Assembling the Printer

Before you can use the printer, you need to install a few important parts. Before proceeding, familiarize yourself with the components shown below. The basket is inside the printer and must be removed when you install certain parts. The other parts shown were shipped in the accessory pack.

Printer Specifications

Printing

Printing method: Laser beam scanning and dry electrophotographic process.
Drum type: OPC
Exposure: Laser beam scanning
Fusing: Heat fixing
Resolution: 300 x 300 dpi
Print speed: 6 pages per minute (letter or A4)
First print: Less than 21 seconds (letter/A4 face up)
Warm-up time: Approximately 65 seconds at 73°F (23°C) with 512K RAM.
Internal fonts: 6 font styles:
Courier 12 pt. portrait 10 cpi
Courier 12 pt. landscape 10 cpi
Courier Bold 12 pt. portrait 10 cpi
Courier Bold 12 pt. landscape 10 cpi
Line Printer 8.5 pt. portrait 16.66 cpi
Line Printer 8.5 pt. landscape 16.66 cpi
Cartridges: 2 cartridge slots are available for identity and font cartridges.

Paper and paper delivery

Paper specifications: 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 the user's responsibility to ensure the quality of paper used with the printer.

Paper weight: Cassette feed (plain paper):
16 to 27 lb. (60 to 101 g/m²)
Manual feed (plain paper):
14 to 34 lb. (52 to 128 g/m²)

Paper size:

<table>
<thead>
<tr>
<th>Type</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Letter</td>
<td>8.5 x 11 inches</td>
</tr>
<tr>
<td>Legal</td>
<td>8.5 x 14 inches</td>
</tr>
<tr>
<td>A4</td>
<td>210 x 297 mm (8.5x 11.7 inches)</td>
</tr>
<tr>
<td>Executive</td>
<td>7.25 x 10.5 inches</td>
</tr>
</tbody>
</table>

Range of paper width and length:

<table>
<thead>
<tr>
<th>Width</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max 8.5 inches (216 mm)</td>
<td>14 inches (356 mm)</td>
</tr>
<tr>
<td>Min 3.2 inches (82 mm)</td>
<td>5 inches (127 mm)</td>
</tr>
</tbody>
</table>

Printer Specifications

Paper feed alignment and direction:
Center alignment for all sizes; lengthwise direction for standard sizes.

Paper feed:
Cassette or manual feed (paper cassette capacity: up to 150 sheets of 20 lb. paper).

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

Paper eject capacity:
Facedown: 150 sheets (20 lb. paper)
Faceup: 20 sheets (20 lb. paper)

Printable area:
**Mechanical**

Dimensions and weight:
- Height: 8.3 inches (210 mm)
- Width: 16.1 inches (410 mm) excluding output and input trays.
- Depth: 15.4 inches (390 mm)
- Weight: Approx. 36 lb. (16 kg) including paper cassette, drum unit, and toner cartridge.

Recommended duty cycle: 3,000 sheets per month

MPBF (Mean Prints Between Failures): 30,000 sheets

MTBF (Mean Time Between Failures): 3,000 hours

Durability: 5 years or 300,000 sheets (whichever comes first)

**Electrical**

Voltage: 120 VAC ± 10%, 60Hz ± 3Hz

Power consumption: 600W

**Controller hardware**

RAM: Total Memory: 512K bytes

2MB Memory Board:
The optional 2MB memory board provides enough memory for full-page (letter size), 300 dpi graphics plus additional memory for downloading and other purposes.

4MB Memory Board:
4MB increases capacity for downloading of fonts, graphics, etc.

