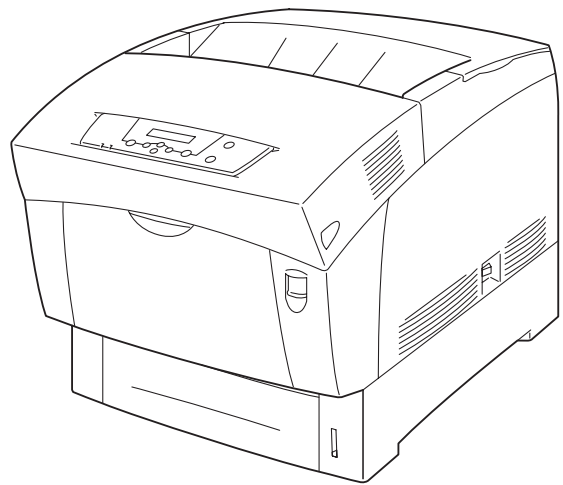


PageMaster 1600c

User Guide



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Preface

In this Chapter . . .

- “Welcome” on page 2
- “About this Manual” on page 2
- “About the Printer” on page 3
- “Safety Precautions” on page 5

Welcome

Thank you for selecting the PageMaster 1600c laser printer. This User Guide contains important information about the operation and care of your printer. Please read this manual in its entirety and keep it at hand for later reference.

About this Manual

Scope

This User Guide contains all of the information necessary to operate and care for your printer and accessories. It is intended to be used with the pictorial unpacking instructions and the Installation Guide, both included in the printer packaging. If you have not already unpacked and installed the printer, please refer to these documents.

Overview

This manual contains nine chapters and three appendixes:

Preface

The Preface contains information about this guide and about the features and available configurations of the printer. This chapter also describes precautions for the safe use and preservations of the printer. In order to avoid serious injury or accident, all users should read this chapter.

Chapter 1: Unpacking and Installing the Printer

This chapter describes how to select an appropriate installation location, how to unpack the printer, what accessories are provided with the printer, and the installation procedures required once you have chosen a location for your printer.

Chapter 2: Maintenance

This chapter explains any necessary maintenance procedures, such as feeding paper, cleaning, and other procedures required for normal operation.

Chapter 3: Dealing with Problems

This chapter describes solutions to any problems that might occur when using the printer. Read this chapter to determine the nature of the problem and the best method of dealing with it.

Chapter 4: Paper Jams

This chapter explains procedures for dealing with paper jams.

Chapter 5: Consumables

This chapter provides information about the expendables used with the printer, and also describes handling and replacement procedures.

Chapter 6: Options

This chapter describes any available options and the procedures for their installation and removal.

Chapter 7: Understanding and Navigating the Control Panel Menu

This chapter explains the control panel and its functions, and also demonstrates how to navigate through the control panel menus and submenus that allow you to view and change the printer settings.

Chapter 8: Using DRAMM DIMMs, FLASH DIMM and Power-on Files

This chapter describes procedures for installation of DRAM memory DIMMs and FLASH DIMM modules. Downloading software to the FLASH DIMM module is also discussed in this chapter.

Appendix A: Safety Notes and Regulatory Compliances

This appendix describes cautions to take when installing, transporting, or operating the printer, and also includes the applicable regulatory compliances.

Appendix B: Printing Font Summaries

This appendix explains the procedure for printing summaries of PCL or PostScript fonts installed in your printer.

Appendix C: Frequently Used Ethernet Commands

This appendix lists some of the most frequently used commands of the Print Server command set. More information about the command set, including additional options, can be found in the Ethernet Network Reference Manual on the *PageMaster 1600c* Electronic Library CD-ROM.

Printer Orientation

Throughout this guide, the four sides of the printer are referred to as front, rear, right, and left. The front of the printer is the side near the control panel, and the rear of the printer is opposite the front. The left and right sides of the printer are defined as the sides to the left and right, respectively, of a person who is facing the front of the printer.

About the Printer

Features

This printer provides the following high-grade features to satisfy a wide variety of printing requirements. Your laser printer has the following features:

- High quality, high-resolution full color laser printing at 600/1,200 dpi with duplex printing capabilities.
- High-speed 600 dpi monochrome/color output at 16 pages per minute and 8 pages per minute monochrome/color output at 1,200 dpi.
- Printing on a wide variety of sizes such as postcards, A5 through A4, and long paper (215.9 mm × 900 mm).
- With the optional High Capacity Feeder (HCF) installed, you can increase printing efficiency by using both paper trays. You can set up to 1,600 sheets with this option. The illustration on the following page shows the printer with the optional High Capacity Feeder (HCF) installed.

- Easy operation, the easy-to-read control panel display clearly shows the status of printer operation. Control panel pushbuttons allow you to access and view printer menus, submenus, and status messages.
- Network-readiness, the standard configuration of the printer includes an Ethernet Network Interface Card.

Available Configuration

The PageMaster 1600c printer available in the following configuration:

Standard Configuration

- Memory: 256 MB
- Resolutions: 600 x 600 dpi and 1200 x 1200 dpi
- Paper Input: One 500-sheet A4/letter paper tray and one 100-sheet front tray for paper, transparencies, envelopes, and other non-standard print media
- Paper Output: One 250-sheet face-down tray
- Interfaces: IEEE 1284 Parallel, USB, 10/100BaseT, 10Base2
- Printer Languages: PCL6, Adobe Postscript 3
- The illustration below shows the printer with the optional High Capacity Feeder installed.



NOTE: Various optional accessories are also available for the printer.

Safety Precautions

To ensure safe operation of your printer, make sure you read this section thoroughly before use.

Conventions

The following conventions are used throughout this manual to emphasize certain procedures or information:

NOTE: A note is a tip or extra information that may be helpful in installing or using the printer.



CAUTION: A caution message provides information that may help you avoid equipment damage, process failure, or inconvenience. Read all caution messages carefully. CPG International will not be responsible for damage that results from improper use of the printer.



WARNING! A warning message indicates the possibility of personal injury if a specific procedure is not performed exactly as described in the guide. Pay close attention to these sections and read them fully to prevent possible injury. CPG International will not be responsible for damage that results from improper use of the printer.

△ This symbol alerts you to procedures that require close attention. Make sure you read and follow the instructions carefully.

⊘ This symbol alerts you to prohibited procedures. Make sure you read the instructions carefully.

● This symbol alerts you to procedures that should be performed. Make sure you perform the procedure after reading the instructions carefully.

Installing and Relocating Your Printer

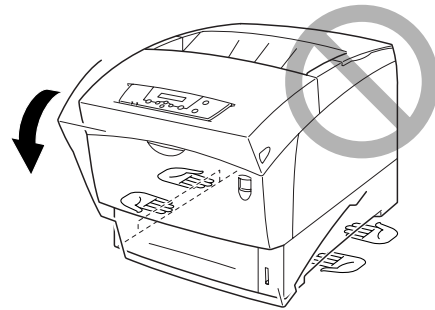
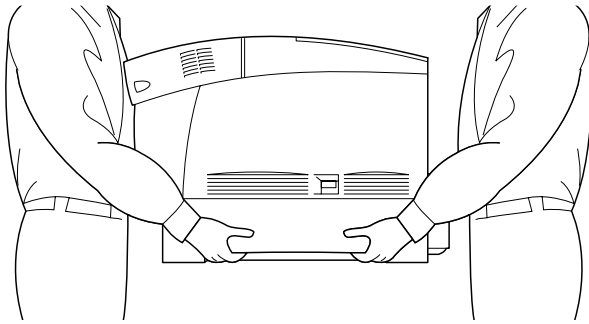
⊘ Do not place the printer in a hot, humid, dusty, or poorly ventilated environment. Prolonged exposure to these adverse conditions can cause fire or electric shocks.

⊘ Do not place the printer near heaters or near volatile, flammable, or combustible materials, such as curtains, that may catch fire.

! Place the printer on a level and sturdy surface that can withstand a good weight. If tilted, the printer may fall and cause injuries.

! Because the printer weighs 34.5 kg fully assembled, therefore make sure that at least two people carry it.

! To lift the printer, face the front and back of the printer and, with both hands, grip the recessed areas at the bottom left and right. Never try to lift the printer by gripping any other areas. Lifting the printer by gripping other areas can cause the printer to fall, resulting in injury.



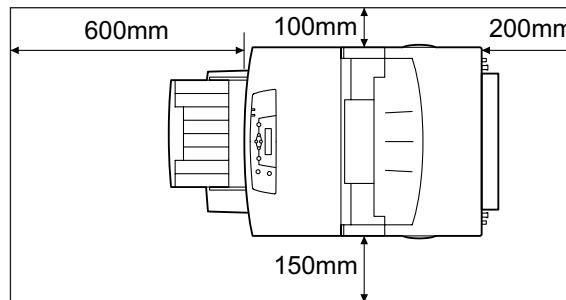
There is danger of the printer falling.



When lifting the printer, get a firm footing and bend your knees to avoid possible injuries to your back.



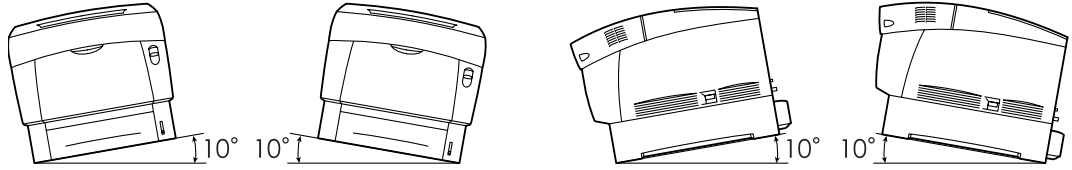
The printer has ventilation holes on the rear panel. Ensure that the printer is installed no less than 150 mm from the wall on the right, 100 mm from the wall on the left, and 200 mm from the wall at the back. A poorly ventilated printer can cause excessive internal heat and fire. The accompanying diagram shows the minimum clearances required for normal operation, consumables replacement, and maintenance to ensure your printer operates at peak performance.




When moving the printer, be sure to unplug the power cord from the outlet. If the printer is moved with the power cord connected, it can cause damage to the cord, which could result in fire or electric shocks.



When moving the printer, do not tilt it more than 10 degrees. If tilted excessively, the printer may fall over and cause injuries.



-  After installing the High Capacity Feeder, lock down the brakes on the casters at the front of the High Capacity Feeder. Failure to lock down the brakes can cause the printer to move unexpectedly, resulting in injury.

Other Precautions


- Operate the printer in a location that meets the following conditions:

Ambient temperature range of 10 to 32°C, relative humidity of 15 to 85% (no condensation)
 If operating the printer with an ambient temperature of 32°C, the relative humidity should not exceed 65%. If the relative humidity reaches 85%, the ambient temperature should not exceed 28°C.


NOTE: Do not place the printer in a room where there are sudden fluctuations in temperature, and do not move the printer from a cold place to a warm humid place. If you do, condensation may occur within the printer and print quality deteriorate.


- Do not place the printer in direct sunlight, as this may damage the printer.
- To prevent trays or consumables from falling out, do not tilt the printer more than 10 degrees in any direction.
- When moving the printer, remove the toner cartridges. Do not reuse toner cartridges once you have removed them from the printer. Loose toner can spill inside the printer and deteriorate print quality.
- Do not place the printer directly next to an air conditioner or heater, as this affects the temperature inside the printer and can cause damage.

Precautions for Power and Earth Connections


-  Three power specifications are listed below. The specifications that apply to your printer depend on its configuration. Connect the power plug only to a properly rated power outlet. Otherwise, it can cause fire or electric shocks. If in doubt, contact your CPG Customer Support Center.


- Rated voltage: 100 V
Rated frequency: 50/60 Hz
- Rated voltage: 110-127 V
Rated frequency: 60 Hz
- Rated voltage: 220-240 V
Rated frequency: 50/60 Hz


-  Ensure that the plug connection is dustless. In a damp environment, a contaminated connector can draw a non-negligible amount of current that can generate heat and eventually cause fire over an extended period of time.


 Always use the power cord provided with your printer. When an extension power cord is required, always use a properly rated cord.

If you use a cord with an unspecified current rating, the printer or plug may emit smoke or become hot to the touch.

 Do not attempt to modify, pull, bend, chafe, or otherwise damage the power cord. Do not place a heavy object on the cord. A damaged cord can cause fire or electric shocks.


 Never touch a power cord with wet hands. This constitutes an electric shock hazard.

 Stop operation immediately if your printer emits smoke, excessive heat, unusual noise or smell, or if water is spilt onto the printer. These conditions can cause fire. Immediately turn off and unplug the printer, and contact your CPG Customer Support Center.


 To prevent fire or electric shocks, follow the instructions below based on your printer's configuration. If in doubt, contact your CPG Customer Support Center.


Never connect the earth wire to any of the following:


- Gas pipes, which can be ignited and explode
- Telephone line earth wires or lightning rods, which can draw an excessive electric current if hit by lightning
- Water faucets or pipes whose electrical conductivity is broken by a non-metallic part


 If the power cord is broken or insulated wires are exposed, ask your CPG Customer Support Center for a replacement. Using a damaged cord can cause fire or electric shocks.

Cautions

 Do not unplug or replug the printer while it is on. Unplugging a live connector can deform the plug and cause fire.

 When unplugging the printer, grasp the plug instead of the cord. Forcibly pulling on a cord can damage it and cause fire or electric shocks.

 Be sure to switch off and unplug the printer before accessing the interior of the printer for cleaning, maintenance, or fault clearance. Access to a live printer's interior can cause electric shocks.

 Once a month, unplug the printer and check the power cord for the following:

- The power cord is plugged firmly into a receptacle.
- The plug is not excessively heated, rusted, or bent.
- The plug and receptacle are free of dust.
- The cord is not cracked or frayed.

If you notice any unusual conditions, contact your CPG Customer Support Center.



When the printer is not used over an extended period of time, switch it off and unplug it. If an unused printer is left connected to a power source for a long period, degraded insulation can cause electric shocks, current leakages, or fire.



Switch off the printer before connecting the interface cable or options. Connecting the cable or card with a live printer can cause electric shocks.

Other Precautions

- This printer may interfere with radio or television reception, causing flickering or distortion. This can be determined by turning the printer off and on. To correct interference, perform one, or a combination of the following procedures:
 - Move the printer away from TV and/or radio.
 - Reposition the printer, TV and/or radio.
 - If the printer, TV and/or radio are plugged into the same outlet, unplug them, then plug them into different outlets.
 - Reposition the TV and/or radio antennas and cables until the interference stops. For external antennas, consult your local electrician.
 - Use coaxial cable with the antennas

Operating Precautions



Do not place any liquid containers such as vases or coffee cups on the printer. Liquids spilt on the printer constitute a fire and electrical shock hazard.



Do not place any metal parts such as staples or clips on the printer. If metal and flammable parts get into the printer, they can short-circuit internal components, and cause fire or electric shocks.



If debris (metal or liquid) gets into the printer, turn off and unplug the printer. Contact your CPG Customer Support Center. Operating a debris-contaminated printer can cause fire or electric shocks.



Never open or remove printer covers that are secured with screws unless specifically instructed to do so in this manual. A high-voltage component can cause electric shocks.



Do not try to alter the printer's configuration or modify any parts. An unauthorized modification can cause smoke or fire.



This printer complies with the IEC60825 (Class 1) international laser standard. This means that the printer does not present any risk of injury to persons from laser radiation. Various covers confine the laser radiation to the inside of the printer; hence, users cannot incur injury from the laser under normal operating conditions. Removing covers, unless instructed to do so in this manual, can cause injury from laser radiation.



Never touch a labeled area found on or near the fuser unit. You can burn yourself. If a sheet of paper is wrapped around the fuser roller, do not try to remove it by yourself to avoid injuries or burns. Turn off the printer immediately and contact your CPG Customer Support Center.



Do not place any heavy objects on the printer. An off-balance printer can fall over or the heavy object can fall, causing injuries.



Do not use highly flammable sprays or solvents in or around the printer, as this can result in fire.



When removing paper jams, make sure no pieces of paper are left inside the printer, as this can cause fire. If the paper is wrapped around the fuser or roller, or you cannot see the jam you are trying to clear, do not attempt to remove the paper by yourself, as this may cause injury or burns. Turn off the printer immediately, and contact the place of purchase or a CPG Customer Support Center.

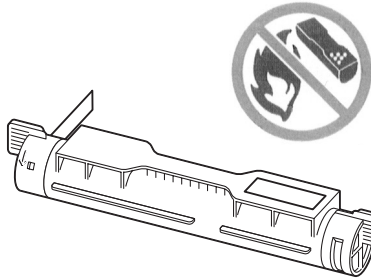


Do not place magnets near the safety switch of the printer. Magnets can activate the printer accidentally, resulting in injuries.

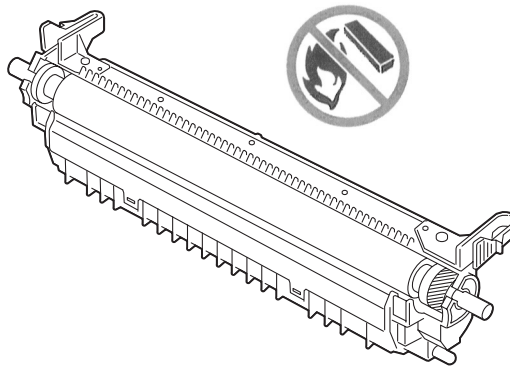
Refer to this manual for procedures on clearing paper jams and how to resolve any other troubles that may occur.

Notes on Handling Consumables

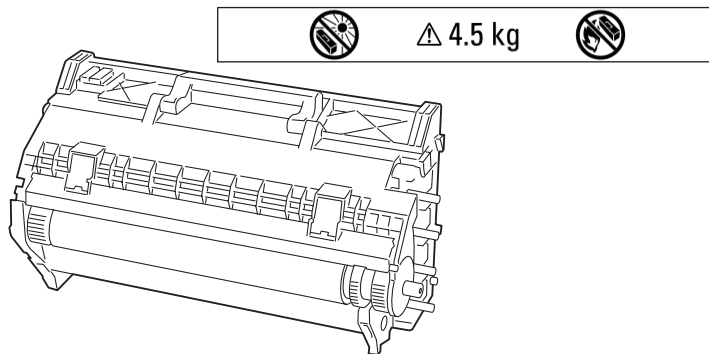
- ⊘ Never throw a toner cartridge into an open flame. It can cause an explosion and injuries.



- ⊘ Never throw a transfer roller cartridge into an open flame. It can cause an explosion and injuries.



- ⊘ Never throw a drum cartridge into an open flame. It can cause an explosion and injuries.



- Do not open consumables until you are ready to use them. Do not store consumables in the following conditions:
 - In high temperature or humidity
 - Near a naked flame
 - Exposed to direct sunlight
 - Dusty areas
- Before using consumables, read the operating instructions and precautions on the packaging.
- Administer emergency first aid as follows:
 - If you get toner in your eyes, rinse them well with plenty of clean water. Consult a physician if necessary.
 - If you get toner on your skin, wash it with soap and water and rinse well.
 - If you inhale toner, leave the area of exposure immediately and gargle with plenty of water.
 - If you swallow toner, induce vomiting and consult your physician immediately.
- When you remove the transfer roller cartridge from the printer because the waste toner collection box is full, do not attempt to empty the waste toner box and reuse the cartridge, as toner may spill inside the printer and cause damage.
- Do not tilt or shake drum cartridges or transfer roller cartridges that has been removed temporarily. The toner may leak and cause damage.



Chapter 1

Unpacking and Installing the Printer

In this Chapter . . .

- “About this Chapter” on page 1-2
- “Positioning the Printer” on page 1-2
- “Accessories” on page 1-4
- “Transporting the Printer” on page 1-7
- “Installation Procedure” on page 1-8
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- “Printing a Configuration Summary” on page 1-29
- “Printing PCL and PostScript Font Lists” on page 1-32
- “Turning the Printer Off” on page 1-32

About this Chapter

This chapter describes how to select an appropriate installation location, what accessories are provided with the printer, and the installation procedures required once you have chosen a location for your printer.

Positioning the Printer

For safe and convenient printer operation, take time to read the information in this section when deciding where to place your printer.

Installation Environment

Place the printer in a location that meets the following conditions:

- Level and stable surface.
- Well ventilated.
- Ambient temperature range of 10 to 32°C, relative humidity 15 to 85% (no condensation).
- If you use the printer at an ambient temperature of 32°C, the relative humidity should not exceed 65%. If the relative humidity reaches 85%, the ambient temperature should not exceed 28°C.

NOTE: Do not position the printer in a room where there are sudden temperature fluctuations. Do not move the printer from a cool, dry location to a warm, humid location. Sudden temperature fluctuations can cause water droplets (condensation) to form inside the printer and cause the print quality to deteriorate. If condensation occurs, allow at least one hour for the printer to adapt to the new environment before use.

Connect the printer to its own AC outlet

Do not plug any other equipment into the printer's AC outlet, especially high-current equipment such as copiers or air conditioners. Electrical noise and voltage fluctuations from other equipment plugged into the same outlet can cause computing errors and data loss.



WARNING: Connect the power plug to an AC outlet with the same voltage as the printer (220V), and rated for at least 15A. No other devices should be plugged into this AC outlet, as overheating could cause fire or electrical shock. The printer draws 8.5A at 200V.

Avoid exposing the printer to:

- Direct sunlight
- Air conditioners or heaters
- Windy locations
- Surfaces subject to vibration
- Dusty or dirty places
- Naked flames
- Humidity
- Magnetic fields
- Wide ranging temperature and humidity fluctuations

When using an ultrasonic water vaporizer

Using tap or well water with ultrasonic water vaporizers disperses impurities into the air. These impurities can accumulate inside the printer and cause print quality to deteriorate. If you install the printer in the same room as an ultrasonic water vaporizer, use only filtered water in the water vaporizer.

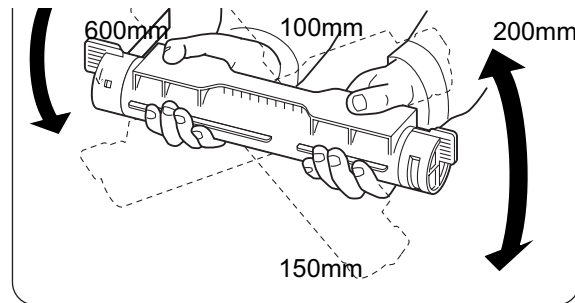
Minimum Installation Clearances

Be sure to install the printer in a location that respects the minimum clearances indicated in the illustrations below.

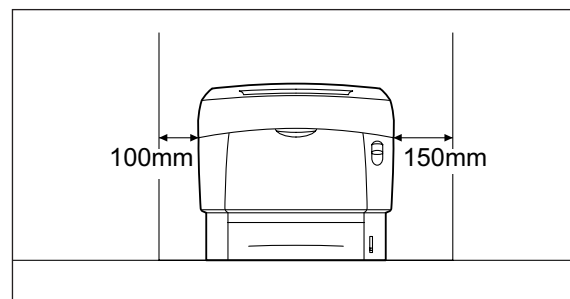


CAUTION: To avoid obstruction of the ventilation grills on the back and the side of the printer, position the printer no less than 150 mm from the wall on the right side, 100 mm from the wall on the left side, and 200 mm from the wall at the back. Obstructing the ventilation grills can cause the printer to overheat and become a fire hazard. To allow easy routine maintenance, replacement of consumables, proper operation and ensure satisfactory performance, confirm that the printer's position is as illustrated below.

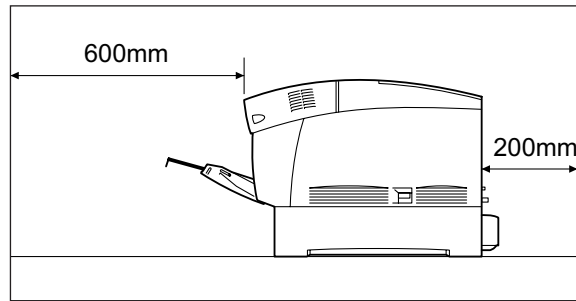
Top View



Front View



Side View



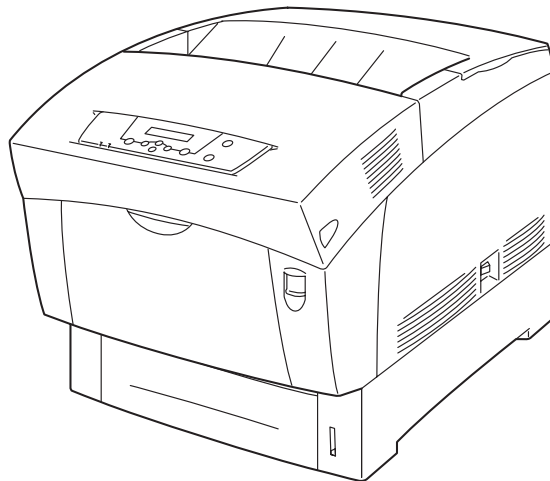
Accessories

The standard printer package consists of the following items. Before installing the printer, confirm that all the items listed below are accounted for.

