HEWLETT® PACKARD

HP 5000
Cut Sheet
Printers

Installation Manual
Model D640
(Printer and Accessories)

HP 5000
D640 Cut Sheet Printer
Installation Manual
(for Printer and Accessories)

HEWLETT®
PACKARD

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Caution and Warning Notes

The CAUTION note denotes a hazard. It calls attention to a procedure which, if done incorrectly or inattentively, could damage or destroy part or all of the product. Do not proceed beyond a CAUTION note until the indicated conditions are fully understood and met.

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The following conventions are used throughout this manual:

NOTE: **Notes contain important information set off from the text.**

CAUTION: **Caution messages indicate procedures which, if not observed, could result in damage to equipment.**

WARNING: **Warning messages call attention to situations that could result in personal injury.**

WARNING: **Disconnect the printer from its power source whenever performing any maintenance or installation procedure.**

WARNING: **The printer is equipped with safety interlock switches on most of its covers. The switches disable parts of the printer when the covers are opened. These areas present the risk of electric shock, burns, and injury from mechanical hazards.**

WARNING: **Any unauthorized removal of safety covers, manipulation of safety switches, and interference with the safety system is strictly prohibited. Such actions can cause personal injury and can damage the system. Also make sure that the operating and maintenance areas are not obstructed in any way.**

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Hewlett-Packard Company
HP 5000 Printers - MS 44MC
System Peripherals Operation
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Preface

The *Installation Manual* contains all the information needed to install and set up the HP 5000 model D640 printer and it's accessories.

The information within is directed toward printer users who are familiar with printer configuration operations and are comfortable performing basic mechanical operations.

Other Manuals

The *HP 5000 D640 User Manual,* contains all the information needed to operate Hewlett-Packard D640 printers.

The *HP 5000 D640 Service Manual,* C5620-90013, is a comprehensive technical reference to all mechanical and electronic components in the printer. The *Service Manual* helps you perform fault diagnosis and isolation, then guides you through replacement of subassemblies.

The *HP 5000 D640 Technical Reference Manual,* C5620-90002, provides information about software conventions and hardware components not covered in the *User*, *Service*, or *Installation Manuals*.

The *HP 5000 D640 Paper Specifications Guide,* C5620-90001, explains the various kinds of papers usable in the printer, how to care for them, and how to minimize paper-related problems with the D640.

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             Installation and Configuration

Chapter 4   Accessories

Appendix A Packing and Shipping

Appendix B Warranty and Support

Chapter 1

Introduction

Introduction

Thank you for purchasing the D640 printer.

This installation manual is written in a logical, step by step format for quick and easy installation of the D640 printer and all available accessories. A typical installation will take about 1 to 2 hours to complete. We strongly encourage you to follow the procedures in the order they are presented to avoid missing any critical steps. If you run into any questions or problems during the installation, you can call Hewlett-Packard and receive immediate assistance. See Warranty and Support for support telephone numbers.

You may need the following tools to complete the installation:

- Cutter to remove packaging straps
- Pliers to remove shipping lock inserts
- #2 Phillips head screwdriver (to install HCI, HCO, and/or Memory).
- Medium flat blade screwdriver (to install HCO).

The installation manual is organized as these chapters:

Chapter 2, Installation:

This chapter is broken down into a number of procedures that covers every step of the unpacking and installation process for the basic printer.

Chapter 3, Host Computer Interface Installation and Configuration:

This chapter covers the basic information needed to connect the printer to a host computer.

Chapter 4, Accessories:

This chapter covers all the details for unpacking and installing each of the available accessory products used with the printer.

Appendix A, Packing and Shipping:

This chapter shows you the required steps to repackage your printer in case it needs to be shipped to another location.

Appendix B, Warranty and Support:

This chapter provides a list of phone number where you can call for free assistance during the installation process, and a list of telephone numbers to call if there are problems with the printer hardware.

Chapter 2

Installation

Installation

Site Preparation

This chapter provides step-by-step instructions for installing your printer.

You may have purchased one of the following D640 accessories:

- PostScript
- Additional memory
- Custom tray
- High-Capacity Input (HCI)
- High-Capacity Output (HCO)

Install them only after you have completely installed and successfully tested the printer. Instructions for installing these accessories appear in Chapter 4, Accessories.

Before you begin, make sure the location you have selected for your printer meets the space and environmental requirements, as shown in Table 2-1.

Installation

Table 2-1 Printer Environment Specifications

Power Requirements	120-127 or 200-240 Vac ±10%, 50/60Hz, 12 or 7A.
Physical Dimensions (without HCI/HCO)	
Length:	23.0in (585mm)
Depth:	25.2in (640mm)
Height:	40.6in (1,030mm)
Physical Dimensions (with HCI/HCO)	
Length:	55.7in (1414mm)
Depth:	25.2in (640mm)
Height:	40.6in (1030mm)
Weight	298lbs (135kg)
Temperature	Operating: 59° F to 95°F (15° – 35°C)
Relative humidity	40%–60% (optimal)

Refer to the following illustrations for help in situating the printer. Remember to leave adequate space for opening the front and side covers, and for air circulation to the ventilation openings on the rear of the printer. If you have purchased the HCI or HCO, you need to reserve space for them as well.

Site Preparation

CAUTION: Provide for adequate ventilation when selecting your site. To ensure reliable operation, do not block the ventilation slots and openings on the exterior of the printer.

Ventilation slots

Printer

33.5 in. (850 mm)

84.3 in. (2140 mm)

25.2 in. (640 mm)

⇧ Operating Side

25.6 in. (650 mm)

33.5 in. (850 mm)   23.0 in. (585 mm)   33.5 in. (850 mm)

90.0 in. (2285 mm)
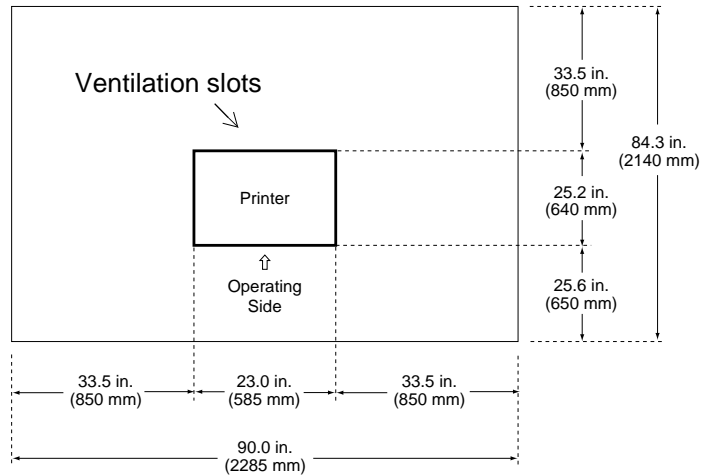
Figure 2-1   Operating Area Space Without HCI or HCO

HCO   Printer   HCI

33.5 in. (850 mm)

84.3 in. (2140 mm)

25.2 in. (640 mm)

⇧ Operating Side

25.6 in. (650 mm)

33.5 in. (850 mm)   23.0 in. (585 mm)   33.5 in. (850 mm)

21.25 in. (540 mm)   11.4 in. (289 mm)

122.6 in. (3114 mm)
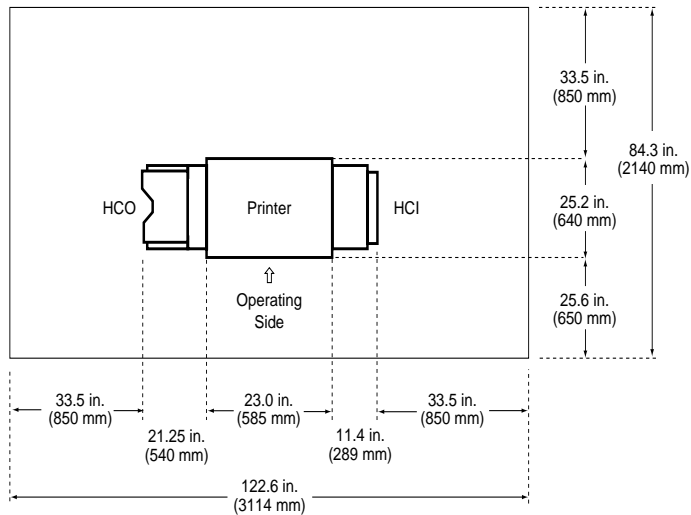
Figure 2-2   Operating Area Space With HCI and HCO

40.5 in.
1030 mm

23.0 in.
585 mm

1.4 in.
35 mm

25.2 in.
640 mm
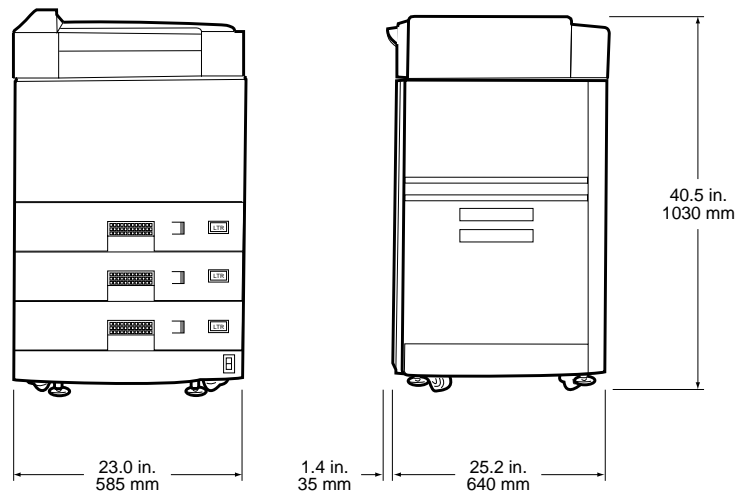
**Figure 2-3   Physical Dimensions (Front and Right Side View)
            Without HCI or HCO**

40.5 in.
(1030 mm)

23.0 in.
(585 mm)

55.66 in.
(1413.7 mm)

1.4 in.
(35 mm)

25.2 in.
(640 mm)

**Figure 2-4   Physical Dimensions (Front and Right Side View)
             With HCI and HCO**

The Installation Process

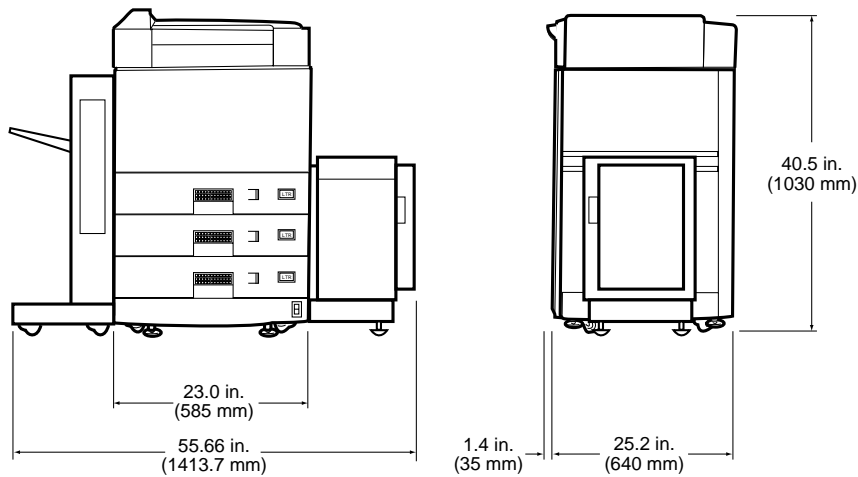The installation process is broken down into a number of key procedures, each of which contains several different activities concentrated in a particular physical location of the printer. The procedures covered in this chapter include:

- Procedure 1: Identifying the Printer Installation Boxes, on page 2-7
- Procedure 2: Opening the Starter Kit, on page 2-9
- Procedure 3: Unpacking the Printer, on page 2-12
- Procedure 4: Getting To Know Your Printer, on page 2-21
- Procedure 5: Inside the Front Door, on page 2-25
- Procedure 6: Installing Ozone Filter and Manual Pocket, on page 2-39
- Procedure 7: Removing Paper Tray Packing Material, on page 2-41
- Procedure 8: Powering On the Printer, on page 2-43
- Procedure 9: Adding New Supplies, on page 2-47
- Procedure 10: Setting the Paper Trays, on page 2-60
- Procedure 11: Installing Function Code, on page 2-71
- Procedure 12: Setting the Date and Time, on page 2-76
- Procedure 13: Printing a Setup Report, on page 2-79
- Procedure 14: Securing the Printer, on page 2-82
- Procedure 15: Paper Path Alignment, on page 2-83

Once you have completed these procedures, the printer will be up and running as a standa-lone unit.

Save packing materials for repacking later, if necessary.

Required Tools

You will need the following additional tools for installation:

- Pliers to remove plastic lock inserts.
- Cutter to remove plastic strapping material.
- #2 Phillips screwdriver (if you are installing Memory, HCI or HCO).
- Medium flat blade screwdriver (if you are installing an HCO).

NOTE: Move the printer close to its final location before unpacking. Make sure you have room to lower the ramp before moving the printer off of the pallet.

Procedure 1: Identifying the Printer Installation Boxes

There are at least two boxes comprising the printer installation; two more if you have purchased the High Capacity Input (HCI) and High Capacity Output (HCO). The printer and starter kit boxes are illustrated in Figure 2-5.
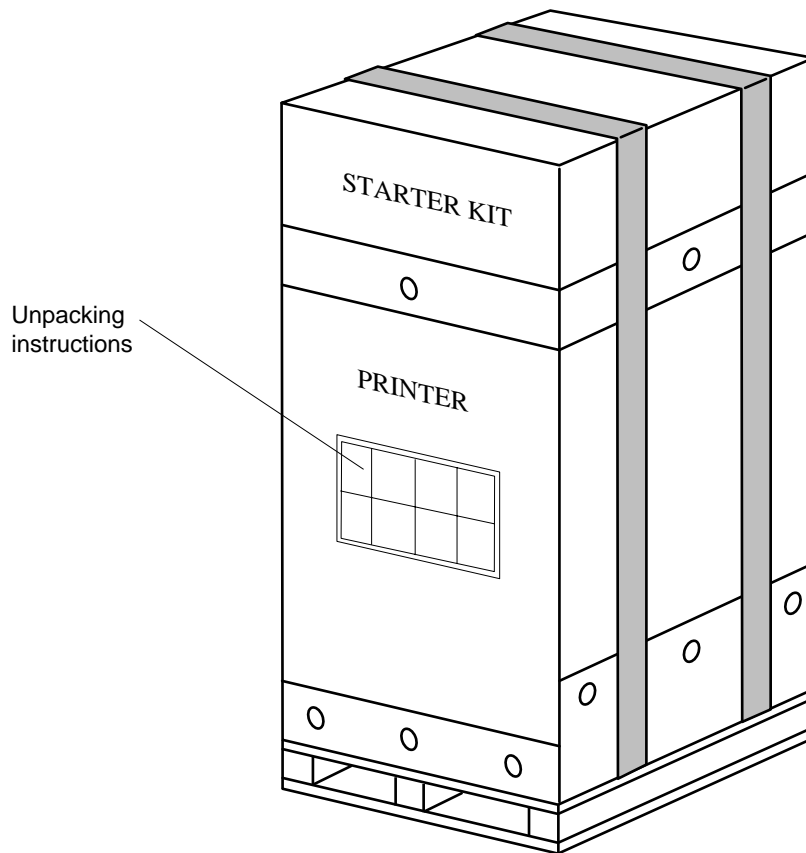
Installation

Figure 2-5   Printer Boxes

Procedure 1: Identifying the Printer Installation Boxes

1. Cut the plastic strap as shown in Figure 2-6.
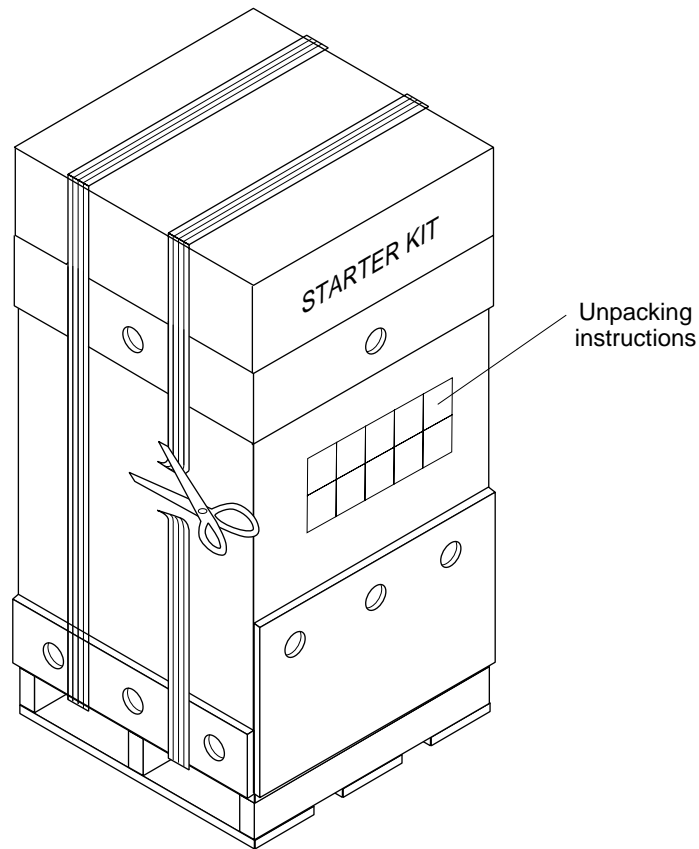

STARTER KIT

Unpacking
instructions

Figure 2-6   Cutting Plastic Strap

2. Remove Starter Kit box from the top of the printer.
3. Proceed to Procedure 2: Opening the Starter Kit.

**NOTE: If you purchased any accessories, do not open them at this time, they will
          be installed later.**

Procedure 2: Opening the Starter Kit

Open the package identified as Starter Kit shown in Figure 2-5, Printer Boxes, on page 2-7, and examine the contents, shown in Figure 2-8, on page 2-10. The Starter Kit contains the supplies necessary to set up the printer for immediate use (see Figure 2-8). Check the contents of the starter kit box to make sure you have all of the components listed in Table 2-2.
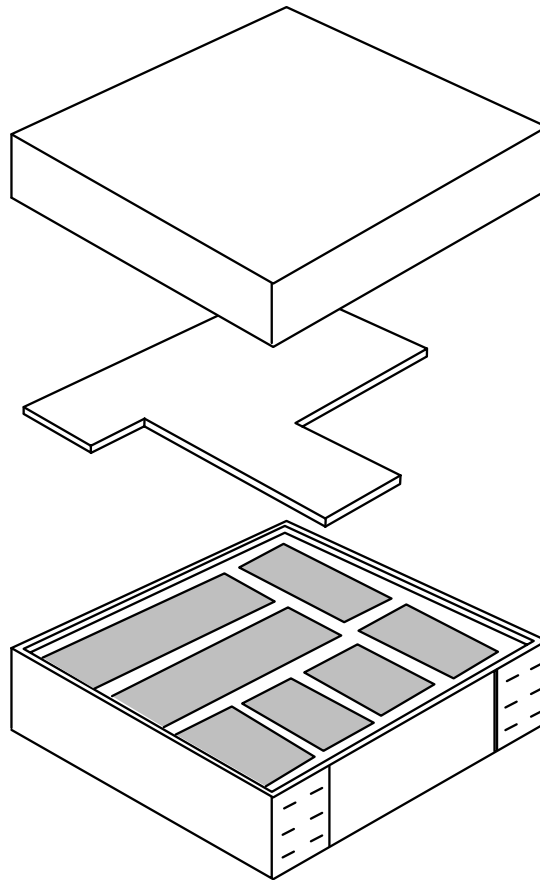
Installation

Figure 2-7   Starter Kit Box

Procedure 2: Opening the Starter Kit

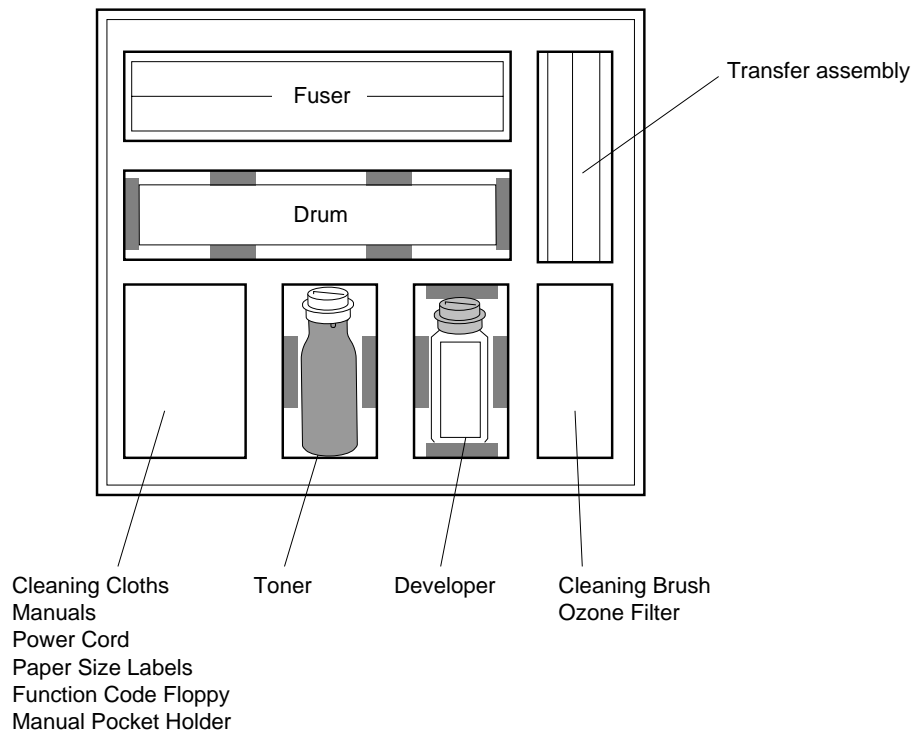NOTE: Do NOT open the individual component boxes or bags at this time.

Figure 2-8   Starter Kit Box Contents (Packed)

Procedure 2: Opening the Starter Kit

Table 2-2   Components Checklist

✓	Component	Quantity
	Fuser	1
	Drum	1
	Transfer assembly	1
	Toner bottle	1
	Developer bottle	1
	Cleaning brush	1
	Installation manual	1
	User manual	1
	Technical Reference manual	1
	Paper Specification manual	1
	Paper size cards	3 sheets
	Power cord	1
	Ozone filter	1
	Cleaning cloths	1 pkg
	Function Code floppy	1 pkg

NOTE: Check the label on the fuser box and make sure you have the correct voltage for your installation. The fuser comes in two versions, 120-127VAC or 200-240VAC. 120 -127VAC is more commonly used in North America; 200 -240 VAC is more commonly used in Europe.

If you received the wrong version, call your supplier for a replacement fuser.

Go to Procedure 3: Unpacking the Printer.

Installation

Procedure 3: Unpacking the Printer

NOTE: **Save the printer shipping materials in case they are needed to transport the printer to a new location. Instructions for packing your printer for shipment are included in Packing and Shipping.**

WARNING: The printer weighs 298 pounds (135 kg). Moving the printer requires two people.

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1. Use fingers or pliers to turn the plastic lock inserts counterclockwise and pull out, as shown in Figure 2-9, Removing Plastic Lock Inserts.
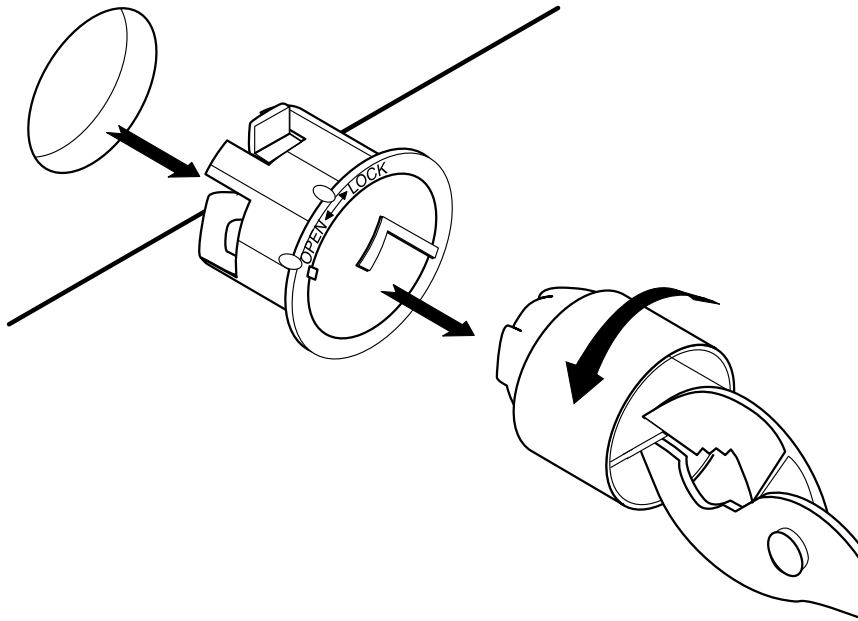2. Remove all 16 plastic lock inserts.

Figure 2-9   Removing Plastic Lock Inserts

Procedure 3: Unpacking the Printer

3. Lower the ramp and then remove the lid as shown in Figure 2-10.
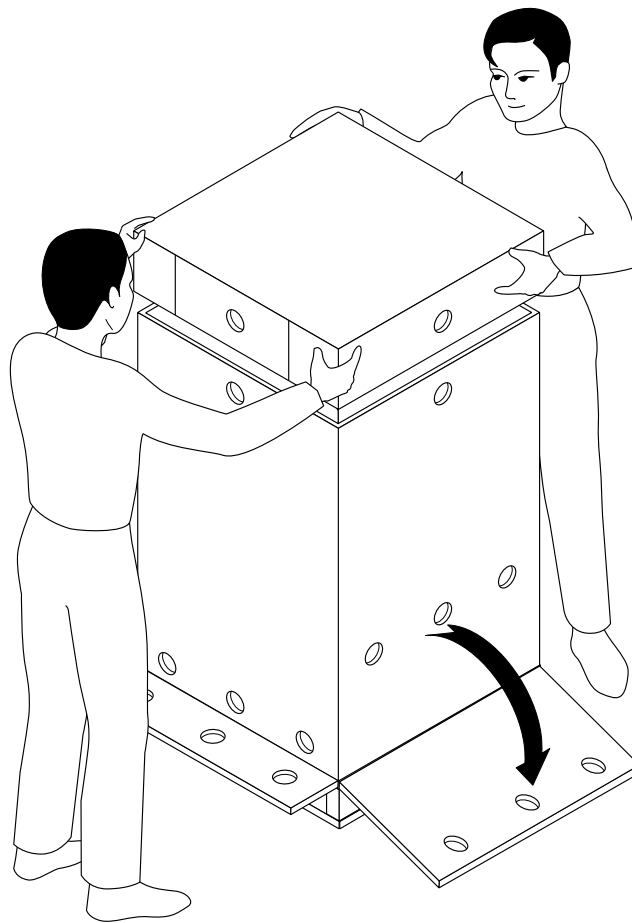
Figure 2-10   Removing Lid

Procedure 3: Unpacking the Printer

4. Remove the cardboard sleeve as shown in Figure 2-11.
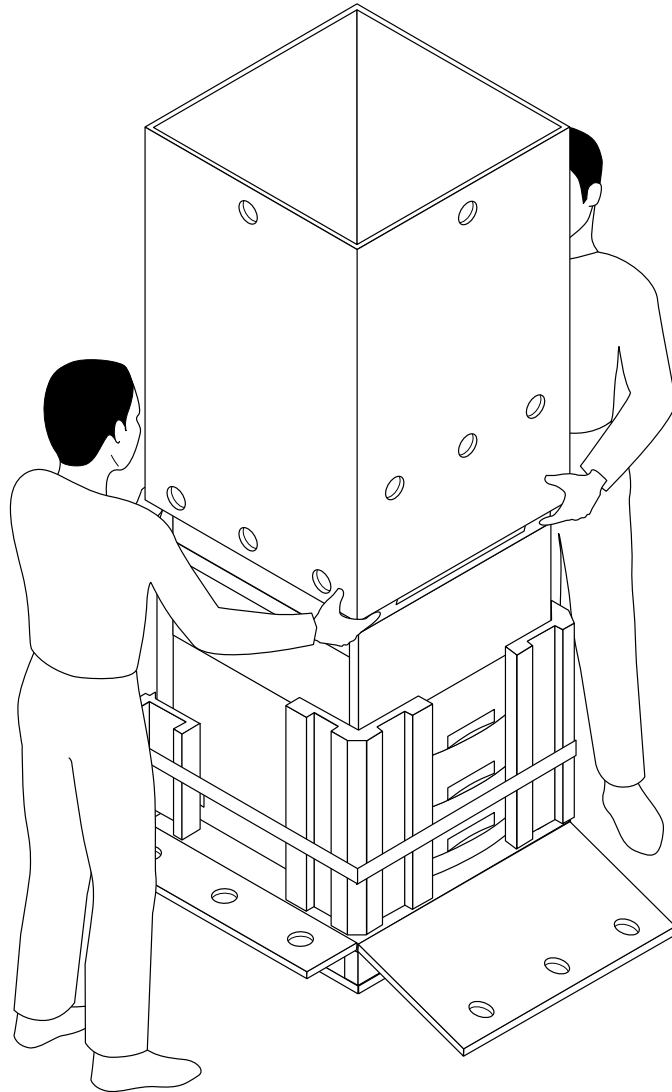
Figure 2-11   Removing Sleeve

5. Cut the tape holding the lower shipping retainers and remove them as shown in Figure 2-12.
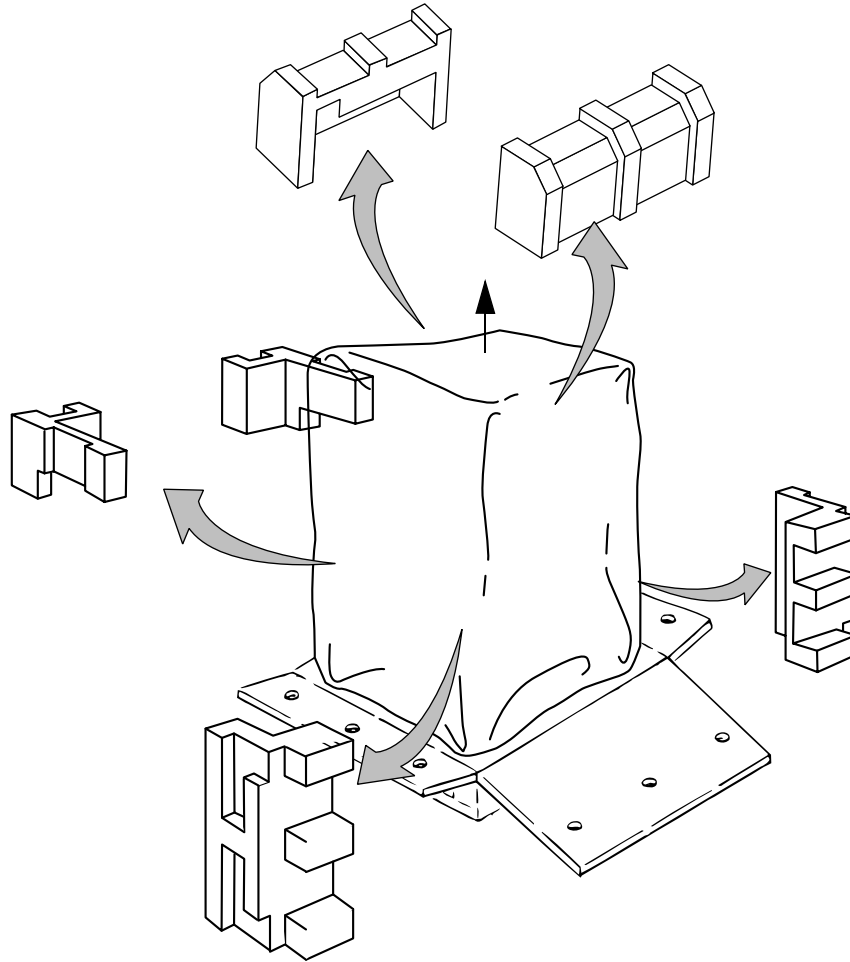
Installation

Figure 2-12   Removing the Shipping Retainers

6. Remove the nylon cover.

Procedure 3: Unpacking the Printer

7. Remove the wrench taped to the pallet, as shown in Figure 2-13.
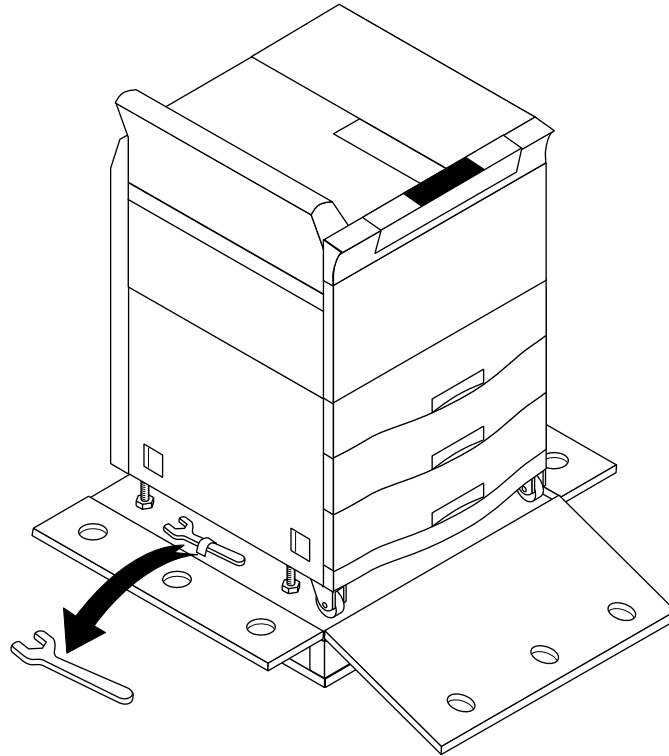
Figure 2-13   Removing the Wrench

8. Use the wrench to raise all four leveling bolts by turning the leveling bolts counter-clockwise as far as they will go. See Figure 2-14.
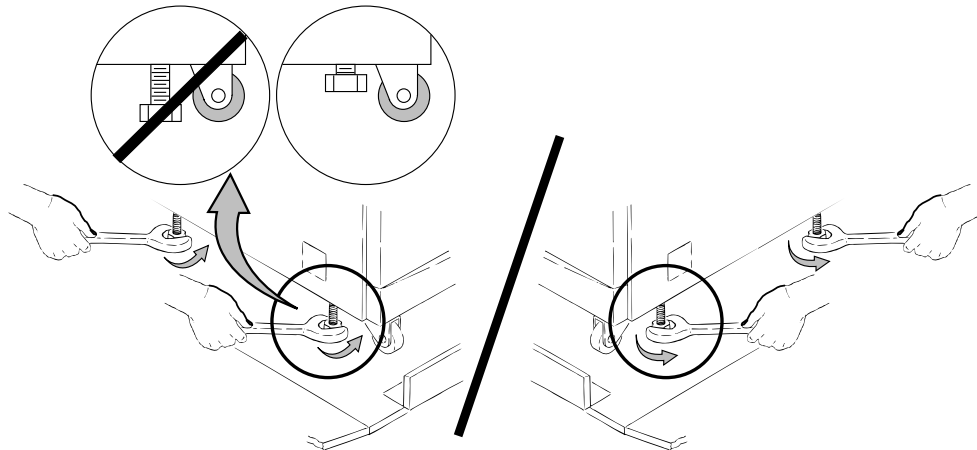
Figure 2-14   Raising the Leveling Bolts

CAUTION: Make sure all four leveling bolts are fully raised before moving the printer or damage may occur.

Installation

Procedure 3: Unpacking the Printer

9. Flip the two small wood spacers into the groove on the slope edge of pallet ramp, as shown in Figure 2-15.

Wooden spacer

Groove on slope edge
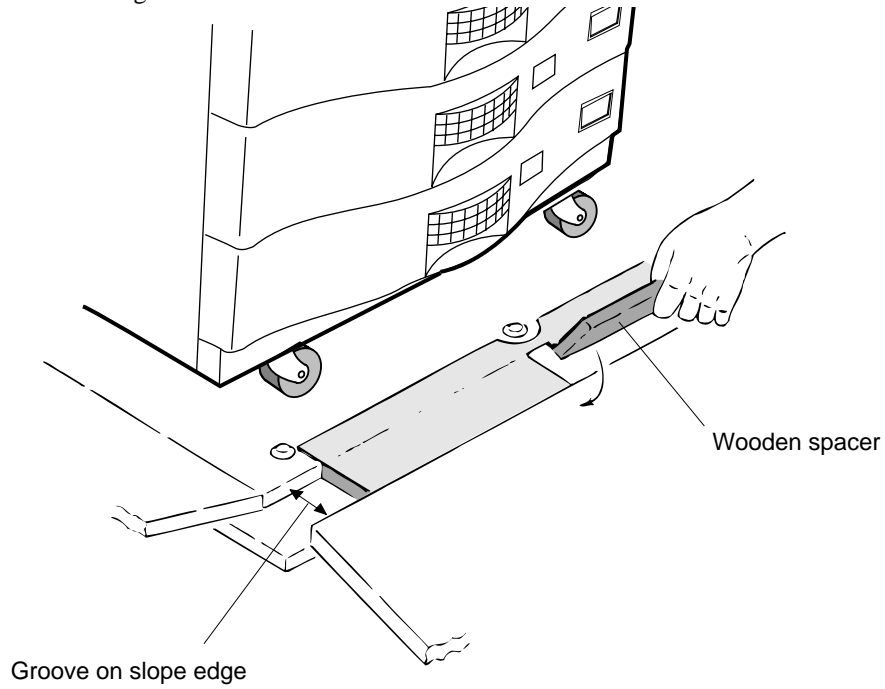
Figure 2-15   Securing Wood Spacers

Procedure 3: Unpacking the Printer

10. Move the printer off the pallet by carefully sliding it down the slope edge of the pallet ramp, as shown in Figure 2-16. Then move the printer to the installation location.
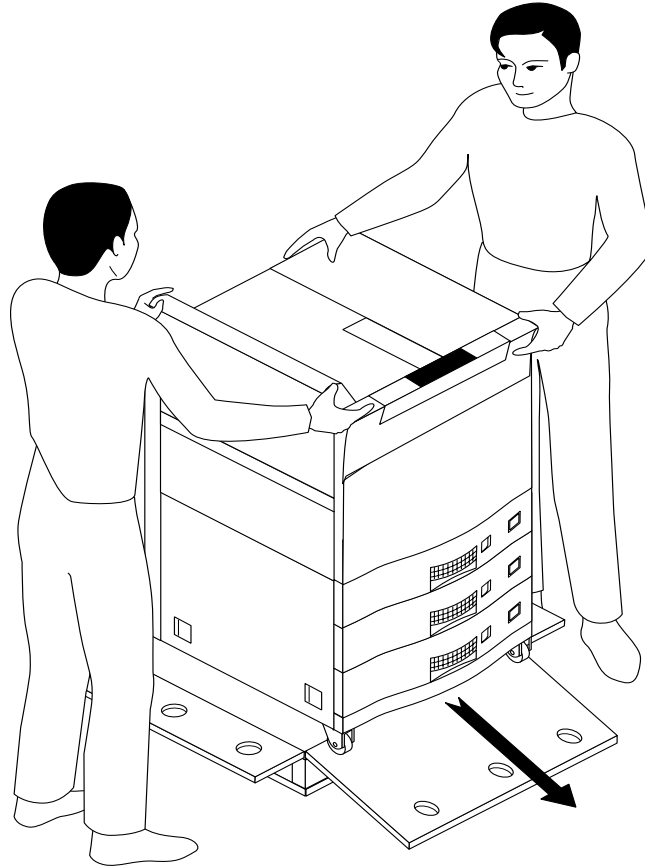
Figure 2-16   Unloading the Printer from the Pallet

CAUTION: While moving the printer, use two people. Be careful not to subject it to strong vibration.

Procedure 3: Unpacking the Printer

NOTE: **If the printer is not close to its final location, please move the printer to its final location before proceeding.**

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11. Remove all shipping tape attached to the exterior of the printer, as shown in Figure 2-17.
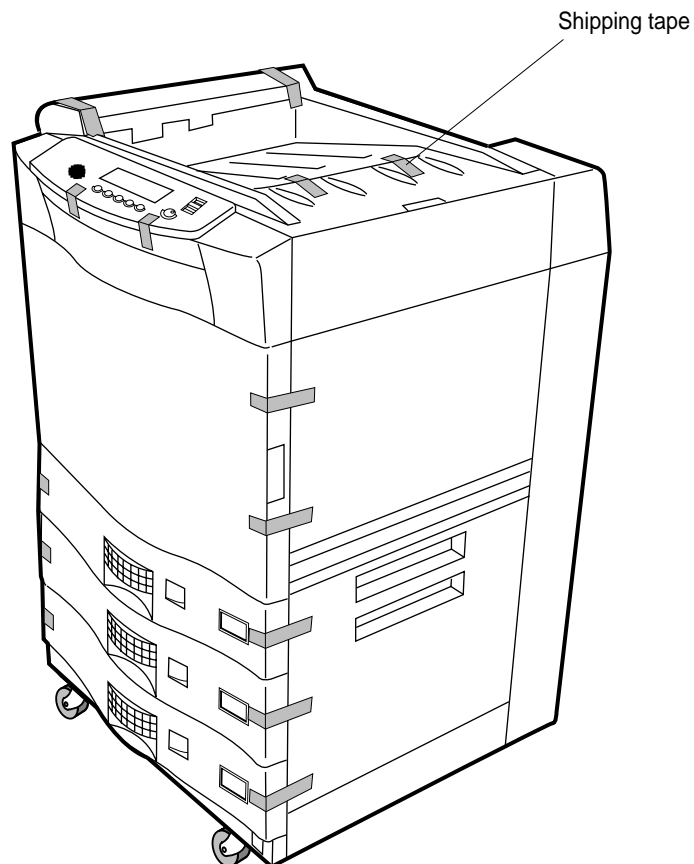
Figure 2-17   Exterior Shipping Tape

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12. Proceed to Procedure 4: Getting To Know Your Printer.

Procedure 4: Getting To Know Your Printer

Now that your printer is unpacked, familiarize yourself with the printer features and com-
ponents. Figure 2-18, identifies the front and side view features of the printer.
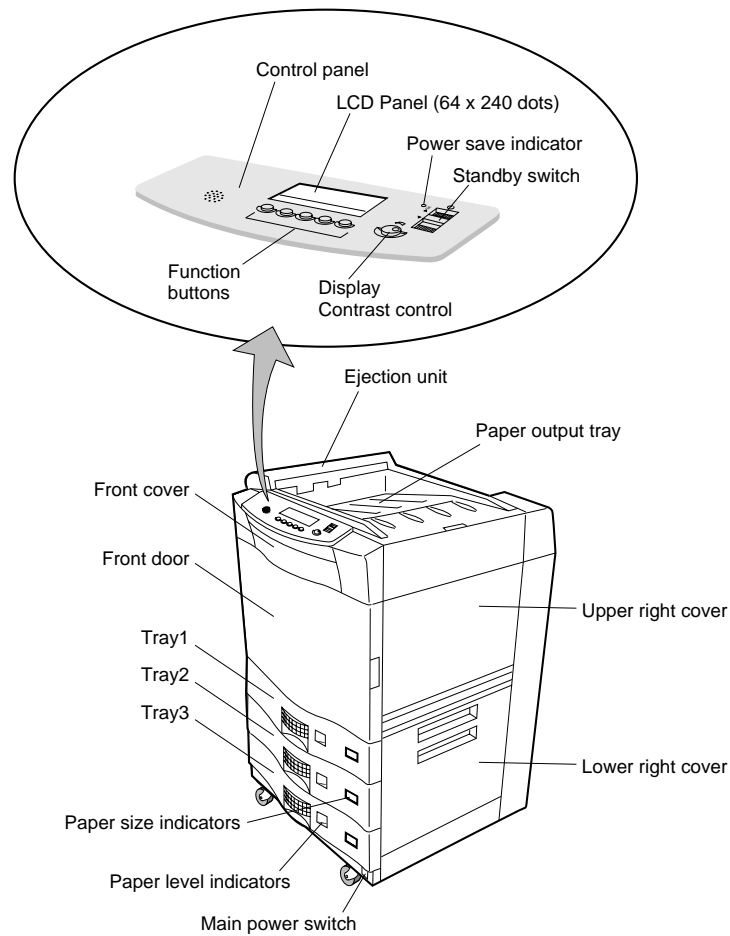
Figure 2-18   Printer Features, Front and Side View

Installation

Procedure 4: Getting To Know Your Printer

Figure 2-19, identifies the rear view features of the printer.

Parallel interface connector

RS 232C/422A interface connector

Mounting holes for manual pocket

Ozone filter holder

HCO connector

Lower connector not used (for future functionality)

HCI connector

AC inlet
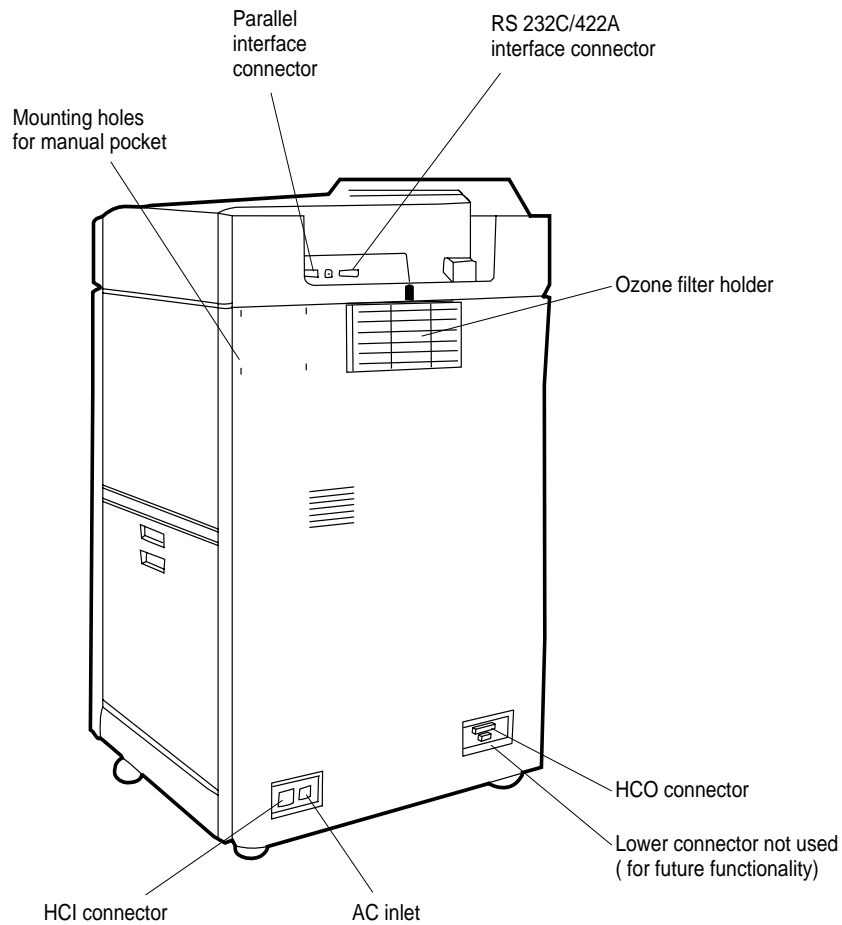
Figure 2-19   Printer Features, Rear View

Procedure 4: Getting To Know Your Printer

Figure 2-20, identifies features inside the front door.

