
Print Media

This chapter describes the print media that are appropriate for use with the DEClaser 1152 printer: paper, labels, transparencies, and envelopes. The laser printing process differs greatly from that of a conventional impact printer, and this is why paper selection is particularly important. Because toner is bonded to the paper as it passes through the heat and pressure rollers of the fixing unit, the paper must be able to withstand high amounts of heat and pressure.

Caution

When selecting paper or other print media, always print test samples on the paper you want to use. This is particularly important when you are printing on chemically treated or coated paper, such as preprinted forms or colored paper. The inks and pigments used on these papers must also be able to withstand the high heat and pressure of the fixing unit. Be sure to consider the heat limitations of transparencies and the glues used on envelopes and labels. Always select print media according to the instructions and specifications in this chapter. For a complete listing of recommended print media and ordering information, see Appendix A.

Print quality can also deteriorate if paper is not stored properly. Read Section 5.5 for information about storing paper. For additional information about print media, consult the *Digital Laser Printers Guide to Paper and Other Media* (EK-LASER-GD), available from DECdirect.

5.1 Paper Specifications

This section contains information on the sizes and specifications of plain paper that can be used with the DEClaser 1152 printer.

The paper tray can feed paper sizes ranging in width from 97 mm to 216 mm (3.8 inches to 8.5 inches) and in length from 148 mm to 356 mm (5.8 inches to 14.0 inches). Table 5-1 lists the paper sizes that can be used with the optional paper cassettes.

Table 5–1 Cassette Feed Paper Sizes

| Paper Size | Dimensions |
|------------|---------------------|
| A4 | 210 mm x 297 mm |
| Executive | 7.25 in. x 10.5 in. |
| Letter | 8.5 in. x 11.0 in. |
| Legal | 8.5 in. x 14.0 in. |

5.1.1 Envelope Sizes

The DEClaser 1152 can accept the following envelope sizes:

Table 5–2 Envelope Sizes

| Size | Dimensions |
|---------|--------------------------------------|
| Minimum | 97 mm x 148 mm (3.8 in. x 5.8 in.) |
| Maximum | 216 mm x 356 mm (8.5 in. x 14.0 in.) |

5.1.2 Paper Specifications

Table 5–3 DEClaser 1152 Printer Paper Specifications

| Category | Specification |
|---------------------------|---|
| Paper weight: plain paper | 60 g/m ² to 105 g/m ² basis weight (16 lb. to 28 lb.) |
| Paper weight: envelopes | 60 g/m ² to 90 g/m ² basis weight (16 lb. to 24 lb.) |
| Moisture content | 5% to 8% |
| Smoothness | 100-300 Sheffield |
| Brightness | 84% minimum recommended |
| Heat tolerance | 150°C (302°F) for 0.1 second |
| Cotton (rag) content | 25% maximum |

5.1.3 Special Considerations When Printing on Paper

Because of the way laser printers print and bond toner to the paper, you must observe some special requirements with certain types of papers:

- Do not use preprinted papers that do not meet the specifications for heat tolerance. The ink from some preprinted papers, such as those with a

company letterhead, can cause smearing and in some extreme cases can damage the printer.

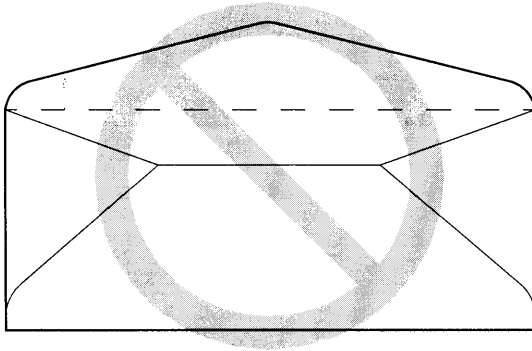
- Do not use colored papers where the color is applied as a coating to the surface.
- Do not use thermal papers.
- Do not use carbon papers.

Appendix A lists acceptable papers.

5.2 Envelope Specifications

Envelopes must meet the same specifications as paper (see Table 5–3). In addition, the following types of envelopes cannot be used with the printer:

- Envelopes with sealing flaps that are open



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- Envelopes with sealing flaps at the leading and trailing edges



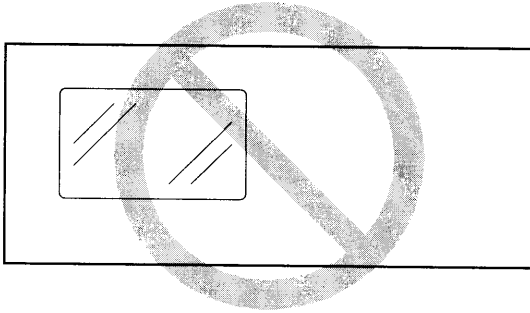
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- Envelopes with three or more layers of paper at the leading and trailing edges



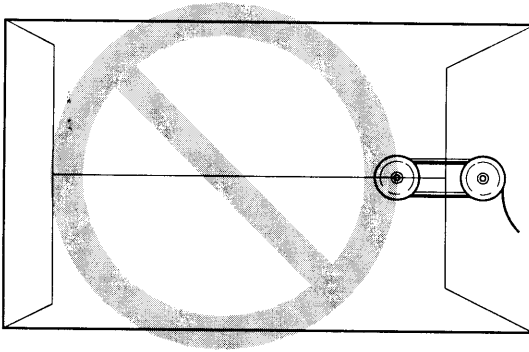
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- Envelopes that have transparent windows



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- Envelopes that have clasps, snaps, or strings



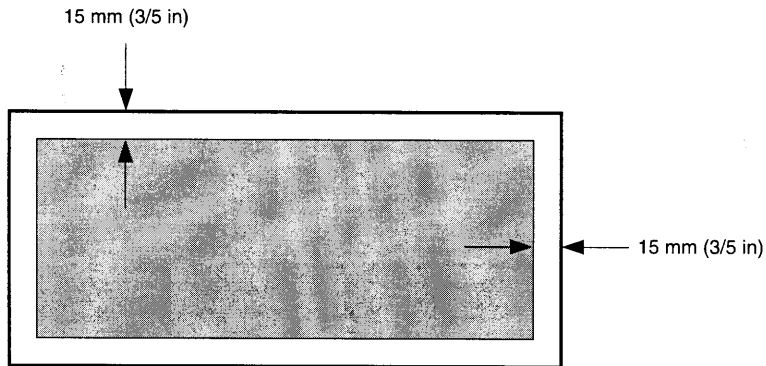
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5.2.1 Special Considerations When Printing on Envelopes

Observe the following requirements when printing on envelopes:

- Do not load more than five envelopes in the paper tray.
- Envelopes can be printed only on the front side.
- Since you need to print addresses in a particular area on envelopes, you must give the printer the proper print coordinates to print the addresses.
See Section 2.6 for more information.
- Use the front output (faceup) tray.
- Printing in the 15 mm (3/5 in.) border around the envelope may cause print quality problems with some types of envelopes. For best print quality, do not print in this border.

Appendix A lists acceptable envelopes.



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5.3 Transparency Specifications

Table 5-4 and Table 5-5 contain information on the sizes and specifications of transparencies that can be used with the DEClaser 1152.

Table 5-4 Transparency Sizes

| Size | Dimension |
|--------|--------------------|
| A4 | 210 mm x 297 mm |
| Letter | 8.5 in. x 11.0 in. |

Table 5-5 Transparency Specifications

| Category | Specification |
|--|--|
| Transparency weight: front output tray only | 135 g/m ² to 150 g/m ² basis weight (36 lb. to 40 lb.) |
| Thickness | 0.095 mm to 0.115 mm |
| Heat tolerance | 150°C (302°F) for 0.1 second |

5.3.1 Special Considerations When Printing on Transparencies

Observe the following requirements when printing on transparencies:

- Transparencies are usually fed from the paper tray. If you are feeding transparencies from a cassette, be sure they are high-quality transparencies and meet the specifications listed in Table 5-5.
- Fan the transparencies before loading them, to prevent jams.
- Use the front output (faceup) tray only.
- Remove transparencies from the output tray, as each one is printed, to prevent them from sticking to each other.

Appendix A lists acceptable transparencies.

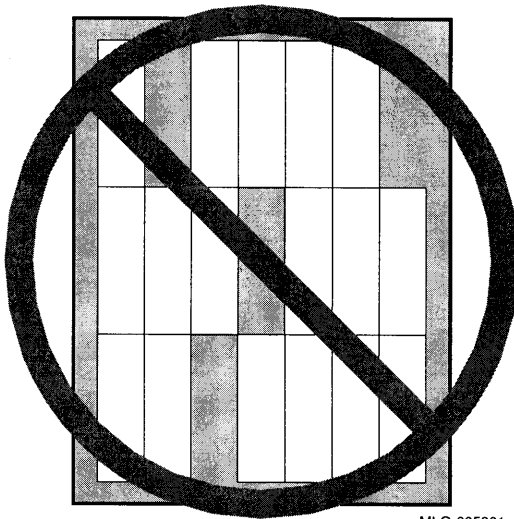
5.4 Label Specifications

A label consists of a face sheet, an adhesive sheet, and a carrier sheet. The face sheet (or printing surface) is usually composed of photocopying paper and should meet the same specifications for paper as described in Paper Specifications. The carrier sheet and adhesive used for the labels must also be able to meet the heat tolerance specification of 150°C (302°F) for at least 0.1 second.

Caution

Exposed adhesive on labels can cause damage to the printer. An easy way to test for adhesive that may be exposed is to press a plain piece of paper on top of the sheet of labels. If the paper sticks to the labels, you should not use those labels.

Figure 5-1 Unacceptable Labels



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5.4.1 Special Considerations When Printing on Labels

Observe the following requirements when printing on labels:

- Labels are usually fed from the paper tray. If you are feeding labels from a cassette, be sure they are high-quality labels that meet the specifications listed in Table 5–3.
- Be sure that the carrier sheet is not exposed.
- Be sure that no adhesive is exposed.
- Use the front output (faceup) tray only.

Appendix A lists acceptable labels.

5.5 Paper Handling and Storage

Although you may be using paper that meets all specifications, improper handling and storage may affect the quality of the paper and the performance of the printer. Improper storage and handling can cause paper jams, misfeeding, and other printer performance problems.

Follow the recommendations in this section on paper storage and handling to reduce the possibility of printer jams and misfeeds.