**Environment**

Operation:
- Temperature: 50 to 95°F (10 to 35°C)
- Humidity: 20 to 80% RH without condensation

Storage:
- Temperature: 32 to 95°F (0 to 35°C)
- Humidity: 20 to 80% RH without condensation

**Interface Specifications**

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

<table>
<thead>
<tr>
<th>Signal Pin</th>
<th>Return Pin</th>
<th>Signal</th>
<th>Direction</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>19</td>
<td>DATA</td>
<td>IN</td>
<td>Signal to read data &quot;I&quot;</td>
</tr>
<tr>
<td>2</td>
<td>20</td>
<td>DATA 1</td>
<td>IN</td>
<td>These signals represent information of me 1st to 8th bits of parallel data respectively. Each signal is at HIGH level when data is logical 1 and LOW when data is logical 0.</td>
</tr>
<tr>
<td>3</td>
<td>21</td>
<td>DATA 2</td>
<td>IN</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>22</td>
<td>DATA 3</td>
<td>IN</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>23</td>
<td>DATA 4</td>
<td>IN</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>24</td>
<td>DATA 5</td>
<td>IN</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>25</td>
<td>DATA 6</td>
<td>IN</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>26</td>
<td>DATA 7</td>
<td>IN</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>27</td>
<td>DATA 8</td>
<td>IN</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>28</td>
<td>ACK</td>
<td>OUT</td>
<td>Acknowledge receiving data.</td>
</tr>
<tr>
<td>11</td>
<td>29</td>
<td>BUSY</td>
<td>OUT</td>
<td>A HIGH signal indicates that the printer cannot receive data.</td>
</tr>
<tr>
<td>12</td>
<td></td>
<td>PE</td>
<td>OUT</td>
<td>A HIGH signal indicates that the printer is out of paper.</td>
</tr>
<tr>
<td>13</td>
<td></td>
<td>SELECT</td>
<td>OUT</td>
<td>When SELECT is HIGH, the printer is on line.</td>
</tr>
<tr>
<td>14</td>
<td></td>
<td>NC</td>
<td>—</td>
<td>Not defined.</td>
</tr>
<tr>
<td>15</td>
<td></td>
<td>NC</td>
<td>—</td>
<td>Not defined.</td>
</tr>
<tr>
<td>16</td>
<td></td>
<td>Ov</td>
<td>—</td>
<td>Signal ground.</td>
</tr>
<tr>
<td>17</td>
<td></td>
<td>CHASSIS GND</td>
<td>—</td>
<td>Safety chassis ground.</td>
</tr>
<tr>
<td>18</td>
<td></td>
<td>+5V</td>
<td>—</td>
<td>5V power supply output (300mA maximum).</td>
</tr>
<tr>
<td>31</td>
<td>30</td>
<td>INIT</td>
<td>IN</td>
<td>Initial stage after data inside buffer is printed.</td>
</tr>
<tr>
<td>32</td>
<td></td>
<td>FAULT</td>
<td>OUT</td>
<td>This signal becomes LOW when the printer is:</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>—</td>
<td>• off line</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>—</td>
<td>• in error state</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>—</td>
<td>• malfunctioning.</td>
</tr>
<tr>
<td>33</td>
<td>34</td>
<td>NG</td>
<td>—</td>
<td>Not defined.</td>
</tr>
<tr>
<td>35</td>
<td>36</td>
<td>NG</td>
<td>—</td>
<td>Not defined.</td>
</tr>
</tbody>
</table>

**Notes**

- AU interface conditions are based on TTL level. Both the rise and fall of each signal must be less than 0.2 microseconds.
- 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.

**SELECT**

**DATA**

**STROBE**

**BUSY**

**ACK**

A: 1 μs (min.) B: 1 μs (min.) C: 1 μs (min.) D: approx. 6 μs

Signal levels

Output signals:

- \( V_{OL} = 0 \) to 0.4 V
- \( V_{OH} = 2.4 \) to 5.0 V

Input signals:

- \( V_{IL} = 0 \) to 0.8 V
- \( V_{IH} = 2.0 \) to 5.0 V

Serial interface

The laser printers built-in serial interface can be set for either RS-232C or RS-422A operation. These interfaces have the following characteristics.

Data format

- Word length: 7 or 8 bits
- Parity: 0 or 1 bit (None, Odd, Even, Ignore)
- Start bits: 1 bit
- Stop bits: 1 or 2 bits

The data format can be set using functions and menu items in SelectType.

Baud rate

- 300, 600, 1200, 2400, 4800, 9600, 19200 bits per second.