Brush holder

Location for fuser

Location for Drum
(Foam Shipping Retainer)

Transfer assembly guide

Sponge Shipping Retainer
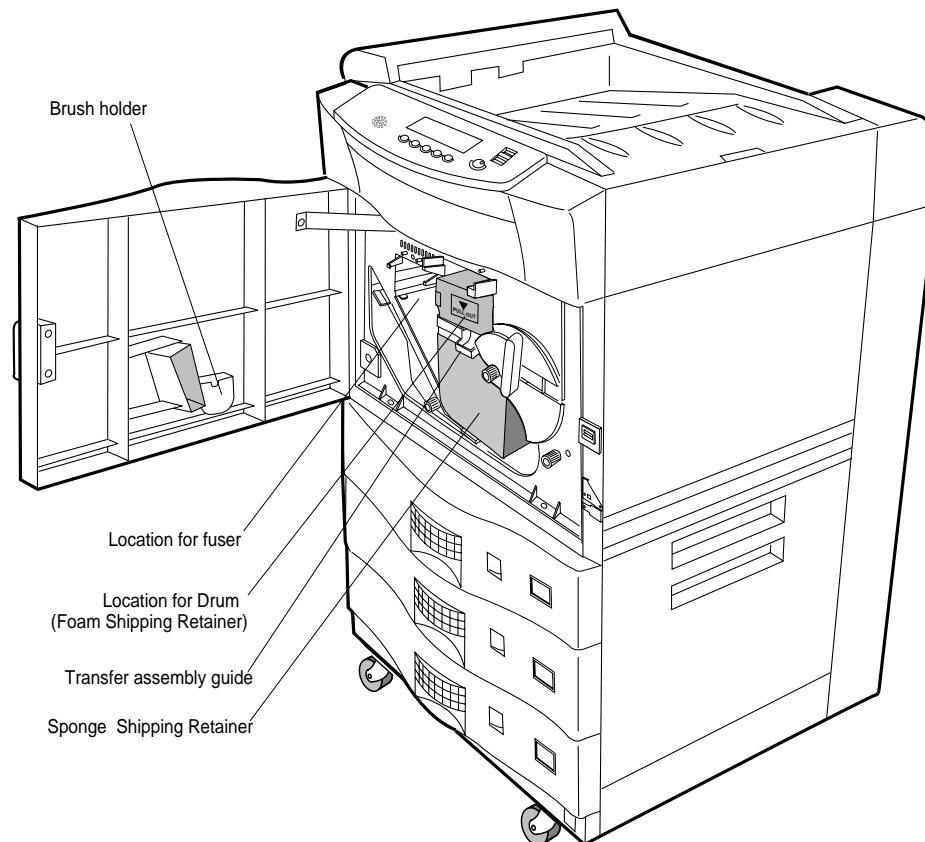
Figure 2-20   Printer With Front Door Open

Procedure 4: Getting To Know Your Printer

Figure 2-21, identifies features inside the upper right cover.

Toner filler flap

Developer filler flap

Toner collector bottle

Space for
developer purge bottle
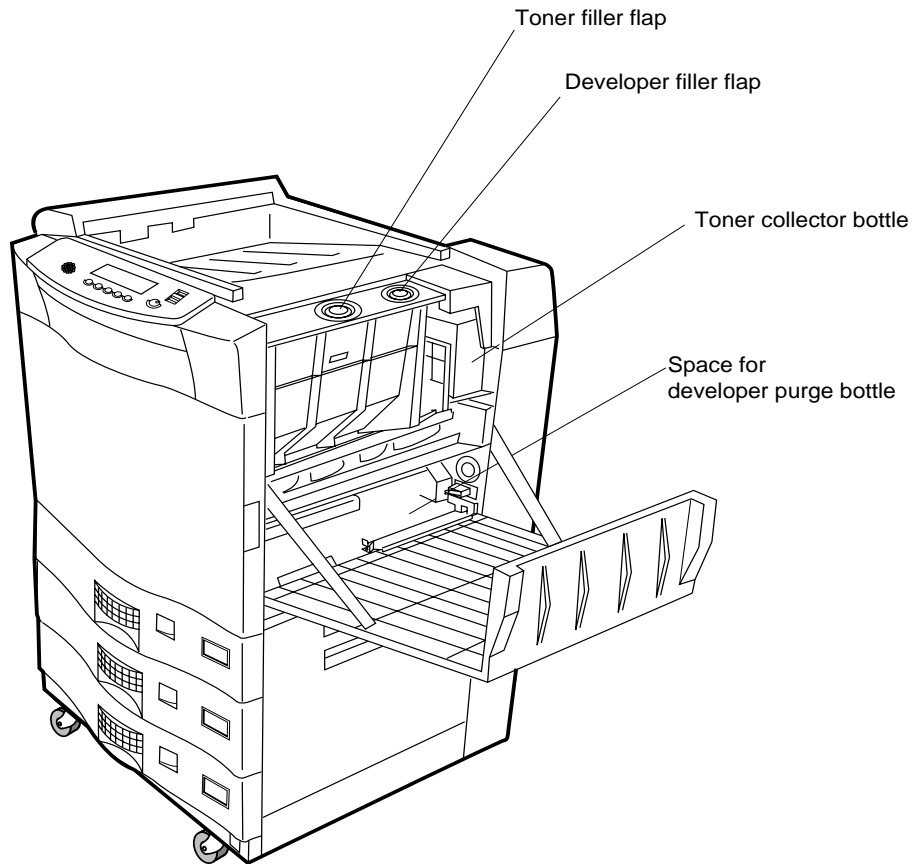
Figure 2-21   Printer With Upper Right Cover Open

Proceed to Procedure 5: Inside the Front Door.

Procedure 5: Inside the Front Door

This procedure describes how to install and prepare the components within the printer's front door. In this procedure you will:

- Remove packing material from inside front door
- Identify Starter Kit contents
- Install the Fuser
- Install the Drum
- Install the Transfer Assembly
- Install Cleaning Brush

Removing Packing Material From Inside the Front Door

1. Open the front door.
2. While holding the transfer assembly guide, remove sponge retainer, then lower the guide. See Figure 2-22.

Transfer assembly guide
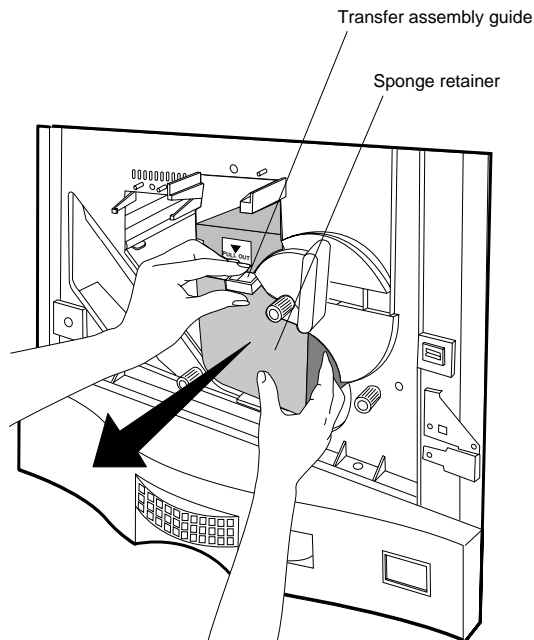
Sponge retainer

Figure 2-22   Removing Sponge Retainer

Installation

Procedure 5: Inside the Front Door

3. Turn Lever b1 to the right to the OPEN position. See Figure 2-23.
4. Pull out foam retainer.

Foam retainer

Lever b1
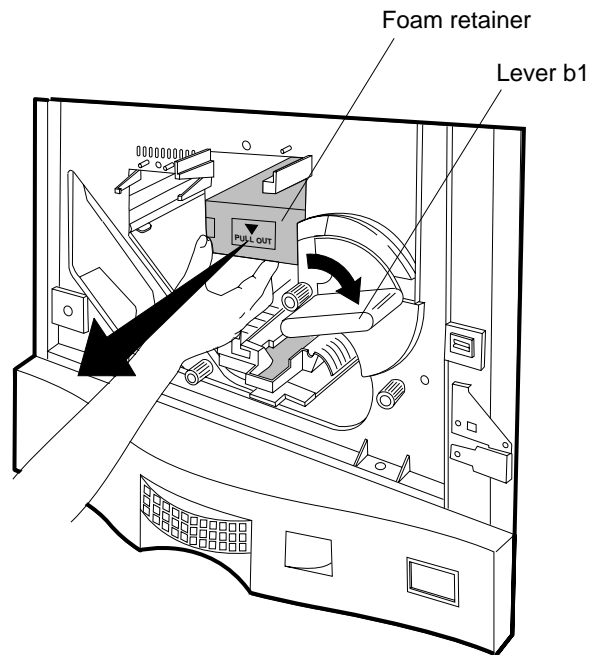
Figure 2-23   Removing Foam Retainer

Procedure 5: Inside the Front Door

5. Remove magnetic roller protector, as shown in Figure 2-24.
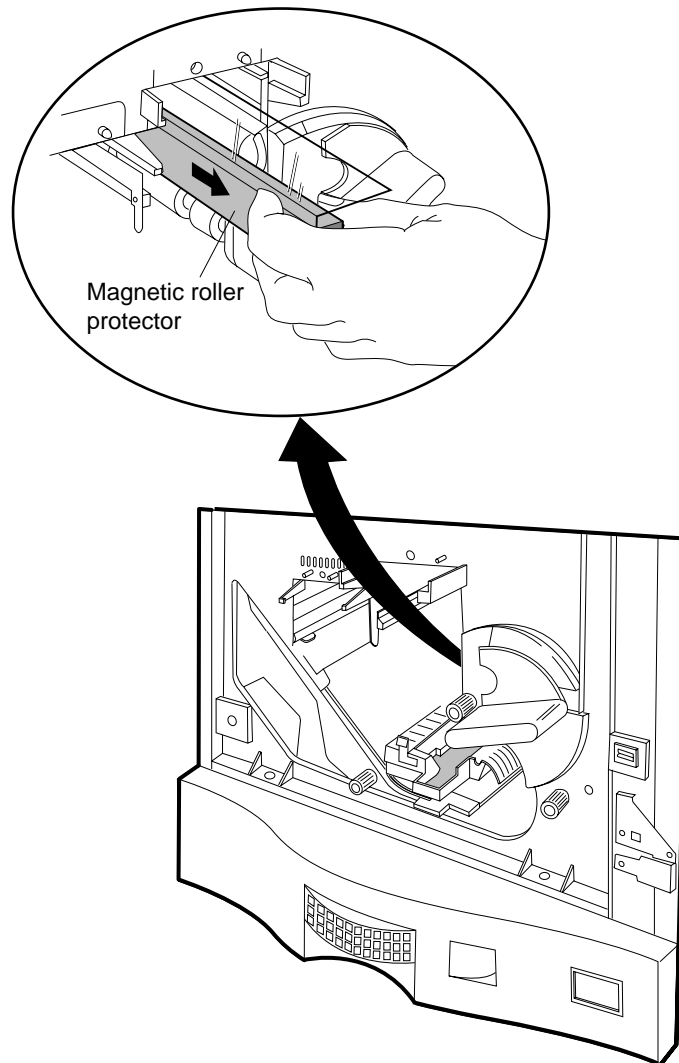
Figure 2-24   Removing Magnetic Roller Protector

Procedure 5: Inside the Front Door

6. Figure 2-25, shows where the components are installed in this procedure.

Space for drum

Space for fuser

Space for transfer assembly
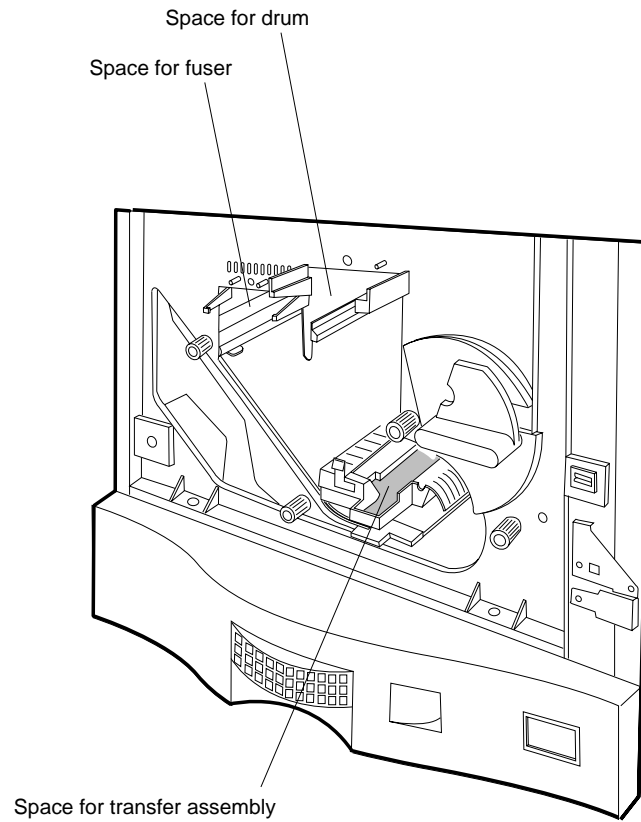
Figure 2-25   Inside the Front Door

Starter Kit Contents (Unpacked)

Now that you are ready to install the components, familiarize yourself with the printer components you will be using. Figure 2-26, shows the components shipped in the Starter Kit box after they have been unpacked.
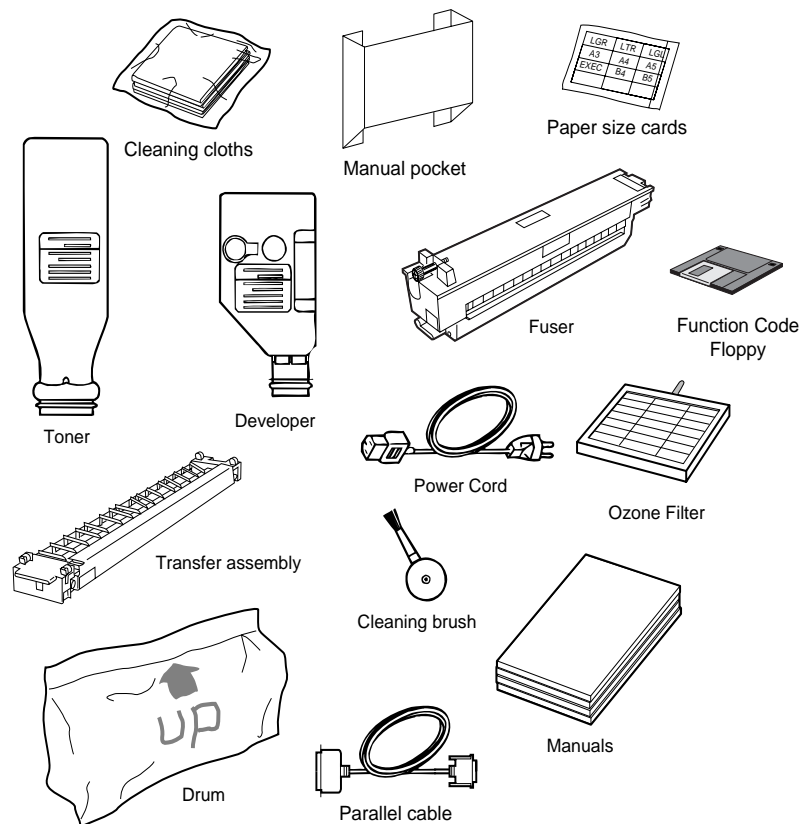
Figure 2-26   Starter Kit Box Contents (Unpacked)

Installing the Fuser

1.   Locate the fuser in the Starter Kit. See Figure 2-8.
2.   Remove the fuser from its packaging.

Procedure 5: Inside the Front Door

NOTE: Check the voltage indication on the fuser. It is marked 120V-127V or 200V-240V. If you did not receive the correct fuser for your installation, contact your supplier for a replacement.

3. Push the fuser all the way into the printer until it stops. See Figure 2-27, below. Make sure the fuser is properly seated.
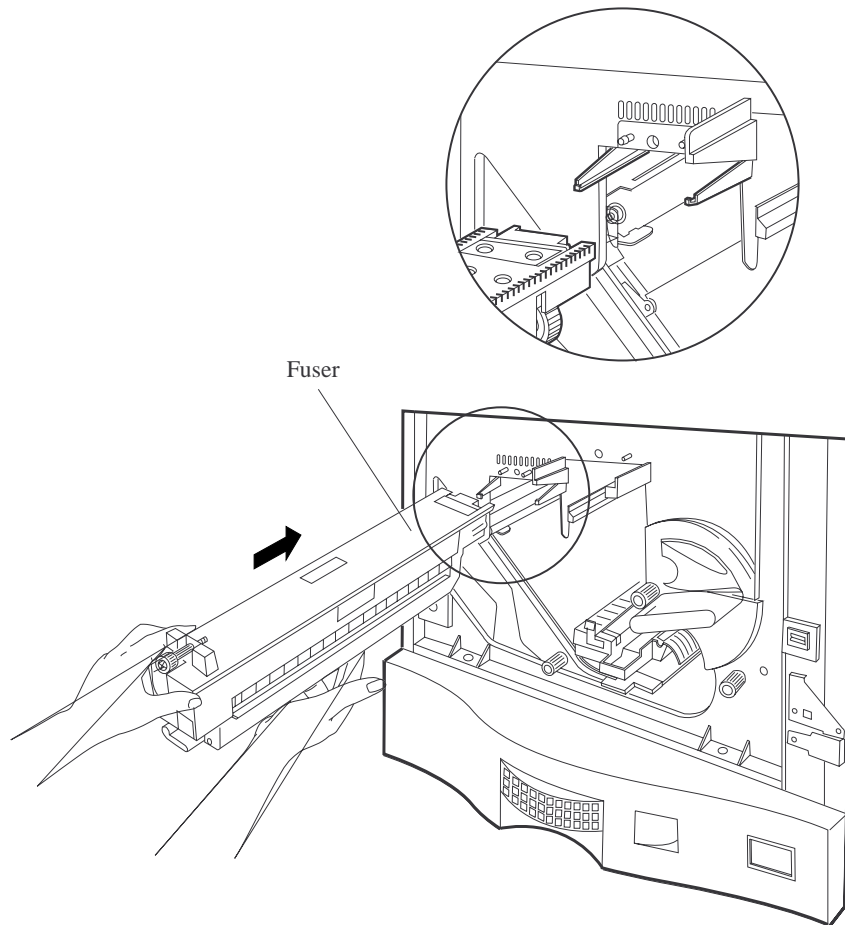
Fuser

Figure 2-27   Installing the Fuser

4. Maintain pressure on the fuser and finger-tighten the Fuser Locking Knob clockwise to engage the frame and secure the fuser in position. See Figure 2-28.

NOTE: If the fuser does not seat properly, do not force it. Instead, refer to Figure 2-29, on page 2-32, while following the next two steps.

Fuser locking knob
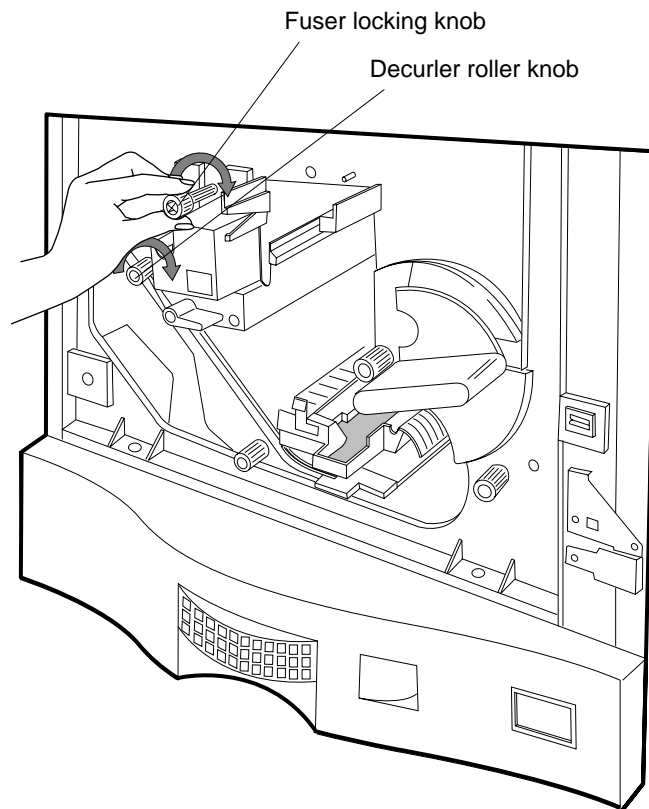
Decurler roller knob

Figure 2-28   Tighten Fuser Locking Knob

1. Hold the fuser up against the printer using light pressure.
2. Carefully rotate the Decurler Roller Knob clockwise until the fuser seats flush against the printer.

Procedure 5: Inside the Front Door

Decurler roller knob

Fuser locking knob
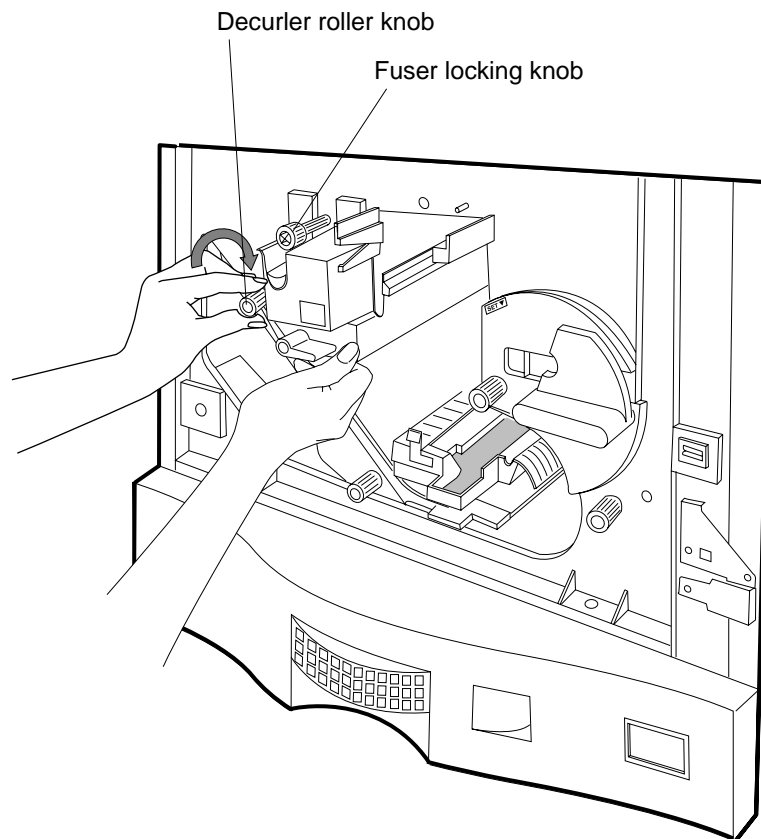
Figure 2-29   Securing the Fuser

Unpacking the Drum

1. Locate the drum packaged in the Starter Kit. See Table 2-8, "Starter Kit Box Contents (Packed)," on page 2-10.

2. Open the vacuum sealed bag containing the drum and remove the contents, as shown in Figure 2-30.

3. Hold the drum by the handle on top, set it on a solid surface, and carefully remove the protective cover from the drum.

NOTE: Do not touch the surface of the drum. Finger prints and scratches on the surface of the drum may adversely affect print quality.

Installation
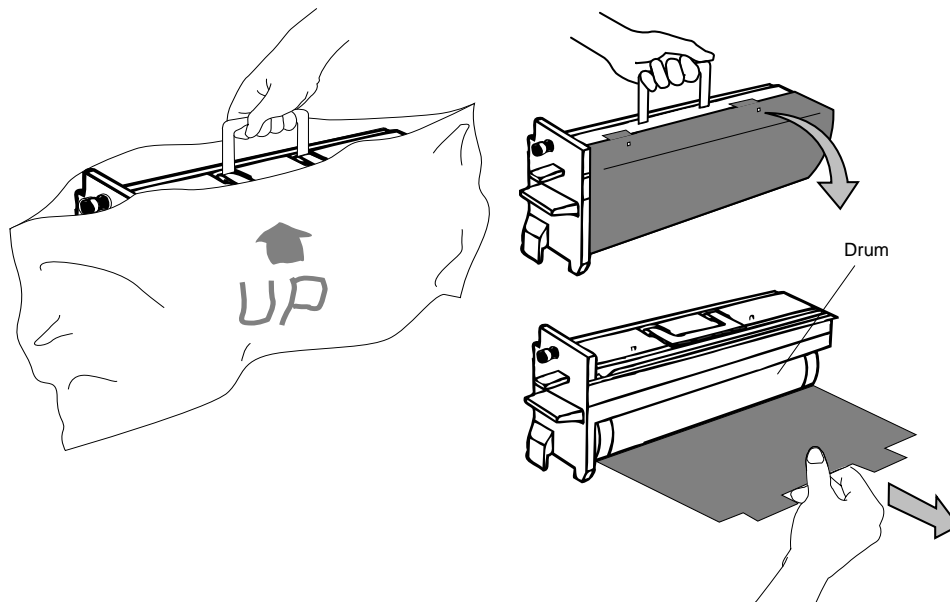
Figure 2-30   Unpacking the Drum and Removing the Protective Cover

Procedure 5: Inside the Front Door

Installing the Drum

1. Make sure Lever b1 is in the OPEN position.
2. Use the drum handles on the top and front to insert the drum along the guide rails until it stops, as shown in Figure 2-31. Push the drum in as far as the it will go to ensure correct positioning.

NOTE: Make sure the alignment pins on the printer line up with the alignment-pin holes on the drum.
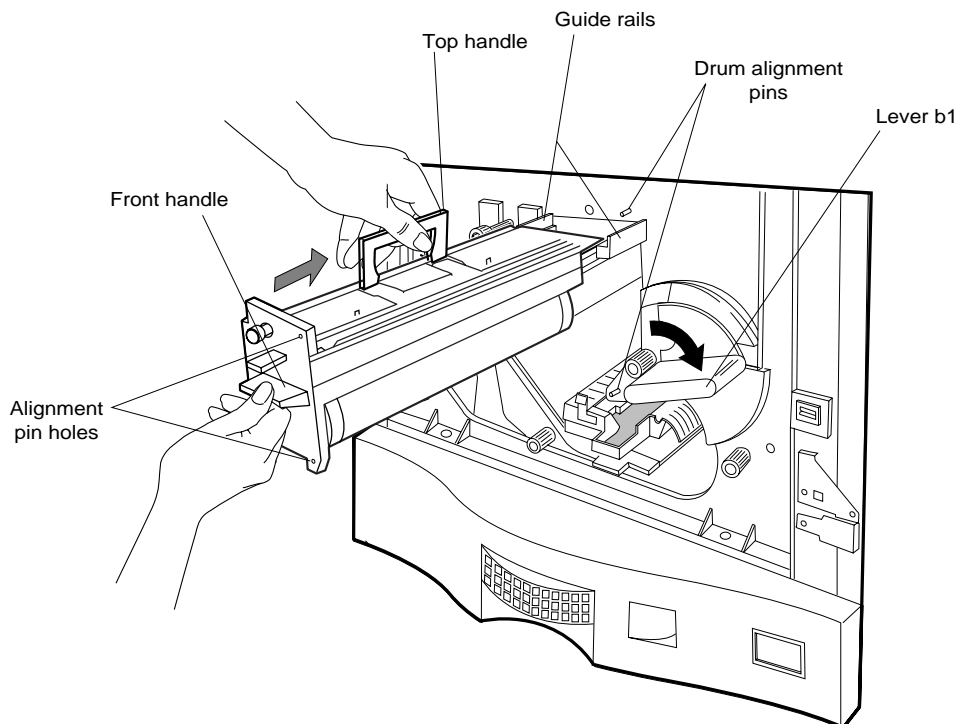
Figure 2-31   Inserting the Drum

3. Gently push the drum unit onto the positioning pins, maintain pressure on the drum, and finger-tighten the Drum Locking Knob clockwise to engage the frame and secure the drum, as shown in Figure 2-32.

Drum locking knob

Drum locking pins
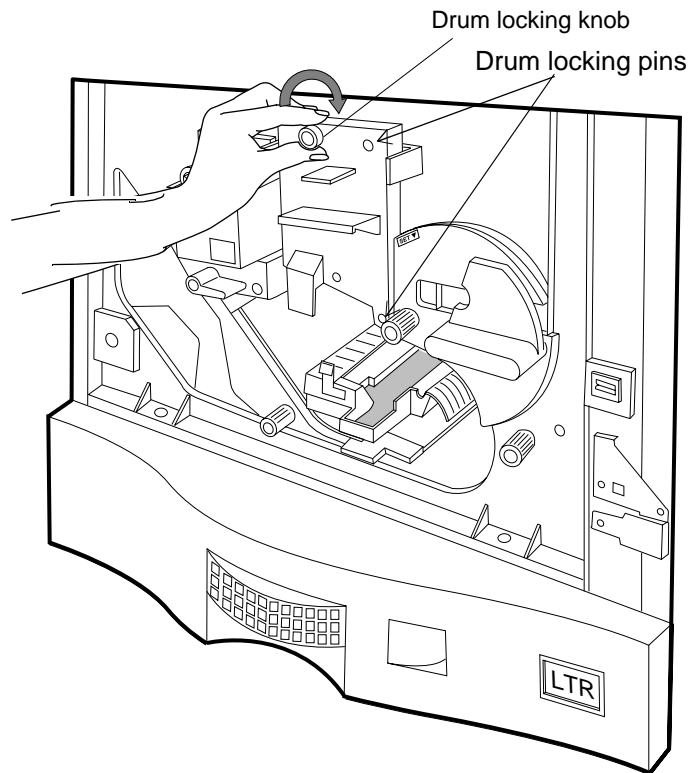
Installation

Figure 2-32   Securing the Drum

Procedure 5: Inside the Front Door

Installing the Transfer Assembly

1. Open the box in the Starter Kit that contains the transfer assembly. See Figure 2-8, on page 2-10.
2. Remove the transfer assembly from its packaging.
3. Using the alignment pin located on the end of the transfer assembly, insert the alignment pin of the transfer assembly into the left rail of the transfer assembly guide at a slight angle and push in until it clicks into place. See Figure 2-33.

CAUTION: As you handle the transfer assembly, avoid contact or damage to the transfer wire contained in the assembly.
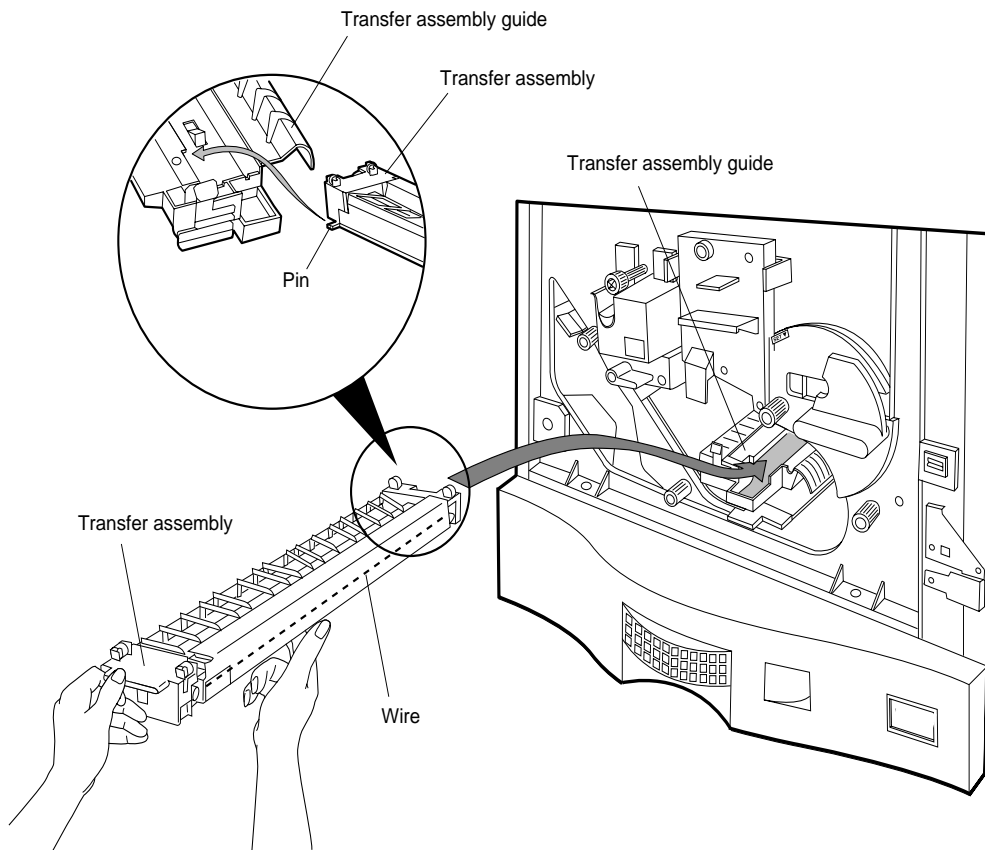
Figure 2-33   Inserting the Transfer Assembly

Procedure 5: Inside the Front Door

4. Lift the transfer assembly guide until it locks in place, as shown in Figure 2-34.
5. Turn Lever b1 counterclockwise to the SET position.

NOTE: The front door will not close unless Lever b1 is in the SET position.

Transfer assembly guide

Lever b1
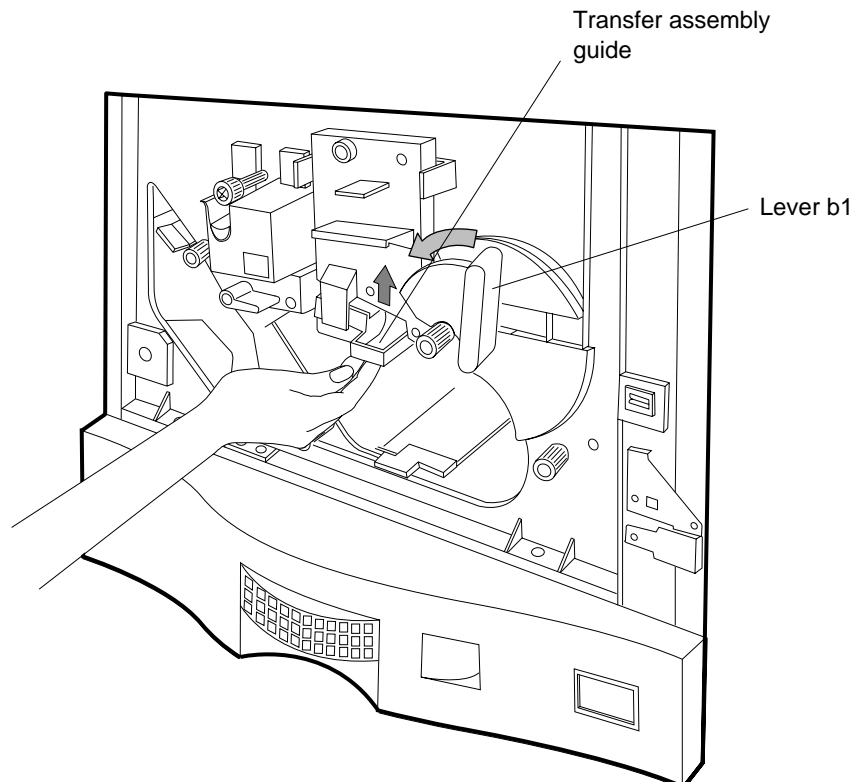
Figure 2-34   Securing Transfer Assembly

Procedure 5: Inside the Front Door

Installing the Cleaning Brush

1. Locate the cleaning brush (packed in Starter Kit). See Figure 2-8, on page 2-10.
2. Remove from plastic bag and place the cleaning brush in the front door, as shown in Figure 2-35.

Front door

Cleaning brush holder
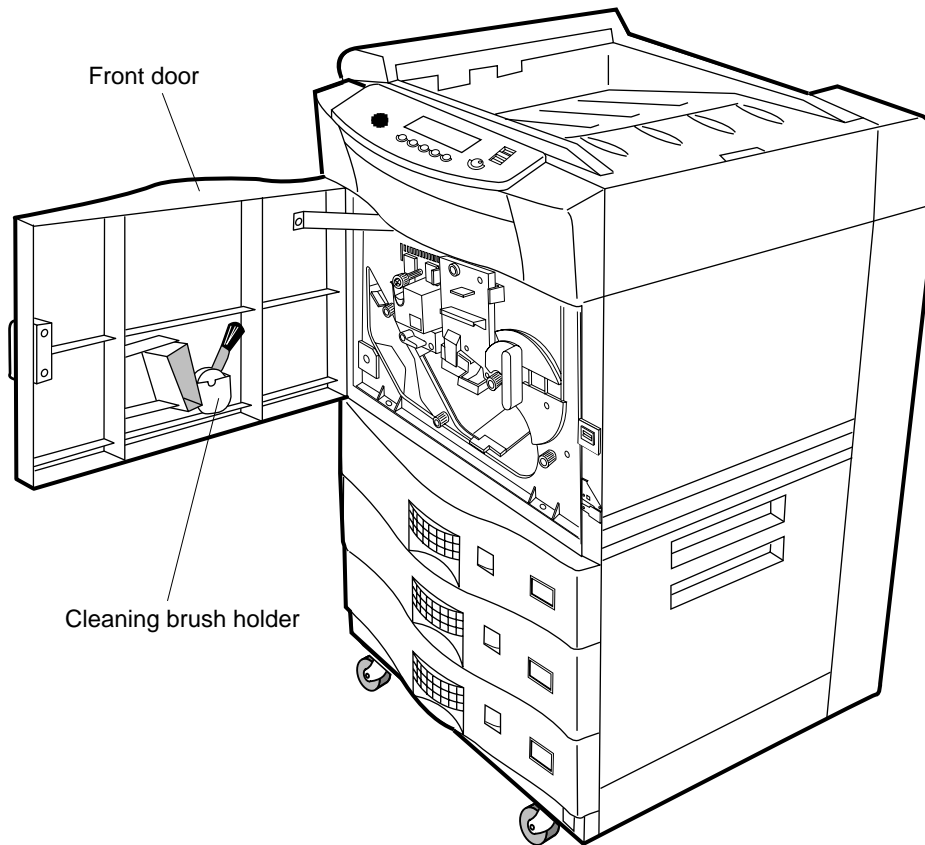
Figure 2-35   Cleaning Brush Holder

3. Close the printer's front door.
4. Proceed to Procedure 6: Installing Ozone Filter and Manual Pocket.

Procedure 6: Installing Ozone Filter and Manual Pocket

In this procedure you will:

- Install the ozone filter
- Install manual pocket

Installing the Ozone Filter

1. Locate the ozone filter packaged in the Starter Kit. See Figure 2-8, on page 2-10.
2. Remove and insert the new ozone filter in its holder located on the rear cover. See Figure 2-36.

Installation

Handle

Ozone filter holder
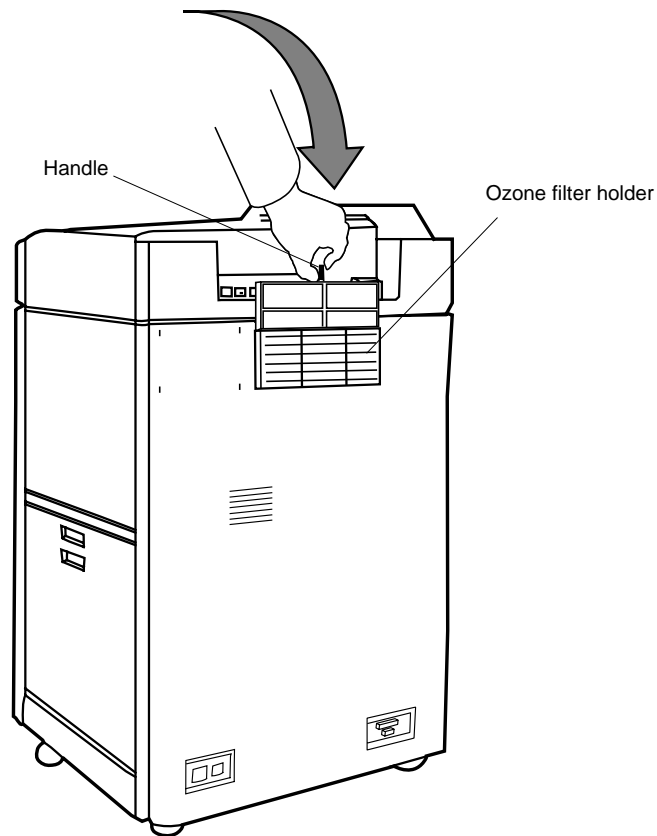
Figure 2-36   Inserting the Ozone Filter

Procedure 6: Installing Ozone Filter and Manual Pocket

Installing the Manual Pocket

1. Locate the manual pocket packaged in the Starter Kit. See Figure 2-8, on page 2-10.

2. Remove from box and mount the manual pocket on the rear of the printer. See Figure 2-37.
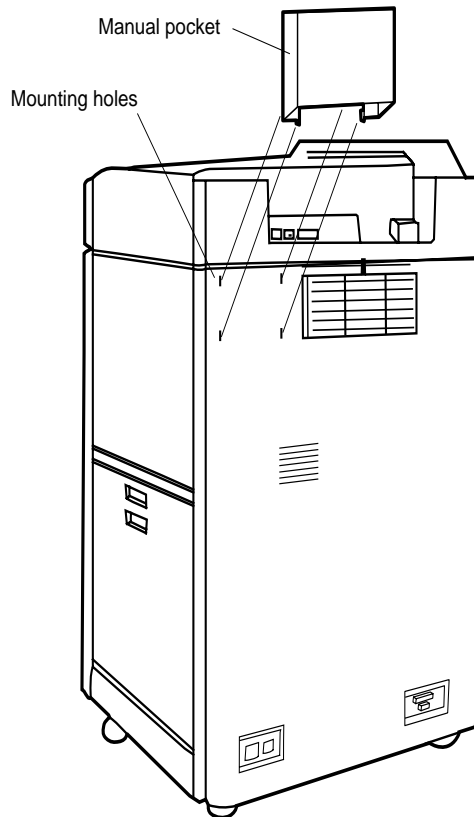
Figure 2-37   Installing the Manual Pocket

3. Proceed to Procedure 7: Removing Paper Tray Packing Material.

Procedure 7: Removing Paper Tray Packing Material

NOTE: Paper will be added in a later procedure.

In this procedure you will:

- Remove packing material from paper trays

Removing Packing Material From Paper Trays

1. Pull out the paper trays one at a time. See Figure 2-38.

Installation
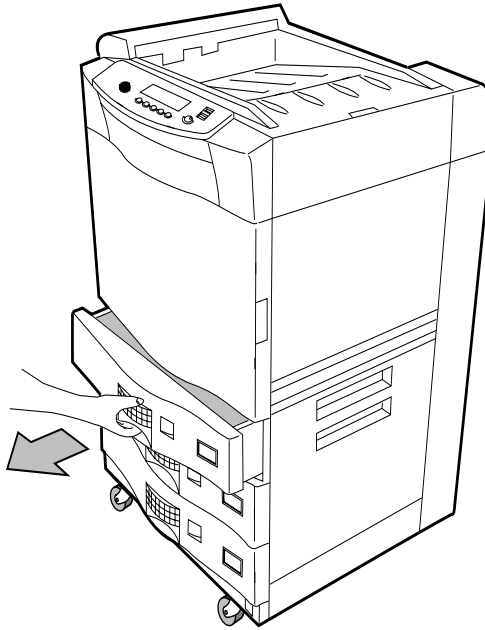
Figure 2-38   Pulling out Paper Tray

Procedure 7: Removing Paper Tray Packing Material

2. Remove the foam packing material from each tray. See Figure 2-39.
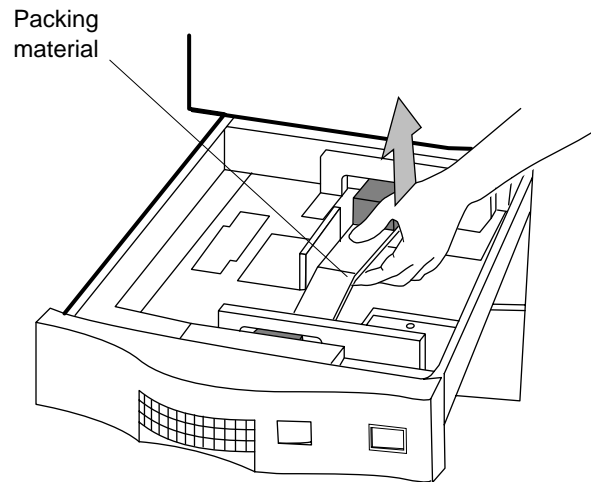
Packing
material

Figure 2-39   Removing Foam Packing Material

3. Close each tray.
4. Proceed to Procedure 8: Powering On the Printer.

Procedure 8: Powering On the Printer

In this procedure you will:

- Connect the power cord
- Power on the printer

Connecting Power Cord

Connect the power cord as follows:

1. Locate the power cord included in the Starter Kit. See Figure 2-8, on page 2-10.

NOTE: Use only the power cord supplied with the printer. This power cord is keyed for your printer and should be used with the printer at all times.

WARNING: The printer relies upon grounding for protection against electric shock and to assure compliance with Electromagnetic Compatibility Regulations. Always connect printer to a proper grounded outlet.

Installation

Procedure 8: Powering On the Printer

2. Insert the power cord plug, female side in the printer and male side in the AC power (grounded) outlet, as shown in Figure 2-40.