5.5.1 Paper Handling

Observe the following requirements when handling paper:

- Load paper cassettes to their proper capacity rather than adding small amounts at a time. Loading small amounts of paper can cause jams because of air pockets created between small stacks of paper.
- When you unwrap a new package of paper, discard the top and bottom sheets, as they tend to absorb the most humidity from the surrounding environment.
- Sudden temperature or humidity changes can cause paper curl, leading to misfeeds and paper jams. If you bring paper from a storage location that differs greatly in temperature or humidity, leave the paper (unopened) for a day to allow it to adjust to the printer room environment.
- Check to see that the paper is loaded with the correct side up. Some packages of paper have an arrow on the label that points in the direction of the top side of the paper. Load paper with this top side up.

If there is no arrow on the label, check the paper for curl. If an excessive amount of curl is present, fan the paper in the opposite direction of the curl to remove as much of the curl as possible.

- Follow the instructions in Chapter 2 to properly load the paper.

5.5.2 Paper Storage

Observe the following requirements when storing paper:

- Always store unused paper in its original wrapping. The wrapping protects the paper against humidity.
- Do not store paper directly on the floor, as floors are generally humid.
- Lay paper on a flat surface to prevent in-ream paper curl.

This chapter helps you to quickly locate most problems that may occur with the printer. It discusses the following topics:

- Printer status messages
- Operator call messages
- Service call messages
- Common operating problems
- Paper jams

Most problems are identified on the message display. The corrective action to take is listed in the appropriate tables, as follows:

- Printer Status Messages, (Table 6-1)
- Operator Call Messages, (Table 6-2)
- Common Operating Problems, (Table 6-3)

6.1 Printer Status Messages

Printer status messages are displayed to show the printer's current operating condition (see Table 6-1). This status information lets you know if the printer is performing a task or is ready to receive another job. Status messages are displayed whether the printer is on line or off line.

Table 6–1 Printer Status Messages

| Message | Meaning |
|------------------|--|
| PS HOLDING | This is an intermediate message showing the state of the I/O serializer. |
| PS PROCESSING | The printer is processing data. |
| PS WAITING | When this message displays during a job, it means the printer is waiting for more data to appear in the I/O buffer. |
| PS OFFLINE | The printer is in the offline state. |
| PS RESET TO STOP | This message displays when the PostScript parameter allowjobreset ¹ is set to YES and [On Line] is pressed when a job is running. |
| PS WAIT FOR IDLE | This message displays when the PostScript parameter allowjobreset ¹ is not set to YES and [On Line] is pressed when a job is running. |

¹See Job Reset in Section 4.6.5.

6.2 Operator Call Messages

Operator call messages appear if a problem with the printer requires operator intervention, such as adding paper or closing the printer cover. You should check the online/offline status of the printer after correcting a problem; you may have to place the printer back on line by pressing **[On Line]**. Table 6–2 lists the operator call messages.

Note

The operator call message number flashes when it displays.

Table 6–2 Operator Call Messages

| Message | Meaning | Corrective Action |
|----------------|--|-------------------|
| 10 CHECK PAPER | Paper is not properly loaded in the cassette. | Reload paper. |
| 11 PAPER OUT | There is no paper in the paper cassette or the front paper tray. | Add paper. |

(continued on next page)

Table 6–2 (Cont.) Operator Call Messages

| Message | Meaning | Corrective Action |
|-----------------|---|--------------------------------------|
| 12 PRINTER OPEN | There is no paper cassette installed in the printer, or the cassette is not installed securely. | Install the paper cassette securely. |
| | The front cover is open. | Close the front cover. |
| | The fixing assembly cover is open. | Close the fixing assembly cover. |
| 13 PAPER JAM | The EP-L cartridge is not installed. | Install the EP-L cartridge. |
| | Paper is jammed inside the printer. | Remove the jammed paper. |

6.3 Service Call Messages

Service call messages indicate that the printer requires servicing by a qualified Digital Customer Services engineer (see Chapter 7 for service information). Service messages display as **XX SERVICE** (where XX is a number from 50 through 99).

Note

Before calling for service, try to clear the error message by powering the printer off. After a few seconds, power the printer on. If the error message still displays, record the error message to assist service personnel. Power the printer off and call for service.

6.4 Common Operating Problems

Table 6–3 lists common operating problems and their possible solutions. All corrective actions should be followed in the order in which they are listed. Refer to Table 6–3 to understand and possibly solve printer problems before calling for service.

Note

Since many problems with print quality could be caused by a faulty component in the EP-L cartridge, it is recommended that you keep a spare cartridge as a replacement. If you are experiencing a problem with print quality that is not listed in the troubleshooting table, you can

replace the EP-L cartridge to see if it solves the problem before calling for service.

Caution

The rollers in the fixing assembly may be hot. Be careful when checking for problems inside the printer.

Table 6-3 Common Operating Problems

| Problem | Possible Cause | Corrective Action |
|---|--|--|
| NO POWER | | |
| The printer does not power on when you set the power switch to the ON position. | The power source is defective. | Make sure the power cord is plugged into the wall outlet. Check that there is power at the wall outlet by plugging in a lamp to see if it lights. If the lamp does not light, call your building maintenance services to check the circuit supplying power to that outlet. |
| | The power cord is not connected or is damaged. | Check the power cord for damage, and secure connections at the printer and at the wall outlet. |
| NO PRINTOUT | | |
| The message display reads PS OFFLINE. | The printer is in the offline state. | Press <input type="button" value="On Line"/> to place the printer on line. |

(continued on next page)

Table 6-3 (Cont.) Common Operating Problems

| Problem | Possible Cause | Corrective Action |
|--|---|--|
| POOR PRINTING | | |
| Large amounts of vertical fade and/or white streaks are on the page. | Toner is not being dispersed evenly. | Remove the EP-L cartridge from the printer and gently rock it several times to redistribute toner. Replace the EP-L cartridge. |
| Printing is too light. | The print density setting is incorrect. | Adjust the print density setting. |
| | The EP-L cartridge is out of toner. | Replace the EP-L cartridge. |
| Printing is too dark. | The print density setting is incorrect. | Adjust the print density setting. |
| | The EP-L cartridge is out of toner. | Replace the EP-L cartridge. |
| The page printed blank. | The toner seal was not completely removed from the EP-L cartridge. | Remove the toner seal from the EP-L cartridge completely. |
| | The EP-L cartridge is faulty. | Replace the EP-L cartridge. |
| The page printed black. | The EP-L cartridge is not installed properly. | Remove and reinstall the EP-L cartridge. |
| | The EP-L cartridge is faulty. | Replace the EP-L cartridge. |
| Stray toner is fused to the paper. | The fixing assembly is dirty. | Clean the fixing assembly. |
| | The cleaning mechanism in the EP-L cartridge is not working properly. | Replace the EP-L cartridge. |
| The overall print quality is poor. | The print medium is not the recommended type. | See Chapter 5 for print media specifications. |

(continued on next page)

Table 6-3 (Cont.) Common Operating Problems

| Problem | Possible Cause | Corrective Action |
|--|--|--|
| MISCELLANEOUS | | |
| A paper jam occurred. | There is an obstruction in the paper path. | Clear the paper jam. |
| The print is skewed. | The print medium is not the recommended type. | See Chapter 5 for print media specifications. |
| | Paper is not loaded in the paper tray properly. | Reload paper in the paper tray. |
| Envelopes are fogged lightly with toner. | The print density setting is too light. | Increase the print density setting. |
| Printout problems | The communication parameters are not setup properly. | Check that the communication parameters of the printer match the communication parameters of the host device. |
| | The appropriate printer driver is not selected. | For a PostScript job, the printer driver is PostScript. For a PCL4 job, the printer driver is HP LaserJetIIP. |
| | The printer does not have enough memory. | Add the additional 2 MB memory option to the printer. The DEClaser 1152 is a low-cost Level 2 Postscript printer. Because memory is a significant part of a printer's cost, only as much memory as required by typical applications has been included (2 MB). Certain applications may require additional memory. An additional 2 MB of memory is available for the DEClaser 1152 printer from Digital. Order LN07X-UF. |

6.5 Paper Jams

Paper jams are typically caused by:

- Damaged paper (torn or folded)
- Improperly stored paper (excessive paper curl or humidity)
- Paper that does not meet specifications (incorrect weight or heat tolerance)
- Paper that is improperly loaded in the tray (not aligned properly)

To reduce the chance of paper jams, you should follow the instructions for proper paper selection, storage, and loading as outlined in Chapter 5. To ensure that you are loading paper in the tray properly, see Section 2.2 for the correct procedure.

The following occurs when there is a paper jam in the printer:

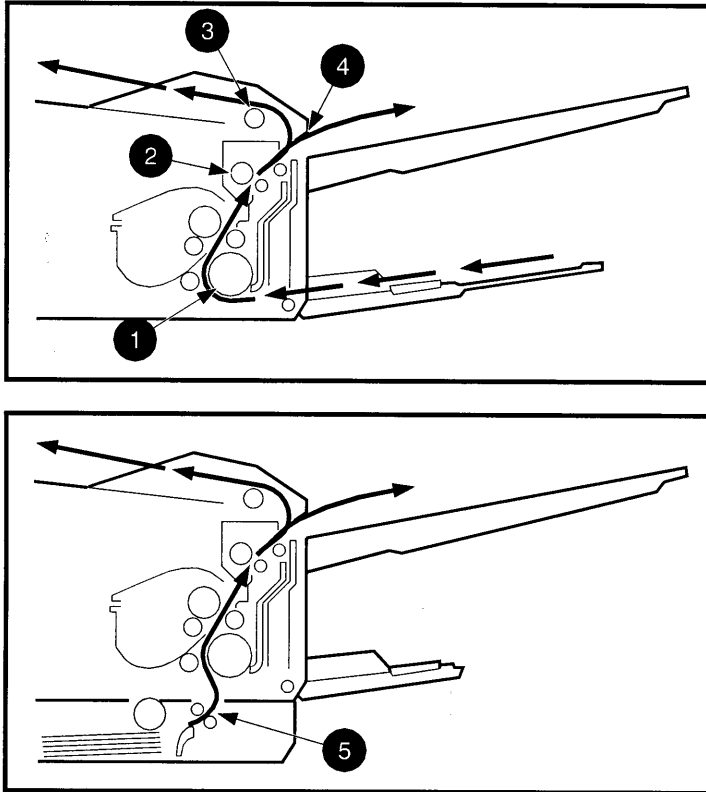
- The printer stops printing.
- The error message **13 PAPER JAM** appears on the control panel.
- The Alarm indicator lights.