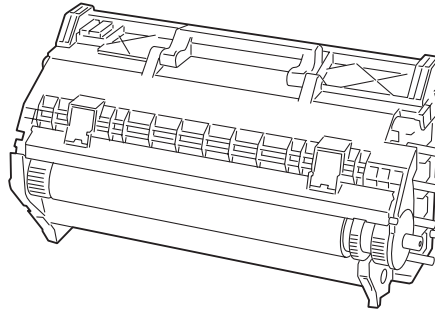
NOTE: Keep the box and packaging in case you need to transport the printer over long distances in the future.

NOTE: For information about optional accessories for the printer, please refer to See Chapter 6 Options and the literature accompanying the optional accessories.

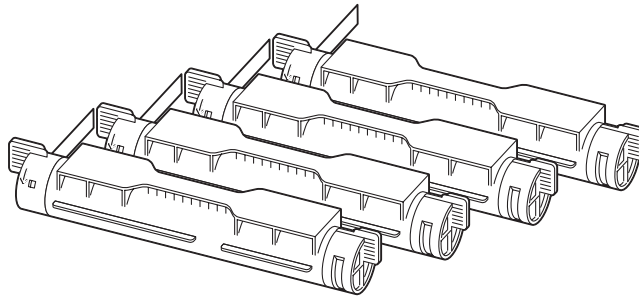
Printer



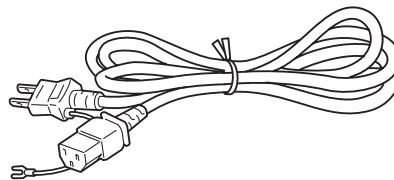
Drum cartridge



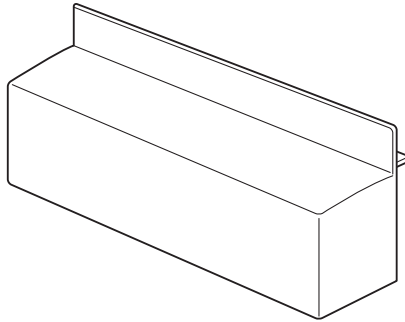
Toner cartridges: (Black, Yellow, Magenta, Cyan)



Power Cord

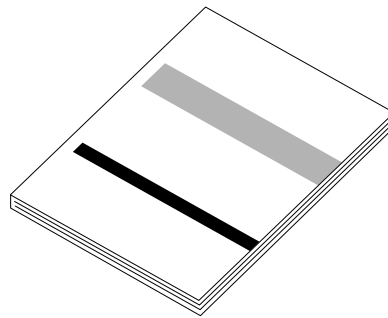


Tray cover

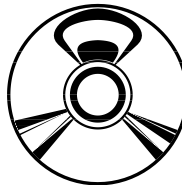


NOTE: The tray cover does not come standard with the printer.

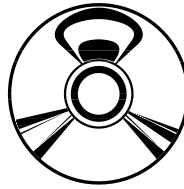
PageMaster 1600c Installation Guide



PageMaster 1600c Electronic Library CD-ROM



RCS (Remote Control Software) CD-ROM



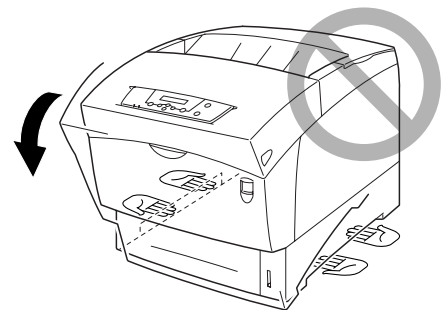
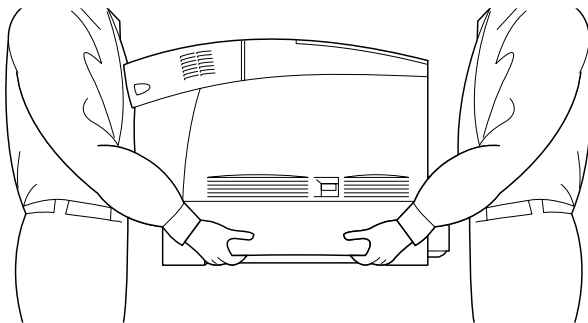
Transporting the Printer

Note the following points when transporting the printer into position.



CAUTION: At least two people should carry the printer.

- Because the printer weighs 34.5kg with the tray and consumables installed, at least two people should carry it.
- To lift the printer, face the front and back of the printer and grip the recessed areas at the bottom left and right with both hands. Never try to lift the printer by gripping any other areas. Lifting the printer by gripping other areas can cause the printer to fall, resulting in injury. Bend your knees when lifting the printer to avoid back injury.



There is danger of the printer falling.

Keep the printer level.

When carrying the printer, keep it level to prevent trays and consumables from falling out. Do not tilt it more than 10 degrees in any direction.

Installation Procedure

Install the printer as follows:

1. Remove all the packing tape from the printer.
2. Remove all the spacers from the printer.
3. Install the drum cartridge.
4. Install the toner cartridges.
5. Load the paper.
6. Plug the power cord.

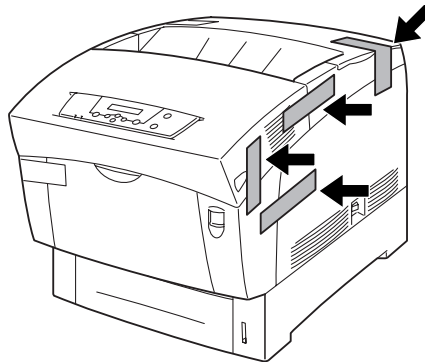
NOTE: Spacers are installed in various parts of the printer to protect it from shock and vibrations during shipping. Make sure you remove all the spacers before using the printer. If you purchased the optional High Capacity Feeder (2 shelves), install it first. For details on installing optional accessories, See Chapter 6 Options and the literature accompanying the High Capacity Feeder.

NOTE: Keep the cardboard box, handles, polystyrene packaging and spacers in case you need to transport the printer over long distances in the future.

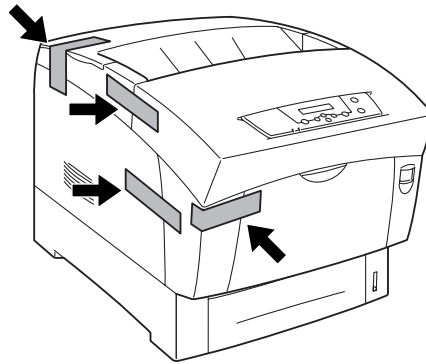
Removing the packing tape

When you first remove the printer from its box, there is packing tape in 8 places to secure the covers during shipping. Refer to the illustrations below and remove all the packing tape from the printer.

Right Side



Left Side

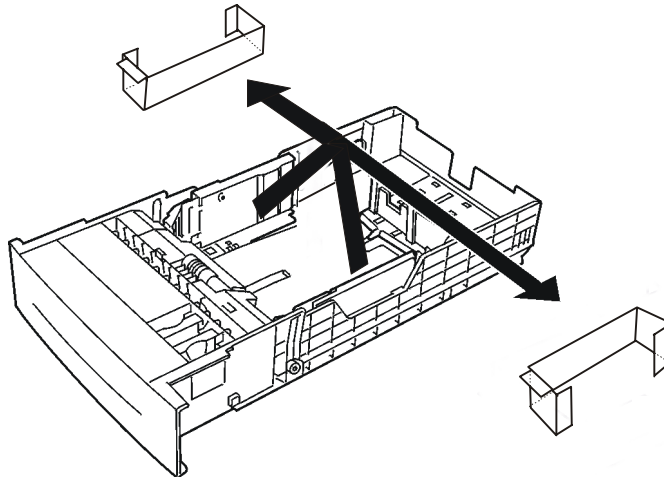


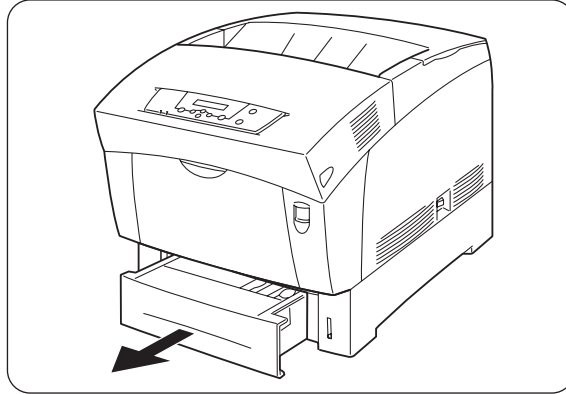
Removing the Spacers

Two spacers are installed in the paper tray to protect it from shock and vibrations during shipping. Remove the spacers before using the printer.

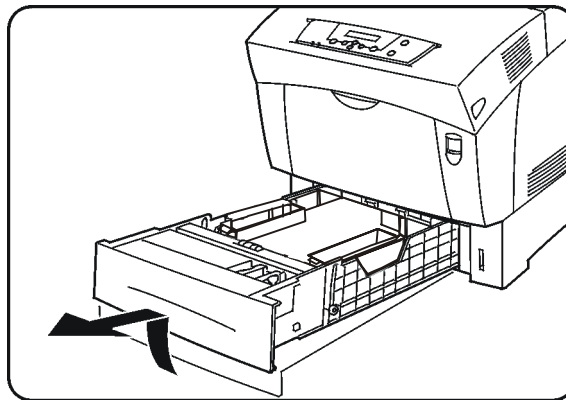
Follow the procedure below to remove the spacers from the paper tray.

NOTE: Keep the spacers in case you need to transport the printer over long distances in the future.



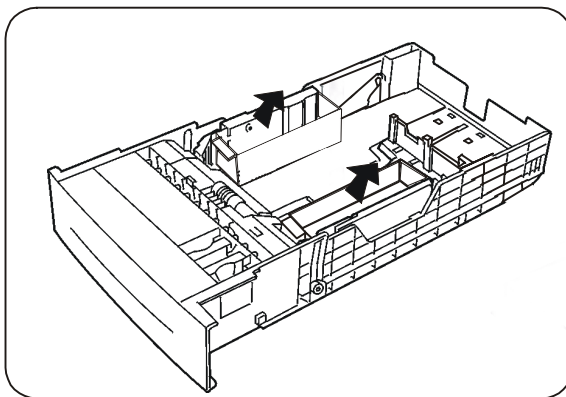


1. Gently pull out the paper tray until it stops.



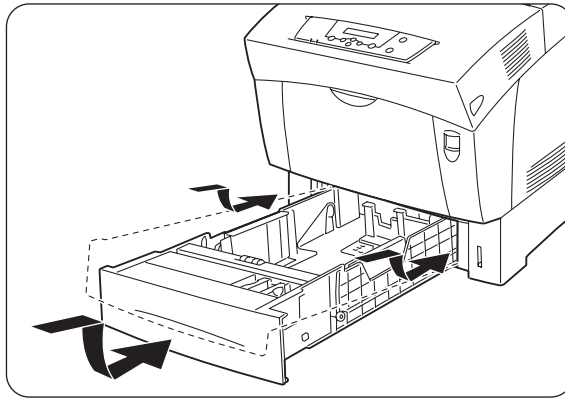
2. Hold the tray with both hands, lift the front up slightly and pull it completely out of the printer.

NOTE: Place the tray on a flat surface.

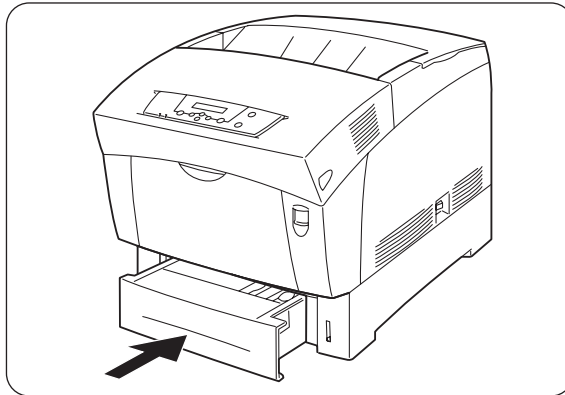


3. Remove the spacers.

NOTE: Keep the spacers in case you need to transport the printer over long distances in the future.



4. Holding the paper tray with both hands, align it with the opening in the printer and gently insert it.

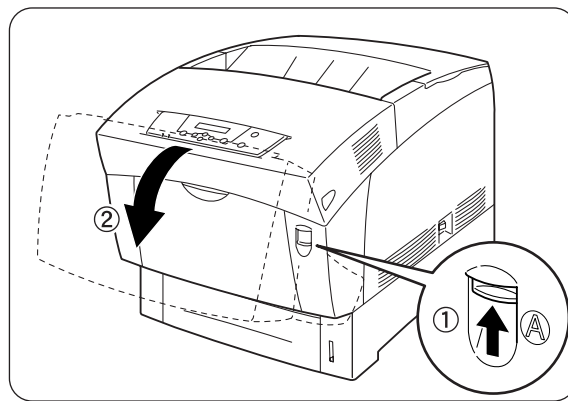
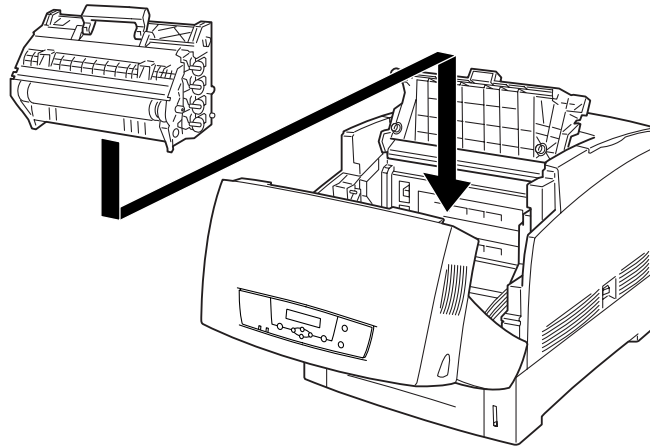


5. Push the paper tray completely back into the printer.

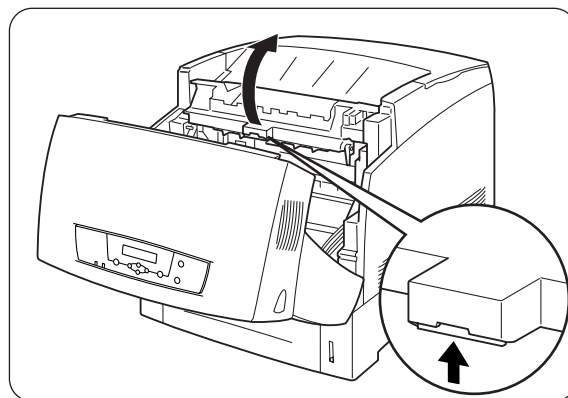
NOTE: Do not use excessive force on the paper tray.

Installing the Drum Cartridge

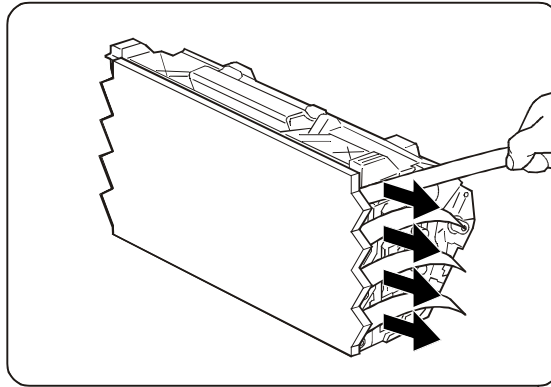
Follow the procedure below to install the drum cartridge.



1. Push up button 'A' 1 and fully open the front cover 2.

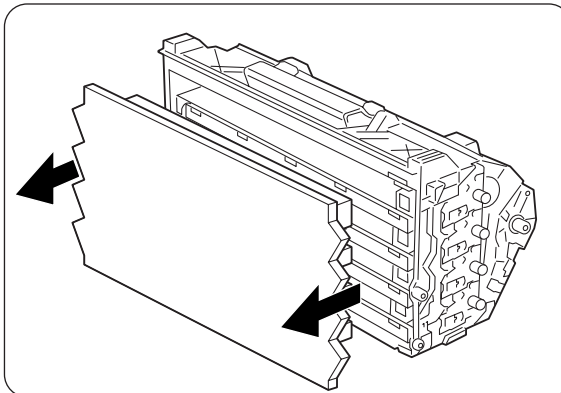
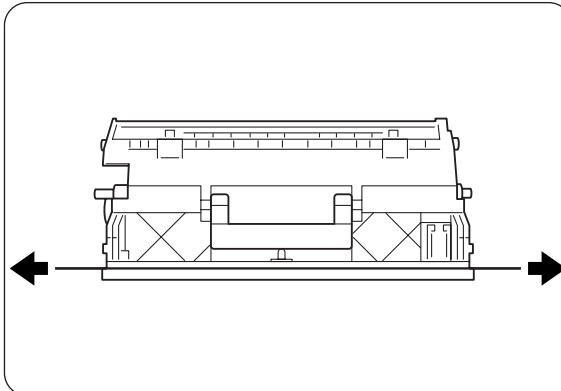


2. Open the paper outlet cover.

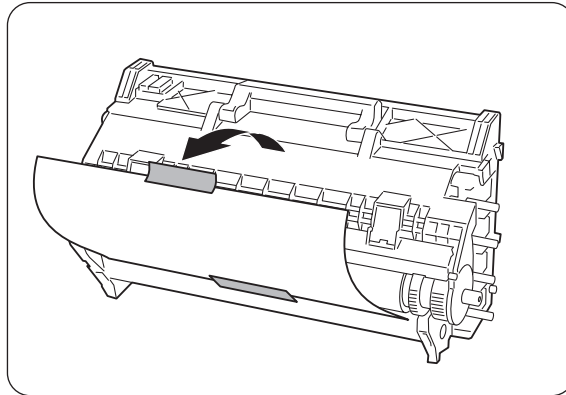


3. Take a new drum cartridge out of its package and pull hard on each the seals to remove them. Pull the seals completely out.

NOTE: Keep the aluminum package of the drum cartridge in case you need to transport the printer over long distances in the future.



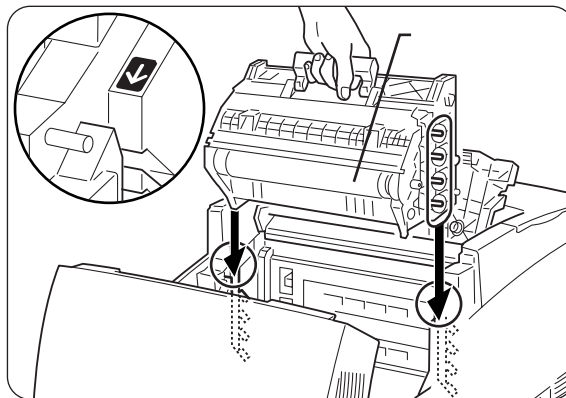
4. Hold the left and right sides of the drum cartridge and remove the protective cover from it.



5. Remove the protective sheet from the drum cartridge as shown in the illustration.

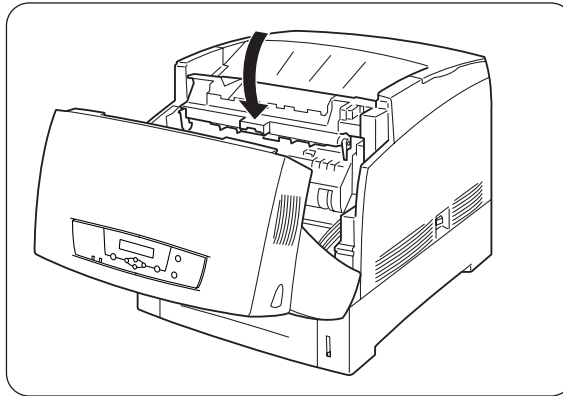
NOTE:

- Do not touch the transfer roller (black colored part). Make sure nothing touches or scratches the roll surface. Scratches or oil from your hands on the drum deteriorates print quality.
- Make sure you remove the protective sheet. Installing the drum cartridge without removing the protective sheet deteriorates print quality.
- Remove the protective sheet with the drum cartridge in a horizontal position.

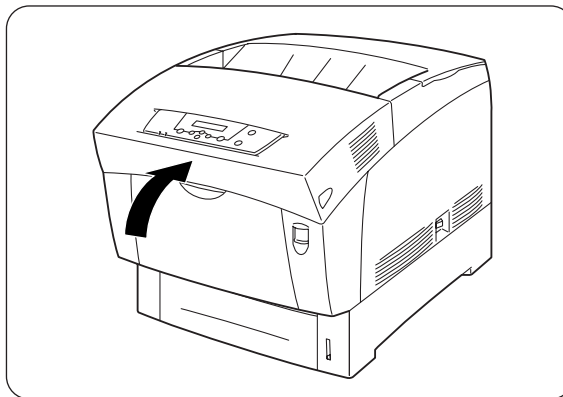


6. Hold the drum cartridge by the handle, align its 4 shafts with the slots indicated by the arrows on the printer, and gently lower it into the printer.

NOTE: -Do not touch the transfer roller.
 -Lowering the cartridge into the printer without correctly aligning the shafts with the slots can damage the cartridge.
 -Do not allow the surface of the transfer roller to come into contact with anything.



7. Close the paper outlet cover.

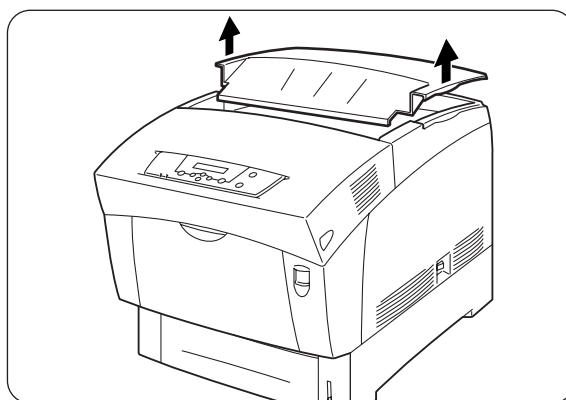
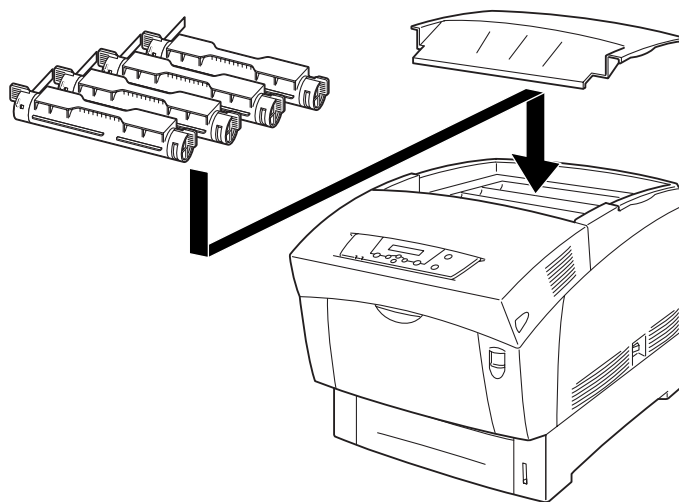


8. Close the front cover.

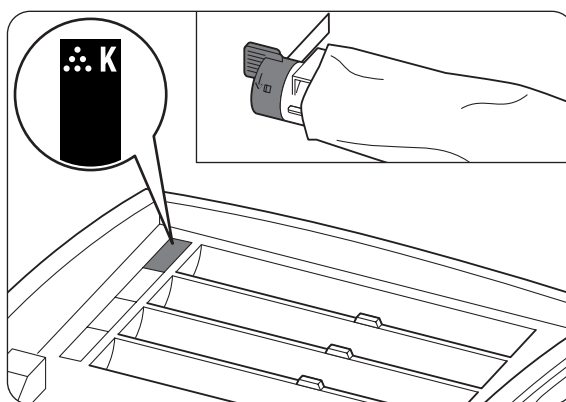
Installing the Toner Cartridges

Follow the procedure below to install the toner cartridges

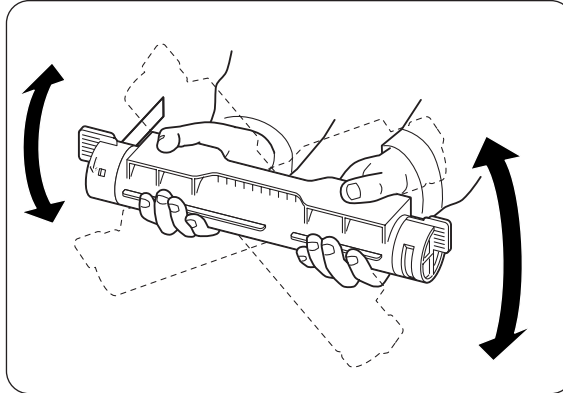
NOTE: The toner is harmless but should still be washed off immediately if it comes into contact with hands or clothing.



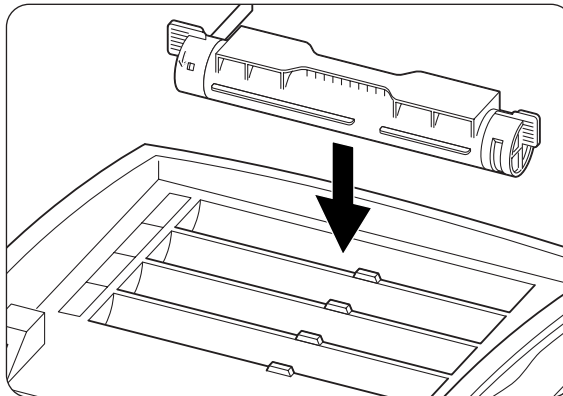
1. Remove the top cover.