Grounded outlet
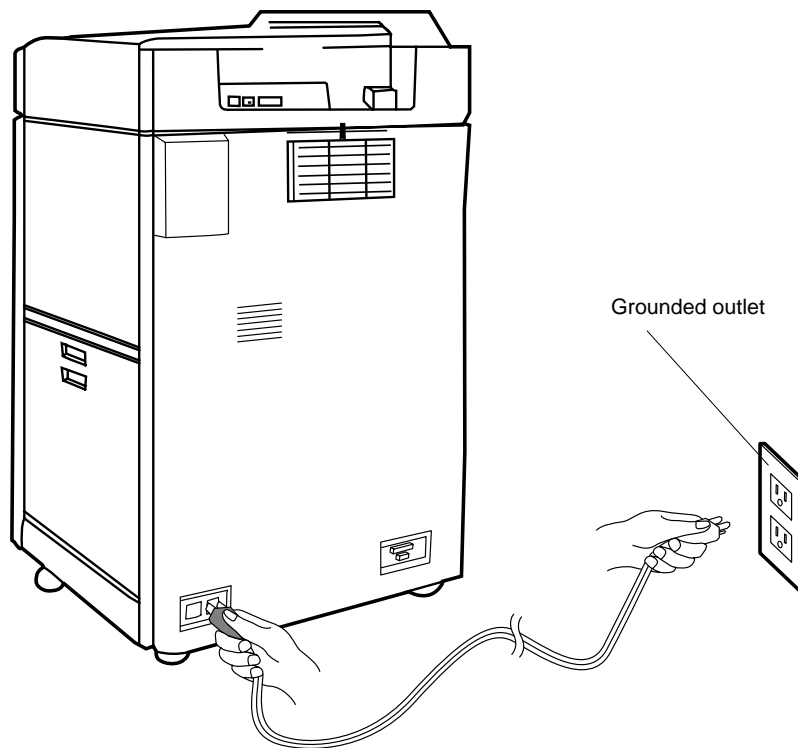
Figure 2-40   Connecting the Power Cord

Power On the Printer

3. Locate the main power switch and standby switch as shown in Figure 2-41.

Procedure 8: Powering On the Printer
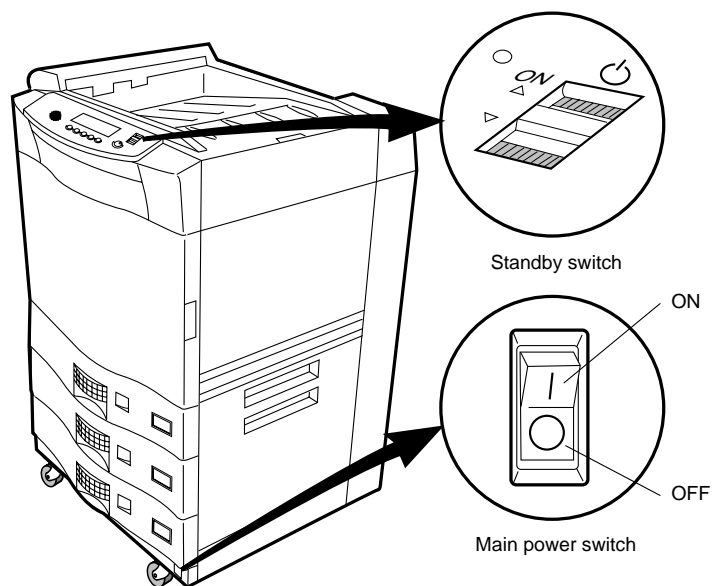
Figure 2-41   Standby Switch and Main Power Switch

4. Turn on the main power switch.
5. Turn on the standby switch, as shown in Figure 2-42, by holding the switch in the up position momentarily.
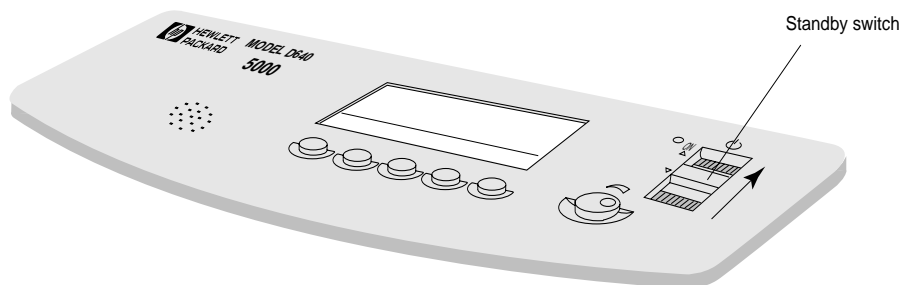
Figure 2-42   Turning On the Standby Switch

Procedure 8: Powering On the Printer

6. If you do not see anything on the display, turn the contrast control knob to the 2:00 o'clock (1400) position, as shown in Figure 2-43.
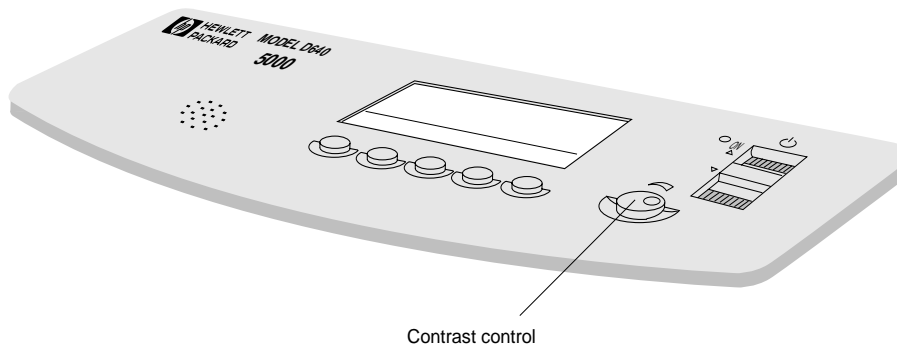
Contrast control

Figure 2-43   Contrast Control Knob

Control Panel Display at Power On

Figure 2-44, shows the control panel display screen at power on for initial installation.

Developer Injection
Open right door and rear flap
then Fill new developer
then Press Done

LTR □
LTR □
LTR □

Done   Exit
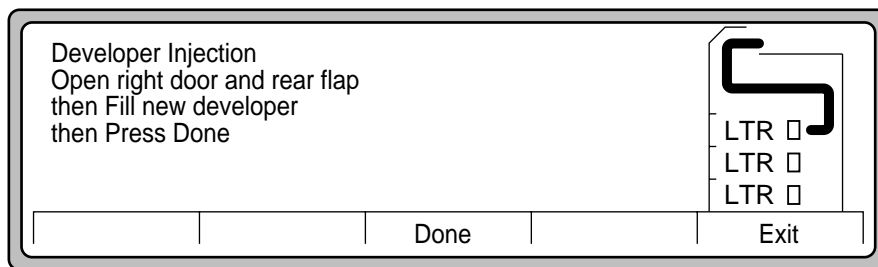
Figure 2-44   Control Panel Screen at Installation Power-On

You are now ready to load the toner and developer. The next procedure, Procedure 9: Adding New Supplies, describes these steps.

Procedure 9: Adding New Supplies

Before adding the developer as described in Figure 2-44, you need to remove a shipping protector and add toner.

In this procedure you will:

- Remove plastic shipping protector
- Install Toner
- Install Developer
- Install Developer Purge bottle

Removing Plastic Shipping Protector

1. Open front door.
2. Turn Lever b1 to the right to the OPEN position (see Figure 2-45).

NOTE: Lever b1 should be in the OPEN position when removing the shipping protector.

Installation
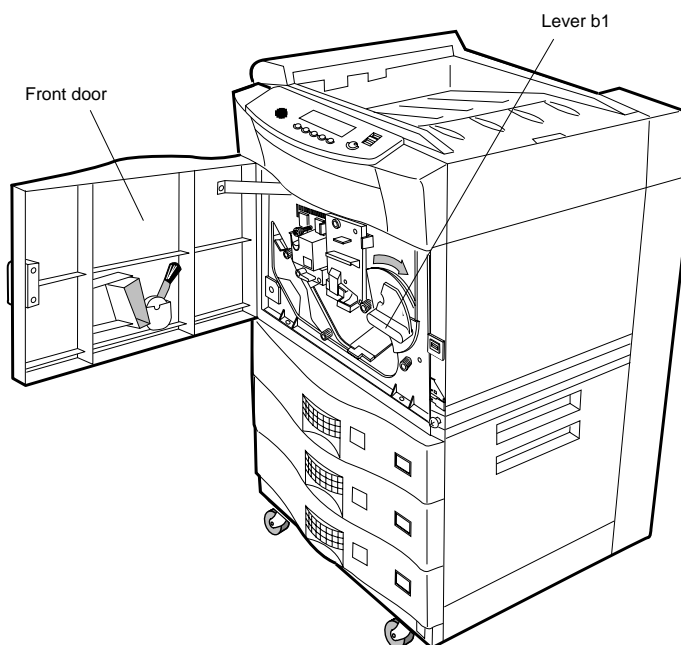
Figure 2-45   Lever b1

Procedure 9: Adding New Supplies

3. Open upper right cover.

4. Slowly and firmly lift up then pull down and out at an angle to remove plastic protective cover. See Figure 2-46.

NOTE: A small amount of toner may spill when this protector is removed. Remove slowly to avoid any spillage. If toner does spill, use the supplied cleaning cloths to clean it up.

Clear plastic protector

Upper right cover
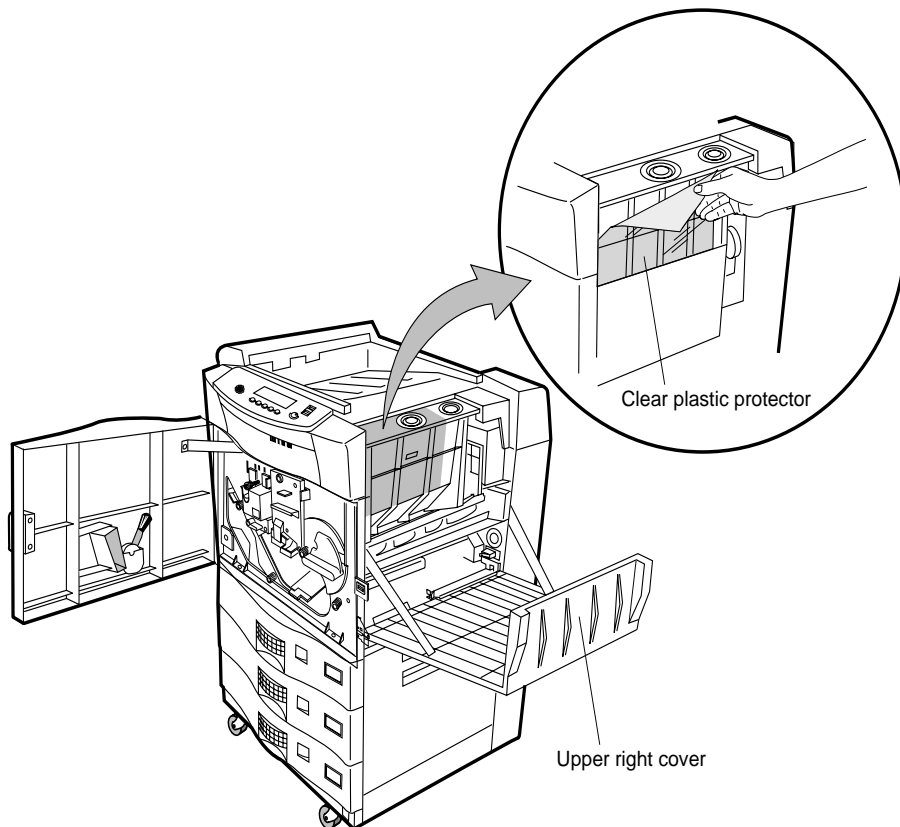
Figure 2-46   Removing Plastic Protective Cover

5. Turn Lever b1 counterclockwise to the SET position.

6. Close the front door.

You are now ready to add the toner.

Adding Toner

1. Locate and remove the toner bottle from the Starter Kit. See Figure 2-8, on page 2-10.

2. Remove the toner bottle from its packaging.

3. Open the toner fill flap (front flap), as shown in Figure 2-47.
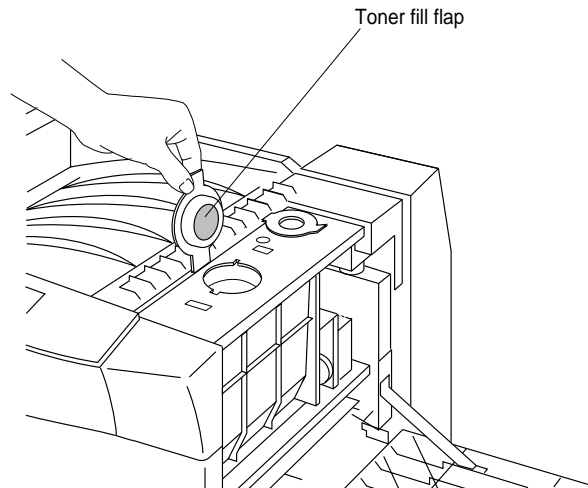
Toner fill flap

Figure 2-47   Opening the Toner Fill Flap

CAUTION: Check the toner bottle cap and make sure it is closed before shaking the bottle.

4. Shake the contents of the toner bottle to loosen any toner that has settled and packed during shipment. See Figure 2-48.
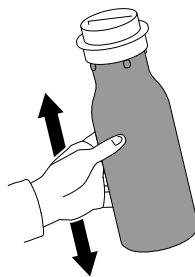
Figure 2-48   Shake Toner Bottle

Installation

Procedure 9: Adding New Supplies

5. Line up the guide pins on the bottle with the guide pin openings on the toner fill. Insert and turn the toner bottle clockwise 180° to start filling. See Figure 2-49.

Toner bottle

Guide pin
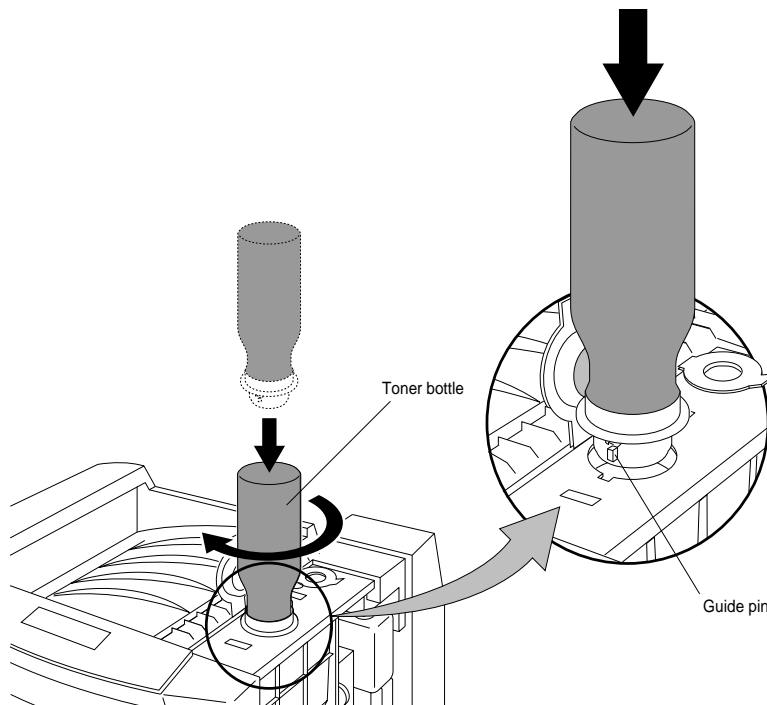
Figure 2-49   Filling the Toner

NOTE: It takes about 30 seconds for the bottle to empty into the toner hopper.

6. When empty, turn the toner bottle counterclockwise 180° and remove, as shown in Figure 2-50.

Empty toner bottle

Installation
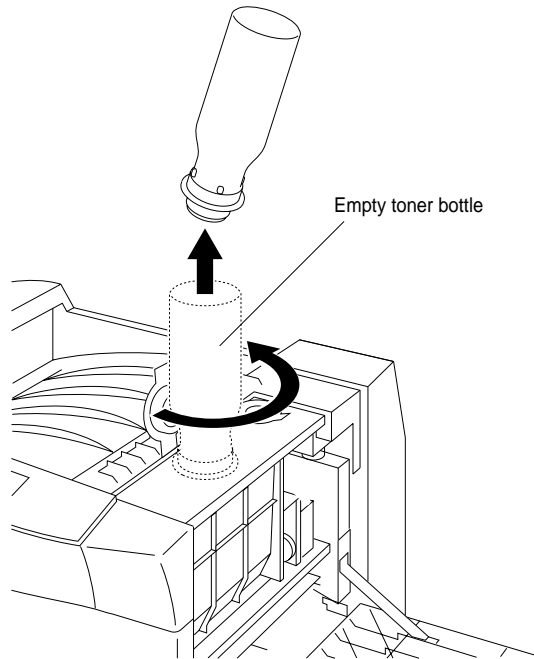
Figure 2-50   Removing the Toner Bottle

Procedure 9: Adding New Supplies

7. Close the toner fill flap, as shown in Figure 2-51.
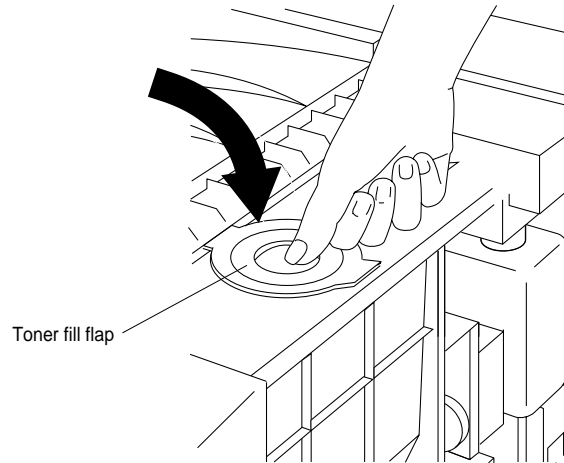
Toner fill flap

Figure 2-51   Closing the Toner Fill Flap

8. Discard the toner bottle.

NOTE: The toner bottle is made of recyclable materials. Dispose of in accordance with local regulations.

Installing the Developer

1. Locate and remove the Developer from the Starter Kit.
2. Remove the developer bottle from its packaging.
3. Open the developer fill flap, as shown in Figure 2-52.
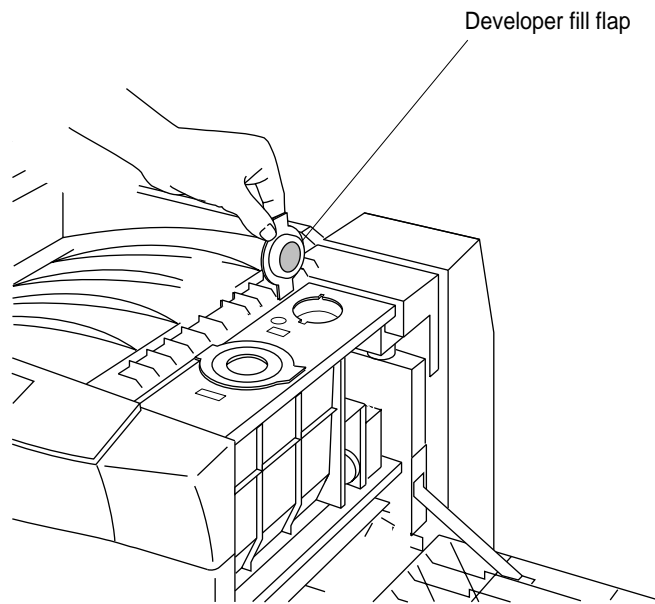
Developer fill flap

Figure 2-52   Opening the Developer Fill Flap

Installation

Procedure 9: Adding New Supplies

4. Line up the guide pins on the bottle with the guide pin openings on the developer fill. Insert and turn the developer bottle clockwise 180° to start filling, as shown in Figure 2-53.

Developer bottle

Guide pin
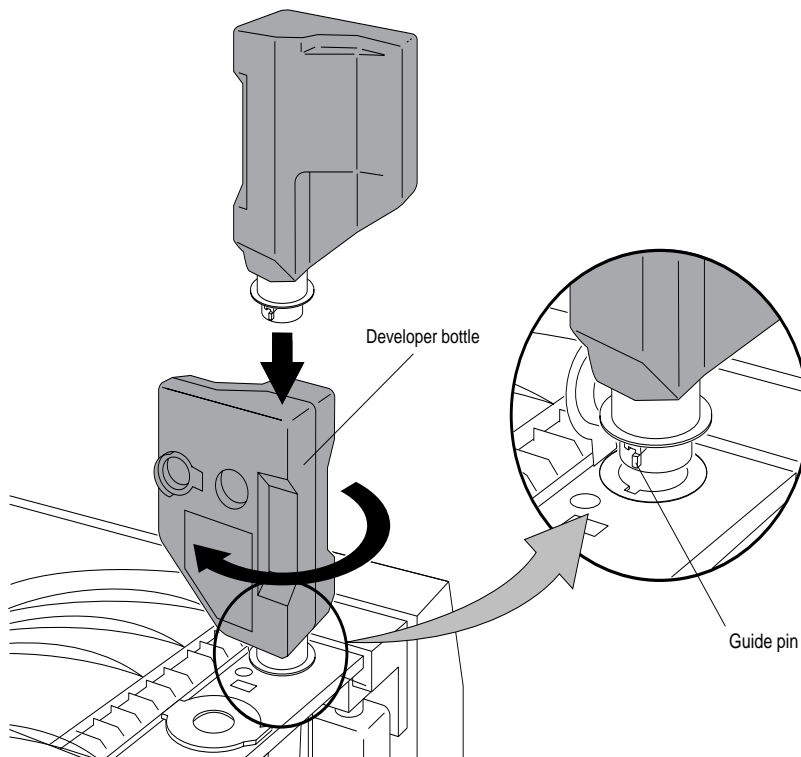
Figure 2-53   Filling the Developer

5. When almost empty, gently tap the developer bottle to dislodge any remaining developer as shown in Figure 2-54.
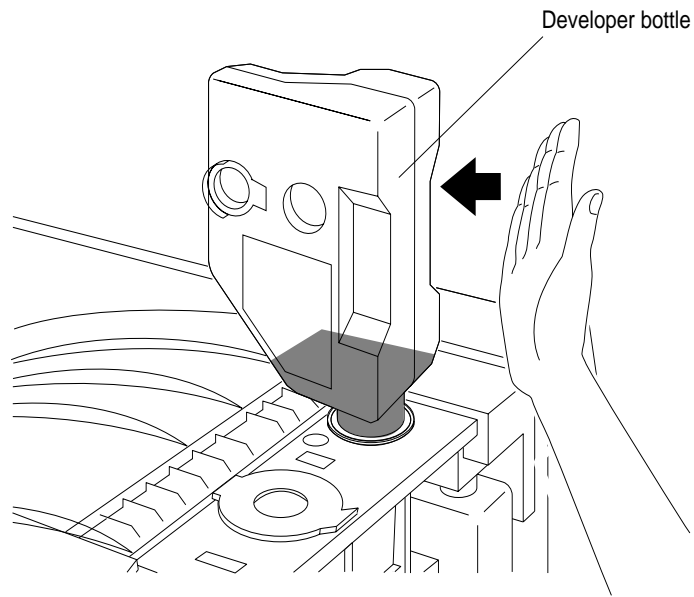
Developer bottle

Installation

Figure 2-54   Tapping the Developer Bottle

Procedure 9: Adding New Supplies

6. Turn the developer bottle counterclockwise 180° and remove, as shown in Figure 2-55.

Empty developer bottle
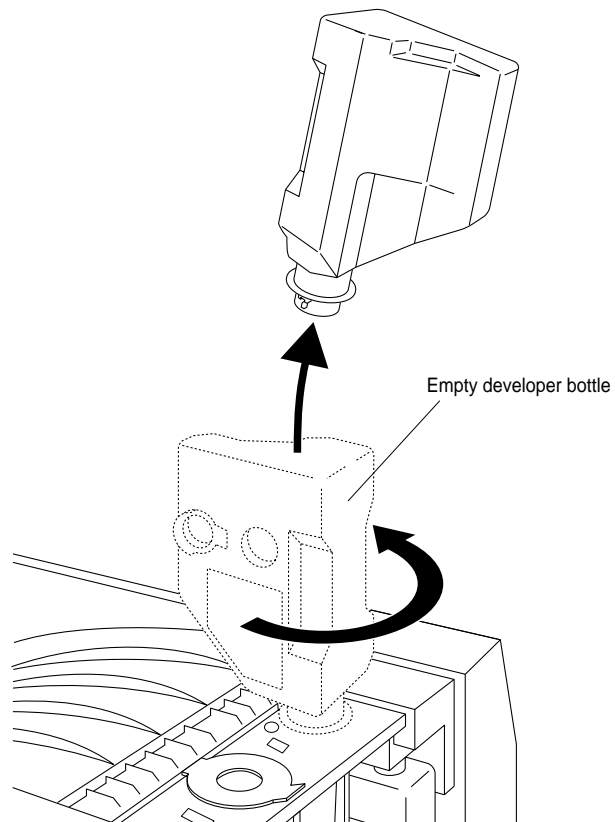
Figure 2-55   Removing the Developer Bottle

NOTE: Do not discard the empty bottle, it is used in a later step.

7. Close the developer fill flap, as shown in Figure 2-56.
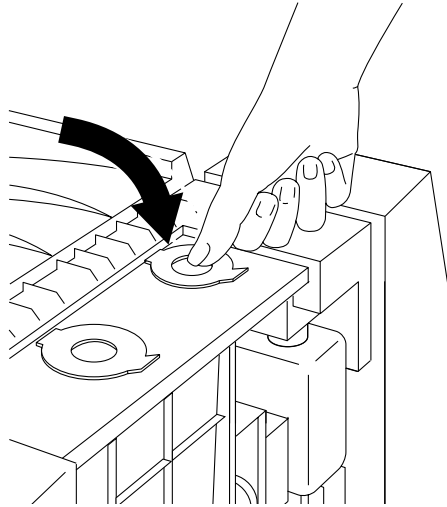
Figure 2-56   Closing the Developer Fill Flap

8. Press the **Done** button on the Control Panel. You will see the screen shown in Figure 2-57, since you are installing the developer for the first time, you do not have to worry about the old bottle.

Developer Injection Complete
Remove and Cap Old Bottle
Install Empty New Bottle
Close Cover and Press Done

Done
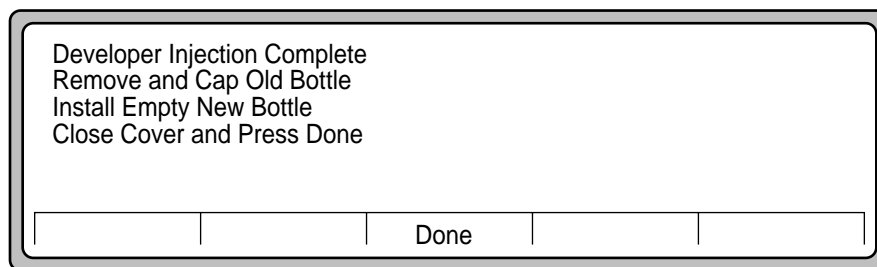
Figure 2-57   Developer Complete

9. Before you close the cover, proceed to the next section "Installing Developer Purge Bottle."

Installation

Procedure 9: Adding New Supplies

Installing Developer Purge Bottle

1. Remove small cap on the side of the developer bottle.
2. Turn cap around and place in the storage location, as shown in Figure 2-58.

Empty bottle

Cap in storage locati[on]
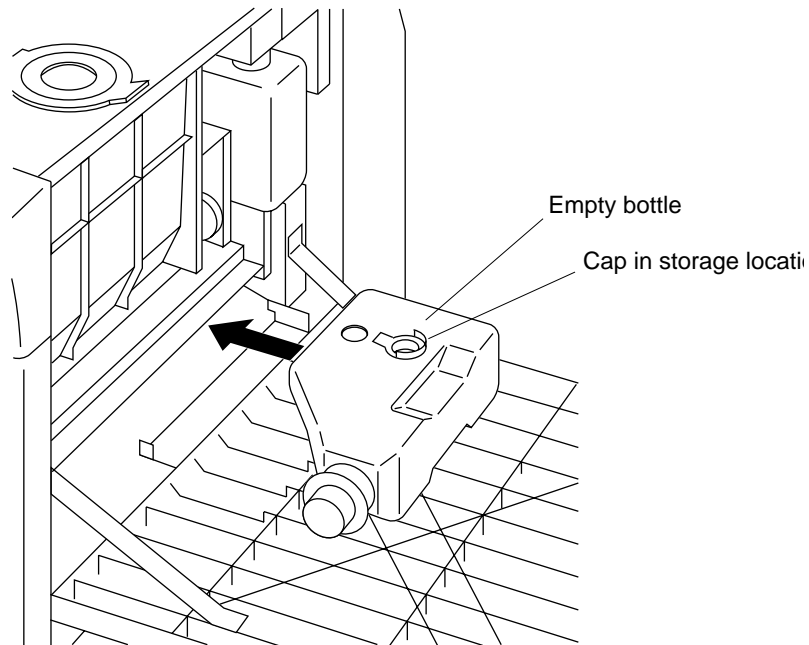
Figure 2-58   Installing Developer Purge Bottle

3. Insert developer purge bottle into storage position.

NOTE: The bottle will not fit into the storage position if the cap is not moved.

4. Close the upper right cover and press **Done** on the Control Panel. You will see the screen shown in Figure 2-59.

```
TRAY1 out of paper                          600dpi
Load paper
PCL    12.145
                                                   LTR ☐
                                                   LTR ■
       Online                                      LTR ■
      Offline   |   Custom   |   Menu   |   Test   |   PapSize
```
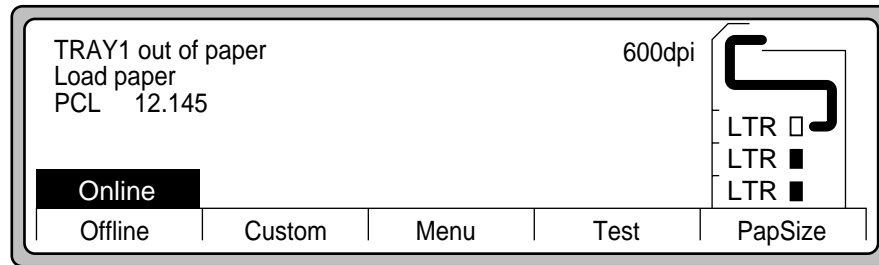
Figure 2-59   Tray 1 Not Ready

You are now ready to set the trays, and load the paper. The next procedure, Procedure 10: Setting the Paper Trays, describes these steps.

Installation

Procedure 10: Setting the Paper Trays

Before you can print you must first set the paper trays.

In this procedure, you will:

- Set the paper tray size
- Load paper
- Configure the printer

Setting the Paper Trays

1. Pull the upper paper tray out until it stops. See Figure 2-60.
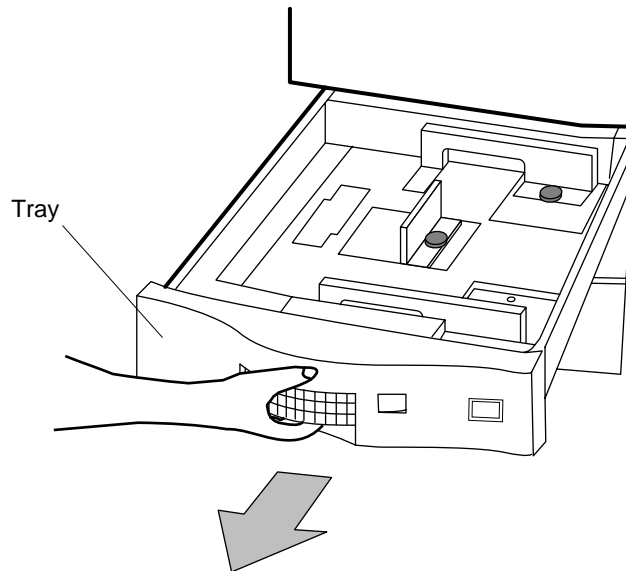
Tray

Figure 2-60   Pulling out the Tray

To change the tray paper size, perform the following steps, otherwise proceed to the next section "Loading Paper".

NOTE: The printer is preset for letter (LTR) size paper.

Procedure 10: Setting the Paper Trays

1. Each paper guide has a blue locking device, as shown in Figure 2-61.
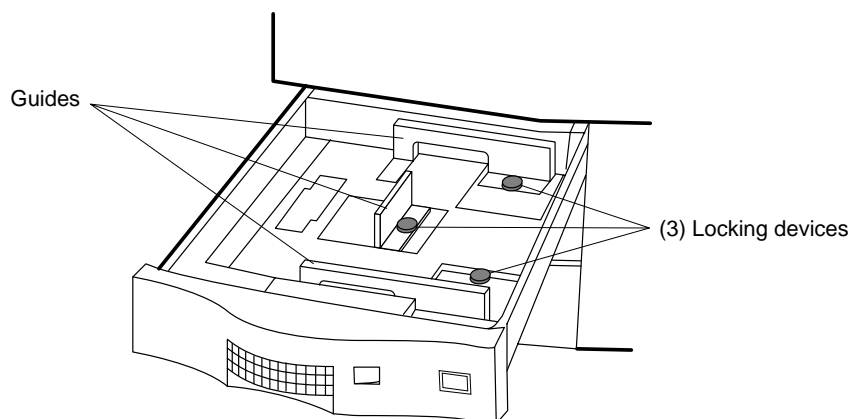
Figure 2-61   Paper Guides

2. Turn the blue locking device, for each paper guide, counterclockwise to the OPEN position. See Figure 2-62.
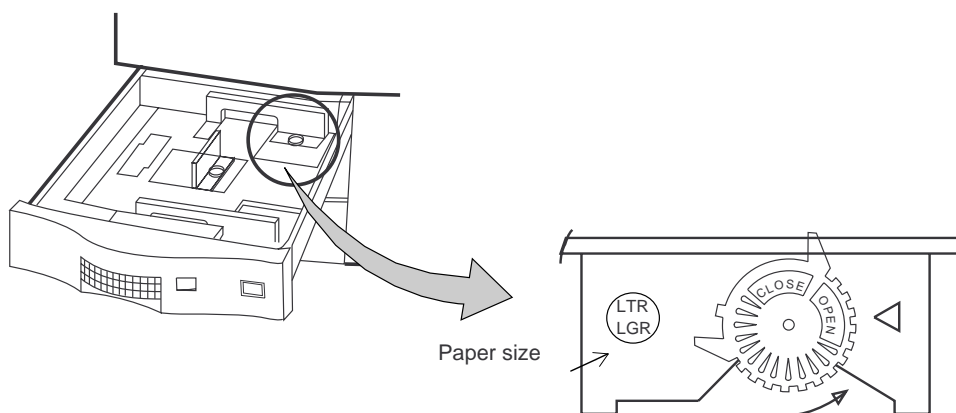
Figure 2-62   Locking Device

3. Lift paper guides and place in new paper size location. The paper size can be seen in the round circle on the paper guide. See Figure 2-62.

Procedure 10: Setting the Paper Trays

4. Adjust each paper guide for the same paper size. See Figure 2-63.
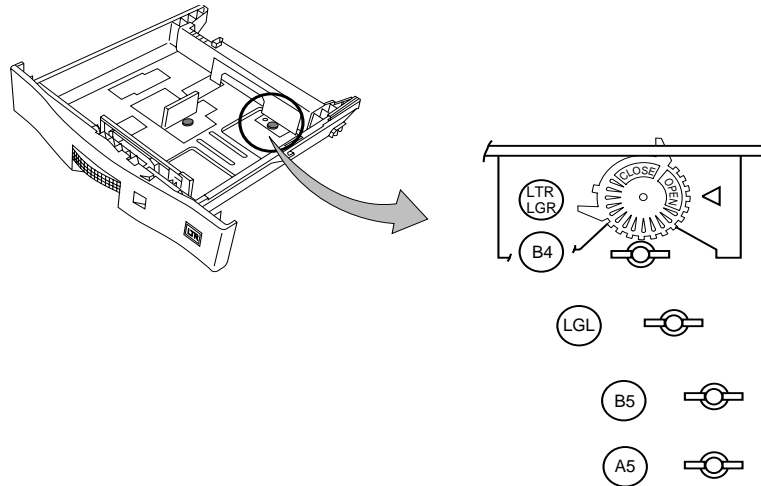
Figure 2-63   Paper Size Locations

5. Turn the blue locking device, for the paper guide, clockwise to the CLOSE position to secure. See Figure 2-64.
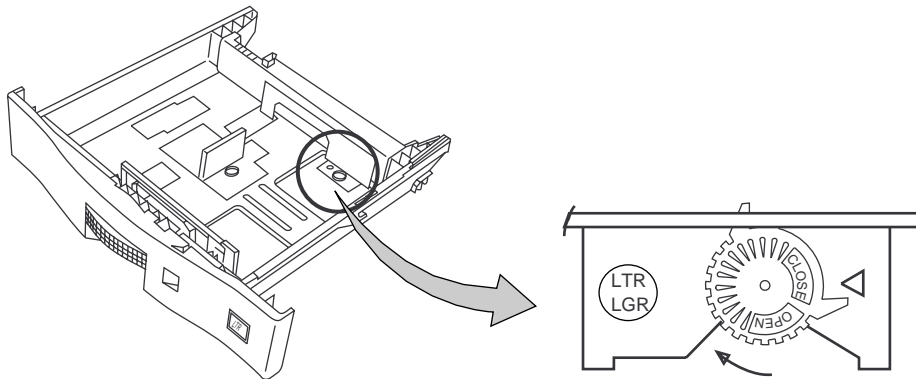
Figure 2-64   Securing the Paper Guide

6. Close the paper tray.

To change the paper size for tray2 and tray3, perform steps 1 through 6 for each tray.

Procedure 10: Setting the Paper Trays

Paper-Size Indicator

Perform the following steps to indicate paper sizes.

1. Open the plastic bag in the Starter Kit containing the paper-size cards.
2. Break off the label that indicates the correct paper size for each tray. See Figure 2-65.
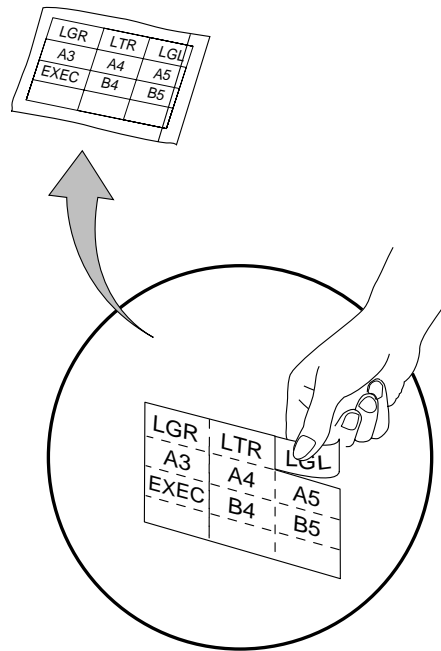
Figure 2-65   Paper-Size Labels

Procedure 10: Setting the Paper Trays

3. Pull out each tray and push out the paper-size holder, as shown in Figure 2-66.
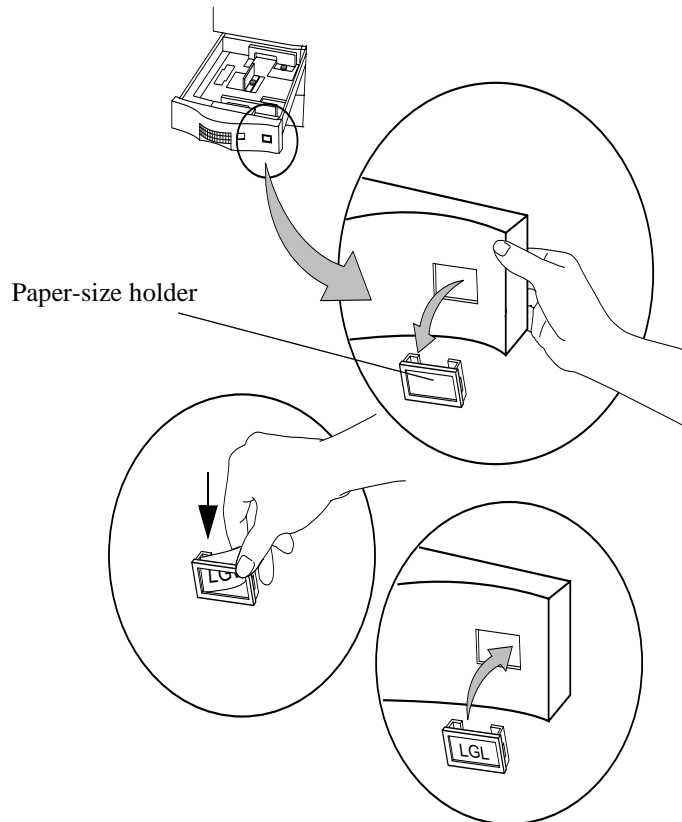
Paper-size holder

Figure 2-66   Paper-Size Holder

4. Place the paper-size label in the paper-size holder of each tray.

NOTE: You can store the remaining paper-size labels in each paper-size holder.

5. Replace the paper-size holders.
6. Close trays.

You are now ready to load the paper as described in the next section, "Loading Paper".

Procedure 10: Setting the Paper Trays

Loading Paper

To load the paper in the paper trays do the following:

1. Remove the paper from the package with the seam side up as shown in Figure 2-67. Read the manufacturer's label and note which side of the paper should be printed first. Most manufacturers note this with a "Print This Side First" arrow.
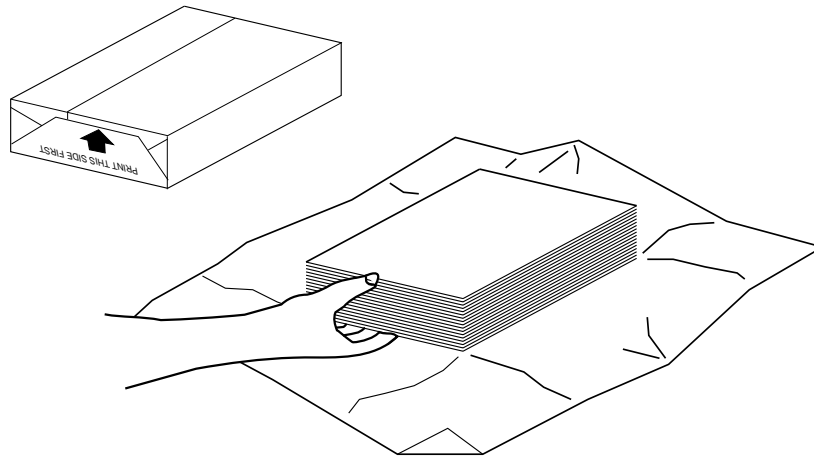
Figure 2-67   Removing the Paper From the Package

2. Inspect the paper for indented or interlocked edges, bent corners, wrinkled sheets, and excess glue from the wrapper. Discard any damaged sheets.
3. Open tray1.

Procedure 10: Setting the Paper Trays

4. Load the paper in the tray print side down. Do not stack the paper above the paper-full mark. See to Figure 2-68).
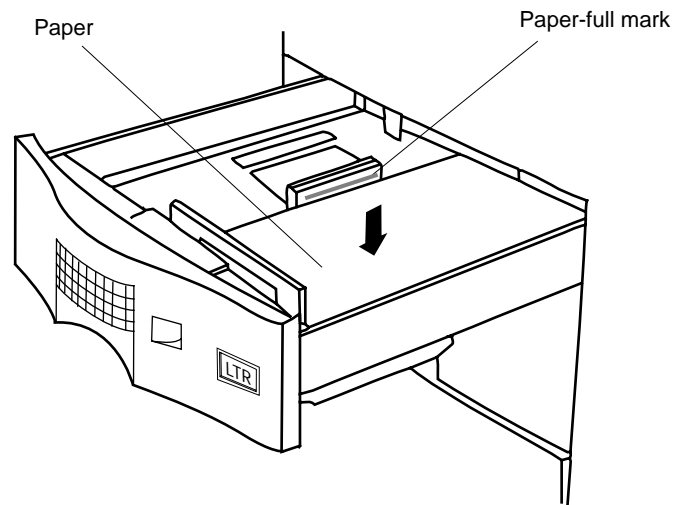
Figure 2-68   Loading the Paper in the Tray

- If the paper is not placed with the correct side down, the paper may jam or have excessive curl.
- Never mix the types of paper loaded in a tray. Mixing paper can result in multiple sheet feeds and other paper handling problems.

5. Close the tray.
6. Repeat the above steps (1 through 5) when loading paper in the two remaining trays.

NOTE: Never load paper above the full mark or you may get paper jams and skewed print.

Paper Level Indicator

The blue paper level indicator shows the approximate level of the paper in the tray. When the indicator is in the upper position, the paper tray is full. As the paper level lowers, so does the indicator. See Figure 2-69, Paper Level Indicator.
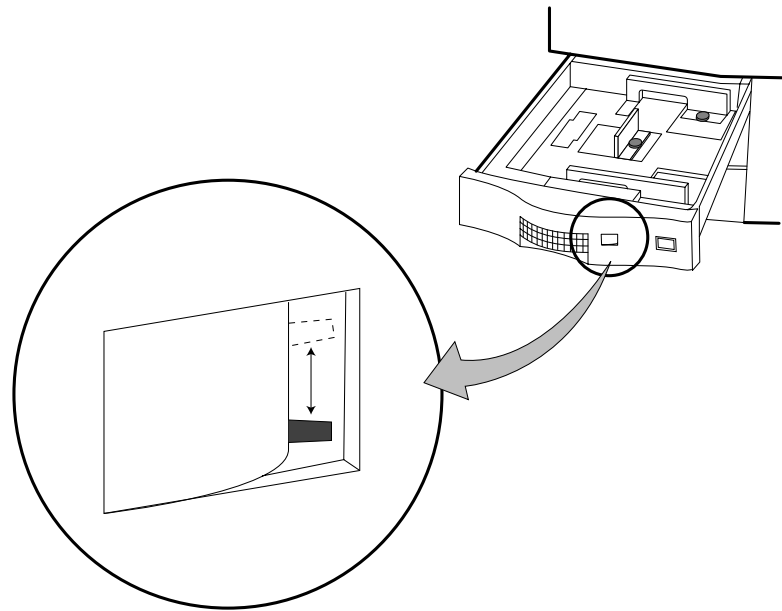
Installation

Figure 2-69   Paper Level Indicator

Procedure 10: Setting the Paper Trays

Control Panel Display

The right hand side of the Control Panel display shows a diagram of the printer. The display includes installed paper trays and associated paper sizes as shown in Figure 2-70.