Most paper jams occur in the areas shown in Figure 6-1. Table 6-4 describes these paper jam areas.

Table 6-4 Paper Jam Locations

- | | | |
|--------------------------|----------------------------|---|
| 1 Paper pick-up | 3 Front output tray | 5 Paper pick-up in optional paper cassette |
| 2 Fixing assembly | 4 Top output tray | |

Figure 6-1 Paper Jam Areas



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After clearing a paper jam, reset the printer by closing the front cover. Closing the cover clears the error condition. When a paper jam is cleared and printing is resumed, the DEClaser 1152 printer automatically reprints the page that jammed if jam recovery is enabled.

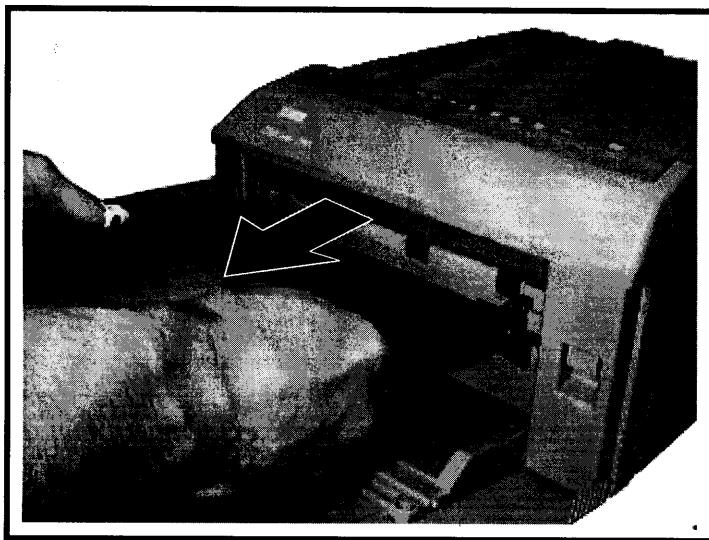
6.6 Clearing Printer Paper Jams

Use the following procedures to clear all types of paper jams from the printer.

Warning

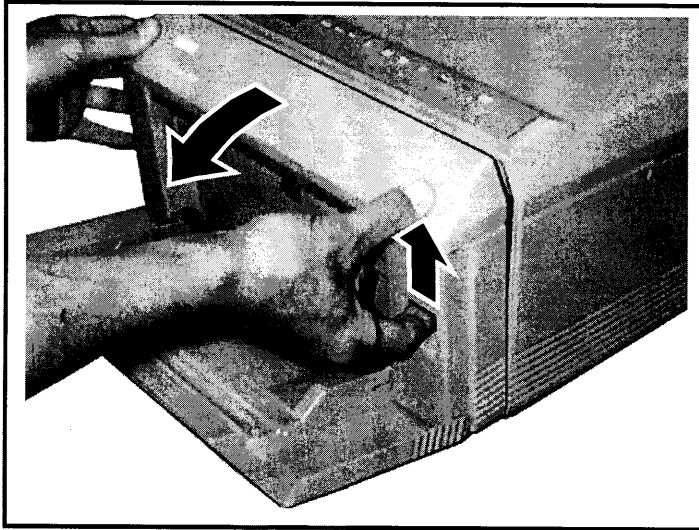
The rollers in the fixing assembly may be hot. Be careful when accessing this area.

1. Remove the front output tray (if it is installed) by squeezing it slightly to release its pegs from the printer slots.



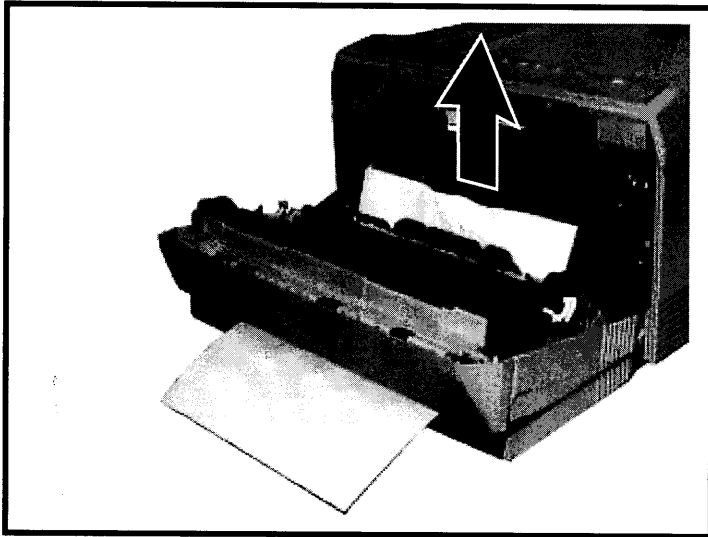
MLO-009479C

2. Remove any paper remaining in the paper tray and close the extension tray.
3. Press the front cover release button up and open the front cover.
 - The Alarm indicator lights.
 - The printer goes off line.
 - **12 COVER OPEN** displays on the control panel.



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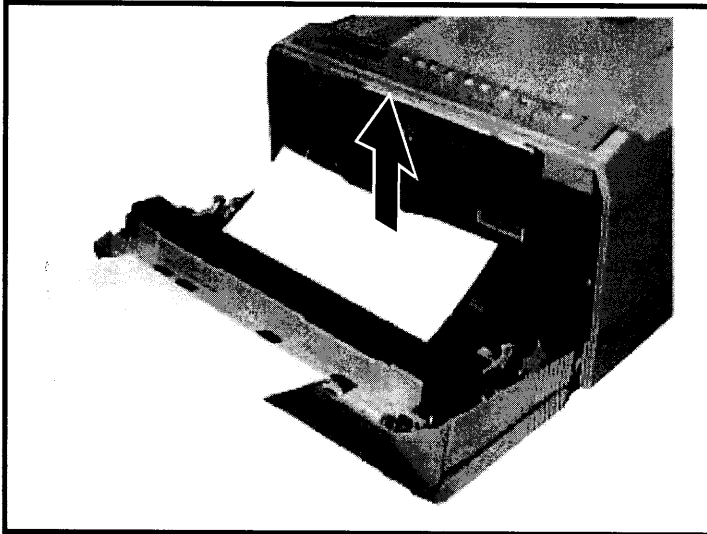
4. Remove any jammed paper from the pickup area by pulling the paper out in the direction of the arrow.
 - If all jammed paper has been cleared, go to step 8.
 - If there was no paper jammed in the pickup area, go to step 7.



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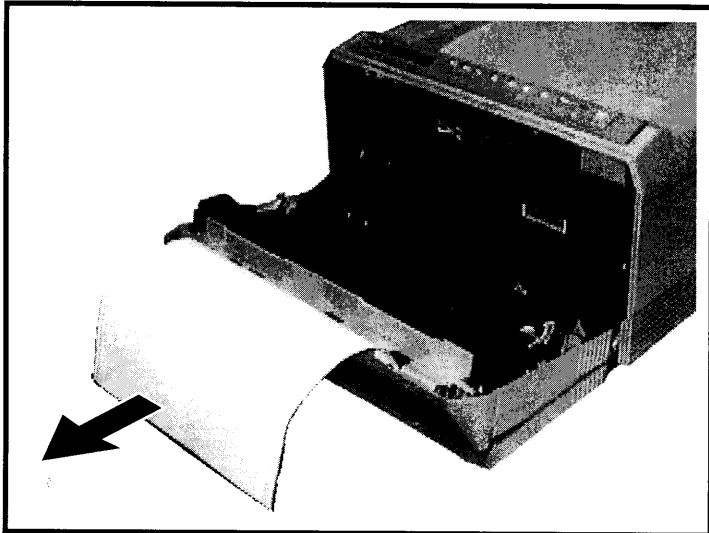
5. Remove any jammed paper from the fixing assembly by pulling the paper out in the direction of the arrow.
 - If all jammed paper has been cleared, go to step 8.
 - If there was no paper jammed in the fixing assembly, continue with the next step.

Figure 6-2 Paper Has Exited the Fixing Assembly



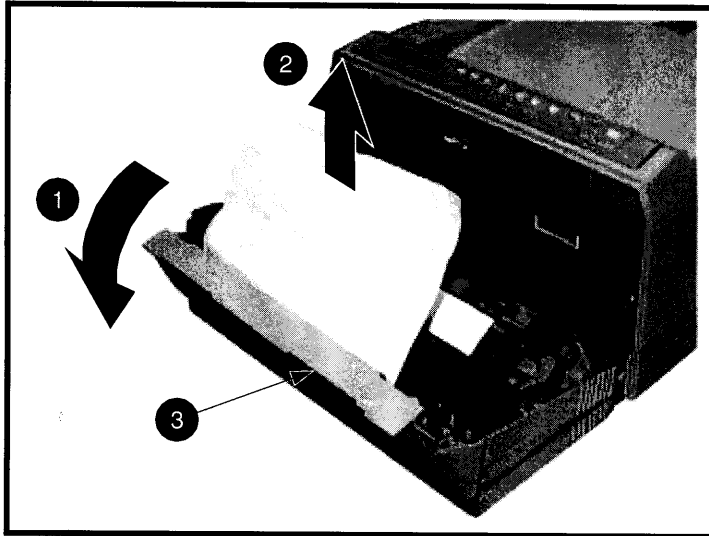
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Figure 6-3 Paper Has NOT Exited the Fixing Assembly



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6. Open the paper access cover **1**. Remove any jammed paper by pulling it straight up **2**.
→ Close the paper access cover **3**.

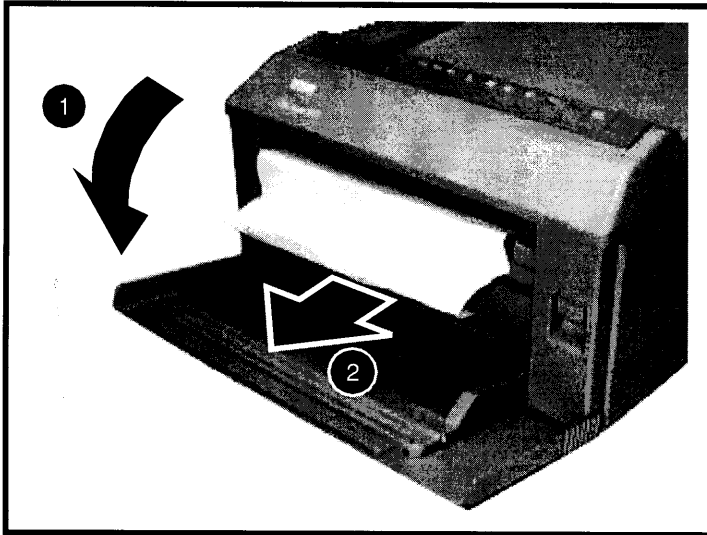


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7. Open the fixing assembly access cover ❶ and remove any remaining pieces of paper that may be caught in the fixing assembly ❷.