Signal level

- RS-232C: \( V_{H} = 2.2 \) to 12 V \( V_{L} = -1.4 \) to -12 V
- RS-422A: \( V_{H} = 2.5 \) to 5V \( V_{L} = 0 \) to 0.5 V

Transmission procedures

Ready/ Busy:

- The DTR signal level changes to HIGH when the printer is ready to receive data (or to LOW if set for inverted operation by SelectType).
- The DTR signal level changes to LOW when the printer is not ready to receive data (or to HIGH if set for inverted operation by SelectType).

XON/XOFF:

- When the printer is ready to receive data, it sends an XON (11 hex) to the host computer through the TD line for the RS-232C interface or SD+ and SD- lines for the RS-422A interface. When ROBUST-XON is set to ON (by SelectType), and data is not received within one second of the XON signal being sent, the printer sends an XON signal every second. If ROBUST-XON is set to OFF, the printer sends only one XON signal.
- When the printer is not ready to receive data, it sends an XOFF (13 hex) to the host computer through the TD line for the RS232C interface or SD+ and SD- lines for the RS-422A interface.
- The printer is ready to receive data when it is on line, no error conditions exist, and the buffer is not filled above the overload value set with SelectType.
- The printer is not ready to receive data when it is off line or when it is on line but the remaining capacity of the data buffer is less than the overload buffer value.

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.

<table>
<thead>
<tr>
<th>Signal Pin</th>
<th>Signal</th>
<th>RS-232C</th>
<th>RS-422A</th>
<th>Direction</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>FG</td>
<td>*</td>
<td>*</td>
<td>—</td>
<td>Frame ground. Safety ground line.</td>
</tr>
<tr>
<td>2</td>
<td>TD</td>
<td>*</td>
<td>*</td>
<td>OUT</td>
<td>Transmit data. This pin transmits serial data from the printer to the computer.</td>
</tr>
<tr>
<td>3</td>
<td>RO</td>
<td>*</td>
<td>(RD-)</td>
<td>IN</td>
<td>Receive data. This pin transmits serial data from me computer to the printer.</td>
</tr>
<tr>
<td>4</td>
<td>RTS</td>
<td>*</td>
<td>*</td>
<td>OUT</td>
<td>Request to send. This pin is HIGH when power is on</td>
</tr>
<tr>
<td>5</td>
<td>CTS</td>
<td>*</td>
<td>*</td>
<td>IN</td>
<td>Clear to send. This pin indicates that the computer is ready to receive data from the printer.</td>
</tr>
<tr>
<td>6</td>
<td>DSR</td>
<td>*</td>
<td>*</td>
<td>IN</td>
<td>Data set ready. This pin indicates that the computer is ready to communicate</td>
</tr>
<tr>
<td>7</td>
<td>SG</td>
<td>*</td>
<td>*</td>
<td>—</td>
<td>Signal ground. This pin provides a ground for all the signal lines.</td>
</tr>
<tr>
<td>9</td>
<td>SD</td>
<td>(SD-)</td>
<td>*</td>
<td>OUT</td>
<td>Send data. This pin sends serial data from the printer to the computer. Signal level is RS-422A</td>
</tr>
<tr>
<td>10</td>
<td>SD</td>
<td>(SD-)</td>
<td>inv</td>
<td>OUT</td>
<td>Send data. This pin sends serial data from me printer to the computer. Signal level is RS-422A</td>
</tr>
<tr>
<td>11</td>
<td>REV</td>
<td>*</td>
<td>*</td>
<td>OUT</td>
<td>Same as DTR.</td>
</tr>
<tr>
<td>18</td>
<td>RO</td>
<td>(RD+)</td>
<td>*</td>
<td>IN</td>
<td>Receive data. This pin transmits serial data from the computer to the printer. Signal level is RS-422A</td>
</tr>
<tr>
<td>20</td>
<td>DTR</td>
<td>*</td>
<td>*</td>
<td>OUT</td>
<td>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 busy</td>
</tr>
<tr>
<td>25</td>
<td>+5V DC</td>
<td>*</td>
<td>*</td>
<td>—</td>
<td>Not a signal, but a +5V power supply output. Maximum of 300mA</td>
</tr>
</tbody>
</table>
Switch Settings

The DIP switches are located at the back of your printer and are numbered 1 through 8.