Printer diagram
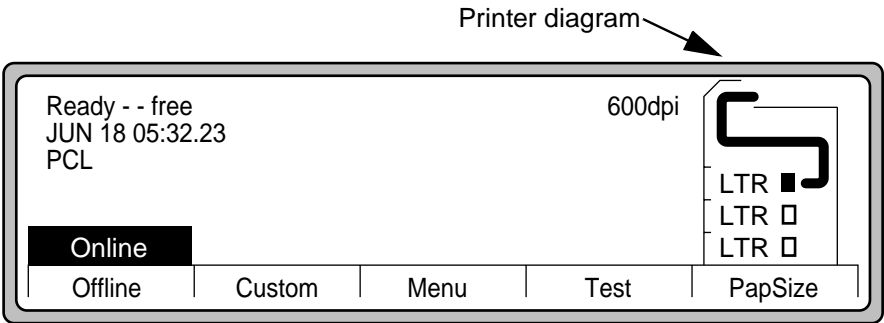
Figure 2-70   Control Panel Display, Main Screen

- LTR ▉   indicates letter size paper and that the paper tray has paper.
- LTR ☐   indicates letter size paper and that the paper tray is empty.

The display also shows the selected paper path, from the selected tray, out to the selected paper output.

Configuring the Printer

1. Press the **PapSize** button on the **Main Screen** (see Figure 2-70) to display the Pap-Size menu shown in Figure 2-71.
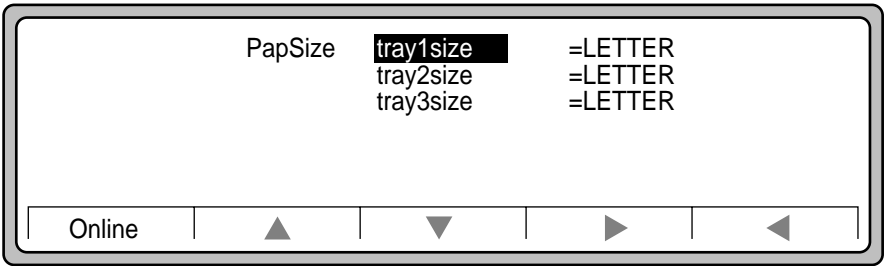
Figure 2-71   PapSize Menu

The PapSize submenu provides access to paper size selections for each tray.

Procedure 10: Setting the Paper Trays

Using the Menus

The function buttons shown in Figure 2-72 are used to maneuver in and make selections within the submenus. Table 2-3 describes each submenu button.
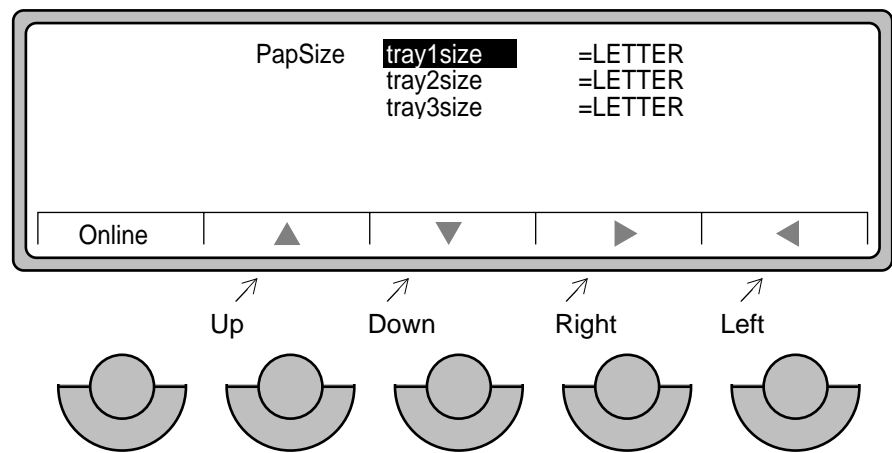
Figure 2-72   Submenu Buttons

Table 2-3   Submenu Buttons Description

▲	The **up arrow** button moves the selection back to the previous item on the submenu list.
▼	The **down arrow** button moves the selection to the next item on the submenu list.
▶	The **right arrow** button selects the next level of the submenu structure.
◀	The **left arrow** button goes back to one submenu level above the current one.

Refer to Chapter 2 in the *User Manual* for more detailed information.

Procedure 10: Setting the Paper Trays

1. Press the **left arrow** button to return to the **Main Screen** shown in Figure 2-73.

```
Ready - - free                                    600dpi
JUN 18 05:32.23
PCL
                                                  LTR ▪
                                                  LTR ▪
  Online                                          LTR ▪
  Offline    │  Custom  │   Menu   │   Test   │  PapSize
```
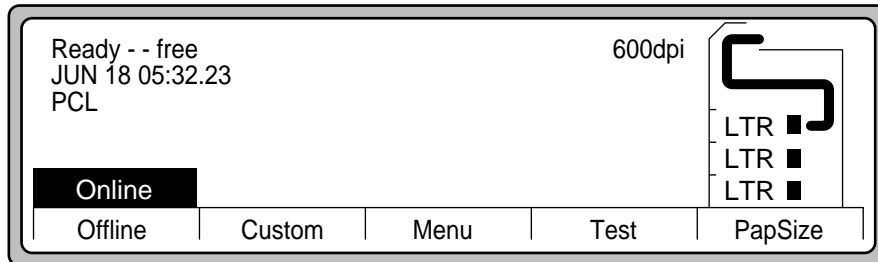
Figure 2-73   Main Screen

2. Proceed to Procedure 11: Installing Function Code.

Procedure 11: Installing Function Code

The D640 comes with its operating function code (software) and fonts preinstalled in the printer. When the printer is shipped to you, the latest version of the code is shipped on diskette and may be more current than the version preinstalled in the printer.

Follow the steps in this procedure to install the latest version in your printer.

Follow these steps to update your printer software:

1. Open the front cover and locate the floppy drive, as shown in Figure 2-74.

Floppy disk drive

Front cover

Figure 2-74   Floppy Disk Drive

Installation
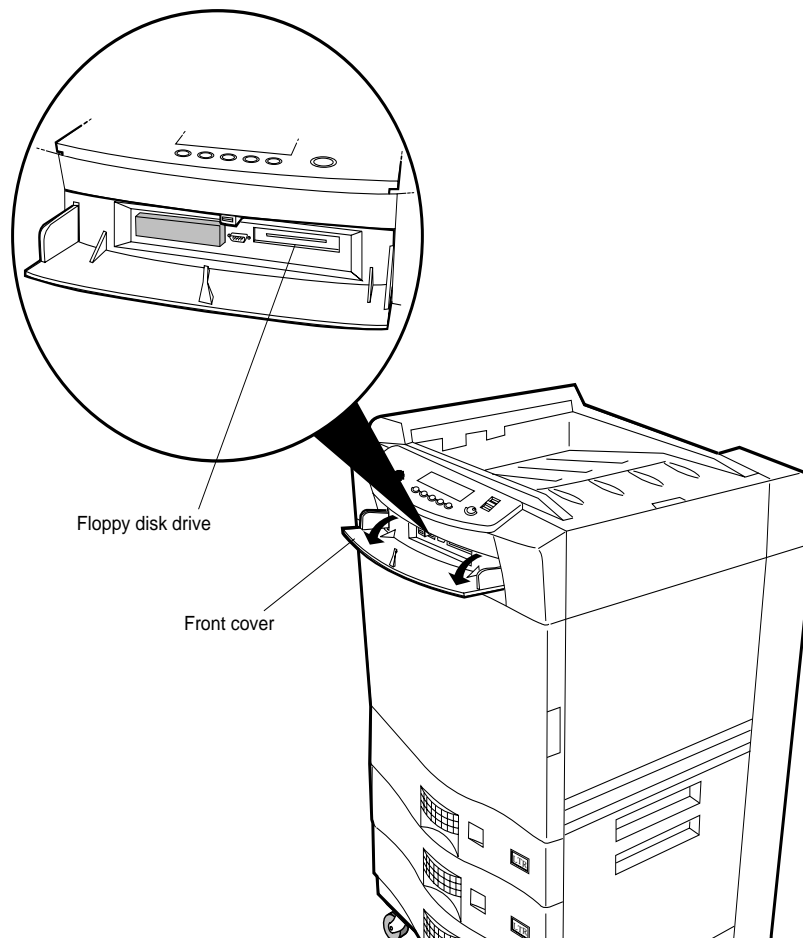
Procedure 11: Installing Function Code

2. Locate the Function Code diskette(s) shipped in the Starter Kit. See Figure 2-8, on page 2-10.

3. Insert the diskette into the drive as shown in Figure 2-75.
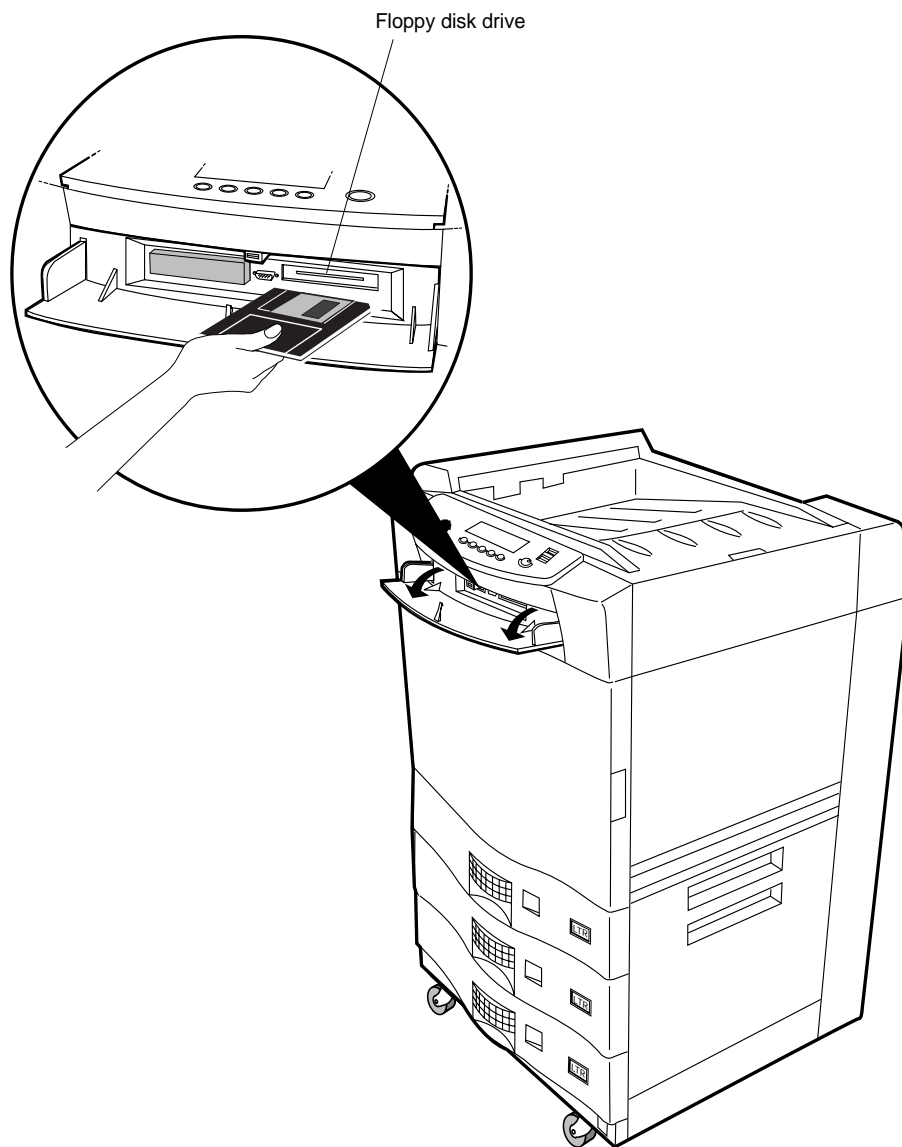
Figure 2-75   Installing Function Code

Procedure 11: Installing Function Code

4. Press the **Test** button on the **Main Screen** shown in Figure 2-76.

```
Ready - - free                          600dpi
JUN 18 05:32.23
PCL
                                         LTR ■
                                         LTR ■
 Online                                  LTR ■
   Offline   |   Custom   |   Menu   |   Test   |  PapSize
```
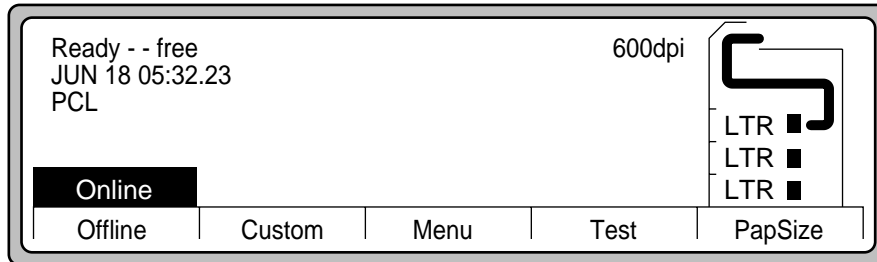
Figure 2-76   Main Screen

5. Use the **down arrow** button to scroll down and highlight **filesA**, as shown in Figure 2-77, and press the **Select** button.

```
         Test    ⌃ filesA
                   filesC




   Online   |   ▲   |   ▼   |   Select   |   ◄
```
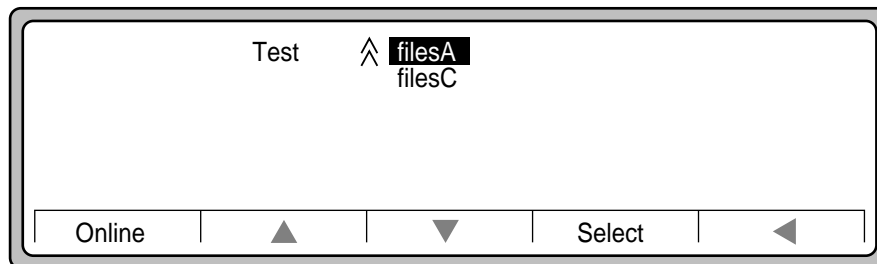
Figure 2-77   Test Submenu

NOTE: After pressing select, there will be a few seconds delay as the printer reads the directory from the diskette.

6. From the filesA submenu, highlight the **UPDATE.LAY** file. Press **Select** and **Online** to start the update process.

Procedure 11: Installing Function Code

7. After a few seconds, the printer displays this message:

    Installing backup to hard disk

8. Then the printer displays this message:

    Loading new Function Code

9. After about 45 seconds, the printer displays this message:

    EW OK

10. After a few seconds the Control Panel display goes blank (the new function code is resetting the main controller).

11. When the new function code has finished resetting the controller, you will see the display shown in Figure 2-78.
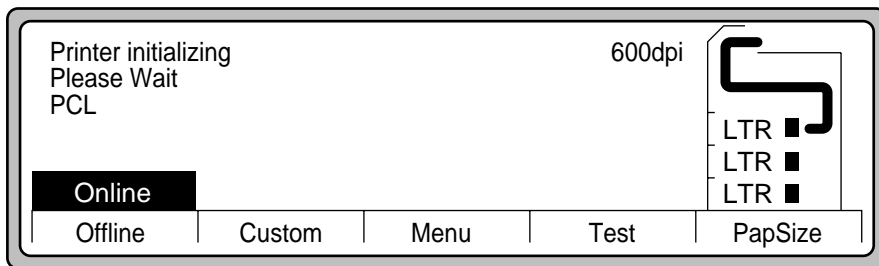
Figure 2-78   Printer Initializing

12. When the printer has finished initializing, you will see the **Ready** message, as shown in Figure 2-79
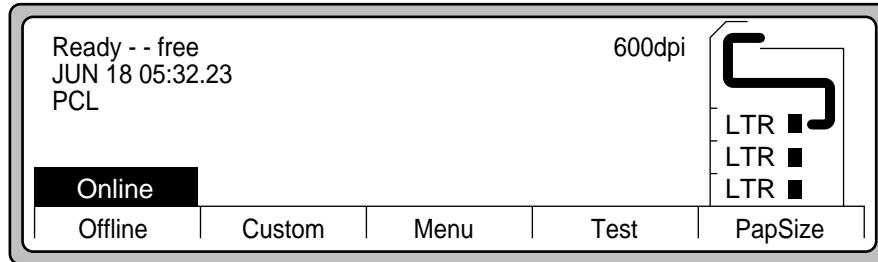
Figure 2-79   Ready (Main Screen)

13. Remove the Upgrade Function Code diskette and close the front cover.

NOTE: After you remove the Upgrade Function Code diskette, store it in a safe place.

14. Proceed to Procedure 12: Setting the Date and Time.

Installation

Procedure 12: Setting the Date and Time

The D640 prints the current date and time on test patterns and reports (such as the Ripple Test Pattern and the Maintenance Report). When you unpack the printer, the date and time still has the factory settings. Set the date and time to the current values, following these steps:

1. At the **Main Screen** (shown in Figure 2-73), press **Menu.** You will see the screen in Figure 2-80**.**
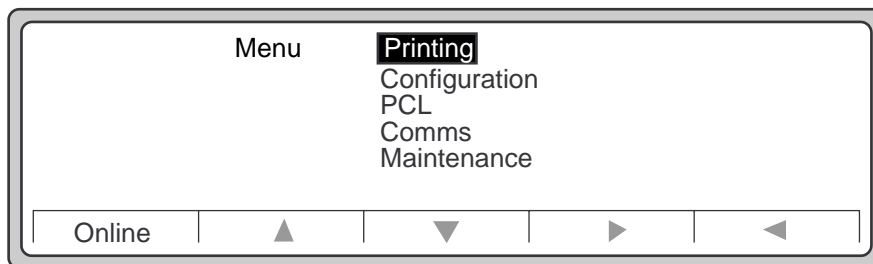
Figure 2-80   Menu

2. Use the **down arrow** to highlight **Maintenance**, as shown in Figure 2-81.
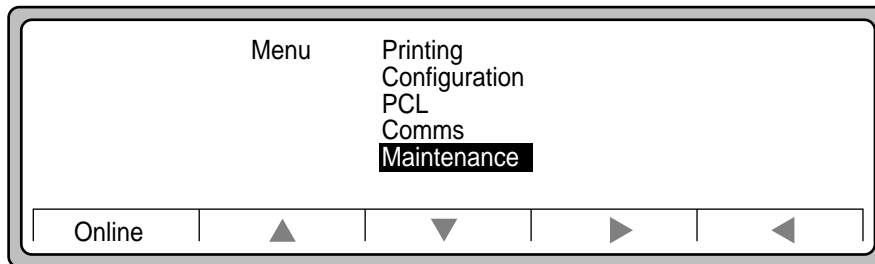
Figure 2-81   Maintenance Selected

3. Press the **right arrow** to highlight the **Maintenance** screen, shown in Figure 2-82.

Procedure 12: Setting the Date and Time
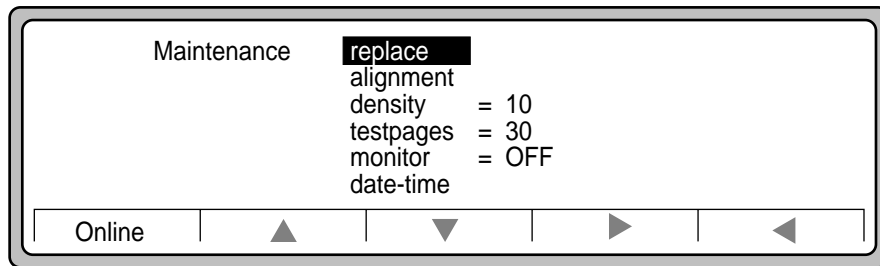
Figure 2-82   Maintenance Settings

4. Press the **down arrow** to highlight the **date-time** setting, as shown in Figure 2-83.
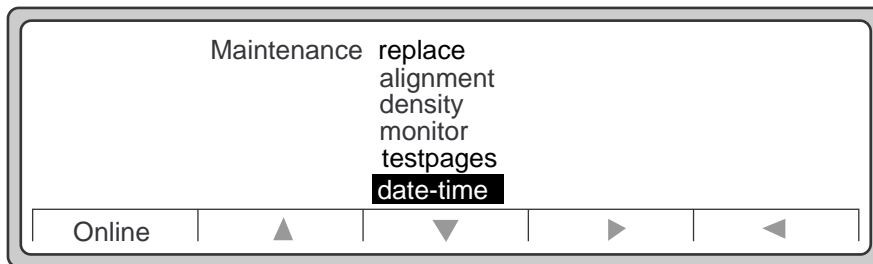
Figure 2-83   date-time

5. Press the **right arrow** to highlight the **date-time** settings, as shown in Figure 2-84.
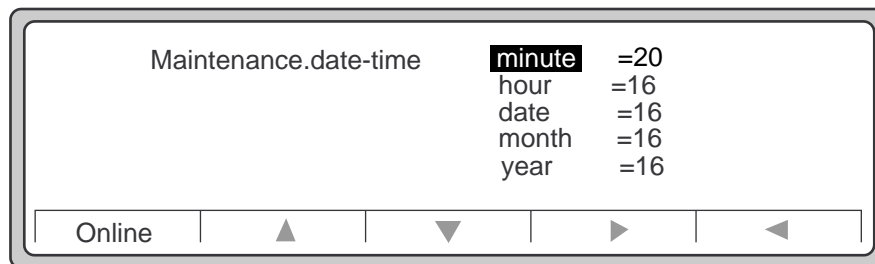
Figure 2-84   Maintenance.date-time Settings

6. Press the **up** or **down arrow** to highlight the **date-time** setting to change.
7. Press the **right arrow** to highlight that setting.

Procedure 12: Setting the Date and Time

8. Press the **up** and **down arrow** to change the value of the setting, as shown in Figure 2-85. In this example of the **date** setting, the carat (**^**) symbols indicate that there are more selections before **18** and after **23.** The equals (**=**) sign indicates the current value of **date**, which is **20**.

```
┌─────────────────────────────────────────────────┐
│                                                   │
│   Maintenance.date-time.date      ⨠    ▮18▮       │
│                                            19     │
│                                   =        20     │
│                                            21     │
│                                            22     │
│                                   ⨡        23     │
│  ┌──────────┬────────┬────────┬──────────┬──────┐ │
│  │ Online   │   ▲    │   ▼    │  Select  │  ◄   │ │
│  └──────────┴────────┴────────┴──────────┴──────┘ │
└─────────────────────────────────────────────────┘
```
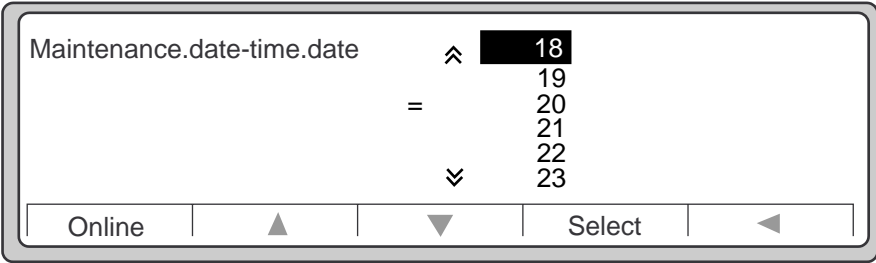
Figure 2-85   Maintenance.date-time.date

9. When you have moved to the correct value, press **Select**. You will return to the **Maintenance.date-time** screen shown in Figure 2-84. At this point, you can repeat the procedure from step 6 to change additional values, or if you are finished, press **Online** to return to the **Main Screen** and verify the correct date and time**.**

Date and time

```
┌───────────────────────────────────────────────────────┐
│  Ready - - free                          600dpi         │
│  JUN 18 05:32.23                                        │
│  PCL                                                    │
│                                             LTR ▪       │
│                                             LTR ▪       │
│  ┌──────────┐                               LTR ▪       │
│  │ Online   │                                           │
│  ├──────────┼─────────┬────────┬─────────┬─────────┐    │
│  │ Offline  │ Custom  │  Menu  │  Test   │ PapSize │    │
│  └──────────┴─────────┴────────┴─────────┴─────────┘    │
└───────────────────────────────────────────────────────┘
```
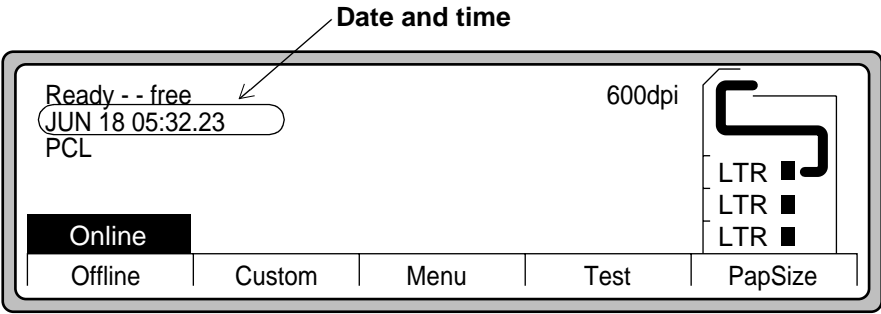
Figure 2-86   Date and Time on Control Panel

Proceed to Procedure 13: Printing a Setup Report.

Procedure 13: Printing a Setup Report

You are now ready to print a setup report. A successful printout indicates that all printer components are installed and are operating correctly. Keep in mind, however, that the printer to computer connection is not yet in place.

1. Press the **Test** button on the **Main Screen**, shown below in Figure 2-87.

Ready - - free	600dpi
JUN 18 05:32.23	
PCL	
	LTR ■
	LTR ■
Online	LTR ■
Offline	Custom	Menu	Test	PapSize
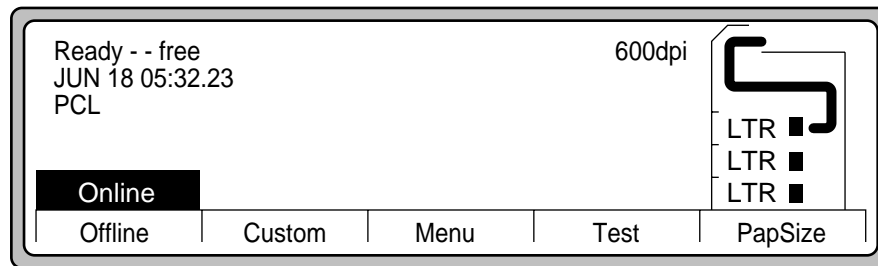
Figure 2-87   Main Screen

2. Select **SETUPS** from the Test submenu, as shown in Figure 2-88, and press the **Select** button.

Test	SETUPS
	MAINT
	FONTS
	TABLE
	TYPES
⋁	MENUS
Online	▲	▼	Select	◄
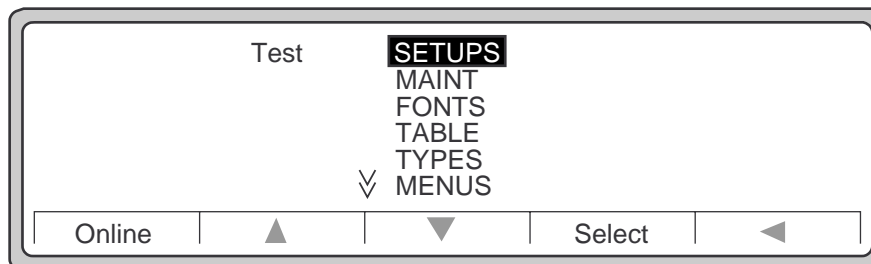
Figure 2-88   Test Submenu

Figure 2-89, Sample Setup Report, Page 1, on page 2-80, shows the information reported when you print the **SETUPS** submenu.

3. Check the printer setup report print. It should look similar to the sample setup report in Figure 2-89. If it does, proceed to Procedure 14: Securing the Printer.

Procedure 13: Printing a Setup Report

HP 5000 Model D640 Printer SETUP REPORT

HEWLETT PACKARD

Serial No. JP20000147

Menu: Printing		Menu: Configuration		Menu: PCL	
copies	= 1	newline	= CR+LF	font	= Courier
intray	= TRAY1	traylock.tray1	= UNLOCKED	symbolset	= ROMAN8 8U
paper	= auto	traylock.tray2	= UNLOCKED	pitch	= 10.00
duplex	= OFF	traylock.tray3	= UNLOCKED	pointsize	= 12.00
binding	= LONGEDGE	sizes	= CONFIRM	vcartridge1	= none
jobseparate	= none	imageshift.top	= 0	vcartridge2	= none
emulation	= Auto	imageshift.left	= 0		
orientation	= PORTRAIT	customsize.width=	8417		
lpi	= 6.00	customsize.height=	12240		
error-report	= none	units	= MM		
		dpi	= 600dpi		
		clip	= ON		
		jamrecovery	= ON		
		economode	= OFF		
		powersave	= 1 HR		
		language	= ENGLISH		

Menu: Comms		Menu: Maintenance		Menu: PapSize	
timeout	= 15	alignment.tray1	= 14	tray1size	= LETTER
databuffer	= 32	alignment.tray2	= 12	tray2size	= LETTER
parallel.speed	= FAST	alignment.tray3	= 16	tray3size	= CUSTOM
parallel.mode	= ADVANCED	alignment.duplex=	1		
serial.baud	= 19200	alignment.duplexv=	-7		
serial.stopbits	= 1BIT	density	= 10		
serial.parity	= none	testpages	= 30		
serial.flow	= XON/XOFF	monitor	= OFF		
serial.dtr	= HI/LO				
serial.levels	= RS232				

Printer Information

Total page count	=	7294
Paper Width	=	8.50"/216mm (5100 pixels)
Paper Height	=	11.00"/280mm (6600 pixels)
Print Width	=	8.02"/204mm (4816 pixels)
Print Height	=	9.97"/254mm (5985 pixels)
Total RAM size	=	32768 kbytes
Page RAM size	=	23249 kbytes
Free RAM size	=	8074 kbytes
Permanent softfonts	=	0
Characters received	=	0
Characters lost	=	0
Protocol errors	=	0
Engine firmware rev.	=	E01V03L17
Function Code revision=		E01V09L08h
Function Code dates	=	961027/961027
PowerPage PS version	=	2003.002/27f

NOV 20 1996 22:25:32

Figure 2-89   Sample Setup Report, Page 1

If the test was unsuccessful, refer to Troubleshooting, which follows.

If the test was successful, perform installation of any accessories according to the procedures in Chapter 4, Accessories. If you have no accessories to install, proceed to Procedure 14: Securing the Printer.

Troubleshooting

In the unlikely event that the printer does not generate a printer setup report, follow these steps:

1. If the printer does not power on (no lights or sounds), verify that it is connected to a live power circuit, that the Main power switch is in the ON position, and the standby switch has been moved to the ON position momentarily.
2. Write down the error code if one appears on the LCD display.
3. Refer to "Printer Error Codes" in the *User Manual* to determine the meaning of the error code.
4. Use the error code to check the area specified and correct the problem. In addition, check for:
   a) Styrofoam or cover did not get removed
   b) Jammed paper
   c) Improper installation
5. Print a test pattern, described in Procedure 13: Printing a Setup Report, on page 2-79.
6. If you are still unsuccessful, see "Where To Call For Help" on page B-3. Be prepared to give the service representative the error code, and any messages appearing on the Control Panel, to assist in troubleshooting.

Installation

Procedure 14: Securing the Printer

Place the printer on a sturdy, smooth, level surface in a well-ventilated room. Check the printer location to make sure it meets all necessary operational requirements.

Secure the printer to the current location only if the printer is not going to be moved or you are not installing the HCI and HCO.

1. Manually lower all four leveling bolts until they touch the floor.
2. Use the wrench to lower the leveling bolts until the wheels are just off the ground, as shown in Figure 2-90.
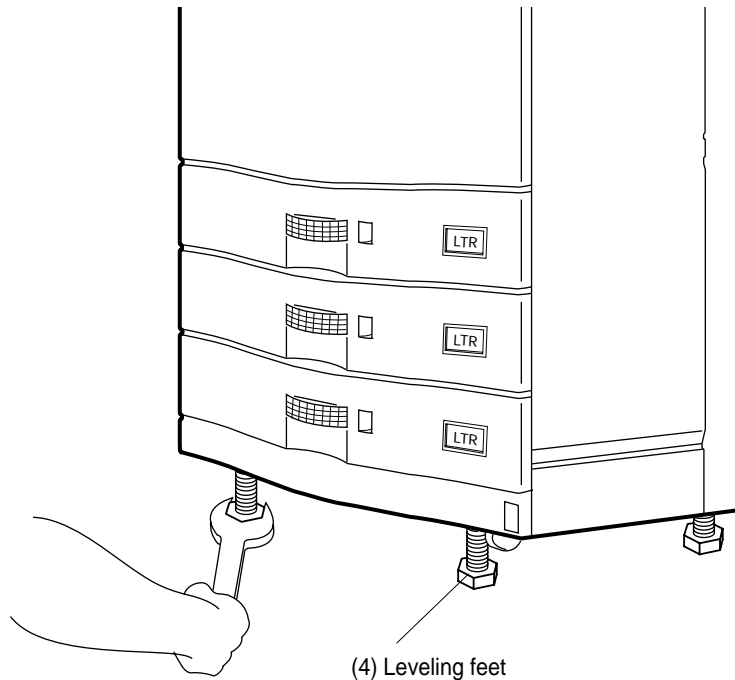
(4) Leveling feet

Figure 2-90   Securing the Leveling Feet

When you have secured the printer, perform the paper tray alignment procedure in Procedure 15: Paper Path Alignment.

Procedure 15: Paper Path Alignment

During transportation, the paper path alignment may change slightly from the factory set position. The following paper path alignment procedure will set the printing alignment for each tray to ensure correct print position. This procedure looks complicated, but it is actually quite easy. After you have performed it a once or twice, it should only take a few minutes to complete.

Note: **Please read through the entire procedure before performing any of the steps.**

Installation

Step 1 - Printing Alignment Sheets

When you run the alignment program from the printer's hard drive, the printer produces a set of alignment pages.

Step 2 - Measuring Alignment

By measuring the current alignment for each tray against a reference standard, you simply add two numbers to determine new alignment values.

Step 3 - Setting Alignment Values

Once you have determined new values, enter them in the Control Panel and recheck the alignment.

Procedure 15: Paper Path Alignment

Step 1 - Printing Alignment Sheets

1. Verify that all three paper trays and the HCI (if installed) have Letter (or A4) size paper.

2. Press the **Test** button on the **Main Screen**, shown in Figure 2-91.
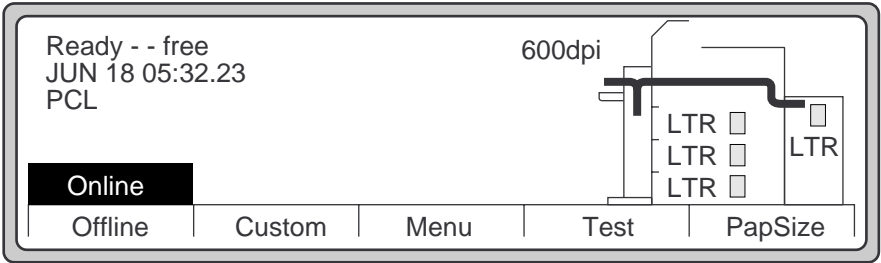
Figure 2-91   Main Screen

3. Use the **down arrow** to scroll down and highlight **filesC**, as shown in Figure 2-92, and press **Select** .

Figure 2-92   Test Submenu

Procedure 15: Paper Path Alignment

4. From the **filesC** submenu shown in Figure 2-93, use the **down arrow** to highlight **USER_ADJ** , then press **Select**.

```
                    C:\       dir
                              USER_ADJ\
                              PCLS\
                              PS\
                              MAINT\
                         ⋁    FONTS\
     ┌─────────┬──────────┬──────────┬──────────┬──────────┐
     │ Online  │    ▲     │    ▼     │  Select  │    ◄     │
     └─────────┴──────────┴──────────┴──────────┴──────────┘
```
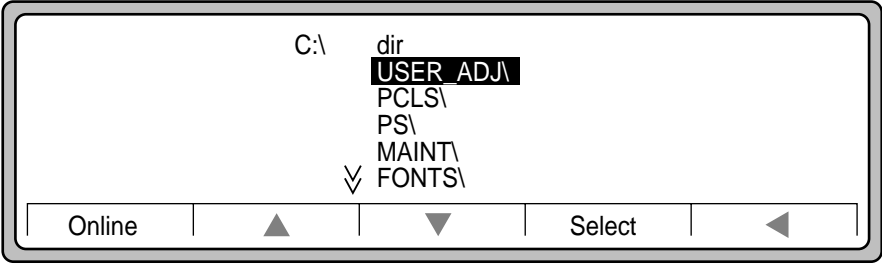
Figure 2-93   FilesC Submenu

5. Use the **down arrow** to highlight **ALIGNSET.***[1] , then press **Select** once. See Figure 2-94.

```
            C:\USER_ADJ\    dir
                            ALIGNSET.12
     ┌─────────┬──────────┬──────────┬──────────┬──────────┐
     │ Online  │    ▲     │    ▼     │  Select  │    ◄     │
     └─────────┴──────────┴──────────┴──────────┴──────────┘
```
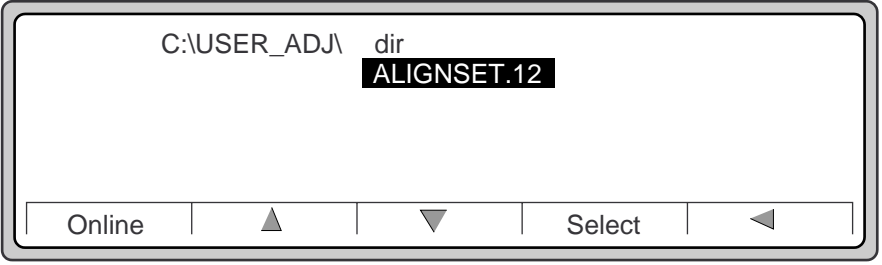
Figure 2-94   ALIGNSET.12

Installation

---

1. The last two numbers refer to the program version number, which may be different from the version number shown in these illustrations.

Procedure 15: Paper Path Alignment

6. The number **1** appears in front of the **ALIGNSET.*** message, as shown in Figure 2-95.

```
C:\USER_ADJ\        dir
                1   ALIGNSET.12


  Online    |    ▲    |    ▼    |   Select   |    ◄
```
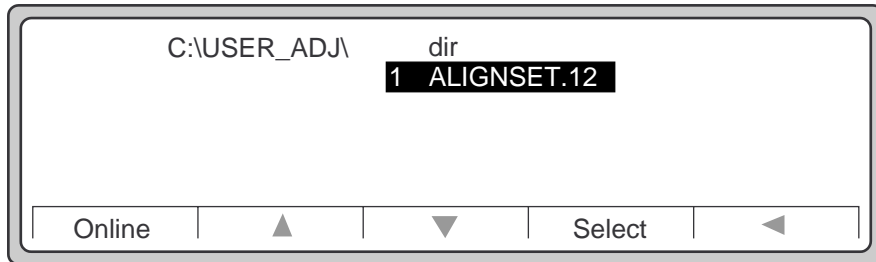
Figure 2-95   1 ALIGNSET.*

7. Press **Online** once.

NOTE: After pressing Online, there will be a few seconds delay as the printer loads the program.

The printer then produces a set of alignment sheets, one from each tray (and the HCI, if it is installed), a *Simplex feed alignment ruler* sheet (see Figure 2-96), which provides:

- instructions for the alignment procedure
- a reference scale to measure the alignment sheets
- a workspace to calculate alignment values and adjustments

and a *Duplex unit alignment ruler* sheet, which measures the duplex sideways and lengthiest alignment values (**duplexv** means "duplex vertical").

When the printer has finished printing these pages, you are ready to begin measuring the alignment pages (Step 2).

Step 2 - Measuring Alignment

You will now read the adjustment values.

1. Carefully and accurately, fold the top part of the Simplex feed alignment ruler sheet, shown below, at the Fold here line.
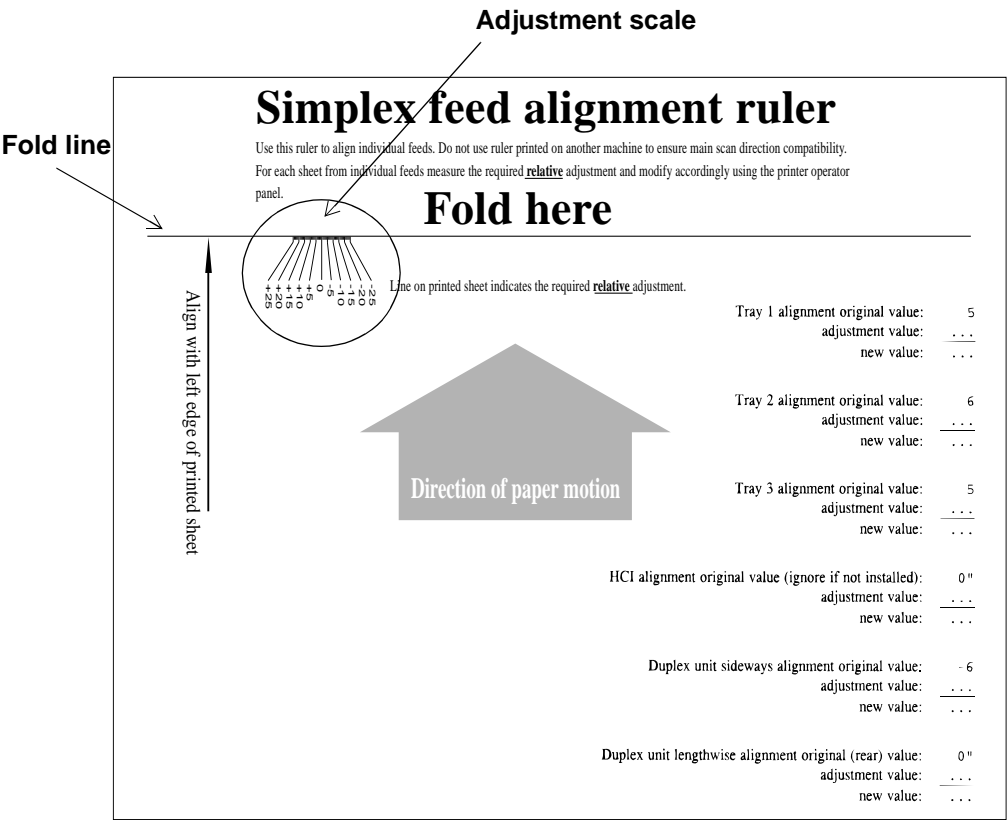
Figure 2-96   Simplex Feed Alignment Ruler Sheet

Procedure 15: Paper Path Alignment

2. On the alignment sheet for tray 1, shown in Figure 2-97, locate the **Feed 1 alignment indicator line**.

3. Place the simplex feed alignment ruler sheet **adjustment scale** between the ends of the arrows (at "measure between these two arrows", shown in the illustration below). On the next page, Figure 2-98 shows how the two sheets should look when properly positioned, with the line labeled "Align with left edge of printed sheet" positioned against the left edge of the alignment sheet for tray 1.

Feed alignment indicator line

Feed 1: Upper tray
Direction of paper motion

Measure between these two arrows
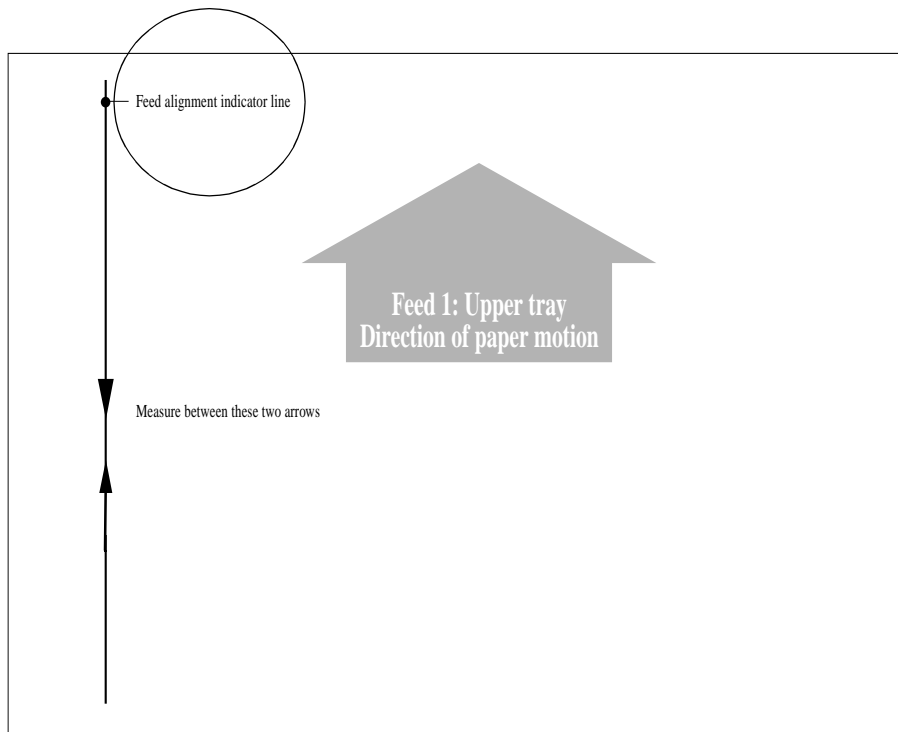
Figure 2-97   Sample Alignment Sheet For Tray 1

Procedure 15: Paper Path Alignment
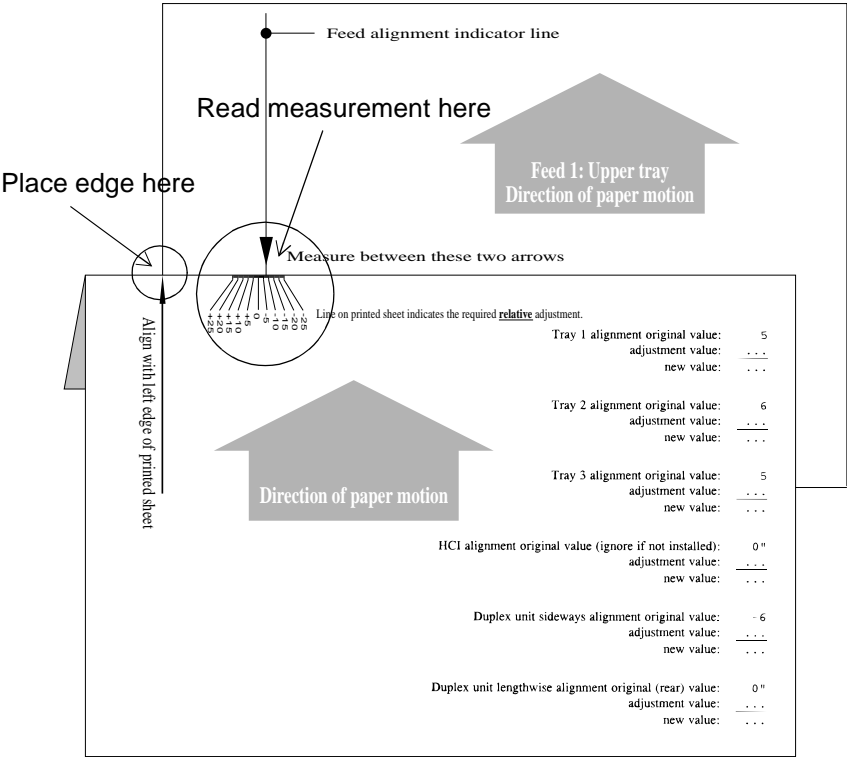
Figure 2-98   Measuring Alignment With Alignment Scale

4.   The arrow printed on the alignment sheet for tray 1 will intersect the simplex feed
     alignment ruler sheet scale at some value, as shown in the illustration above.