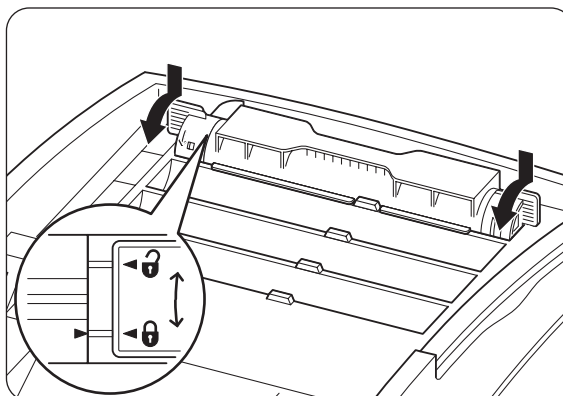
2. Select the new toner cartridge whose color matches the label on the insertion point and remove it from its packaging.



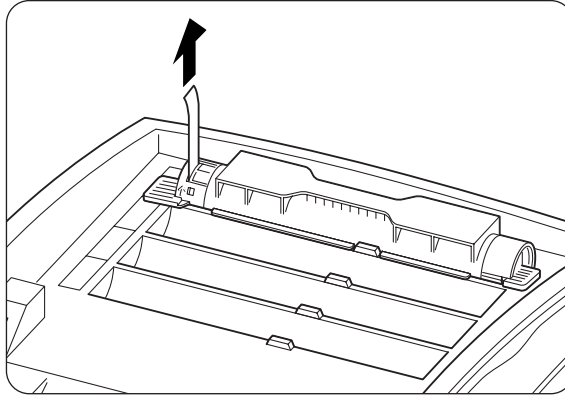
3. Shake the toner cartridge 7 or 8 times as shown in the illustration to distribute the toner evenly.



4. Align the toner cartridge with the corresponding insertion point in the printer and insert it as shown in the illustration.

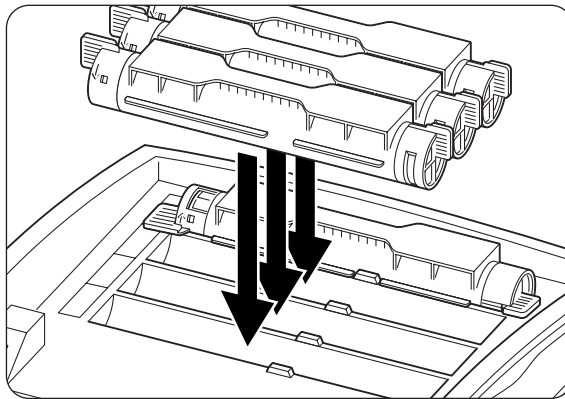


5. Grip the levers at each end of the toner cartridge with your fingers, then push down lightly to rotate the levers forward.

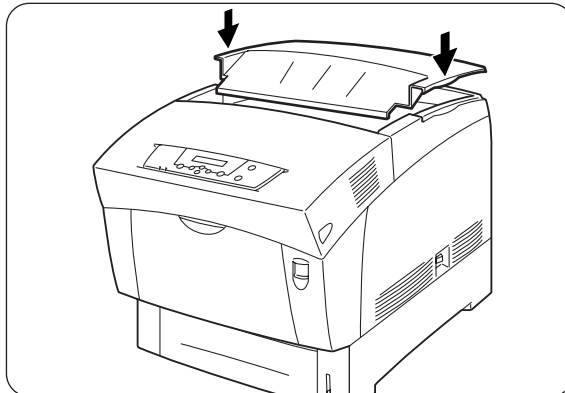


6. Pull the toner seal straight up to remove it.

NOTE: Pull the toner seal straight up. Pulling the toner seal diagonally may tear the seal.



7. Repeat steps 2 - 6 to install the remaining toner cartridges.

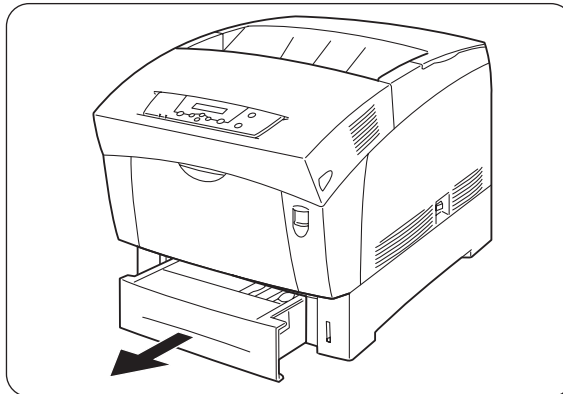
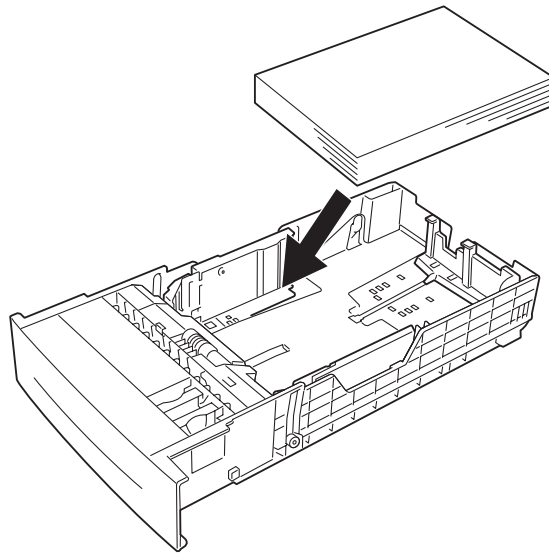


8. Replace the top cover.

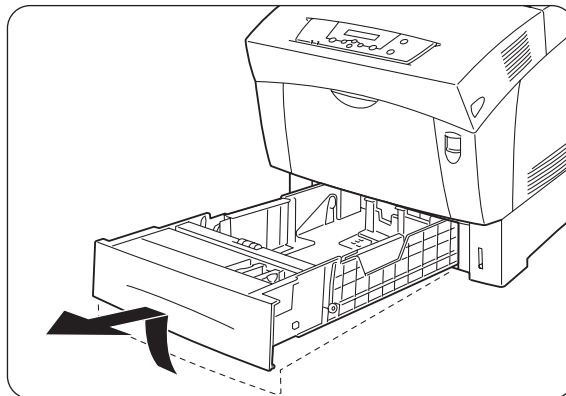
Loading Paper

Follow the procedure below to load paper into the paper tray.

NOTE: See “Paper Handling” on page 2-6 for information about the types of paper suitable for printing. See “Loading Paper in the Multi Purpose Tray” on page 2-15 for more details on setting paper in the manual feed tray.

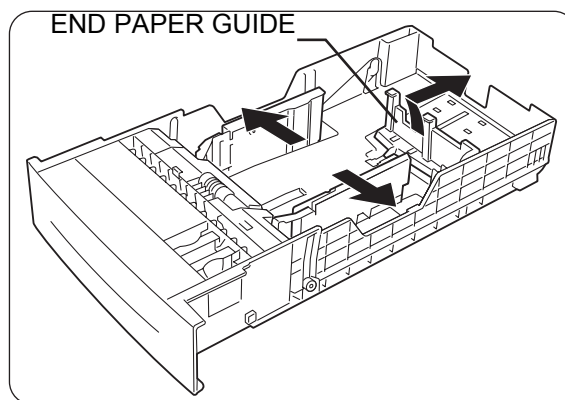


1. Pull the paper tray out until it stops.

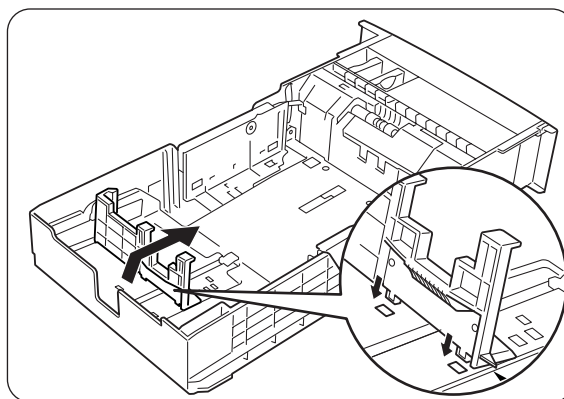


2. Hold the tray with both hands lift up the front slightly and remove it from the printer.

NOTE: Place the tray on a flat surface.

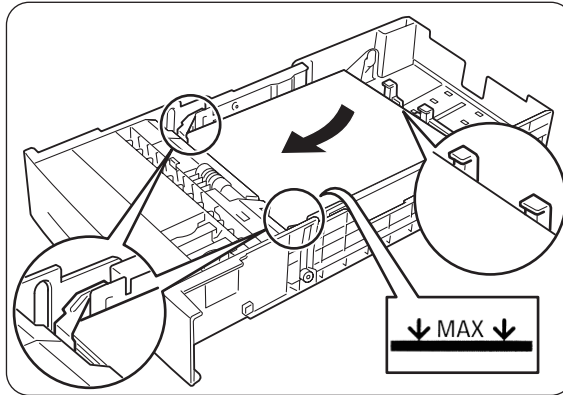


3. Move the end and side paper guides to their outermost positions. Gently lift the end paper guide to move it.



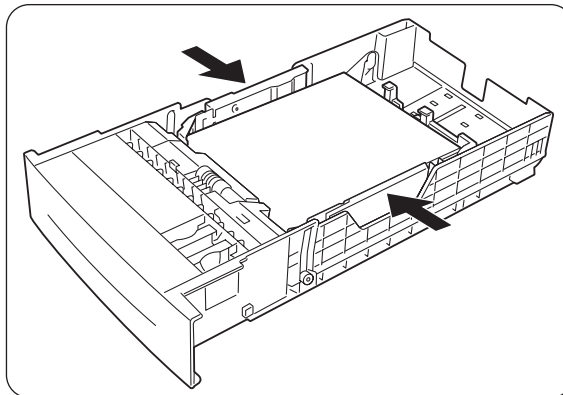
4. Grip the end paper guide with your fingers and gently lift it up. Insert the pins at the bottom of the guide in the holes corresponding to the paper size that you want to load.

NOTE: -Make sure that the end guide is properly inserted into the holes corresponding to the appropriate paper size.
 -Only a small amount of movement of the end paper guide can make automatic paper size detection impossible. If this occurs, move the end paper guide all the way to its outermost position again, then realign it with the appropriate paper size mark.



5. Align the four corners of the paper stack and insert the paper (print side up) under the tab.

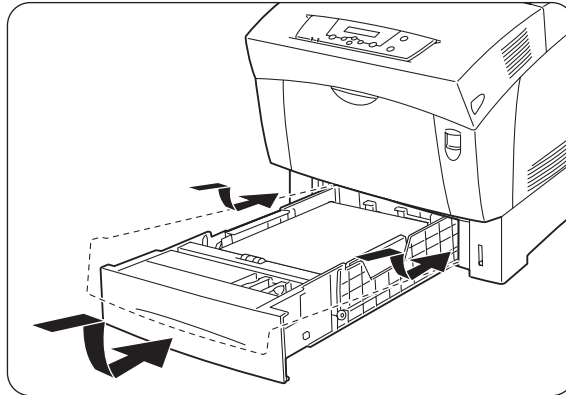
NOTE: Do not use paper that is folded, creased, or heavily warped.
 Do not overload the paper tray.



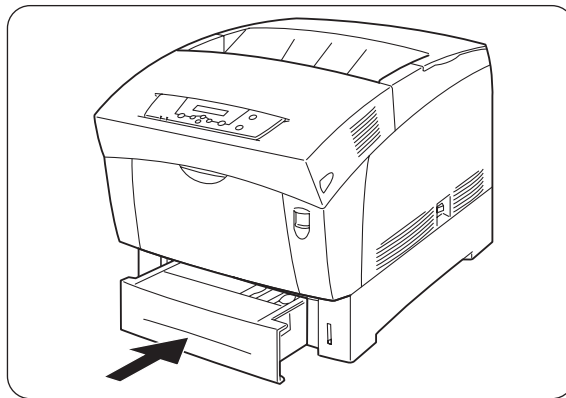
6. Align the side guides with the edges of the paper.

NOTE: Pushing the paper guides too hard against the edges of the paper stack can cause a paper jam. However, if the paper guide is too loose, the paper may twist as it feeds through the printer.

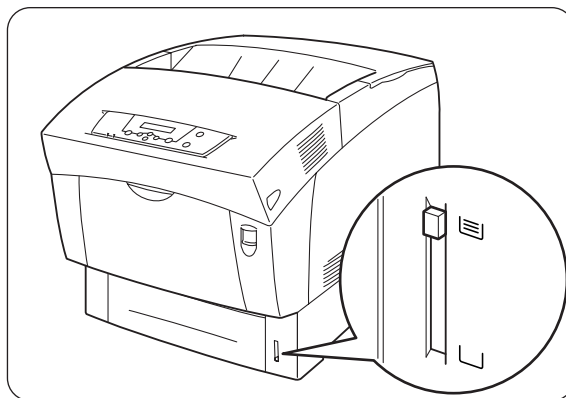
7. Hold the paper tray with both hands, align it with the opening in the printer and gently insert it.



8. Push the paper tray completely back into the printer.



NOTE: Do not use excessive force on the paper tray.

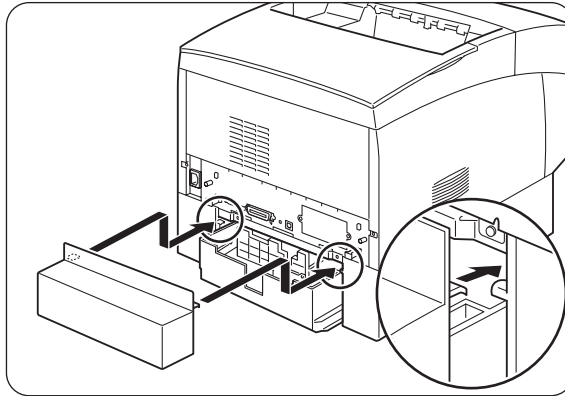


NOTE: There is an indicator next to the paper tray that tells you how much paper remains in the tray. Use the meter as a guide to refill the paper tray.

Installing the Tray Cover

Follow the procedure below to install the tray cover.

NOTE: The tray cover does not come standard with the printer.



1. Clip the hooks on the tray cover onto the 2 tabs at the back of the printer as illustrated.

Connecting the Power Cord

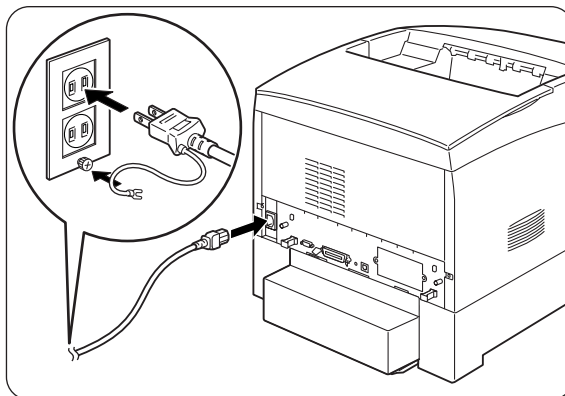
Follow the procedure below to connect the power cord.



WARNING: Connect the power plug to an AC outlet with the same voltage as the printer (220V), and rated for at least 15A. No other devices should be plugged to this AC outlet, as overheating could cause fire or electrical shock. The printer draws 10A at 220V.

The green ground wire of the power cord is meant to prevent electric shock or fire hazard in the event of a power leak.

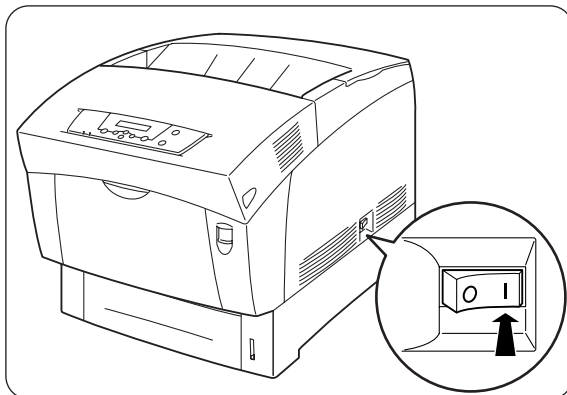
Connect it to the ground lead of the power outlet, or a copper pipe buried at least 650 mm in the ground, or a type D earth connection.



1. Plug the power cord into the power inlet at the back of the printer. Plug the other end of the cord into the AC outlet. Connect the earth connection to the ground, if possible.

Turning the Printer On

On the printer's right side, press the side of the power switch marked [I] to turn the printer on.



NOTE: The printer motors run for 1 or 2 minutes when you first turn the power on.

The top line of the LCD display reads:

Loading

followed by asterisks progressing across the bottom line:

Following a LED self test, asterisks progress across both lines of the display

and the Power On Self Test ends with the top line of the display reading:

Ready

NOTE: While turned on, the printer will go into the standby state if it remains idle for a period of time. If an error message appears, see "Control Panel LCD Messages" on page 3-12 for more details.

Selecting a Display Language

The default language for all LCD display messages and the Configuration Summary is English. You can change the default language to Espanol, Italiano, Deutsch or Francais.

NOTE: The language that you select will be reflected on all LCD display messages, and also the content of the Configuration Summary.

To change the default language from English to one of the other four available selections:

1. From the Ready status, press MENU, the control panel display will read:

Menu
Paper Menu

2. Press PREVIOUS or NEXT until the display reads:

Menu
System Menu

3. Press SELECT, the display will read:

System Menu
Factory Defaults

4. Press NEXT or PREVIOUS until the display reads:

System Menu
Display Language

5. Press SELECT, the display will read:

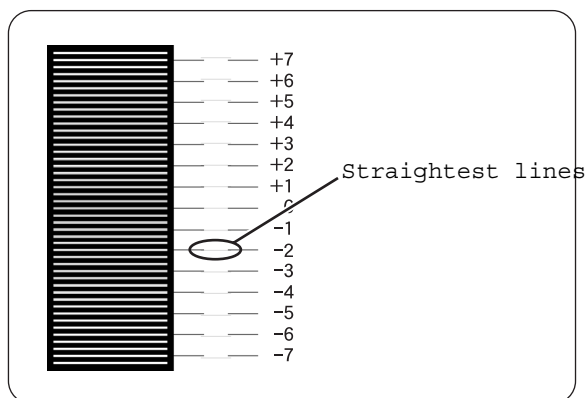
System Menu
English

6. Press NEXT or PREVIOUS until the desired default language appears on the bottom line of the display:

Press SELECT. You have now changed the default language.

Adjusting Color Registration

Follow the procedure below to adjust the color registration when first installing the printer or after moving it to a new location.



To obtain the best color print quality, the printer must be aligned so that all four color planes are positioned correctly on the printed page. This alignment is done in two parts:

1. Alignment of black ink to ensure that proper image positioning is achieved relative to the printed page
2. Alignment of cyan, magenta and yellow inks to ensure color accuracy

The following steps comprise the alignment procedure:

1. Using the control panel, enter the COLOR Menu. From the Ready status, press MENU, the control panel display will read:

Menu
Paper Menu

2. Press PREVIOUS or NEXT until the display reads:

Menu
Color Menu

3. Press SELECT, the display will read:

Color Menu
Screening Mode

4. Press NEXT or PREVIOUS until the display reads:

Color Menu
Alignment

5. Press SELECT, the display will read:

Alignment
Alignment Page

6. Print the "ALIGNMENT PAGE"

7. Adjust black ink alignment settings (“K-V ADJUST” and “K-H ADJUST”)
8. Print the “ALIGNMENT PAGE” (note: steps 4 and 5 may have to be repeated a few times)
9. Adjust color ink alignment values (“M-V ADJUST”, “M-H ADJUST”, “Y-V ADJUST”, “Y-H ADJUST”, “C-V ADJUST” and “C-H ADJUST”)
10. Print the “ALIGNMENT PAGE” (note: steps 4 and 5 may have to be repeated a few times)
11. Place the printer into “READY” mode.

Adjusting Printer Alignment Settings

The following menu items under the COLOR:ALIGNMENT menu are used during the alignment procedure to change the alignment settings.

Command	Adjustment
K-V ADJUST	Vertical alignment for BLACK (K) ink.
M-V ADJUST	Vertical alignment adjustment for MAGENTA (M) ink. (see note 1)
Y-V ADJUST	Vertical alignment adjustment for YELLOW (Y) ink. (see note 1)
C-V ADJUST	Vertical alignment adjustment for CYAN (C) ink. (see note 1)
M-H ADJUST	Horizontal alignment adjustment for MAGENTA (M) ink.
Y-H ADJUST	Horizontal alignment adjustment for YELLOW (Y) ink.
C-H ADJUST	Horizontal alignment adjustment for CYAN (C) ink.
K-H ADJUST	Horizontal alignment adjustment for BLACK (K) ink (see note 2).

NOTE: 1. There are different vertical alignment adjustments for “C”, “M”, and “Y” inks in 600 and 1200 DPI modes. The name of the setting will reflect the current setting of the QUALITY:RESOLUTION menu.

NOTE: 2. There are different horizontal alignment adjustments for “K” ink for each paper source. The name of the setting will reflect the current value of the PAPER:DEFAULT SOURCE menu.

Adjusting Black Ink Alignment

Adjust the “K-V ADJUST” and “K-H ADJUST” values until the box around the outside of the page is centered within the printed page.

Adjusting the Color Ink Alignment Settings

Next go to the color registration adjustment portion of the alignment page. You will notice that there are six alignment pattern printed on the paper; three horizontal and three vertical. In each set of patterns, there is one each for YELLOW, MAGENTA and CYAN inks. Pay closest attention to the series of narrow tick marks in the alignment patterns. You will see two short black lines that are

separated by a short colored line. You should be able to see that in each test pattern, there should be only instance where the two black lines and the colored line are in perfect alignment with each other, thus forming a single straight line.

When the straightest line is identified, note the number next to the line. In the appropriate adjustment menu, set the value to the number representing the straightest line. Do this for each color, and then print the alignment page again. When all of the straightest lines are at the “0” position, alignment has been successfully completed.

NOTE: It should only be necessary to perform this procedure one time when the printer is installed.

Installing Printer Drivers and Locating User Documentation

Installing Printer Drivers and other Software for UNIX and Windows

To install printer drivers and other software for UNIX and Windows, go to the SOFTWARE folder located on the Electronic Library CD-ROM. The SOFTWARE folder contains the following sub-folders:

- Drivers Folder

The Drivers folder contains all of the printer drivers necessary to print from Windows 3.1 and 95/98, and Windows NT 3.5.1 and 4.0, and Windows 2000 systems. Refer to the DRIVERS.TXT file included in this folder for more information about installing and using driver software.

- EZWebCon Folder

The EZWebCon folder contains the EZWebCon software used to configure and manage your Network Interface Card. Refer to the README.TXT file included in this folder for more information about installing and using EZWebCon.

- NetPort Folder

The NetPort folder contains the network port software that allows you to print directly from Windows 95/98 and Intel Windows NT 4.0 systems. Refer to the README.TXT file included in this folder for more information about installing and using this software.

- PFDload Folder

The PFDload folder contains information about downloading printer firmware updates. Refer to the README.TXT file included in this folder for more information.

- **UnixSW Folder**

The UnixSW folder contains UNIX Printing Software, which is an enhanced print filter and network socket driver that allows you to take advantage of all of the printing features of your printer. Refer to the INSTSALL.PDF file included in this folder for more information about installing and using UNIX Printing Software.

- **USB Folder**

The USB folder contains USB installation files for Windows 95 and 98, and also includes a program to test USB system readiness. Refer to the README.TXT file included in this folder for more information about installing and using USB.

Installing Printer Drivers for MacOS

To install printer drivers for MacOS, refer to the following folder on the Electronic Library CD-ROM:

- **CPG Printer Driver folder**

The Printer Driver folder contains the AdobePS driver installation kit and PPD file for the printer. These items are available in English, German, French, Italian, and Spanish.

Locating User Documentation

To locate other documentation that will assist you in operating and maintaining your printer, go to the MANUALS folder on the Electronic Library CD-ROM. You can open and read these manuals directly from the CD-ROM, save the manuals to the hard drive of your computer, or print the manuals. The MANUALS folder includes the following documents in Adobe PDF format:

- User Guide
- Printer Installation Guide (English, French, German, Italian, Spanish)
- Other installation and user guides for printer options

Refer to the README.TXT file (UNIX and Windows) or the Read Me First file (MacOS) included in the MANUALS folder for more information about the documentation.