The DIP switch settings are listed below. Use the tip of a ballpoint pen or another small pointed object to turn the switches ON or OFF. Pressing a switch down sets it ON and up sets it OFF.

CAUTION: Turn your printer off before setting the switches. Then turn it back on to implement your changes.

<table>
<thead>
<tr>
<th>Switch Setting</th>
<th>Paper Feed</th>
<th>SPECIAL</th>
<th>Paper Delivery</th>
</tr>
</thead>
<tbody>
<tr>
<td>RS-232C</td>
<td>Manual</td>
<td>No</td>
<td>Faceup or Face-down</td>
</tr>
<tr>
<td>RS-422A</td>
<td>Auto</td>
<td>No</td>
<td>Face-up or Face-down</td>
</tr>
</tbody>
</table>
| * If DIP switch 5 is turned ON when the RS-232C serial interface is in use, pin 25 on the connector is set to +5V. If the DIP switch is turned OFF, the pin on the connector is not used.

Selecting a Paper Size

The default paper size setting in SelectType is LTR for letter-size paper. If you are using a different size paper, change the PAPER SIZE setting in SelectType. You may also need to adjust the paper guides on the paper cassette to match the size of the paper you want to use.

The table below lists all of the paper sizes on the SelectType menu.

<table>
<thead>
<tr>
<th>Paper Size</th>
<th>Paper Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>LETTER</td>
<td>8.5 x 11 inches</td>
</tr>
<tr>
<td>LEGAL</td>
<td>8.5 x 14 inches</td>
</tr>
<tr>
<td>A4</td>
<td>210 x 297 mm</td>
</tr>
<tr>
<td>EXECUTIVE</td>
<td>7.25 x 10.5 inches</td>
</tr>
</tbody>
</table>

Printing Methods Summary

You have several choices to make when printing. These choices depend mainly on the type of paper or other print media you use.

Paper delivery method - You can choose between face-up output and facedown output.

Paper feed method - You can select either automatic or manual paper feed.

Paper Delivery Choices

Your laser printer can deliver paper face-down on top of the printer or face-up into the face-up output tray. The advantage of printing facedown is that when the printed stack is turned over, the pages are collated from first page to last. On the other hand, the face-up output tray gives you immediate viewing of your printed output. The face-up method of delivery is necessary for printing on media that require a straight-through paper path, such as envelopes, labels, heavy paper, and overhead transparencies.

To select face-up printing, simply move the paper path selector (located on the left side of the printer) to the down position. Also be sure that the face-up output tray is installed. (See Chapter 1 for details.) To select facedown printing, move the paper path selector to the up position.

Printer Driver Information

Many application programs let you specify the type of printer you’re using by selecting a printer driver. Drivers are programs that your software uses to send commands to the printer. Application programs often provide an installation or setup procedure that presents a list of printer drivers to choose from.
To take advantage of HP emulation, simply choose a printer driver from the list below. They are listed in order of priority.

- HP LaserJet series II
- HP LaserJet Plus™
- HP LaserJet™

The application program’s menu may list a number of more specific choices corresponding to various HP LaserJet font cartridges. (The choices are labeled with capital letters, such as A, B, or C.)

Fonts and font cartridges

There are six resident fonts in your printer. These correspond to the resident fonts for the HP LaserJet series II printer. They are:

<table>
<thead>
<tr>
<th>Font</th>
<th>Size</th>
<th>Style</th>
</tr>
</thead>
<tbody>
<tr>
<td>Courier</td>
<td>12 pt</td>
<td>portrait</td>
</tr>
<tr>
<td>Courier bold</td>
<td>12 pt</td>
<td>landscape</td>
</tr>
<tr>
<td>Line printer</td>
<td>8.5 pt</td>
<td>portrait</td>
</tr>
<tr>
<td>Line printer</td>
<td>8.5 pt</td>
<td>landscape</td>
</tr>
</tbody>
</table>

In addition, the cartridge slots on your printer let you access a wide variety of other fonts available on font cartridges.