Procedure 15: Paper Path Alignment

5. Record this value in the **adjustment value** area *for tray 1* on the simplex feed alignment ruler sheet. See Figure 2-99.

another machine to ensure main scan direction compatibility
adjustment and modify accordingly using the printer operator

Example

here
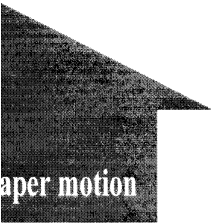
Original alignment value →14
currently in printer

red **relative** adjustment.

Tray 1 alignment original value: 14
     adjustment value: **+2**   ←—Write in adjustment ——→   +2
       new value: . . .   value from line
measurement

Tray 2 alignment original value: 12
     adjustment value: . . .
       new value: . . .

per motion

Tray 3 alignment original value: 16
     adjustment value: . . .
       new value: . . .

HCI alignment original value (ignore if not installed):   0"
     adjustment value: . . .
       new value: . . .

Duplex unit sideways alignment original value: 1
     adjustment value: . . .
       new value: . . .

Duplex unit lengthwise alignment original (rear) value: 0"
     adjustment value: . . .
       new value: . . .

Figure 2-99   Original Alignment Value and Adjustment Value

6. Repeat steps 2 through 4 with the alignment sheets for trays 2, 3, and the HCI (if installed).

Note: **The printer still prints a sheet for the HCI even if no HCI is present. Simply ignore this page if you don't have an HCI connected and paper installed in it.**

---

7. Now read the values for duplex pages as directed in the next section.

Duplex (Double-Sided) Printing Alignment

Figure 2-100 illustrates the Duplex unit alignment ruler sheet, which provides a way to measure the alignment between the printed image on the front and back sides of a double-sided page.
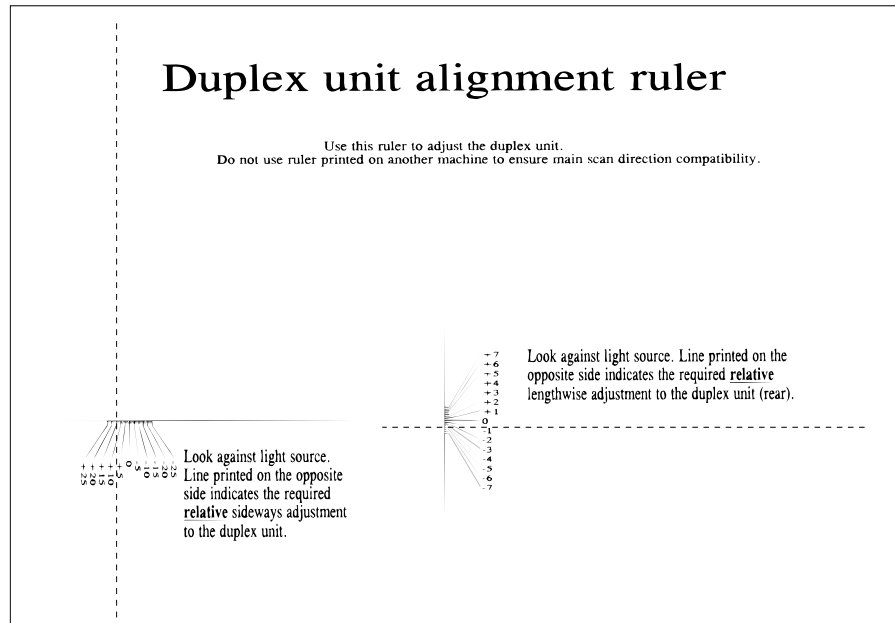
Figure 2-100 Duplex Unit Alignment Ruler Sheet

1. On the duplex unit alignment ruler sheet, review each side of the paper. View **through** the paper. Hold the paper up to a bright light, the side with the alignment scale towards you.
2. The **sideways** indicator line runs up and down the back of the page on the left. Look for the indicator line and note where it crosses the scale on the left. Record this value on sheet 1 at **Duplex unit sideways alignment adjustment value**.
3. The **lengthwise** indicator line runs across the back of the page. Look for the indicator line and note where it crosses the scale in the middle of the page. Record this value on sheet 1 at **Duplex unit lengthwise alignment adjustment value**.

Procedure 15: Paper Path Alignment

Step 3 - Setting Alignment Values

You will now calculate and enter the new alignment values into the Control Panel.

Calculate The New Values

1. For each adjustment value, add the two numbers and write the next value, as shown in Figure 2-101.

lignment ruler

another machine to ensure main scan direction compatibility
adjustment and modify accordingly using the printer operator

here

red relative adjustment.
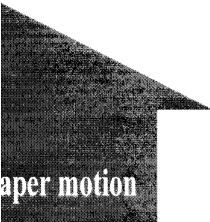
Tray 1 alignment original value:	14
adjustment value:	.-6
new value:	+6
Tray 2 alignment original value:	12
adjustment value:	.+3
new value:	+15
Tray 3 alignment original value:	16
adjustment value:	.-2
new value:	+14
HCI alignment original value (ignore if not installed):	0 "
adjustment value:	-2.
new value:	-2.
Duplex unit sideways alignment original value:	1
adjustment value:	..0	←——No adjustment necessary
new value:	.+1
Duplex unit lengthwise alignment original (rear) value:	0 "
adjustment value:	+7.
new value:	+7

Figure 2-101 Adjustment Values Entered Into Worksheet

2. Once you calculate the new value, enter it in the Control Panel as follows:

Procedure 15: Paper Path Alignment

Entering New Values in the Control Panel

1. Press **Menu** on the **Main Screen.**

2. Use the **down arrow** to scroll down and highlight **Maintenance**, as shown in Figure 2-102, and press the **right arrow**.

```
        Menu      Printing
                  Configuration
                  PCL
                  Comms
                  Maintenance

  Online      △        ▽        ▷        ◁
```
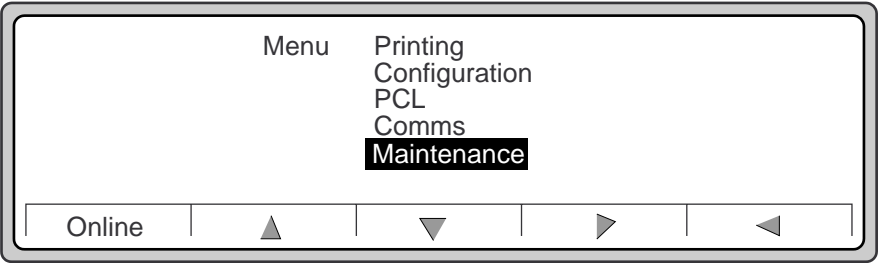
Figure 2-102 Menu

3. From the **Maintenance** submenu shown in Figure 2-103, use the **down arrow** to highlight **alignment** and press the **right arrow**.

```
        Maintenance    replace
                       alignment
                       density    = 10
                       testpages  = 30
                       monitor    = OFF
                       date-time

  Online      △        ▽        ▷        ◁
```
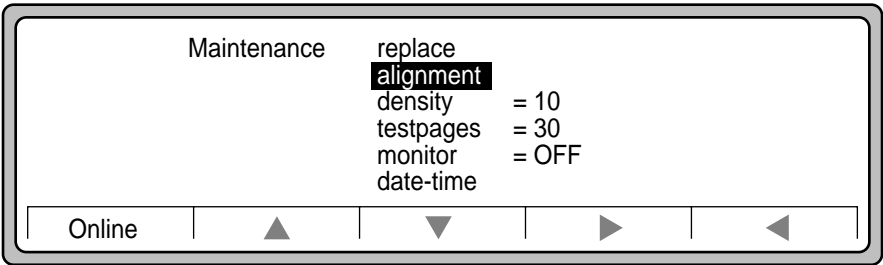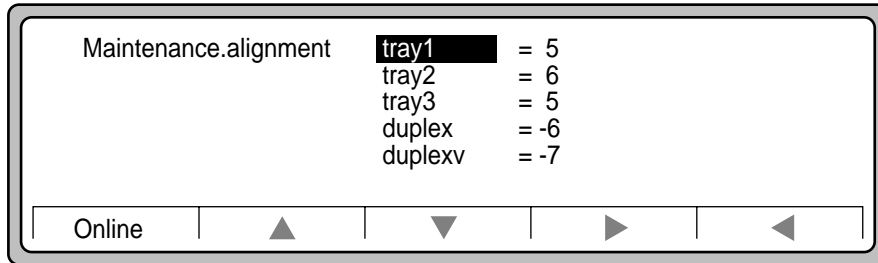
Figure 2-103 Maintenance Submenu

Installation

Installation   2-93

Procedure 15: Paper Path Alignment

Tray alignment

1. Use the **down arrow** to highlight **tray1**, then press the **right arrow**. This is the Maintenance.alignment screen, shown in Figure 2-104.
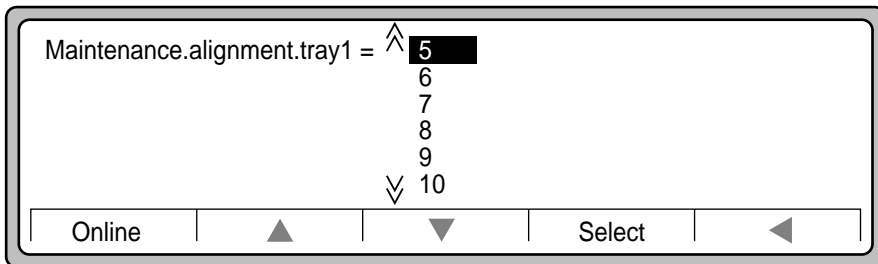
```
Maintenance.alignment      tray1      = 5
                           tray2      = 6
                           tray3      = 5
                           duplex     = -6
                           duplexv    = -7


   Online    │    ▲    │    ▼    │    ▶    │    ◀
```

Figure 2-104 Maintenance.alignment Tray 1 Setting

2. Press either the **up** or **down arrow** to highlight the Tray 1 **new value** calculated on the Simplex feed alignment ruler sheet**.**. The selection range is from -25 to +25, (except for duplex). See Figure 2-105.

```
Maintenance.alignment.tray1 =  ∧  5
                                   6
                                   7
                                   8
                                   9
                               ∨  10
   Online    │    ▲    │    ▼    │  Select  │    ◀
```

Figure 2-105 Tray1 Values

3. Press **Select** to save the new value and to return to the Maintenance.alignment submenu.
4. Repeat steps 1 through 4 for trays 2, 3, HCI, duplex, and duplexv.
5. Verify your alignment by repeating the procedure in "Step 1 - Printing Alignment Sheets" on page -84. If the alignment is still off (plus or minus 3 to 4 increments), note the adjustment values as you did in the previous alignment procedure, and set the new adjustment values in the Control Panel.
6. This procedure may need to be repeated periodically to ensure proper alignment. If you only print on blank paper, alignment is not so critical for your work.

Congratulations! You have now completed installation of the D640 printer. Now proceed on to Chapter 3 to configure the printer with your host computer.

Chapter 3

Host Computer Interface Installation and Configuration

Host Interface

Printer Interfaces

The D640 printer is equipped with two standard communication interfaces used to connect to a host computer:

- Bitronics (Parallel) interface
- RS-232C or RS-422A serial interface

With the addition of an HP JetDirect EX interface, purchased separately, you can use the printer on a local area network (LAN). The JetDirect EX interface connects the network to the Bitronics interface of the printer.

If you purchased the HP JetDirect EX interface, you will find detailed directions included in the *JetDirect EX Software Installation Guide* (J2593-90011).

The standard parallel (IEEE 1284C) and serial (RS-232C/RS-422A) communication interface connectors are located on the back of the printer, as shown in Figure 3-1, below. The IEEE 1284C connector is at the upper back of the printer, this connector is smaller than the usual (Centronics) parallel connector you may be used to seeing. This is a "C" type Bitronics connection, and we have included an "A-to-C" parallel printer cable with the printer. The RS-232C/RS422A connector is the standard DB25 pin connector, located near the top at the center of the printer.

NOTE: **If your installation requires a longer parallel cable than the one included in the printer, you may order cable C2947A. This is a 10 meter parallel cable.**
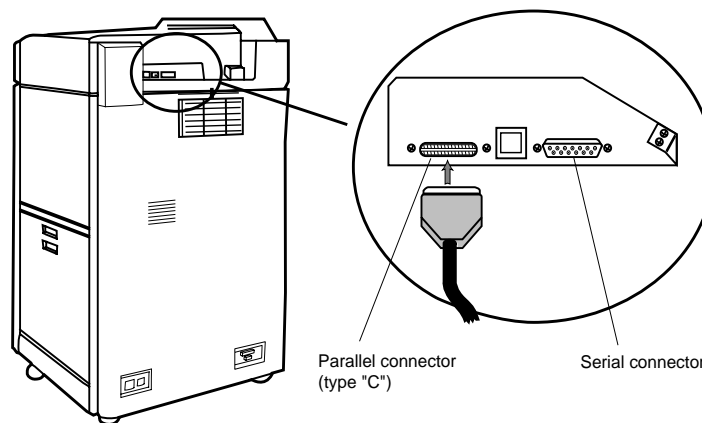

Parallel connector
(type "C")

Serial connector

Figure 3-1   Standard Signal Interface Connectors

Host Interface

Printer Interfaces

You can get more information about HP's compliance with the IEEE 1284 Standard from the HP FIRST fax retrieval service at 1-800-333-1917 in the USA and Canada. Ask for document number 1951. The same document is also available by ftp from:

* ftp://ftp.hp.com/pub/printers/support_doc/bpq04577.asc

This chapter explains how to configure the D640 as a device on the HP9000 (HP-UX) and HP3000 (MPE/iX) systems. We assume you have already installed the necessary hardware interface in the host computer; installation instructions for such interfaces are beyond the scope of this chapter. Please refer to the manuals that came with your host system.

Network connection via JetDirect EX is best

The JetDirect EX interface connects the parallel port to a Local Area Network. This is the "best" method of connecting your printer to your host systems. With the printer on the network, it is available to more host systems. If you need to limit access to the printer it is possible to do so by defining the systems that are allowed to connect to the JetDirect EX interface.

To operate properly, the HP JetDirect EX interface must be initialized with network configuration data, such as a valid IP (Internet Protocol) address. The HP JetDirect EX interface obtains its configuration data from a network server using BOOTP (Bootstrap Protocol) and TFTP (Trivial File Transfer Protocol) each time the interface is powered on.

The network server can be a PC, MPE/iX, or HP-UX (or other UNIX host).

* The configuration software for PC is supplied with the JetDirect EX interface.
* The configuration software for HP-UX, SunOS, and Solaris can be ordered as part number HP J2559C, or it can be downloaded from http://www.hp.com/cposupport/cpoindex1.html.
* For MPE/iX release 5.5, network printing is supported by the operating system and by third party products. You may want to investigate the additional capabilities of the products offered by third parties. For MPE/iX releases prior to 5.5, the operating system does not support network spooling; you will need software from a third party vendor.

Older JetDirect EX models (J2382B or J2383B)

We do not recommend using the older JetDirect EX models. Compatibility cannot be guaranteed with the J2382 or 83B JetDirect EX.

Newer JetDirect EX models (J2591A, J2593A, and J2594A)

The newer JetDirect EX models are certified for use with the D640 printer.

Direct connect parallel is second choice

When connecting the printer directly to an HP 9000 system it is possible to read back only limited status information: the printer is offline, or is out of paper. This is an asynchronous, byte-wide, forward (host to printer) direction channel with data and status lines. This mode is known as Centronics mode or IEEE 1284 Compatibility mode.

Direct connect parallel is not possible on HP 3000 systems.

Direct connect serial is third choice

The serial communication interface is RS-232C or RS-422A and operates at up to 115,200 baud. Note that HP's DTC's maximum baud rate is 19,200 or 38,400 depending on the DTC. As this is a slower data transfer rate than the parallel interface, performance on the serial interface will be lower than performance on the parallel interface.

The serial interface connecting cable uses a standard DB-25 male connector.

You can configure the D640 as a printer that does status checking; on MPE/iX that's Termtype 22.

Set the Printer's Communication Interface

If you are using JetDirect EX, configure your printer's parallel interface at the operator panel, set Parallel mode to Advanced, and Parallel Speed to Fast. (These are the factory default settings).

If you are using HP-UX direct connection on the parallel interface, set Parallel mode to Compatible and Parallel Speed to Fast.

If you are using the serial connection, set the baud rate, pacing and handshake method.

DTC16 or DTC48, set baud rate to 19,200 baud.

DTC16xx or DTC72, set baud rate to 38,400 baud.

Host Interface

Printer Interfaces

HP-UX Host Configuration

- Network via JetDirect EX and JetAdmin for HP-UX
- Direct Connect Parallel
- Other host systems

This chapter describes the following procedures:

- Procedure 1: Install the Interface Cable, on page 3-10
- Procedure 2: Configure the Printer on Your Host System, on page 3-11
- Procedure 3: Setting the Printer's Communication Interface, on page 3-21
- Procedure 4: Confirm the Connection, on page 3-26

MPE/ix Host Configuration

- MPE/iX 5.0 and below

  Get network printing software from third party vendors. Be sure to acquire a BOOTP program (or its equivalent) so you can load the IP address into the JetDirect EX.

- MPE/iX 5.5 and after supports network printers
- Serial (RS-232C) via DTC16 or DTC48
- Serial (RS-232C) via DTC16xx or DTC72MX

Parallel Interface

The parallel interface is accessible through a 36-pin connector at the back of the printer.

The interface can be configured to operate in Institute of Electrical and Electronics Engineers (IEEE) 1284 mode.

Signal names on the following connector pin assignment diagram (see Figure 3-2) relate to 1284 Compatible (Bitronics) mode.

Signal	Pin	Pin	Signal
Busy	1	19	Ground
Select	2	20	Ground
Ack	3	21	Ground
Fault	4	22	Ground
P error	5	23	Ground
Data 1	6	24	Ground
Data 2	7	25	Ground
Data 3	8	26	Ground
Data 4	9	27	Ground
Data 5	10	28	Ground
Data 6	11	29	Ground
Data 7	12	30	Ground
Data 8	13	31	Ground
Init	14	32	Ground
Strobe	15	33	Ground
Select in	16	34	Ground
Auto Feed	17	35	Ground
NC	18	36	Peripheral logic hi

Host Interface

Figure 3-2   Connector Pin Assignment

NOTE: **Not all IEEE 1284 parallel cables perform the same. For proper operation HP recommends that you only use the HP C2946A 3 meter cable (included) or the HP C2947A 10 meter cable (purchased separately).**

Printer Interfaces

Serial Interface

When you configure your printer for serial operation, you transfer data to the printer using serial communication protocol. You can use either an RS-232C or an RS-422A cable.

Table 3-1, "Pin Assignments for a Serial Cable" lists RS-232C and RS-422A pin assignments and signal descriptions. Those pins not appearing in the table are not used. Figure 3-3 shows the RS-232 and RS-422A pinouts for the cable.

Table 3-1   Pin Assignments for a Serial Cable

Pin Number	Description	RS-232	RS-422	I/O
1	Protective ground.	*	*	-
2	Transmitted data (data from printer).	*		Output
3	Received data (received by printer).	*		Input
3 (RS-422)	Received data inverted (RDA) (received by printer).		*	Input
4	Request to send. This signal is HIGH when unit is powered on.	*		Output
7	Signal ground.	*	*	
9 (RS-422)	Send data inverted (SDA).		*	Output
10 (RS-422)	Send data noninverted (SDB).		*	Output
14	Must be connected to ground (7) to select RS-422 mode (SDB).		*	Input
18 (RS-422)	Receive data noninverted (RDB).		*	Input
20	Data terminal ready	*		Output

The asterisks (*) identify signals used.

The serial interface is accessible through a 25-pin female connector at the back of the printer.

The interface can be configured to operate in an RS-232 or RS-422 configuration. Use the control panel to set the configuration.

.

(RS-232 interface)   (RS-422 interface)

```
FGround  1               FGround  1
              14  *422Sel                    14  *422Sel
   TxD   2  15                          2  15
   RxD   3  16                RxDA  3  16
   RTS   4  17                          4  17
         5  18                          5  18  RxDB
         6  19                          6  19
Ground   7  20  DTR          Ground  7  20
         8  21                          8  21
         9  22                TxDA  9  22
        10  23                TxDB 10  23
        11  24                         11  24
        12  25                         12  25
        13                             13
```
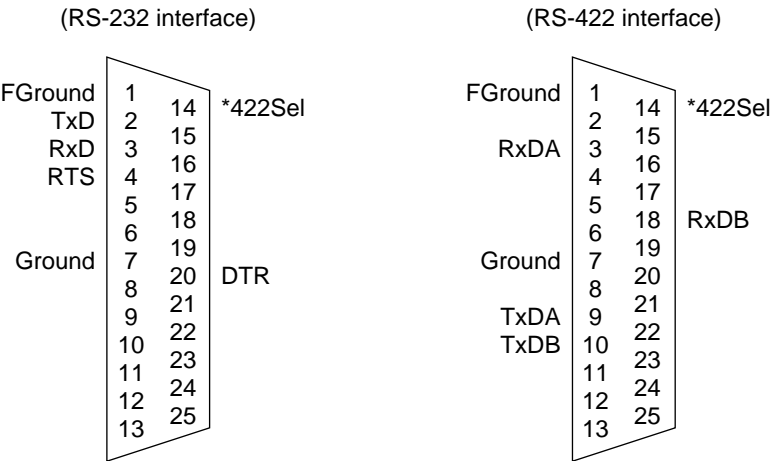
Figure 3-3   RS-232 and RS-422 Configuration

Procedure 1: Install the Interface Cable

NOTE: **Installation Instructions for C2946A or C2947A**

The "C" parallel connector (small end) of the cable has tabs located on both sides of the connector. To properly install the "C" connector, squeeze these tabs towards the center during cable installation. Squeezing the tabs as the connector is plugged into your printer, then releasing them will help ensure a good connection. Removal of the cable also requires that the tabs be squeezed in as the cable is disconnected.

Connect the printer cable from the host to the Parallel or Serial connector on the back of the printer. See Figure 3-4.
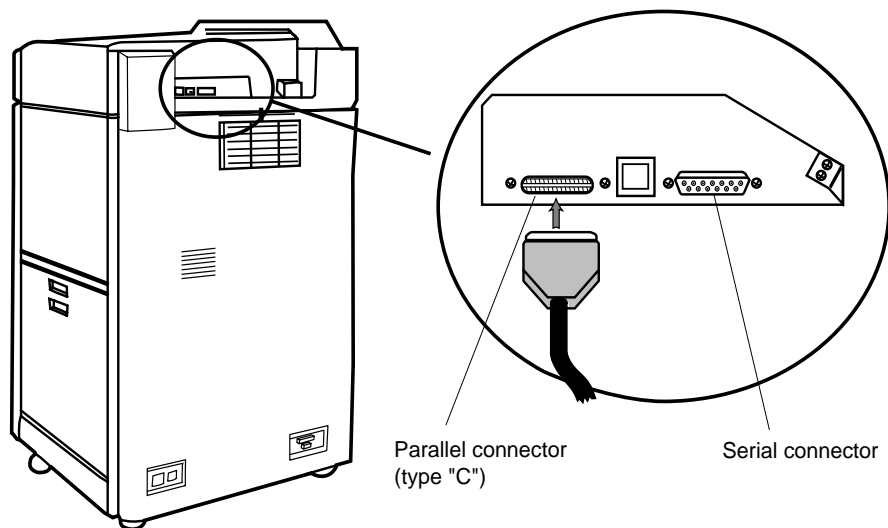
Parallel connector
(type "C")

Serial connector

Figure 3-4   Connect the Printer Cable from the Host to the Printer

Procedure 2: Configure the Printer on Your Host System

HP 9000 HP-UX General Information

The examples below apply for HP-UX 9.X release. The D640 is also supported with the HP-UX 8.x release and HP-UX 10.X.

You can use the PCL5 model files provided with 9.x patch PHCO_4270 (or its successor).

Information to gather:

- The name you are giving to the printer
- The class to which the printer will be added (optional)
- The print request priority for this printer
- Will this printer be the system default printer?

HP 9000 HP-UX Local Printer (Parallel)

This example assumes that you have already installed the Parallel Adapter Card in your HP 9000 system.

Table 3-2   HP 9000 HP-UX Parallel Printer Requirements

Cable	Parallel cable, C2946A orC2947A
Interface card	HP 28655A HP-PB SCSI/Parallel Adapter (integrated I/O card)
Driver	lpr2
Major number	26
Model file	PCL5

Verify that the driver is present in your S800 file by using the lsdev command:

```
/etc/lsdev 26
```

If the driver is not present, refer to the *Installing Peripherals* manual (B3108-90004), Chapter 6, Installing Printers (LaserJet III printers), for detailed instructions.

NOTE: **Adding a driver to your system requires a reboot, so add the driver at a time when other users will not be affected.**

NOTE: **Adding a printer to the Line Printer Spooling System requires that the scheduler be stopped, which interferes with print jobs for other printers. Add the printer when there are no requests for printing.**

Host Interface

Procedure 2: Configure the Printer on Your Host System

Use SAM to add the printer to the Line Printer Spooling System:

/usr/bin/sam

When SAM's main screen appears:

1. Highlight **PRINTERS** and **PLOTTERS**
2. Activate **OPEN**
3. Highlight **PRINTERS/PLOTTERS**
4. Activate **OPEN**
5. From the **ACTIONS** menu, select **ADD LOCAL PRINTER/PLOTTER**
6. From the Local **PRINTER**/**PLOTTER** menu, select **ADD PARALLEL PRINTER/PLOTTER**
7. Highlight the desired parallel card
8. Activate **OK**
9. Fill in the **ADD LOCAL PRINTER/PLOTTER** screen:

    ```
    Printer Name
    [ Printer Model/Interface ]
    [ Printer Class ] (optional)
    Default Request Priority [ 0 ->]
    [ ] Make this the system default printer.
    ```
10. Activate **OK**
11. Answer whatever additional questions SAM has for you.
12. Exit SAM

HP 9000 HP-UX Local Printer (Serial)

The model files set the baud rate to 9600. If your MUX will allow a higher baud rate and you want slightly better printer performance, modify a copy of the model file and use the name of the copy during configuration.

Instructions below apply to HP-PB systems only. For CIO systems, refer to the Installing Peripherals manual to determine driver name and character mode major number.

Information to gather:

- The name you are giving to the printer
- The class to which the printer will be added (optional)
- The print request priority for this printer
- Will this printer be the system default printer?

Procedure 2: Configure the Printer on Your Host System

Table 3-3   HP 9000 HP-UX RS-232C Serial Printer Requirements

Interface card	40299B with RS-232C ADP or Integrated I/O card with ADP or Integrated I/O card with DDP
Driver	mux2
Major number	58
Model file	PCL5

RS-232C. Verify that the driver is present in your S800 file by using the **LSDEV** command,

```
/etc/lsdev 58
```

If the driver is not present, refer to the *Installing Peripherals* manual (B3108-90004), Chapter 6,"Installing Printers", (LaserJet III printers) for detailed instructions. Adding a driver to your system requires a reboot, so adding the driver should be done at a time when other users will not be affected.

NOTE: **Adding a printer to the Line Printer Spooling System requires that the scheduler be stopped, which interferes with print jobs for other printers. Add the printer when there are no requests for printing.**

Use SAM to add the printer to the Line Printer Spooling System:

```
/usr/bin/sam
```

When SAM's main screen is presented:

1. Highlight **PRINTERS** and **PLOTTERS**
2. Activate **OPEN**
3. Highlight **PRINTERS**/**PLOTTERS**
4. Activate **OPEN**
5. From the **ACTIONS** menu, select **ADD LOCAL PRINTER/PLOTTER**
6. From the menu displayed, select **ADD SERIAL (RS-232) PRINTER/PLOTTER**
7. Highlight the desired MUX card
8. Fill in the desired port number (remember, you don't want a getty!)
9. Activate **OK**
10. Fill in the **ADD LOCAL PRINTER/PLOTTER** screen:

    ```
    Printer Name
    [ Printer Model/Interface ]
    [ Printer Class ] (optional)
    Default Request Priority [ 0 ->]
    [ ] Make this the system default printer.
    ```

Procedure 2: Configure the Printer on Your Host System

11. Activate **OK**

12. Answer whatever additional questions SAM has for you.

13. Exit SAM

In "Procedure 3: Setting the Printer's Communication Interface" on page 3-21, use the control panel to set the Interface Parameters, as shown in Table 3-5, "D640 Serial Settings," on page 3-20.

HP 9000 HP-UX Network Printer - TCP/IP

The HP JetDirect EX Interface is very flexible - you can even limit access to the printer to certain host addresses. You can read more about the capabilities of the HP JetDirect EX interface in the *JetDirect EX Software Installation Guide* (J2593-90011).

Information to gather:

- The name for the printer (lp spooler name)
- The class to which the printer will be added (optional)
- The print request priority for this printer
- Will this be the system default printer? (the default queue)
- The network node name for the JetDirect EX interface
- The IP address for the JetDirect EX interface

Configure the JetDirect EX IP address into the host system. If the JetDirect EX already has a server associated with it, and you do not need to change any of the items in the list below, skip this section:

- IP Address
- Network printer name
- Printer location
- Printer contact person
- Subnet mask
- IP Address of the nearest gateway
- Jet Direct EX idle timeout
- List of host systems allowed access to the JetDirect EX

1. Connect the JetDirect EX to the printer; or, if you are using a JetDirect EX Plus 3, connect the printer to printer 1.

2. Press the button on the JetDirect EX. This makes a hardcopy of the interface status information so you know the link level address (LAN HW ADDRESS) of the JetDirect EX interface. Save this 2-page printout for reference.

Procedure 2: Configure the Printer on Your Host System

3. Power OFF the HP JetDirect EX interface and the printer.

4. Verify that the IP address and node name are NOT in **/etc/hosts**; they will be added during configuration.

5. Install the JetDirect Software on your system if the software is not already there. Refer to the JetDirect *EX Software Installation Guide* (J2593-90011) for software installation and configuration instructions. You do not need to use SAM; the JetAdmin utility completes all configuration steps.

6. At your HP-UX system, login as **ROOT** and run JetAdmin. Choose **CONFIGURATION**.

7. When the **CONFIGURATION** menu is displayed, choose to add a configuration in BOOTP/TFTP database. You will be asked a series of questions. At any prompt you may enter a question mark (?) to view help text. In this example we have used the network printer name '**hep**'.

   ```
   Enter LAN hardware address: 080009xxxxxx
   Enter the network printer name/IP name: hep
   Other optional parameters:
      1) Set printer location
      2) Set printer contact
      3) Set subnetmask
      4) Set gateway
      5) Set syslog
      6) Change idle timeout
      7) Create access list
      8) Other SNMP parameters
   Select an item for change, or '0' to configure:
   ```

8. Enter the number, 1 through 8. For example, if you answered 1 you would see:

   ```
   Enter the printer location (q - quit):
   ```

9. You can use a question mark (?) to see a definition, or enter the letter q to skip answering this question, or you can type a short description of the printer location.

10. It is easier to manage printers if you set the printer location, printer contact, subnetmask (if your network is using subnetting), and gateway. You can then see the printer location and contact later on by running the JetAdmin Device Monitor (xjdm).

11. After entering all the information you want, choose to **CONFIGURE** with those answers:

   ```
   Select an item for change, or '0' to configure: 0
   (configuring) ...
   Completed creating BOOTP/TFTP configuration ...
   ```

Host Interface

Procedure 2: Configure the Printer on Your Host System

12. There will be more messages displayed. When it asks you to "Power cycle the printer", turn the D640 printer off, power up the JetDirect EX, and power the printer back on again.

13. When asked if you want to send a test file to the printer, answer yes; choose a text file or an HP-GL/2 file. Printing that test page is the final step in the BOOTP/TFTP configuration.

Configure the D640 as a spooled printer. Adding a printer to an HP-UX system requires that the scheduler be shut down and restarted; this could result in lost print jobs. Do the following steps at a time that will not interfere with other users' print jobs.

1. At your HP-UX system, login as **ROOT** and run JetAdmin (jetadmin). Choose **CONFIGURATION**.

2. When the **CONFIGURATION** menu is displayed, choose to "Add a printer to the local spooler". JetAdmin will ask for the network name of the printer, we have used the name 'hep' in our example.

   Enter the network printer name/IP name: hep

3. The JetAdmin shows a numbered list of supported printer types, and asks what type of printer this is:

   Please indicate the printer type:

4. Enter the number that corresponds to HP LaserJet 4Si/4Si MX printer.

5. JetAdmin displays a list of configurable parameters, and asks

   Select an item for change, or '0' to configure:

6. The **net_lj4x** model file was installed as part of the JetDirect EX software. Change the settings to whatever is wanted for your system. The following settings work well for the D640:

Table 3-4   JetDirect EX Host Configuration Settings for the D640

Configurable Parameters	Current Settings
Lp destination (queue) name	[hep]
Model Script	[net_lj4x]
Status Log	[/tmp/hep.log]
Default Printing Language	[PCL]
Queue Class	[(Not assigned)]
Job Recovery	[ON]
True End-of-Job	[ON]
JobMonitor	[ON]
Default Queue	[NO]
Banner Page	[ON]

Procedure 2: Configure the Printer on Your Host System

```
Select an item for change, or '0' to configure: 0
```

7. JetAdmin will stop the spooler and add the printer as a new print queue.

8. At the D640 Control Panel, set the Default Printing Language to match whatever you set in JetAdmin.

HP 3000 MPE/iX General Information

Your MPE/iX system must be release 4.0 or later. If your system is release 5.5, then a network spooler is provided with the operating system. On an HP3000, you have two choices for connecting this printer: Either as a Network Printer, or as a Serial Printer.

HP 3000 MPE/iX Network Connection

Refer to the manuals provided with the Express release (5.5). For earlier (5.0, 4.5, and 4.0) MPE/iX releases, obtain network printing software (with support for BOOTP) from third party vendors. Instructions for configuring the printer as a device on your system are included with the third party software.

MPE/iX systems before release 5.5. Get network printing software from third party vendors. Be sure to acquire a BOOTP program (or its equivalent) so you can load the IP address into the JetDirect EX. Instructions for configuring the printer as a device on your system are included with the third party software.

MPE/iX systems release 5.5 and after. MPE/iX 5.5 release supports basic network printing; if you need sophisticated capabilities (such as customized banner pages) consider using a third party network spooler.

For those who are using the MPE Network Spooler, please refer to the manuals that came with the 5.5 release for instructions on loading the JetDirect EX with an IP address and other BOOTP parameters.

1. Configure with SYSGEN

   a) Logon as MANAGER.SYS and use SYSGEN from the CI prompt. Enter:

   :run sysgen.pub.sys

   b) Invoke SYSGEN's I/O Configurator. Enter:

   sysgen> io

   c) Define the logical device identification for each network printer you wish to add. Use id=HPTCPJD to specify default configuration values. Enter:

   io> ad ldev=200 ; id=HPTCPJD ; path=NONE
   io> hold
   io> exit
   sysgen> keep
   sysgen> exit

Host Interface

Procedure 2: Configure the Printer on Your Host System

d) Create a file called **NPCONFIG.PUB.SYS**; this file should contain a "paragraph" for each network printer **LDEV**. The **NPCONFIG** file is a plain text file; use whatever text editor you like to create it and maintain it. This is a sample **NPCONFIG.PUB.SYS** file:

```
200 (network_address = 192.87.52.9
TCP_port_number = 9100
pjl_supported = TRUE
banner_header = TRUE
banner_trailer = TRUE
banner_intray = 1
data_intray = 4
jam_recovery = TRUE )
```

If you are using a JetDirect EX Plus 3, printer 1 is **TCP_PORT_NUMBER 9100**, printer 2 is **TCP_PORT_NUMBER 9101**, and printer 3 is **TCP_PORT_NUMBER 9102**.

In the **NPCONFIG** file, intray number 1 is the upper paper drawer, intray number 4 is the middle paper drawer, intray number 8 is the lower paper drawer, and intray number 5 is the High Capacity Input Unit (optional equipment).

Some **NPCONFIG** settings and their corresponding <u>required</u> printer menu settings:

pjl_supported = TRUE	Menu: Comms parallel.mode = ADVANCED
jam_recovery = TRUE	Menu: Configuration jamrecovery = ON

HP 3000 MPE/iX Direct Serial Connection

Direct connection must be as a serial device. If you will be using a DTC, the printer is supported as a type 22 device (it replies to DTC status checking and it handles VFCs correctly).

Create a termtype file indicating that this is a duplex printer. This ensures that the last page of some print jobs ejects automatically and that header and trailer pages are separate from the print job. Then, when configuring the DTC, create a profile that uses the printer termtype file and then use that profile to configure the port of the DTC.

Follow these steps:

1. Create a termtype file for the D640
   a) Enter
      ```
      :COPY TT22.PUB.SYS,TTD640.PUB.SYS
      :TTUTIL.PUB.SYS
      ```
   The Main Screen form will appear.

Procedure 2: Configure the Printer on Your Host System

b) You are going to modify the file, so select **M** for the file option:

```
[TTD640.PUB.SYS] Terminal type filename
[M] File option
   C - Create
   M - Modify
   V - View
```

c) Press **ENTER.**

d) You are going to modify the Printer Control form, so select **P** for the form option:

```
[P] Go to form
   X - Convert MPE/V termtype
   F - Flow control
   S - Special characters
   C - Control
   P - Printer Control
   V - VFC definition
```

e) Press **ENTER**.

f) The Printer Control form will appear. You are going to set up support for duplex printing, so tab to the last field in the form and enter **Y** for duplex printing.

```
   Printer Control
[Y]Status request efficiency mode enabled (Y, N)
   Frequency of status requests [ ]
[60]Wait time for reply to status requests
[0]Read retries for XON and status request reply
[0]Wait time for FOPEN before disconnect
[Y]Does the printer support duplex printing (Y, N)
```

g) Press the Save Data softkey (**F1**)

h) Press the Exit softkey (**F8**)

2. Create a DTC profile

    When you configure the DTC to add the printer, create a new profile that uses printer type file **TTD640.PUB.SYS**, and use that profile to configure the port on the DTC.

3. Configure the port on the DTC.

4. Configure the D640 to match the DTC port (refer to Figure 3-5).

5. Install the cable between the printer and the DTC

6. Reboot the MPE/iX system, if needed, to download to the DTC.

7. Print a document as a test.

Procedure 2: Configure the Printer on Your Host System

HP 3000 MPE/iX RS-232C through a DTC16 or DTC48

The DTC16 and DTC48 support baud rates up to 19200 baud. The printer has a DB25 connector. For printer type 22, and connecting to a modem card, use cable 40242Y or equivalent, pins 1, 2, 3, 7 (2, 3 crossed).

RS-232C. In Figure 3- Procedure 3: Setting the Printer's Communication Interface, on page 3-21, use the Control Panel to set up the serial interface parameters:

Table 3-5   D640 Serial Settings

Baud rate	19200 or 38400
Stop Bits	1BIT
Parity	none
Flow Control	ROBUST XON/XOFF
DTR	HI/HI
Levels	RS232

HP 3000 MPE/iX RS-232C Through a DTC16xx or DTC72MX

The DTC16xx and DTC72MX support baud rates up to 38400 for direct connect devices.

RS-232C maximum cable length is 15 meters, though you might be able to exceed that when using DTC16xx or DTC72MX under favorable conditions. See the DTC Cabling and Racking Guide (C5961-0373) for further details. The printer has a DB25 connector for RS-232C operation.

For printer type 22, and connecting to 8-port DDP, use cable 40242Y; pins 1, 2, 3, 7 (2, 3 crossed).

RS-232C. In Figure 3- Procedure 3: Setting the Printer's Communication Interface, on page 3-21, use the Control Panel to set up the serial interface parameters shown in Table 5 on page 20.

Procedure 3: Setting the Printer's Communication Interface

NOTE: **Before you set the communication interface, refer to "Getting to Know the Control Panel" in the *User Manual* for an explanation of how to use the Control Panel to configure the printer.**

The D640 is preconfigured at the factory to operate using the parallel interface, so if you are using the parallel interface you may skip this procedure.

If you're using the serial interface, you will need to use the Comms submenu to define the serial interface options you need for the host and printer to communicate.

At this point, we will explain only the Comms settings you'll need to confirm and, if necessary, to set the communication interface. "Comms Menu Settings" on page 4-30 of the *User Manual* explains the Comms settings in detail.

Checking the Comms Submenu

The printer should be powered up, and the Main Screen should appear on the control panel display as shown in Figure 3-5.
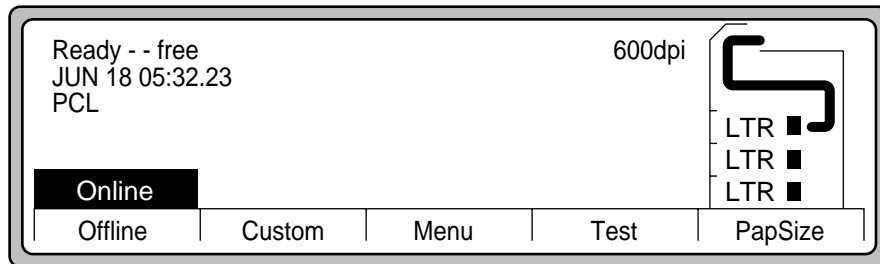
Figure 3-5   Main Screen

Press **Menu**, and you will see the display shown in Figure 3-6.

Procedure 3: Setting the Printer's Communication Interface


```
              Menu      Printing
                        Configuration
                        PCL
                        Comms
                        Maintenance

    Online      ▲        ▼        ▶        ◀
```
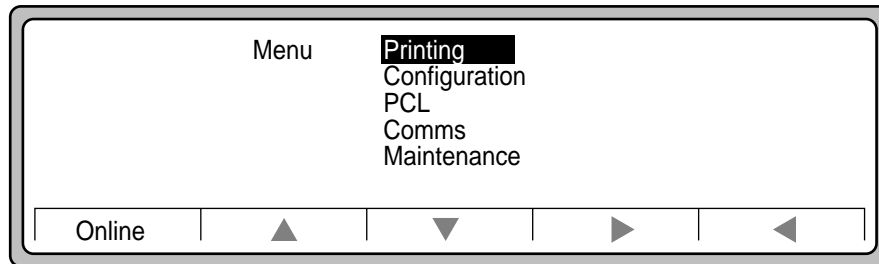
Figure 3-6   Menu Submenu

Press the **Down Arrow** button to highlight **Comms**. Press the **Right Arrow** button to
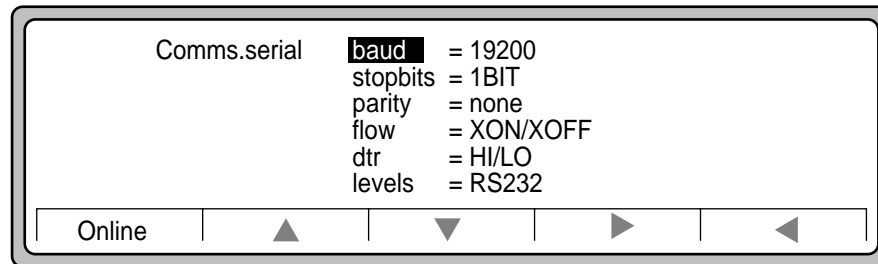select Comms. See Figure 3-7.


```
              Comms     timeout      =15
                        databuffer   =32
                        parallel
                        serial

    Online      ▲        ▼        ▶        ◀
```
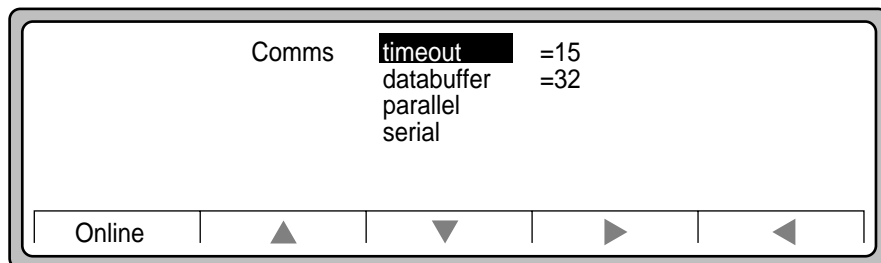
Figure 3-7   Comms Submenu

Procedure 3: Setting the Printer's Communication Interface

Setting Up the Serial Interface

Press the **Down Arrow** button to highlight **serial** and press the **Right Arrow** button to select the serial submenu. See Figure 3-8:
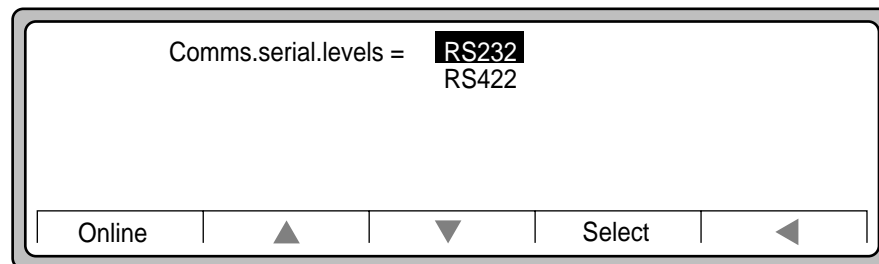
```
Comms.serial    baud    = 19200
                stopbits = 1BIT
                parity   = none
                flow     = XON/XOFF
                dtr      = HI/LO
                levels   = RS232
   Online    ▲        ▼        ▶        ◀
```

Figure 3-8   Comms.serial Submenu

Select **levels**. See Figure 3-9.

```
Comms.serial.levels =    RS232
                         RS422



   Online    ▲        ▼      Select      ◀
```

Figure 3-9   Comms.serial.levels Submenu

Highlight the serial interface you are using and press **Select**.