Printing a Configuration Summary

Your printer can print a configuration summary that lists the currently selected status of menu options, media selections in trays, options installed and other relevant information about your printer. To print a Configuration Summary, follow these steps:

1. From the Ready status, press MENU, the control panel display will read:

Menu
Paper Menu

2. Press PREVIOUS or NEXT until the display reads:

Menu
Functions

3. Press SELECT, the display will read:

Functions
Reset Printer

4. Press NEXT or PREVIOUS until the display reads:

Functions
Print Summary

5. Press SELECT. A two page Configuration Summary will print. An example of a Configuration Summary appears on the following page.

NOTE: Depending upon the options installed and menu settings, your Configuration Summary may vary.

CPG PageMaster 1600c

MENUS

Paper Menu

Copies = 1
Duplex = Off
Duplex Bind = Long Edge
Default Source = Tray 1
Manual Feed = Off
Media Size/Type
 MBF
 Media Size = A4 SEF
 Media Type = Plain
 Custom Size
 Width = 209
 Length = 39
 Tray 1
 Media Type = Plain
 Tray 2
 Media Type = Plain
 Tray 3
 Media Type = Plain
Tray Linking = On
Blank Pages = Print
MBF First = Off
Gloss Level = Low
Auto Resize = Off
Custom Size Unit = Millimeters

Interface Menu

Port
 Parallel = On
 Network Card 1 = On
 USB = On
Parallel Setup
 Interpreter = Auto Switch
 Format = Raw
 Mode = Bidirectional
 Delay Out Close = Off
 Binary PS = Off
Network 1 Setup
 Interpreter = Auto Switch
 Format = Raw
Network Channel
 Netware = On
 DEC LAT = On
 AppleTalk = On
 TCP/IP = On
 Network Address = 005027005524
 IP Address = 172.031.036.195
 Subnet Mask = 255.255.255.000
 Default Router = 172.031.036.001
 LPD Banner = On
 DHCP = Off
 Netware Frame = Auto-Sense
 Delay Out Close = Off

Network 1 Setup cont'd

Binary PS = Off

USB Setup

Interpreter = Auto Switch
Format = Raw
Delay Out Close = Off
Binary PS = Off

PS Menu

Print PS Errors = Off
Manual Feed TO = 0

PCL Menu

Orientation = Portrait
Font Source = Internal
Font Number = 50
Pitch = 10.00
Symbol Set = 10U:PC-8 CP437
Macro Filter = Off
Lines Per Page = 64
CR Mode = CR=CR
LF Mode = LF=LF
FF Mode = FF=FF
Print Area = Normal

Parameter Values

Paper Source

MBF = 8
Tray 1 = 1
Tray 2 = 4
Tray 3 = 5
Auto-Select = 7

Paper Size

Executive = 1
Letter = 2
Legal = 3
Statement = 4
Folio = 5
A6 = 24
A5 = 25
A4 = 26
B5 = 45
Monarch Envelope = 80
Com10 Envelope = 81
DL Envelope = 90
C5 Envelope = 91

System Menu

Display Language = English
Alarm Control = Single
Power Saver = 15
Wait Timeout = 20
Job Timeout = 0
Jam Recovery = On
Hex Print = Off



Printing PCL and PostScript Font Lists

Your printer has the capability of printing lists of all installed PCL or PostScript fonts. To print a Font List, follow these steps:

1. From the Ready status, press MENU, the control panel display will read:

Menu
Paper Menu

2. Press PREVIOUS or NEXT until the display reads:

Menu
Functions

3. Press SELECT, the display will read:

Functions
Reset Printer

4. Press NEXT or PREVIOUS until the display reads:

Functions
Print Fonts

5. Press SELECT, the display will read:

Print Fonts
PCL Fonts

NOTE: You may toggle between PCL Fonts and Postscript Fonts using the PREVIOUS or NEXT push-buttons.

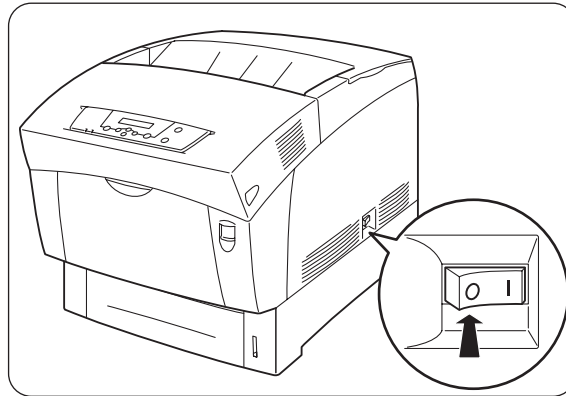
6. Press SELECT. A multi page resident Font List will print. For examples of a PCL and PostScript Fonts Lists, refer to "Appendix B".

Turning the Printer Off

Remember to turn off the printer at the end of day or when the printer will not be used for an extended period of time.

NOTE: When the printer is turned off, all print data still in memory will be erased.

Set the power switch to the [0] position to turn off the printer.



◆ ◆ ◆

Chapter 2

Maintenance

In this Chapter . . .

- “About this Chapter” on page 2-2
- “Names and Functions of the Printer’s Parts” on page 2-2
- “Paper Handling” on page 2-6
- “Loading Paper” on page 2-11
- “Cleaning” on page 2-21
- “Storing the Printer” on page 2-22
- “Transporting the Printer” on page 2-24

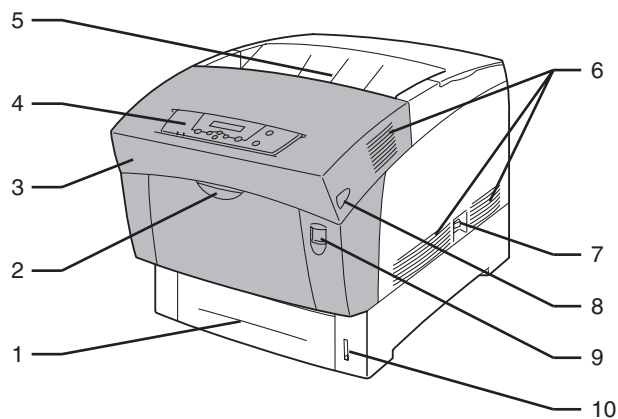
About this Chapter

This chapter explains any necessary maintenance procedures, such as feeding paper, cleaning, and other procedures required for normal operation.

Names and Functions of the Printer's Parts

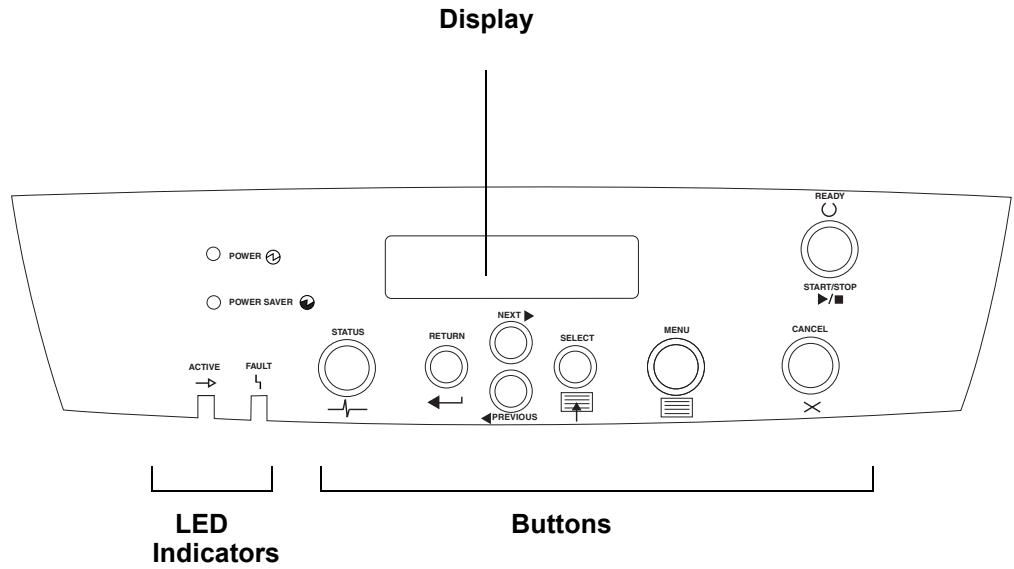
The names and functions of the various parts of the printer are as follows:

Front View

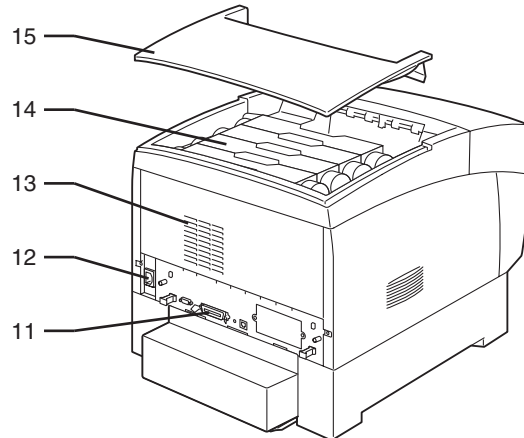


No.	Name	Description
1	Paper Tray	Load paper here.
2	Multi purpose Tray	Use this tray when feeding manually to load items such as postcards and envelopes.
3	Front Cover	Open to clear paper jams, replace the drum cartridge, transfer roller cartridge, and fuser unit.
4	Control Panel	Use the buttons and display to control the printer.
5	Face Down Tray	Printed documents are output here, printed side down.
6	Exhaust Grilles	Allows internal heat to dissipate. Make sure the grilles are never obstructed.
7	Power Switch	The printer's power switch. Press [I] to turn the printer on, and [O] to turn it off.
8	Button B	Use button B to open the upper part of the front cover.
9	Button A	Use button A to open the whole front cover.
10	Paper Meter	Use the meter as a guide to refill the paper tray.

Control Panel

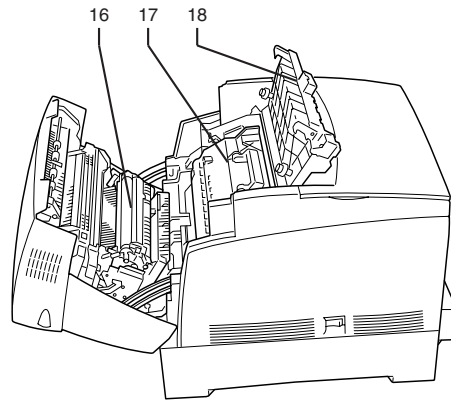


Rear View

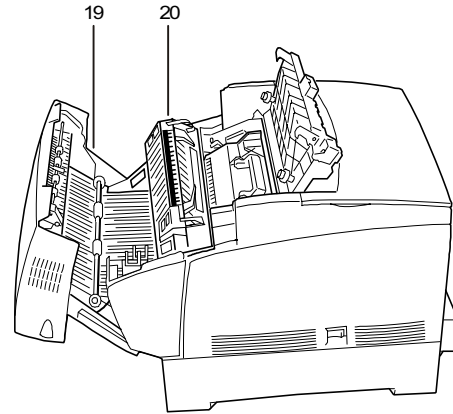


No.	Name	Description
11	Interface Connector	Connect the printer to your computer or network here.
12	Power Cord Connector	Connect the power cord here.
13	Exhaust Grille	Allows internal heat to dissipate. Make sure the grille is never obstructed.
14	Toner Cartridges	The black, yellow, magenta, and cyan toner cartridges are inserted here.
15	Top Cover (face down tray)	Acts as the top cover and the face down tray of the printer. Remove it to change the toner cartridges. Printed documents are output here, printed side down. Do not operate the printer without the Top Cover.

Internal View



<Cover open with button A>



< Cover open with button B >

No.	Name	Description
16	Transfer Roller Cartridge	Transfers the image created on the drum surface to the paper, and collects used toner.
17	Drum Cartridge	Consists of the light-sensitive drum, the developer and the transfer roller. Images are initially created as an electrical charge on the surface of this drum.
18	Paper Outlet Cover	Open to replace the drum cartridge and fuser unit.
19	Paper Rotator	With duplex printing, it turns the paper over after the front surface is printed.
20	Fuser Unit	Fuses the toner to the paper with heat. The fuser unit gets very hot during printing. Do not touch it to avoid burns.

Paper Handling

Using paper that is unsuitable for printing can cause paper jams and deteriorate print quality. We recommend using the types of paper listed below to obtain the best results from your printer.

Selecting Print Media

Your printer can print on a variety of media, including plain paper, labels, transparencies, and envelopes. Always use print media that meet the guidelines for use with this printer. Print media that is not recommended for use with this printer may cause frequent paper jams or poor print quality.

NOTE: Expect a slight reduction in image quality when you print on envelopes, labels, transparencies, or postcards.

Specialty Paper

In addition to plain paper, you can use the following types of specialty paper.

- Transparency sheets (for monochrome printing only)
- Label sheets (uncut)
- Envelopes
- Postcards
- Cardboard (max. density 216 g/m²)
- Coated paper
- Glossy paper
 - When printing on rigid cardboard, the image position may shift.
 - When printing on coated or glossy paper, feed the sheets one at a time. Moisture can cause the sheets to stick together causing more than one sheet to be fed, which can result in malfunction or damage.
 - Do not use envelopes that have a tape seals on the adhesive of the flap. You can use pre-glued envelopes if the adhesive on the flap is dry.
 - Using postcards that have already been printed to on one side and are warped can cause paper jams. Flatten warped postcards with your hands before loading them. We do not recommend printing on multicolored postcards.

Print Media Weight, Type, and Size

The following table defines print media that you can use in each of the paper sources, and also indicates the feed orientation—long edge feed (LEF) or short edge feed (SEF). If you have concerns about a specific brand or type of media, try samples of the media to determine if the resulting printer performance and print quality meet your expectations.

Paper Source	Meter Weight	Paper Type and Feed Direction	Paper Sizes Accommodated
Universal Paper Tray (main tray and optional 550 sheet paper feeder) Do not use label stock or other special media in the 500 sheet paper tray.	60 to 216g/m ²	Any paper	Width: 98.4mm to 215.9mm 3.87 to 8.5 inches Length: 148.5mm to 355.6mm 5.85 to 14 inches
		A4 SEF	297 x 210mm 11.7 x 8.27 inches
		Letter SEF	279.4 x 215.9mm 11 x 8.5 inches
		Legal 13 inch	330.2 x 215.9mm 13 x 8.5 inches
		Legal 14 inch	355.6 x 215.9mm 14 x 8.5 inches
		Executive SEF	266.7 x 184.5mm 10.5 x 7.2 inches
		A5 SEF	210 x 149mm 8.27 x 5.9 inches
		B5 SEF	257 x 182mm 10.12 x 7.17 inches
Front Tray	60 to 216g/m ²	Envelopes Transparencies Labels Postcards Standard Paper (LEF and SEF) Other Papers	Width: 3.0 to 8.5 inches 76.2mm to 215.9mm Length: 5.0 to 14 inches 127mm to 355.6mm

Suitable Paper Types

Paper Trays, Types, and Sizes

You can load the following types of paper into the paper tray or multi purpose tray.

Feeding Method	Paper Type/number of Sheets		Size
Multi Purpose Tray	Plain paper Postcards Envelopes Label sheets Transparency sheets (for monochrome printing only) Cardboard Thick 1, Thick 2, Thick 3	Up to 100 sheets or a 10mm stack	A5 (210×149 mm) portrait B5 (257×182 mm) portrait A4 (297×210 mm) portrait Executive (266.7×184.2 mm) portrait Letter (279.4×215.9 mm) portrait Legal 13” (330.2×215.9 mm) portrait Legal 14” (355.6×215.9 mm) portrait
	Coated paper Paper longer than 355.6 mm	sheet	Postcards Envelopes Custom size (width: 88.9 to 215.9 mm, length 139.7 to 900 mm) <ul style="list-style-type: none"> Using low-quality paper can cause creasing and deteriorate print quality. When printing on paper longer than 355.6 mm, support the paper with your hands while it feeds through the printer.
Standard paper tray (tray 1)	Plain paper	Up to 500 sheets or a 56mm stack <ul style="list-style-type: none"> For A5 portrait, you can use up to 350 sheets or a 40 mm stack. 	5(210×149 mm) portrait B5 (257×182 mm) portrait A4 (297×210 mm) portrait Executive (266.7×184.2 mm) portrait Letter (279.4×215.9 mm) portrait Legal 13” (330.2×215.9 mm) portrait Legal 14” (355.6×215.9 mm) portrait
High Capacity Feeder (2 shelves) (Trays 2 and 3)			

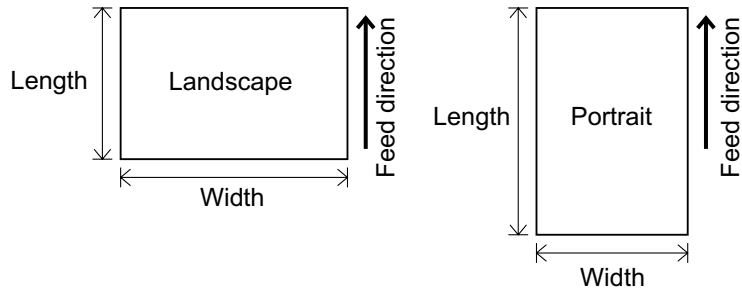
NOTE: The number of sheets that you can load varies according to paper thickness.

Duplex Printing Paper Types and Sizes

The various paper types and sizes you can use for duplex printing are as follows:

Paper Type	Size
Plain paper	A5 (210×149 mm) portrait B5 (257×182 mm) portrait A4(297×210 mm) portrait Executive (266.7×184.2 mm) portrait Letter (279.4×215.9 mm) portrait Legal 13" (330.2×215.9 mm) portrait Legal 14" (355.6×215.9 mm) portrait

NOTE: The illustrations below provide a description of 'width,' 'length,' 'portrait' and 'landscape,' mentioned in the tables above.

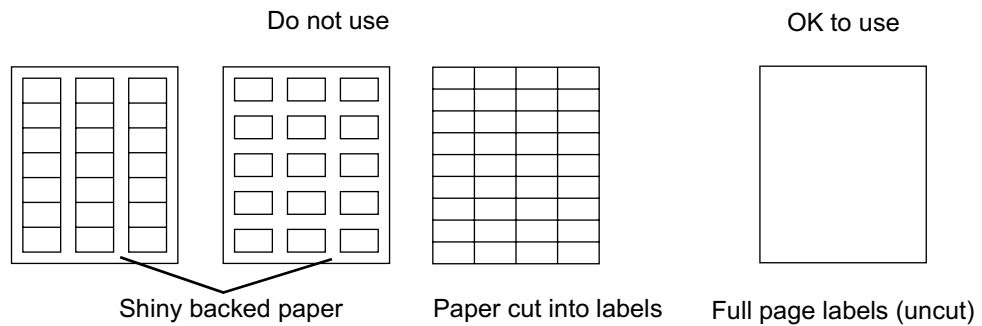


Unsuitable Paper types

Avoid using the following paper types as they can cause paper jams or damage to the printer.

- Transparency sheets other than those recommended.
- Ink jet paper
- Paper that is too thick or too thin
- Paper already printed using another printer or copier
- Folded, creased or torn paper
- Damp or wet paper
- Undulated or warped paper
- Sheets adhered by static electricity
- Layered or adhesive paper
- Specially coated paper
- Colored paper with a treated surface
- Paper printed with ink that cannot withstand temperatures of 155°C.
- Heat-sensitive paper
- Carbon paper
- Paper with staples, paper clips, tape or ribbons attached

- Paper with a rough surface such as textured or fiber form paper
- Using acidic paper can cause the characters to fade over time. Use neutral paper to prevent this problem.
- Envelopes with a rough surface or clips attached
- Envelopes with sticky adhesive
- Label sheets where the backing has peeled away or are pre-cut.



- T-shirt transfer paper (Heat press use)
- Transfer paper (cold water use)
- Luminous paper
- Digital coated glossy paper
- Label film (transparent, colorless)

Storing Paper

Failure to store paper properly can cause paper jams, deteriorate print quality, and/or damage to the printer. Store paper under the following conditions:

- Between 10°C and 30°C
- Between 30% to 65% relative humidity
- In a dry place
- After opening the package, wrap unused sheets in their original package and store in a cabinet or other dry place.
- Store paper on a flat surface. Do not lean paper against other objects or place it in an upright position.
- Avoid storing paper in way that may cause creasing, folding or curling.
- Store paper away from direct sunlight.

Loading Paper

This section describes the following loading methods:

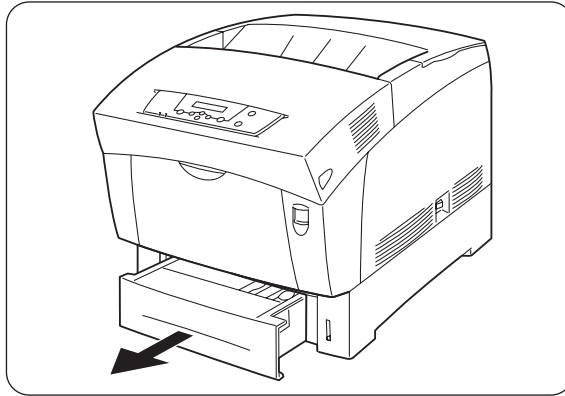
- Loading paper in the paper tray
- Loading paper in the multi purpose tray
- Loading transparency sheets in the multi purpose tray
- Loading postcards in the multi purpose tray
- Loading envelopes in the multi purpose tray

NOTE: For information about suitable paper types, refer to “Paper Handling” on page 2-6.

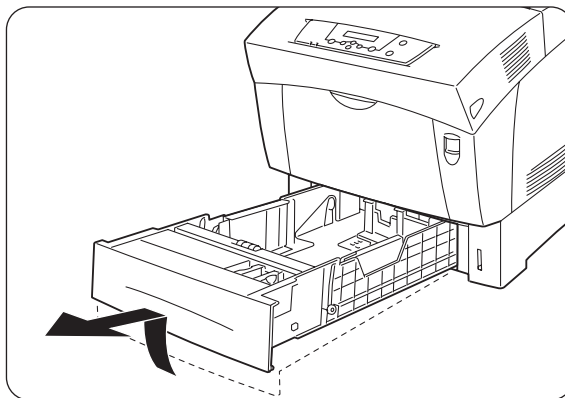
Loading Paper in the Paper Tray

Follow the procedure below to load paper into the paper tray.

NOTE: Load paper into the optional High Capacity Feeder (2 shelves) the same way.

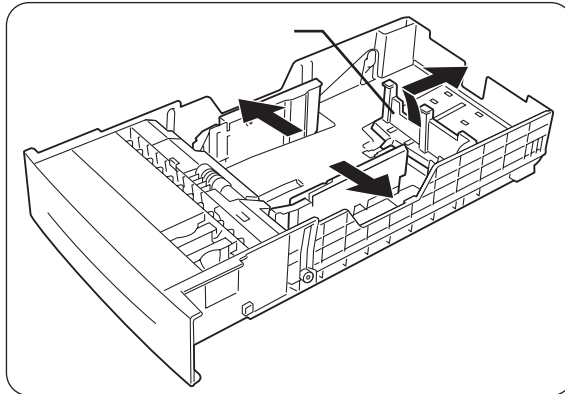


1. Gently pull out the paper tray until it stops.



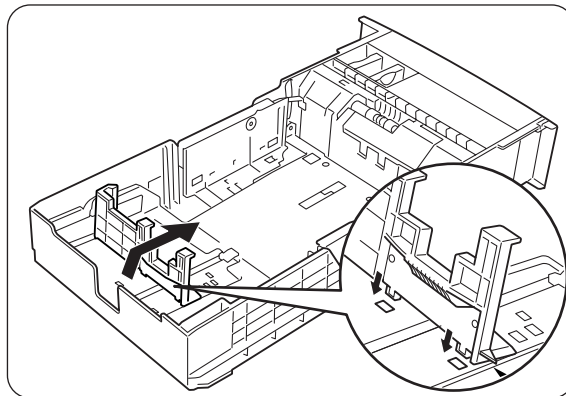
2. Hold the tray with both hands, lift the front slightly and pull it completely out of the printer.

NOTE: Place the tray on a flat surface.

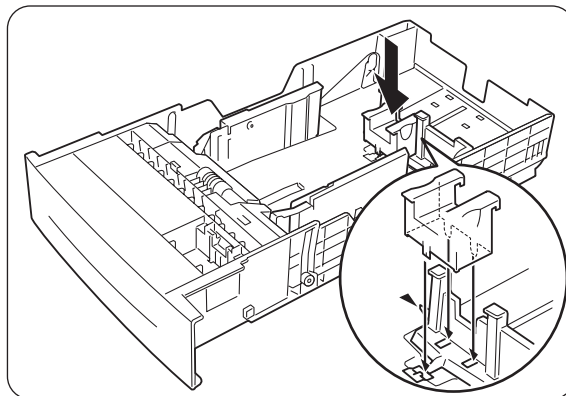


3. Move the end and side paper guides to their outermost positions. Gently lift the end paper guide to move it.

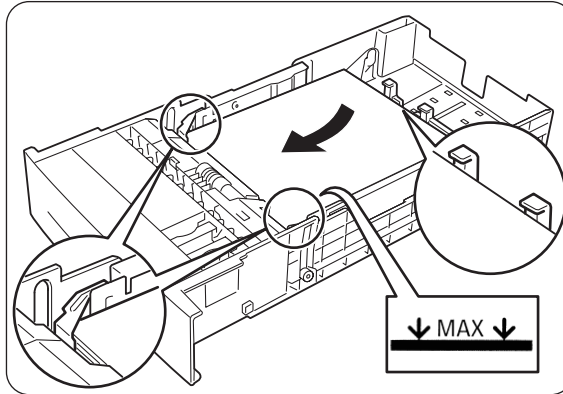
NOTE: You do not need to move the paper guides if you are refilling the tray with paper of the same size.