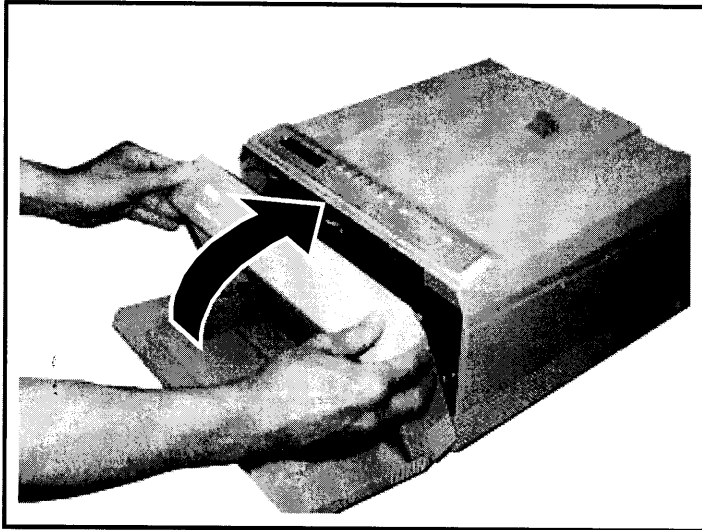
Warning

The rollers in the fixing assembly may be hot. Be careful when accessing this area.



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8. Close the front cover.
 - The printer initializes (recycles).
 - The Alarm and Data indicators shut off.
 - **PS READY/IDLE** displays on the control panel.



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9. Reload paper.
 - The jammed page is reprinted if the RECOVER JAM parameter is set to yes. The RECOVER JAM parameter is in the Miscellaneous menu.

6.7 Clearing Cassette Paper Jams

Use the following procedure to clear jammed paper from the paper cassette.

1. Pull out the paper cassette and remove the jammed paper.

Notes

Be sure to remove all the paper from the cassette and reload the cassette.
Be sure there are no damaged sheets reloaded into the cassette.

To obtain optimum performance from the DEClaser 1152 printer, you must perform the prescribed care and maintenance as outlined in this chapter. This chapter describes how to properly maintain the printer and covers the following topics:

- Extending EP-L cartridge life (Section 7.1)
- Replacing the EP-L cartridge (Section 7.2)
- Cleaning the fixing assembly (Section 7.3)
- Cleaning the printer (Section 7.4)

7.1 Extending EP-L Cartridge Life

Each EP-L cartridge contains a photosensitive drum, cleaning mechanism, charging roller, and toner, assuring you of optimum print quality throughout the life of the cartridge. When the cartridge runs out of toner, simply replace it with a new one.

A new EP-L cartridge lasts for approximately 3,300 pages (A4 or letter size) of typical word processing text at 4% coverage with the default print density setting. However, the cartridge life will vary depending on the amount of toner used for your particular application and the print density setting. If your average page contains more "white space" than the typical 4% coverage, the cartridge life will be longer. A lighter density setting reduces the amount of toner used. You can significantly extend the life of an EP-L cartridge by adjusting the print density to the lightest setting that gives you acceptable print quality. See Section 2.8 for information about setting the print density.

The following rules apply to cartridge care:

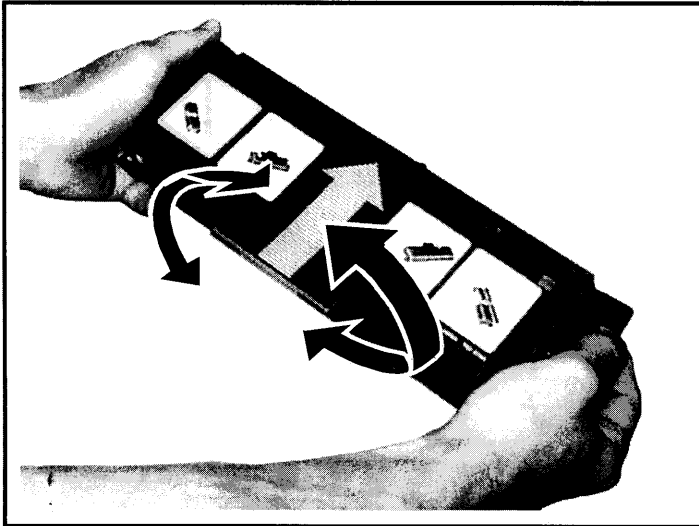
- For best print quality, always use the EP-L cartridge before the expiration date printed on the box.
- Do not remove the cartridge from its bag until you are ready to use it.

- Store the cartridge in an area where the average temperature is 0° to 35°C (32° to 95°F).
- Do not leave the cartridge exposed to direct sunlight.
- Do not stand the cartridge on its end or lay it upside down.
- Do not attempt to disassemble the cartridge or open the light blocking shutters. Exposing the cartridge to light can result in poor print quality.
- Do not open the drum protection shutter. Touching the photosensitive drum will damage it and cause problems with print quality.
- Keep the cartridge away from cathode ray tubes (CRTs), disk drives, and floppy disks. The magnet in the cartridge may affect the operation of these devices.

7.2 Replacing the EP-L Cartridge

When the print quality becomes uneven, or printing is too light, it means that the printer is either running out of toner, or the toner is not being distributed evenly. Before replacing the EP-L cartridge, make sure that the toner is really depleted. Rock the cartridge back and forth gently to redistribute any remaining toner as shown in Figure 7-1.

Figure 7-1 Rocking the EP-L Cartridge



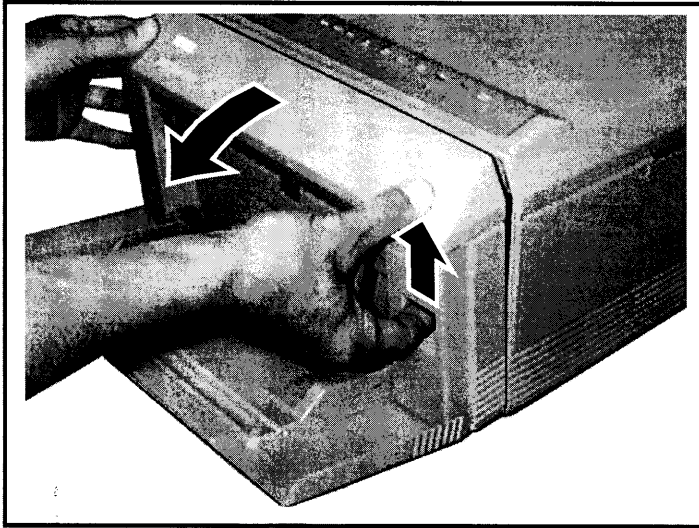
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Reinstall the cartridge in the printer and try printing. If the print quality is acceptable, the cartridge will last for a while longer. If the print quality is not acceptable, you need to replace the cartridge.

To replace the cartridge, follow the instructions on the cartridge box or use the following procedure.

1. Be sure the printer is not printing and **PS OFFLINE** displays on the control panel.

2. Lift up the release button to open the front cover.



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- The Alarm indicator lights.
- The printer goes off line.
- **12 PRINTER OPEN** displays on the control panel.

→ Remove the old cartridge from the printer by pulling it out by its tab.

Note

If the cartridge is difficult to remove, push in the green lever on the right side of the printer to disengage the cartridge, and then remove it.

→ Discard or return the cartridge for recycling if a recycling program exists.

3. Remove the new cartridge from its package and rock it from end to end five or six times to distribute the toner evenly.

Note

Do not shake the cartridge vigorously.

4. Remove the sealing tape by holding the cartridge on a flat, stable surface, and gently pulling the orange tab straight out of the cartridge.

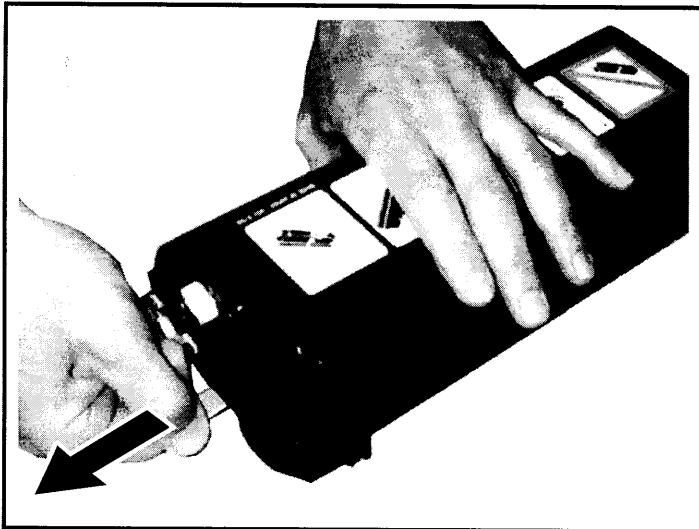
Caution

Pulling the tab at an angle can snap or cut the tape.

Note

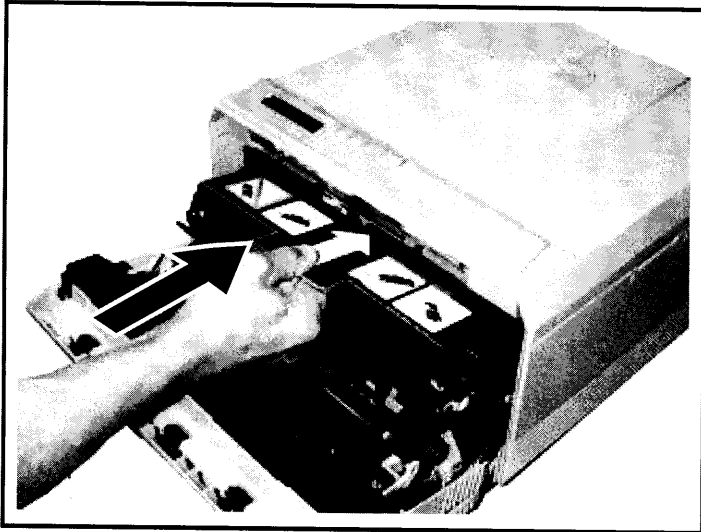
The sealing tape is about 457 mm (18 in.) long and may have toner on it. If you get toner on your hands or clothing, wash them with cold water and soap.