From the Comms.serial submenu (see Figure 3-10, on page 3-24), you can set the following serial interface options:

- baud
- stopbits
- parity
- flow
- dtr

Procedure 3: Setting the Printer's Communication Interface

```
Comms.serial    baud    = 19200
                stopbits = 1BIT
                parity   = none
                flow     = XON/XOFF
                dtr      = HI/LO
                levels   = RS232

   Online        ▲        ▼        ▶        ◀
```
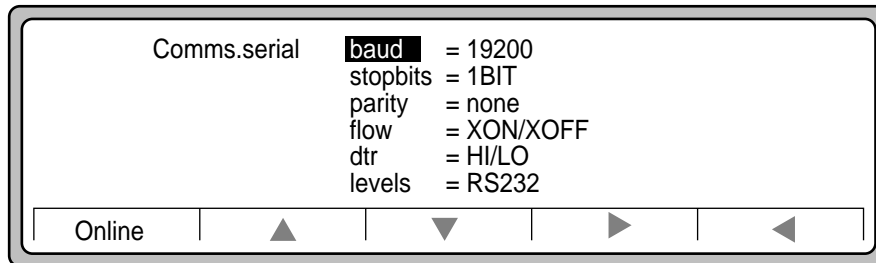
Figure 3-10   Comms.serial Submenu

Baud Rate

Specify the value for the selected attribute.

1. Select **baud**.
2. Select the baud rate. See Figure 3-11.
3. When you have highlighted the correct value, press **Select**.

```
Comms.serial.baud        9600
                     =   19200
                         38400



   Online        ▲        ▼        Select        ◀
```
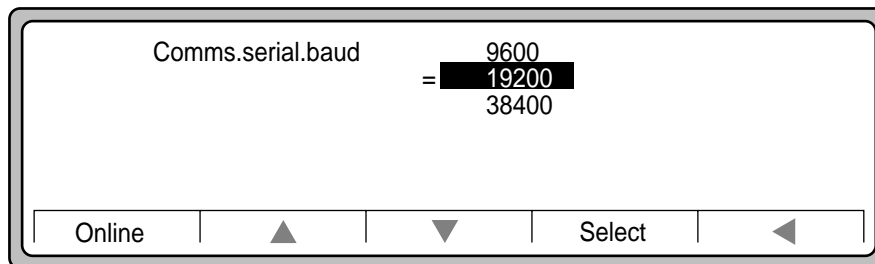
Figure 3-11   Baud Rates

Stopbits

1. Select **stopbits**.
2. Set the number of stop bits.
    • 1 BIT
    • 2 BITS

Procedure 3: Setting the Printer's Communication Interface

Parity

1. Select **parity** .
2. Set the parity check condition.
   - NONE: No parity check
   - EVEN: Even parity check
   - ODD: Odd parity check

Flow

1. Select **flow** .
2. Set the flow control type of the serial interface DTR signal.
   - NOFLOW: Disable XON/XOFF flow control
   - XON/XOFF: Enable XON/XOFF flow control
   - ROBUST: Enable ROBUST XON/XOFF flow control

DTR Polarity

1. Select **dtr**.
2. Set the method of handling the serial interface Data Terminal Ready (DTR) signal.
   - HI/LO: DTR polarity high for ready and low for not ready
   - LO/HI: DTR polarity low for ready and high for not ready
   - HI/HI: DTR polarity permanently high
   - LO/LO: DTR polarity permanently low

Host Interface

Procedure 4: Confirm the Connection

Complete this final procedure to confirm that the printer and the computer are communicating. To do this, send a file to the printer and check to make sure the printed output is as you expect. How you do this depends on the host computer you are using.

Interface Troubleshooting

This section provides assistance in the unlikely event that your printer and host computer are not yet communicating. First, read the information under General Troubleshooting. Then refer to the section that addresses the host computer interface you are using.

General Troubleshooting

If your printer and host computer are not communicating, try these simple steps first:

- Check to make sure that both the printer and host computer power cords are plugged in correctly and that both systems are turned on.
- Check to make sure both ends of the interface cable are securely connected.
- Again, send a file to the printer.
- If you are still having problems, proceed to one of the following sections (Parallel Interface or Serial Interface), depending on which communication interface you are using.

Parallel Interface Troubleshooting

Table 3-6   Parallel Interface Troubleshooting

Symptom	Action
Double characters or garbled data	(1) Use a shielded cable. (2) The jumpers on the signal interface card may be set incorrectly. Contact a service representative for assistance when changing these jumpers.
The file sent to the printer does not print; no data is transmitted.	(1) Make sure that your interface cable is securely connected.
All other problems	Call your service representative.

Host Interface

Interface Troubleshooting

RS-232C/RS-422A Serial Interface Troubleshooting

Table 3-7   RS-232C/RS-422A Serial Interface Troubleshooting

Symptom	Action
The file sent to the printer will not print; no data transmitted; or the printed file is garbled.	(1) One or more of the pin signals on the RS-232/422 cable may be incorrect. The printer uses a standard data terminal equipment (DTE) RS-232/422 connection. However, your host computer may use a different RS-232/422 connection, such as DCE. First, check the *HP 5000 D640 Technical Reference Manual* for your computer to determine if it uses a non-DTE RS-232/422 port. Then turn to Appendix C, "Host Serial and Parallel Interface" of the *D640 User Manual*, which documents alternate signal configurations for RS-232/422 cables. The cable may have to be modified. (2) Make sure that the communication port used by the printer matches the communication port specified by your computer. Examine the communication parameters set on your host computer. Follow the instructions in Procedure 2: Configure the Printer on Your Host System, on page 3-11, to check current configuration. Also, check the *D640 Technical Reference Manual* to determine how to modify these parameters on the host. To modify the communication parameters on the printer side, refer to "Comms Menu Settings" on page 4-30 of the *D640 User Manual*.
Data prints OK at first; later it becomes garbled.	The printer's buffer may not be set properly for your data transmission. Refer to "Comms Menu Settings" in the *User Manual*, and use the configuration mode to change the Buffer Full Protocol communication parameter.
The data print is garbled.	Use a shielded cable.
All other problems	Call your service representative.

Chapter 4

Accessories

Accessories

This chapter provides instructions for installing accessories for your printer.

The procedures covered in this chapter include:

- Procedure 1: High-Capacity Input (HCI) Installation
- Procedure 2: High-Capacity Output (HCO) Installation
- Procedure 3: Installing Memory
- Procedure 4: Installing PostScript
- Procedure 5: Custom Tray Installation

Accessories

Procedure 1: High-Capacity Input (HCI) Installation

This procedure describes the installation of the High-Capacity Input (HCI).

The HCI holds 2500 sheets of 20 lb paper. Model C5621A supports letter size and C5622A supports A4 size.

In this procedure, you will be:

- Unpacking the HCI
- Attaching the Paper Guide
- Attaching the support stand
- Attaching the HCI to the mounting bracket
- Leveling the HCI
- Connecting the Signal Cable

NOTE: **Printer power should be turned off before connecting the HCI to the printer.**

Unpacking the HCI

The HCI is shipped in its own box similar to that shown in Figure 4-1.
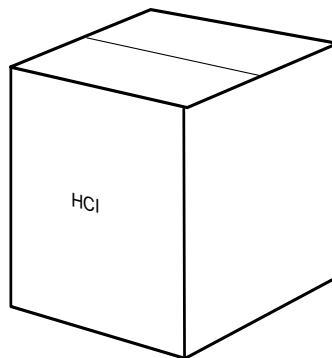
Figure 4-1   HCI Box

Procedure 1: High-Capacity Input (HCI) Installation

Inside, the HCI is surrounded by a plastic bag and secured between protective foam blocks. See Figure 4-2.

Figure 4-2   Unpacking HCI

To unpack the HCI, follow these instructions:

1. Open the HCI box.
2. Reach into the box and place a hand on each side of the foam blocks.
3. Carefully lift the HCI (including the foam blocks) free from the box and place it on the floor.

Procedure 1: High-Capacity Input (HCI) Installation

4. Remove the foam blocks and plastic from the HCI.

5. Open the HCI door and remove all packing materials inside the HCI.

6. Save the packing materials; in the future you may need to use them to pack the HCI for shipment.

The HCI box contains the parts required to set up the HCI (see Figure 4-3). Check the contents of the HCI box to make sure you have all of the components listed in Table 4-1, "HCI Parts Checklist".

Table 4-1   HCI Parts Checklist

	Paper guide	1
	Support stand	1
	Support mounting bracket	1
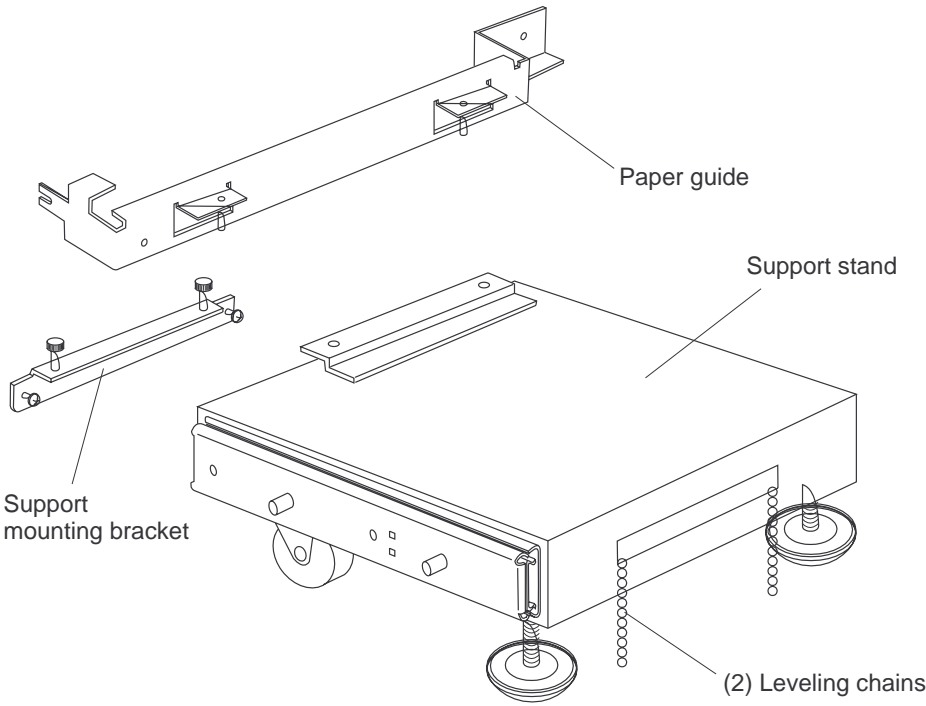
Figure 4-3   Parts Included with HCI

Procedure 1: High-Capacity Input (HCI) Installation

Attaching the Paper Guide

1. Locate the paper guide included in the HCI box contents.
2. Open the front door of the printer.
3. Loosen the screw in the front of the printer and remove the screw from the right side, as shown in Figure 4-4.

Loosen screw
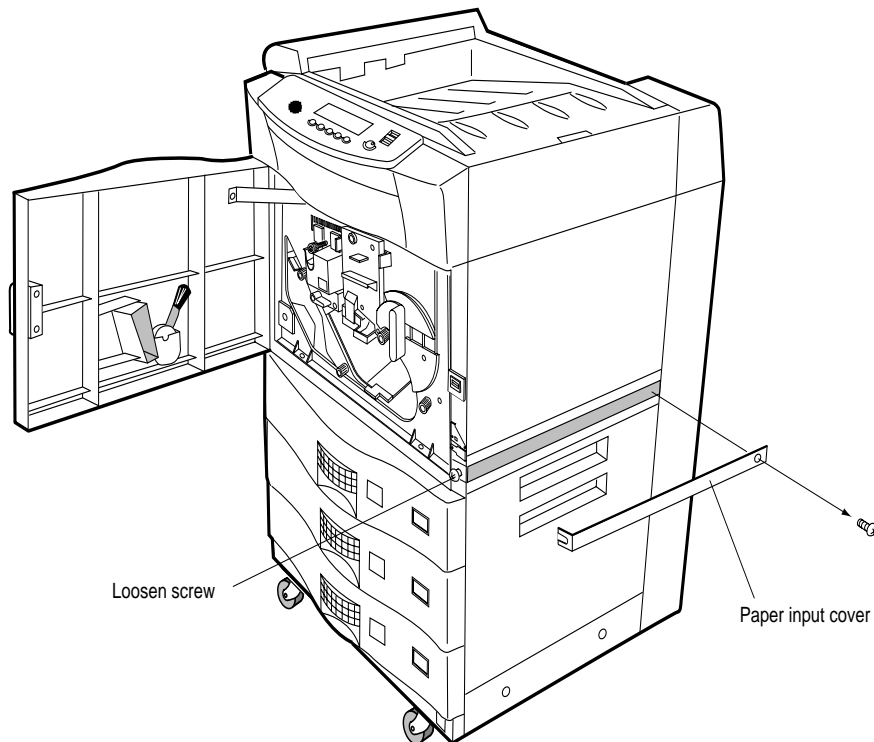
Paper input cover

Figure 4-4   Removing Paper Input Cover

4. Remove the paper input cover.

Accessories

Procedure 1: High-Capacity Input (HCI) Installation

5. Attach the paper guide to the printer, and secure with the two mounting screws, as shown in Figure 4-5.

Mounting screw

Mounting screw
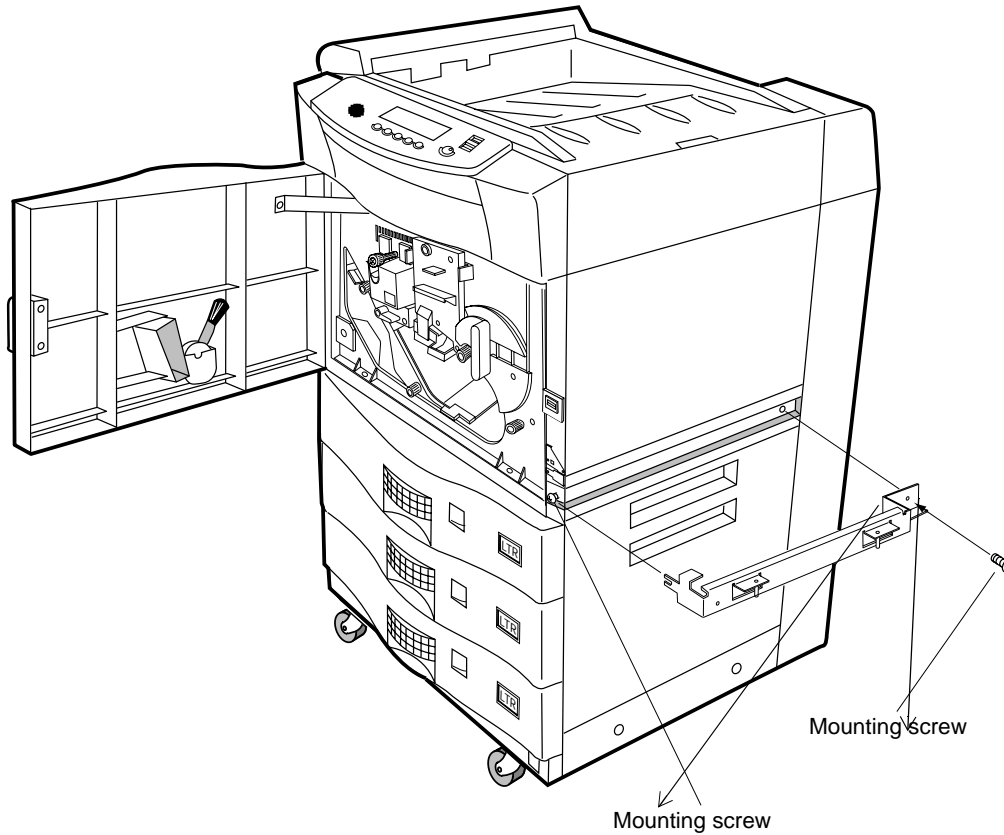
Figure 4-5   Attaching the paper guide

Attaching the support stand

1. Locate the support stand included in the HCI box contents.

Procedure 1: High-Capacity Input (HCI) Installation

2.   Install the support mounting bracket, as shown in Figure 4-6.
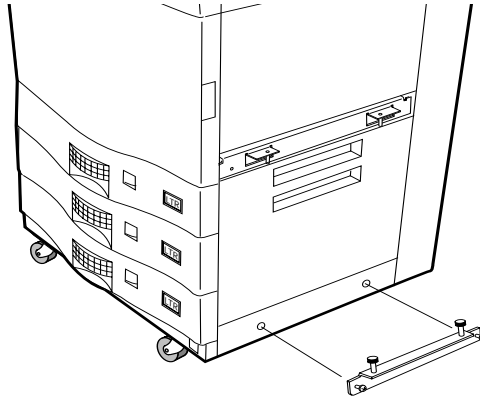
Figure 4-6   Support Stand Guide

3.   Lift the support stand and place on top of the mounting bracket guide. Attach the support stand to the support stand guide, as shown in Figure 4-7.
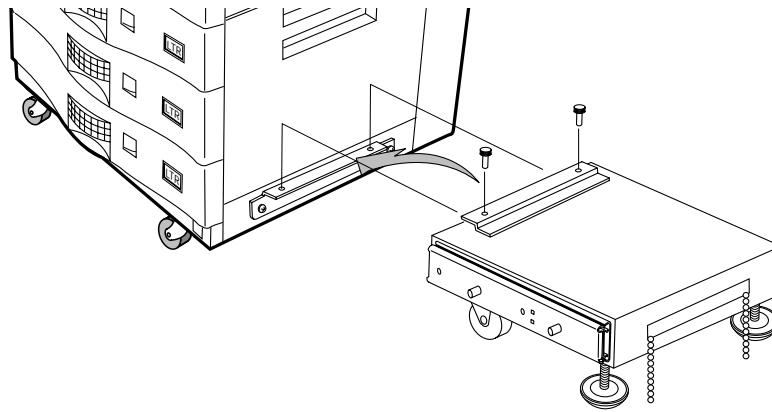
Figure 4-7   Attach Support Stand

Procedure 1: High-Capacity Input (HCI) Installation

Attaching the HCI to the mounting bracket

1. Pull out the mounting bracket slide-rails until they lock in out position.
2. Sit the HCI on the pins of the slide-rail.
3. Secure the HCI to the mounting bracket (use two thumbscrews), as shown in Figure 4-8.

(2) Thumbscrews
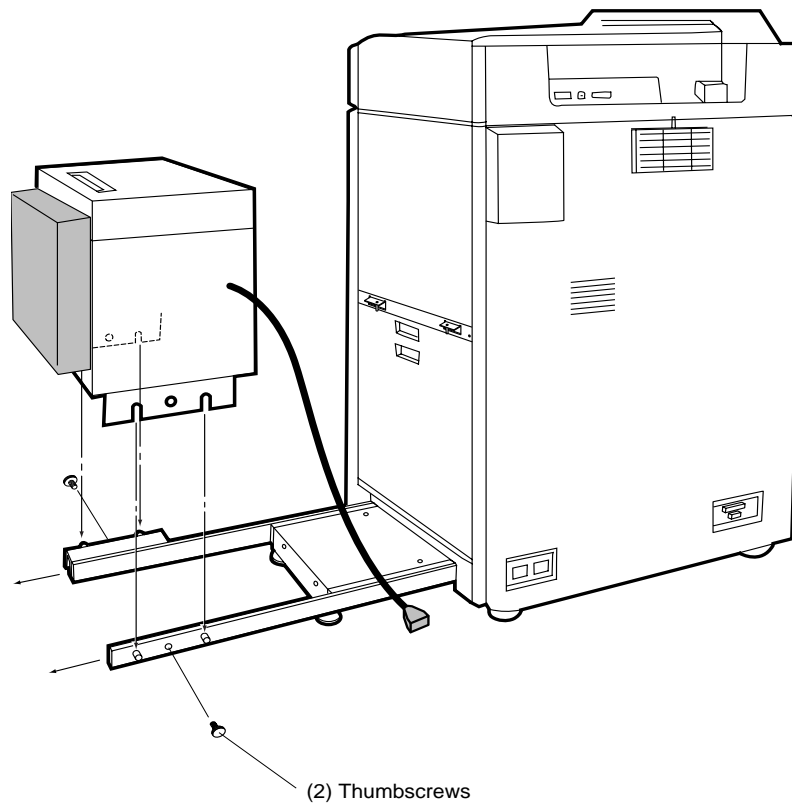
Figure 4-8   Attaching the HCI to the mounting bracket

Procedure 1: High-Capacity Input (HCI) Installation

Leveling the HCI

1. Slide the HCI into the paper guide on the printer, until it locks in place.

2. Adjust the leveling feet on the HCI support stand so that the two leveling chains are just touching the floor. See Figure 4-9.

(2) Leveling chains
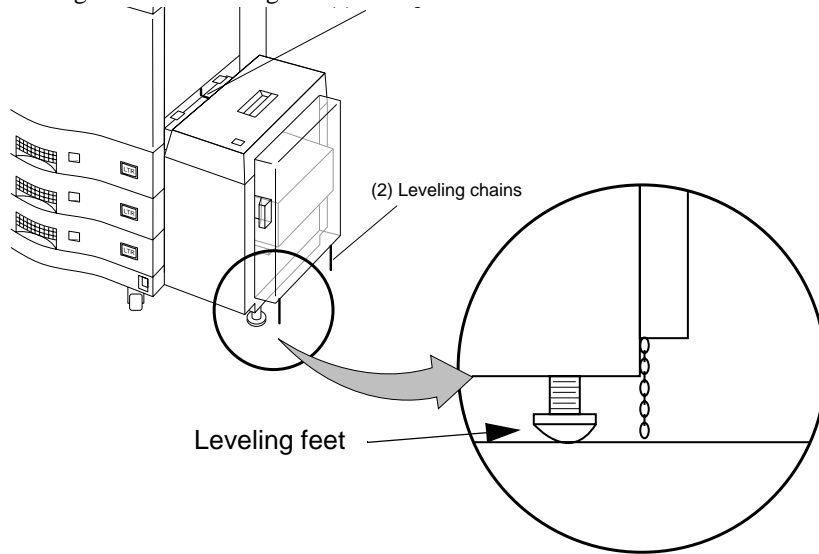
Leveling feet

Figure 4-9   Leveling the HCI

3. Make sure the red alignment marks on the HCI and the paper guide line up. If the alignment marks do not line up, adjust the leveling feet on the support stand until the alignment marks are lined up.

Connecting the Signal Cable

Accessories

Procedure 1: High-Capacity Input (HCI) Installation

1. Make sure the printer is powered off.
2. Press the release handle on the top of the HCI and pull the HCI away from the printer.
3. Plug the cable from the HCI into the connector on the rear lower left of the printer, as shown in Figure 4-10.
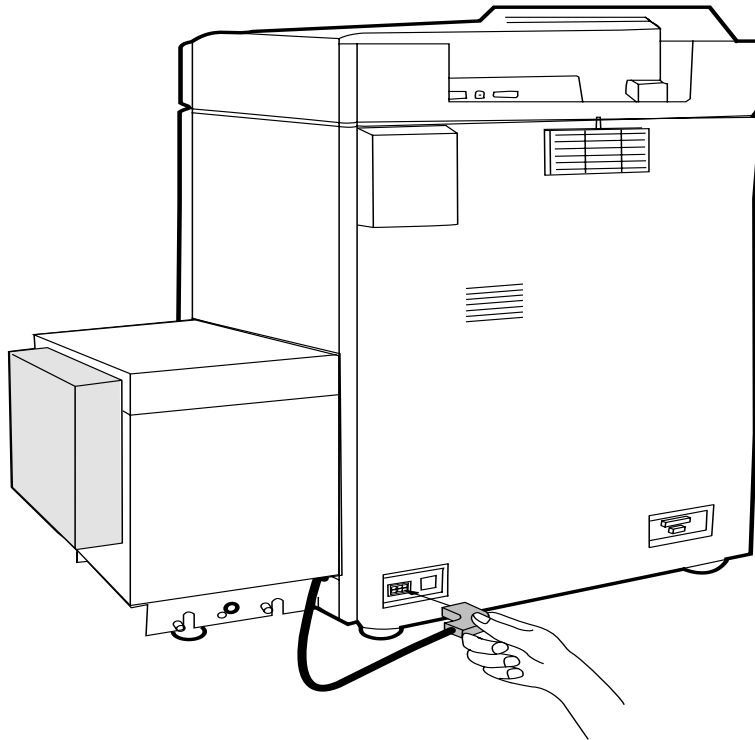
Figure 4-10   HCI Signal Connection

4. Slide the HCI into the paper guide on the printer, until it locks in place.
5. Power ON the printer.

Procedure 1: High-Capacity Input (HCI) Installation

Loading Paper

1. Open the HCI door.
2. Press the button on the top of the HCI to lower the paper tray, as shown in Figure 4-11.

NOTE: **If the tray does not lower, make sure all of the printers covers are closed, the display shows ready, and the HCI is against the printer. The printer must be powered on and in a ready state before the tray will lower.**
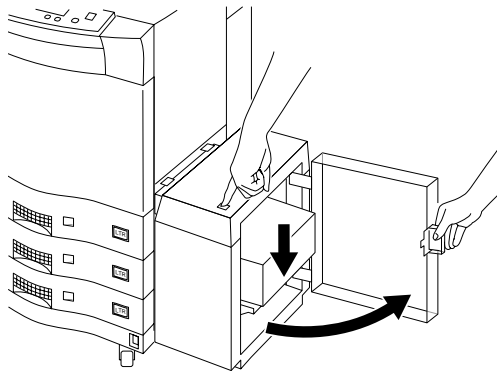
Figure 4-11   HCI Paper Tray

3. Load the paper and close the HCI door. See Figure 4-12.
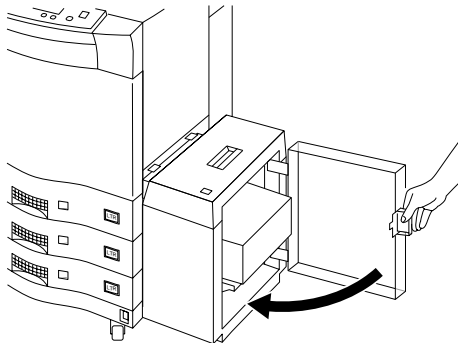
Figure 4-12   Close HCI Door

Accessories

Procedure 1: High-Capacity Input (HCI) Installation

If you have a US letter size HCI, refer topage 2-83 and perform the paper alignment procedure. If you have an A4 size HCI, you need to set the printer's **PapSize** setting to **A4**. Follow these steps to configure **PapSize**:

1. Press the **PapSize** button on the **Main Screen** to display the PapSize menu shown in Figure 4-13.

```
PapSize    tray1size        =LETTER
           tray2size        =LETTER
           tray3size        =LETTER
           HCIsize          =LETTER


 Online    ▲         ▼         ▶         ◀
```
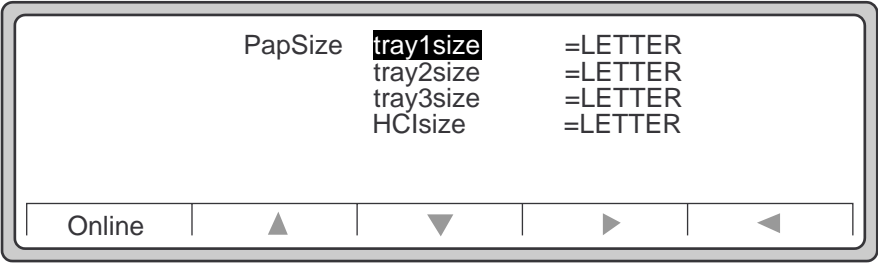
Figure 4-13   PapSize Menu

2. Use the **down arrow** button to move to **HCIsize**.
3. Press the **right arrow** to go to the **HCIsize** screen shown in Figure 4-14.

```
           HCIsize=  LETTER
                     A4



 Online    ▲         ▼       Select      ◀
```
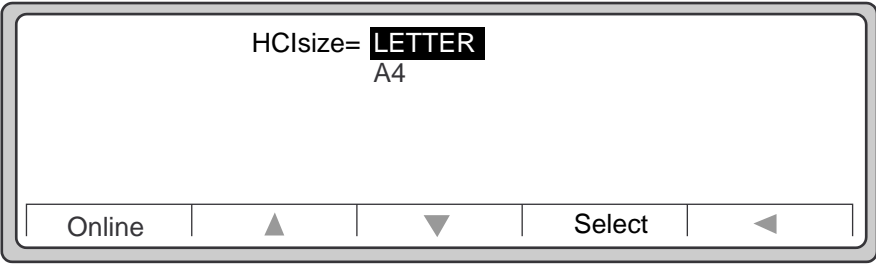
Figure 4-14   HCIsize Screen

4. Use the **down arrow** button to move to **A4.**

Procedure 1: High-Capacity Input (HCI) Installation

5. Press **Select** to choose **A4** as the paper size for the HCI, as shown in Figure 4-15.

PapSize	tray1size	=LETTER
	tray2size	=LETTER
	tray3size	=LETTER
	HCIsize	=A4

Online | ▲ | ▼ | ▶ | ◀
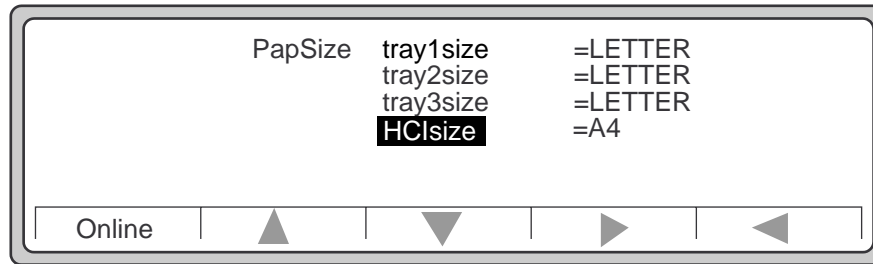
Figure 4-15   HCIsize Set to A4

6. Press the **left arrow** to return to the **Main Screen**.
7. If you have an HCO unit, continue to Procedure 2: High-Capacity Output (HCO) Installation.

If you are installing additional memory, proceed to Procedure 3: Installing Memory.

If you are installing PostScript, proceed to Procedure 4: Installing PostScript.

If you are installing a Custom Tray, proceed to Procedure 5: Custom Tray Installation.

If you have no other accessories to install, secure the printer as described in

Accessories

Procedure 2: High-Capacity Output (HCO) Installation

This procedure describes the installation of the high-capacity output (HCO).

In this procedure, you will be:

- Unpacking the HCO
- Attaching the Paper Guide
- Attaching Bracket B and the Connect Pin
- Connecting the Signal Cable and Power Cord
- Attaching the HCO

NOTE: **Printer power should be turned off before connecting the HCO to the printer.**

Unpacking the HCO

The HCO is shipped separate from the printer. See Figure 4-16.
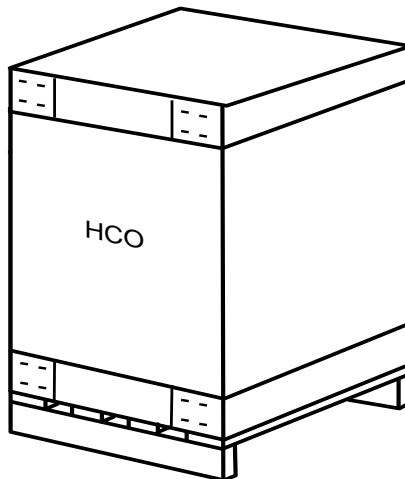
Figure 4-16   HCO Box

The HCO box contains the parts necessary to set up the HCO for immediate use (see Figure 4-17). Check the contents of the HCO box to make sure you have all of the components listed in Table 4-2, "HCO Parts Checklist".

Procedure 2: High-Capacity Output (HCO) Installation

Table 4-2   HCO Parts Checklist

	Power cord	
	Paper guide	1
	Bracket A	1
	Bracket B	1
	Screw (M6 x 12)	1
	Screw (M4 x 10)	2
	Screw (M4 x 6)	1
	Connect Pin	1

Paper guide

Power Cord

Bracket B

Bracket A

(4) Thumbscrews(M4x6)   Screw (M6x12)   (2) Screws (M4x10)   Connect pin
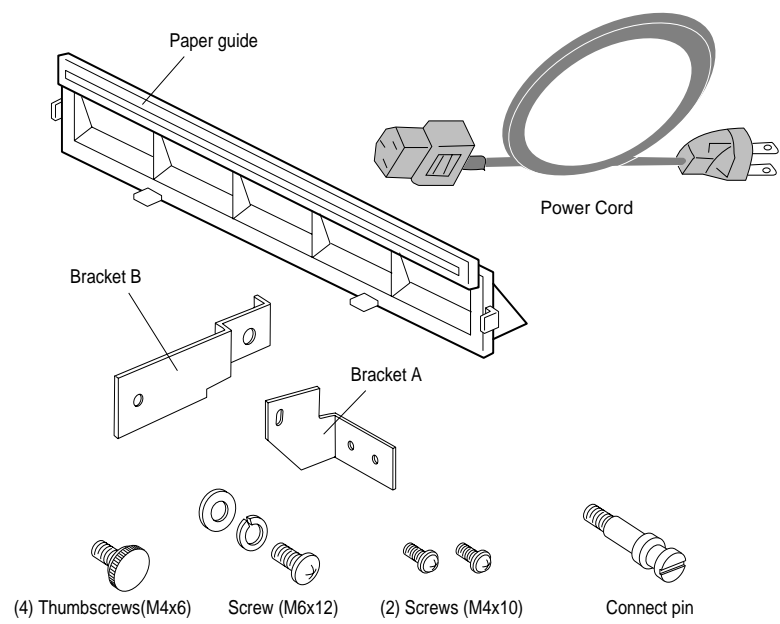
Accessories

Figure 4-17   Parts Included with HCO

Inside the box, the HCO is surrounded by a plastic bag and is secured between protective foam blocks. To unpack the HCO, follow these instructions:

Procedure 2: High-Capacity Output (HCO) Installation

WARNING: **The HCO weighs 71lbs (32kg). Unpacking requires two people.**

1. Open the cardboard box and remove foam blocks, as shown in Figure 4-18.
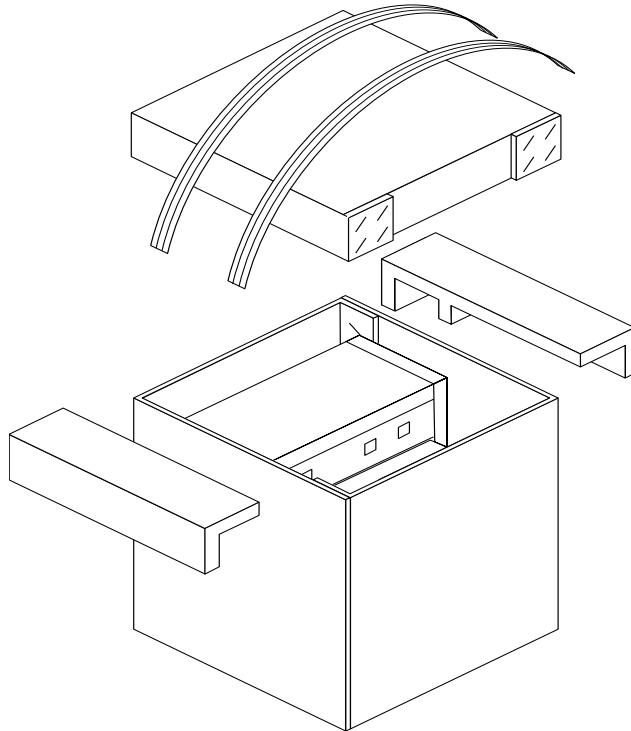
Figure 4-18   Opening the HCO Box

2. Use two people to carefully lift the HCO free from the box and place it on the floor. See Figure 4-19.

Procedure 2: High-Capacity Output (HCO) Installation
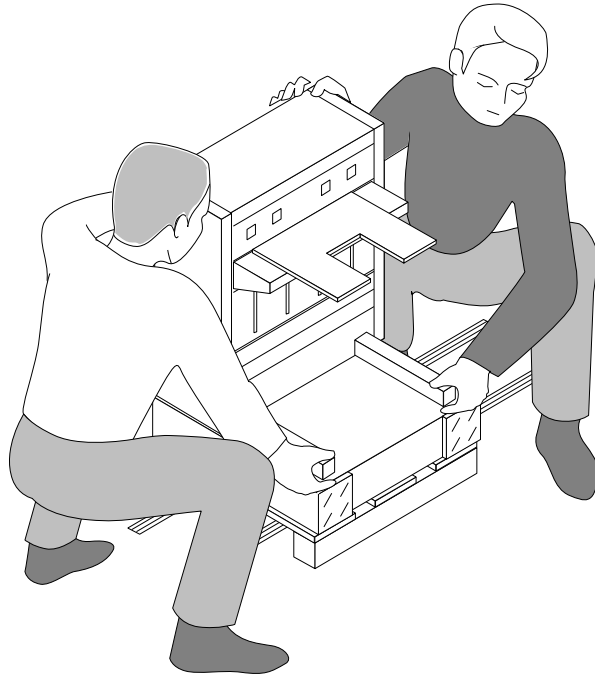
Figure 4-19   Unpacking the HCO

3. Remove the plastic from the HCO.
4. Save the packing materials; in the future you may need to use them to pack the HCO for shipment.

WARNING: **Do not move printer until you attach the Safety Tilt Bar. Failure to do so can result in tipover of the HCO and possible personal injury.**

Accessories

Procedure 2: High-Capacity Output (HCO) Installation

5. Loosen the nut holding the Safety Tilt Bar from the back of the HCO in the bottom right leg. See Figure 4-20.

Tilt Safety Bar

Remove nut and lift out
tilt safety bar
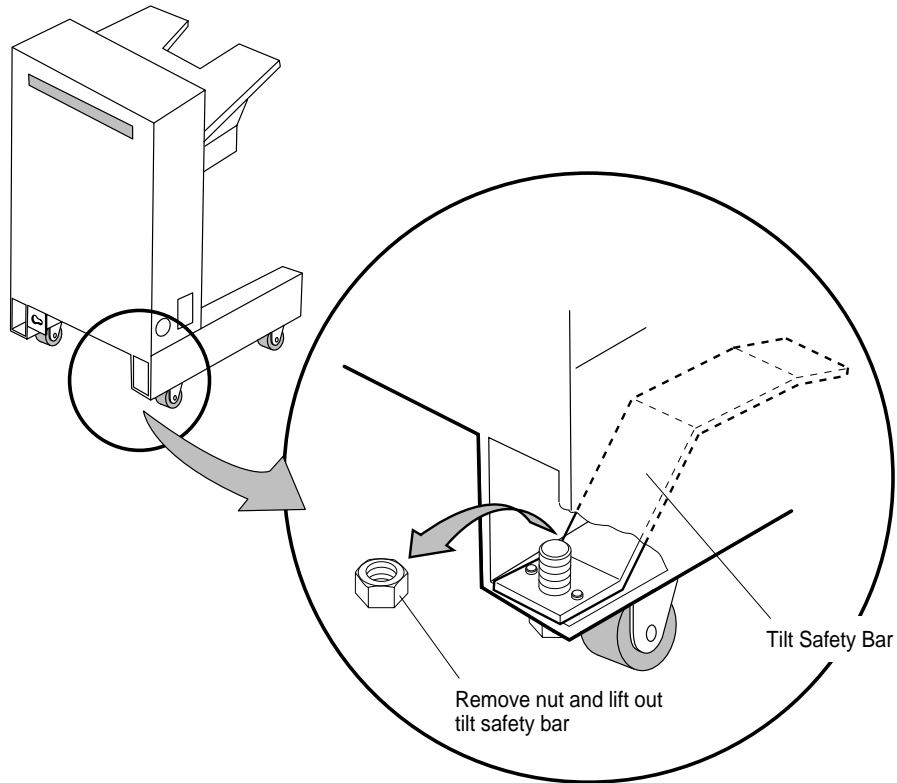
Figure 4-20   Safety Tilt Bar

Procedure 2: High-Capacity Output (HCO) Installation

6. Remove the Safety Tilt Bar.
7. Turn the bar over and replace it as shown in Figure 4-21.

Tilt Safety Bar
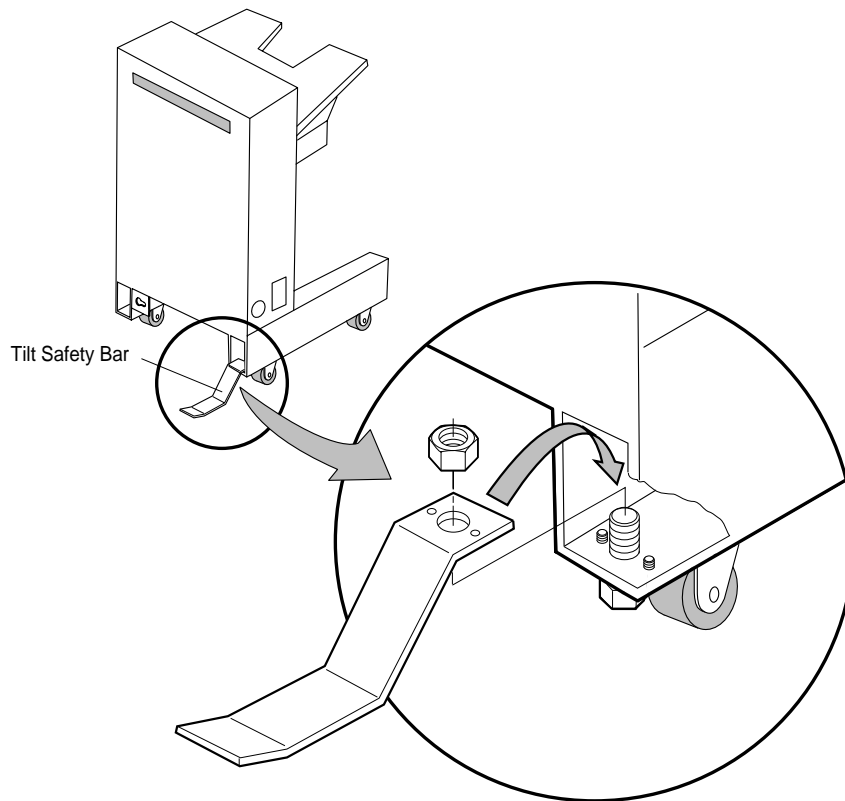
Figure 4-21   Attaching Safety Tilt Bar

8. Replace the bolt and finger tighten.

Accessories

Procedure 2: High-Capacity Output (HCO) Installation

9. Raise the four leveling bolts, as shown in Figure 4-22.

Adjust (2) leveling bolts
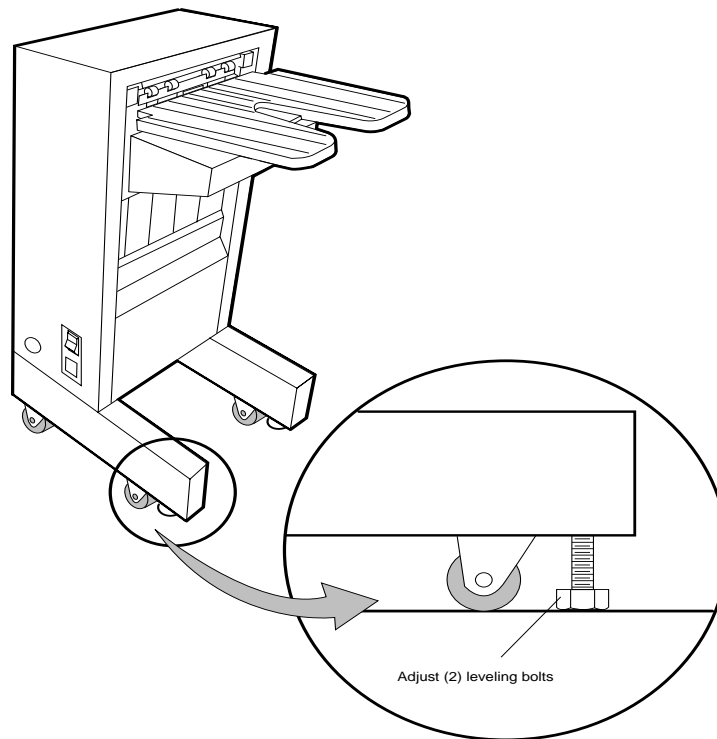
Figure 4-22   Raising Leveling Bolts

Procedure 2: High-Capacity Output (HCO) Installation

Attaching the Paper Guide

1. Locate the paper guide included in the HCO box contents.
2. Remove the upper cover from the left side of the printer (by removing two screws), as shown in Figure 4-23.
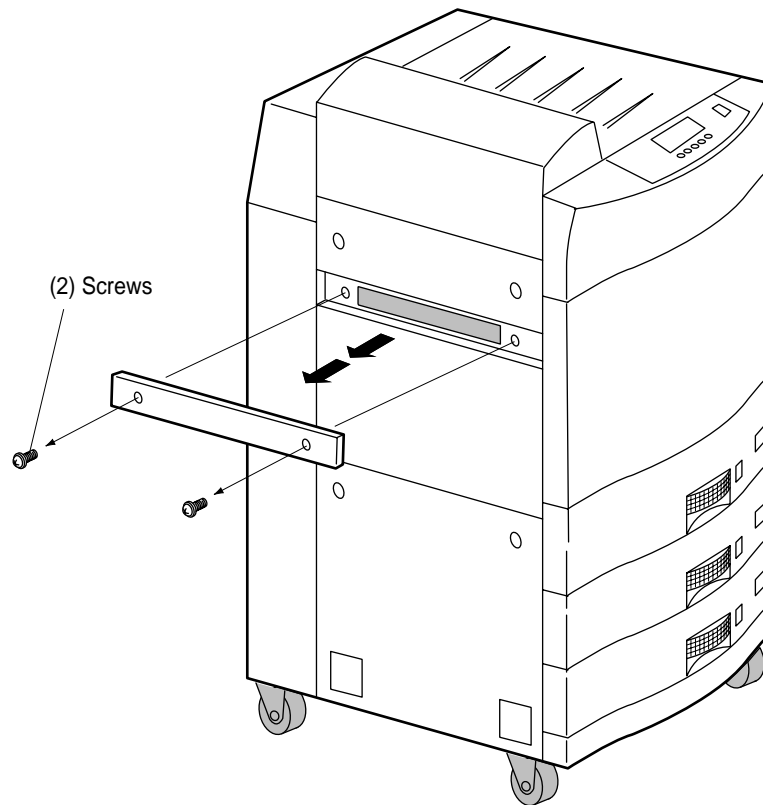
Figure 4-23   Removing Upper Cover