4. Grip the end paper guide with your fingers and gently lift it up. Insert the pins at the bottom of the guide in the holes corresponding to the paper size that you want to load.

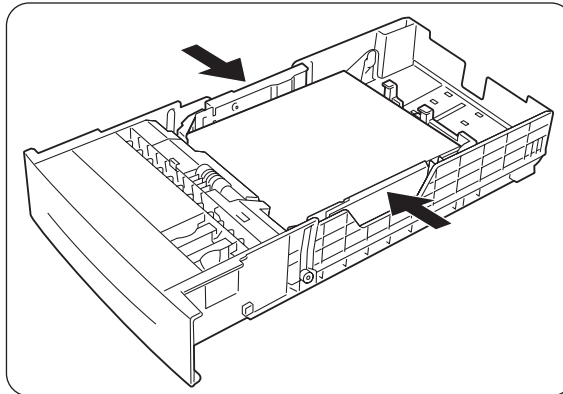


NOTE: Make sure that the end guide is properly inserted into the holes corresponding to the appropriate paper size.
Only a small amount of movement of the end paper guide can make automatic paper size detection impossible. If this occurs, move the end paper guide all the way to its outermost position again, then realign it with the appropriate paper size mark.
To set A5 paper, use the provided A5 spacer.
■ Remove the A5 spacer from the tray.
■ Set the end guide into the appropriate paper size mark, and then insert the A5 spacer in front of the end guide.



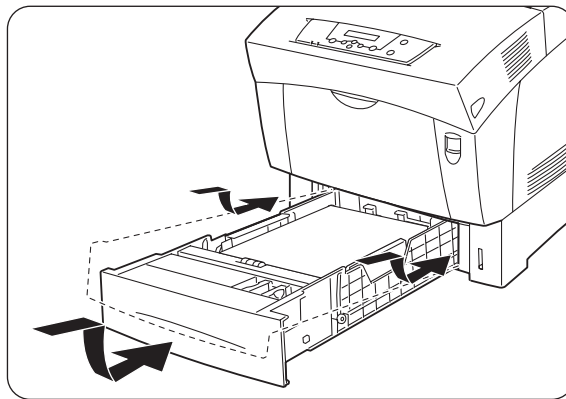
5. Align the four corners of the paper stack and insert the paper (print side up) under the tab.

NOTE: Do not use paper that is folded, creased, or heavily warped.
Do not overload the paper tray.

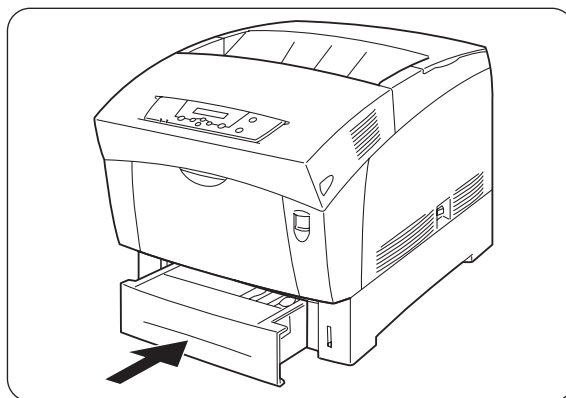


6. Align the side guides with the edges of the paper.

NOTE: Pushing the paper guides too hard against the edges of the paper stack can cause a paper jam. However, if the paper guides are too loose, the paper may twist as it feeds through the printer.

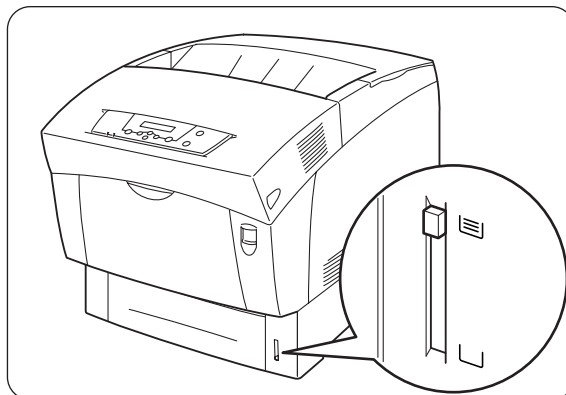


7. Hold the paper tray with both hands, align it with the opening in the printer and gently insert it.



8. Push the paper tray completely back into the printer.

NOTE: Do use excessive force on the paper tray.

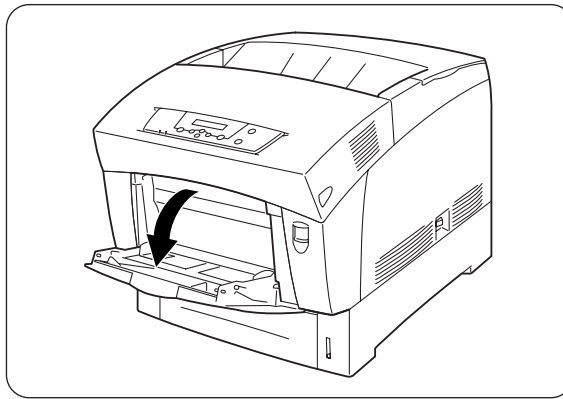


NOTE: There is an indicator next to the paper tray that tells you how much paper remains in the tray. Use this meter as a guide to refill the paper tray.

Loading Paper in the Multi Purpose Tray

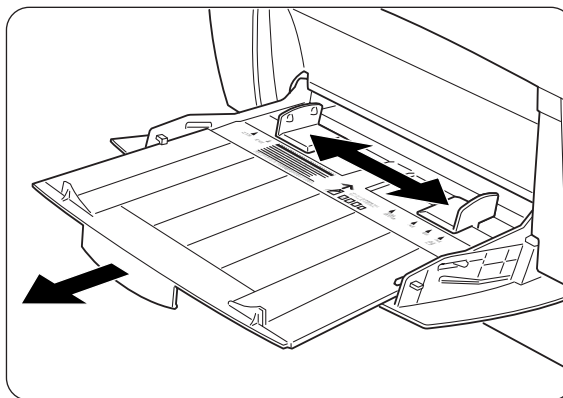
Follow the procedure below to load paper into the multi purpose tray.

NOTE: To avoid paper jams, do not load paper of different sizes into the tray at the same time and do not refill the tray before it is empty.



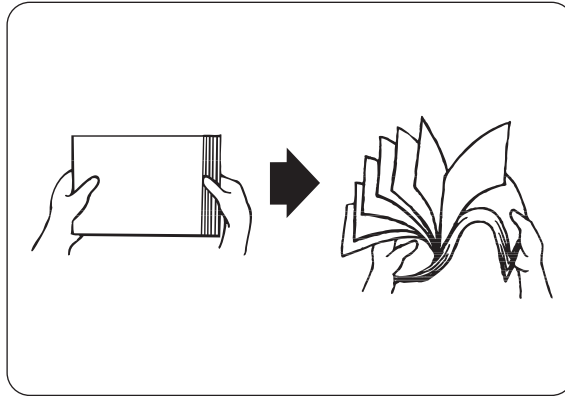
1. If retracted, open the tray.

NOTE: To avoid damage to the tray, do not use excessive force or place heavy objects on the tray.



2. Align the paper guide with the mark of the desired paper size.

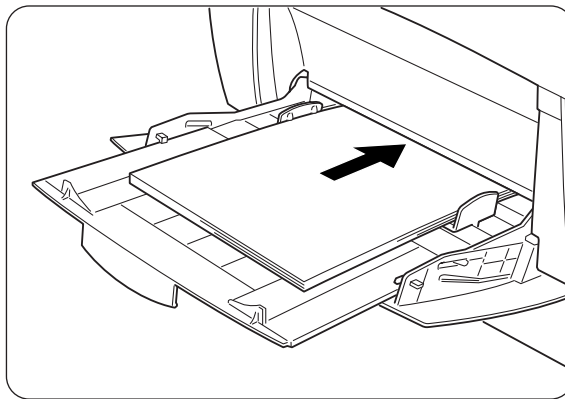
NOTE: When printing on long paper, pull out the tray extension. Printing long paper with the tray extension retracted can cause the paper to fall out or make feeding impossible.



3. When using media such as transparency sheets, label sheets, or envelopes, fan the stack before loading so that there is air between the sheets.

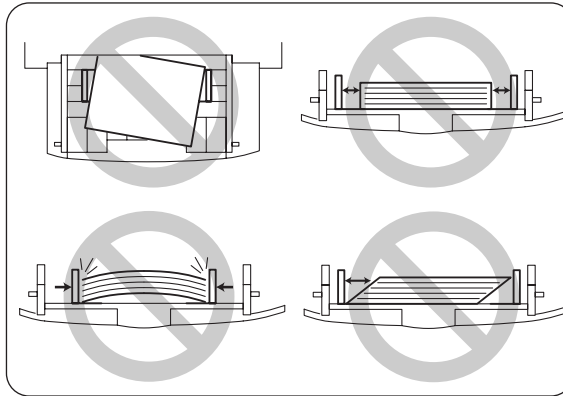
NOTE: Fanning the stack helps prevent paper jams caused when more than one sheet feeds at the same time.

NOTE: Do not fan plain paper before loading.
If the paper is poorly cut and the edges are not clean, remove any unsuitable sheets before loading the paper.
When printing on coated or glossy paper, feed the sheets one at a time. Moisture can cause the sheets to stick together causing more than one sheet to be fed, which can result in malfunction or damage.



4. Align the four corners of the paper stack and insert it (print side down) until it lightly touches the feeding slot.

NOTE: Do not use paper that is folded, creased, or heavily warped.
 Do not overload the paper tray.
 When printing on sheets longer than Legal portrait (355.6mm), load the sheets one at a time, and support the sheet with your hands to ensure proper feeding.



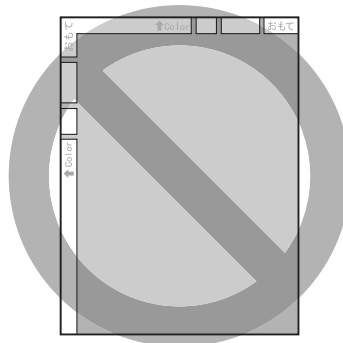
5. When loading paper, carefully align the paper guides with the edges of the paper so that there is a small gap between the paper stack and the guides. Pushing the paper guides too hard against the edge of the paper stack can warp the paper and cause paper jams. Load the paper so that it is straight in the tray.

NOTE: If the paper is not loaded correctly, the printing position may shift and cause incorrect printing.

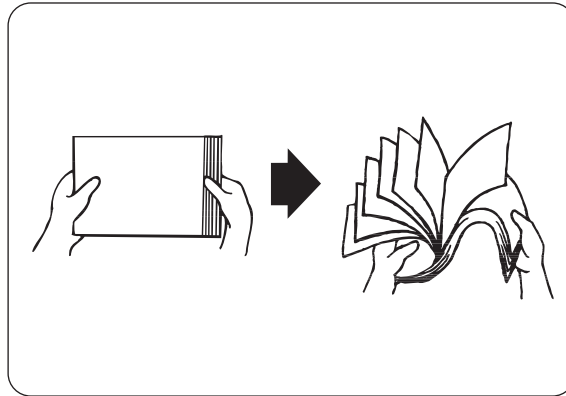
Loading Transparency Sheets in the Multi Purpose Tray

Feed transparency sheets from the multi purpose tray. Use only monochrome transparency sheets.

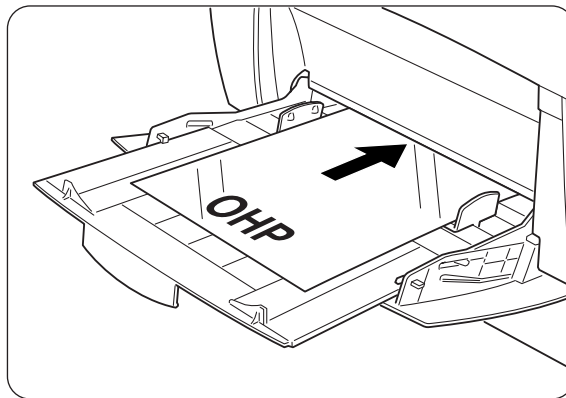
NOTE: Use only the recommended types of transparency sheet. Do not use any other types, such as color transparency sheets (bordered by a white frame).



NOTE: Remove each transparency sheet from the face down tray as soon as it is ejected. If transparency sheets are allowed to accumulate in the face down tray, static electricity can build up and cause a jam.



1. Fan a few transparency sheets at a time.



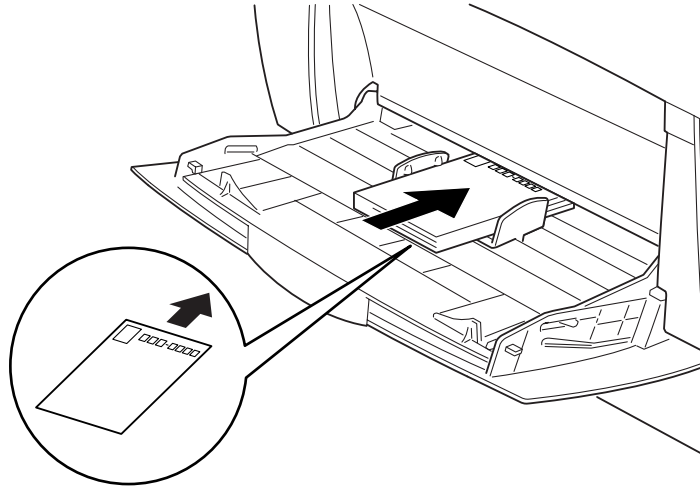
2. Insert the transparency sheets into the multi purpose tray until they lightly touch the feeding slot.

NOTE: Do not use full color transparency sheets. They can jam in the printer and damage the fuser unit.

Loading Postcards in the Multi Purpose Tray

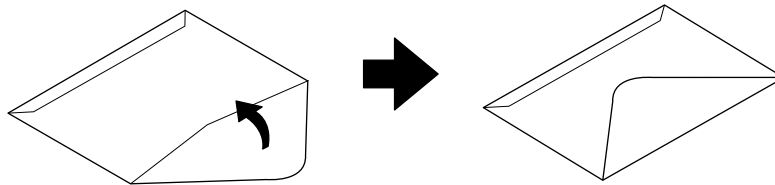
Feed postcards from the multi purpose tray.

NOTE: When printing on the back of pre-printed postcards, make sure the postcards are not bent. Even slightly bent postcards can cause paper jams. Flatten bent postcards by hand before loading them. We do not recommend printing on multicolored postcards.

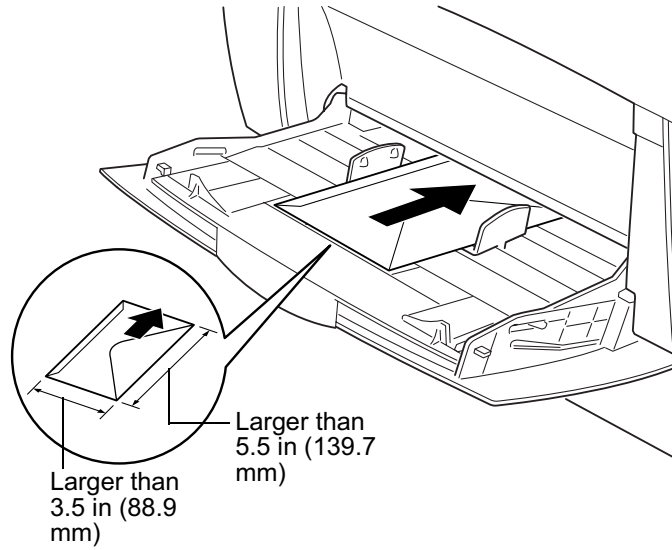


Loading Envelopes in the Multi Purpose Tray

Feed envelopes from the Multi Purpose Tray. Open the envelope flaps before feeding and load them as illustrated below.



NOTE: Do not use envelopes that have tape seals. When using envelopes with an adhesive seal, make sure that the adhesive is dry. Do not use envelopes larger than 3.5 inches wide and 5.5 inches long (88.9 mm wide and 139.7 mm long). Load the envelopes with the flap pointing outward. Using poor quality envelopes can cause creasing and deteriorate print quality.

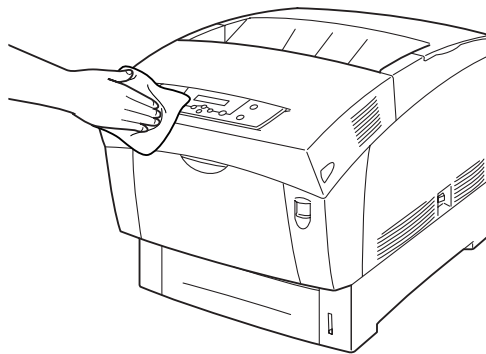


Cleaning

Use a soft, damp, well-wrung cloth to clean the outside of the printer. Wipe any remaining water with a soft dry cloth. If some stains prove difficult to remove, use a cloth moistened with a mild neutral detergent. We recommend that you clean the printer at least once a month to keep it in good working condition and to maintain print quality.



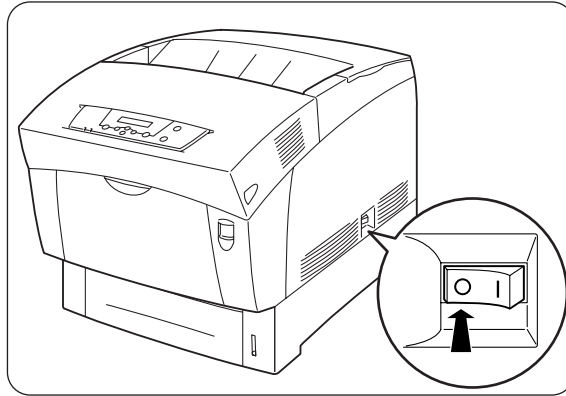
CAUTION: To prevent electric shock, turn off the printer and unplug the power cord from the AC outlet before cleaning.



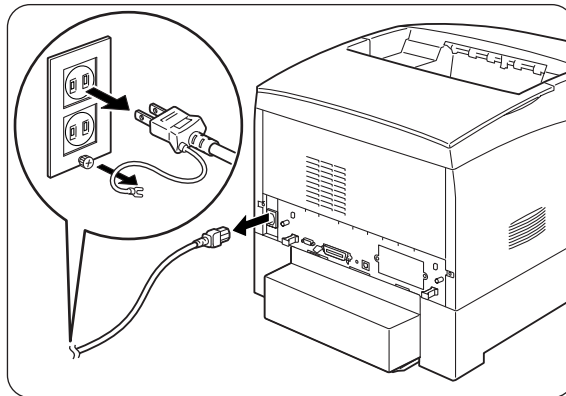
NOTE: Never spray detergent directly onto the printer. Droplets of detergent can enter the printer and cause malfunctions. Never use detergents other than neutral detergents.
Never lubricate the printer with oil. The printer does not require lubrication.
Never use a vacuum cleaner to clean the printer.

Storing the Printer

Follow the procedure below when you do not need to use the printer for a long period.



1. On the right side of the printer, press [O] on the power switch to turn off the printer.



2. Disconnect the power cord, interface cable, and any other cables.

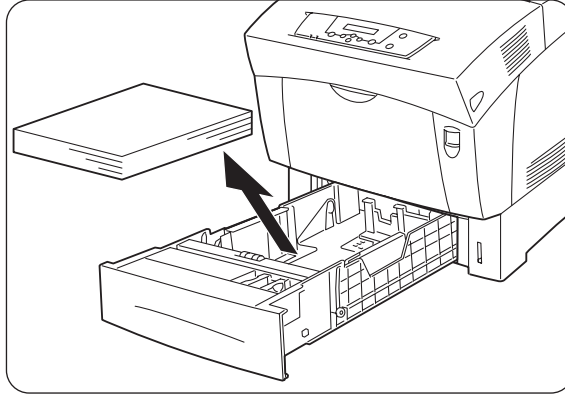


WARNING: To prevent electric shock, never touch the power plug with wet hands.



CAUTION: When removing the power cord, make sure that you pull the plug and not the cord. Pulling the cord can damage it, which can lead to fire or electrical shock.

3. Remove any remaining paper from the paper tray and store it in a dry, dust-free place.



NOTE: If the paper proves difficult to remove, pull the tray completely out of the printer and try removing the paper again.

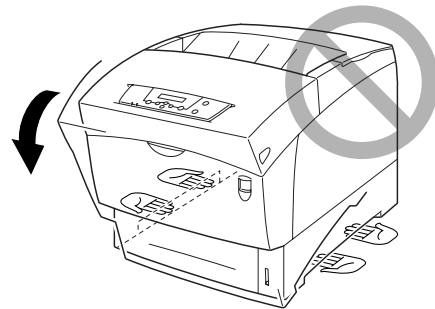
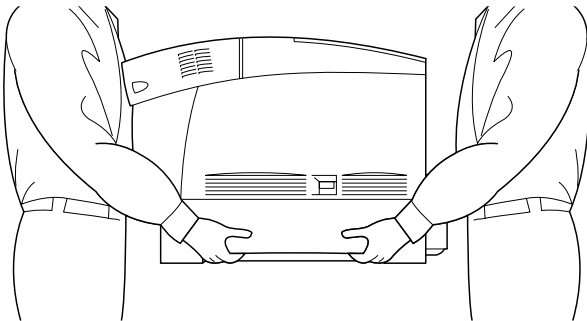
Transporting the Printer

Before transporting the printer by car or truck over long distances, follow the procedure below to prevent strong vibrations from damaging the printer.



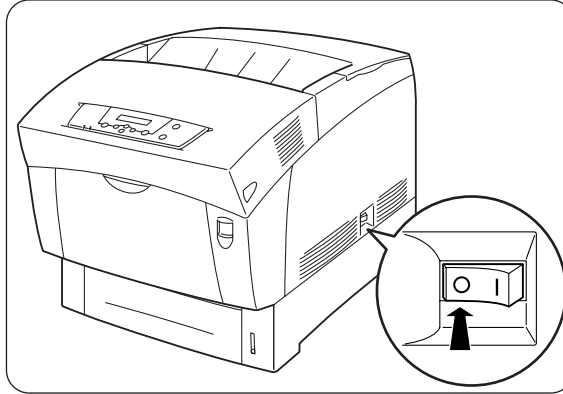
CAUTION:

- Because the printer weighs 80 lbs. (34.5 kg) fully assembled, make sure that at least two people carry it.
- To lift the printer, face the front and back of the printer and grip the recessed areas at the bottom left and right with both hands. Never try to lift the printer by gripping any other areas. Lifting the printer by gripping other areas can cause the printer to fall, resulting in injury.
- Bend your knees when lifting the printer to avoid back injuries.

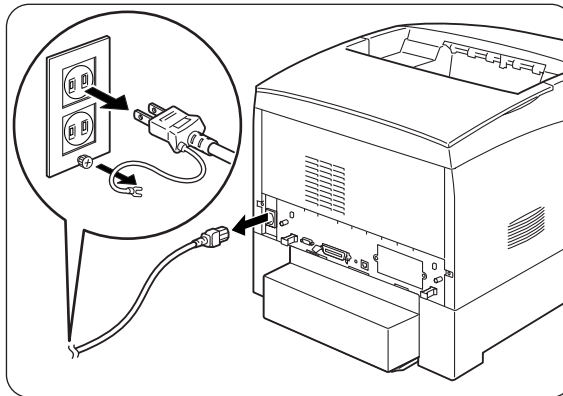


There is danger of the printer falling.

NOTE: When carrying the printer, keep it level to prevent trays or consumables from falling out. Do not tilt it more than 10 degrees in any direction. Do not remove the toner cartridges before moving the printer. Toner may spill inside the printer and damage it. When the optional High Capacity Feeder (2 shelves) is installed, remove it before transporting the printer. If the High Capacity Feeder is not removed, it may fall, resulting in damage or injury. To remove the High Capacity Feeder, refer to chapter "Chapter 6 Options".



1. On the right side of the printer, press [O] on the power switch to turn off the printer.



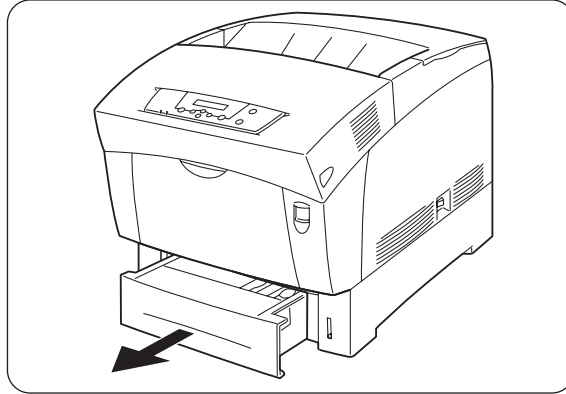
2. Disconnect the power cord, interface cable, and any other cables.



