, you find that your previous SelecType Level 2 settings for that mode have changed.</i></p>	<p>You may be trying to set up different SelecType Level 2 configurations for a number of printer modes. This is not possible because SelecType Level 2 settings are not specific to a particular printer mode. For example, if you change the I/F setting from PARALLEL to SERIAL in one mode and save it with P-CONFIG SAVE, the change is reflected in all printer modes. However, you can have up to four separate configurations for SelecType level 1 settings and save them as macros.</p>

Paper Handling

Problem

Solution

Paper does not feed properly.

Paper does not feed at all.

The correct paper cassette may not be selected. If you are using the optional lower paper cassette, make sure the INPUT menu is set to OPT or AUTO. When you select AUTO, the page size setting in the P-SIZE menu determines whether paper feeds from the standard paper cassette or the lower paper cassette. (The size of the paper in the optional cassette is checked first.) See Chapter 3 to change the INPUT setting.

The ON LINE light is off.

The printer is off line. Press **ON LINE** to set the printer on line.

Paper feeds crookedly or jams.

Paper feeds crookedly into the printer.

The paper guides on the paper cassette may not be set correctly. Adjust the position of the guides so that the paper can slide in and out freely. If the paper guides are too tight, they can cause the paper to bind; if they are too loose, the paper may feed crookedly into the printer.

Problem	Solution
<p>Paper feeds crookedly or jams (continued).</p> <p><i>The paper stops feeding and the FEED JAM or PAPER JAM message appears on the display.</i></p> <p><i>Multiple pages feed into the printer.</i></p>	<p>The paper has jammed in the printer. Correct the error following the instructions earlier in this chapter.</p> <p>You may not have tapped the paper edges sufficiently to ensure smooth paper feeding. If the paper has jammed, remove it following the instructions on clearing a paper jam earlier in this chapter. Tap the stack of paper firmly and reinsert the paper. Try printing again.</p> <p>Poor quality paper can cause paper feeding errors of this type. Make sure your paper supply is not too thin or rough. See Chapter 4 for more information on the types of paper that can be fed automatically and the types that require manual feeding.</p> <p>If you are feeding paper manually, be sure the paper cassette is only about half-full to prevent feeding from the paper cassette.</p> <p>The feed roller may be dirty. Clean the roller as described in Chapter 6.</p>

Problem	Solution
<i>The paper feeds but then jams at the paper eject area.</i>	<p>There may be too much paper in the output tray. Never let more than 250 sheets accumulate in the face-down output tray on top of the printer. If you install the optional face-up output tray, never let more than 150 sheets accumulate in the face-up tray.</p>
<i>Printed pages curl too much and are not placed in the output tray properly.</i>	<p>Your paper may be moist or damp. Printing is sensitive to moisture absorbed by the paper. Do not store your paper in a humid or damp environment.</p> <p>You may not be using the correct type of paper for your printer. Smooth, high-quality copier paper is recommended for best results. See Chapter 4 for more on choosing paper.</p> <p>Most paper has a natural curl that may be emphasized when the paper is run through a laser printer. Turn the stack of paper over in your paper cassette and try printing again.</p> <p>Use the optional face-up output tray. The face-up tray provides a straight-through paper path to prevent excessive curling.</p>
<i>The printer prints a page and then stops.</i>	<p>You may be trying to use a paper size that is not listed on the P-SIZE menu in SelecType. You may be able to feed this paper manually as described in Chapter 4. Use only paper sizes that are within the specified range listed in Chapter 8.</p>

Problem	Solution
The printer prints a page and then stops (continued).	<p>The paper size currently set with the P-SIZE option may not match your paper size. There are several ways of dealing with this error. If the FEED light is out, simply press CONTINUE to clear the error. Then press the <i>SelecType</i> button to enter SelecType Level 1. Make sure that the correct paper cassette is selected and that the paper size you wish to use matches the P-SIZE setting. If it does not, change the P-SIZE setting and save the new setting with the SAVE MACRO option.</p> <p>If the orange FEED light is on, indicating that data remains in the printer, you cannot change SelecType settings. However, you can still enter SelecType Level 1 and check the INPUT and P-SIZE settings. If you have inserted an incorrect paper size in the paper cassette, simply replace it with the size indicated in P-SIZE and continue printing. If the SelecType settings are incorrect, press RESET to clear the data in the printer. Next, enter SelecType Level 1 and change the paper size setting to match the size of the paper you are using. Save the new setting with the SAVE MACRO option and continue with your printing. For more information on using SelecType, see Chapter 3.</p>



CAUTIONS:

- When you press the **RESET** button, any data remaining in the printer is lost.
- If you continue to print using paper **that** is smaller than the size of paper set with SelecType, toner **may** accumulate **on** the drum and damage the imaging cartridge. Make sure you set the P-SIZE option to match the paper you are using.
- If the AUTO CONT option is ON, a paper size error is detected but cleared automatically and printing continues. In most cases, leave AUTO CONT set to OFF.

Decline in Print Quality

If the print quality declines, read through the following section and try to match your problem with the printing samples and descriptions below. The samples may not always match your problem exactly, so try to find one of a similar type.

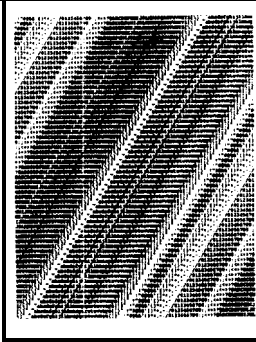
Note: If the print quality problem remains after you work through the suggestions in this section, make a list of the corrective steps you have taken and contact your dealer for assistance.

Problem	Solution
<p>The print quality is not what you expect.</p> <p><i>Printed pages have a dark or dirty background.</i></p>	<p>The print density may be set for darker print. Turn the print density knob clockwise for lighter print.</p> <p>Printer components may be dirty. Clean inside the printer as described in Chapter 6.</p> <p>There may be a problem with the imaging cartridge. Replace the cartridge as described in Chapter 6.</p>

Problem

Solution

Vertical black or white bands or lines appear on printed pages.



The glass lens of the print head may be dirty. Open the printer to the upper position, remove the imaging cartridge, and locate the lens that runs across the inside cover. Wipe the lens with a soft, dry cloth that is free of lint. Do **not** touch the surface of the lens with your fingers. Reinstall the imaging cartridge and continue printing.

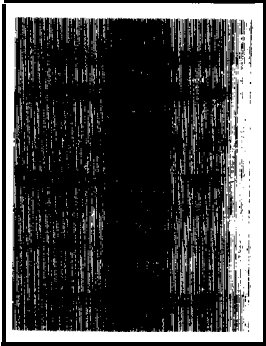
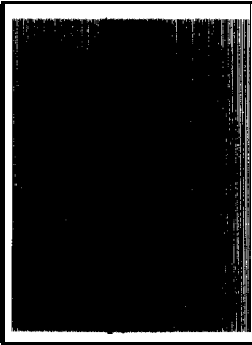
The transfer charger wire may be dirty. Clean the wire as described in Chapter 6.

If the print quality problem persists, replace the imaging cartridge as described in Chapter 6.

Horizontal black or white bands appear on printed pages.

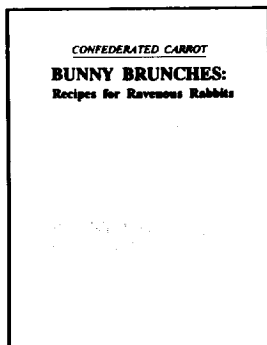
The transfer charger wire may be dirty. Clean the wire as described in Chapter 6.

There may be a problem with the imaging cartridge. Replace the cartridge as described in Chapter 6.

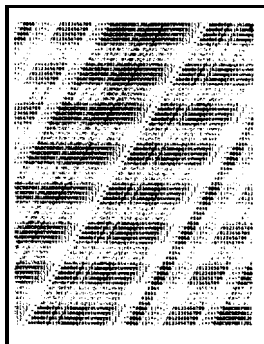
Problem	Solution
<p>The print quality is not what you expect (continued).</p> <p>Periodic dirty marks appear in the printout.</p> 	<p>There may be a scratch on the drum of the imaging cartridge. Replace the imaging cartridge as described in Chapter 6.</p>
<p>Toner smudges across the printed pages.</p> 	<p>The bottom of the imaging cartridge may be dirty. Remove the imaging cartridge and wipe the bottom of the cartridge with a clean, dry cloth. Then reinstall it as described in Chapter 6.</p> <p>There may be a problem with the imaging cartridge. Replace the cartridge as described in Chapter 6.</p>

Problem

Ghost images appear on printed pages.



The darkness of the printout is uneven.



Solution

The cleaning pad may need to be replaced. Replace the cleaning pad as described in Chapter 6.

The inside of the printer may be dirty. Clean inside the printer as described in Chapter 6.


There may be a problem with the imaging cartridge. Replace the cartridge as described in Chapter 6.

The transfer charger wire may be dirty. Clean the wire as described in Chapter 6.

If this does not correct the problem, replace the imaging cartridge as described in Chapter 6.

Problem	Solution
The print quality is not what you expect (continued).	
<i>Irregular areas of missing image appear on the printed page.</i>	<p>Your paper may be moist or damp. Printing is sensitive to moisture absorbed by the paper. The higher the moisture content in the paper, the lighter the printed output. Do not store your paper in a humid or damp environment.</p> <p>You may not be using the correct type of paper for your printer. If the surface of your paper is too rough, printed characters appear distorted or broken. Smooth, high-quality copier paper is recommended for best results. See Chapter 4 for information on choosing paper.</p> <p>The transfer charger wire may be dirty. Clean the wire as described in Chapter 6.</p>
<i>Completely blank pages are output.</i>	<p>If the TONER LOW warning appears on the display, replace the imaging cartridge as described in Chapter 6.</p> <p>The problem may be with your software program or interface cable. Run a test print or print out a status sheet. If blank pages continue to print, the problem may be with the printer.</p> <p>If the test print does not print properly, the transfer charger wire may be broken. Turn off the printer and gently check the transfer charger wire. If the wire is broken, contact a qualified service person.</p>

Problem	Solution
<p>A black page is printed.</p>	<p>The imaging cartridge may need to be replaced. Replace the imaging cartridge as described in Chapter 6.</p>
<p>The printed image is light or faint.</p> <p> fghijklmnop ghijklmnopq hijklmnopqr ijklmnopqrs jklmnopqrst klmnopqrstu </p>	<p>The print density knob may not be set correctly. Raise the printer cover and turn the print density knob clockwise. See Chapter 2 for information on adjusting the print density knob.</p> <p>If the TONER LOW warning appears, replace the imaging cartridge soon as described in Chapter 6.</p> <p>The transfer charger wire may be dirty. Clean the wire as described in Chapter 6.</p> <p>Your paper may be moist or damp. Printing is sensitive to moisture absorbed by the paper. The higher the moisture content in the paper, the lighter the printed output. Do not store your paper in a humid or damp environment.</p> <p>If the problem persists, replace the imaging cartridge as described in Chapter 6.</p>

Problem	Solution
<p>The print quality is not what you expect (continued).</p> <p><i>The printed image is too dark.</i></p> 	<p>The print density knob may not be set correctly. Raise the printer cover and turn the print density knob counterclockwise. See Chapter 2 for information on adjusting the print density knob.</p> <p>If the problem persists, replace the imaging cartridge as described in Chapter 6.</p>
<p><i>The non-printed side of the page is dirty.</i></p>	<p>Toner may have spilled in the paper feed path. Clean the inside of the printer as described in Chapter 6.</p>

Options

Problem	Solution
<p>Using font cartridges, the printer does not operate as expected.</p> <p><i>The desired font cannot be selected.</i></p>	<p>You may not have inserted the cartridge correctly. Reinsert the cartridge as described in Appendix A.</p> <p>The FONT option of SelecType may not be set correctly. After you install the font cartridge, change the FONT setting as described in The Font Cartridges in Appendix A.</p> <p>The correct page orientation (portrait or landscape) may not be selected with SelecType. Only fonts containing the selected orientation are available. See The Font Cartridges in Appendix A for more information.</p>
<p><i>Fonts cannot be selected from the cartridge and the message CARD ERROR appears on the display.</i></p>	<p>You may not have inserted the cartridge correctly. See the list of card error messages and instructions on correcting the error earlier in this chapter.</p>

Problem	Solution
<p>Using the optional lower paper cassette, the printer does not operate properly.</p> <p><i>Paper does not feed from the lower paper cassette.</i></p> <p><i>Several sheets feed into the printer at one time and jam (the FEED JAM or PAPER JAM message appears on the display).</i></p>	<p>The INPUT menu in SelectType Level 1 may be set to STD. To use the lower paper cassette, the INPUT option in SelectType Level 1 must be set to OPT or AUTO. Change the setting as described in Chapter 3.</p> <p>There may be no paper in the lower paper cassette tray. Load paper into the lower paper cassette tray.</p> <p>The paper tray in the lower paper cassette may not be installed properly. See Appendix A for instructions on using the lower cassette.</p> <p>You may have tried to load too many sheets of paper into the lower paper cassette tray. The tray can hold a maximum of 250 sheets of paper.</p> <p>You may not be tapping the stack of paper sufficiently. Remove the jammed paper following the instructions earlier in this chapter. Before reloading paper, be sure to tap the paper firmly to even up the edges of the stack. Also, do not load paper that is creased or folded.</p>

Problem	Solution
<p>Using the optional face-up output tray, the printer does not operate properly.</p> <p><i>The paper does not feed onto the face-up tray.</i></p> <p><i>The paper feeds but then jams at the output area.</i></p>	<p>You may not be using the correct paper for your printer. Make sure your paper matches the specifications listed in Chapter 8. If the finish of the paper is too smooth or too rough, paper feeding may be difficult. Try feeding each sheet manually from the standard paper cassette.</p> <p>The thickness of the paper also affects paper feeding. Always test your paper before purchasing it in large quantities.</p> <p>The feed roller may be dirty. Clean the roller as described in the maintenance section for the optional lower cassette in Appendix A.</p> <p>The optional face-up output tray may not be installed properly. See Appendix A for information on installing the face-up output tray.</p> <p>You may not have set the paper path correctly. Make sure that the paper path select lever is set in the FACE UP position as described in Chapter 4.</p> <p>There may be too much paper in the output tray. Never let more than 100 sheets of paper accumulate in the face-up output tray.</p>

Problem	Solution
<p>After installing additional memory (memory chip set or a memory expansion board), the printer does not function as expected.</p> <p><i>After you turn on the power, the RAM Check message does not display the expected amount of memory.</i></p>	<p>The RAM chips or the optional memory board may not be installed correctly. Turn off the printer and check the installation. Make sure that the chips are installed in the correct sector of the main board and that each chip is firmly seated in its socket. Also make sure that the notches on the chips are all pointing in the correct direction. See Appendix A for more information.</p> <p>You may not have increased memory on the printer's controller board before you installed the memory expansion board. A memory expansion board can be installed only after you have increased the controller board memory to the maximum 2 MB with the optional memory chip set. See Appendix A for more information.</p>

Problem	Solution
<i>Complex pages still cannot be printed and the INSUFF MEMORY message appears on the display.</i>	<p>The FULL PRINT, RX-BUFFER, or MEMORY SHARE setting in SelecType may need to be changed. See Chapter 3 for more information.</p> <p>You may not have installed enough memory. You can add up to 5.5 MB of memory for a total of 6 MB. See Appendix A for information on increasing the printer's memory. If you have added all of the extra memory possible and the error message continues to appear, you may have to simplify the document you are trying to print.</p>

Using Data Dump Mode

Data dump mode is a special feature that makes it easy for experienced users to find the cause of communication problems between the printer and computer. The data dump mode produces an exact printout of the codes reaching the printer.

1. Make sure that the printer is turned off and is loaded with paper.
2. Hold down the *SelectType* button while you turn on the printer. Make sure you hold the button down until the message HEX DUMP appears on the display.
3. Run any program that causes the printer to print (either an application program or a program written in any programming language). Your printer prints out all of the codes sent to it in hexadecimal format as shown in the sample below.

*****										HEX DUMP LIST										*****										PAGE										1
0000	1B	52	10	1B	43	45	1B	6B	00	1B	70	00	16	63	0C	1B	.R..CE.k..p..c..																							
0001	74	01	1B	32	54	72	6F	75	62	6C	65	20	73	66	6F	6F	t..2Trouble shoo																							
0002	74	69	6E	67	20	20	20	20	20	0D	0A	54	68	69	73	20	ting ..This																							
0003	63	68	61	70	74	65	72	20	64	69	73	63	75	73	73	65	chapter discusse																							
0004	73	20	70	72	6F	62	6C	65	6D	73	20	79	6F	75	20	60	s problems you m																							
0005	61	79	20	65	6E	63	6F	75	6E	74	65	72	20	61	6E	64	ay encounter and																							
0006	20	74	68	65	69	72	20	6C	69	6B	65	6C	79	20	73	6F	their likely so																							
0007	6C	75	74	69	6F	6E	73	2E	20	0D	0A	0D	0A	49	66	20	lutions. ...If																							
0008	61	6E	20	65	72	72	6F	72	20	6F	63	63	75	72	73	2C	an error occurs,																							
0009	20	79	6F	75	72	20	62	65	73	74	20	73	6F	75	72	63	your best sourc																							
000A	65	20	6F	66	20	69	6E	66	6F	72	6D	61	74	69	6F	6E	e of information																							
000B	20	0D	0A	69	73	20	74	66	65	20	64	69	73	70	6C	61	..is the displa																							
000C	79	20	6F	6E	20	74	68	65	20	63	6F	6E	74	72	6F	6C	y on the control																							
000D	20	70	61	6E	65	6C	2E	20	0D	0A																														
panel. . .																																								

4. To turn off the data dump mode and stop printing, press **ON LINE** to set the printer off line. (If you press **ON LINE** while a page is being printed, the green **ON LINE** light flashes until the page is ejected and the printer goes off line.) To exit the data dump mode, turn off the printer or hold down the **RESET** button until **INITIALIZE** appears on the display.

Look at the sample data dump printout shown in Step 3. By reading the characters printed in the text field on the right side of the data dump printout or the printout of hexadecimal codes, you can check what codes are being sent to the printer. In the text field, printable characters appear as their true ASCII characters. Non-printable codes, such as control codes, are represented by dots.

For example, look at the first two hexadecimal codes on line 0004 of the printout sample (73 20). Code 73 represents the letter s; code 20 represents a space. Check the fifth line of the text field on the right side of the printout and you will find the letter s followed by a space.

The chart below interprets part of the first line of codes:

Hex codes	Command	Function
1B 52 10	ESC R 10	Select USA (symbol set) character set
1B4345	ESC C	Set page length
1B6B00	ESC k	Select typeface
1B 70 00	ESC p	Turn proportional mode on/off

Chapter 8

Technical Specifications

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Printer Specifications

Printing

- Printing method:** Laser beam scanning and dry electrophotographic process
- Resolution:** 300 X 300 dpi
- Printing speed:** 6 pages per minute (letter or A4) (depending on the font and quantity of data)
- First print:** Less than 25 seconds with A4/letter
- Warm-up time:** 70 seconds or less at normal temperature

Internal modes:

- ESC/P 9-pin printer emulation (FX-86e/286e)
- ESC/P 24-pin printer emulation (LQ-2500)
- HP LaserJet series IIP emulation

IC card slots: 2 slots for fonts or identity cards

Resident fonts:

HP LaserJet series IIP mode

Courier 10cpi	Upright/Italic*	P/L
Courier 10cpi Bold	Upright	P/L
Courier 12cpi	Upright/Italic*	P/L
Courier 12cpi Bold	Upright	P/L
Line printer 16.66cpi	Upright	P/L

P:Portrait, L:Landscape

* The Italic, Bold and Landscape effects are created internally.