Procedure 2: High-Capacity Output (HCO) Installation

3. Snap the paper guide into place, as shown in Figure 4-24.
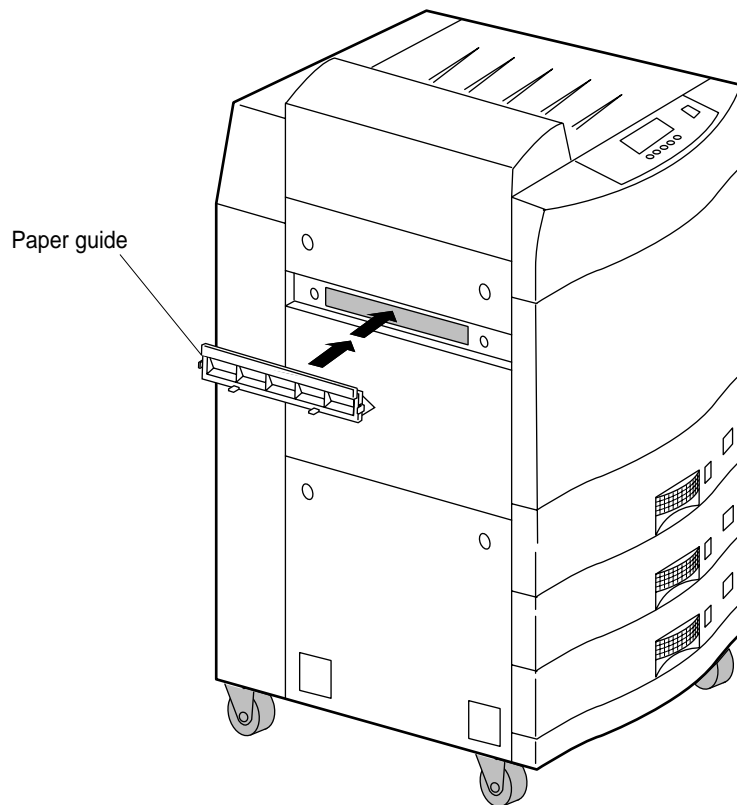
Paper guide

Figure 4-24   Attaching Paper Guide

Procedure 2: High-Capacity Output (HCO) Installation

Attaching Bracket B and the Connect Pin

1. Locate bracket B and the connect pin included in the HCO box contents.
2. Use a small flat-bladed screwdriver to pop out the two small panels from the bottom cover as shown in Figure 4-25.
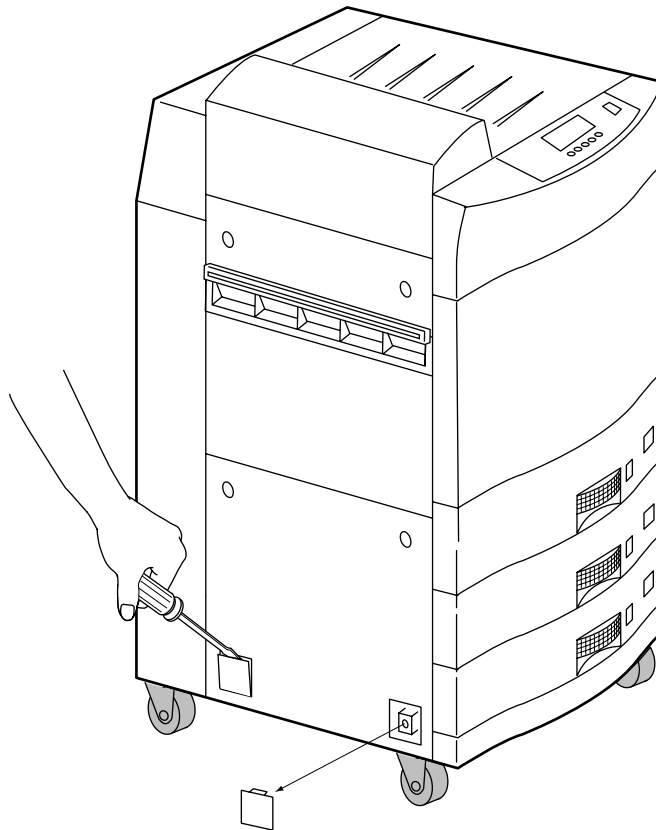
Figure 4-25   Small Panels

Accessories

Procedure 2: High-Capacity Output (HCO) Installation

3. Attach bracket B to the bottom left side of the printer with the M6 x12 screw and fasten the connect pin, as shown in Figure 4-26.
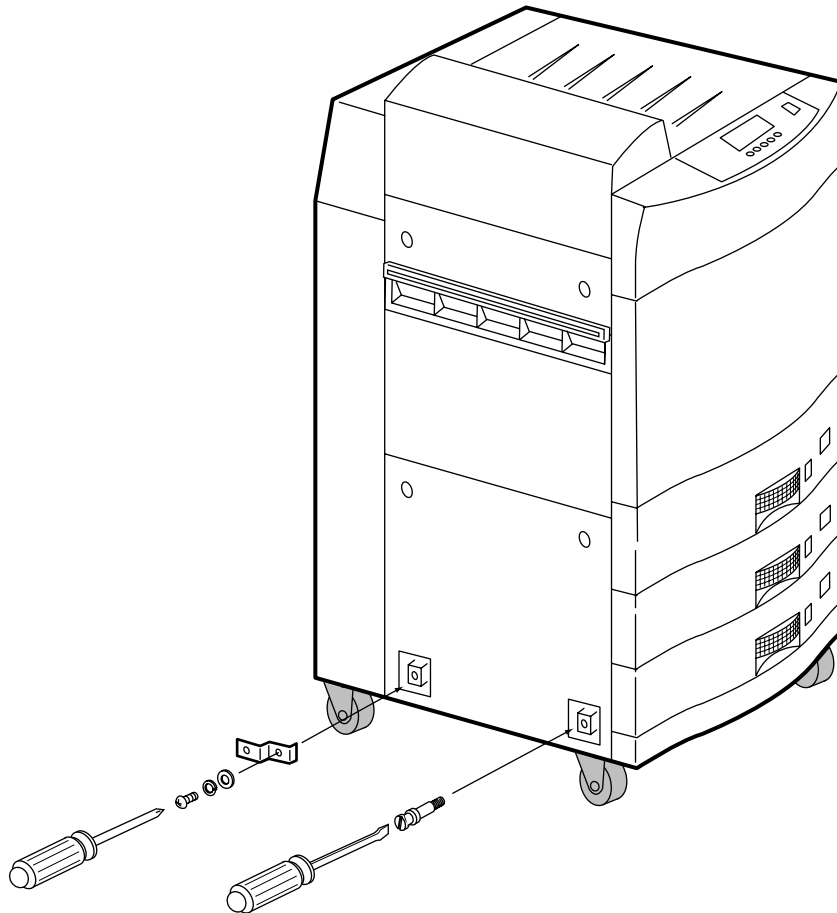
Figure 4-26   Attaching Bracket B and the Connect Pin

Procedure 2: High-Capacity Output (HCO) Installation

Attaching the HCO

1. Attach bracket A to the bottom of the HCO. Secure the bracket with the two M4 x10 screws as shown in Figure 4-27.
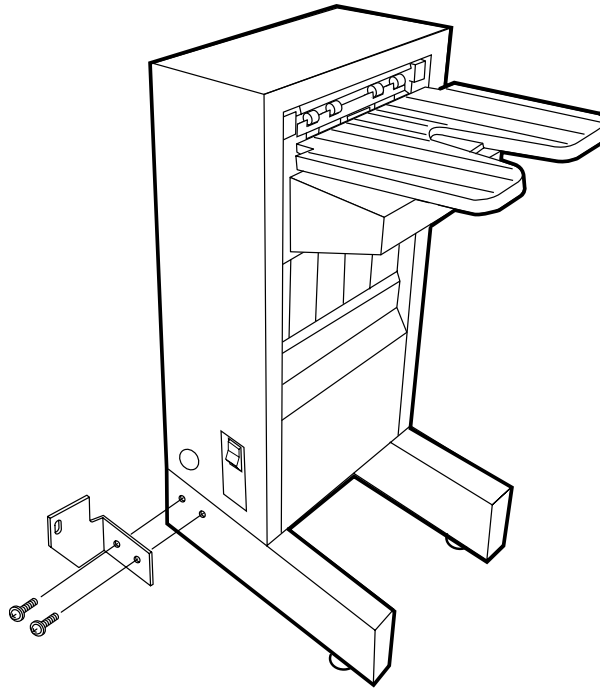
Figure 4-27   Attaching Bracket A

2. Position the HCO so that its positioning hole is aligned with the connect pin on the printer.

Accessories

Procedure 2: High-Capacity Output (HCO) Installation

3. Fit the connect pin into the larger circular section of the HCO positioning hole as shown in Figure 4-28.
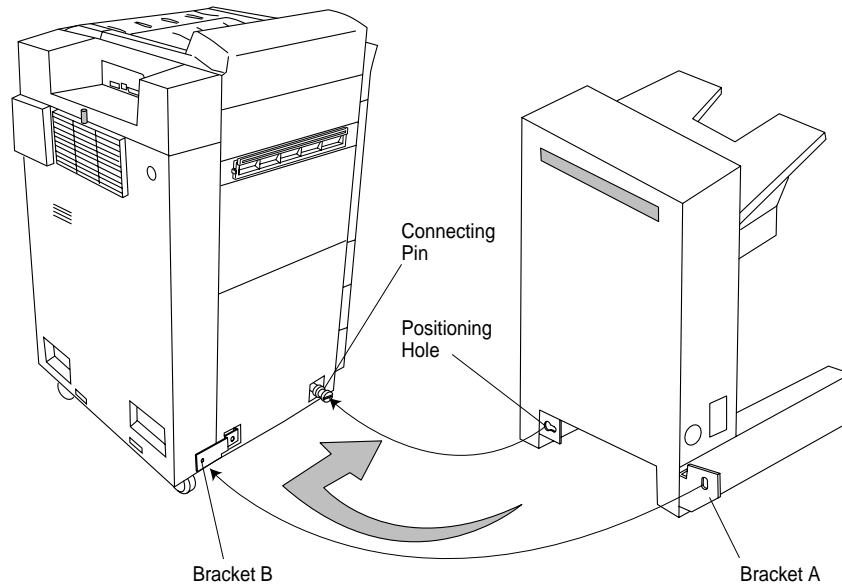
Figure 4-28   Attaching the HCO

4. Move the HCO up against the printer.
5. Push the HCO from the side, towards the front of the printer, to lock the pin into the positioning hole.
6. Fasten bracket A to bracket B on the printer with the M4 x 6 hexagon type screw.

Procedure 2: High-Capacity Output (HCO) Installation

7. If the HCO is not parallel to the printer, turn the two front levelers counterclockwise to tilt the top of the HCO securely against the printer. See Figure 4-29.

Turn bolt counterclockwise
to raise this end of HCO
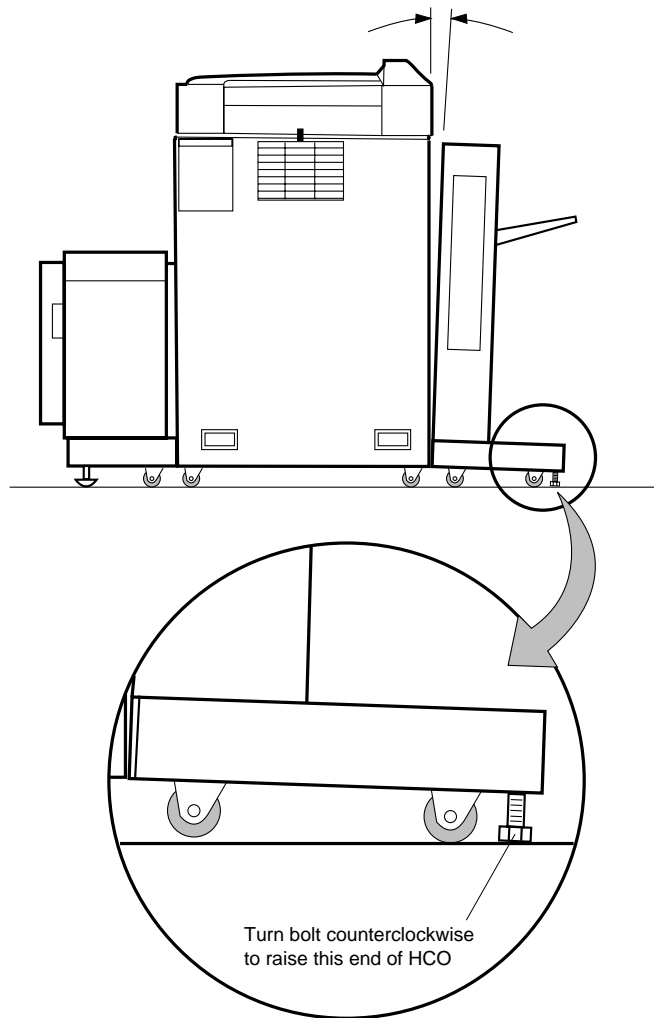
Figure 4-29   Adjusting Front Levelers

NOTE: **Adjust the levelers only if the HCO is tilted away from the printer.**

Procedure 2: High-Capacity Output (HCO) Installation

Connecting the Signal Cable and Power Cord

1. Plug the signal cable from the HCO into the connector on the rear bottom right of the back of the printer. See Figure 4-30.
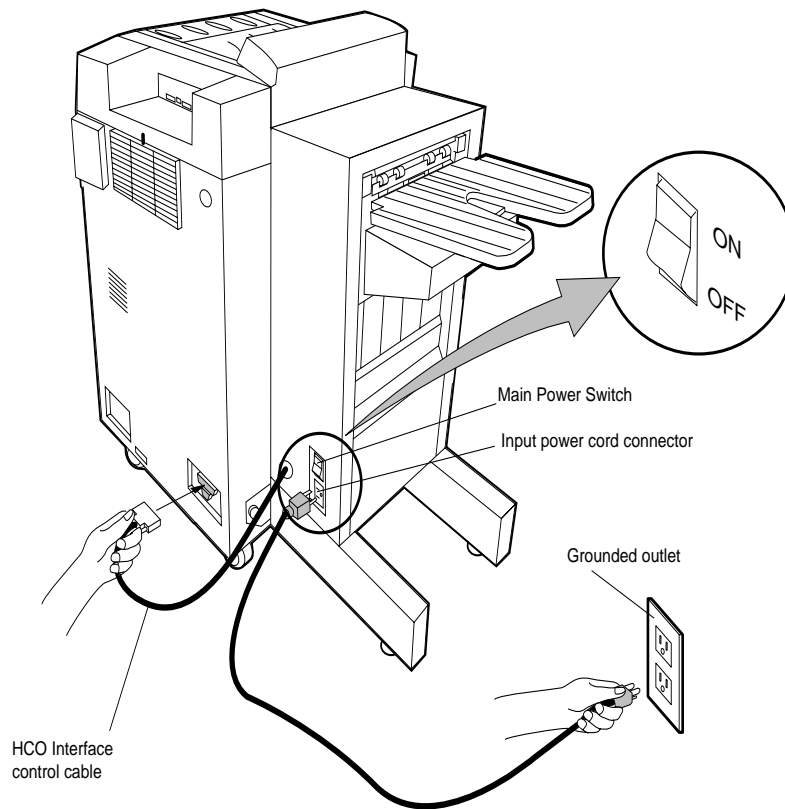
Figure 4-30   Connecting the HCO Signal Cable and Power Cord

NOTE: **Make sure the main power switch is in the OFF position.**

2. Connect the Power cord plug (female) to the AC inlet connector on the HCO.

WARNING: **The HCO relies upon grounding for protection against electric shock and to assure compliance with Electromagnetic Compatibility Regulations. Always connect printer to a proper grounded outlet.**

Procedure 2: High-Capacity Output (HCO) Installation

3. Connect the male end of the power cord to a grounded AC outlet in the wall.

4. Turn on the main power switch on the HCO.

Setting HCO Paper Output Configuration

The printer's output tray is the default output tray. If you want to make the HCO your primary output, follow these steps to make the change in the Control Panel:

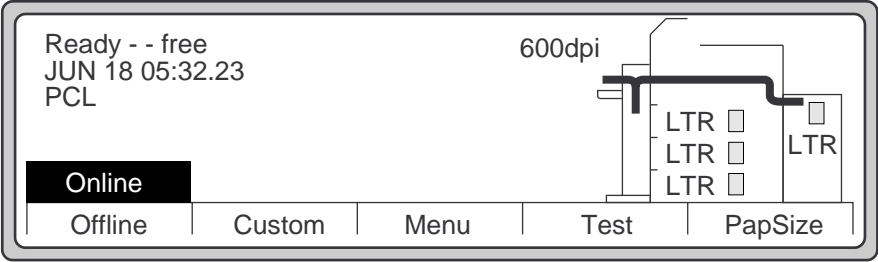1. Press the **Menu** button on the Main Screen. See Figure 4-31.

Figure 4-31   Main Screen

2. The list of choices is shown in Figure 4-32.
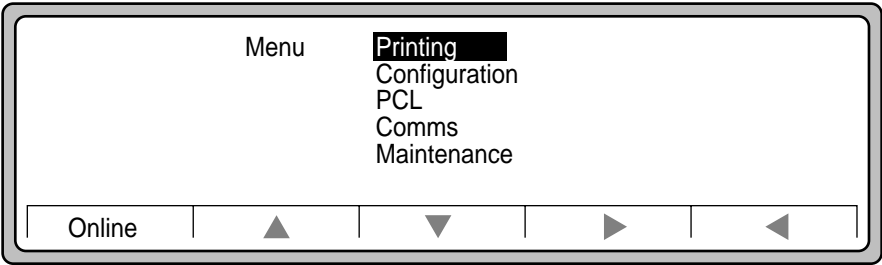
Figure 4-32   List of Submenus

Procedure 2: High-Capacity Output (HCO) Installation

3. Select **Printing** to display the Printing submenu, as shown in Figure 4-33.
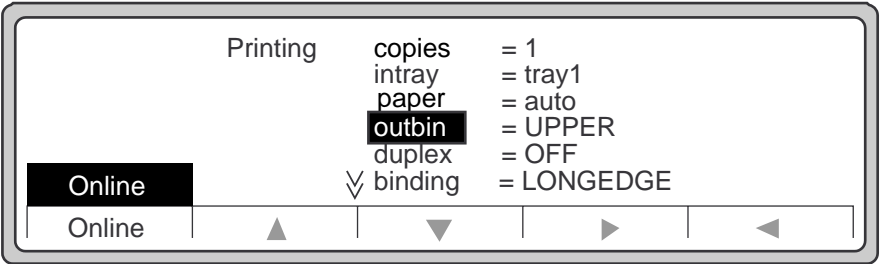
```
                 Printing     copies    = 1
                              intray    = tray1
                              paper     = auto
                              outbin    = UPPER
                              duplex    = OFF
         Online               ∨ binding = LONGEDGE
         Online      ▲          ▼           ▶         ◀
```

Figure 4-33   Printing Submenu

4. Select **outbin** to display the Printing.outbin submenu, as shown in Figure 4-34.

```
         Printing.outbin     = UPPER
                             = HCO-FACEDOWN
                             = HCO-FACEUP



         Online      ▲          ▼        Select       ◀
```
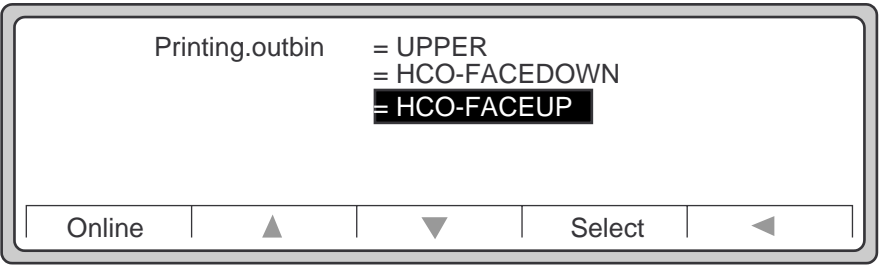
Figure 4-34   Printing.outbin Submenu

5. Highlight either **HCO-FACEDOWN** or **HCO-FACEUP** and press the **Select** button.

Procedure 2: High-Capacity Output (HCO) Installation

6. The Main Screen display shows the HCO as the paper output tray. See Figure 4-35.
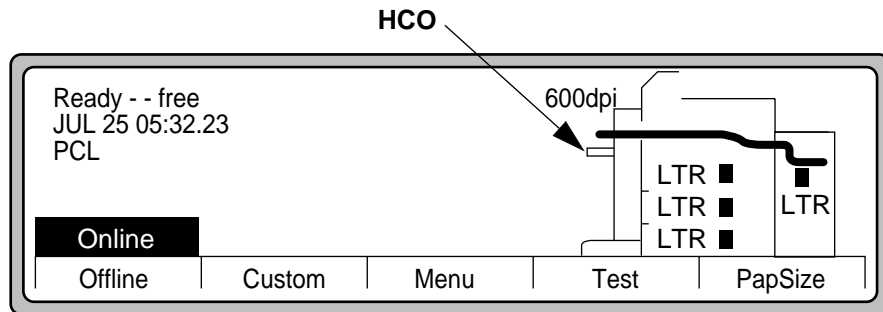
HCO

```
Ready - - free                           600dpi
JUL 25 05:32.23
PCL
                                              LTR ■
                                              LTR ■       LTR
    Online                                    LTR ■
    Offline        Custom       Menu        Test       PapSize
```

Figure 4-35   Main Screen with HCO Set to Face-Up Output

If you are installing additional memory, proceed to Procedure 3: Installing Memory.

If you are installing PostScript, proceed to Procedure 4: Installing PostScript.

If you are installing a Custom Tray, proceed to Procedure 5: Custom Tray Installation.

If you have no other accessories to install, secure the printer as described in "Procedure 14: Securing the Printer" on page 2-82.

Accessories

Procedure 3: Installing Memory

The D640 printer comes standard with 16 MB of memory, and can accept up to 64 MB. For most applications the standard memory should be sufficient. Additional memory is required if you add PostScript (16 MB additional memory is included with PostScript), run Duplex Ledger or want to store a large amount of memory resident fonts and/or macros.

You can increase the memory capacity of the D640 by adding up to three additional 16 MB, 72-pin, SIMMS. The SIMMS must be 60 ns, non-parity, and non-EDO.

NOTE: **HP is not responsible for correct operation when non-HP memory is used. Any failures or service calls related to the use of non-HP memory will not be covered by warranty or an HP service agreement.**

Install additional SIMMS in slots CN5, CN6, and CN7 as shown in Table 4-3, "Memory Configurations".

Table 4-3   Memory Configurations

HP Part Number	SIMM Type	Onboard	CN5	CN6	CN7	Total
		16 MB				16 MB
C5635A	16 MB	16 MB	16 MB			32 MB
C5635A	16 MB	16 MB	16 MB	16 MB		48 MB
C5635A	16 MB	16 MB	16 MB	16 MB	16 MB	64 MB

Procedure 3: Installing Memory

Install the SIMMS as follows:

1. Open the upper right cover.
2. Open the ejection unit cover. See Figure 4-36.
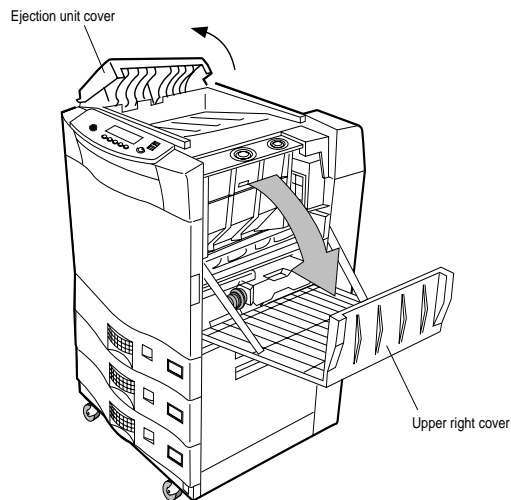
Figure 4-36   Open Covers

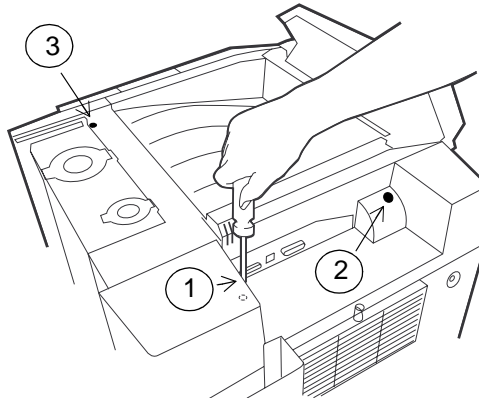3. Loosen the three captive screws on the top cover, as shown in Figure 4-37.

Figure 4-37   Removing Top Cover

4. Remove the top cover by lifting it up and away from the printer.

Procedure 3: Installing Memory

5. Loosen the top screw on the memory access cover and slide the cover toward the rear of the printer, as shown in Figure 4-38.
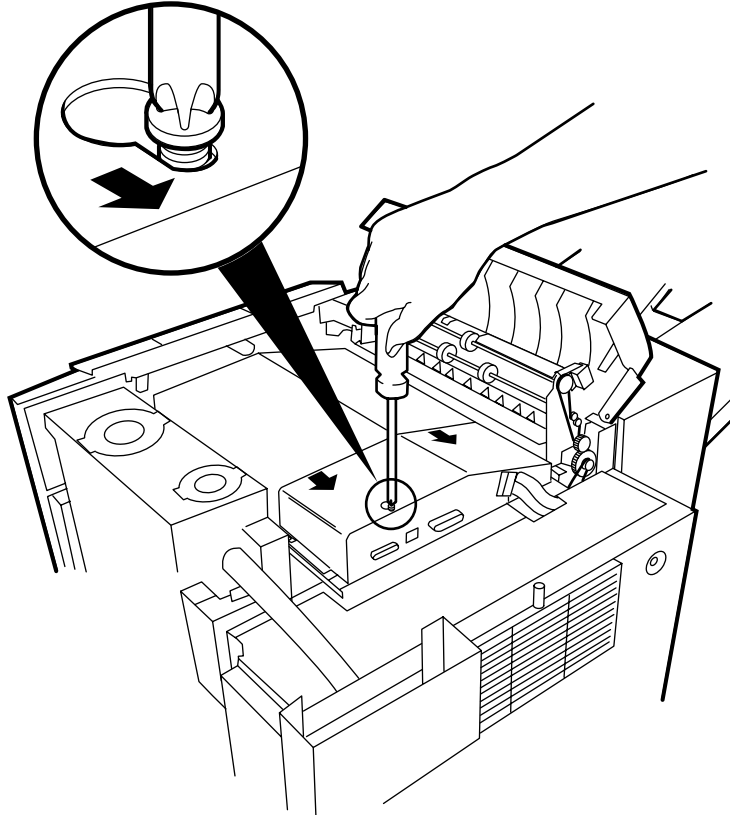
Figure 4-38   Removing Memory Access Cover

6. Locate the memory module slots marked CN5, CN6, and CN7, on the main controller as shown in Figure 4-39
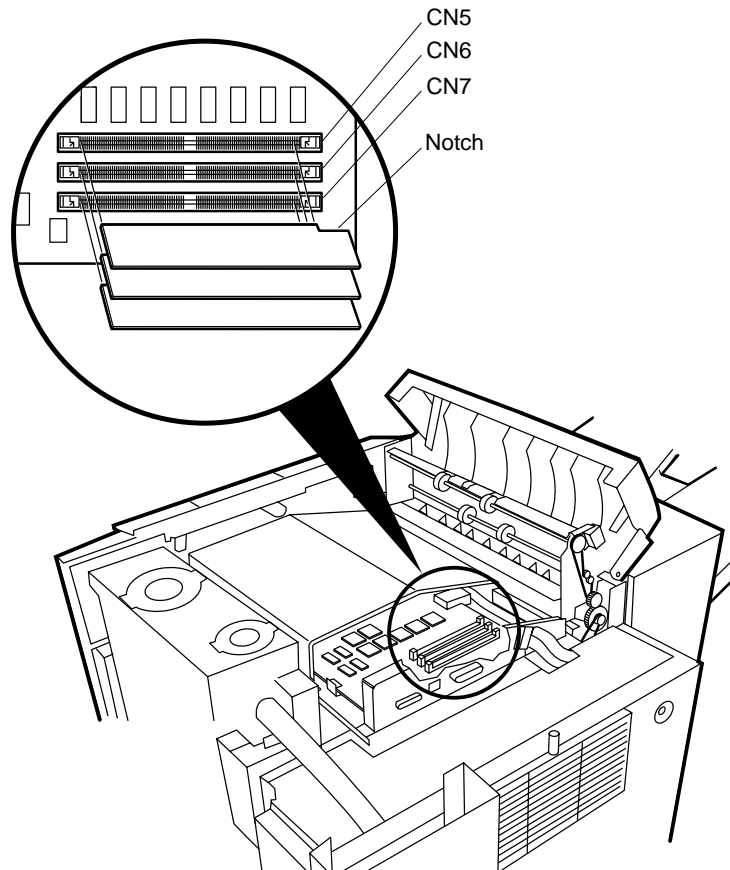
Figure 4-39   Memory Module Slot Location

7. At this point you are ready to remove the memory modules from their protective bags and install them in the printer.

CAUTION: **Electronic components are susceptible to damage from electrostatic discharge. If possible, use an antistatic wrist strap and a grounding mat. Before removing the SIMM from its protective bag, touch a grounded, unpainted metal surface to discharge any static electricity.**

Procedure 3: Installing Memory

8. Use the antistatic wrist strap shown in Figure 4-40

Envelope containing
Anti-Static Wrist Strap

Memory Module Box

Anti-Static Bag containing
Memory Module
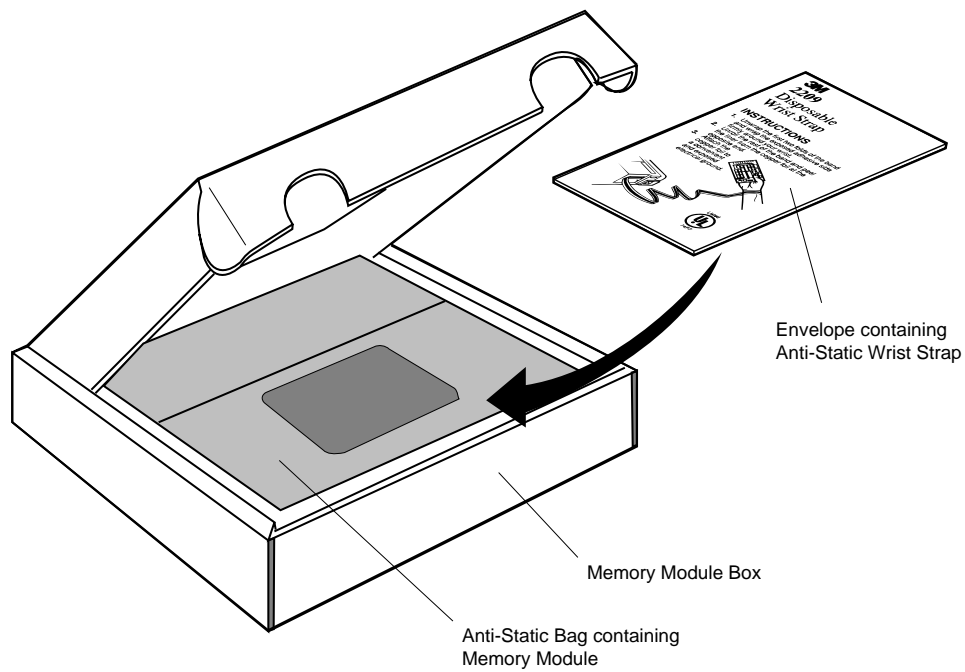
Figure 4-40   Antistatic Wrist Strap

9.   Refer to Figure 4-41, while following the next three steps:

SIMM in final position

SIMM inserted
at 45° angle and
raised into
final position

Chrome Fastener Clip

Anti-Static
Wrist Strap

CN5

CN6

CN7

Metal Frame
(Ground)
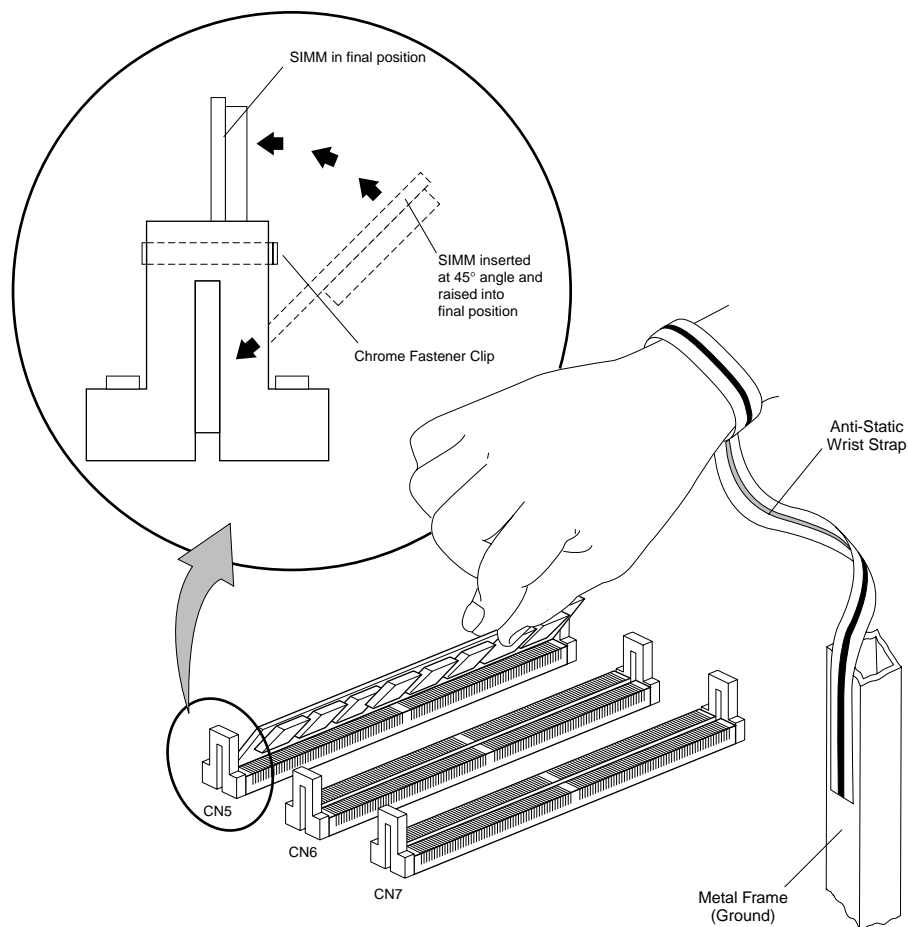
Figure 4-41   SIMM Installation

NOTE: **The memory modules must be inserted in order, starting with slot CN5,
followed by CN6, and then CN7.**

Accessories

Procedure 3: Installing Memory

a) Slide the memory module into the free socket at a 45-degree angle, as shown in Figure 4-41, with the "notch" on the right side of the module.

b) Firmly press down on the memory module so that its connector completely engages the socket.

c) Tilt the memory module up into a vertical position until it clicks into place.

CAUTION: **If the module does not click into place, do not force it, but repeat the last three steps.**

---

10. Replace the memory access cover. Make sure you slide the cover under the metal bracket, on each side of the cover, as shown in Figure 4-42.
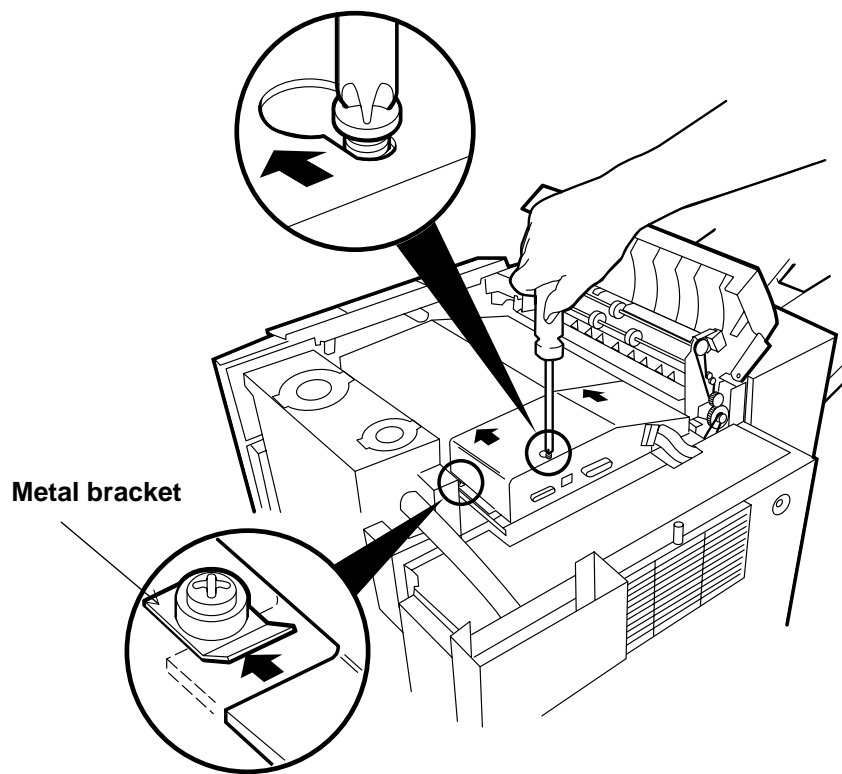
Figure 4-42   Replace Main Controller Cover

Procedure 3: Installing Memory

11. Replace the top cover and tighten the three captive screws that hold the cover in place.

12. Close the ejection unit cover.

13. Close the upper right cover.

If you are installing PostScript, proceed to Procedure 4: Installing PostScript.

If you are installing a Custom Tray, proceed to Procedure 5: Custom Tray Installation.

Accessories

Procedure 4: Installing PostScript

The PostScript™ upgrade (C5630A) includes a 16 MB memory module, the emulation code on a floppy diskette, and installation instructions.

Follow the previous procedure, "Procedure 3: Installing Memory" on page 4-34, for adding additional memory. Return to this procedure for loading PostScript.

NOTE: **The PostScript upgrade contains two floppy diskettes. One is a master disk and the other is a backup. Either one can be used during this procedure.**

Follow these steps to install PostScript:

1. Power ON the printer if it is not already powered on.
2. Open the front cover and locate the floppy drive. Insert the diskette, as shown in Figure 4-43.
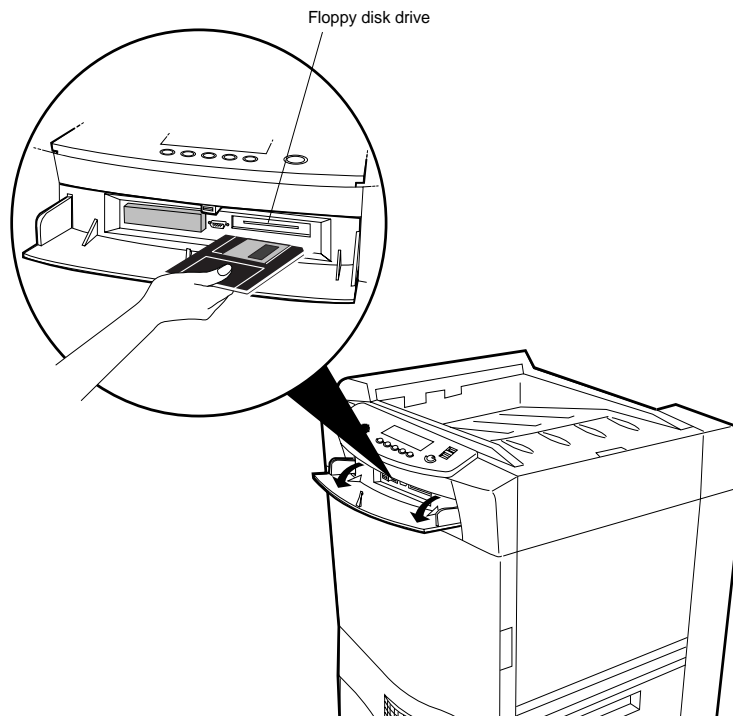
Figure 4-43   Installing Diskette

3. Press the **Test** button on the Main Screen shown in Figure 4-44.
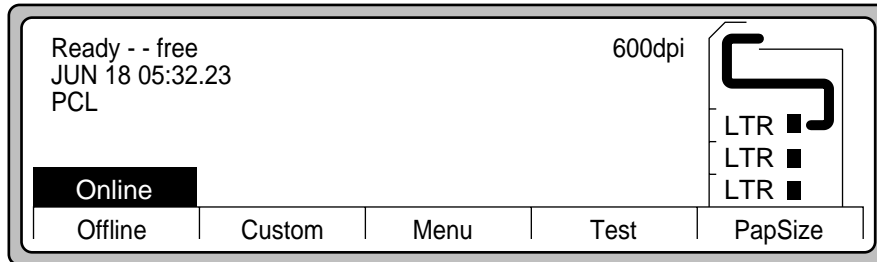

Figure 4-44   Main Screen

4. Use the **Down Arrow** button to scroll down and highlight **filesA**, as shown in Figure 4-45, and press the **Select** button.
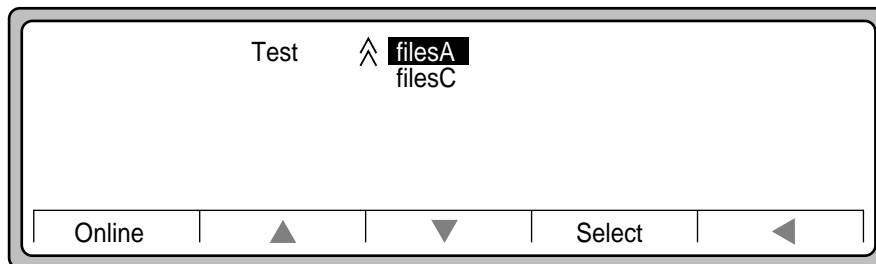

Figure 4-45   Test Submenu

NOTE: **After pressing select, there will be a few seconds delay as the printer reads the directory from the diskette.**

5. From the **filesA** submenu, highlight the **LOADPS.LAY** file. Press **Select** and **Online** to start the update process.

Accessories

Procedure 4: Installing PostScript

6.   After a few seconds, the printer displays this message:

> **Copying PS Code to HDD**

7.   Then the printer displays this message:

> **Installing PS Code**

8.   After about 45 seconds, the printer displays this message:

> **EW OK**

9.   After a few seconds the Control Panel display goes blank (the main controller is resetting).

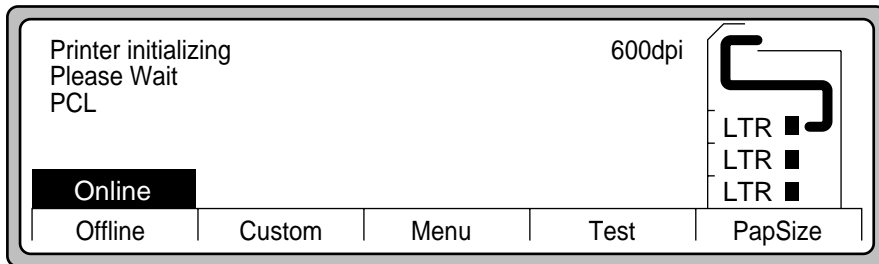10. When the main controller has finished resetting, you will see the display shown in Figure 4-46.

Figure 4-46   Printer Initializing

11. When the printer has finished initializing, you will see the **Ready** message, as shown in Figure 4-47.

```
Ready - - free                                    600dpi
JUN 18 05:32.23
PCL

                                                  LTR ■
                                                  LTR ■
                                                  LTR ■
┌──────────┬──────────┬──────────┬──────────┬──────────┐
│  Online  │          │          │          │          │
│  Offline │  Custom  │   Menu   │   Test   │  PapSize │
└──────────┴──────────┴──────────┴──────────┴──────────┘
```
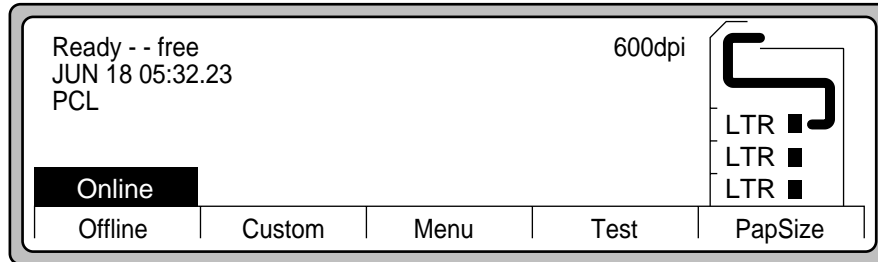
Figure 4-47   Ready (Main Screen)

12. Remove the PostScript code diskette and close the front cover.

NOTE: **After you remove the PostScript code diskette, store both (master and backup) in a safe place. The PostScript disks must be retained at all times. They provide your primary proof of purchase and may be required to reload the code in the future.**

If you are installing a Custom Tray, proceed to Procedure 5: Custom Tray Installation.

If you have no other accessories to install, secure the printer as described in "Procedure 14: Securing the Printer" on page 2-82.

Accessories

Procedure 5: Custom Tray Installation

The Custom Tray supports an infinite number of settings. You can use the Custom Tray to print the following:

- All supported paper sizes, from 4 inches by 7.2 inches (100 mm x 182 mm) to 11.7 inches by 17 inches (297 mm x 431.8 mm).
- Adhesive labels.

The Custom Tray can replace any or all three standard trays.