### Maintenance

<table>
<thead>
<tr>
<th>Component</th>
<th>Life Cycle (in pages)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toner cartridge</td>
<td>1,500 pages</td>
</tr>
<tr>
<td>Cleaning pad</td>
<td>1,500 pages</td>
</tr>
<tr>
<td>Drum unit</td>
<td>10,000 pages*</td>
</tr>
<tr>
<td>Service overhaul</td>
<td>100,000 pages</td>
</tr>
</tbody>
</table>

*If you regularly print high density graphics (more than 5% page density, you need to replace the drum unit more often.

The toner cartridge and cleaning pad must be replaced about every 1,500 pages. (The initial toner cartridge lasts about 750 pages.) A TONER EMPTY message appears when it is time to change these components.

The drum unit must be replaced about every 10,000 pages. (If you regularly print high density graphics (more than 5% page density), you need to replace the drum unit at the same time you install the eighth toner cartridge.) When you replace the drum unit, it is also necessary to change the drum replacement cartridge, which monitors drum usage.

A CHANGE DRUM message appears when it is time to change the drum unit and drum replacement cartridge. Also, the indicator light on the drum replacement cartridge helps you monitor drum usage, so that you know when a drum change is imminent.

A service overhaul must be performed at 100,000 pages by an authorized Epson dealer.

Each of these procedures is described in detail in this chapter.

### Self-Test

Successful completion of the self test indicates that you have set up your printer correctly and that you are ready to connect the printer to your computer. If you are unable to print this test, see Chapter 7 for troubleshooting information.

The self test also lets you check your print density setting. After you print the self test, check the character pattern to see whether you are satisfied with the print density. The section in this chapter on adjusting print density describes how to change the print density setting.

Follow the steps below to perform the self test:

1. Be sure that your printer is plugged in and the power is on before performing the self test.
2. Be sure that your printer is off line. (OFF L I HE appears on your display.) If not, press the ON LINE button to set the printer off line.
3. Press the MANUAL and SPECIAL buttons on your control panel at the same time.
4. When you release the buttons, SELF TEST appears on the display and the printer prints a self test.

#### Notes:

- It is important to press the buttons at the same time.
- For more information on using the control panel, see Chapter 3.

Part of the character pattern is shown below. Look at your printout to determine whether the print is too light or too dark. If you need to change the print density, see the following section on adjusting print density.

Adjusting print density

If the self test you printed is too light or too dark, adjust the print density as follows:

1. Open the printer cover by lifting up on the latch.
2. Locate the density control knob, which is in the front right corner inside the printer.

3. To make the print darker, turn the knob clockwise as shown below.

Note: Increasing the print density increases toner consumption. If you increase the print density, you need to replace the toner cartridge more frequently.

4. To make the print lighter, turn the knob counterclockwise.

Font and Status Print Tests

The font print test
1. To perform the font print test, press the RESET/CONTINUE and the SPECIAL buttons at the same time.

2. When you release the buttons, FONT PRINT appears on the display and the printer outputs a font print test.

A portion of the font print test printout is shown below.

Status print test
The status print test gives you information on current printer settings, such as paper size, number of copies selected, and font source and number.

Follow the steps below to perform the status print test:
1. Be sure that your printer is plugged in and the power is on.
2. Be sure that your printer is off line. (OFF LINE appears on your display.) If not, press the ON LINE button to set the printer offline.
3. Press the A and ▼ buttons at the same time.

4. When you release the buttons, STATUS PRINT appears on the display and the printer outputs the status print test.

A portion of the printout is shown below.

Error Messages

Notes:
- When a problem has been corrected, you may need to press the ON LINE button to resume printing.
- Certain problem require that you press the RESET/CONTINUE button to continue printing. However, when the AUTO CONT SelectType option is set to ON, the printer automatically clears the error and resumes printing for the following error messages:
  - PS CHANGE ERROR 21 ERROR 40
  - ERROR 20 ERROR 22

When the AUTO CONT SelectType option is set to ON, your printer resumes printing even though the problem may not have been fixed. This may cause a problem with your printed output.