FX and LQ modes

Courier 10	Upright/Italic*	Medium/Bold	P/L
EDP 16.66	Upright/Italic"	Medium/Bold*	P/L
Prestige 12	Upright/Italic*	Medium/Bold*	P/L*
Prestige 20	Upright/Italic"	Medium/Bold*	P/L"

P:Portrait, L:Landscape

*: These effects (Italic, Bold, and Landscape) are created internally.

External fonts

Optional fonts provided with font cards or cartridges
Download fonts

Paper and paper delivery

Paper specifications

Types:	Plain paper
	Application paper:
	• Gummed labels
	• Envelopes
	• Overhead projector (OHP) sheets
	• Colored paper
	• Cardstock

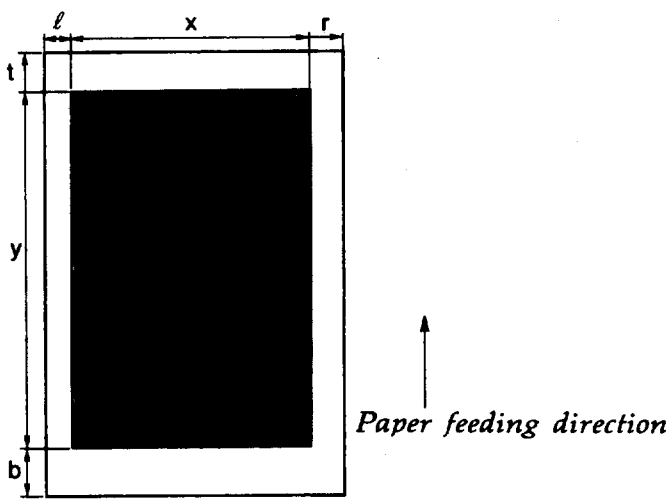
Epson does not recommend or guarantee the use of any particular brand of paper. Because paper characteristics are subject to change by individual manufacturers, it is your responsibility to ensure the quality of paper used with the printer.

Paper weight:	Plain paper: 16 - 24 lb, (60 - 90 g/m ²)
	Cardstock: 24 - 42 lb, (90 - 157 g/m ²)

Paper size:

Paper:	Type	Size
	A4	210 X 297 mm
	A5	148 X 210 mm
	B5	182 X 257 mm
	F4	210 X 330 mm
	Letter	8.5 X 11 inches
	Legal	8.5 X 14 inches
	Half-Letter	5.5 X 8.5 inches
	Executive	7.25 X 10.5 inches
	Government Legal	8.5 X 13 inches
	Government Letter	8.0 X 10.5 inches
Envelope:	Monarch	3 7/8 X 7 1/2 inches
	Commercial- 10	4 1/8 X 9 1/2 inches
	DL	110 X 220 mm
	C5	162 X 229 mm

Printable area:



HP L-JET2P mode

Paper size	l	x	r	t	y	b
A4	71	2380	71	59	3407	59
A5	72	1648	72	56	2380	56
B5	72	2050	71	60	2936	59
Letter	75	2450	75	60	3200	60
Legal	75	2450	75	60	4100	60
Half letter	75	1550	75	60	2450	60
Executive	75	2075	75	60	3050	60
G-Legal	75	2450	75	60	3800	60
G-Letter	75	2300	75	60	3050	60
F4	71	2380	71	60	3798	60
Commercial 10	75	1137	75	60	2750	60
Monarch	75	1062	75	60	2150	60
C5	71	1813	71	59	2604	59
DL	71	1199	71	59	2498	59

(Units = dots at 300 dpi.)

FX and LQ emulation modes

Paper size	l	x	r	t	y	b
A4	75	2330	75	75	3358	75
A4(80 columns)	50	2400	30	75	3358	75
A5	75	1598	75	5	2330	75
B5	75	2000	75	75	2886	75
Letter	75	2400	75	75	3150	75
Legal	75	2400	75	75	4050	75
Half letter	75	1500	75	75	2400	75
Executive	75	2025	75	75	3000	75
G-Legal	75	2400	75	75	3750	75
G-Letter	75	2250	75	75	3000	75
F4	75	2330	75	75	3748	75
F4(80 columns)	50	2400	30	75	3748	75
Commercial 10	75	1087	75	75	2700	75
Monarch	75	1012	75	75	2100	75
C5	75	1763	75	75	2554	75
DL	75	1149	75	75	2448	75

(Units = dots at 300 dpi.)

Range of paper width and length:

	Width	Length
Paper cassette	3.86 - 8.5 inches (98-216 mm)	6.3 - 14 inches (160-356 mm)
Manual feed	3.62 - 8.5 inches (92 - 216 mm)	6.3 - 14 inches (160-356 mm)

Special sizes: Any size within the usable paper size range listed above.

Paper feed alignment and direction:
Center alignment for all sizes.

Paper feed: Automatic or manual feed

Input paper supply (20 lb. or 75 g/m² paper):
250 sheets
250 sheets (with option)

Paper eject: Face-up or face-down selection.

Paper eject capacity (20 lb. or 75 g/m² paper):
Face-down 250 sheets
Face-up 100 sheets (with option)

Consumable products

Imaging cartridge (S051003):

Storing temperature: 32 to 86°F (0 to 30°C)

Storing humidity: 30 to 85% RH

Shelf life: Should be used within 18 months after production.

Life: Typical imaging cartridge life is about 6000 pages under the following conditions:
Letter-or A4-size paper, continuous printing, and 5% print ratio. Examples of a 5% print ratio are shown on the next page.

In a little district west of Washington Square the streets have run crazy and broken themselves into small strips called "plazas." These "plazas" have strange angles and curves. One street crosses itself a time or two. The artist then discovered a valuable possibility in this street. Suppose a colonnade with a bell for hands, paper and canvas should, in traversing this road, suddenly meet himself coming back, without a coin having been paid on account?

So, to quiet old Greenwich Village the art people took over painting, hunting for north windows and eighteenth-century public and Dutch attics and low roofs. Then they imported some painter and a shrewd fish or two from Dutch houses, and brought a "colony."

At the top of a square, three-story brick row and Johnny had their studio.

Johnny was familiar for Joanne. One was from Madrid; the other from California. They had met at the table d'hôte of an English street "holocaust," and found their tastes in art, already mixed and bumpy, almost too original that the joint studio obtained.

That was in May. In November a maid, unseen stranger, whom the doctors called Roseanna, walked about the colony, looking one here and there with his jet fingers. Once on the spot, she took her revenge stride boldly, smiling like victims by chance, but his feet slid nimbly through the maze of the narrow and moss-green "plazas."

Mr. Roseanna was not what you would call a charitable old person. A rule of a little woman with blond tresses by California surgery was hardly fair game for the red-footed short-breasted old devil. But Johnny he smokes, and she is, secretly nursing, as he had passed from London, looking through the small Dutch window-panes at the blank side of the next brick house.

One morning the busy doctor invited her into the hallway with a cheery, "Puff up!"

"She has one chance in-let us say, ten," he said, as he shook down the mercury in his clinical thermometer. "And that chance is for her to wait in line. That one people have of listening on the side of the underlifter makes the entire photographic look silly. Your little lady has made up her mind that she's not going to get well. Has she anything on her mind?"

She - she wanted to print the Bay of Naples some day," said she.

"Paint" - hum! She also anything on her mind worth thinking about twice - a man for instance?"

(from "The Last Leaf" by G. Henry)



The number of pages that you can print with an imaging cartridge varies depending on the type of printing you do. If you print a few pages at a time or print dense text exceeding the 5% print ratio, your cartridge may print fewer pages.

Ozone filter (S01001):

Replace every six months.

Mechanical

Dimensions and weight:

- Height: 7.3 inches (185 mm)
- Width: 19.5 inches (495 mm)
- Depth: 15.0 inches (381 mm)
- Weight: approx. 18.2 Kg (40 lb.) including paper cassette and imaging cartridge.

MPBF (Mean Prints Between Failures):

30,000 sheets (3,000 per month X 10 months)

MTBF (Mean Time Between Failures):

3,000 hours

Durability: 5 years or 180,000 sheets (3,000 per month X 60 months); whichever comes first.

Electrical

Voltage: 120 V model: 90 to 132 VAC

Rated frequency range: 50 Hz to 60 Hz \pm 3Hz

Power consumption: Less than 550 W

Insulation resistance: 2 M Ω minimum

Dielectric strength (between AC line and chassis):
120 V model can withstand 1500 VAC rms for one minute or 1650 VAC rms for one second.

Controller hardware

CPU: 68000, 12.5 MHz

RAM: Standard: 0.5 MB (expandable up to 6 MB)

Environmental

Temperature: Operation: 50° to 95° F (10 to 35° C)
Storage: 32° to 95° F (0° to 35° C)

Humidity: Operation: 15 to 85 % RH
Storage: 30 to 85 % RH

Altitude: 8200 feet (2500 meters) maximum

Levelness: Should be kept level

Interface Specifications

The printer has the following resident interfaces:

- Parallel
- RS-232C/RS-422 serial

Parallel interface

Your printer is equipped with an 8-bit parallel interface.

Parallel interface pin assignments

The parallel interface connector pin assignments and a description of the interface signals are shown in the table below.

Signal Pin	Return Pin	Signal	Direction	Description
1	19	STROBE	IN	The STROBE pulse to read data in. Pulse width must be more than 0.5 microseconds at the receiving terminal.
2	20	DATA 1	IN	These signals represent information of the 1st to 8th bits of parallel data, respectively. Each signal is at HIGH level when data is logical 1 and at LOW level when it is logical 0.
3	21	DATA 2	IN	
4	22	DATA 3	IN	
5	23	DATA 4	IN	
6	24	DATA 5	IN	
7	25	DATA 6	IN	
8	26	DATA 7	IN	
9	27	DATA 8	IN	
10	28	ACKNLG	OUT	About a IO-microsecond pulse. LOW indicates that data has been received and that the printer is ready to accept more data. This signal is output as a pair with BUSY.

Signal Pin	Return Pin	Signal	Direction	Description
11	29	BUSY	OUT	A HIGH signal indicates that the printer cannot receive data. The signal goes HIGH in the following cases: <ul style="list-style-type: none"> • During data entry (each char. time) • When off line • During printer-error state
12	30	PE	OUT	A HIGH signal indicates that the printer is out of paper.
13	-	SLCTOUT	OUT	Pulled up to 5 volts through 3.3K ohm resistance.
14	-	AUTO FEED	IN	When LOW, the paper is automatically fed one line after printing. (The signal level can be fixed using SelectType.) Sampling is carried out when the power is on or the printer is initialized with the control panel button.
15	-	NC		
16		GND	-	Logic ground level.
17	-	CHASSIS GND	-	Printer's chassis ground, which is isolated from the logic ground.
18	-	NC	-	Not used.
19-30		GND		Twisted-pair return signal ground level.
31	-	INIT	IN	When this signal goes <u>LOW</u> , the printer controller ignores the <u>STROBE</u> signal.
32	-	ERROR	OUT	This level becomes LOW when the printer is <ul style="list-style-type: none"> • in paper-out state • in error state • off line
33	-	GND		Same as for Pins 19-30.
34		NC	-	Not used.

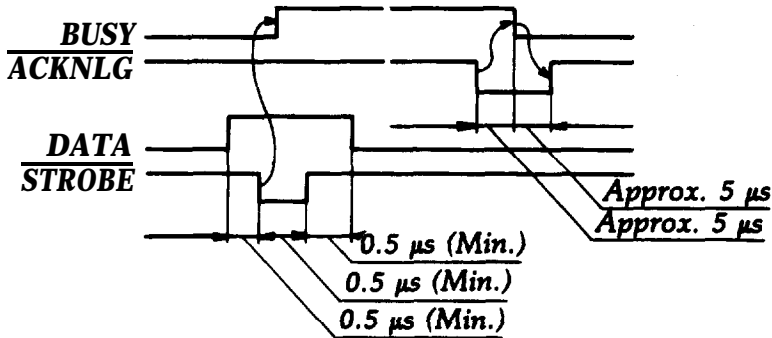
Signal Pin	Return Pin	Signal	Direction	Description
35	-	+5v	-	Pulled up to 5V through 3.3K ohm resistance.
36	-	SLCTIN	IN	The DC1/DC3 control codes are valid only when this signal is HIGH (SLCTIN set to OFF). This setting can be changed with SelecType. Sampling is carried out only when the power is on.

Notes:

- All interface conditions are based on TTL level. Both the rise and fall of each signal must be less than 0.2 microseconds.
- Data transfer must be carried out by observing the ACKNLG or BUSY signal. (Data transfer to this printer can be carried out only after the receipt of the ACKNLG signal or when the level of the BUSY signal is LOW.
- The column heading “Direction” refers to the direction of signal flow as viewed from the printer.
- “Return” denotes the twisted-pair return to be connected at signal ground level. For the interface wiring, be sure to use a twisted-pair cable for each signal and to complete the connection on the return side. These cables should be shielded and connected to the chassis of the host computer and the printer.

Interface timing

The figure below shows the timing for the parallel interface.



Signal level: TTL compatible

Serial interface

The printer's resident serial interface can be set for either RS-232C or RS-422 operation. These interfaces have the following characteristics.

Data format

Word length:	7 or 8 bits
Parity:	none, odd or even
Stop bits:	1 or 2
Printer ready protocol:	enabled (DTR and XON/XOFF protocol set to ON.)

The data format can be set using functions and menu options in SelecType.

Baud rate

300, 600, 1200, 2400, 4800, 9600, 19,200 bits per second.

Signal level

RS-232C: Conforms to EIA

Handshaking

The printer's serial interface can use DTR (Data Terminal Ready) signal levels and XON/XOFF communication protocols either separately or in combination. When the vacant area for data in the input buffer drops to 128 bytes, the printer outputs an XOFF code or sets the DTR signal level to low (MARK, indicating that it cannot receive more data).

Once the vacant area for data in the buffer recovers to 256 bytes, the printer outputs an XON code or sets the DTR flag to high (SPACE), indicating that it is again ready to receive data.

Error handling

A * character is printed if a parity error, framing error, or over-run error is detected.

Connector

D-sub 25-pin connector

Serial interface pin assignments

The serial interface connector pin assignments and a description of the interface signals are shown in the table below. The direction of signals is given relative to the printer.

Signal Pin	RS-232C	RS-422	Direction	Description
1	FG		—	This line is connected to the printer chassis.
2	TXD		OUT	Transmits data. This pin transmits serial data from the printer to the computer.
3	RXD	(RD+)	IN (IN)	Received data. This pin transmits serial data from the computer to the printer.
4	RTS		OUT	Request to send. This pin is held HIGH by the printer.
5	CTS		IN	Clear. This pin indicates that the computer is ready to receive data from the printer. The printer will not proceed unless the signal is HIGH. Can be set HIGH with SelectType.
6	DSR		IN	Data set ready. This pin indicates that the computer is ready to receive data from the printer. Can be set HIGH with SelectType.
7	SG		—	Signal ground. This pin provides a ground for all the signal lines.
8	DCD		IN	Data carrier detect. Always ignored.
9		(SD+)	(OUT)	Send data. This pin sends serial data from the printer to the computer. Signal level is RS-422.
10		(SD-)	(OUT)	Send data. This pin sends serial data from the printer to the computer. Signal level is RS-422.
18		(RD-)	(IN)	Receive data. This pin transmits serial data from the computer to the printer. Signal level is RS-422.

Signal Pin	RS-232C	RS-422	Direction	Description
20	DTR		OUT	Data terminal ready. This pin indicates whether or not the printer is ready to receive data. If the printer ready protocol is not selected, this pin is always HIGH (i.e. the printer is ready to receive data). If printer ready protocol is selected, the printer can accept data when the pin level is HIGH, and cannot accept data when the pin level is LOW. When the DTR signal goes LOW the host computer must stop sending data within 128 characters. Can be set HIGH or LOW with SelectType.

- Although RTS, CTS, DSR, DTR, and DCD are designated as RS-232C signals, they can also be used when RS-422 is selected with SelectType.

Initialization

There are four ways that the printer can be initialized (returned to a fixed set of conditions) as shown in the table below.

Hardware initialization	<ul style="list-style-type: none">• When the power is turned on.• When the FACTORY RESET option in SelecType Level 2 is executed.
Software initialization	<ul style="list-style-type: none">• Software sends the printer-initialize command.• When the RESET button on the printer is pressed.

All initializations except FACTORY RESET have identical results. FACTORY RESET produces a different set of parameters.

The following tables list the default conditions that become valid **when** the printer is initialized. The default conditions differ according to the printer mode.

Default settings in HP emulation mode

Item	Factory Reset	Reset
Paper input	Standard paper cassette	SelecType setting
Paper size	Letter	SelecType setting
Orientation	Portrait	SelecType setting
Copy count	1	SelecType setting
Page length	70 lines	Depends on the paper size and orientation settings
VMI	8/48 inch (6 lines per inch)	Page length minus 1 divided by text length. Values are fixed and depend on the SelecType paper size setting. The page length and text length are measured in inches.
HMI	12/120 inch (10 cpi)	HMI of the selected font
Top margin	1/2 inch (150 dots)	1/2 inch (150 dots) when SelecType OFFSET is 0
Text lines	64 lines	SelecType setting
Text length Portrait	64 lines	SelecType setting
Left margin	logical page left margin	logical page left margin
Right margin	logical page right margin	logical page right margin
Line termination	CR=CR, LF=LF; FF=FF	CR=CR, LF=LF, FF=FF

Initialization

Item	Factory Reset	Reset
Fonts (both primary and secondary)		
Symbol set	Roman-8	*
Spacing	Fixed	*
Pitch	10 cpi	*
Height	12 point	*
Style	Upright	*
Strokeweight	Medium	*
Typeface	Courier	*
Underline	Off	Off
Font ID	0	0
Character code	0	0
Raster graphic resolution	75 dpi	75 dpi
Macro ID	0	0
End of line wrap	Off	Off
Display function	Off	Off
Advanced graphics	H-size=0, V-size=0, ID=0	H-size=0, V-size=0, ID=0
Symbol set	Roman-8	SelecType setting

* Font numbers are saved in EEPROM, and font attributes are selected with the SelecType SYMSET option.