To install the Custom Tray perform the following steps:

1. Pull the upper paper tray out until it stops.
2. Lift up and out to remove the paper tray, as shown in Figure 4-48.
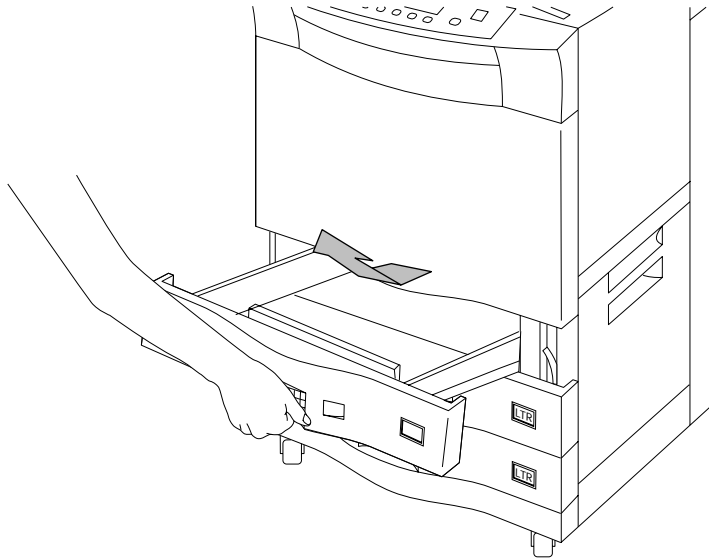
Figure 4-48   Removing Paper Tray

NOTE: **The printer supports the use of up to three Custom Trays. When more than one Custom Tray is used, all Custom Trays must contain the same size paper.**

Procedure 5: Custom Tray Installation

3.   Insert the Custom Tray at an angle then lower and push in, as shown in Figure 4-49.
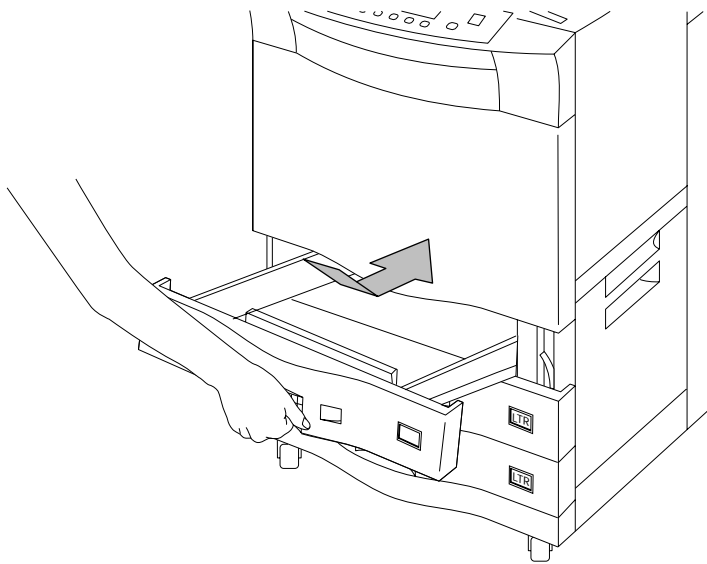
Figure 4-49   Installing Custom Tray

4.   Place your custom-sized paper in the Custom Tray print side up. The height of the paper stack should not exceed the paper full mark on the paper guides.

Procedure 5: Custom Tray Installation

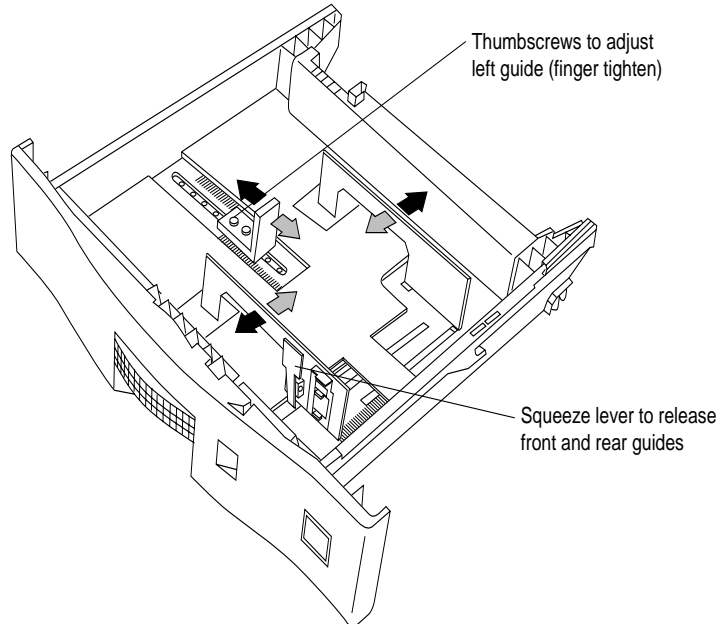5. Slide the paper guides to fit your paper or media, as shown in Figure 4-50.

Thumbscrews to adjust
left guide (finger tighten)

Squeeze lever to release
front and rear guides

Figure 4-50   Adjusting Paper Guides

6. Close the Custom Tray.
7. Before you can use the Custom Tray correctly, follow the procedures listed in the *User Manual* to configure the paper size for the Custom Tray.

Secure the printer as described in "Procedure 14: Securing the Printer" on page 2-82.

Appendix A

Packing and Shipping

Shipping

Packing and Shipping the Printer

On occasion, you may need to ship your printer, its consumables, or both. Follow these instructions to make sure the item will arrive at its destination undamaged from shipping.

CAUTION: **If the printer is packed improperly, it may be damaged during shipping. Follow these procedures to ensure safe transport.**

NOTE: **If the printer contains any accessories, such as an HCI or HCO, remove them and ship separately.**

Packing Consumables

Whenever possible, ship a consumable in its original packaging or in the packing material that arrives with the new replacement part.

Instructions follow for packing these consumables:

- Developer
- Toner
- Transfer assembly
- Manual Pocket

If you do not have the consumables' original packaging, use your own materials to pack them as securely as possible. Follow closely the packing recommendations in this appendix.

If you are shipping your printer:

- Discharge the developer and remove the developer purge bottle.
- Remove the toner collector bottle.
- Remove the transfer assembly.
- Remove Manual Pocket.

Shipping

Packing and Shipping the Printer

Discharging the Developer

CAUTION: **When shipping your printer, discharge the developer as described in this section. Do not ship the developer in the printer.**

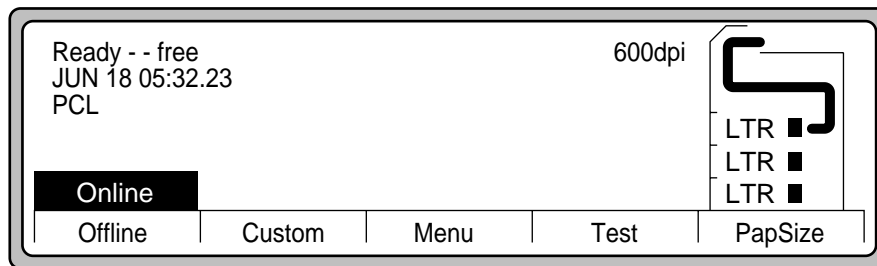1. Press the **Menu** button on the **Main Screen**. See Figure A-1.

```
Ready - - free                                   600dpi
JUN 18 05:32.23
PCL
                                                  LTR ■
                                                  LTR ■
                                                  LTR ■
Online
   Offline    |    Custom    |    Menu    |    Test    |    PapSize
```

Figure A-1   Main Screen

2. Press the **Down Arrow** button to highlight **Maintenance**. Press the **Right Arrow** button. See Figure A-2.

```
                   Menu        Printing
                               Configuration
                               PCL
                               Comms
                               Maintenance

   Online    |     ▲     |     ▼     |     ▶     |     ◀
```
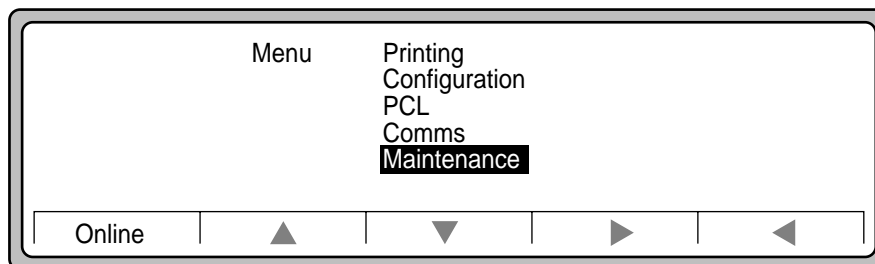
Figure A-2   Menu Submenu

3.   Select **Replace** and press the **Right Arrow** button. See Figure A-3.

```
┌─────────────────────────────────────────────────────────┐
│                                                           │
│       Maintenance      ▐replace  ▌                        │
│                         alignment                         │
│                         density    = 10                   │
│                         testpages  = 30                   │
│                         monitor    = OFF                  │
│                         date - time                       │
│   ┌────────┬────────┬────────┬────────┬────────┐          │
│   │ Online │   ▲    │   ▼    │   ▶    │   ◀    │          │
│   └────────┴────────┴────────┴────────┴────────┘          │
└─────────────────────────────────────────────────────────┘
```
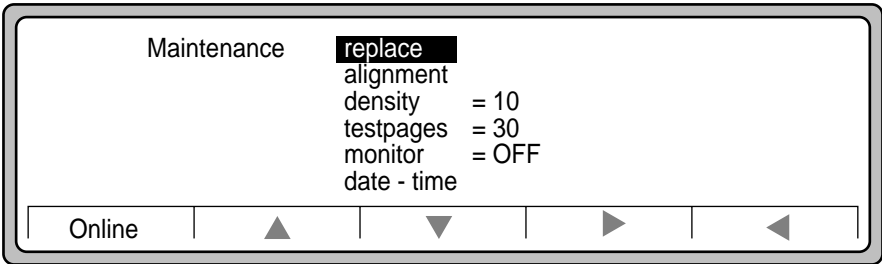
Figure A-3   Maintenance Submenu

4.   Select **DEVELOPER** from the Maintenance.replace submenu shown in Figure A-4.

```
┌─────────────────────────────────────────────────────────┐
│                                                           │
│    Maintenance.replace    ▐DEVELOPER  ▌                   │
│                            DRUM UNIT                      │
│                            FUSER UNIT                     │
│                            TRAY1ROLLERS                   │
│                            TRAY2ROLLERS                   │
│                            TRAY3ROLLERS                   │
│   ┌────────┬────────┬────────┬────────┬────────┐          │
│   │ Online │   ▲    │   ▼    │ Select │   ◀    │          │
│   └────────┴────────┴────────┴────────┴────────┘          │
└─────────────────────────────────────────────────────────┘
```
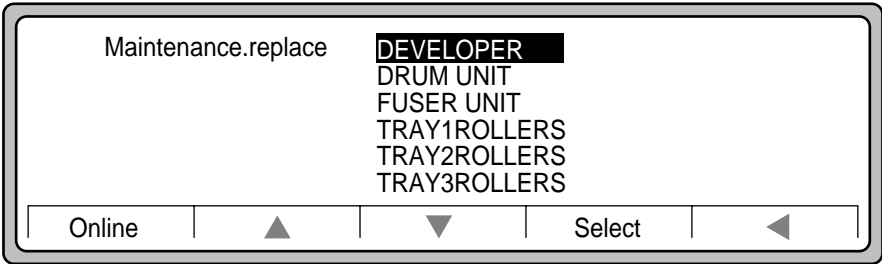
Figure A-4   Maintenance.replace Submenu

5.   Press the **Start** button as shown in Figure A-5.

```
┌─────────────────────────────────────────────────────────┐
│   Developer Replacement                           ┌───┐   │
│   Prepare new developer                               │   │
│    and press Start                                        │
│   to discharge old developer                   LTR ■      │
│                                                 LTR ■      │
│                                                 LTR ■      │
│   ┌────────┬────────┬────────┬────────┬────────┐          │
│   │        │        │ Start  │        │  Exit  │          │
│   └────────┴────────┴────────┴────────┴────────┘          │
└─────────────────────────────────────────────────────────┘
```
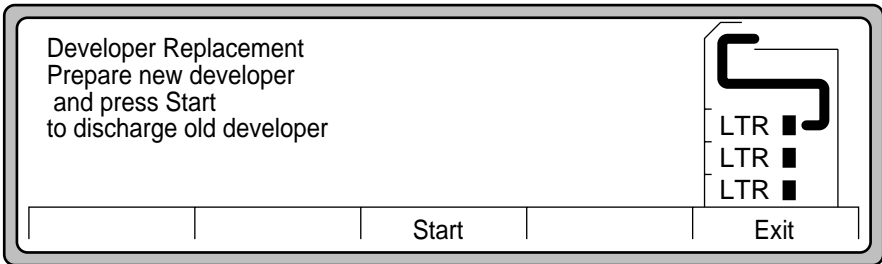
Figure A-5   Start Discharge Developer

Shipping

Packing and Shipping the Printer

Wait for about 45 seconds until the old developer has cleared as shown in Figure A-6.

blinking

```
Developer discharge
Developer discharging
 Please Wait
```
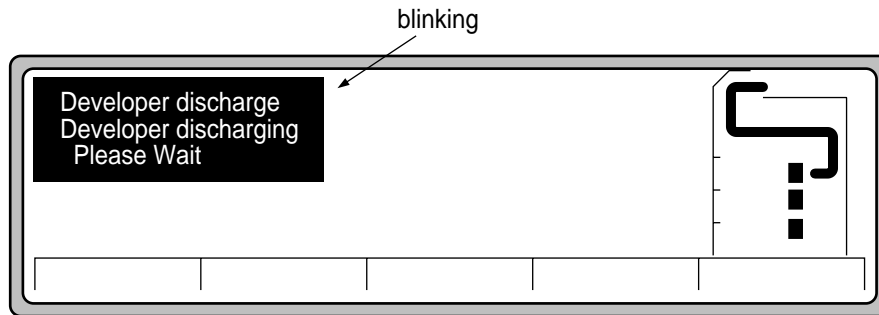
Figure A-6   Developer Discharging

6.   After 45 seconds, you will see the display shown in Figure A-7.

blinking

```
Developer discharge completed
Prepare new developer bottle
Open upper right cover
 Press Done
```

Done
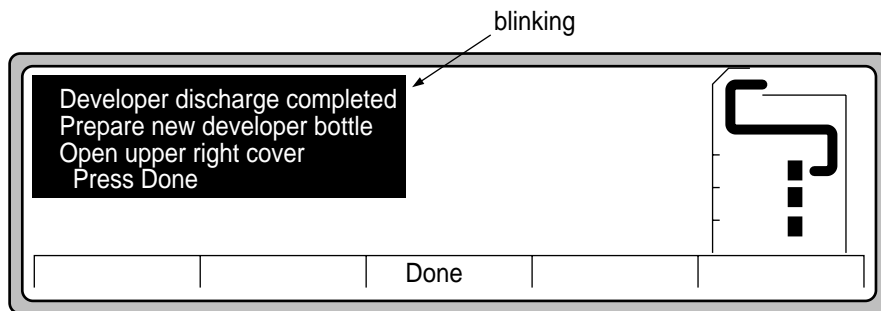
Figure A-7   Developer Discharge Complete

7.   Open the upper right cover, and remove the developer purge bottle, as shown in Figure A-8.

.
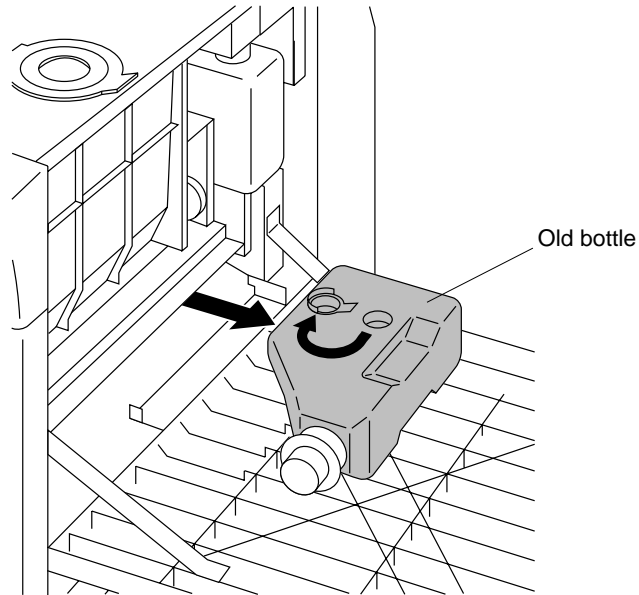
Old bottle

Figure A-8   Removing Developer Purge Bottle

8. Replace the cap, as shown in Figure A-8, and discard bottle.

Packing and Shipping the Printer

Power Off Printer

1. Turn off the printer by sliding the Standby switch to the OFF position.
2. Turn off the Main Power switch.

Removing the Transfer Assembly

To remove the transfer assembly, follow these steps.

1. Open the front door.
2. While pulling out and down on handle 3, lower the transfer assembly guide as shown in Figure A-9.

Handle 3

Transfer assembly
guide
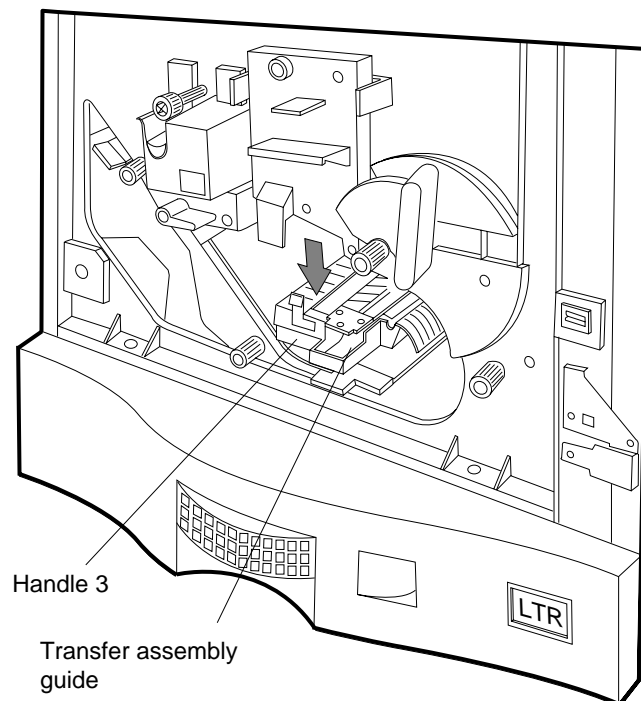
Figure A-9   Lowering the Transfer Assembly Guide

3. Push the transfer assembly in and pull up and out to remove, as shown in Figure A-10.

Transfer assembly guide

Transfer assembly

LTR
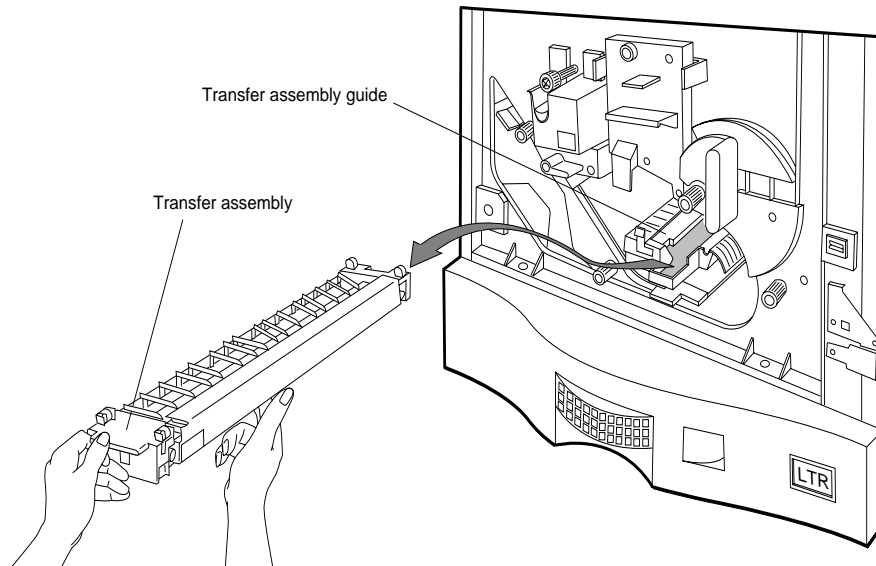
Figure A-10   Removing the Transfer Assembly

4. Package the transfer assembly.

Shipping

Packing and Shipping the Printer

Replacing Packing Material For Each Paper Tray

1. Remove paper from each tray.
2. Replace the foam packing material for each tray. See Figure A-11.
3. Close each tray.
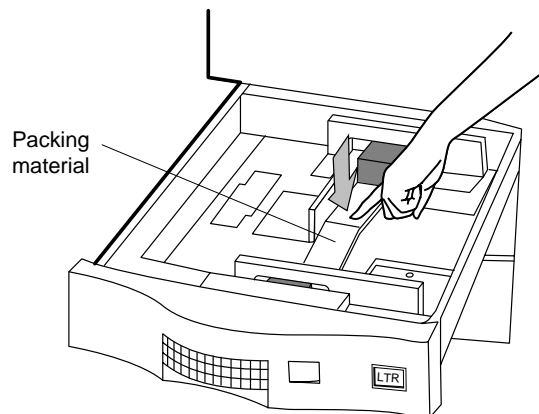
Packing
material

Figure A-11   Replacing Foam Packing Material

Removing Manual Pocket

1. Remove the manual pocket from the rear of the printer and package. See Figure A-12.
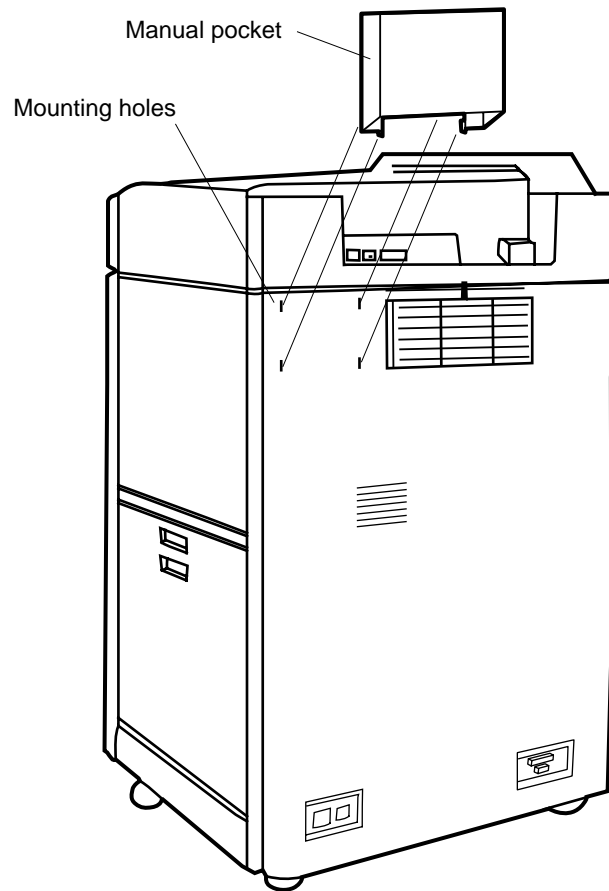
Figure A-12   Removing the Manual Pocket

Packing and Shipping the Printer

Repacking the Printer

1. Unplug all cables and the power cord.
2. Use a wrench to raise all four leveling bolts by turning the leveling bolts counter-clockwise as far as they will go. See Figure A-13.
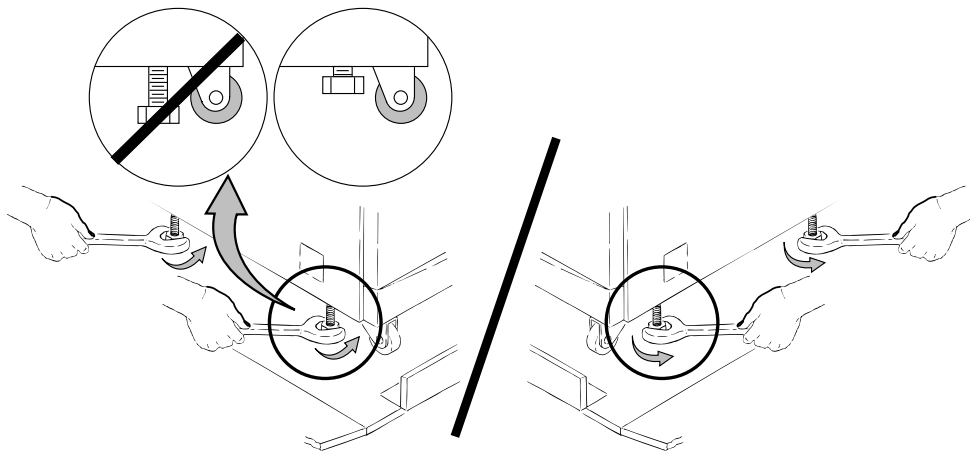
Figure A-13   Raising the Leveling Bolts

CAUTION: **Make sure all four leveling bolts are fully raised before moving the printer or damage may occur.**

WARNING: **The printer weighs 298 pounds (135 kg). Moving the printer requires two people.**

3. Flip the two small wood spacers into the groove on the slope edge of pallet ramp, as shown in Figure A-14.

Wooden spacer

Groove on slope edge
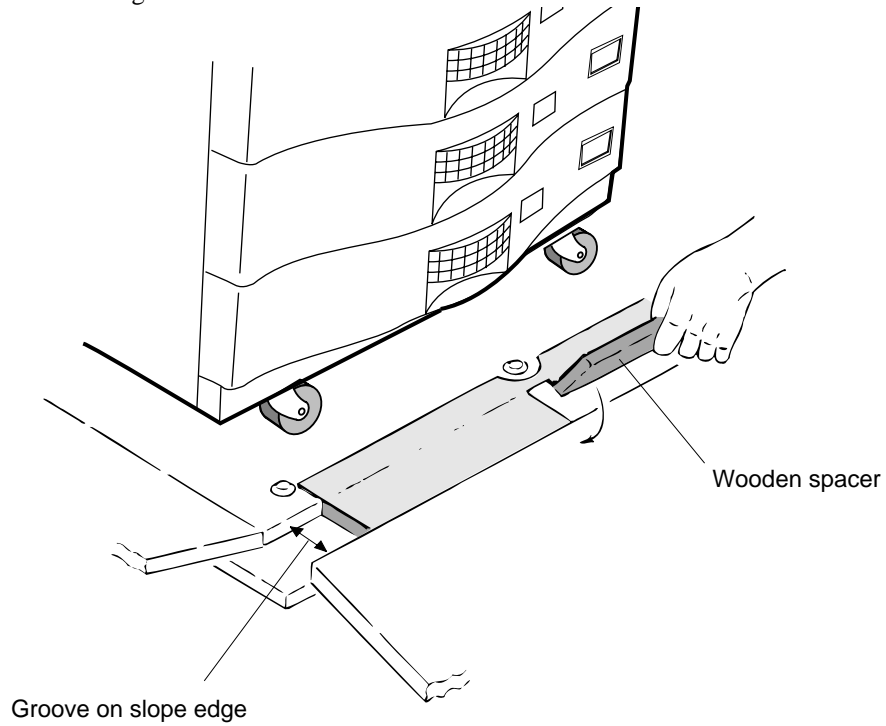
Figure A-14   Securing Wood Spacers

Packing and Shipping the Printer

4. Load the printer by pushing it up the slope edge of the pallet ramp, as shown in Figure A-15.
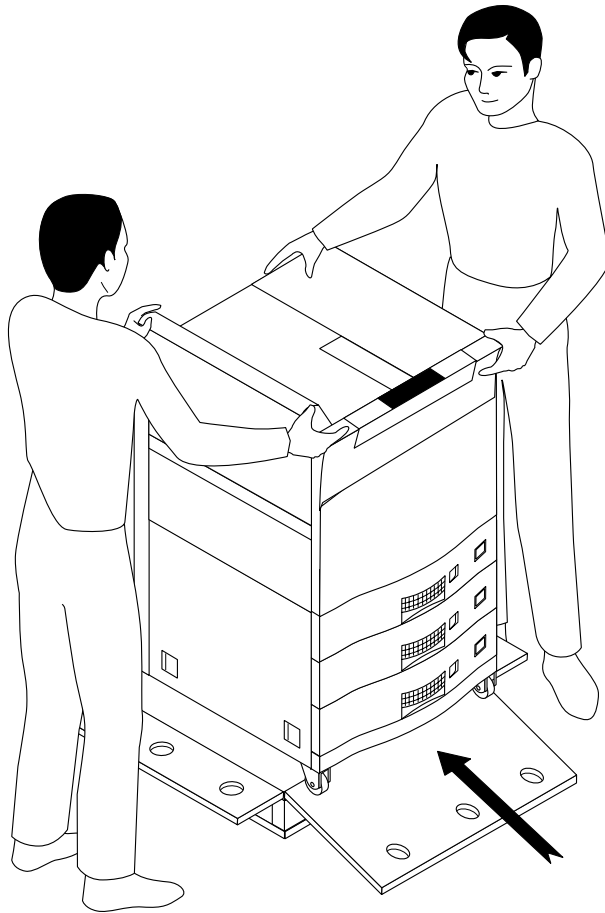
Figure A-15   Loading the Printer On the Pallet

CAUTION: **While moving the printer, use two people. Be careful not to subject it to strong vibration.**

Shipping

Packing and Shipping the Printer

5. Manually lower all four leveling bolts until they touch the floor.

6. Use the wrench to lower the leveling bolts until the wheels are just off the ground, as shown in Figure A-16.
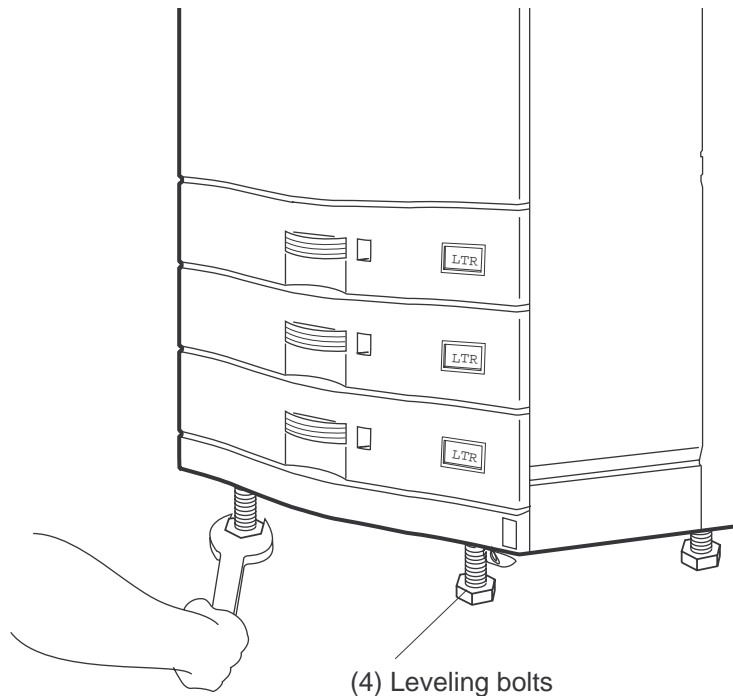
(4) Leveling bolts

Figure A-16   Securing the Leveling Bolts

7. Replace the nylon cover and the four styrofoam retainers, as shown in Figure A-17.
8. Wrap tape around the four styrofoam retainers on the printer.
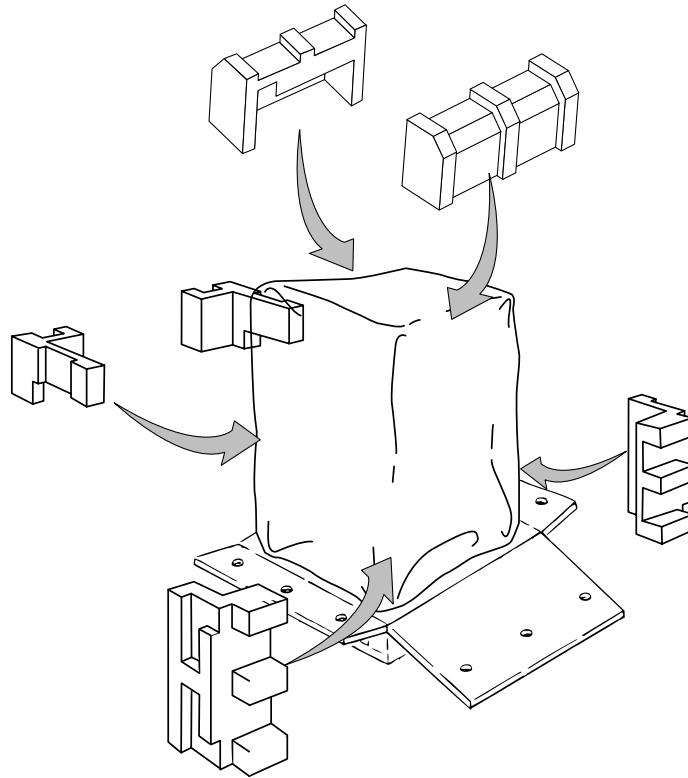
Figure A-17   Replace the Retainers and Plastic Cover

Packing and Shipping the Printer

9. Replace the cardboard sleeve, shown in Figure A-18.
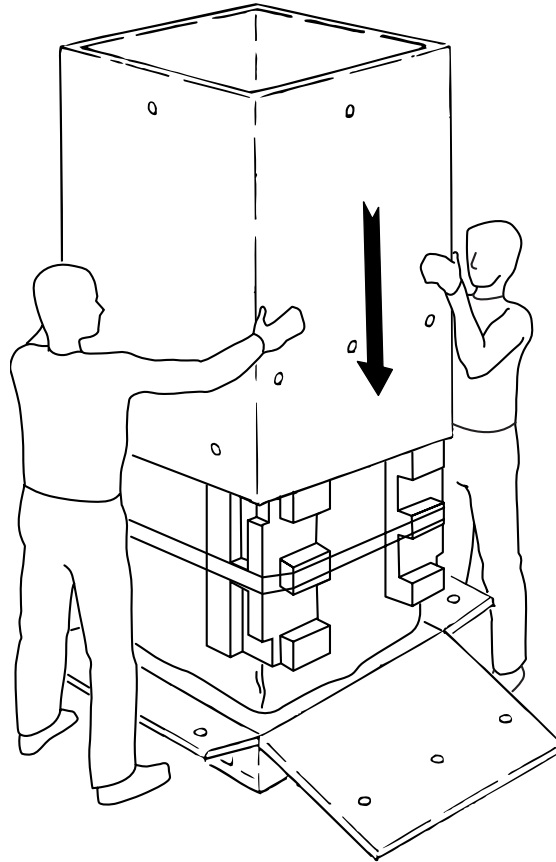
Figure A-18   Replace Sleeve

10. Replace the lid and raise the ramp, as shown in Figure A-19.
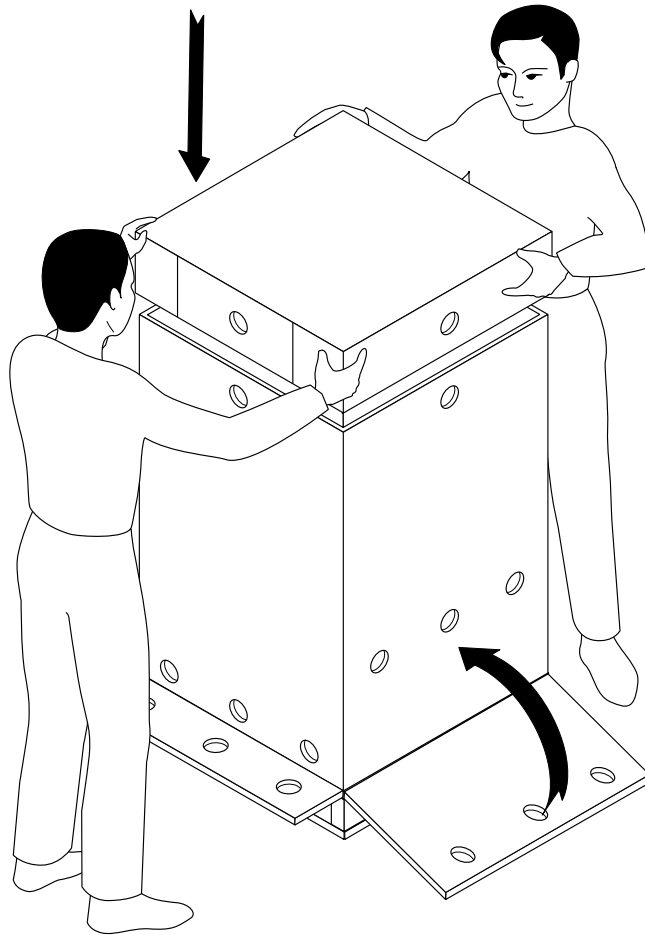
Figure A-19   Replace Lid

11. Replace all 16 plastic lock inserts.

Packing and Shipping the Printer

12. Use pliers to turn the plastic lock inserts clockwise until they lock, as shown in Figure A-20.
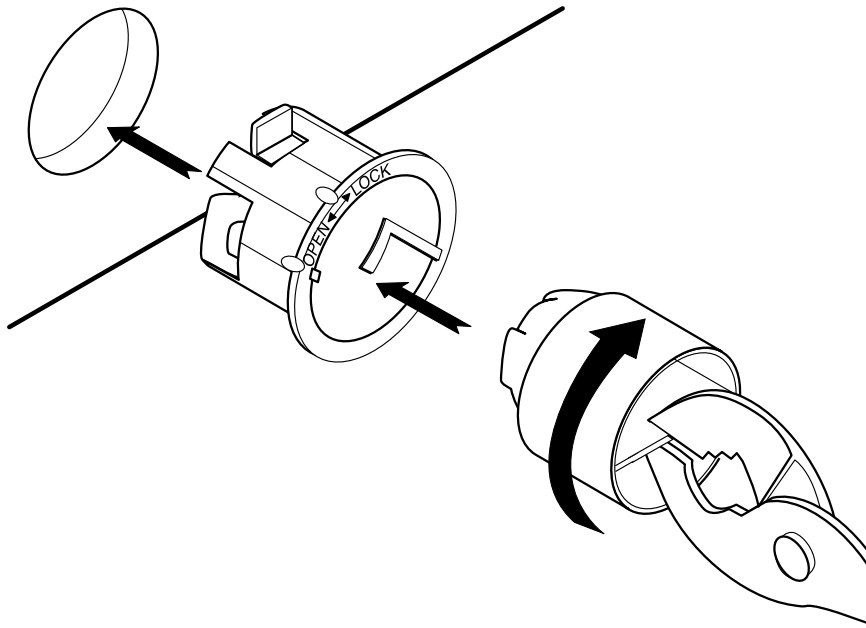
Figure A-20   Replace Plastic Lock Inserts

Repacking Consumables and Printer

Wrap the consumable items as best as you can and place in a box or on top of the printer before putting the top cover in place.

Use strapping tape to secure the printer for shipment, as shown in Figure A-21.

Strapping tape

STARTER KIT

Unpacking
instructions
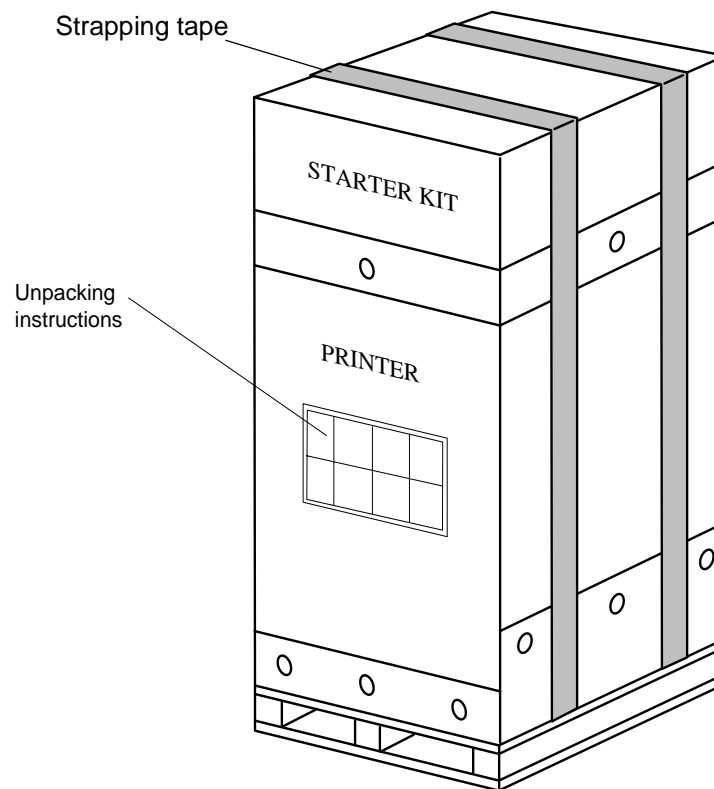
PRINTER

Figure A-21   Securing Printer for Shipment

Your printer is now ready to ship.

Shipping

Appendix B

Warranty and Support

Where To Call For Help

We have established phone numbers for you to call and receive help should any questions or problems arise during the installation of the D640 printer or any of its accessories. The numbers listed are available during normal business hours of 8:00 AM to 5:00 PM. This phone assistance is available free of charge (except phone tolls) during the first year after shipment of your printer. You may call as often as necessary for assistance with the following items:

- Installation
- Configuration
- Daily use, such as clearing paper jams or installing consumables
- Questions about the manuals

Prior to calling you should have your printer's serial number available. This can be found on a label located on the upper right corner of the printer when the printers front door is open. It will look like "JP20000149". In addition, have your question ready and be near the printer if necessary.

After the first year you may continue to use this service for a per-call fee, which will be specified when you call.

Note: **Please call your local HP Support Organization for all service related issues and for all locations that are not directly listed. Refer to the next page for a list of regional Support Organization telephone numbers.**

Where To Call For Help

Installation and General Printer Questions Support Calls

- The toll-free number in the US and Canada is:
  1-888-223-6774
- The alternate number for the US, Canada, and for english speaking callers is:
  1-208-422-9102
- In Europe, use the numbers in Table B-1, "European Installation Support" to reach HP's European support center in Amsterdam.

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Table B-1   European Installation Support

Austria	0660 6386	Netherlands	020 6068751
Belgium (Dutch)	02 626 8806	Norway	22 11 6299
Belgium (French)	02 626 8807	Portugal	01 441 7199
Finland	0203 47288	Spain	902 321 123
France	04 50 43 9853	Sweden	08 619 2170
Germany	0180 5 25 81 43	Switzerland	0848 80 11 11
Ireland	01 662 5525	UK	0171 512 5202
Italy	02 26410350		

Hardware Problems Calls

- In the US and Canada:
  1-800-633-3600
- In Europe:
  - 31-20-682-26-28 (English)
  - 31-20-681-78-10 (German)
  - 31-20-681-77-50 (French)

For the rest of the world, use the numbers in Table B-2, "International Hardware Problem Support".

Table B-2   International Hardware Problem Support

Area	Address	Telephone
USA		
HP East	4 Choke Cherry Road, Rockville, MD 20850	301-670-4300
HP Midwest	5201 Tollview Drive, Rolling Meadows, IL 60008	708-255-9800
HP West	5161 Lankershim Blvd. North Hollywood, CA 91601	818-505-5600
HP South	2015 South park Place, Atlanta, GA 30339	404-955-1500
Canada		
HP Canada Ltd.	6877 Goreway Drive, Mississauga, Ontario, L4V 1MB	416-678-9430
Europe		
HP Nederland B.V.	Central Mailing Department, Europe PO Box 529, NL-1105 LN Amstelveen, The Netherlands	31/20 547-9832
Australia / New Zealand		
HP Australia Ltd.	31-41 Joseph Street, Blackburn, Victoria 3130	61/3 272-2895
Japan		
YokoGawa HP Ltd.	3-29-21 Takaido-Higashi, Suginami-ku, Tokyo 168 Japan	81/33 331-6111
Far East Area		
HP Asia Ltd.	22nd Floor, West Tower, Bond Centre, 89 Queesway, Central, Hong Kong	852/5 848-7777
Latin America		
HP de Mexico S.A. de C.V.	Prolongacia Reforma No. 470, Col. Lomas de Sta. Fe, 01210 Delegacion Alvaro Obregon	52/5 326-4600

Warranty

Warranty

HP Maintenance Agreements

Hewlett-Packard has several types of maintenance agreements that meets a wide range of support needs.

On-Site Service Agreements

To provide you with the support level best suited to your system usage and support budget, HP has on-site service agreements with two response times:

Priority On-Site Service is designed for production-critical applications, giving you four-hour service response to your site for calls made during normal HP business hours.

Next Day On-Site Service provides on-site support by the next working day following your service request. Extended coverage hours and extended travel beyond HP designated service zones are available for additional charges on most on-site service agreements.

HP5000 Model D640 Warranty

This warranty entitles you to standard warranty services for your HP5000 Model D640 printer and is available from HP worldwide. However, there may be local variations in the level of warranty service. You should contact the local HP Service Center to check for the applicable local warranty in your country or province.

90 Day On-Site Limited Warranty

Hewlett-Packard warrants the HP5000 Model D640 printer and accessories against defects in materials and workmanship for a period of 90 days from purchase by the end user. During the warranty period, HP will, at its option, either repair or replace products which prove to be defective. *The warranty period begins on either the date of delivery, or , where the purchase price includes installation by Hewlett-Packard, on the date of installation.*

To have your HP5000 Model D640 printer serviced by HP, contact the closest HP Service Center.

Support

Exclusions

The warranty on your HP5000 Model D640 printer and accessories shall not apply to defects resulting from:

- Improper or inadequate maintenance by customer.
- Customer supplied software or interfacing.
- Unauthorized modification or misuse.
- Operation outside of the environmental specifications for the product.
- Operation of non-supported printing media.
- Duty cycle abuse (see note below)
- Operating the printer from a mechanical switch box without a designated surge protector.
- Improper site preparation and maintenance.
- Failure to perform key operator maintenance, as specified in the *D640 User Manual.*
- Use of non-HP consumables (see note below), memory boards, interface boards, or adapters.

Note: **The use of non-HP consumable supplies alone does not affect either your warranty or any maintenance contract you may have purchased. However, if an HP 5000 D640 printer failure or damage is found to be to be attributable directly to the use of a non-HP consumable, HP will not repair the printer free-of-charge. In this case, standard time and materials charges will be applied to service your printer for that particular failure or damage**

Operation of the printer beyond the limit of its duty cycle (printing greater than the equivalent of 300,000 single-sided pages per month) shall be deemed printer abuse and all repairs thereafter will be billed on a time and materials basis.

If you are using a mechanical switchbox, ensure that it is equipped with a surge protector. Damage to your printer could occur from the use of unprotected mechanical switch boxes.

Warranty

Limitations

The warranty set forth above is exclusive and no other warrants, whether written or oral, is expressed or implied. Hewlett-Packard specifically disclaims the implied warranties of merchantability and fitness for a particular purpose.

Service During The Warranty Period

If your hardware should fail during the warranty period, contact an authorized HP dealer or your local Customer Service Center.

Service After The Warranty Period

If your hardware should fail after the warranty period, contact an authorized HP dealer or your local Customer Service Center. If you have an HP Maintenance Agreement, request service under your agreement.

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READER COMMENT SHEET
System Peripherals Operation
D640 Installation Manual
Manual Part Number C5620-90015
November 1997

A reader comment sheet helps us improve the accuracy and readability of this Installation manual. It also gives you a way to make suggestions and recommend improvements to the product.

Serious errors, such as technical inaccuracies that may render a program or mechanical device inoperative, should be reported immediately to your Hewlett-Packard Response Center or directly to a Support Engineer. After receiving your report, it is entered on Hewlett-Packard's STARS (Software Tracking and Reporting System). This ensures that such problems are addressed as quickly as possible.

Editorial suggestions (please include page, table, and figure numbers):

Recommendations (attach additional information, if needed):

Name:	Date:
Job Title:	Telephone:
Company:	
Address:	

Hewlett-Packard has the right to use submitted suggestions without obligation, with all such ideas becoming the property of Hewlett-Packard.
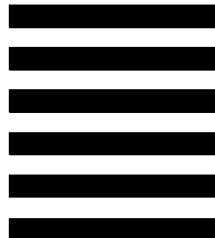
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