CHANGE DRUM
The drum unit may not be installed properly. Open the printer and make sure the drum unit is seated properly in the basket. (Press down simultaneously on the drum unit’s two green handles to make sure the unit has clicked into place.)

Also, the drum replacement cartridge may not be installed. Be sure to install a new drum replacement cartridge each time you replace the drum unit.
If the message remains, the drum unit and the drum replacement cartridge must be replaced. See the section on replacing the drum unit in Chapter 6.

COVER OPEN

The printer cover is open. Close the cover and press the ON LINE button to set the printer on line and begin normal printing.

ERROR 20

Not enough memory is available. Press the RESET/CONTINUE button to continue printing. Your page may be printed as two or more separate pages. This error can also be cleared by turning the printer off and back on again. It may be necessary to simplify your print job by downloading a smaller font, deleting some macros, or using a lower resolution. You may also wish to purchase the optional 2MB memory board available for this printer.

ERROR 21

The page is too complex to print. Press the RESET/CONTINUE button to eject the page and clear the error. This error can also be cleared by turning the printer off and back on again. Before you continue printing, simplify the page you are trying to print.

ERROR 22

The buffer has overflowed due to a communication protocol error. Make sure that your SelecType settings match the communication protocol settings of your computer. If the problem persists, contact your authorized Epson dealer for service.

ERROR 40

A parity or baud rate error has occurred. Press the RESET/CONTINUE button to clear the error. Make sure your SelecType settings match your computer configuration. If the problem persists, contact your authorized Epson dealer for service.

FONT CART ERROR

The font cartridge selected using the FONT SOURCE SelecType option is not installed properly. Turn the power off. Then remove the cartridge and reinsert it. Turn the power back on and resend the print job. If the problem persists, make sure that the correct FONT SOURCE option has been selected in SelecType. See the section on SelecType in Chapter 3 for details.

INSERTION ERROR

There is a paper feeding problem. See the section on paper jams in this chapter for details.

PAPER EMPTY

There is no paper in the paper cassette or the paper cassette is not installed properly. Load more paper into the paper cassette or properly install the cassette. See Chapter 4 for details.

PAPER JAM

Paper is jammed inside the printer. See the section on paper jams in this chapter.

Note: If the printer was recently transported, the paper feed mechanism may need to be aligned. See the section on setting the paper feed mechanism in Chapter 1 for details.

PAPER SIZE ERROR

If you press the ON LINE button to override the PS CHANGE message, this message appears as your print job ejects to remind you to change the paper and SelecType PAPER SIZE option. See PS CHANGE below.

PS CHANGE

Your application software has requested a paper size that does not match your SelecType setting or paper. Press the RESET/CONTINUE button to clear the error; the printer is set off line.

Note: If you are using a non-standard paper size (one that is not listed on the PAPER SIZE menu in the SelecType), manual feeding may be necessary. See Chapter 4 for details.

After clearing the error, you have two options:
1. Change the paper in the cassette; then enter SelecType and change the paper size to match. Press the ON LINE button after exiting SelecType to continue printing.
2. Alternatively, press the ON LINE button to continue printing on the current paper. (The message PAPER SIZE ERROR appears in the display.) See PAPER SIZE ERROR above.

TONER EMPTY

The developer unit may not be installed properly. Open the printer and make sure the developer unit is seated properly in the basket.

If the message remains, the toner is low and you must replace the toner cartridge. See the section on replacing the toner cartridge in Chapter 6.

CPU ERROR  ERROR 30
ERROR 10  ERROR 31
ERROR 11  ERROR 32
ERROR 12  ERROR 33

If one of these error messages appears, follow the steps below.
1. Press the RESET/CONTINUE button
2. If the error does not clear, turn the printer off for at least five seconds. Then turn it back on.
3. If the problem remains, service is required. If you need service, contact an authorized Epson dealer. If you need assistance locating a dealer, call the Epson Consumer Information Center at 1-800-922-8911 for the location of the nearest Epson dealer.

Routine Cleaning

It is necessary to clean certain printer components regularly to ensure optimal print quality. Cleaning should be performed whenever the drum unit or toner cartridge is replaced. You should also clean the components listed below if you are having problems with print quality, as discussed in Chapter 7.