Default settings in LQ and FX emulation modes

Item	Factory Reset	Reset
Paper input	Standard paper cassette	SelecType setting
Paper size	A4	SelecType setting
Page length	70 lines	Depends on the paper size and orientation settings.
Top of form	0.5 inch	SelecType setting
Left margin	Left edge of the printable area	SelecType setting or left edge of the printable area.
Right margin	80 columns (10 cpi)	Depends on the default right margin set with SelecType.
Horizontal tab settings	Every eight characters. (The character width is 10 cpi.)	Every eight characters. (The character width depends on the SelecType condensed print menu setting.)
Vertical tab settings	Every 1/6 inch	Every 1/6 inch
VFU channel	Channel 0	Channel 0
Character spacing	10 cpi	Depends on the condensed print menu setting.
International character set	USA	SelecType setting
Typeface	Courier	SelecType setting
Proportional spacing	Fix	SelecType setting
Character table (ESC t)	On (ESC t1)	SelecType setting
Condensed	Off	SelecType setting

Initialization

Item	Factory Reset	Reset
Underline	Off	Off
Superscript		
Subscript		
Double-width		
Bold		
Italic	Italic	Upright
International character spacing	0	0
Justification	Off	Off
DC 1, DC 3	DC 1	DC 1
MSB	Enable	Enable

Option Specifications

Lower paper cassette

Electrical

AC power supply: DC 24V supplied by the printer

Insulation resistance: 10M ohm minimum

Dielectric strength (Between AC line and chassis):

Can withstand 3750 VAC rms for one minute

Power consumption: 4W or less

Paper and paper delivery

Size: Letter (8 1/2 X 11 inches)

Weight: 16 - 24 lb. (60 - 90 g/m²)

Paper feed: Automatic feed delivery system. Tray capacity up to 250 sheets (20 lb. or 75 g/m² paper)

Feding speed: For first sheet, 25 seconds or less (letter-size paper).
For subsequent sheets, 6 pages per minute (letter-size paper).

Types: Plain paper, such as copier paper, memo sheets, and letterheads

Mechanical

Dimensions and weight: Without the printer:

Height:	3.7 inches (95.7mm)
Width:	19.1 inches (487mm)
Depth:	19.6 inches (500 mm)
Weight:	11.0 lb. (5.0kg)

Face-up output tray

Dimensions and weight: Without the printer:

Height:	7.7 inches (198mm)
Width:	12.2 inches (311mm)
Depth:	9.6 inches (246 mm)
Weight:	1.5 lb. (0.7kg)

Paper eject capacity: 100 sheet (75 g/m² or 20 lb. paper)

Appendix A

Options

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The Font Cartridges

Font cartridges allow you to use many different styles of type in addition to the internal fonts resident in your printer. The printer has one slot for font cartridges, and a variety of font cartridges are available from your dealer.

Compatible font cartridges

The table below lists all font cartridges that are compatible with the EPL-7000. The manual for each font cartridge contains samples of the characters and symbol sets the font cartridge provides.

Note: Some of the fonts contained on optional font cartridges are duplicated by the resident fonts in the printer. See Appendix B for sample fonts and character sets.

Supplier	Cartridge number	Cartridge
HP	92286A	COURIER 1
	92286B	TMS PROPORTIONAL 1
	92286C	INTERNATIONAL 1
	92286D	PRESTIGE ELITE
	92286E	LETTER GOTHIC
	92286F	TMS PROPORTIONAL 2
	92286G	LEGAL ELITE
	92286H	LEGAL COURIER
	92286J	MATH ELITE
	92286K	MATH TMS
	92286L	COURIER P&L
	92286M	PRESTIGE ELITE P&L
	92286N	LETTER GOTHIC P&L
	92286P	TMS RMN P&L
	92286Q	MEMO 1
	92286R	PRESENTATIONS 1
	92286T	TAX 1
	92286U	FORMS Portrait
	92286V	FORMS Landscape
	92286W	3-of-9/OCR A
	92286X	EAN/UPC/OCR B

Supplier	Cartridge number	Cartridge
	92286Y 82286Z 92290S 1 90090S2 92286PC C2055A C2053A C2053A C2053A C2053A C2053A C2053A C2053A C2053A	PC COURIER 1 MICROSOFT 1 Procollection #C01 Great Start #C01 WordPerfect #C02 Microsoft #C03 Polished Worksheets #C04 Persuasive Presentations #C05 Forms Etc. #C06 Bar Codes & More #C07 Text Equations #C08 Global Text
Anacom		Alfajet MX-1 Maxi-One Cartridge Alfajet PC Maxi-Pro Cartridge
Peripherals		JetFont SuperSet Jetfont 12/30 Jetfont 4-in-1 JetFont SuperSet International
Everex		HardFont Cartridge B HardFont Cartridge F HardFont Cartridge T HardFont Cartridge Z HardFont Cartridge LGL HardFont Cartridge SST HardFont Cartridge BST HardFont Cartridge All-in-1 HardFont Cartridge A-TO-Z
IQ		Super Cartridge 1 Super Cartridge 2 Super Cartridge 2L Super Cartridge LC Super Cartridge 2WP
Pacific		25 Cartridge in One Original Version 25 Cartridge in One 172 Headlines in a Cartridge
UDP		DT1-TMS RMN DT2-HELV 65-in-One

Supplier	Cartridge number	Cartridge
Intercon		PHONT+ PRO II P

CAUTION: Use only the HP font cartridges listed above in your EPL-7000. You cannot use other HP font cartridges with this printer, or you may damage your printer.

You can use each font cartridge in only HP emulation mode. See the font card manual for information on the printer mode to use. To change the printer mode, use the SelecType Level **2** CH CONFIG option described in Chapter **3**.

Inserting a font cartridge

Optional font cards are easy to use with your printer. You can insert a font cartridge into the slots at the left back of the printer. Follow these steps to insert a font cartridge:



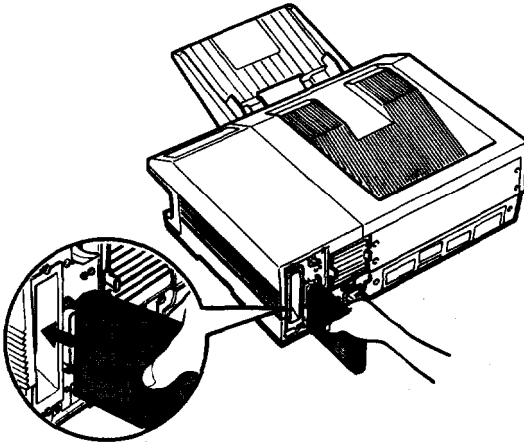
CAUTIONS:

Never insert or remove a cartridge while the printer is on line, in SelecType mode, or while the printer is resetting (after you press **RESET**).

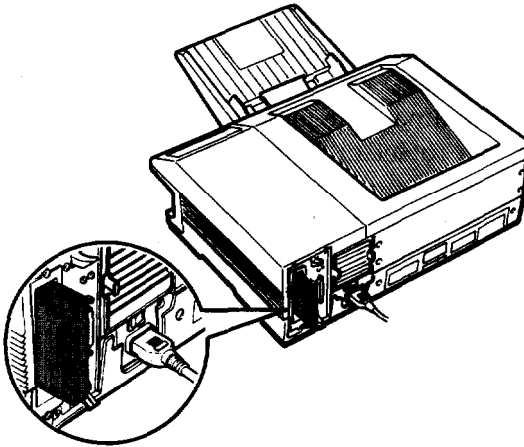
- Be careful when you insert or remove a font cartridge. You can damage the cartridge by trying to insert it the wrong way or by using too much force.
- Do not touch the connector on the bottom of the cartridge or the connector in the printer's cartridge slots. You could damage the cartridge or printer.

1. If the **CH P** or **CH S** light is flashing, press **FEED** to print any data remaining in the buffer.
2. Take the printer off line or turn off the power.

3. Hold the cartridge so that the label on the cartridge faced left, as shown below.



4. Press firmly until the cartridge snaps into place.



CAUTION: If the message REMOVE CARD appears on the display, you inserted the cartridge when the printer was on line or when the printer's memory contained data. If you see this message, remove the cartridge, press **CONTINUE**; then return to step 1.

5. If the power is on, press **ON LINE** to set the printer on line. If the power is off, simply turn on the printer.

Now **that** you have inserted a font cartridge, you **can** select the fonts you want to print using SelecType or your application program.

Selecting a font with your application program

When **the** printer is in HP emulation mode, you can use your application program to select the fonts you want to print. First be sure you selected HP LaserJet series IIP or a similar printer from the program's setup or installation menu. For more information on which printers to choose when you set up your application program, see the section on using your printer with software in Chapter 5. After you set up your application program, you can specify the fonts you want using the commands available in the program.

If your program does not provide commands that allow you to select the font you want, you can select fonts using SelecType menus or printer command sequences. Most application programs, however, allow you to select fonts, and you should not have to use SelecType or printer commands to do so. To select a font using SelecType, see the next section. For information on printer commands, see Appendix B. Also see your software manual for information on how to use printer command sequences.

Selecting a font with SelecType

You **can** use the SelecType Level 1 FONT menu to select a font. The font you choose remains valid for the entire document. When you use SelecType to select fonts, you can select only one font per document.

When the printer is in **the** HP emulation mode, the FONT option displays the currently selected font source (RD, A, B, C, DL) and **the** font number as shown below.



To select the font cartridge slot, select C with the font source option (only **the** slot containing the font cartridges are displayed). Then select the desired font number. See Chapter **3** for a complete description of using SelecType.

Notes:

- Only fonts designed for the currently selected orientation (portrait or landscape) appear on the SelecType display.
- If you are using the printer in HP emulation mode, the font **you want** may not be available if it does not contain the currently selected symbol set. For best results, select the appropriate symbol set, with the SelecType SYMSET option, and then choose **the** font. See Appendix C for more information.

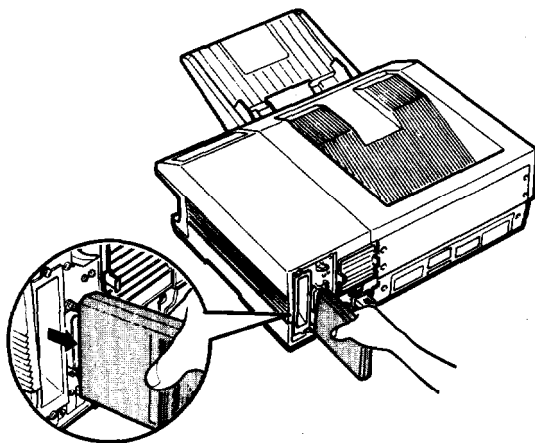
Removing a font cartridge

Follow these to remove a front cartridge:



CAUTION: Never remove a font cartridge while the printer is on line, in SelecType mode, or while the printer is resetting. If you remove a cartridge while the printer is in one of these states, a REINSERT CARD, REMOVE CARD, or SERVICE REQ message appears on the display. An error will also occur if you remove a cartridge while the **FEED** light is on, even if the printer is off line. See the description of card error messages in Chapter 7 for more information.

1. Make sure the printer is off line or turned off. If the **FEED** light is on, press the **FEED** button to print out the data in the printer before you remove the cartridge.
2. Grasp the edges of the cartridge and slowly pull it from the slot, as shown below.



3. Turn on the printer or press **ON LINE** to set the printer on line.

Recovering from a cartridge error

When the display shows one of **the** following messages, a cartridge error **has** occurred:

REINSERT CARD
ILLEGAL CARD
REMOVE CARD
CARDMEMORY OVERFLOW

A card error occurs if you insert or remove a font cartridge **when** the printer is on line or when the printer's memory contains data. **You cannot use** the font cartridge or print documents until you correct **the** cartridge error.

For the steps required to clear **each** error message, see Status and Error Messages in Chapter 7.

The Lower Paper Cassette

The optional lower paper cassette is an automatic sheet feeder for your laser printer. Simple to install, the optional lower cassette fits directly beneath the printer.

The paper tray in the lower paper cassette holds up to 250 sheets of A4-size paper to supplement the standard paper cassette's 250-sheet capacity. You can load two different sizes of paper in your printer at once (one size in the lower paper cassette and the other in your standard paper cassette) or use the SelectType Level 1 INPUT AUTO setting to use both the lower paper cassette and the standard paper cassette for continuous printing of up to 500 sheets of the same size paper.

Installing the lower paper cassette

To install your lower paper cassette, simply follow the steps below.

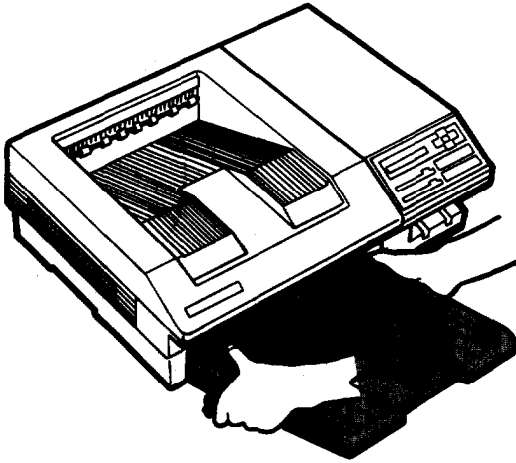
Preparing the printer

The following steps describe how to prepare your printer for lower paper cassette installation.

Note: If you purchased your printer and your lower paper cassette at the same time, set up your printer by following the instructions in Chapters 1 and 2 of this guide before you install the lower paper cassette. Be sure to run a print test as described in Chapter 2 to make sure that the printer is working properly.

1. Turn off the power on the printer.
2. Unplug the printer's power cord from the outlet. Then unplug the other end of the cord from the power cord input socket at the back of the printer.

3. Remove the standard paper cassette. First remove any paper in the cassette and then pull the paper cassette horizontally out of the printer.

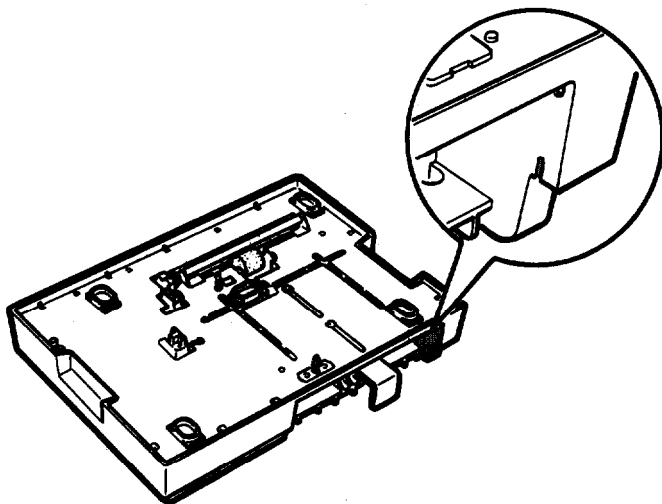


4. Remove the face-up output tray (if it is installed) by lifting it up slightly and then out.

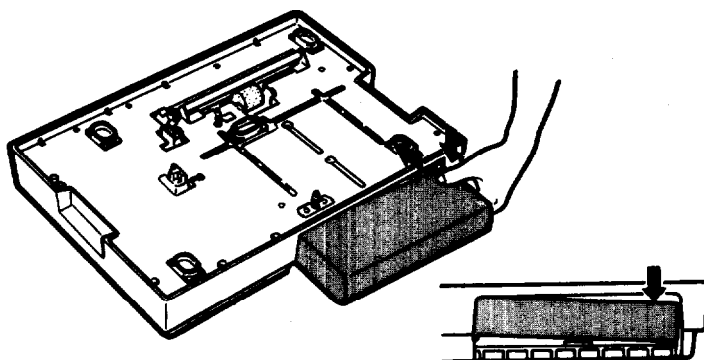
Assembling the lower paper cassette

Follow the steps below to assemble the lower paper cassette.

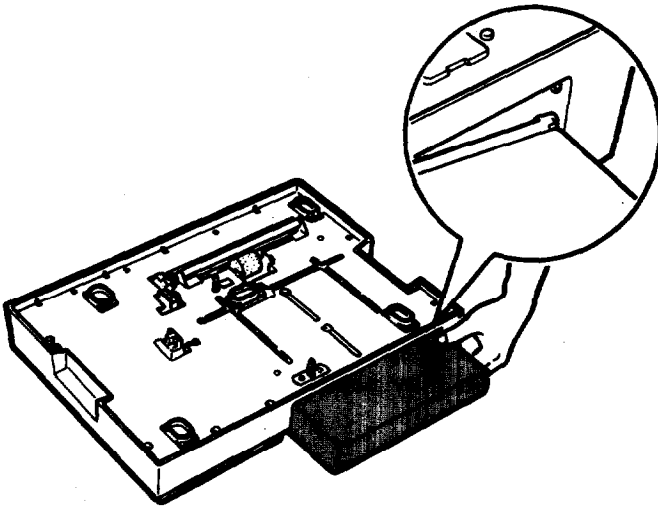
1. Locate the slot in the rear opening of the lower paper cassette.



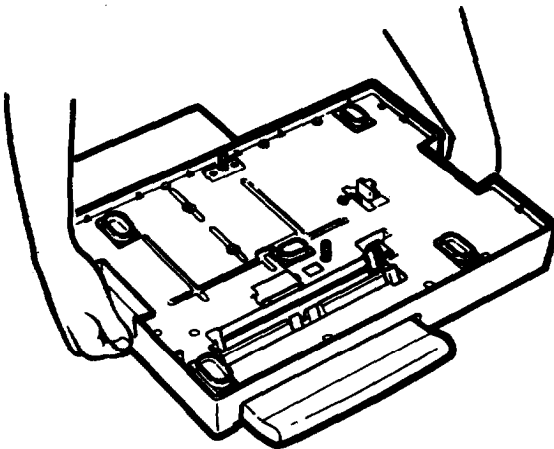
2. Press down on the top of the rear cover as you insert it into the rear opening as shown below.



3. Lift the rear cover into place.



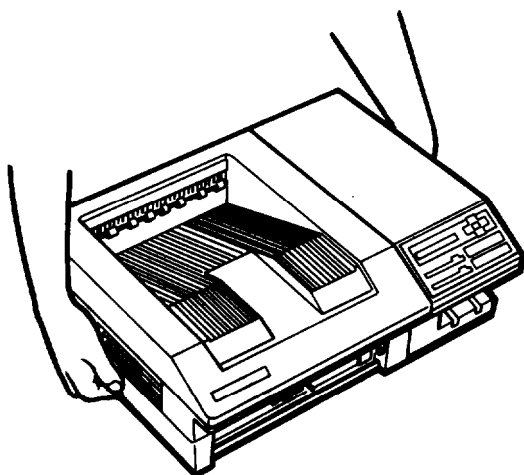
CAUTION: When you carry the lower paper cassette, hold it by the handles on the left and right side. Do not grasp the rear cover or the front side of the cassette.



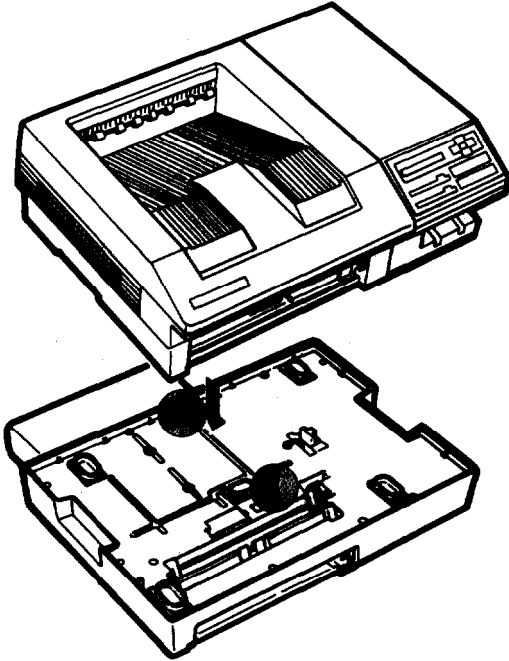
Installing the lower paper cassette

The lower paper cassette fits directly beneath the printer. Follow these steps to install the lower paper cassette.