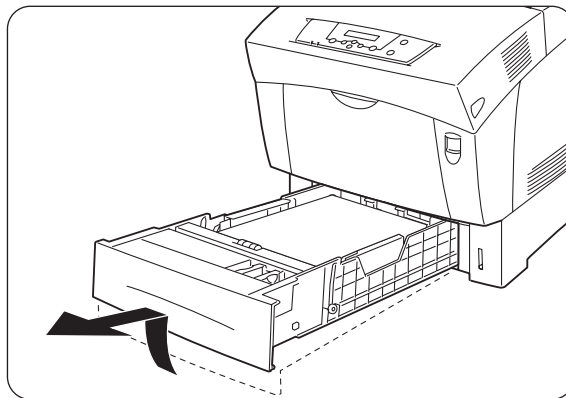
WARNING: To prevent electric shock, never touch the power plug with wet hands.



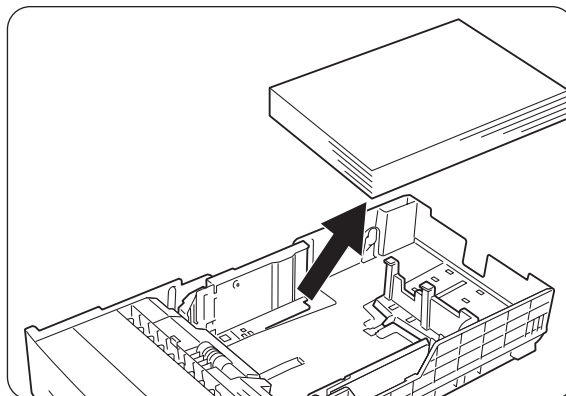
CAUTION: When removing the power cord, make sure that you pull the plug and not the cord. Pulling the cord can damage it, which can lead to fire or electrical shock.



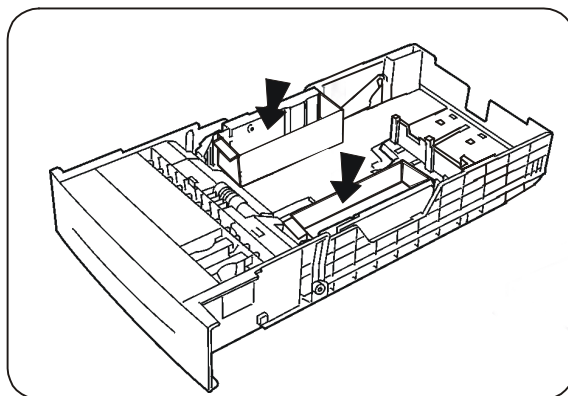
3. Gently pull out the paper tray until it stops.



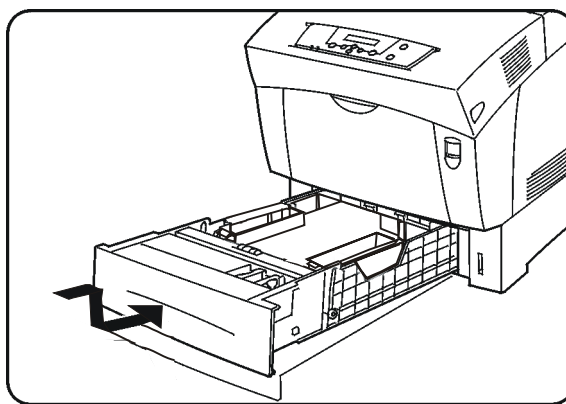
4. Hold the tray with both hands, lift the front up slightly and pull it completely out of the printer.



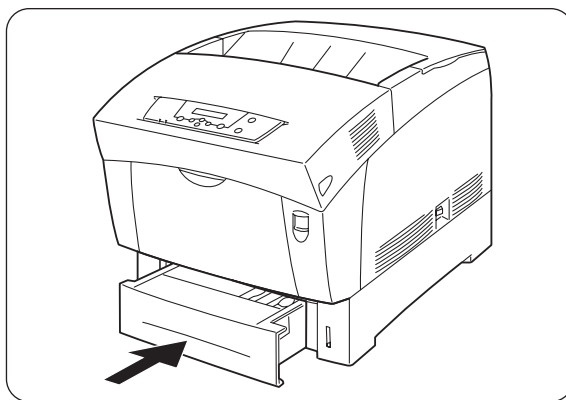
5. Remove the paper from the paper tray, and store it in a dry, dust-free place.



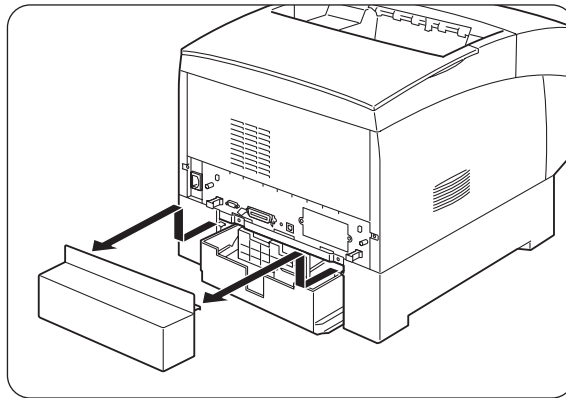
6. Insert the cardboard spacers in the tray as illustrated on the left.



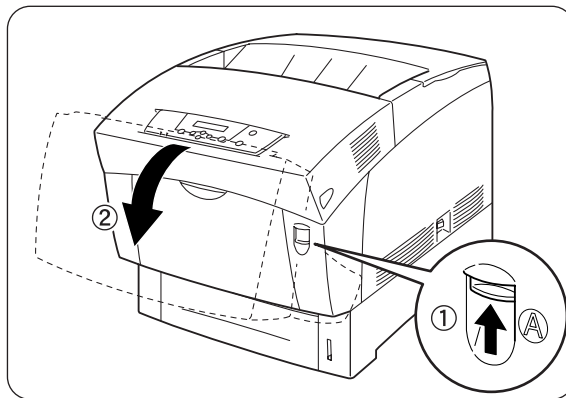
7. Hold the paper tray with both hands, align it with the opening in the printer and gently insert it.



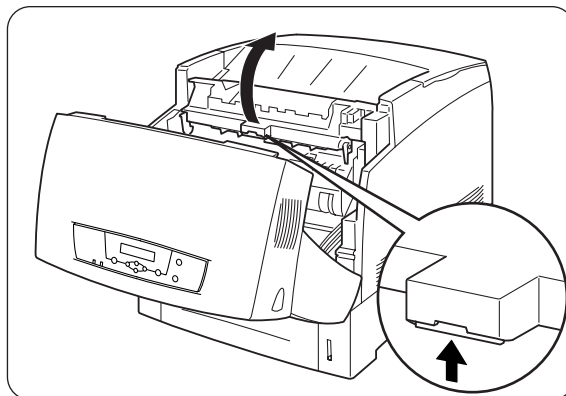
8. Push the paper tray completely back into the printer.



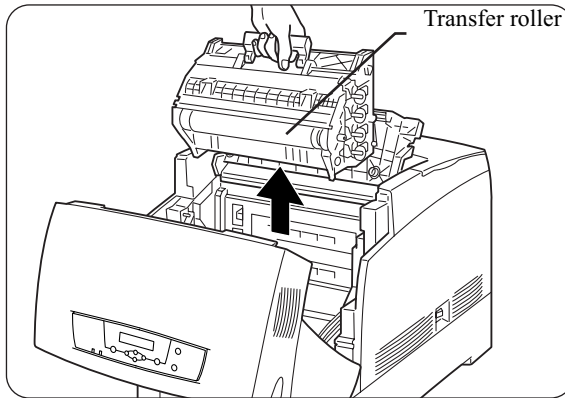
9. Remove the tray cover.



10. Push up button 'A' 1 and fully open the front cover 2.



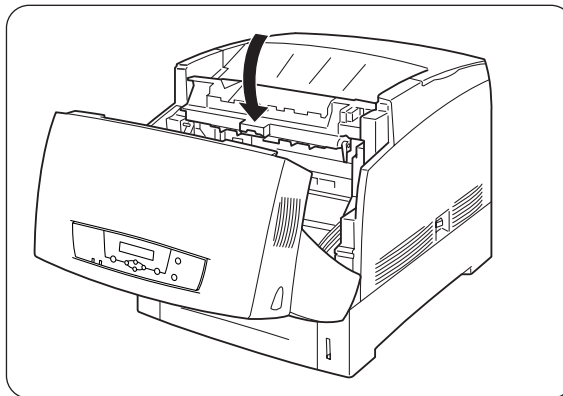
11. Open the paper outlet cover.



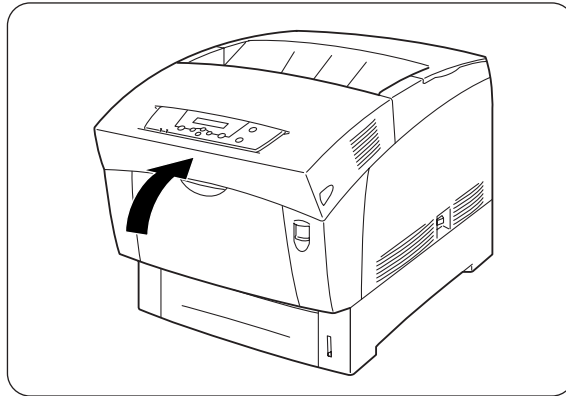
12. Grip the drum cartridge handle and gently lift it out of the printer.

NOTE: Do not touch the transfer roller (black colored part). Hold the drum cartridge by the handle on top of the cartridge to prevent the cartridge from falling.

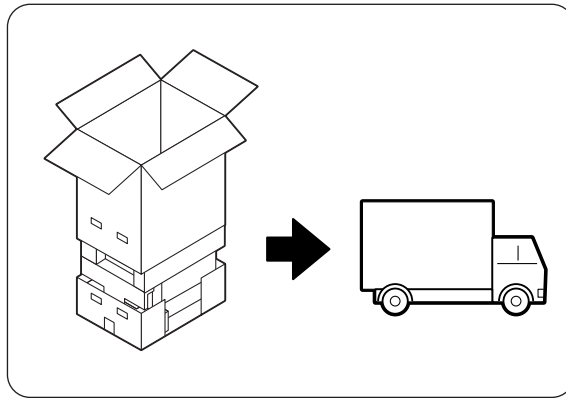
NOTE: Wrap the drum cartridge in its aluminum package or thick paper to avoid exposing it to direct sunlight or other strong light.



13. Close the paper outlet cover.



14. Close the front cover.



15. To protect the printer from damage, pack it in a box before transporting it.

NOTE: After moving the printer to the new location, you need to readjust the color registration. For details, refer to “Adjusting Color Registration” on Chapter 1.



Chapter 3

Dealing with Problems

In this Chapter . . .

- “About this Chapter” on page 3-2
- “Troubleshooting” on page 3-2
- “Solving Printer Power-on Problems” on page 3-11
- “Control Panel LCD Messages” on page 3-12
- “Ethernet Network Interface Troubleshooting” on page 3-15

About this Chapter

This chapter describes solutions to any problems that might occur when using the printer. Read this chapter to determine the nature of the problem and the best method of dealing with it.

Troubleshooting

When your printer suffers from a problem, refer to one of the four categories below to determine the cause of your problem, and the action needed to rectify it.

- Power problems
- Print quality problems
- Paper transport problems
- Other problems

If your problem is not included in these categories or if you cannot rectify the problem using the prescribed procedures, turn off the printer, disconnect the power cord from the AC outlet, and contact your CPG dealer or a CPG Customer Service Center for assistance.



WARNING: Do not make any changes or modifications to the equipment, as this may result in fire.





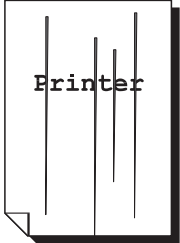
CAUTION: Turn off the printer and disconnect the power cord from the AC outlet before performing maintenance on the printer. Failure to turn off the printer and disconnect the power cord may result in electric shock.


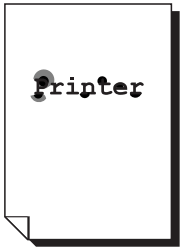

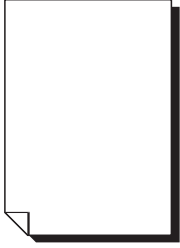
Power Problems

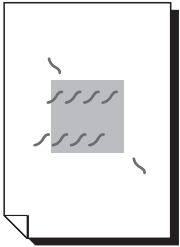
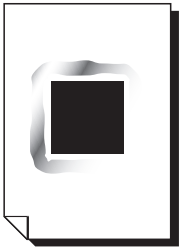

Description	Cause	Action
No power	The [I] mark of the power switch is not depressed.	Check that the power switch is in the [I] position.
	The power cord is not properly connected to the AC outlet.	Turn off the unit, confirm that the power cord is properly connected to the AC outlet, and turn the unit back on.
	The AC power supply's voltage is not suitable for use with the unit.	Confirm that the printer is connected to an AC 220 V power supply.


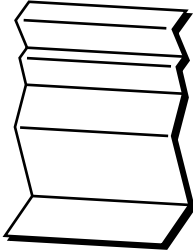

Description	Cause	Action
The unit turns off frequently	The printer is defective.	Turn off the unit, disconnect the power cord from the AC outlet, and contact your CPG dealer or a CPG Customer Service Center for assistance.
	The power cord is not properly connected to the AC outlet.	Turn off the unit, confirm that the power cord is properly connected to the AC outlet, and turn the unit back on.

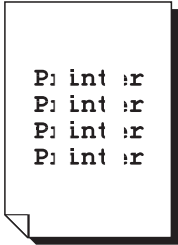
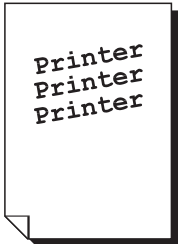
Print Quality Problems

Description	Cause	Action
Faded printouts 	The media is outside the recommended specification range.	Replace the media with a recommend size and type, and confirm that your printer driver settings are correct. See “Paper Handling” on page 2-6.
	The paper is damp.	Replace the paper. See “Paper Handling” on page 6
	The drum cartridge is old or damaged.	Replace the drum cartridge. See “Drum Cartridge” on page 5-8.
	The high-voltage supply is defective.	Contact your CPG dealer or a CPG Customer Service Center for assistance.
Stray black dots or white areas (drop outs) 	The paper is outside the recommended specification range.	Replace the paper with a recommend size and type, and confirm that your printer driver settings are correct. See “Paper Handling” on page 2-6.
	The drum cartridge is old or damaged.	Replace the drum cartridge. See “Drum Cartridge” on page 5-2.
Vertical black streaks 	The drum cartridge, transfer roller, or fuser unit is old or damaged.	Check the condition of the drum cartridge, transfer roller and fuser unit, and replace as necessary. See “Drum Cartridge” on page 5-2, or See “Transfer Roller Cartridge” on page 5-13, or See “Fuser Unit” on page 5-16.

Description	Cause	Action
Recurring smudges 	Dirt in the paper path.	Print several blank sheets.
	The drum cartridge, transfer roller, or fuser unit is old or damaged.	Check the condition of the drum cartridge, transfer roller and fuser unit, and replace as necessary. See “Drum Cartridge” on page 5-2, or See “Transfer Roller Cartridge” on page 5-13, or See “Fuser Unit” on page 5-16
Ink smears when rubbed 	The paper is damp.	Replace the paper. See “Paper Handling” on page 2-6.
	The paper is outside the recommended specification range.	Replace the paper with a recommend size and type, and confirm that your printer driver settings are correct. See “Paper Handling” on page 2-6.
Black pages 	The drum cartridge is old or damaged.	Replace the drum cartridge. See “Drum Cartridge” on page 5-8.
	The high-voltage supply is defective.	Contact your CPG dealer or a CPG Customer Service Center for assistance.
Blank pages 	Two or more sheets may be feeding at once.	Remove the paper stack from the tray, fan it, and reinsert it.
	The drum cartridge is old or damaged.	Replace the drum cartridge. See “Drum Cartridge” on page 5-8.
	The high-voltage supply is defective.	Contact your CPG dealer or a CPG Customer Service Center for assistance.

Description	Cause	Action
<p>Hair-like marks appear in or around black half-tone printing</p>  <p>Shadows appear around areas of dense black printing</p> 	<p>The paper was left unwrapped for a long time (especially in a dry environment).</p> <p>The paper is outside the recommended specification range.</p> <p>The transfer roller cartridge is old or damaged.</p>	<p>Replace the paper.</p> <p>Replace the paper with a recommend size and type, and confirm that your printer driver settings are correct. See “Paper Handling“ on page 2-6.</p> <p>Replace the transfer roller. See “Transfer Roller Cartridge“ on page 5-13.</p>
<p>Color around the edge of printing is incorrect</p> 	<p>The color registration is incorrect.</p>	<p>Adjust the color registration. See “Adjusting Color Registration on page 1-26”.</p>

Description	Cause	Action
<p>Partial blanks, creased paper or blotted printing</p>   	The paper is damp.	Replace the paper. See “Paper Handling” on page 2-6.
	The paper is outside the recommended specification range.	Replace the paper with a recommend size and type. See “Paper Handling” on page 2-6.
	The transfer roller or fuser unit is not installed correctly.	Reinstall the transfer roller and/or fuser unit. See “Transfer Roller Cartridge” on page 5-13, and/or See “Fuser Unit” on page 5-16.

Description	Cause	Action
Vertical blanks 	The drum cartridge is not installed correctly.	Reinstall the drum cartridge. See “Drum Cartridge” on page 5-8.
	The drum cartridge, transfer roller, or fuser unit is old or damaged.	Check the condition of the drum cartridge, transfer roller and fuser unit, and replace as necessary. See “Drum Cartridge” on page 5-8, or See “Transfer Roller Cartridge” on page 5-13, or See “Fuser Unit” on page 5-16
Slanted printing 	The paper guides in the paper tray or multi purpose tray are not set correctly.	Reset the paper guides in the paper tray or multi purpose tray. See “Loading Paper” on page 2-11.

Paper Transport Problems

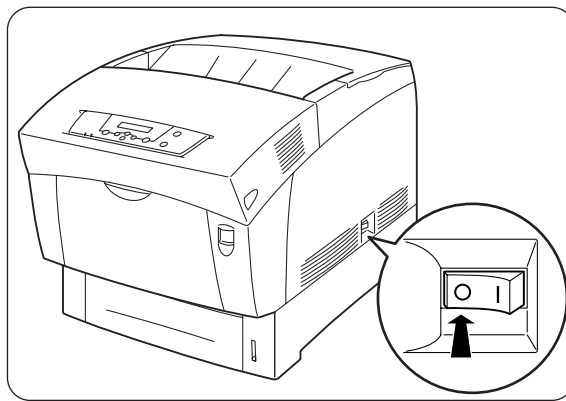
Description	Cause	Action
Paper does not feed Paper jams Several sheets feed at once Paper does not feed straight	The paper is not loaded correctly.	Reload the paper in the paper tray or multi purpose tray. See “Loading Paper” on page 11.
	The paper is outside the recommended specification range.	Replace the paper with a recommend size and type. See “Paper Handling” on page 6.
	The paper is damp.	Replace the paper. See “Paper Handling” on page 6.
	There is paper jammed in the printer.	Remove the jammed paper. Also, inspect the inside of the printer and thoroughly remove any tape or adhesive stuck to the rollers and other components along the paper path. “Clearing Paper Jams” on page 3-2.
	The printer is not level.	Reposition the printer on a flat, stable surface. See “Safety Precautions” on page 4.

Other problems

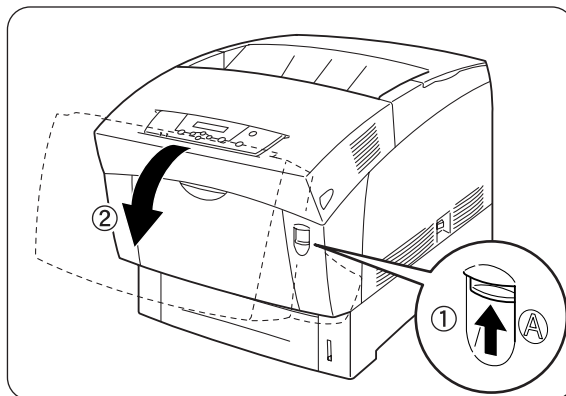
Description	Cause	Action
Unusual noises	The printer is not level.	Reposition the printer on a flat, stable surface. See “Safety Precautions“ on page 4.
	The paper tray is not inserted properly.	Push the paper tray completely into the printer.
	There is a foreign object inside the printer.	Turn off the printer and remove the foreign object. If you need to disassemble the printer to remove the foreign object(s), contact your CPG dealer or a CPG Customer Service Center for assistance.

Cleaning the Density Sensor

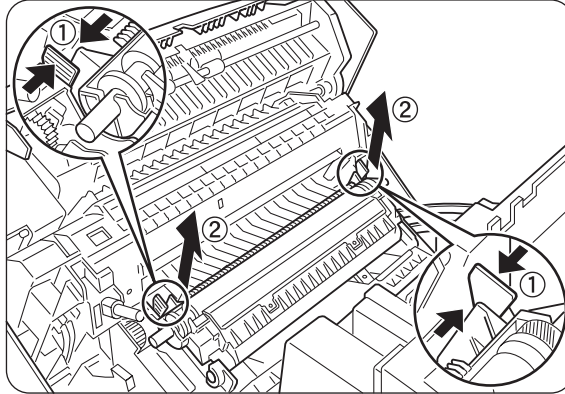
When the printer's density sensor is dirty, follow the procedure below to clean it.



1. Push the [O] mark on the power switch to turn off the printer.

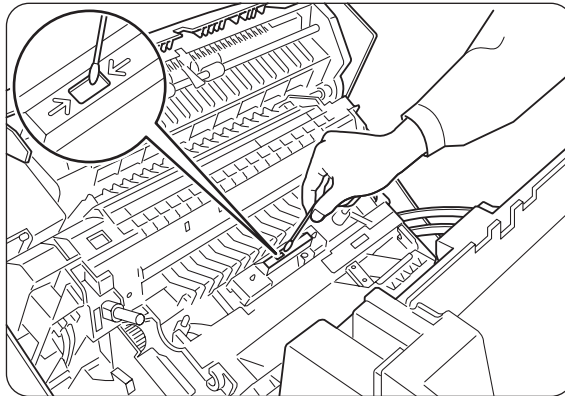


2. Push up button 'A' ① and fully open the front cover ②.



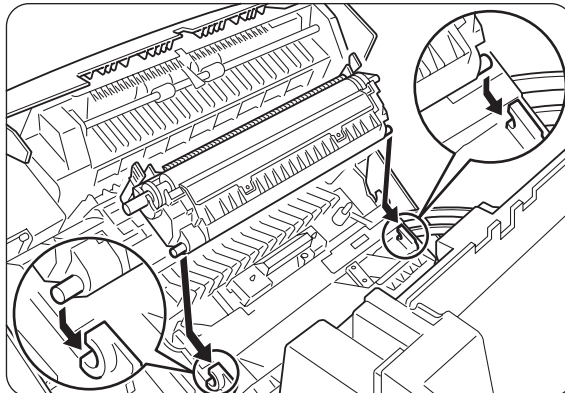
3. Grip the tabs at both ends of the transfer roller and gently lift it out of the printer.

NOTE: Lift the roller carefully to prevent waste toner from spilling out.

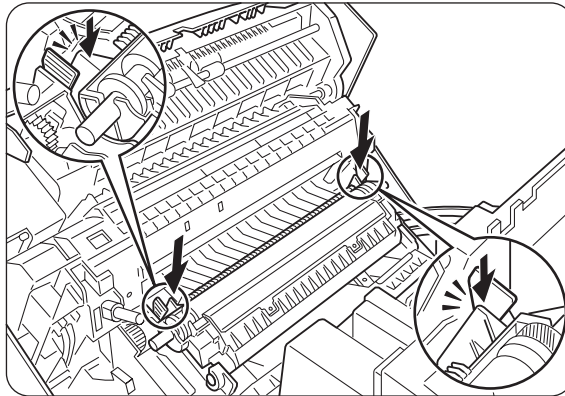


4. Gently wipe the density sensor window with a clean dry cloth or cotton swab.

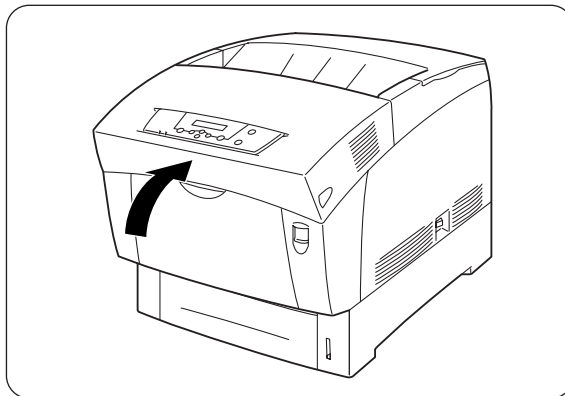
NOTE: Do not allow anything hard to come into contact with the density sensor window. Do not use excessive force to clean the window.