→ Discard the sealing tape.



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5. Insert the cartridge by aligning the arrow on the cartridge with the "V" mark on the printer, and gently pushing in the cartridge until it stops.



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6. Close the front cover.

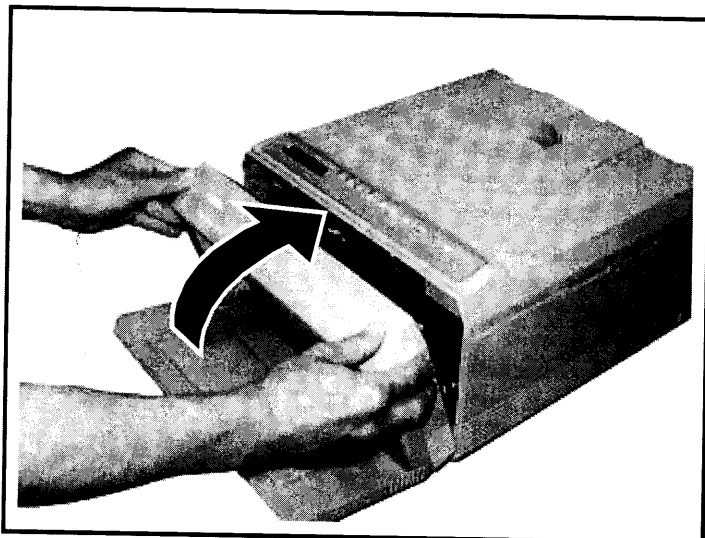
The control panel displays:

PS INITIALIZING (momentarily)

PS READY/IDLE

Note

If the cartridge is not pushed in completely, the front cover will not close.



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7. Go to Section 7.3 and perform the fixing assembly cleaning procedure.

7.3 Cleaning the Fixing Assembly

Cleaning the fixing assembly removes the excessive toner from the heat and pressure rollers. You should clean the fixing assembly each time you replace the EP-L cartridge, and when you notice stray toner or smudges being fused to the paper. By keeping the fixing assembly clean, you reduce the chance of paper jamming in that area.

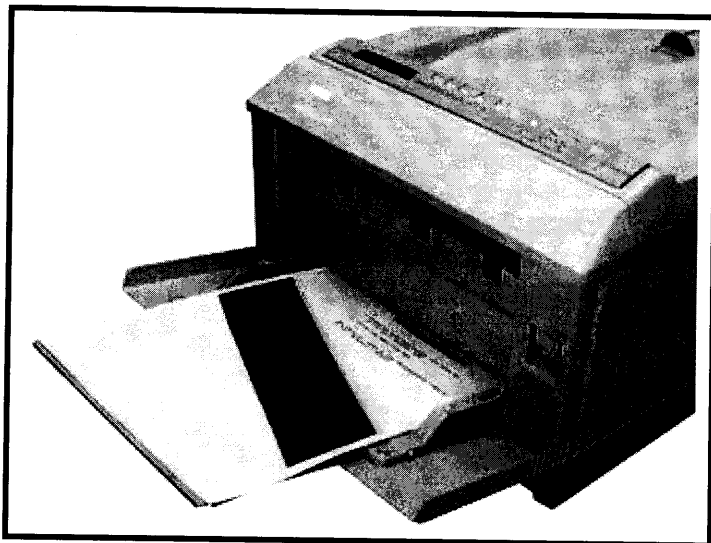
The cleaning procedure uses a special cleaning paper generated by the printer.

Note

Always use plain white paper to generate the cleaning paper. It can be A4 size, letter size, or legal size paper.

Use the following procedure to clean the fixing assembly.

1. Be sure the printer is not printing and the display reads **PS READY/IDLE**.
2. Press **On Line**.
 - The On Line indicator shuts off.
 - **PS OFFLINE** displays on the control panel.
3. Press and hold down **Test/Font** until the display reads **CLEANING PAPER** and the LED lights on the Test/Font Button.
 - The cleaning paper prints.
4. Insert the printed cleaning paper into the paper tray with the printed side facing up.



MLO-009484C

5. Press **Test/Font** to run the cleaning paper through the printer.
 - The cleaning paper exits to the output tray, indicating that the fixing assembly is clean.
6. Press **On Line**.
 - The On Line indicator lights.
 - **PS READY/IDLE** displays on the control panel.
 - Discard the cleaning paper.

7.4 Cleaning the Printer

If the external surfaces of the printer become dirty, clean them using a clean, water-dampened cloth.

Caution

To prevent possible damage to the external surfaces of the printer, do not use cleaners or solvents.

If you cannot correct a problem with the DECclaser 1152 printer, request servicing by a qualified Digital Customer Services engineer. This chapter lists the available services.

8.1 Digital Equipment Corporation Services

Digital Equipment Corporation provides a wide range of maintenance programs for printers. These include on-site, carry-in, and mail-in maintenance services. You can use these programs to select a plan that meets your service needs, from complete Digital support to self-maintenance.

Digital offers fast, low-cost, quality maintenance performed at your site by trained service specialists. Whether you select the DECservice or Basic Service agreements, or choose the Time and Materials service, your printer will receive the best possible maintenance.

There are more than 150 Digital carry-in service centers in major cities around the world. These service centers offer convenient, fast, and dependable maintenance at a savings over on-site service.

If you prefer self-maintenance, you can mail in your field replaceable unit (FRU) for repair through our fast-turnaround DECmailer repair service.

For more information on any of Digital Equipment Corporation's maintenance services, call the Digital Customer Services office in your area during normal business hours.

Refer to the list of questions in Table 8-1 before calling the service center.

Table 8-1 Questions to Consider Before You Call

Question

Is the call necessary?

Check Chapter 6. Often you can solve the problem.

Who should call for service?

Typically, the system manager should place the call.

Where should you call?

In the continental United States: If you purchased on-site warranty support at the time of sale, call Digital at 1-800-DEC-8000.

If you do not have on-site warranty support and are returning the printer to Digital for service, call 1-800-225-5385.

For per-call service information, call your local Digital sales office.

In Alaska, Hawaii, Canada, and Europe: Call your local Digital sales office for service.

What does the service center need to know?

Write down the serial and model numbers located on the label on the rear of the printer.

How should you describe the problem?

Summarize the problem. Make a note of:

- What you were doing when the printer failed
- Any messages on the display panel
- Any strange noises

Stay by the printer and host system if possible, because the service engineer may ask you to recreate the problem.

Accessories and Supplies

This appendix lists some of the accessories and supplies available for the DEClaser 1152 printer. Contact your local sales representative or refer to your latest DECdirect catalog for a complete list of products and the latest pricing information. See Section A.1 for additional ordering information.

Table A-1 DEClaser 1152 Printer Accessories and Supplies

| Part Number | Description |
|----------------------|---|
| Communication | |
| BC19M-10 | IBM/Centronics parallel cable |
| H8673-AA | 20mA active host Mate-N-Lock to EIA-423 DECconnect MMJ passive converter |
| H8673-AB | 20mA active host RJ11 (6-pin) to EIA-423 DECconnect MMJ passive converter |
| Media | |
| H9850-TA | Laser labels (30/sheet x 100 sheets per box) |
| H9850-TB | Laser labels (21/sheet x 100 sheets per box) |
| H9850-TC | #10 business size envelopes (500 per box) |
| H9850-TD | #7 3/4 executive size envelopes (500 per box) |
| LN01X-AB | Letter size paper 8.5 in. x 11.0 in. 5,000 sheets per box |
| LN01X-AC | Legal size paper 8.5 in. x 14.0 in. 5,000 sheets per box |
| LN01X-AD | A4 size paper 297 mm x 210 mm 5,000 sheets per box |
| LN03X-AJ | Letter size transparencies 8.5 in. x 11.0 in. 50 sheets per box |
| LN03X-AK | A4 size transparencies 297 mm x 210 mm 50 sheets per box |
| Accessories | |
| LN07X-PF | PostScript LaserWriter font cartridge |
| LN07X-UF | 2 MB memory board upgrade |
| LN03X-AE | Mobile printer cabinet/stand |
| LN07X-AA | EP-L Cartridge Kit (Quantity = 1) |
| LN07X-TA | A4 size paper cassette (297 mm x 210 mm) |
| LN07X-TB | Legal size paper cassette (8.5 in. x 14.0 in.) |
| LN07X-TC | Letter size paper cassette (8.5 in. x 11.0 in.) |
| LN07X-TD | Envelope cassette |
| LN07X-TE | Executive size paper cassette (7.25 in. x 10.5 in.) |
| LN07X-TF | Letter size paper feeder unit |
| LN07X-TG | A4 size paper feeder unit |

A.1 Ordering Information

Use the following mailing addresses and telephone numbers to order products for the DEClaser 1152 printer.

Table A-2 Ordering Within the U.S.A.

| | |
|-----------|---|
| MAIL | Digital Equipment Corporation PO Box CS2008 Nashua, NH 03061-2008 |
| TELEPHONE | To order or for technical assistance, dial 1-800-344-4825 between the hours of 8:30 a.m. and 8:00 p.m. EST For PC orders only, dial 1-800-PCBYDEC (722-9332) To fax any order, dial 1-800-524-5694 To use Digital's electronic store, dial through your modem 1-800-234-1998 |

Table A-3 Ordering Outside the U.S.A.

| | |
|-----------|---|
| MAIL | Digital Equipment Corporation Accessories & Supplies Business Manager c/o Local Subsidiary or Digital-Approved Distributor |
| TELEPHONE | In Canada Order toll free 1-800-267-6215 In Australia Outside Sydney Metropolitan Area (toll free): 008-226-363 From Sydney Metropolitan Area: 412-7000 In New Zealand Auckland (toll free): 0800-800-332 |

Specifications

This appendix contains the operating and interface specifications for the DEClaser 1152 printer.