1. Place the lower paper cassette in the location you chose for your printer. (Give yourself room to work at the rear of the cassette. Several installation steps must be performed from behind the printer as the cassette and printer are fitted together.)
2. Lift the printer as shown below and hold it over the lower paper cassette. The front of the printer should face the same direction as the front of the lower paper cassette. Because the printer is heavy, you may need someone to help you lift it.



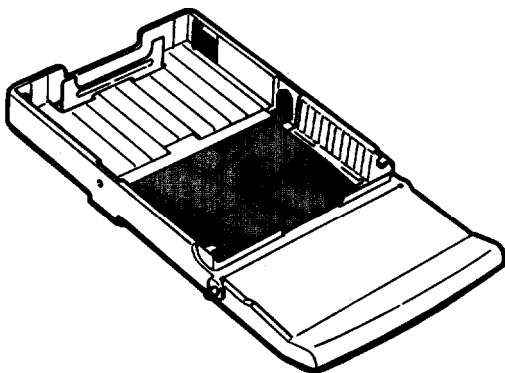
3. Guide the printer using the two alignment pins as shown below until it rests on top of the lower paper cassette.



4. Reinstall the standard paper cassette as described in Chapter 1.

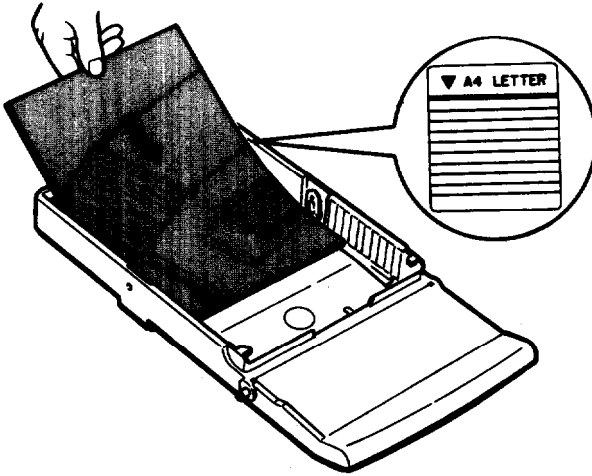
Loading the paper

1. To load paper into the lower paper tray, first press the pressure plate in the tray down until it locks into place as shown below.



CAUTION: Make sure that you press the plate in the paper tray down before inserting the cassette into the printer.

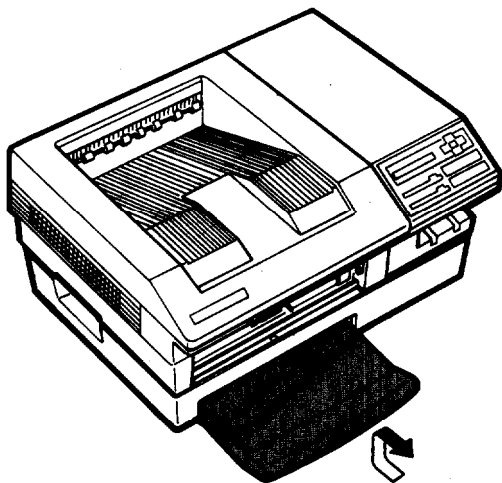
2. Insert a stack of paper face-down into the tray with the corners of the paper beneath the two tabs at the front of the paper tray.



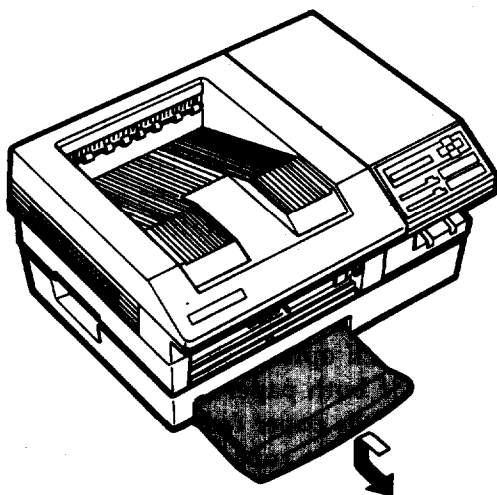
The lower paper cassette holds up to 250 sheets of 75 g/m² (20 lb.) paper. The paper level should not exceed the maximum height mark on the tray.

The Lower Paper Cassette

3. Insert the paper tray into the front of the lower paper cassette and push it in gently as far as it will go. After you push it in as far as it will go, let the tray lift slightly and move itself back into place.



To remove the paper cassette, push the tray forward slightly and then pull it back out of the printer.



Operating the lower paper cassette

The SelecType feature enables you to select or cancel paper loading from the lower paper cassette. Printing with the lower paper cassette is very similar to printing with the standard paper cassette.

Depending on your application software, you may want to select the lower paper cassette using your software, rather than with SelecType. See Chapter 5 for information on using the printer with application programs.

Using SelecType

The SelecType Level 1 INPUT option gives you three paper input choices: the standard cassette, the optional cassette, and automatic loading.

INPUT STD	Loads paper from the standard paper cassette, only.
INPUT OPT	Loads paper from the optional lower paper cassette. OPT appears only when the lower paper cassette is installed.
INPUT AUTO	Loads paper from either the lower paper cassette or the standard paper cassette. This feature allows you to keep two paper sizes available; or, if both paper cassettes contain the same size paper, it allows continuous printing of up to 500 sheets of 20 lb. (75 g/m ²) paper.

If only one paper cassette contains the size of paper you have set with the SelecType P-SIZE option, that paper cassette becomes the current paper cassette. If both paper cassettes contain the correct paper size, the printer loads paper from the lower paper cassette first. When this paper cassette runs out of paper, the printer switches automatically to the standard paper cassette, allowing continuous printing with same size paper.

If both paper cassettes are filled with an undefined size of paper, the lower paper cassette becomes the current cassette. If one of the cassettes contains an undefined size of paper, and the other cassette contains the wrong size of paper, the cassette with the undefined paper becomes the current cassette.

To change paper settings with the SelecType P-SIZE option, see Chapter 3. Before you print, make sure that the P-SIZE setting matches the paper size loaded in the cassette.

Your application program may override SelecType settings for the lower paper cassette. If you are unable to print from your lower paper cassette, see the following section on using software commands.

Using software commands

Some application programs can select either cassette directly from the program. If your application program does not support two paper sources, you may need to insert paper cassette selection codes into your document using the following command (this command can be used in LQ and FX emulation modes):

ESC EM n

If $n = 1$, the standard paper cassette is selected; if $n = 2$, the lower paper cassette is selected.

If your printer does not feed paper from the lower paper cassette after you have specified the source number in your application program, the program may be sending codes that cancel lower paper cassette selection. See the setup and installation instructions for your application package.

Status messages

The error or status messages listed below may appear on the display while you are operating the printer with the lower paper cassette. See Chapter 7 for the steps to clear these messages.

PAPER SIZE ERROR

TRAY SET

PAPER OUT

PAPER OUT SET XXX

RESELECT TRAY

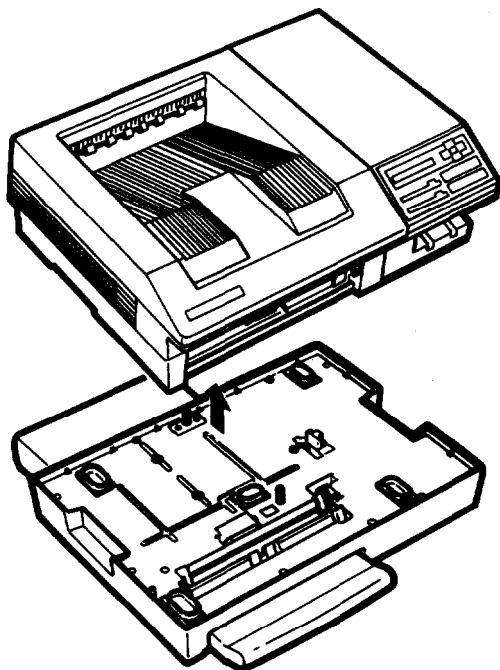
FEED JAM

PAPER JAM

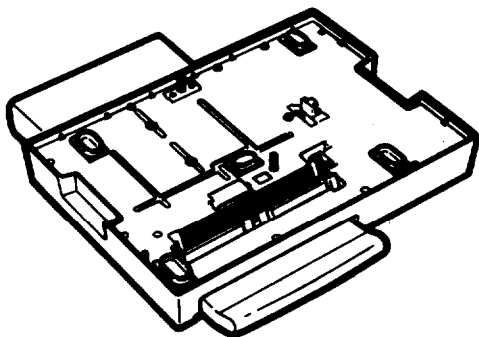
Cleaning the feed rollers

If the paper from the lower cassette jams frequently, clean the feed rollers on the lower paper cassette as described below.

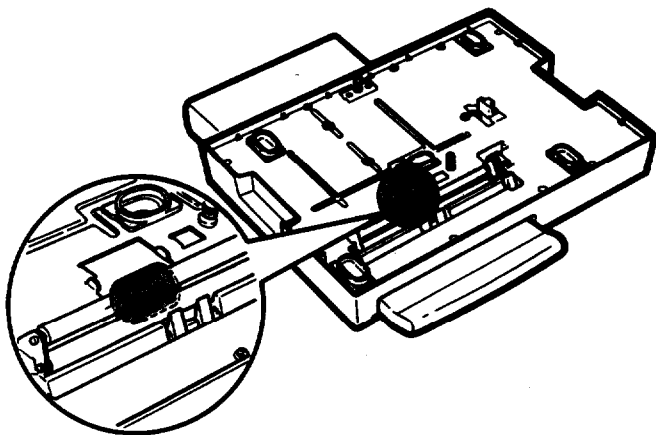
1. Turn off the printer and unplug the power cord from the outlet.
2. Remove the standard paper cassette and the optional face-up tray (if installed) from the printer.
3. Grasp the printer by the openings at the bottom right and left side of the printer, and gently lift the printer off all the way, as shown below.



4. Locate the two long metal rollers on the top front of the lower paper cassette. Turn each roller as you wipe the dirt from its surface with a soft cloth dampened with alcohol as shown below.



5. Directly behind the metal rollers, locate the short rubber roller as shown below. Turn the roller and wipe the surface with a clean, damp cloth. Allow the roller to dry completely.



6. Replace the printer onto the lower paper cassette as described earlier in this chapter.

The Face-up Output Tray

The printer delivers paper face-down on top of the printer. If you **want** face-up delivery, you can install the optional face-up output tray. The face-up output tray gives you immediate viewing of your printed output. This method of delivery is also recommended for printing on media such as labels, **heavy** paper, and overhead transparencies that require a straight-through paper path.

Installing the face-up output tray

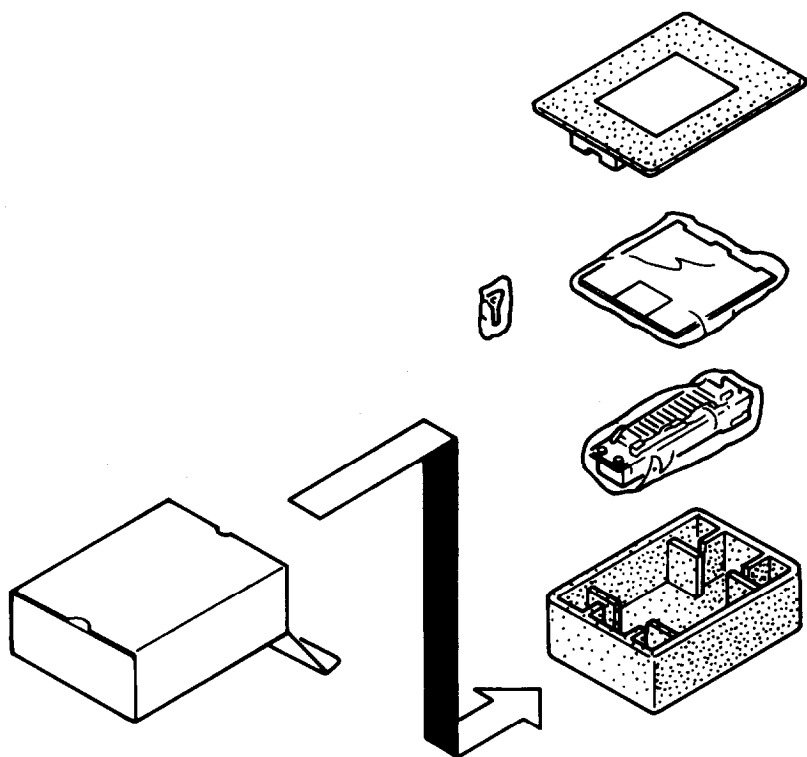
To install your optional face-up tray, you must first install the drive unit to the rear of the printer as described below. This section also includes instructions for tray removal.



WARNING: If the printer has been used recently, the rear of the printer **may** be hot. Let it cool before you remove the printer's rear cover.

Note: When this tray is installed and you open the printer cover, the face-up tray touches the desktop and the paper support falls back. Before you install **the** tray, make sure there is at least 15.7 inches (400 mm) of unobstructed area at the back of the printer. Otherwise, the tray may hit an obstruction and break when you open the printer.

1. Open the box and remove the white packing material; then lift the face-up tray, the drive unit, and the screwdriver out of the box as shown below.



2. Take the face-up output tray out of the plastic bag and peel off the packing tape. Place the packing materials back in the carton and save them in case you need to transport the tray.

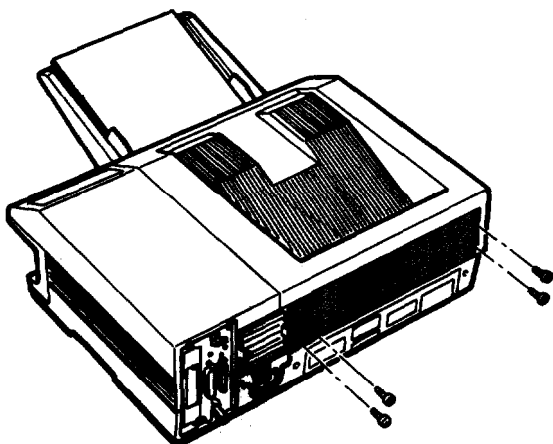
Note: If you need to pack the printer for transportation, you must remove the face-up tray from the printer and pack it in its original packing materials. See instructions later in this appendix.

3. Turn off the printer power.

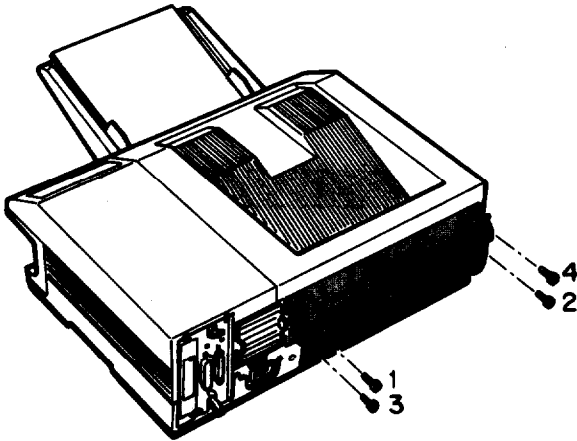


CAUTION: Do not turn on the printer without installing the rear cover or the face-up output tray drive unit. You may cause mechanical failure.

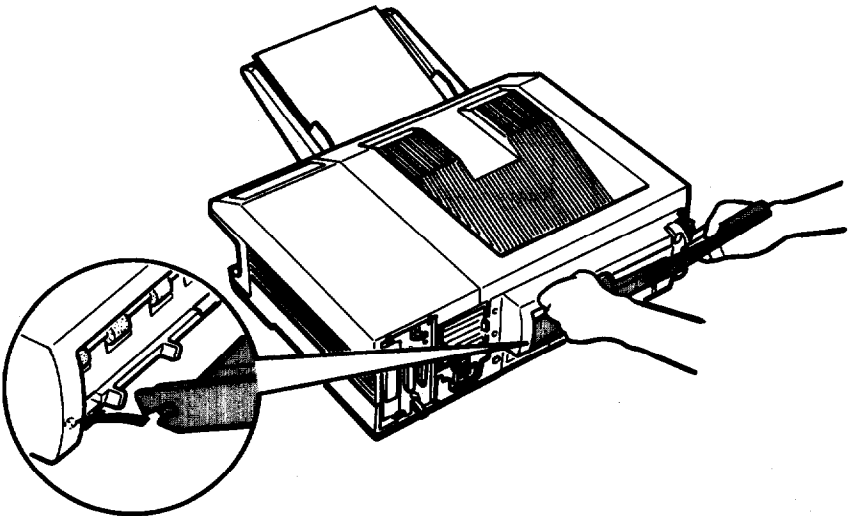
4. Using the screwdriver provided, unscrew the four screws at the rear of the printer, and remove the rear cover. Store the rear cover in a safe place.



5. Use the screwdriver to secure the drive unit to the printer. First, partially tighten the two diagonally positioned screws in the sequence shown below. Repeat this gradual tightening process until all screws are fully tightened.



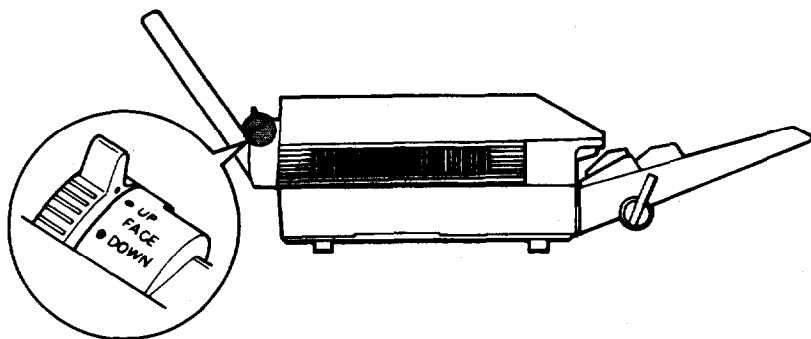
6. To install the face-up tray, fit the notches of the tray over the pins of the drive unit, as shown below.



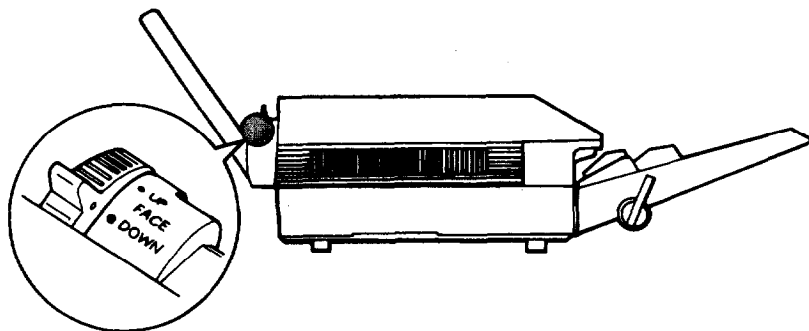
The Face-up Output Tray

To set the printer for face-up delivery, simply move the paper path lever (located on the drive unit) to the **FACE UP** position as shown below.

Paper ejected face up



Paper ejected face down



Removing the face-up output tray

When you need to remove the face-up tray from the printer for transportation or other purposes, follow the steps below.

1. Remove the face-up tray from the printer.
2. Using a screwdriver, release the four screws from the drive unit and remove the drive unit.
3. Replace the rear cover with the four screws,



CAUTION: Do not turn on the printer without the rear cover or the face-up tray drive unit. You may cause mechanical failure.