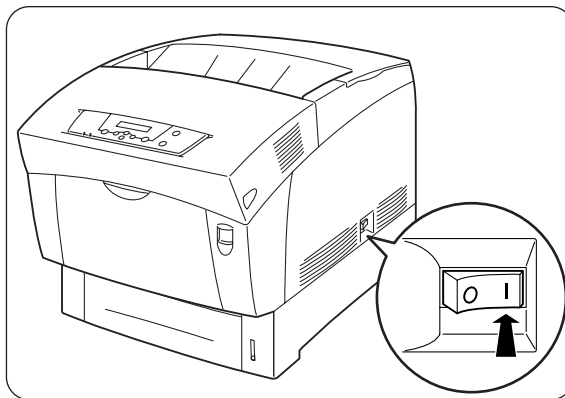
5. Insert the pins at both ends of the transfer roller cartridge into the u-shaped bearings inside the printer.



6. To lock the transfer roller cartridge into the printer, push down on the base of the tabs until you hear a click.



7. Close the front cover.



8. Push the [I] mark on the power switch to turn on the printer.

Solving Printer Power-on Problems

This section describes problems that can occur when starting up the printer. If the trouble persists after performing the checks listed below, turn the printer off [O], disconnect the power cord from the AC outlet and contact your technical support or service or repair call.



CAUTION: To prevent the risk of fire or smoke generation, do not attempt to modify the printer in any way.



WARNING: Before cleaning the printer or performing any other maintenance, be sure to turn the printer off [O], and disconnect the power cord from the AC outlet to prevent the risk of electric shock.

DESCRIPTION	POSSIBLE CAUSE	REQUIRED ACTION
No power.	Power switch not turned on. Switch is not set to [I].	Check power switch. See "Chapter 1 Unpacking and Installing the Printer" for more information
	Power cord not properly plugged into AC outlet or AC connector on rear of printer	Set power switch to [O] (off) and plug in power cord firmly. See "Chapter 1 Unpacking and Installing the Printer" for more information.
	Voltage of AC power line not correct.	Verify that AC outlet is rated for the correct voltage and amperage of your printer. See "Chapter 1 Unpacking and Installing the Printer" for more information.
Power is frequently interrupted	Printer is defective	Turn printer off [O], disconnect power cord from the AC outlet. Contact your technical support or service or repair call.

Control Panel LCD Messages

LCD Message (Line 1)	LCD Message (Line 2)	Cause of Error Message	REQUIRED ACTION
TONER Y MISSING (See note 1)	INSTALL/RESET	Yellow toner cartridge is missing.	Install Yellow toner cartridge. If cartridge is already installed, make sure the toner cartridge is fully seated and tabs are pressed into the locked position.
TONER M MISSING (See note 1)	INSTALL/RESET	Magenta toner cartridge is missing.	Install Magenta toner cartridge. If cartridge is already installed, make sure the toner cartridge is fully seated and tabs are pressed into the locked position.
TONER C MISSING (See note 1)	INSTALL/RESET	Cyan toner cartridge is missing.	Install Cyan toner cartridge. If cartridge is already installed, make sure the toner cartridge is fully seated and tabs are pressed into the locked position.
TONER K MISSING (See note 1)	INSTALL/RESET	Black toner cartridge is missing.	Install Black toner cartridge. If cartridge is already installed, make sure the toner cartridge is fully seated and tabs are pressed into the locked position.
	TONER Y LOW (See note 3)	The supply of YELLOW toner is running low. Do not replace cartridge at this time.	Make sure a replacement YELLOW toner is available. The toner will soon run out.
	TONER M LOW (See note 3)	The supply of MAGENTA toner is running low. Do not replace cartridge at this time.	Make sure a replacement MAGENTA toner is available. The toner will soon run out.
	TONER C LOW (See note 3)	The supply of CYAN toner is running low. Do not replace cartridge at this time.	Make sure a replacement CYAN toner is available. The toner will soon run out.

LCD Message (Line 1)	LCD Message (Line 2)	Cause of Error Message	REQUIRED ACTION
	TONER K LOW (See note 3)	The supply of BLACK toner is running low. Do not replace cartridge at this time.	Make sure a replacement BLACK toner is available. The toner will soon run out.
TONER Y EMPTY (See note 1)	REPLACE TONER	Yellow toner cartridge is empty.	Replace Yellow toner cartridge.
TONER M EMPTY (See note 1)	REPLACE TONER	Magenta toner cartridge is empty.	Replace Magenta toner cartridge.
TONER C EMPTY (See note 1)	REPLACE TONER	Cyan toner cartridge is empty.	Replace Cyan toner cartridge.
TONER K EMPTY (See note 1)	REPLACE TONER	Black toner cartridge is empty.	Replace Black toner cartridge.
PHD MISSING (See note 1)	INSTALL/RESET	Drum (PHD) Cartridge is missing.	Install Drum (PHD) cartridge.
BTR MISSING (See note 1)	INSTALL/RESET	Bias Transfer Roll (BTR) is missing.	Install Bias Transfer Roll.
FUSER MISSING (See note 1)	INSTALL/RESET	Fuser unit is missing.	Install Fuser unit.
	PHD EOL NEAR (See note 3)	The Printhead Cartridge (PHD) is close to the end of its life. Do not replace PHD unit at this time.	Make sure a replacement PHD is available. The PHD will need replacement soon.
	BTR EOL NEAR (See note 3)	The Bias Transfer Roller (BTR) is close to the end of its life. Do not replace BTR unit at this time.	Make sure a replacement BTR is available. The BTR will need replacement soon.
	FUSER EOL NEAR (See note 3)	The Fuser unit is close to the end of its life. Do not replace Fuser unit at this time.	Make sure a replacement Fuser unit is available. The Fuser unit will need replacement soon.
PHD LIFE OVER (See note 1)	REPLACE PHD	Drum (PHD) Cartridge needs to be replaced.	Install new Drum (PHD) cartridge.
BTR LIFE OVER (See note 1)	REPLACE BTR	Bias Transfer Roll (BTR) cartridge needs to be replaced.	Install new Bias Transfer Roll cartridge.
FUSER LIFE OVER (See note 1)	REPLACE FUSER	Fuser unit needs to be replaced.	Install new Fuser unit.

LCD Message (Line 1)	LCD Message (Line 2)	Cause of Error Message	REQUIRED ACTION
BAD PHD TYPE (See note 1)	REPLACE PHD	Bad Drum (PHD) Cartridge.	Replace Drum (PHD) Cartridge.
MEDIA MISMATCH (See note 1)	CLEAR PAPER	Incorrect paper in tray.	Check paper type in tray.
FEED JAM (See note 1)	CHECK TRAY	Paper jam.	Clear paper jam in tray.
REGISTRATION JAM (See note 1)	OPEN COVER A	Paper jam.	Open Cover A and remove paper.
FUSER JAM (See note 1)	OPEN COVER A	Paper jam.	Open Cover A and remove paper.
DUPLEX JAM (See note 1)	OPEN COVER B	Paper jam.	Open Cover B and remove paper.
ROS FAILURE (See note 2)	CALL SERVICE	ROS failure.	Service Call required
FUSER FAILURE (See note 2)	CALL SERVICE	Fuser unit failed.	Service Call required
MCU/NVRAM ERROR (See note 2)	CALL SERVICE	MCU or NVRAM failure	Service Call required
CTD SENSOR ERROR (See note 2)	CALL SERVICE	CTD (cartridge) sensor failure.	Service Call required
FAN MOTOR FAIL (See note 2)	CALL SERVICE	Fan motor failure.	Service Call required
MCU SW ERROR (See note 2)	CALL SERVICE	MCU failure	Service Call required
ENV SENSOR ERROR (See note 2)	CALL SERVICE	Envelope sensor failure.	Service Call required
CTD SENSOR DUSTY (See note 1)	CLEAN CTD SENSOR	CTD (cartridge) sensor failure	Clean CTD sensors.
FRONT COVER OPEN (See note 1)	CLOSE CLOVER	Front cover is open.	Close front cover.
LOAD PAPER TRAY1 LOAD PAPER TRAY2 LOAD PAPER TRAY3 (See note 1)	(load paper according to requested size and media type)	There is an empty paper tray.	Put paper in empty paper tray.

LCD Message (Line 1)	LCD Message (Line 2)	Cause of Error Message	REQUIRED ACTION
	TRAY 1 MISSING TRAY 2 MISSING TRAY 3 MISSING (See note 3)	There is a paper tray missing.	Replace missing paper tray.
OUTPUT TRAY FULL (See note 1)	REMOVE PAPER	The output tray is full.	Remove the paper from the output tray.

NOTE: 1: Printer operator must correct the problem for printer to continue to print.
2: Turn printer on and off, if problem persists, call service.
3: These errors are only displayed on line 2 of the control panel display. The printer will continue to print until the condition prevents further printing.

Ethernet Network Interface Troubleshooting

This section offers various troubleshooting procedures and technical support advice for the Ethernet network interface.

Power-Up Troubleshooting

There are several possible error situations if the unit does not display the welcome message or the LEDs do not flash:

Error Messages	
Message	Diagnosis/Remedy
Power-up diagnostic failure (hardware failure)	Note which LED is blinking and its color, then contact your dealer or Technical Support.
The network interface boots but does not try to load the Flash ROM code	Briefly press the Test button on the network interface's I/O panel. A network interface configuration page will be printed. <i>(To press the Test button, you will need a pointed object - e.g. paper clip.)</i>
Network Error: The ACT LED will blink yellow 2-3 times per second	A. Make sure the Ethernet network cable is properly connected and reboot the server.
	B. If option A fails to resolve the problem, reload Flash ROM. Refer to the Updating Software chapter of the <i>Ethernet Network Interface Reference Manual</i> on the PageMaster 1600c Electronic Library CD-ROM.

Printing Problems

Area to Check	Explanation
Physical connection	To test a non-PostScript printer use the Test Port 1 Count 220 command. This command will send 100 lines of test data to the printer.
Service characteristics	Use the Show Service Local Characteristics command from a network login to see if the desired service is available and to verify that the appropriate protocols are enabled on the service.
The IP address	The IP address must be unique on the network. Many problems will occur when there are duplicate IP addresses on the network.
Queue Status and Port counters	Use the Monitor Queue command to ensure queue entries appear in the job list. If an entry does not appear, refer to the appropriate host section in this Appendix. Use the Monitor Port n Counters command to verify that the counter is incrementing with each job. If it is not, verify the connection between the network interface and the printer.

BOOTP Troubleshooting

If the BOOTP request is failing and you have configured your host to respond to the request, check these areas:

Area to Check	Explanation
BOOTP is in your system's /etc/services file	BOOTP must be an uncommented line in the /etc/services file.
The network interface's name is in the loadhost's /etc/hosts file	The network interface's name must be in this file for the host to answer a BOOTP or TFTP request.
The download file is in the correct directory and is world-readable	The download file must be in the correct directory and world-readable. Specify the complete pathname for the download file in the BOOTP configuration file or, add a default pathname to the download filename.
The network interface and host are in the same IP network	Some hosts will not allow BOOTP replies across IP networks. Either use a host running a different operating system or put the network interface in the same IP network as the host.

DHCP Troubleshooting

Area to Check	Explanation
DHCP is enabled on the network interface.	Use the Define Server DHCP Enabled command. If you manually enter an IP address, DHCP is automatically disabled.
Make sure the DHCP server is operational.	Check to see that the DHCP server is on and is functioning correctly.
Did the network interface get its IP address from the DHCP server?	Refer to the DHCP Manager on your Windows DHCP server for information about addresses currently in use. If the DHCP server does not list your network interface's IP address, there may be a problem.

RARP Troubleshooting

Area to Check	Explanation
The network interface's name and hardware address in the host's /etc/ethers file	The network interface's name and hardware address must be in this file for the host to answer a RARP request.
The network interface's name and IP address in the /etc/hosts file	The network interface's name and IP address must be in this file for the host to answer a RARP request.
The operating system	Many operating systems do not start a RARP server at boot time. Check the host's RARPD documentation for details, or use the ps command to see if there is a RARPD process running.

PostScript Problems

PostScript printers will silently abort jobs if they detect an error.

Area to Check	Explanation
The network interface is communicating with the printer	To test a PostScript printer use the Test Port 1 PostScript Count 2 . This command will send 2 pages of PostScript data out the parallel port. Watch the indicators on the printer to verify that the network interface is communicating with the printer. If the printer is capable of bidirectional communication, use the Test Service PRQLPSEPS_XXXXXX_PS PostScript Count 5 command. This will transfer data both to and from the printer. Autoselection must be disabled and the printer must be configured as a PostScript printer for this test to succeed.
Service Characteristics	Issue the Show Service Characteristics command. If the service rating is zero, the parallel port is in use. Verify that the PostScript characteristic and appropriate protocols have been enabled on the service.
Port Counters	If PostScript jobs appear to print but nothing comes out of the printer, verify the amount of data sent from the host. Issue the appropriate print command from the host system. After the job has completed, use the Show Port 1 Counters command.

Bitmap Graphics

If files that contain embedded bitmap graphics print incorrectly, it is because the bitmaps are being sent as actual binary data and binary data cannot be printed via serial or parallel interfaces.

Most major application packages have provisions to print using either “binary postscript” (for printers connected to the network via LocalTalk) or “hex postscript” (for printers connected to the network via a serial port or parallel port). If your application does not have this provision, ask the application vendor for an upgrade version or “patch” that will add the “hex postscript” function.

Technical Support

If you are experiencing an error that is not listed in this chapter, or if you are unable to fix the error, contact your point of purchase or Technical Support.

When you report a problem, please provide the following information:

- Your name, and your company name, address, and phone number
- Printer model number
- Printer serial number
- Software version (use the **Show Server** command to display)
- Network configuration, including the information from a **Netstat** command
- Description of the problem
- **Debug** report (stack dump), if applicable

- Status of the unit when the problem occurred (please try to include information on user and network activity at the time of the problem).



Chapter 4

Paper Jams

In this Chapter . . .

- “About this Chapter” on page 4-2
- “Clearing Paper Jams” on page 4-2

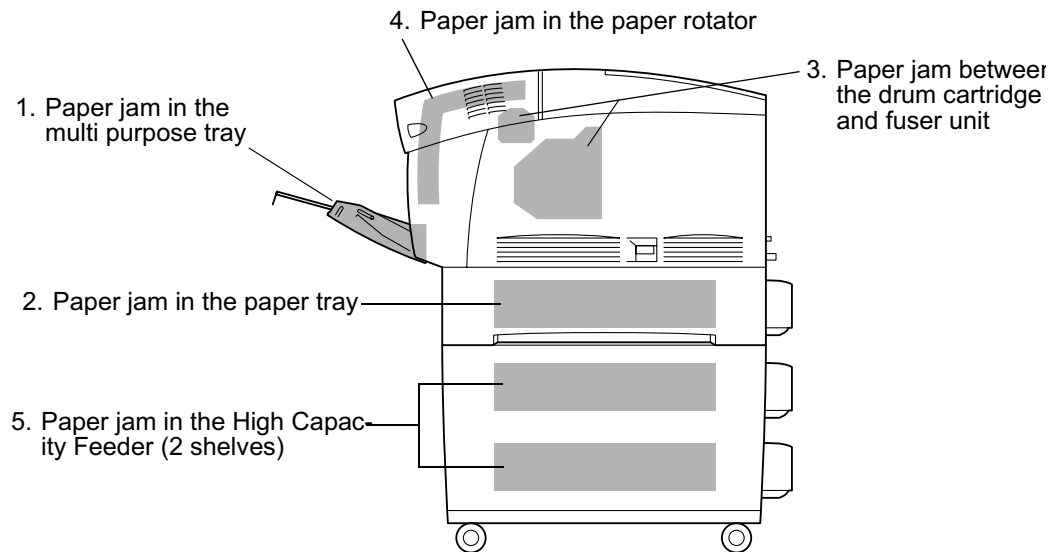
About this Chapter

This chapter explains procedures for dealing with paper jams.

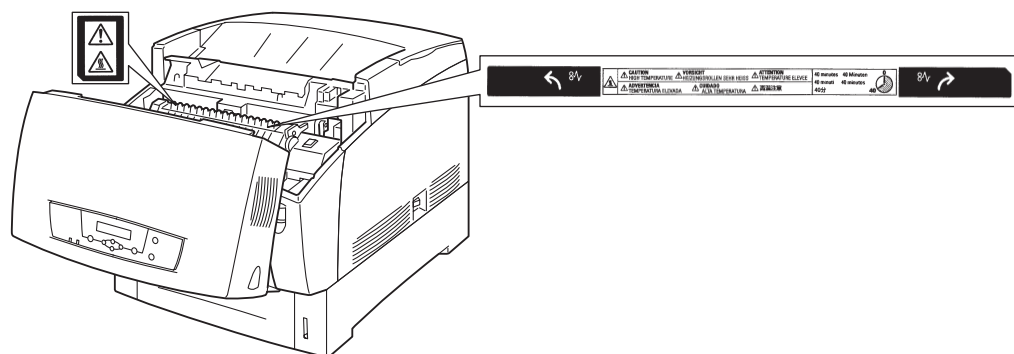
Clearing Paper Jams

If a paper jam occurs, refer to the illustration below to select the appropriate corrective action and clear the paper the paper jam immediately.

NOTE: The illustration below shows the printer with the optional High Capacity Feeder (2 shelves) installed.



CAUTION: Make sure to remove all the paper scraps from the printer when clearing paper jams. Paper scraps remaining inside the machine can result in fire. To avoid injury or burns, do not use excessive force to remove jammed paper that is difficult remove or wound tightly around the fuser or roller. If paper is difficult to remove, turn off the power and contact your CPG dealer or a CPG Customer Service Center for assistance. To prevent burns, never touch the area marked “CAUTION! HOT!” (fuser area).



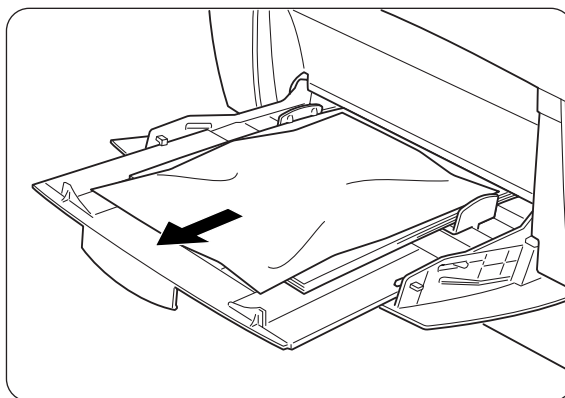
CAUTION: If smoke comes out of the printer when a paper jam occurs, do not open the printer covers. Turn off the power, remove the power cord from the AC outlet, and contact your CPG dealer or a CPG Customer Service Center for assistance.

NOTE: Remove jammed paper slowly and carefully to avoid tearing it.

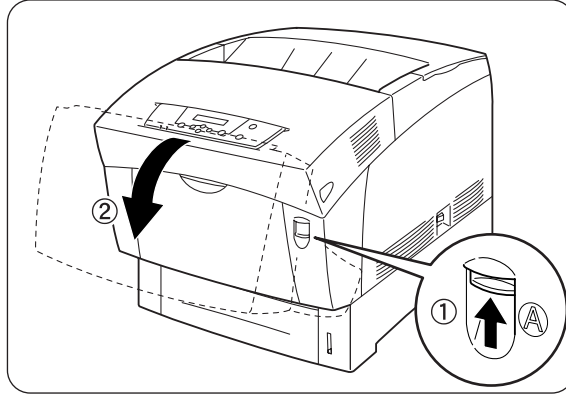
NOTE: Paper jams can be caused by incorrect printer installation or by using unsuitable or low-quality paper. For information about paper, refer to “Paper Handling” on page 2-6.

Paper Jams in the Multi Purpose Tray

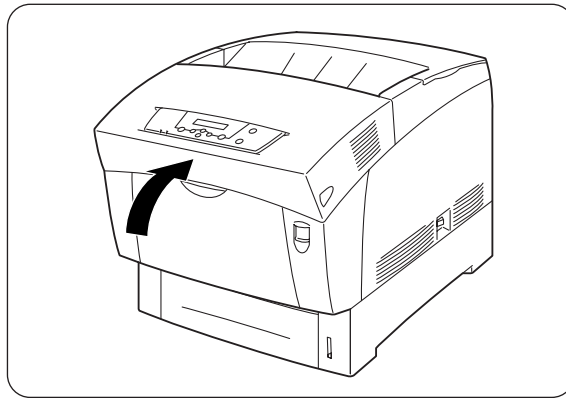
Follow the procedure below to remove paper jammed in the multi purpose tray.



1. Pull the jammed paper out of the multi purpose tray.



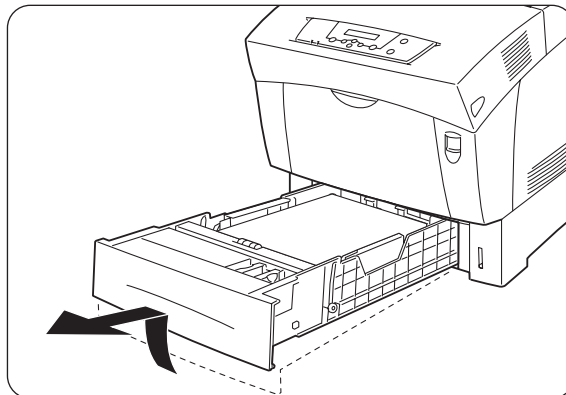
2. Push up button 'A' ① and fully open the front cover ②. Confirm that there are no scraps of paper remaining inside the printer.



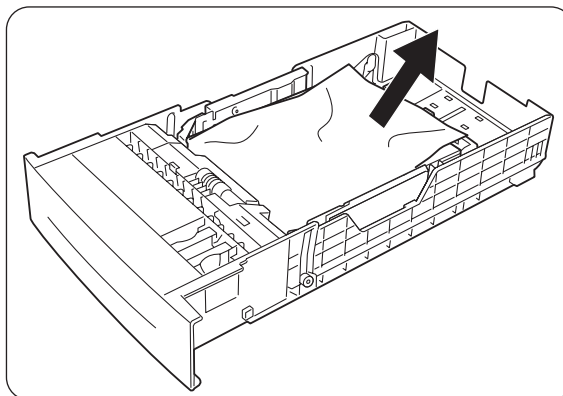
3. Close the front cover.

Paper Jams in the Paper Tray

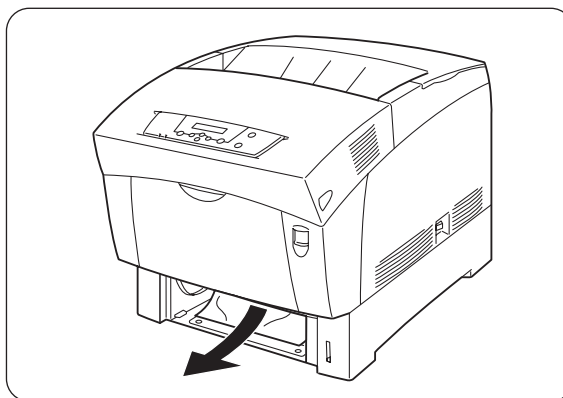
Follow the procedure below to remove paper jammed in the paper tray.



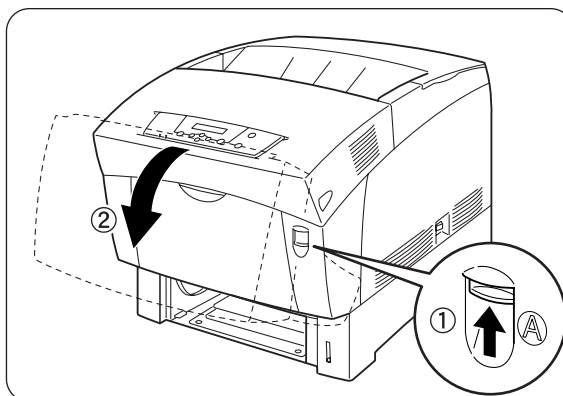
1. Slowly, completely remove the paper tray from the printer.



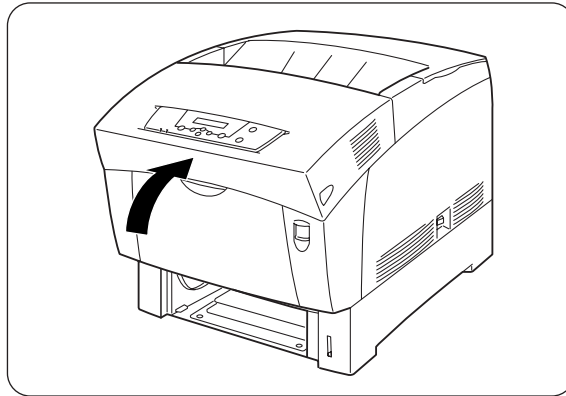
2. Remove all the jammed and/or creased paper from the tray.