B.1 Operating Specifications

| | |
|-------------------------------------|--|
| Type: | Desktop page printer |
| Printing Method: | Electrophotographic using laser beam scanning |
| Resolution: | 300 dpi |
| Printing Speed: | 4 pages/minute maximum using A4- or letter-size paper from the cassette |
| Warm-Up Time: | Less than one minute at 20°C (68°F) |
| Paper Tray: | Approximate capacity is 70 sheets of paper, labels, or transparencies. A maximum of five envelopes can be loaded in the paper tray. |
| Optional Paper Cassettes: | Approximate capacity is 250 sheets Letter (8.5 in. x 11.0 in.) A4 (210 mm x 297 mm) Executive (7.25 in. x 10.5 in.) Legal (8.5 in. x 14.0 in.) |
| Top Output Tray Capacity: | 70 sheets (facedown stacking) |
| Front Output Tray Capacity: | 20 sheets (faceup stacking) |
| Paper Weight Range Cassette Feed: | 60 g/m ² to 90 g/m ² basis weight (16 lb. to 24 lb.) |
| Paper Weight Range Paper Tray Feed: | 60 g/m ² to 105 g/m ² basis weight (16 lb. to 28 lb.) |
| Font Cartridges: | Capacity for two optional font cartridges |

| | |
|------------------------|---|
| Built-in RAM: | 2 MB, expandable to 4 MB with optional 2 MB board |
| Host Interface: | Parallel (Centronics) and serial (RS-232C), LocalTalk, and DEC423 |
| Acoustic Noise: | Refer to the German Acoustic Noise Notice in the front of this book. |
| Operating Temperature: | 10°C to 32.5°C (50°F to 90.5°F) |
| Operating Humidity: | 20% to 80% relative humidity (no condensation) |
| Storage Temperature: | 0°C to 35°C (32°F to 95°F) |
| Storage Humidity: | 10% to 80% relative humidity (no condensation) |
| Power Requirements: | 100–115V AC, 50/60 Hz 220–240V AC, 50 Hz |
| Power Consumption: | less than 0.55 kW (VA) |
| Installed Weight: | Approximately 11.0 kg (25 lb.) |
| Dimensions: | Width: 350 mm (13.8 in.) Depth: 405 mm (15.9 in.) Height: 204 mm (8.0 in.) Height: 259 mm (10.2 in.) with the optional paper feed unit and cassette installed. |

B.2 EIA232 Serial Interface Specifications

Table B-1 lists the pin signals for the EIA232 serial interface connector.

Table B-1 EIA232 Serial Interface Pin Assignments

| Pin | Signal | Direction |
|------------|---------------------|------------------|
| 1 | Not Used | None |
| 2 | Transmit Data | Out |
| 3 | Receive Data | In |
| 4 | Request to Send | Out |
| 5 | Clear To Send | In |
| 6 | Data Set Ready | In |
| 7 | Signal Ground | None |
| 8-19 | Not Used | None |
| 20 | Data Terminal Ready | Out |
| 21-25 | Not Used | None |

B.3 Parallel Interface Specifications

Table B-2 lists the pin signals for the parallel (Centronics) interface connector.

Table B-2 Parallel Interface Pin Assignments

| Pin | Signal | Direction |
|-------|------------------------|-----------|
| 1 | Data Strobe | In |
| 2 | Data 0 | In |
| 3 | Data 1 | In |
| 4 | Data 2 | In |
| 5 | Data 3 | In |
| 6 | Data 4 | In |
| 7 | Data 5 | In |
| 8 | Data 6 | In |
| 9 | Data 7 | In |
| 10 | ACK | Out |
| 11 | Busy | Out |
| 12 | Call (PE) | Out |
| 13 | Select | Out |
| 14-15 | Not Connected | None |
| 16 | 0 Volts (Logic Ground) | None |
| 17 | Chassis Ground | None |
| 18 | +5 Volts | Out |
| 19-30 | Ground | None |
| 31 | Input Prime | In |
| 32 | Fault | Out |
| 33 | Ground | None |
| 34-36 | Not Connected | None |

B.4 LocalTalk Interface Specifications

Table B-3 lists the pin signals for the LocalTalk interface connector.

Table B-3 LocalTalk Interface Pin Assignments

| Pin | Signal | Direction |
|-----|--------------------------------|-----------|
| 1 | Unused | None |
| 2 | Input handshake/external clock | In |
| 3 | Transmit Data (-) | Out |
| 4 | Ground | None |
| 5 | Receive Data (-) | In |
| 6 | Transmit Data (+) | Out |
| 7 | Unused | None |
| 8 | Receive Data (+) | In |

B.5 DEC423 Interface Specifications

Table B-4 lists the pin signals for the DEC423 interface connector.

Table B-4 DEC423 Interface Pin Assignments

| Pin | Signal | Direction |
|-----|---------------------|-----------|
| 1 | Data Terminal Ready | Out |
| 2 | Transmit Data | Out |
| 3 | Ground | None |
| 4 | Common | In |
| 5 | Receive Data | In |
| 6 | Data Set Ready | In |

Options Information

This section contains operator information as it relates to the optional font cartridge and the optional paper cassettes.

C.1 Contents of the PostScript Font Cartridge

Table C-1 lists the fonts and their corresponding PostScript findfont keys.

Table C-1 Contents of the PostScript Font Cartridge

| Fonts | PostScript findfont Keys |
|-------------------------------------|---------------------------------|
| ITC Avant Garde Gothic Book | /AvantGarde-Book |
| ITC Avant Garde Gothic Book Oblique | /AvantGarde-BookOblique |
| ITC Avant Garde Gothic Demi | /AvantGarde-Demi |
| ITC Avant Garde Gothic Demi Oblique | /AvantGarde-DemiOblique |
| ITC Bookman Demi | /Bookman-Demi |
| ITC Bookman Demi Italic | /Bookman-DemiItalic |
| ITC Bookman Light | /Bookman-Light |
| ITC Bookman Light Italic | /Bookman-LightItalic |
| ITC Lubalin Graph Book | /LubalinGraph-Book |
| ITC Lubalin Graph Book Oblique | /LubalinGraph-BookOblique |
| ITC Lubalin Graph Demi | /LubalinGraph-Demi |
| ITC LubalinGraph Demi Oblique | /LubalinGraph-DemiOblique |
| ITC Souvenir Demi | /Souvenir-Demi |
| ITC Souvenir Demi Italic | /Souvenir-DemiItalic |
| ITC Souvenir Light | /Souvenir-Light |
| ITC Souvenir Light Italic | /Souvenir-LightItalic |
| ITC Zapf Chancery Medium Italic | /ZapfChancery-MediumItalic |
| ITC Zapf Dingbats | /ZapfDingbats |
| New Century Schoolbook Bold | /NewCenturySchlbk-Bold |
| New Century Schoolbook Bold Italic | /NewCenturySchlbk-BoldItalic |
| New Century Schoolbook Italic | /NewCenturySchlbk-Italic |
| New Century Schoolbook Roman | /NewCenturySchlbk-Roman |
| Palatino Bold | /Palatino-Bold |
| Palatino Bold Italic | /Palatino-BoldItalic |
| Palatino Italic | /Palatino-Italic |
| Palatino Roman | /Palatino-Roman |

C.2 Inserting the Paper Cassette Into the Paper Feeder Unit

These sections explain how to:

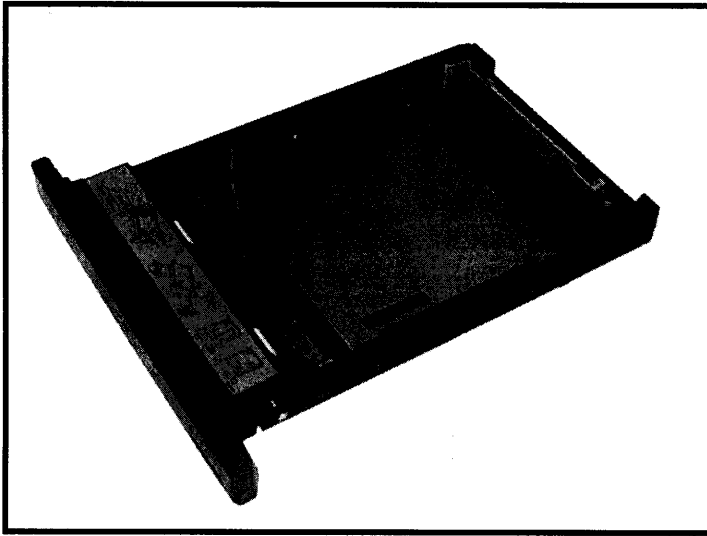
- Load paper into the paper cassette
- Insert the paper cassette into the paper feeder unit
- Assemble and install the legal size paper cassette
- Use the envelope cassette

Each paper cassette has a key attached to it that identifies the size of the paper loaded in the cassette: A4, executive, letter, and legal.

C.3 A4-, Executive-, and Letter-Size Paper Cassettes

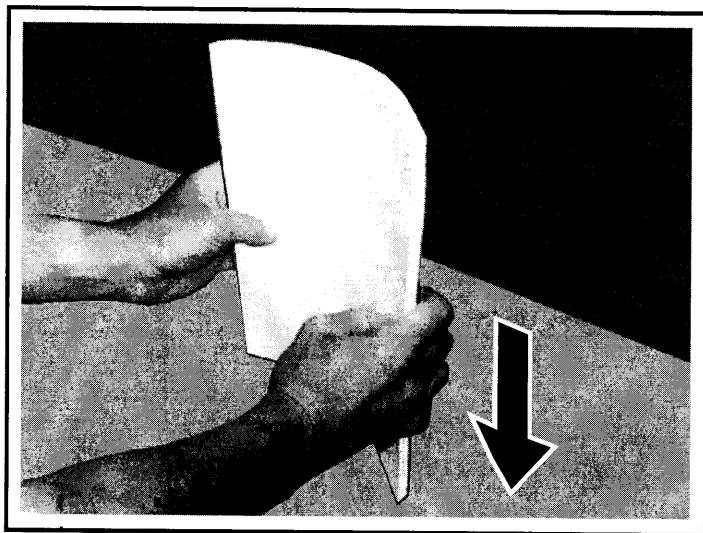
The following instructions apply to all paper cassettes except legal and envelopes.