Memory Options

The EPL-7000 comes with .5 MB of standard RAM. If you want to share the printer or if you regularly print complex pages using graphics and downloaded fonts, you may need to increase the RAM of your printer. You have three options for adding memory to your printer:

- Increase the memory on the main controller board with memory chip sets. You can install up to three chip sets for a total of 2 MB of RAM.
- Add one of two available memory expansion boards. The C822031 comes with .5 MB standard RAM, and the C822011 comes with 2 MB standard RAM.
- Increase the memory on your memory expansion board with memory chip sets. Install up to four chip sets to the .5 MB board for a total of 2.5 MB additional RAM, or add up to four chip sets to the 2 MB board for a total of 4 MB additional RAM.

Note: You must first expand the memory on your controller board to the maximum 2 MB capacity before you can add an optional memory board.

When to increase the printer memory

If you want to share the printer, you must increase the printer memory with at least one memory chip set. Follow the instructions in the next section to add a memory chip set to the controller board.

If you are only using one channel, or if you are printing complex graphics or dense text, the printer displays one of the status messages listed below to alert you of insufficient memory. These messages are described in detail in Chapter 7.

- INSUFF. MEMORY
- PAGE BUFFER FULL
- ADD MEMORY FOR CH X

When one of these messages appears on the display, you can try to reclaim any unused RAM by changing the settings for the SelecType RX-BUFFER and FULL PRINT options. See Chapter 3 for information on changing SelecType options. If insufficient memory is still a problem, you can install memory chip sets to your controller board as described in the next section.

If one of the messages above appears on the display after you increase the memory on the main controller board to the maximum 2 MB with memory chip sets, try to reclaim any unused RAM by changing the settings of the RX-BUFFER and FULL PRINT options in SelecType. If insufficient memory messages continue to appear, you can install an optional memory expansion board as described later in this appendix.

The Memory Chip Set

The memory chip set contains four 256 Kbyte chips that can be installed on the printer's controller board. Each memory chip set increases the memory available to your printer by 0.5 MB increments.

The memory chip set is available from your dealer or from Epson Accessories at 1-800-873-7766.

If you wish, you can simply buy four 256K X 480 ns DRAM (20-pin DIP) chips and install them according to the instructions in this section.

Removing the controller board

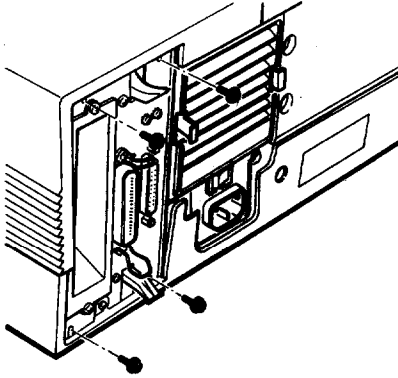
To remove the controller board you need a cross-head screwdriver,



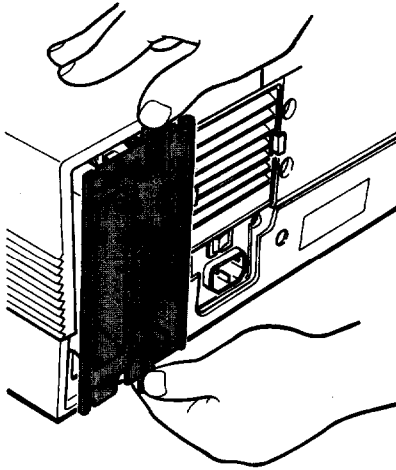
WARNING: High voltages are present inside the printer when the power is on. Do not attempt to remove the controller board unless the printer is turned off and the power cord is unplugged. Also, try not to touch any contacts on the circuit board of the printer because many of the components can be destroyed by the static electricity in your body.

1. Unplug the power cable from the electrical outlet and disconnect it from the rear of the printer.
2. Disconnect all interface cables from the rear of printer.

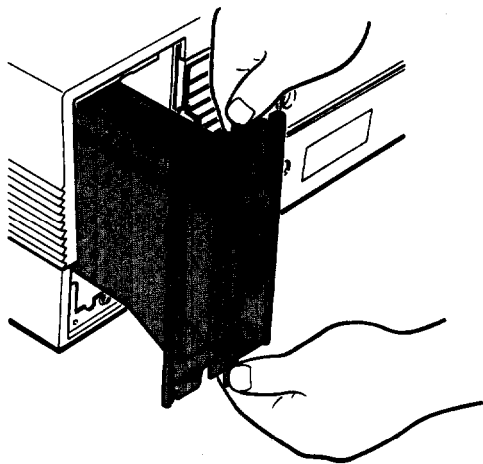
3. Remove the four retaining screws located at the corners of the metal bracket as shown below. Keep the screws in a safe place.



4. Press back on the two levers to release the controller board from the printer as shown below. The board pops forward slightly when released.



5. Grasping the board with both hands, pull it straight out of the printer and set it on a clean, stable surface with the bracket (connector) to the right-hand side, as shown below.

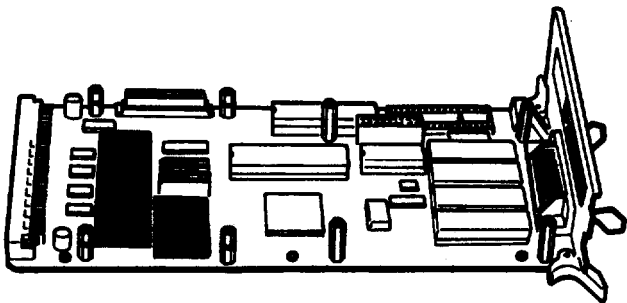


Installing the chip set

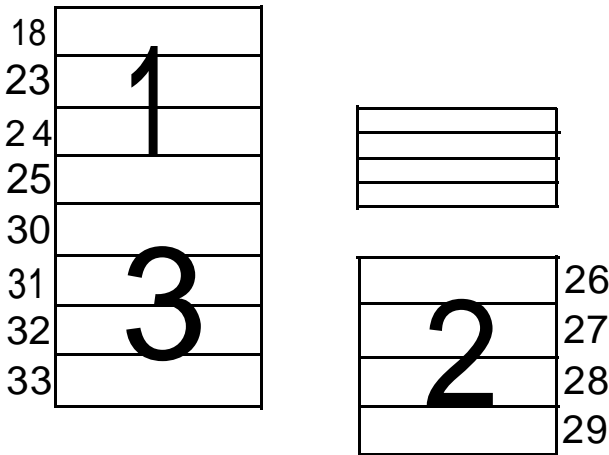
To install the memory chip set you need a chip puller or a flat-head screwdriver. If you have questions about installing the chip set, contact your dealer for assistance.

Before you install the chip set on the controller board, determine where to install it. The amount of RAM already installed on the board determines the location for the new chip set. All four-chips in one set must be installed at the same time.

The RAM chip sockets are located on the connector side of the controller board as shown below.



As shown, there are three sectors, each with four chip sockets. The chip sockets are easily identified by the IC number.



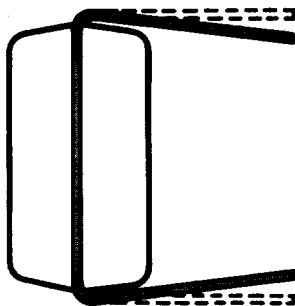
The three sectors must be filled in the order given below:

Sector	IC number	Total RAM when filled
1	18,23,24,25	1.0 MB
2	26-29	1.5 MB
3	30-33	2.0 MB

If all three sectors are empty, install the chip set in sector 1. If sector 1 is already filled, install the chip set in sector 2; if sector 1 and 2 are already filled, install the chip set in sector 3.

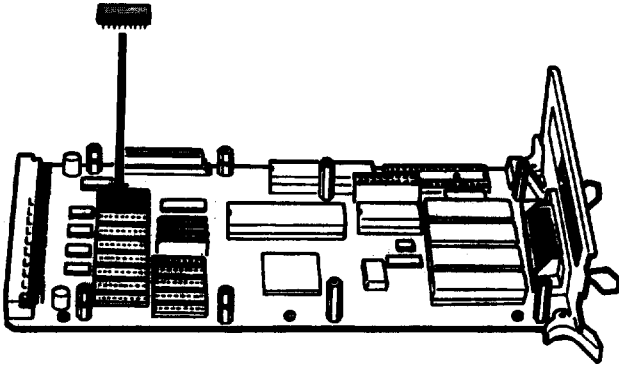
Follow these steps to install a memory chip set:

1. Make sure that all the pins on the chip are straight. The pins should point inward at slightly less than a 90° angle as shown below.



If any of the pins are bent, you can straighten them with your fingers by gently forcing them back into alignment with the other pins.

2. Align the pins with the holes in the socket. Be sure that the small notch on the end of the chip is towards the left as shown below.

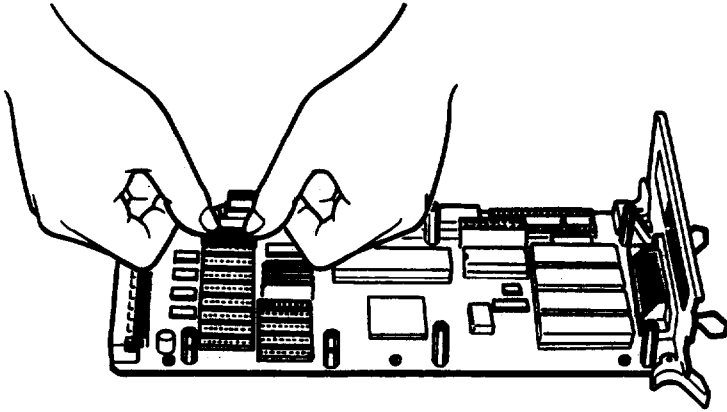


3. Gently press the chip halfway into the socket. If the chip goes in at an angle, remove it with a chip puller or a small flat-head screwdriver and reinsert the chip.



CAUTION: Be careful not to scratch the chip or the board when removing the chip.

4. With the chip properly inserted, push down firmly on both ends of the chip to make sure it is well-seated.

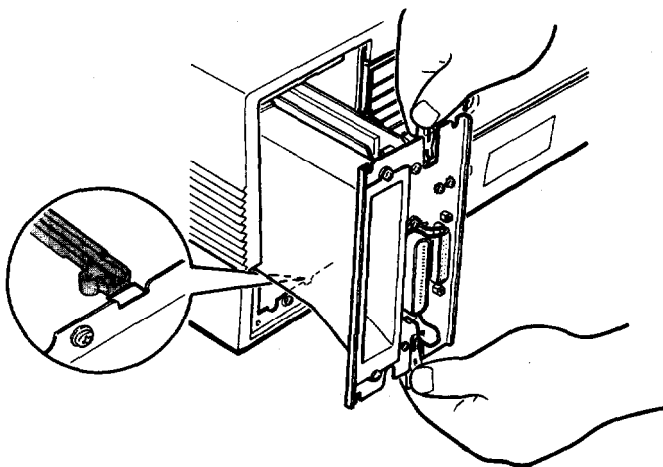


5. Repeat steps 1 through 4 for each of the three remaining chips.

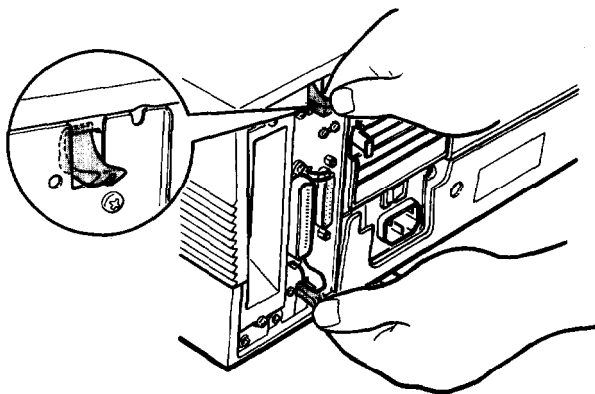
Note: If you also want to install the memory expansion board, see the board installation instructions later in this chapter.

Reinstalling the controller board

1. Holding the controller board with the chip-installed side toward you, fit the edges of the board into the black tracks in the opening. Gently slide the board about halfway into the printer as shown below.



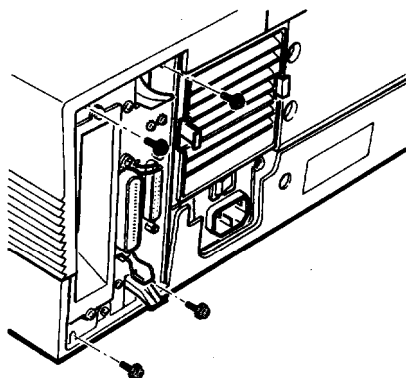
2. Push both levers back as far as they will go with light pressure as shown below.





CAUTION: To fit the controller board securely into the printer, make sure the upper tabs on the levers are positioned inside the opening.

3. Now slide the controller board completely into the printer. (The two levers pivot outward as the board locks into place.) If the controller board does not fit smoothly into the printer, do not force it. Remove it and check to see that the edges are set properly into the tracks.
4. Press in on the board gently to make sure that it is seated firmly inside the printer. Then secure the board with the four retaining screws as shown below.



5. Make sure the power is off (the O side of the switch is down); then reconnect the power cord.

Checking the chip set

Complete the following steps to make sure that the chip set is installed properly and is functioning correctly:

1. Turn on the printer power and watch the display for the following:
 - All the indicator lights on the panel light briefly
 - The message ROM Check appears
 - The message RAM Check x.x MB appears.
2. Make sure that the amount of RAM displayed by the RAM check status message matches the new total RAM memory **as** shown below:

Printer controller board	Total RAM when filled
Board without chip set	0.5 MB
Board with 1 chip set (4 chips)	1.0 MB
Board with 2 chip sets (8 chips)	1.5 MB
Board with 3 chip sets (12 chips)	2.0 MB

If the correct amount of RAM does not appear, turn off the power and remove the board to check that the chip set is in the correct sector and that each chip is well-seated in its socket. If the RAM check message is still incorrect, contact your service representative for assistance.

If insufficient memory is still a problem even after you increase the memory with memory chip sets, you can install a memory expansion board as described in the next section.

The Memory Expansion Boards

If you are having difficulty printing complex, graphics-intensive pages and you have already increased your printer's controller board memory to the maximum 2 MB with memory chip sets, you may need to install a memory expansion board.

The .5 MB memory expansion board is an economical choice for adding memory to your printer. This board adds .5 MB of additional RAM to the printer. You can increase the base memory on this board to a total of **2.5** by adding up to four memory chip sets. Combined with the 2 MB on your controller board, the .5 MB board can increase total available RAM to **4.5** MB.

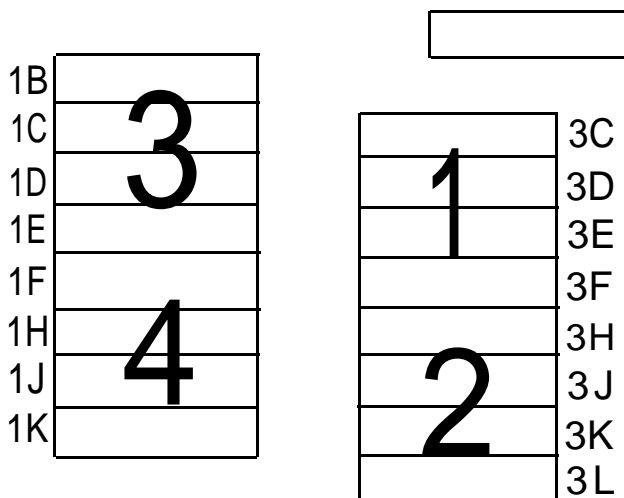
The 2 MB memory expansion board adds an extra **2** MB of RAM to your printer. In addition, you can increase the base memory on the expansion board to a maximum of **4** MB by installing up to four optional memory chip sets. Thus, you can increase printer memory to a maximum of 6 MB with the **2** MB board.



CAUTION: A memory expansion board can be installed only after you have increased the printer's controller board memory to the maximum 2 MB with the optional memory chip set. See Installing the memory chip set, earlier in this appendix for more information.

The procedure for adding additional memory to the memory expansion board is the same for either board. You can use the same type of memory chip sets that you used to increase the memory on your controller board.

There are four sectors on the memory expansion board, each with four chip sockets. The chip sockets are identified by the IC number, as shown below.



The four sectors must be filled in the order given below:

Sector	IC number	Total RAM when filled	
		2 MB Board	.5 MB Board
1	3c, 3D, 3E, 3F	2.5 MB	1.0 MB
2	3H, 3J, 3K, 3L	3.0 MB	1.5 MB
3	1B, 1C, 1D, 1E	3.5 MB	2.0 MB
4	1F, 1H, 1J, 1K	4.0 MB	2.5 MB

If all four sectors on the board are empty, install the first chip set in sector 1. If sector 1 is already filled, install the chip set in sector 2. If sector 1 and 2 are filled, install the chip set in sector 3; and if sector 1, 2, and 3 are filled, install the chip set in sector 4.

Once you have determined which four sockets to fill, follow the steps described in Installing the memory chip set earlier in this appendix.

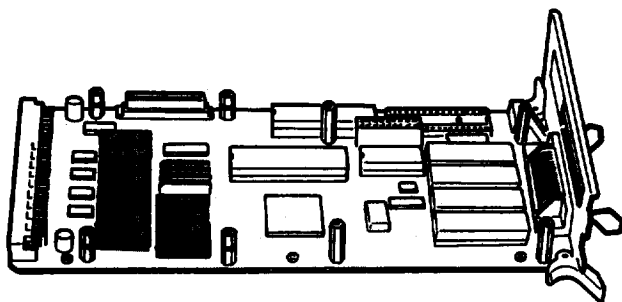
Installing a board

To install a memory expansion board, you need a cross-head screwdriver and a chip puller or a flat-head screwdriver. If you have questions about installing the board and the chip set, contact your dealer for assistance.



WARNING: High voltages are present inside the printer when the power is on. Do not attempt to remove the controller board unless the printer is turned off and the power cord is unplugged. Also, try not to touch any contacts on the circuit board of the printer because many of the components can be destroyed by the static electricity in your body.

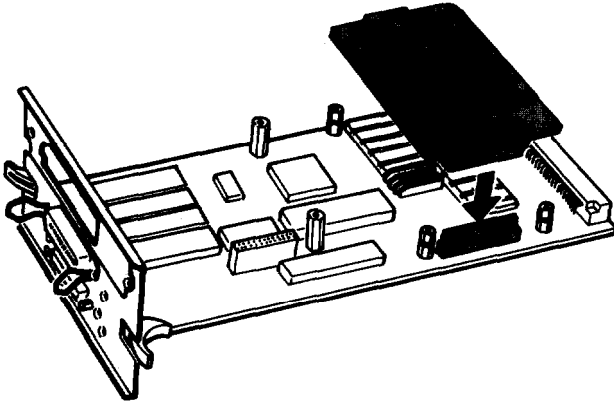
1. Remove the controller board as described earlier in this appendix.
2. Make sure all the sectors on the printer's standard controller board, as shown below, are filled with the optional memory chip sets (there should be 12 chips).