Cleaning schedule

The toner cartridge is replaced about every 1,500 pages, and the drum unit is replaced every 10,000 pages. Each time you replace one of these components, you should clean the following items:
• Transfer charger wire and discharge wire
• Paper guide
• Basket
• Laser beam lens.

Note: You should also clean each of these items if you are having print quality problems, as discussed in Chapter 7.

(When replacing the drum, you should also clean the main charger wire on the new drum unit, as described in the section on replacing the drum unit.)

WARNING: You should turn off your printer and disconnect the power cord before cleaning your printer.
Cleaning the laser beam lens

Note: Cleaning the lens is required at an interval of 10,000 pages (the same interval as for changing the drum). If you wish, you can clean the lens when you change the drum and skip this procedure when you change the toner cartridge. If you plan to skip this procedure, go to step 3 for information on reassembling your printer.

Follow these steps to clean the laser beam lens:

1. Locate the lens, which is the clear plastic component inside the top cover of your printer.
2. Clean the lens with a lens cleaning cloth or other clean, soft cloth. Do not use alcohol.

3. To ready your printer for printing reinstall your basket. (Press down simultaneously on the drum unit’s two green handles until the drum unit clicks into place.) Then close the printer cover. Plug in the power cord and turn your printer back on.

4. Gently clean the main charger wire with a cotton swab dipped in alcohol. Run the swab along the length of the wire. You need to insert the cotton swab a fraction of an inch into the slot to reach the wire.

5. With the top cover of the printer open, align the arrow on the back of the basket with the arrow on the printer case. (The arrows point toward each other when the unit is properly installed.) Gently lower the basket into place.

Cleaning the transfer charger and discharge wires

Follow the steps below to clean the transfer charger wire and discharge wire.

Note: Locate some isopropyl alcohol to use for cleaning purposes before proceeding.

1. Make sure the printer is turned off, then disconnect the power cord from the wall outlet. Also be sure that the printer cover is open and that the basket is removed from the printer.

   **Warning:** This procedure exposes the green drum unit, which is in the basket. Because the drum is light-sensitive, it should not be exposed to room light for more than 3 minutes, maximum. It is recommended that you cover the drum unit with a soft cloth or sheet of paper whenever the drum is exposed.

2. Locate a cotton swab.

3. With the printer cover open, locate the transfer charger wire and the discharge wire, which are in indentations at the bottom of the printer, beneath where the basket normally rests. These wires are thin and difficult to spot instantly.

General Printer Maintenance

In addition to the maintenance called for by the display panel messages, the following simple maintenance procedures may be occasionally necessary:

- Cleaning the developer unit. You should clean the developer unit if vertical white lines appear on your printed page.
- Cleaning the main charger wire. You should clean this wire if print quality declines.

These procedures are described below.

Cleaning the developer unit

If vertical white lines appear on your printed page, you need to clean the developer unit with the developer cleaner. Follow these steps:

1. Locate the developer cleaner. A cleaner is included with the accessory pack that comes with your printer. A cleaner is also packed with replacement drum units.
2 Insert the hooked edge of the developer cleaner about a half inch (13 mm) between the developer roller and the brass blade, as shown below. Draw the cleaner the full length of the developer unit several times, discarding excess toner. Then reinstall the developer unit in the basket.

![Diagram of developer roller and brass blade](image)

### ISO Characters

The decimal numbers in the top row show the characters that differ from Roman-8 for each of the ISO symbol sets listed in the first column.

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### Installation/Support Tips

#### Set up

1. Read the cleaning chapter of the User's Manual prior to installation.

2. Test paper for the laser printer prior to purchase.

#### Toner Cartridges

There are two types of toner cartridges. The initial cartridge, which is used when the EPL-6000 is brand new and when the developer unit is replaced, holds enough toner for approximately 750 prints. The supply cartridge, used for replacement at all other times, holds enough toner for about 1500 prints.

#### Software

1. When using software packages with the EPL-6000, select HP LaserJet series as the printer. If this is not available, select HP LaserJet + . If neither is available, select HP LaserJet.

2. If you are using a font cartridge, ensure that the software is set up to support it.