1. Be sure the paper cassette matches the paper size you want to use for printing.



MLO-009007C

2. Tap a stack of paper on a flat surface to align the edges.

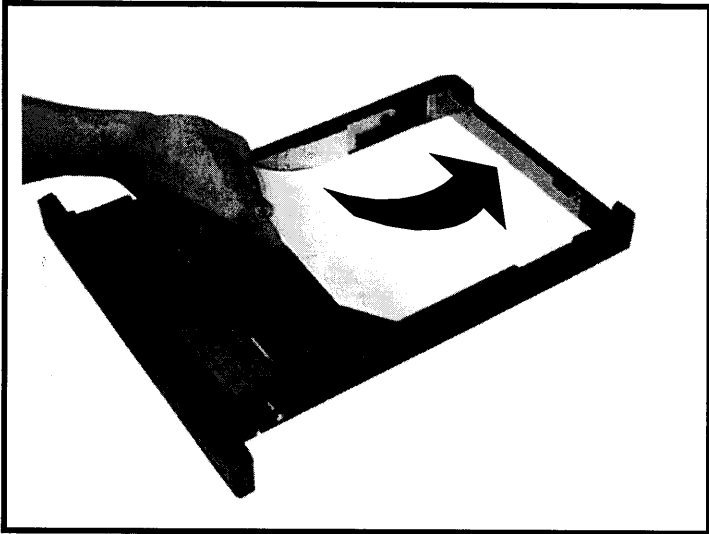


MLO-008995C

3. Load paper into the paper cassette by first inserting it into the back of the cassette as shown in the following illustration.

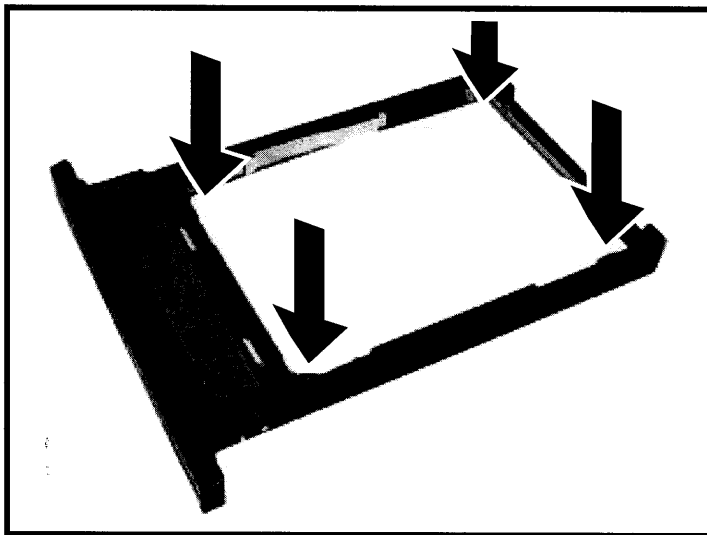
Note

Make sure the paper does not exceed the quantity limit guide on the side of the paper cassette. The paper cassette can hold about 250 sheets of 75 g/m² (20 lb.) paper.



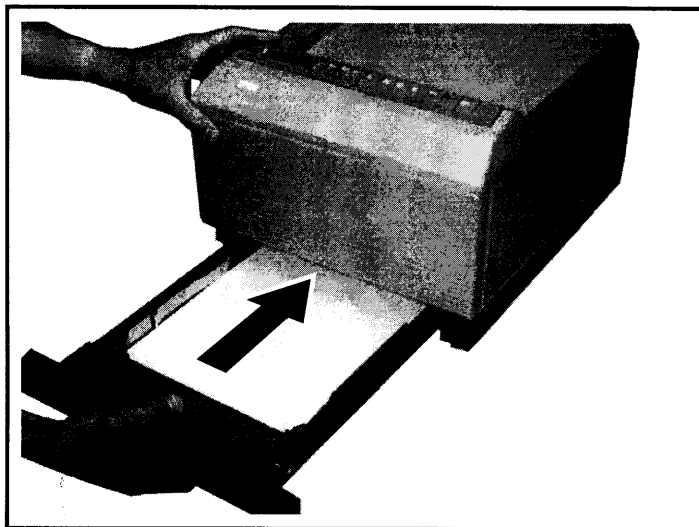
MLO-009008C

4. Press down on the four corners of the paper stack to ensure that the paper is flat in the cassette. The paper stack must be beneath the retaining clips at the front and the back of the cassette.



MLO-009009C

5. Insert the paper cassette and push it into the paper feeder unit completely.

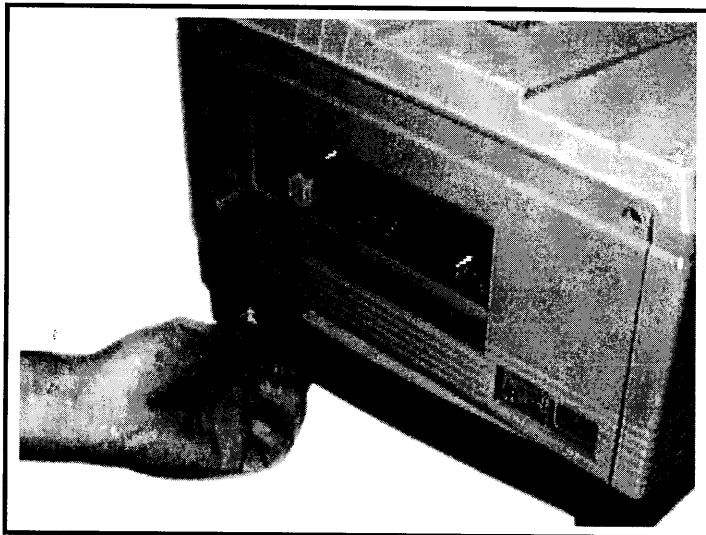


MLO-009010.C

C.4 Legal Size Paper Cassette

The legal size paper cassette extends beyond the length of the printer when in place.

1. Remove the paper cassette from the paper feeder unit, if one is installed.
2. Remove the back flap on the paper feeder unit by bending it carefully.

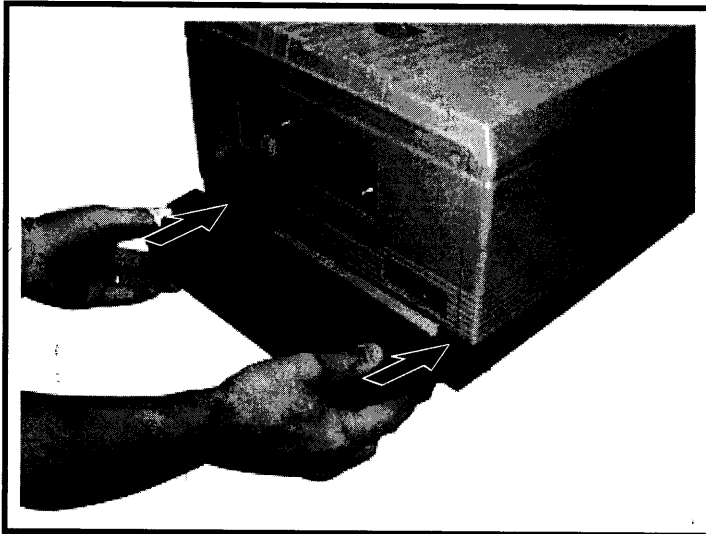


MLO-009490C

3. Install the legal size paper cassette rear cover by bending it carefully.

Note

Fit the pegs on the rear cover into the holes in the back of the feeder unit.



MLO-009491C

4. Load legal size paper into the paper cassette.
5. Insert the legal size paper cassette into the paper feeder unit.

C.5 Envelope Cassette

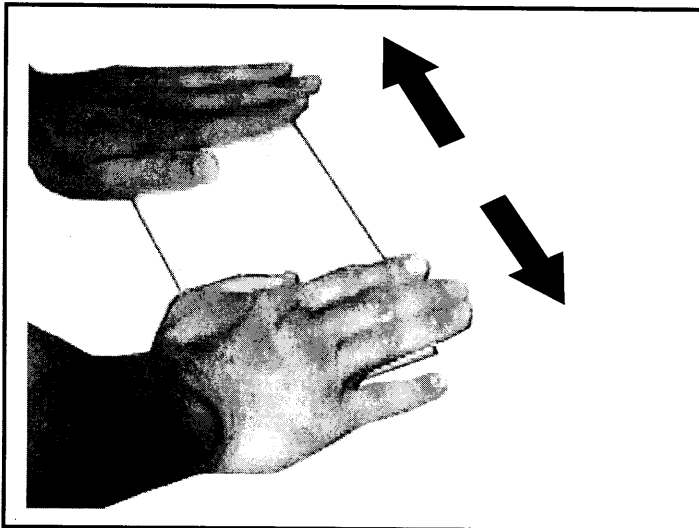
For trouble-free operation, be sure to use the appropriate envelopes for laser printers. Refer to Section 5.2 for envelope specifications.

Always send the envelopes to the front output tray.

1. Place a stack of envelopes on a flat surface and press down the edges to make crisp folds and to expel the air between the envelopes.

Note

Remove any curled envelopes from the stack and correct all creased corners.



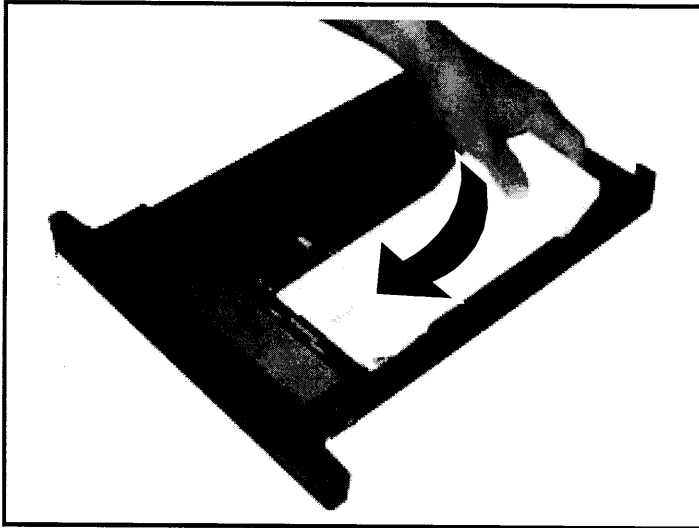
MLO-009011C

2. Place the envelopes into the envelope cassette with the address side of the envelopes facing up.

Note

Set the corner of the stack into the corner of the cassette.

You can load up to 20 envelopes at a time into the cassette. Refer to the limit guide (see insert in illustration) on the side of the cassette.