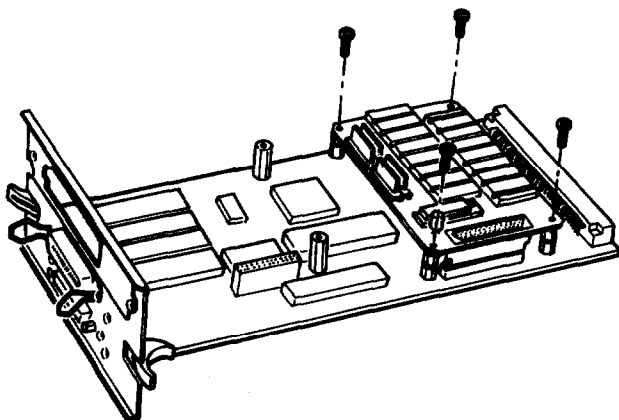
3. If desired, install additional memory chip sets to the optional memory board as described earlier in this section.

Note: This section shows the installation of the **2 MB** memory expansion board. The procedure is the same for the **2 MB** or the **.5 MB** board.

4. Locate mating connector CN5 on the controller board. Lower the memory expansion board into position as shown below, and carefully insert the connector on the board into the mating connector.



5. Secure the memory board to the controller board with the screws provided.



6. Follow the steps in Reinstalling the controller board, earlier in this appendix to complete the memory board installation.

Checking the board

Complete the following steps to make sure that the memory expansion board is installed properly and is functioning correctly.

1. Turn on the printer power and watch the display for the following:
 - All the indicator lights on the display light briefly
 - The message ROM Check appears
 - The message RAM Check x.x MB appears.
2. Make sure that the amount of RAM displayed by the RAM check status message matches the new total RAM memory, as shown below:

Memory Expansion	Total RAM when filled	
	2 MB Board	.5 MB Board
Board without chip set	4.0 MB	2.5 MB
Board with 1 chip set (4 chips)	4.5 MB	3.0 MB
Board with 2 chip sets (8 chips)	5.0 MB	3.5 MB
Board with 3 chip sets (12 chips)	5.5 MB	4.0 MB
Board with 4 chip sets (16 chips)	6.0 MB	4.5 MB

If the correct amount of RAM does not appear, turn off the power and remove the board to check that the chip set is in the correct sector and that each chip is well-seated in its socket.

If the RAM check message is still incorrect, contact your service representative for assistance.

Appendix B

Character Samples and Symbol Sets

Available Fonts and Symbol Sets	B-2
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Available Fonts and Symbol Sets

This appendix describes the printer's resident fonts and available symbol sets. The cartridge slot at the back of your printer let you access additional fonts using font cartridges. The two slots at the lower front of the printer are for future use.

Resident fonts

The following table lists the resident bitmap fonts in the printer and the printer modes that support these fonts. Character samples of each font are included later in this appendix.

Resident Fonts	Resident Fonts Supported	
	L-JET2P Mode	LQ, FX Mode
Bitmap Fonts		
Courier 10 (P,L)	○	○
Courier 10 Bold (P,L)	○	○
Courier Italic 10 (P,L)	○	×
Courier 12 (P,L)	○	○
Courier 12 Bold (P,L)	○	○
Courier Italic 12 (P,L)	○	×
EDP 16.66 (P,L)	○	○
Prestige 12 (P)	×	○
Prestige 20 (P)	×	○

P: Portrait L : Landscape
○: Supported X: Not supported

To select a resident font, you can use your application program as described in Chapter 5, or printer commands.

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.

Not all symbol sets are available in all modes. The following table lists the representative symbol sets and the modes that can access those sets.

Representative Symbol Sets	Printer Modes
Epson Graphics	FX, LQ
Pc Multilingual	L-JET2P, FX, LQ
ECMA94 Latin-1	L-JET2P
ISO ANSI ASCII	L-JET2P
HP Roman-8	L-JET2P
HP Roman Extension	L-JET2P
HP Legal	L-JET2P
HP IBM-US	L-JET2P
HP IBM-DN	L-JET2P

Some other 7-bit symbol sets are also available in HP emulation mode. See Chapter 3 and Appendix C for more information.

This appendix provides character tables for a representative sample of the symbol sets available in each mode. The tables show both the characters and their hexadecimal values.

HP Emulation Mode

This section describes the resident fonts and symbol sets available in HP emulation mode.

Resident fonts

The printer offers a variety of resident fonts in HP emulation mode. The following table lists the resident fonts available in HP emulation mode and shows samples of text printed with them.

Font name	cpi	Orientation	Sample
Courier	10	P/L	ABCDEFGHijklmn0123!"#\$
Courier Bold	10	P/L	ABCDEFGHijklmn0123!"#\$
Courier Italic	10	P/L	<i>ABCDEFGHijklmn0123!"#\$</i>
Courier	12	P/L	ABCDEFGHIjklmnopqr0123!"#\$
Courier Bold	12	P/L	ABCDEFGHIjklmnopqr0123!"#\$
Courier Italic	12	P/L	<i>ABCDEFGHIjklmnopqr0123!"#\$</i>
Line printer	16.66	P/L	ABCDEFGHIJKLMNOPabcdefghijklmn0123!"#\$

P: Portrait, L: Landscape

The font samples in the table show only portrait orientation; the character is the same in portrait or landscape orientation.

Symbol sets

The following symbol set tables show you the available characters in HP emulation mode and their hexadecimal values.

The ID number under the symbol set name provides the unique portion of the escape sequence needed to select that particular symbol set.

PcMultilingual

	►		0	@	P	`	p	Ç	É	á	☐	Ł	ø	Ó	-
☺	◄	!	1	A	Q	a	q	ü	æ	í	☐	Ł	ø	β	±
☺	↑	"	2	B	R	b	r	é	Æ	ó	☐	Ł	Ê	Ô	=
♥	!!	#	3	C	S	c	s	â	ô	ú	|	Ł	È	Ò	¾
♦	π	\$	4	D	T	d	t	ä	ö	ñ	|	-	È	ö	π
♣	§	%	5	E	U	e	u	à	ò	Ñ	Á	+	ı	Ö	§
♣	-	&	6	F	V	f	v	â	û	ä	Ä	ä	ı	μ	÷
•	±	'	7	G	W	g	w	ç	ù	ö	À	Ä	ı	þ	,
☐	↑	(	8	H	X	h	x	ê	ÿ	ı	•	Ł	İ	þ	°
○	↓	)	9	I	Y	i	y	ë	Ö	•	||	Ł	ı	Ú	''
☐	→	*	:	J	Z	j	z	è	Ü	ı	||	Ł	ı	Û	•
♂	←	+	;	K	[	k	{	ï	ø	½	Ł	Ł	☐	Û	¹
♀	└	,	<	L	\	l	|	î	£	¼	Ł	Ł	☐	ý	³
♪	↔	-	=	M	]	m	}	ï	ø	ı	☐	=	ı	ý	²
♫	▲	.	>	N	^	n	~	Ä	×	«	Ł	Ł	ı	-	■
*	▼	/	?	O	_	o	Δ	Å	f	»	Ł	☐	ı		

ECMA94 Latin-1 Set

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0				0	@	P	`	p				°	À	Đ	à	đ
1			!	1	A	Q	a	q			ı	±	Á	Ñ	á	ñ
2			"	2	B	R	b	r			¢	²	Â	Ò	â	ò
3			#	3	C	S	c	s			£	³	Ã	Ó	ã	ó
4			\$	4	D	T	d	t			¤	´	Ä	Ô	ä	ô
5			%	5	E	U	e	u			¥	µ	Å	Ö	å	ö
6			&	6	F	V	f	v			¦	¶	Æ	Ø	æ	ø
7			'	7	G	W	g	w			§	·	Ç	×	ç	÷
8			(	8	H	X	h	x			¨	,	È	Ø	è	ø
9			)	9	I	Y	i	y			©	¹	É	Ù	é	ù
A			*	:	J	Z	j	z			ª	º	Ê	Ú	ê	ú
B			+	;	K	[	k	{			«	»	Ë	Û	ë	û
C			,	<	L	\	l	|			¬	¼	Ì	Ü	ì	ü
D			-	=	M	]	m	}			-	½	Í	Ý	í	ý
E			.	>	N	^	n	~			•	¾	Î	Þ	î	þ
F			/	?	O	_	o				—	¿	Ï	ß	ï	ÿ

ISO ANSI ASCII Set (Symbol Set ID# oU)

	0	1	2	3	4	5	6	7
0				0		P		p
1			!	1	A	Q	a	q
2			"	2	B	R	b	r
3				3	C	S	c	s
4				4	D	T	d	t
5			%	5	E	U	e	u
6			&	6	F	V	f	v
7			'	7	G	W	g	w
8			(	8	H	X	h	x
9			)	9	I	Y	i	y
A			*	:	J	Z	j	z
B			+	;	K		k	
C			,	<	L		l	
D			-	=	M		m	
E			.	>	N		n	
F			/	?	O	_	o	

Note: For the shaded areas, see the international character table for that set.

International Set for ISO Sets

	ID	23	24	40	5B	5C	5D	5E	60	7B	7C	7D	7E
ANSI ASCII	#0U	#	\$	@	[	\	\]	^	'	{	|	}	~
Norwegian v1	#0D	#	\$	@	Æ	Ø	Å	^	`	æ	ø	å	—
French	#0F	£	\$	à	°	ç	§	^	`	é	ù	è	¨
HP German	#0G	£	\$	§	Ä	Ö	Ü	^	`	ä	ö	ü	ß
Italian	#0I	£	\$	§	°	ç	é	^	`	à	ò	è	ì
JIS ASCII	#0K	#	\$	@	[	¥	]	^	`	{	|	}	—
Swedish 2	#0S	#	¤	É	Ä	Ö	Å	Ü	é	ä	ö	å	ü
Norwegian v2	#1D	§	\$	@	Æ	Ø	Å	^	`	æ	ø	å	|
UK	#1E	£	\$	@	[	\	\]	^	`	{	|	}	—
French 2	#1F	£	\$	à	°	ç	§	^	µ	é	ù	è	¨
German	#1G	#	\$	§	Ä	Ö	Ü	^	`	ä	ö	ü	ß
HP Spanish	#1S	#	\$	@	í	Ñ	¿	°	`	{	ñ	}	~
Chinese	#2K	#	¥	@	[	\	\]	^	`	{	|	}	—
Spanish	#2S	£	\$	§	í	Ñ	¿	^	`	•	ñ	ç	~
IRV	#2U	#	¤	@	[	\	\]	^	`	{	|	}	—
Swedish	#3S	#	¤	@	Ä	Ö	Å	^	`	ä	ö	å	—
Portuguese	#4S	#	\$	§	Ã	Ç	Õ	^	`	ã	ç	õ	•
IBM Portuguese	#5S	#	\$	´	Ã	Ç	Õ	^	`	ã	ç	õ	~
IBM Spanish	#6S	#	\$	•	í	Ñ	Ç	¿	`	´	ñ	ç	¨

HP Roman-8 Set (Symbol Set ID # 8U)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0				0	@	P	'	p				-	â	À	Á	Þ
1			!	1	A	Q	a	q				À	Ý	ê	î	þ
2			"	2	B	R	b	r				Â	ý	ø	ø	ä
3			#	3	C	S	c	s				È	·	û	Æ	Ð
4			\$	4	D	T	d	t				Ê	Ç	á	â	ð
5			%	5	E	U	e	u				È	ç	é	í	í
6			&	6	F	V	f	v				Î	Ñ	ó	ø	î
7			'	7	G	W	g	w				Ï	ñ	ú	æ	Ó
8			(	8	H	X	h	x				´	;	à	Ä	Ò
9			)	9	I	Y	i	y				`	¿	è	ì	Ö
A			*	:	J	Z	j	z				^	¤	ò	Ö	ö
B			+	;	K	[	k	{				¨	£	ù	Û	«
C			,	<	L	\	l	|				~	¥	ä	é	š
D			-	=	M	]	m	}				Ù	§	ë	ï	Ú
E			.	>	N	^	n	~				Û	f	ö	ß	Ý
F			/	?	O	_	o	¸				£	¢	ü	Ô	ÿ

HP Roman-8 Extension
(Symbol Set ID # 0E)

	0	1	2	3	4	5	6	7
0				—	â	Ă	Á	Þ
1				À	ý	ê	î	Ǻ
2				Â	ý	ô	ø	ã
3				È	°	û	Æ	Ð
4				Ê	Ç	á	â	ð
5				Ë	ç	é	í	í
6				Î	Ñ	ó	ø	ì
7				İ	ñ	ú	æ	ó
8				´	ı	à	Ă	Ò
9				`	ı	è	ì	Ö
A				^	ı	ò	Ö	õ
B				¨	£	ù	Ü	Š
C				~	¥	ä	É	Š
D				Ù	Š	ë	ï	Ú
E				Û	f	ö	ß	Ÿ
F				£	¢	ü	Ô	ÿ

HP Legal Set
(Symbol Set ID # 1U)

	0	1	2	3	4	5	6	7
0				0	é	P	°	p
1				!	1	A	Q	a
2				"	2	B	R	b
3				#	3	C	S	c
4				\$	4	D	T	d
5				%	5	E	U	e
6				&	6	F	V	f
7				'	7	G	W	g
8				(	8	H	X	h
9				)	9	I	Y	i
A				*	:	J	Z	j
B				+	;	K	[	k
C				,	=	L	•	l
D				-	=	M	]	m
E				.	¢	N	•	n
F				/	?	O	_	o

HP IBM-US Set (Symbol Set ID # 10U).

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0		►		0	@	P	`	p	Ç	É	á	☒	⒌	⒎	α	≡
1	⊕	◄	!	1	A	Q	a	q	ü	æ	í	☒	⒌	⒎	β	±
2	●	↑	"	2	B	R	b	r	é	Æ	ó	☒	⒌	⒎	Γ	≥
3	♥	!!	#	3	C	S	c	s	â	ô	ú	|	⒌	⒎	π	≤
4	♦	π	\$	4	D	T	d	t	ä	ö	ñ	⒌	⒎	⒌	Σ	∫
5	♣	§	%	5	E	U	e	u	à	ò	Ñ	⒌	⒎	⒌	σ	∫
6	♠	-	&	6	F	V	f	v	å	û	☒	⒌	⒎	⒌	μ	÷
7	·	±	'	7	G	W	g	w	ç	ù	☒	⒌	⒎	⒌	τ	≈
8	☒	↑	(	8	H	X	h	x	ê	ÿ	¿	⒌	⒎	⒌	Φ	°
9	○	↓	)	9	I	Y	i	y	ë	Ö	☒	⒌	⒎	⒌	θ	•
A	☒	→	*	:	J	Z	j	z	è	Ü	☒	⒌	⒎	⒌	Ω	•
B	♂	←	+	;	K	[	k	{	ï	☒	☒	⒌	⒎	☒	δ	√
C	♀	⒌	,	<	L	\	l	|	î	£	☒	⒌	⒎	☒	∞	η
D	♫	↔	-	=	M	]	m	}	ì	☒	☒	⒌	⒎	☒	∅	²
E	♫	▲	.	>	N	^	n	~	Ä	☒	☒	⒌	⒎	☒	€	■
F	*	▼	/	?	O	_	o	¶	Å	☒	☒	⒌	⒎	☒	∩	

IBM-US
IBM-DN

ID	9B	9D	9E	9F	A6	A7	A9	AA	AB	AC	AE	AF
#10U	⌘	⌘	⌘	f	⌘	⌘	⌘	⌘	½	¼	◀	▶
#11U	ø	ø	L	l	ö	Ö	ä	Ä	ℓ	h	³	¤

LQ and FX Emulation Modes

This section describes the resident fonts and symbol sets available in LQ and FX emulation modes.

Resident fonts

The printer offers a variety of resident fonts in LQ and FX emulation modes. The following table lists the resident fonts available in LQ and FX emulation modes and shows samples of text printed with them.

Font name	cpi	Orientation	Sample
Courier	10	P/L	ABCDEFGHijklmn0123!“#\$
Courier bold	10	P/L	ABCDEFGHijklmn0123!“#\$
EDP 16.66	16.66	P/L	ABCDEFGHIJKLMNabcdefghijklmn0123!“#\$
Prestige*	12	P	ABCDEFGH Iabcdefghijkl!“#\$
Prestige*	20	P	ABCDEFGHIJKLMNabcdefghijklmn0123!“#\$

P: Portrait, L: Landscape

* Using your application program, you can make the font bold.

The font samples in the table show only portrait orientation; the character is the same in portrait or landscape orientation.

Character sets

This section provides character tables for the character sets available in LQ and FX emulation modes. The tables show both the characters and their hexadecimal values.

Epson Italic Character Table

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0				0		P		p				0	@	P	`	p
1			!	1		Q		q		!	1	A	Q	a	q	
2			"	2	B	R	b	r		"	2	B	R	b	r	
3				3	C	S	c	s		#	3	C	S	c	s	
4				4	D	T	d	t		\$	4	D	T	d	t	
5			%	5	E	U	e	u		%	5	E	U	e	u	
6			&	6	F	V	f	v		&	6	F	V	f	v	
7			'	7	G	W	g	w		'	7	G	W	g	w	
8			(	8	H	X	h	x		(	8	H	X	h	x	
9			)	9	I	Y	i	y		)	9	I	Y	i	y	
A			*	:	J	Z	j	z		*	:	J	Z	j	z	
B			+	;	K		k			+	;	K	[	k	{	
C			,	<	L		l			,	<	L	\	l	'	
D			-	=	M		m			-	=	M	]	m	}	
E			.	>	N		n			.	>	N	^	n	~	
F			/	?	O	_	o			/	?	O	_	o		

Note: You do not need to select the italic character table to print italics. You can print italics when the extended graphics character table is selected.

Epson Extended Graphics Character Table

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0				0	P	p	Ç	É	á				L	⌌	α	≡
1			!	1	A	Q	a	q	ü	æ	í			⊥	⌒	β ±
2			"	2	B	R	b	r	é	Æ	ó			⌒	π	Γ ≥
3				3	C	S	c	s	â	ô	ú	|	|	⌌	π	≤
4				4	D	T	d	t	ä	ö	ñ	|	-	⌌	Σ	∫
5		§	¶	5	E	U	e	u	à	ò	Ñ	‡	†	F	σ	J
6			&	6	F	V	f	v	â	û	ä	‡	‡	π	μ	÷
7			'	7	G	W	g	w	ç	ù	Ω	π	‡	‡	τ	≈
8			(	8	H	X	h	x	ê	ÿ	¿	‡	‡	‡	Φ	°
9			)	9	I	Y	i	y	ë	Ö	¬	‡	‡	‡	θ	•
A			*	:	J	Z	j	z	è	Ü	¬	‡	‡	⌌	Γ	Ω •
B			+	;	K		k		ï	¢	½	‡	‡		δ	√
C			,	<	L		l		î	£	¼	‡	‡		∞	n
D			-	=	M		m		ì	¥	;	‡	=		ø	²
E			.	>	N		n		Ä	℞	«	‡	‡		€	■
F			/	?	O		o		À	f	»	‡	‡		∩	

Epson International Character Sets

	23	24	40	5B	5C	5D	5E	60	7B	7C	7D	7E
USA	#	\$	@	[	\	\]	^	`	{	|	}	~
France	#	\$	à	°	ç	š	^	`	é	ù	è	¨
Germany	#	\$	š	Ä	Ö	Ü	^	`	ä	ö	ü	ß
UK	£	\$	@	[	\	\]	^	`	{	|	}	~
Denmark 1	#	\$	@	Æ	Ø	Å	^	`	æ	ø	å	~
Sweden	#	¤	É	Ä	Ö	Å	Ü	é	ä	ö	å	ü
Italy	#	\$	@	°	\	é	^	ù	à	ò	è	ì
Spain 1	¢	\$	@	;	Ñ	¿	^	`	¨	ñ	}	~
Japan	#	\$	@	[	¥	]	^	`	{	|	}	~
Norway	#	¤	É	Æ	Ø	Å	Ü	é	æ	ø	å	ü
Denmark 2	#	\$	É	Æ	Ø	Å	Ü	é	æ	ø	å	ü
Spain 2	#	\$	á	;	Ñ	¿	é	`	í	ñ	ó	ú
Latin A	#	\$	á	;	Ñ	¿	é	ü	í	ñ	ó	ú

Converting Hexadecimal Numbers to Decimals

If you prefer to use decimal numbers instead of hexadecimal numbers, you can convert them with the chart below.