MLO-009013C

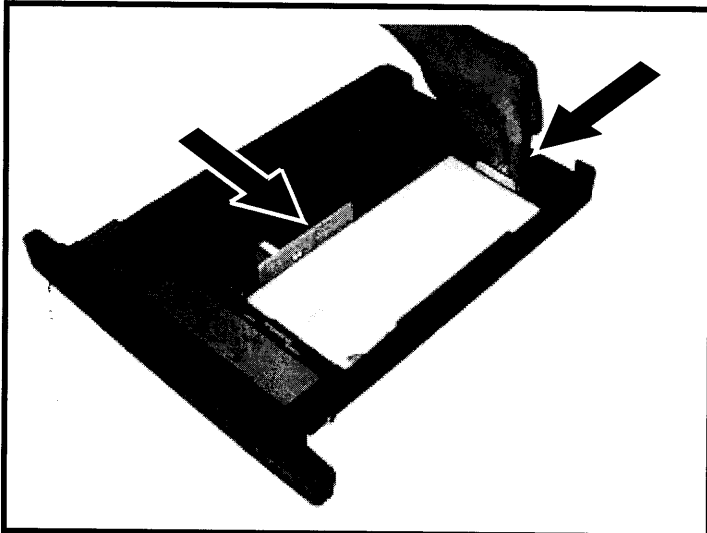
Observe the following points when using envelopes:

- Do not load envelopes into the envelope cassette unless the cassette is entirely empty.
- Never mix different types of envelopes, even if they are the same size.
- Print only on the front (address) side of envelopes. Printing on the reverse side can cause jams.

3. Align the two envelope guides with the edges of the envelope stack.

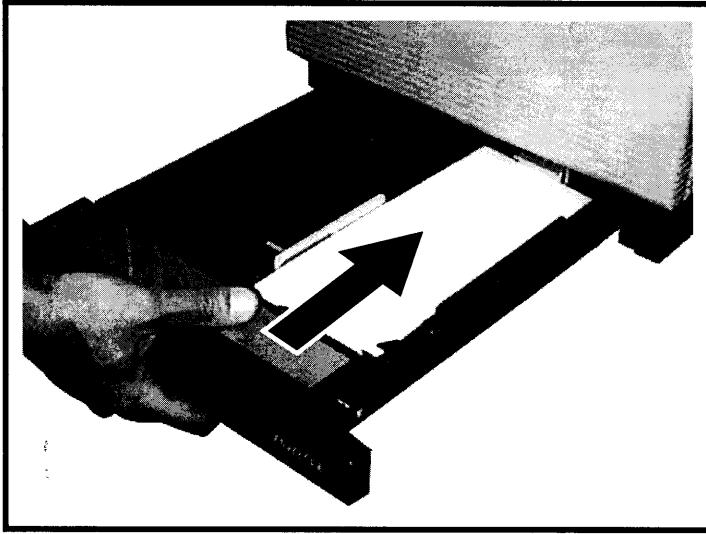
Note

The envelope guides must be snug against the envelope stack so the envelopes lie squarely in the cassette. Do not make the guides so loose as not to hold the envelopes in place.



MLO-009014C

4. Fit the cassette onto the runners on the feeder unit and push the cassette completely into the feeder unit.



MLO-009016C

The envelope cassette comes with a switch that can be set if envelopes do not feed correctly into the printer. The switch adjusts the feeder rollers to accept different paper weights. The switch is located at the front, right-hand side of the envelope cassette.

Follow these instructions to change the switch setting.

1. Remove the envelope cassette from the paper feeder unit.
2. For envelopes with approximately 90 g/m^2 (24 lb.) paper weight, move the switch so the small arrows and one large arrow are showing.
For envelopes with approximately 75 g/m^2 (20 lb.) paper weight, move the switch so only the one large arrow is showing.
3. Install the cassette and continue printing.

C.6 Hints For Operating the Feeder Unit

This section lists cautionary instructions you should be aware of when operating the DEClaser 1152 printer feeder unit.

- Fan small stacks of transparency film before loading in the cassette. Media feed failure or jams can result.
- Always remove each printed transparency film from the front output tray before the next film is printed.
- The paper curls excessively during printing if it is incorrectly oriented in the cassette, the paper is old, or the paper package has been opened for a time. If this occurs, turn over the paper stack in the cassette.
- When loading paper, always remove the paper in the cassette, add it to fresh paper, and reload the newly-aligned stack of paper.
- The printer's input and output paper capacity is 70 sheets. Paper jams, uncollated pages, and sheets falling out of the output tray can result if the paper output is allowed to exceed 70 sheets.
- Envelopes can be printed only on their front side.
- Printing in the 15 mm (3/5 in.) border around the envelope can cause print quality problems with some types of envelopes.
- Always send envelopes to the front output tray.

Glossary

ASCII

Abbreviation for American Standard Code for Information Interchange. The ASCII code table is widely used for data processing and communication, providing a set of characters and commands.

A4 paper size

The ISO standard paper size of 210 mm x 297 mm.

basis weight

A measurement used to describe the paper weight density in grams per square meter. Acceptable basis weight ranges for the printer are from 60 g/m² to 105 g/m², or the equivalent of 16 lb. to 28 lb. To determine the basis weight in pounds, divide the g/m² by 3.75.

baud rate

The speed (bits/second) at which the computer and the printer communicate when a serial interface is used.

bit map

An image in digitized form that can be stored, transmitted, and reproduced precisely.

bitmap font

The type of font created from a bitmap pattern. A bitmap font has a fixed size, similar to the type set in typography.

buffer

An area in the printer's memory used for temporary storage of data during input and output operations.

built-in fonts

Fonts that reside in memory and are shipped with the printer. These fonts are sometimes referred to as internal, or resident fonts.

character set

A set of codes that describe the general appearance of a set of characters. For example, a character set might contain the code for an uppercase A or the number 1. Character sets do not describe the style (font) of a printed character.

command

An instruction that tells the printer to perform a certain function.

configuration

The process of changing the settings of the printer or computer so they communicate properly with each other. For example, if you use a serial interface, a feature such as baud rate must be configured to match the host computer and printer.

default

A value or setting the printer assumes unless specific changes are made.

downline loaded fonts

Fonts that are transferred (downline loaded) from the host computer and temporarily stored in the printer's memory.

dpi

Abbreviation for dots per inch. DPI is a unit of measurement to indicate printer resolution. The DEClaser 1152 printer has a print resolution of 300 dpi.

DTR

Abbreviation for Data Terminal Ready. DTR notifies the host that the printer is powered on. In some installations DTR is used to regulate flow control or monitor printer on line status. DTR is sometimes known as the hardware handshaking protocol.

EP-L cartridge

Abbreviation for electrophotographic laser cartridge. The EP-L cartridge contains toner, a photosensitive drum, and a cleaning mechanism for excess toner.

fixing assembly

The fixing assembly contains heat and pressure rollers that bond the toner to the paper. The fixing assembly is sometimes referred to as a fusing unit.

font

The artistic representation of a typeface that describes a set of characters by point size, weight, and style.

glyph

A single graphic symbol, as realized on paper or a display screen.

host

The computer that provides services and enables startup and management of peripheral devices, such as printers.

image area

The printable portion of a page. Like most printers, the DEClaser 1152 does not allow printing to the physical edge of the page.

initialize

To set starting values such as counters, switches, or addresses at the beginning of, or at prescribed points in, a computer routine.

interface

The connection of two devices through an interface cable, such as a computer and printer, making communication between them possible. The DEClaser 1152 printer supports a parallel (Centronics) interface, a serial (RS-232C) interface, LocalTalk.

landscape printing

A method of printing characters parallel to the long edge of the paper. Landscape printing is typically used for printing wide charts or tables.

LCD

Abbreviation for liquid crystal display. The printer messages appear on the LCD, which is part of the control panel.

letter size

The North American paper size of 8.5 in. x 11.0 in.

line weight

The thickness of a line. The thicker the line, the heavier the line weight.

menu

A list of the features and values used to configure the printer. For example, the interface menu contains the baud rates used to communicate with the host computer. For the DEClaser 1152 printer, many menus comprise the current printer settings.

moisture content

The ratio of water to the dry mass of paper. The moisture content can vary, depending on the type of paper and the amount of humidity to which it is exposed.

NVRAM

Abbreviation for nonvolatile random-access memory. Nonvolatile means that data is retained even after the printer is powered off. NVRAM is particularly useful when you are setting up the printer configuration, because all of the values can be saved.

off line

A communications mode when the printer cannot act on data from the host computer. When the On Line indicator is off, it indicates that the printer is off line.

on line

A communications mode where the printer can receive and act on data from the host computer. When the On Line indicator is on, it indicates that the printer is on line.

page

In the context of a laser printer, the image you are printing.

parallel interface

A data communications interface that transmits multiple bits of data (usually in 1-byte segments) simultaneously. The DEClaser 1152 printer uses a Centronics parallel interface.

portrait printing

A method of printing characters parallel to the short edge of the paper. This is the normal page orientation for printing. For example, this page is printed in a portrait orientation.

PostScript language

A programming language designed to convey a description of a desired page to a printer. It can describe a page containing any combination of text, graphical shapes, and digitized images.

printer controller firmware

The firmware that interprets the data in a print request according to a specified data syntax, builds bitmaps of each page to be printed, and forwards the bitmaps to the print engine, which produces the hardcopy output.

print density

Print density refers to the amount of toner applied to the paper to produce a lighter or darker print.

printer software

The software that handles the communications between the process that makes a print request (terminal), the process that provides resources (a host), and the process that performs the printing service (a print queue).

protocol

A procedure or set of rules that controls the communication between computers and peripherals. Also, a set of conventions between communicating processes regarding the format and contents of messages to be exchanged.

RAM

Abbreviation for random-access memory. RAM retains data only while power remains on. Data is cleared from RAM when the printer is powered off. The DEClaser 1152 printer contains 2 MB of built-in RAM, expandable to 4 MB with optional memory board.

reset

A procedure that clears data in the print buffer and returns the printer to the ready state.

resolution

The number of dots in a defined area. The resolution of the DEClaser 1152 printer is 300 dpi.

ROM

Abbreviation for read-only memory. ROM contains all of the factory default feature values. It is a permanent memory and cannot be cleared or changed.

serial interface

A data communications interface that transmits data sequentially, one bit at a time, at a fixed speed. The DEClaser 1152 printer uses an EIA232 serial interface.

sheet

In the context of a laser printer, the physical piece of paper that is printed.

simplex

A layout indicating that a document is formatted to be printed on one side of a sheet.

toner

A black powder commonly known as dry ink, which is used to form the images on the paper. Toner is contained in the EP-L cartridge on the DEClaser 1152 printer.

type family

A group of fonts that have a similar design, but differ in other font attributes. For example, Courier is a type family that resides in the DEClaser 1152 printer.

xon/xoff

A software protocol used with RS-232C serial communication. It regulates the flow of data to the input buffer by exchanging on/off signals with the host computer. The xon/xoff protocol is sometimes referred to as the software handshaking protocol.

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