Just read down in the column for the first digit of the hexadecimal value and across in the row for the second digit. The decimal value that corresponds to your hexadecimal number is at the intersection of the column beginning with the hexadecimal number's first digit and the row beginning with the hexadecimal number's second digit.

For example, to find the decimal equivalent of the hexadecimal number 5A, find where column 5 intersects row A. There you will find the hexadecimal's equivalent, decimal 90.

Hex- to-decimal conversion chart

CODE	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0	0	16	32	48	64	80	96	112	128	144	160	176	192	208	224	240
1	1	17	33	49	65	81	97	113	129	145	161	177	193	209	225	241
2	2	18	34	50	66	82	98	114	130	146	162	178	194	210	226	242
3	3	19	35	51	67	83	99	115	131	147	163	179	195	211	227	243
4	4	20	36	52	68	84	100	116	132	148	164	180	196	212	228	244
5	5	21	37	53	69	85	101	117	133	149	165	181	197	213	229	245
6	6	22	38	54	70	86	102	118	134	150	166	182	198	214	230	246
7	7	23	39	55	71	87	103	119	135	151	167	183	199	215	231	247
8	8	24	40	56	72	88	104	120	136	152	168	184	200	216	232	248
9	9	25	41	57	73	89	105	121	137	153	169	185	201	217	233	249
A	10	26	42	58	74	90	106	122	138	154	170	186	202	218	234	250
B	11	27	43	59	75	91	107	123	139	155	171	187	203	219	235	251
C	12	28	44	60	76	92	108	124	140	156	172	188	204	220	236	252
D	13	29	45	61	77	93	109	125	141	157	173	189	205	221	237	253
E	14	30	46	62	78	94	110	126	142	158	174	190	206	222	238	254
F	15	31	47	63	79	95	111	127	143	159	175	191	207	223	239	255

Appendix C

Printer Modes

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Available Printer Modes

Your printer comes with the following resident printer modes:

- HP LaserJet series IIP
- Epson LQ-2500
- Epson FX-800/1000 (FX-86e/286e)

This appendix gives you information on how to operate **your** printer as an HP LaserJet series IIP, Epson LQ-2500, or Epson FX-86e/286e printer. It also describes the differences between modes and provides you with a list of the printer commands used in each mode.

To change the printer mode, use the SelecType Level 2 CH CONFIG option. You can also set different printer modes for CH P and CH S. For more information about SelecType settings, see Chapter 3.

HP Emulation Mode

HP emulation mode allows you to use commercial software designed for the HP LaserJet series IIP printer. This means you can connect your printer to a computer configured for an HP LaserJet series IIP printer without having to modify computer software.

This section gives you information about using HP emulation. It describes the unique features of your printer's HP emulation as well as the differences between EPL-7000 HP emulation mode and printing with the HP LaserJet series IIP itself. A list of printer commands is also provided.

Operating as an HP LaserJet series IIP printer

Your printer is factory set to operate in HP emulation mode. Operating the printer in HP emulation mode differs slightly from operating a LaserJet series IIP because the two printers use different technologies.

	EPL-7000	LaserJet series IIP
Input paper supply	250 sheets 250 sheets (with option)	50 sheets 250 sheets (with option)
Output paper supply	Face-down 250 sheets Face-up 100 sheets (with option)	50 sheets 20 sheets
Paper size	Letter Legal A4 Executive Half-Letter B5 A5 G-Letter G-Legal F4 Monarch 7-3/4 Commercial 10 DL C5	Letter Legal A4 Executive Monarch 7-3/4 # 10 (Business) DL C5

	EPL-7000	LaserJet series IIP
Resident fonts	14	7
Max. number of downloaded fonts	depends on amount of memory	depends on amount of memory
Max. number of fonts per page	depends on amount of memory	depends on amount of memory
Page buffer mode	Built-in	Not available

Printable area

The size of the printable area for the LaserJet series III' and this printer is the same. The maximum number of characters that can be printed per line is also the same. However, the absolute print position may not be exactly the same as a printout from an HP LaserJet series IIP printer.

In order to match your printing to the output produced on a LaserJet printer, you can use the T-OFFSET and L-OFFSET feature of the SYSTEM CONFIG option to make fine adjustments to the print start position. However, because the offset feature can move the printing position to a point outside of the printable area, some of the data may not be printed.

Character clipping

If a character is partially outside the printable area, the HP LaserJet does not print any portion of the character. The EPL-7000 prints that portion of the character that falls within the printable area.

Paper handling

When using the printer in HP emulation mode, the paper size is not determined by the paper cassette as it is with an HP LaserJet printer. Use the P-SIZE option in SelecType Level 1 to set any of the fourteen paper sizes supported by the printer. For certain nonstandard sizes of paper, you may need to use the manual feed option described in Chapter 4.

HP emulation command summary

This section lists the printer commands supported by HP emulation mode. For more information on printer commands, see the Hewlett-Packard LaserJet series IIP Technical Reference Manual.

All commands closely emulate the LaserJet series IIP except for the following:

ESC &l #A can be used to select the following eight paper sizes:

A4
Letter
Legal
Executive
Monarch
Commercial 10
DL
C5

This command overrides the P-SIZE setting in SelecType. Other paper sizes cannot be specified with this command.

ESC &l # H command cannot be used to specify manual paper feeding. The values for # produce the effects listed in the following table. Whenever INPUT in SelecType is set to AUTO, this command is ignored.

#	EPL-7000	LaserJet series IIP
0	eject current page	eject current page
1	feed from standard paper cassette	feed from cassette tray
2	feed from standard paper cassette	feed from manual feed slot
3	feed from standard paper cassette	ignore
4	feed from lower paper cassette when installed	ignore

ESC &l # P sets the page length and paper size. The paper sizes available with this command are same as those available with ESC &l #A.

Printer commands arranged by topic

The HP printer commands supported in HP LaserJet series III' emulation are listed below.

Backspace	BS
Line feed	LF
Form feed	FF
Carriage return	CR
Shift out	SO
Shift in	SI
Escape	ESC
Horizontal tab	HT

Orientation:

Orientation	ESC &l # O
-------------	------------

Font selection:

Symbol set	Primary	Secondary
HP Math 7	ESC(0A	ESC)0A
HP Line Draw	ESC(0B	ESC)0B
ISO 60 : Norwegian v1	ESC(0D	ESC)0D
ISO 61 : Norwegian v2	ESC(1D	ESC)1D
HP Roman Extension	ESC(0E	ESC)0E
ISO 4: United Kingdom	ESC(1E	ESC)1E
ISO 25 : French	ESC(0F	ESC)0F
ISO 69 : French New	ESC(1F	ESC)1F
HP German	ESC(0G	ESC)0G
ISO 21: German	ESC(1G	ESC)1G
HP Greek8	ESC(8G	ESC)8G
ISO 15: Italian	ESC(0I	ESC)0I
Pc Portuguese (CP860)	ESC(33I	ESC)33I
Pc Can French (CP863)	ESC(34I	ESC)34I
Pc Nordic (CP865)	ESC(35I	ESC)35I
Pc USA (CP437)	ESC(39I	ESC)39I
ISO 14: JIS ASCII	ESC(0K	ESC)0K
HP Katakana	ESC(1K	ESC)1K

ISO 57: Chinese	ESC(2K	ESC)2K
HP Line Draw	ESC(0L	ESC)0L
HP Math7	ESC(0M	ESC)0M
Technical	ESC(1M	ESC)1M
HP Math8	ESC(8M	ESC)8M
ISO 100: ECMA94 Latin-1	ESC(0N	ESC)0N
OCR-A	ESC(0O	ESC)0O
OCR-B	ESC(1O	ESC)1O
HP Math-8a	ESC(0Q	ESC)0Q
HP Math-8b	ESC(1Q	ESC)1Q
HP Pi Font-a	ESC(2Q	ESC)2Q
OCR-B Extended	ESC(3Q	ESC)3Q
PC LINE	ESC(4Q	ESC)4Q
ISO 11: Swedish Names	ESC(0S	ESC)0S
HP Spanish	ESC(1S	ESC)1S
ISO 17: Spanish	ESC(2S	ESC)2S
ISO 10: Swedish	ESC(3S	ESC)3S
ISO 16: Portuguese	ESC(4S	ESC)4S
ISO 84: Portuguese IBM	ESC(5S	ESC)5S
ISO 85: Spanish IBM	ESC(6S	ESC)6S
ISO 6: ANSI ASCII	ESC(0U	ESC)0U
HP Legal	ESC(1U	ESC)1U
ISO 2: IRV	ESC(2U	ESC)2U
OEM-1	ESC(7U	ESC)7U
HP Roman-8	ESC(8U	ESC)8U
Windows	ESC(9U	ESC)9U
IBM-US	ESC(10U	ESC)10U
IBM-Denmark/Norway	ESC(11U	ESC)11U
Pc Multilingual (CP850)	ESC(12U	ESC)12U
HP Pi Font	ESC(15U	ESC)15U
Bar-Code 3 of 9	ESC(0Y	ESC)0Y
EAN/UPC	ESC(8Y	ESC)8Y
Spacing	ESC(s # P	ESC)s # P
Pitch (cpi)	ESC(s # H	ESC)s # H
Point size	ESC(s # V	ESC)s # V
Style	ESC(s # S	ESC)s # S

HP Emulation Mode

Stroke weight	ESC(s # B	ESC)s # B
Typeface	ESC(s # T	ESC)s # T

Page length, page size, top margin, text length:

Page length	ESC &l # P
Paper size	ESC &l #A
Top margin	ESC &l # E
Text length	ESC &l # F

Margins:

Clear side margins	ESC 9
Set left margin	ESC &a # L
Set right margin	ESC &a # M

Vertical line spacing:

Set vertical motion index	ESC &l # C
Set lines per inch	ESC &l # D

Half-line feed:

Half -line feed	ESC =
-----------------	-------

Raster graphics:

Raster graphics resolution	ESC *t # R
Raster graphics presentation mode	ESC *r # F
Start raster graphics	ESC *r #A
Transfer raster graphics	ESC *b # W[data]
End raster graphics	ESC *rB
Set compression mode	ESC *b # M

Specialized printer control:

Printer reset	ESC E
Status sheet print	ESC z

Cursor positioning:

Horizontal (columns)	ESC &a # C
Vertical (lines)	ESC &a # R
Horizontal (decipoints)	ESC &a # H
Vertical (decipoints)	ESC &a # V
Horizontal (dots)	ESC *p # X
Vertical (dots)	ESC *p # Y

Underline:

Enable auto-underlining	ESC&d # D
Disable auto-underlining	ESC &d @

Display functions, transparent print data:

Enable display functions	ESC Y
Disable display functions mode	ESC Z
Transparent print data	ESC &p # X[data]

Perforation skip mode:

Perforation skip mode	ESC &l # L
-----------------------	------------

Font selection:

Font pitch (alternate)	ESC &k # S
------------------------	------------

Miscellaneous:

Horizontal motion index	ESC &k # H
Line termination	ESC &k # G
End of line wrap	ESC &s # C
Select number of copies	ESC &l # X
Paper input control	ESC &l # H
Left offset registration	ESC &l # U
Top offset registration	ESC &l # Z

Font management:

Specify font ID	ESC *c # D
Specify character code	ESC *c # E
Font and character control	ESC *c # F
Download character	ESC (s # W[data]
Create font (font descriptor)	ESC)s # W[data]
Designate downloaded font	
(primary)	ESC(# X
(secondary)	ESC) # X
Font default (primary)	ESC(3@
(secondary)	ESC)3 @

Macros:

Macro ID	ESC &f # Y
Macro control	ESC &f # X

Push/Pop position:

Push/Pop position	ESC &f # S
-------------------	------------

Advanced graphics:

Horizontal size (dots)	ESC *c # A
Vertical size (dots)	ESC *c # B
Horizontal size (decipoints)	ESC *c # H
Vertical size (decipoints)	ESC *c # V
Print graphics	ESC *c # P
Specify graphic pattern	ESC *c # G

LQ and FX Emulation Modes

Your printer has the ability to emulate an Epson LQ-2500 or FX-800/1000 (86e/286e) series printer. This means that you can connect your printer to a computer set up for an Epson LQ or FX printer and print without having to modify the software controlling your printer.

Besides allowing you to use software for an LQ or FX printer, you also gain the advantages of the quality text, sharper graphics, and faster printing provided by this printer.

Operating as an LQ or FX series printer

Before you can operate your printer as an FX or LQ printer, you need to change the printer mode setting with the SelecType Level 2 CH CONFIG option as described in Chapter 3.

Operating the printer in LQ or FX printer emulation mode offers some options not available with most LQ or FX printers, including SelecType control over almost all printer features and laser quality output.

LQ and FX emulation mode command summary

The tables in this section show the control codes and escape sequences supported in LQ and FX emulation modes. Some LQ and FX printer codes are not available, either because the functions are not required (such as draft printing) or are not possible because of the different technologies used in these printers.

The following commands are either not available or are ignored in LQ or FX emulation mode:

ESC <	Unidirectional mode (one line)
ESC 8	Disable paper end detector
ESC 9	Enable paper end detector

LQ and FX Emulation Modes

ESC U	Select print direction
ESC s	Set/cancel half-speed printing
ESC r	Select color printing
ESC i	Incremental view
ESC +	Select n/360-inch line spacing

The following commands are available in FX mode but not in LQ mode:

ESC 1	7/72-inch line feed
ESC ^	Select 9-pin graphics mode
ESC I	Select character code table

The printer commands listed below function in a slightly different way when used in LQ or FX emulation mode. Also, many of the commands that control the print position use approximations because of the difference in print density from LQ/FX series printers.

ESC G / ESC E

These commands produce identical bolding effects on the EPL-7000 printer. On an actual LQ series printer, these two commands create slightly different effects and can be combined to produce darker characters.

SI / ESC SI

These commands print 10 cpi characters in a 16.66 cpi font, and 12 cpi characters in a 20 cpi font. On an actual LQ/FX series printer, these command condense the font.

ESC x

This command is normally used to select between draft and LQ quality with an LQ or FX series printer. However, this command has no effect on EPL-7000 print quality since all characters are printed at 300 dpi. (dots per inch) Letter Quality.

ESC w

This command produces double-height characters but differs between LQ and FX modes as follows:

LQ mode — If you send the ESC w command when the print position is set at the first line of the logical page, LQ series printers print only the bottom half of the characters. The EPL-7000 printer prints the entire character.

FX mode — When combining ESC w and ESC W to produce double-width, double-height characters, FX series printers do not increase the stroke weight for vertical lines. The EPL-7000 printer in FX emulation does increase the vertical line weight. Also, when this command is sent with the print position set at the first line of the page, the FX changes the baseline position in order to print the entire character. For the EPL-7000, the baseline is not changed.

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

This printer uses an image processing technique that emulates, as closely as possible, the image densities available on FX and LQ printers. Because of this process, the graphics commands listed above do not produce exactly the same output on the printer that they would on an Epson FX or LQ printer.

ESC C, ESC CO

When you send the ESC C or ESC CO command to change the page length on LQ or FX printers, you can print more than one page on the same sheet of paper. Because the EPL-7000 processes data page-by-page, each page must be printed on a separate sheet of paper, so exact LQ or FX emulation cannot be provided. Problems will occur when the page length set with the ESC C or ESC CO command differs from the actual page length.

DEL

The printer handles the DEL command as a BS command. Print portion return is the same as for an FX or LQ printer, although the EPL-7000 does not clear previous characters.

CAN

FX or LQ printers clear the data in their print buffer with this command; your printer prints the data.

ESC EM

The EPL-7000 supports 1 , 2 , and R for n.

Printer commands arranged by topic

The following section lists and describes all FX and LQ commands by topic.

Printer operation:

Initialization

ESC @	Initialize printer
-------	--------------------

Selection

DC1	Select printer
DC3	Deselect printer

Beeper

BEL	Beeper
-----	--------

Data control:

CAN	Cancel line
-----	-------------

MSB control

ESC =	Set MSB to 0
ESC >	Set MSB to 1
ESC #	Cancel MSB control

Vertical motion:

Form feeding

FF	Form feed
ESC C	Set page length in lines
ESC C 0	Set page length in inches
ESC EM	Control cut sheet feeder
ESC N	Set skip over perforation
ESC 0	Cancel skip over perforation

Line feeding

LF	Line feed
ESC 0	Select 1/8 inch line spacing
ESC 1	Select 7/72-inch line spacing (FX only)
ESC 2	Select 1/6-inch line spacing
ESC 3	Select n/180-inch line spacing (LQ)
	Select n/216-inch line spacing (FX)
ESC A	Select n/60-inch line spacing (LQ)
	Select n/72-inch line spacing (FX)
ESC J	Perform n/180-inch line feed (LQ)
	Perform n/216-inch line spacing (FX)
ESC j	Perform n/180-inch reverse feed (LQ)
	Perform n/216-inch reverse feed (FX)

Vertical tabbing

VT	Tab vertically
ESC B	Set vertical tabs
ESC b	Set vertical tabs in channels
ESC /	Select vertical tab channel

Horizontal motion:

Margins

ESC 1	Set left margin
ESC Q	Set right margin

Horizontal tabbing

HT	Tab horizontally
ESC D	Set horizontal tabs

Print position:

CR	Carriage return
BS	Backspace
ESC \	Set relative position
ESC \$	Set absolute print position
DEL	Delete character

Overall printing style:

ESC x	Select letter quality or draft
ESC k	Select typestyle family
ESC !	Master select

Print size and character width:

ESC g	Select 15 cpi
ESC P	Select 10 cpi
ESC M	Select 12 cpi
ESC p	Turn proportional mode on/off
SI	Select condensed mode
ESC SI	Select condensed mode
DC2	Cancel condensed mode
s o	Select double-width mode (one line)
ESC SO	Select double-width mode (one line)
ESC W	Turn double-width mode on/off
DC4	Cancel double-width mode (one line)
ESC w	Turn double-height mode on/off

Print enhancement:

ESC E	Select emphasized mode
ESC F	Cancel emphasized mode
ESC G	Select double-strike mode
ESC H	Cancel double-strike mode
ESC S	Select superscript/subscript mode
ESC T	Cancel superscript/subscript mode
ESC -	Turn underline mode on/off

Word processing:

ESC a	Select justification
ESC SP	Set intercharacter space

Character tables:

ESC t	Select character table
ESC 4	Select italic mode
ESC 5	Cancel italic mode
ESC R	Select an international character set
ESC I	Printable code area expansion (FX mode only)

User-defined characters:

ESC &	Define user-defined characters
ESC :	Copy ROM to RAM
ESC %	Select user-defined set
ESC 6	Enable printable characters
ESC 7	Enable upper control code

Graphics:

ESC K	Select single-density graphics mode
ESC L	Select double-density graphics mode
ESC Y	Select high-speed double-density graphics mode
ESC Z	Select quadruple-density graphics mode
ESC *	Select graphics mode
ESC ?	Reassign graphics mode
ESC ^	Select 9-pin graphics mode (FX mode only)

Glossary

application program

Any software program designed to carry out a particular task. For example, word processing or graphics packages are application programs.

ASCII

American Standard Code for Information Interchange. A standardized way of 'assigning numerical codes to characters and control codes. The system is widely used by manufacturers of computers, printers, and software.

baud rate

A measure of the speed of data transmission. It is used when setting up a serial interface on a computer and printer.

binary

See ***number systems***.

bit

A binary digit (0 or 1), which is the smallest unit of information used by a printer or computer. See also ***number systems***.

bitmap font

A font that has already been defined with specific attributes such as size and weight. See ***outline font***.

bold

A print enhancement that produces darker than normal characters and is typically used to add emphasis to text. See ***weight***.

buffer

See ***memory***.

byte

A unit of information consisting of eight bits. A byte usually corresponds to one character or code.

cache

The area of memory that stores internally generated fonts.

character set

A collection of letters, numbers, and symbols.

control codes

Special codes used to control printer functions such as sounding the beeper and performing a carriage return or line feed.

data dump mode

See hex dump mode.

decimal

See number systems.

default

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

download

A way of transferring information from a computer to a printer.

download font

A font that is loaded into the printer's memory from an outside source, such as a computer.

dpi

Dots per inch. This is a measure of print resolution.

driver

The part of an application 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 the paper.

EEPROM

Electrically Erasable Programmable Read Only Memory. The portion of the printer's memory holding SelecType's default settings. It may be erased and reprogrammed, enabling you to change the default settings, but it also saves settings even when the printer is turned off.

electrophotographic process

The printing method used by the EPL printer. In this process, a low-power laser exposes selected portions of a revolving photosensitive drum. Toner is attracted to the exposed areas of the drum to form a mirror image of the page to be printed. The toner adhering to the drum is then transferred to the surface of the paper where it is fused in place using a process combining heat and pressure.

engine

The part of the printer that includes the electrophotographic processing unit, engine controller, and paper transport mechanisms.

Epson Extended Graphics

A symbol set containing international accented characters, Greek characters, and character graphics for printing lines, corners, and shaded areas.

ESC (escape) code

A special control code used to begin most printer commands.

ESC/P

An abbreviation of Epson Standard Code for Printers. This system of printer commands lets you perform software control of your printer from your computer. It is standard for all Epson printers and supported by most application software for personal computers.

font

The complete character set of a given design. See Appendix B for a list of fonts available on the EPL-7000.

font caching

A feature which keeps the most frequently used characters in printer memory.

hexadecimal (hex)

See number systems.

hex dump mode

A printing mode that can be used to print out the exact codes reaching the printer. This mode can be used by experienced users as a troubleshooting tool.

imaging cartridge

The imaging cartridge transfers and fixes the printed image on the page. It contains a photosensitive print drum and a supply of toner.

initialization

Returns 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, and 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 such purposes as printing spreadsheets.

LCD

Liquid Crystal Display. The screen on the control panel that displays messages.

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 download fonts and graphics) is stored temporarily until it is printed *out*. **See** also **EEPROM**, **RAM**, and **ROM**.

nonvolatile memory

The portion of the printer's memory that is not lost when you turn off the printer. The ROM portion of nonvolatile memory is permanent. The EEPROM portion can be reprogrammed.

number systems

Three number systems are commonly used with printers:

decimal is base 10 and uses the digits 0, 1, 2, 3, 4, 5, 6, 7, 8, and 9. This is the most familiar system.

hexadecimal (hex) is base 16 and uses the characters 0-9 and A-F. This is frequently used by programmers. Any decimal number between 0 and 255 can be expressed by a two-digit hexadecimal number.

binary is base 2 and uses only the digits 0 and 1. All information in computer systems is handled in binary form. A binary digit is often called a bit; any decimal number between 0 and 255 can be expressed by an eight-bit binary number.

off line

When the printer is off line, it cannot communicate with the computer.

on line

When the printer is on line, it can communicate with the computer.

orientation

Refers to the direction in which characters are printed on a page. This direction is either portrait (text printed across the width of the page) or landscape (text printed across the length of the page).

parallel interface

See interface.

parity

A method of checking the reliability of data transmission between the computer and printer.

point size

The height of a particular typeface 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 mode

A set of operating commands that determines how data sent from the computer is interpreted and acted upon. Printer modes can emulate existing printers. The EPL offers three printer modes: HP LaserJet series IIP, LQ, and FX emulations.

RAM

Random Access Memory. The portion of the printer's memory used as an input buffer and for storing downloaded fonts and graphic images. Information stored in RAM is volatile and is lost when the printer is turned off.

reset

To return a printer to its defaults, by use of a command, interface signal, RESET button, or by turning the printer off and on.

ROM

Read Only Memory. The portion of the printer's memory that is permanent. Information stored in ROM is used to control how the printer operates. Resident fonts are also stored in ROM.

SelecType

A feature of the printer that allows you to make certain printer settings from the front panel.

serial interface

See interface.

status sheet

A report that lists the printer's current settings and other printer information.

You can print this report using the SelecType feature.

symbol set

A collection of symbols (letters, numbers, and special characters) used by a font. Symbols are assigned to specific codes in a character table.

test print

A method of checking the operation of the printer. When a test print is performed with the SelecType feature, the printer prints out one of two test patterns (vertical and horizontal lines).

toner

A dry, powder-like substance composed of resin and pigment. Toner is used to form the image during the printing process.

transfer charger wire

A metal wire used to impart a static charge to the paper, causing toner particles on the drum to transfer to the surface of the paper.

weight

The boldness or thickness of a character.

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SelecType Map

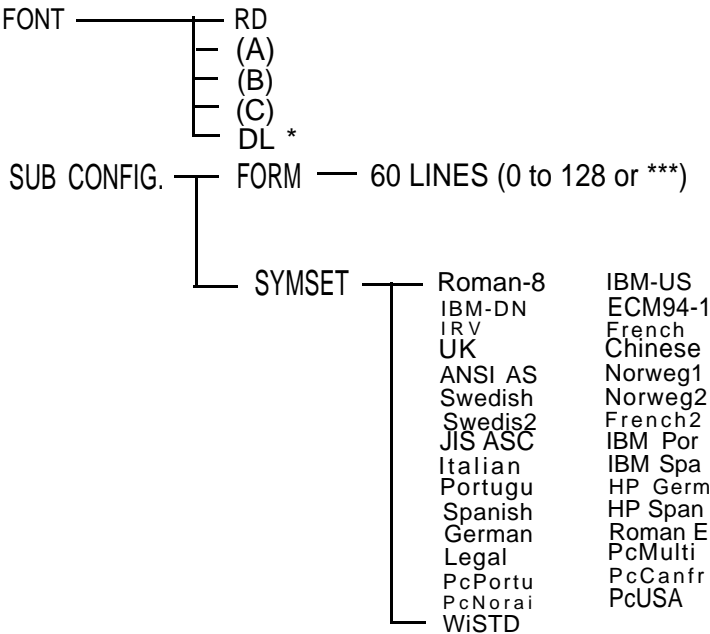
The following menu maps show the possible menus and options in SelecType. Mode-specific options, those marked “refer to mode,” are listed under each printer mode later on this card. See Chapter 3 for a description of each option.

Key

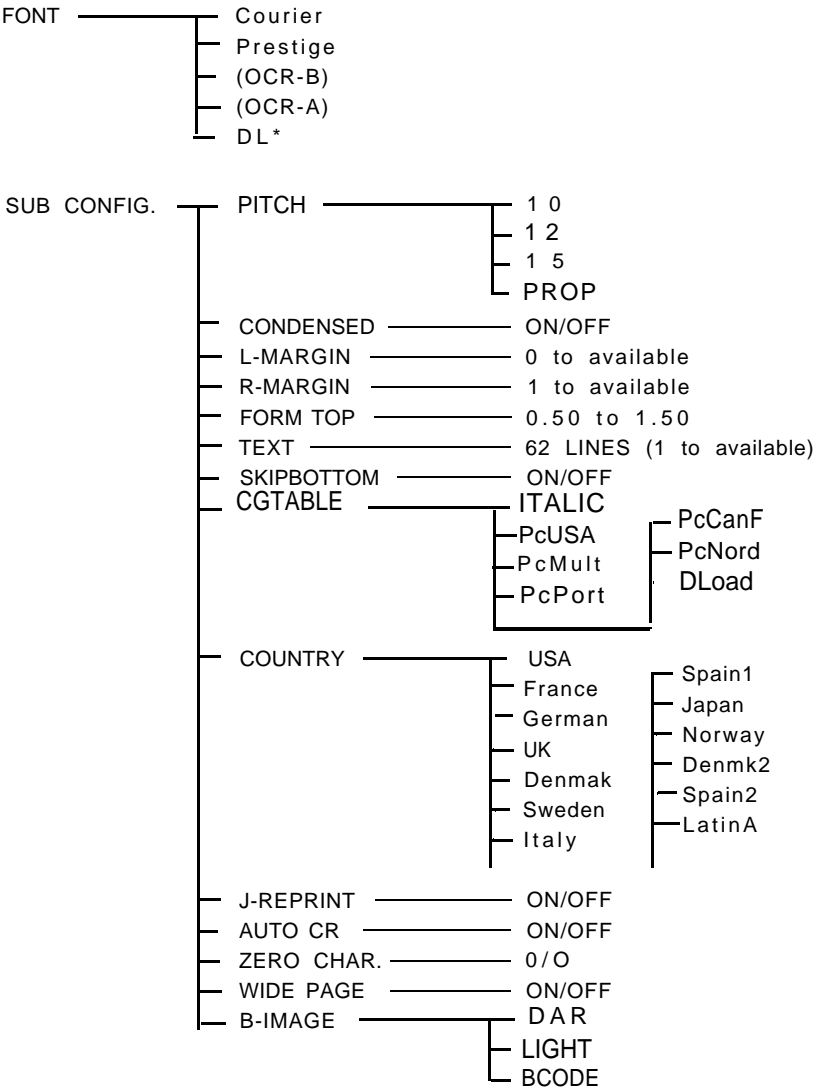
() -- Only available with option

* -- Only available when a font is downloaded

SelectType Level 1 in L-JET 2P mode

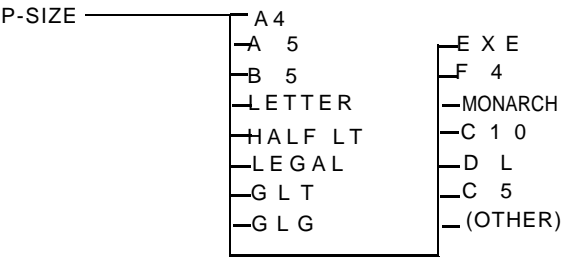
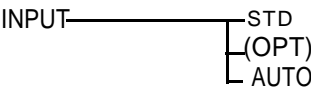


SelecType Level 1 in LQ and FX modes

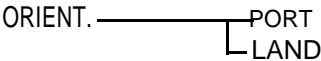


SelectType Level 1

S CH SELECT P



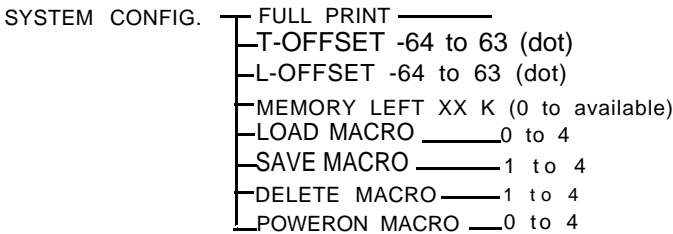
COPIES ———— 1 - 99



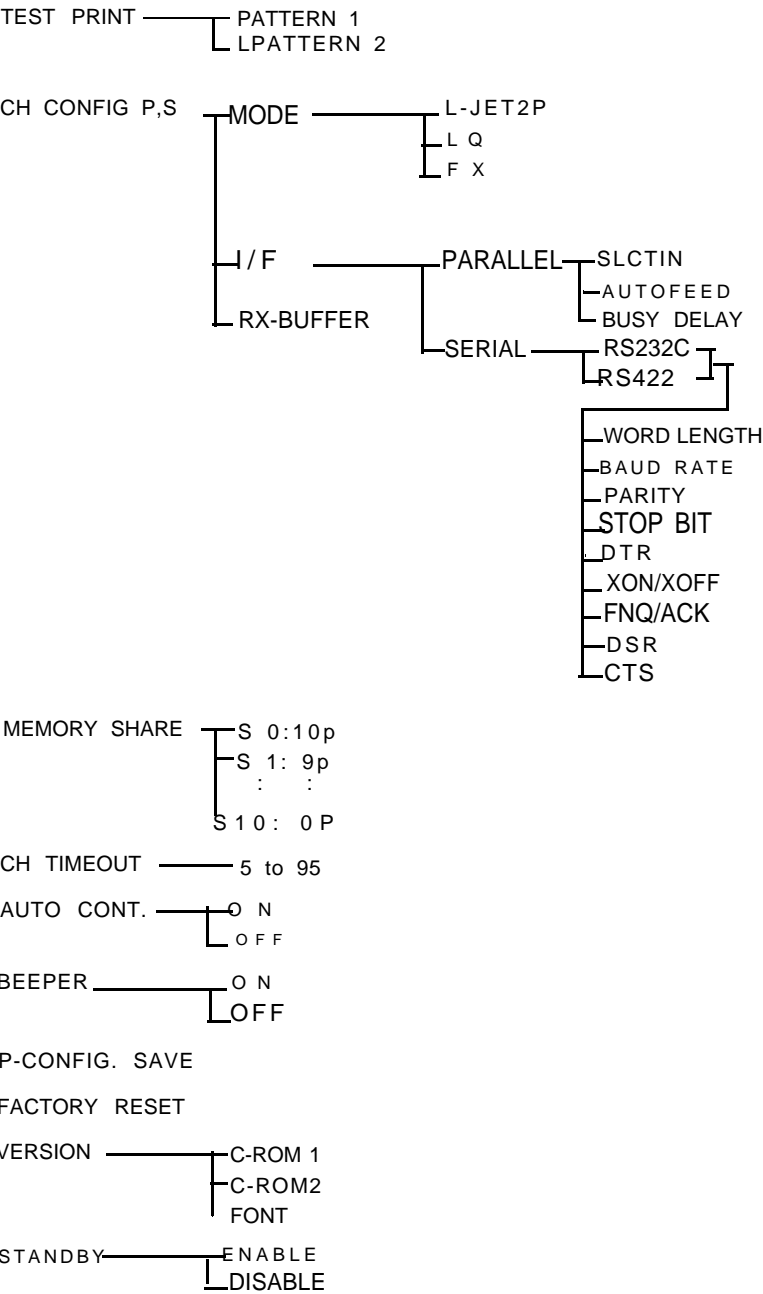
FONT ———— Refer to mode

STATUS SHEET

SUB CONFIG. ———— Refer to mode



SelecType Level 2

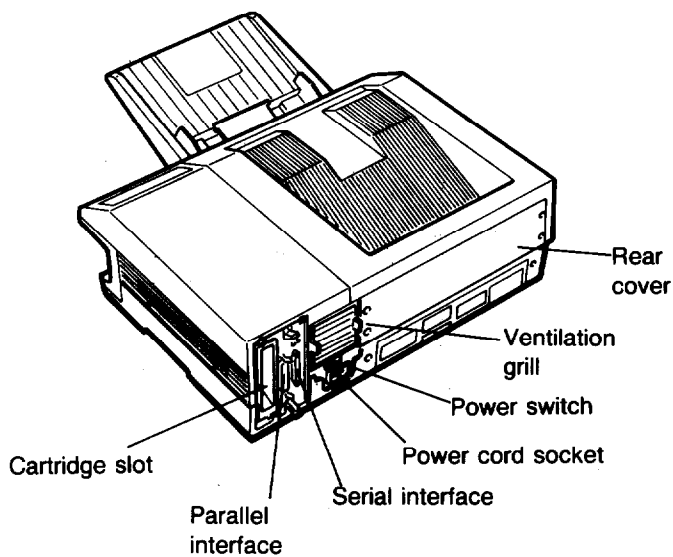


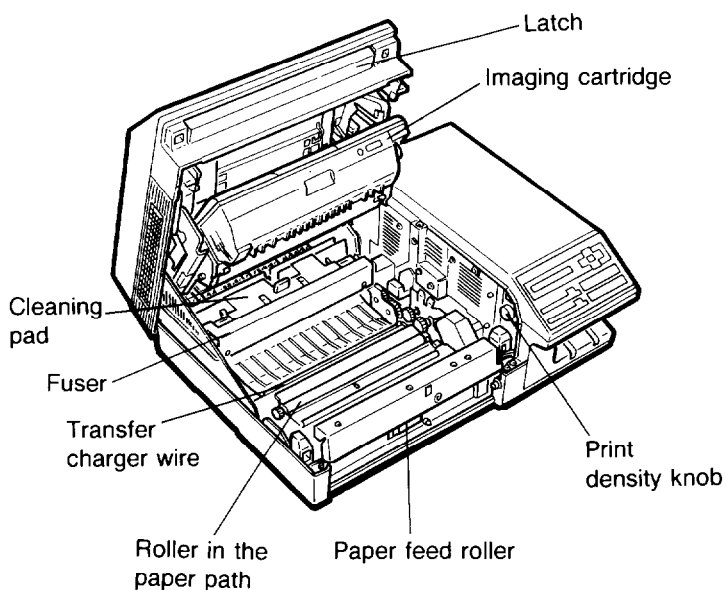
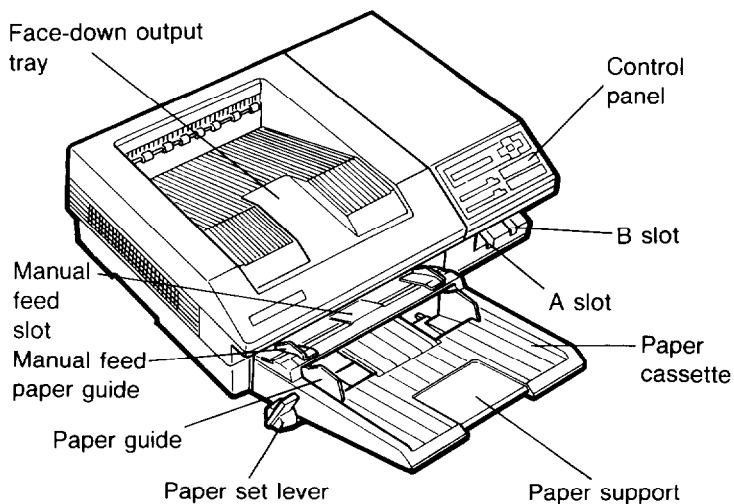
EPL-7000

User's Manual

EPL-7000

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