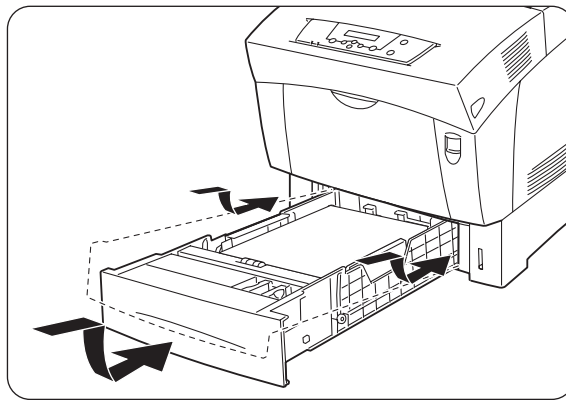
3. If there is jammed paper remaining inside the printer, pull it out carefully to avoid tearing it.



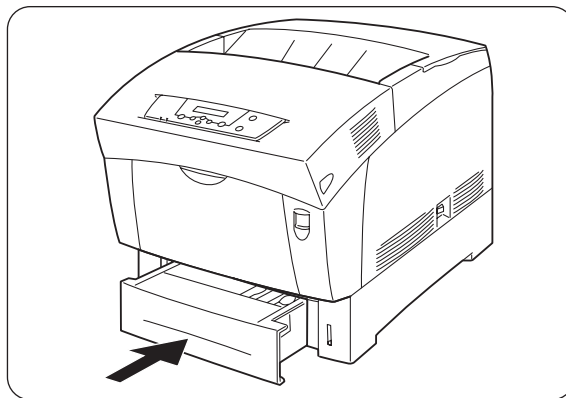
4. Push up button 'A' ① and fully open the front cover ②. Confirm that there are no scraps of paper remaining inside the printer.



5. Close the front cover.



6. Hold the paper tray with both hands, align it with the opening in the printer and gently insert it.



7. Push the paper tray completely back into the printer.

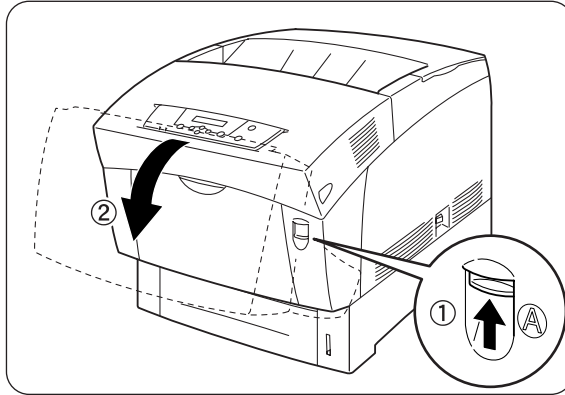
NOTE: Do not use excessive force on the paper tray.

Paper Jams Between the Drum Cartridge and Fuser Unit

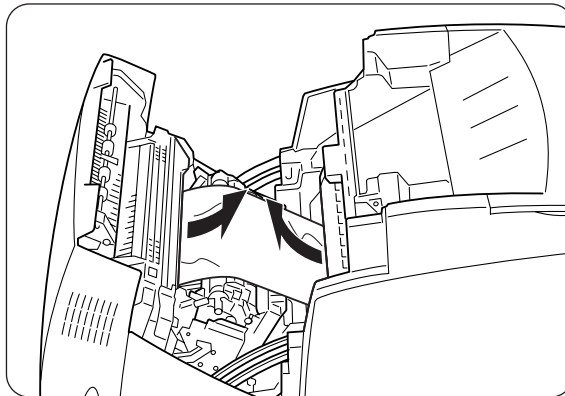
This section describes the procedures to remove paper jammed around the drum cartridge and in the fuser. Select the appropriate procedure according to the location of the jammed paper.

Paper jams around the drum cartridge:

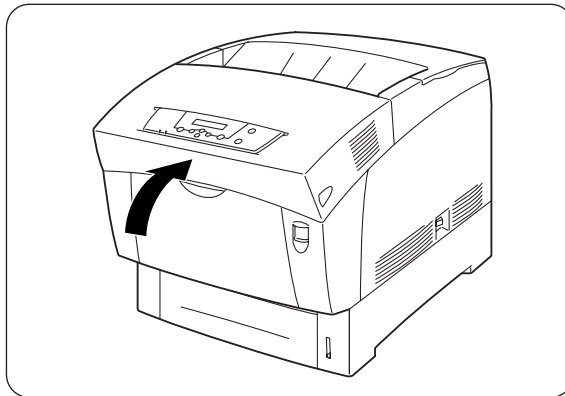
Follow the procedure below to remove paper jammed around the drum cartridge.



1. Push up button 'A' ① and fully open the front cover ②.



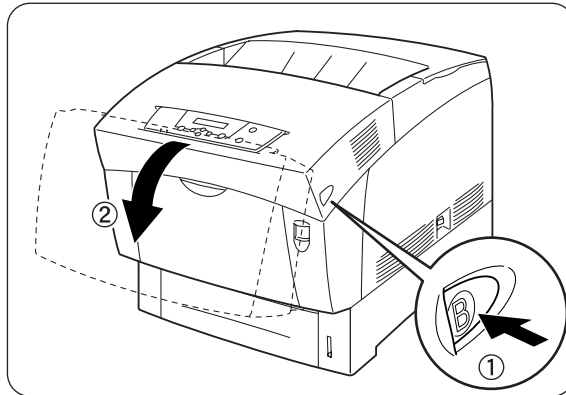
2. Remove the jammed paper.
If the paper is torn, remove any scraps of paper remaining inside the printer.



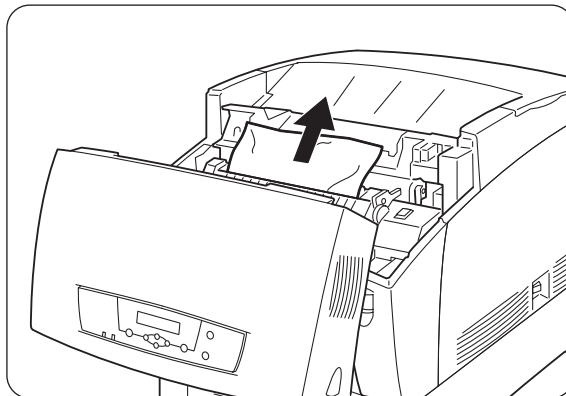
3. Close the front cover.

Paper jams in the fuser unit:

Follow the procedure below to remove paper jammed in the fuser unit.



1. Press button 'B' ① and open the upper part of the front cover ②.



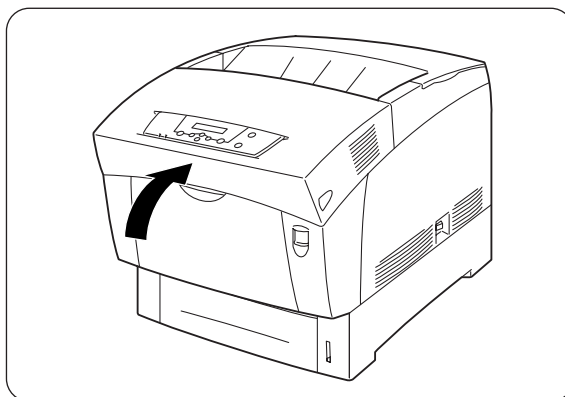
2. Lift the levers at both ends of the fuser unit, and remove the jammed paper. If the paper is torn, remove any scraps of paper remaining inside the printer.

NOTE: During operation, the fuser unit (heater) becomes very hot. To prevent burns, do not touch it with your bare hands.

Completely push down the levers at both ends of the fuser after removing the jammed paper.

3. If you cannot see the jammed paper, it may be jammed around the drum cartridge. Refer to "Paper jams around the drum cartridge:" on page 4-7 to remove the jammed paper.

NOTE: If only a small portion of the jammed paper is visible, making it difficult to remove, refer to “Paper jams around the drum cartridge” on the previous page to remove the jammed paper.



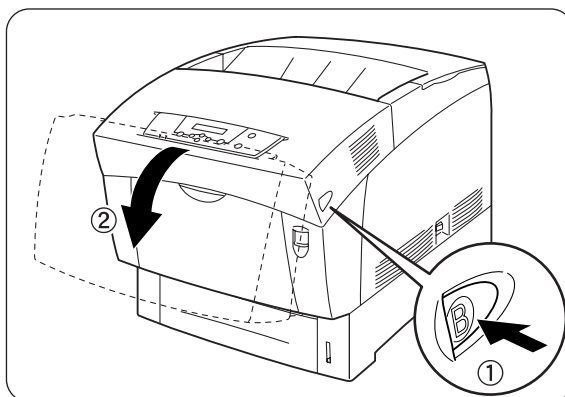
4. Close the Front Cover.

Paper jams with long paper:

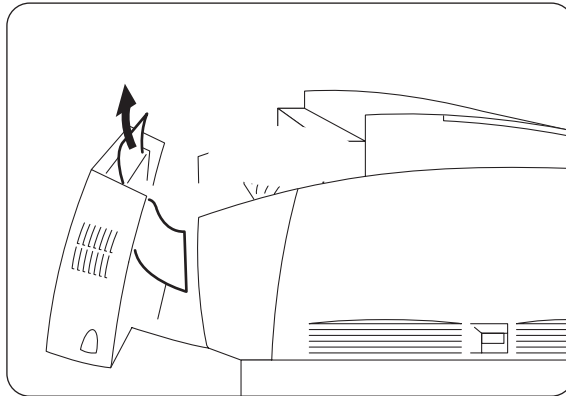
If paper longer than 355.6 mm becomes jammed in the printer, cut the paper as necessary and remove the paper from the location where it is jammed using the appropriate procedure. If the front cover is difficult to open, do not force it. Turn off the printer immediately and contact your CPG dealer or CPG Customer Service Center for assistance.

Paper Jams in the Paper Rotator

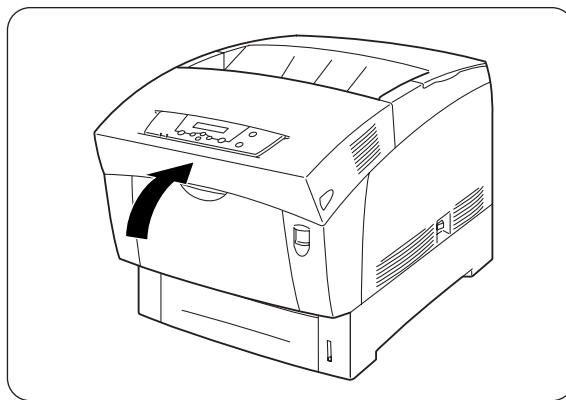
Follow the procedure below to remove paper jammed in the paper rotator.



1. Press button 'B' ① and open the upper part of the front cover ②.



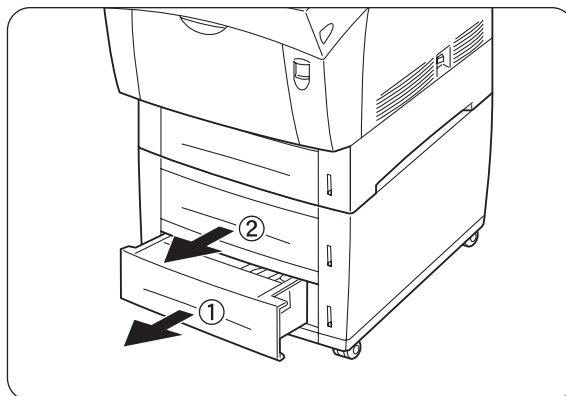
2. Remove the jammed paper.
If the paper is torn, remove any scraps of paper remaining inside the printer.



3. Close the front cover.

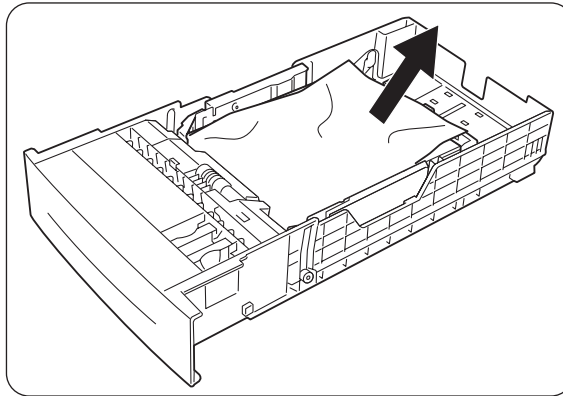
Paper Jams in the High Capacity Feeder (2 shelves)

Follow the procedure below to remove paper jammed in the High Capacity Feeder.

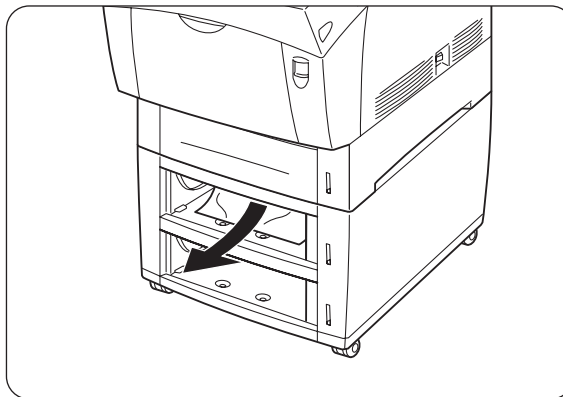


1. Open the trays until you find the jammed paper.

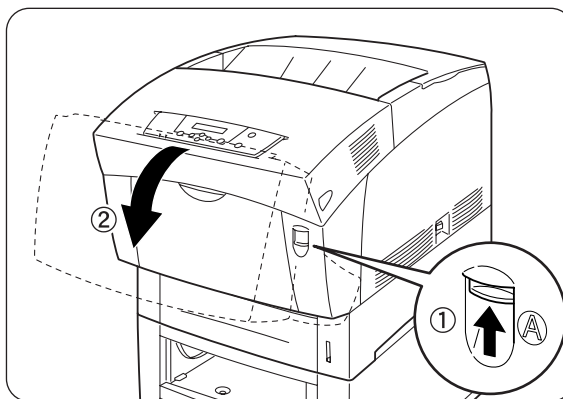
NOTE: Paper in the High Capacity Feeder feeds to the printer from the front of the trays, therefore paper jammed in the lower tray can block the upper tray of the module or the paper tray in the printer, preventing you from opening them. Look for the jammed paper sequentially, starting with the lowest tray.



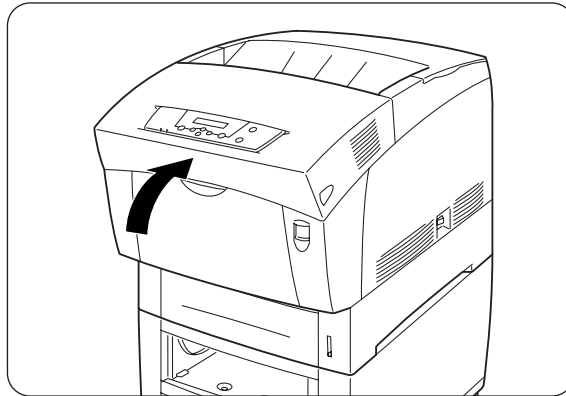
2. Remove all jammed and/or creased paper from the tray.



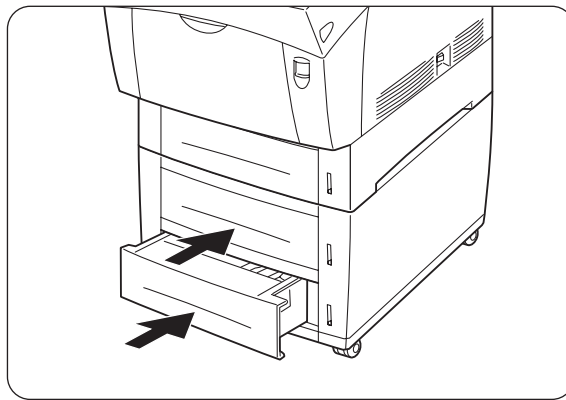
3. Pull the jammed paper out carefully to avoid tearing it.
If the paper is torn, confirm that there are no scraps of paper remaining inside the printer.



4. Push up button 'A' ① and fully open the front cover ②. Confirm that there are no scraps of paper remaining inside the printer.



5. Close the front cover.



6. Close all open paper trays.

◆ ◆ ◆

Chapter 5

Consumables

In this Chapter . . .

- “About this Chapter” on page 5-2
- “Toner Cartridges” on page 5-2
- “Drum Cartridge” on page 5-7
- “Transfer Roller Cartridge” on page 5-12
- “Fuser Unit” on page 5-15
- “Paper Feed Roller” on page 5-21

About this Chapter

This chapter provides information about the consumables used with the printer, and also describes handling and replacement procedures. Consumables are provided with the printer. For replacements, contact your dealer.

Toner Cartridges

This section describes how to handle, store and replace toner cartridges. The printer uses four toner cartridges: black, yellow, magenta, and cyan. The black toner cartridge is capable of printing about 8,500 sheets. The yellow, magenta, and cyan cartridges are capable of printing about 6,000 A4 sheets (at the default print density, with 5% coverage per color). When the toner supply in a cartridge begins to run low, one of the following messages will appear:

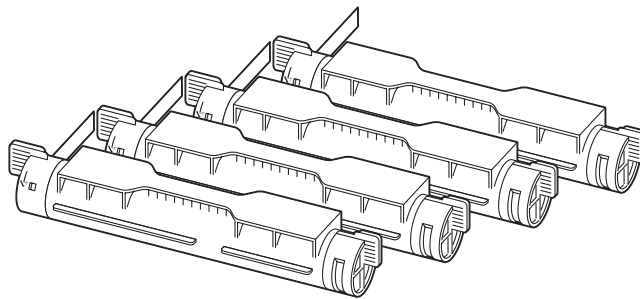
- TONER K LOW (Black)
- TONER Y LOW (Yellow)
- TONER C LOW (Cyan)
- TONER M LOW (Magenta)

NOTE: Do not replace toner cartridge at this time.

When one of the above messages appears on line two of the display, confirm that you have a replacement toner cartridge available because the toner cartridge will be empty soon. When this message appears, you can print until the toner cartridge is empty. Later when the toner cartridge is empty one of the following messages will be displayed and the printer will stop printing.

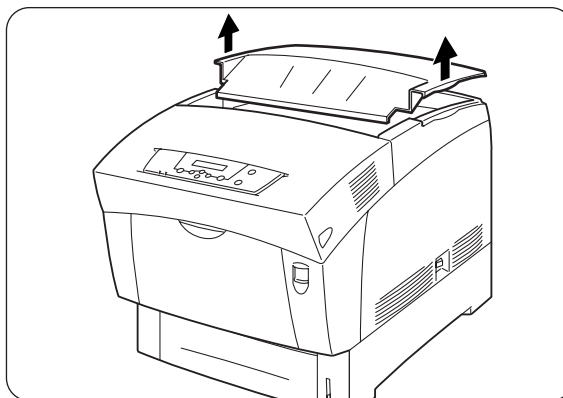
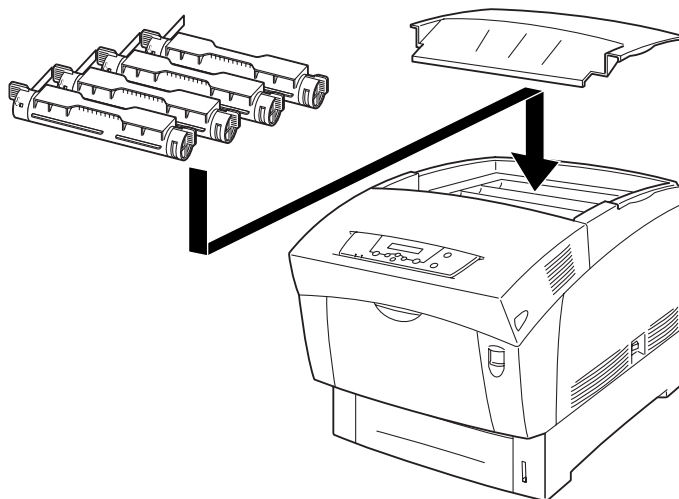
- TONER K EMPTY (Black)
- TONER Y EMPTY (Yellow)
- TONER C EMPTY (Cyan)
- TONER M EMPTY (Magenta)

When this occurs, replace the toner cartridge indicated on the display message. The printer does not need to be powered off during replacement of the toner cartridge. The printer will continue printing your job after the cartridge has been replaced. The printer stops operating if you do not replace the toner cartridge when required.

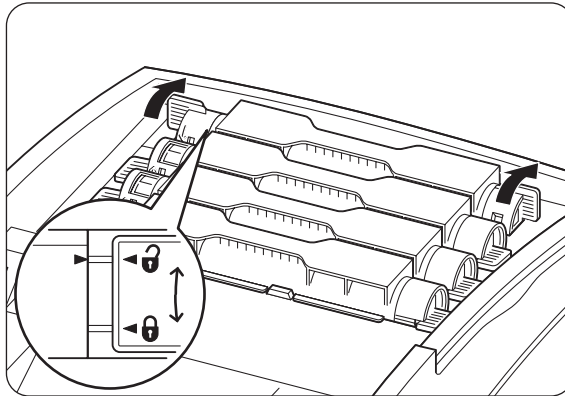


Replacing Toner Cartridges

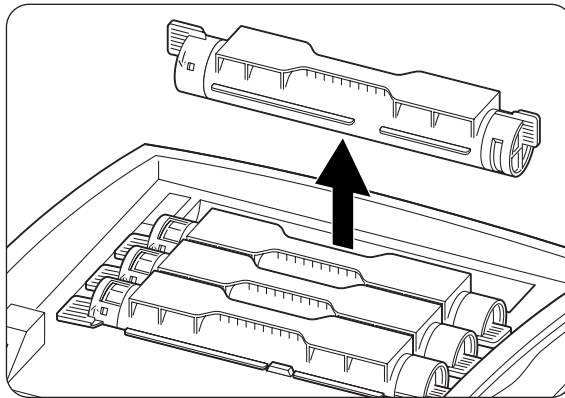
Follow the procedure below to replace toner cartridges.



1. Remove the top cover.

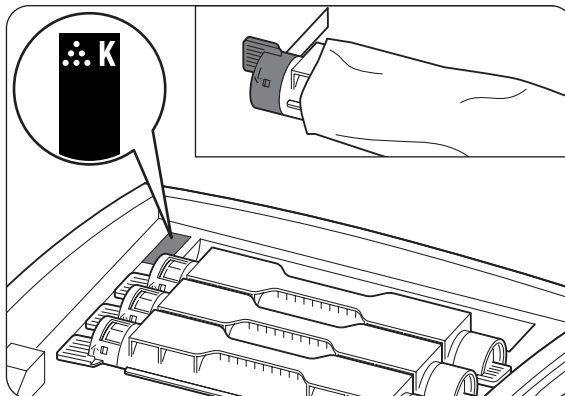


2. Grip the levers at the ends of the toner cartridge that you want to replace and pull them up.

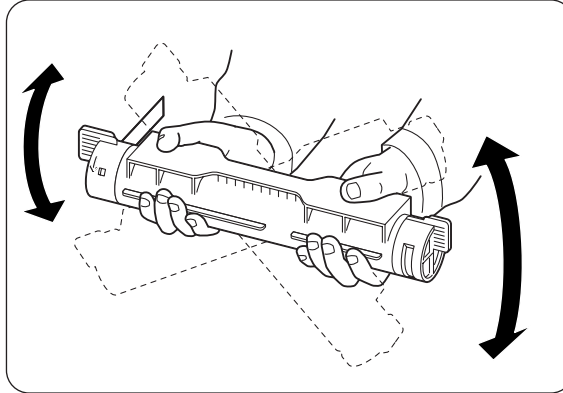


3. Pull out the toner cartridge.

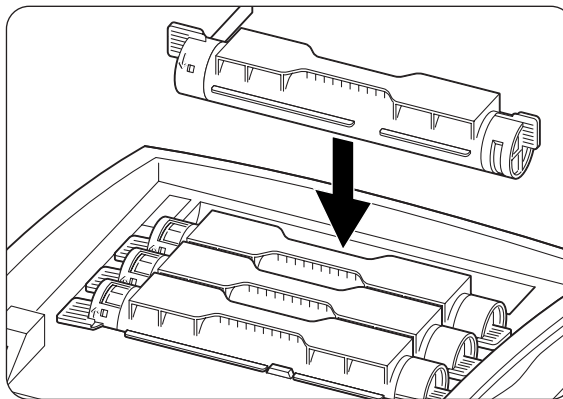
NOTE: Put the toner cartridge on a piece of paper to prevent toner from staining the floor or furniture.



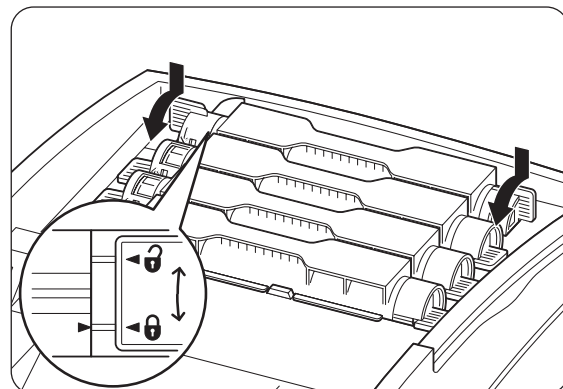
4. Select the new toner cartridge whose color matches the label on the insertion point and remove it from its packaging.



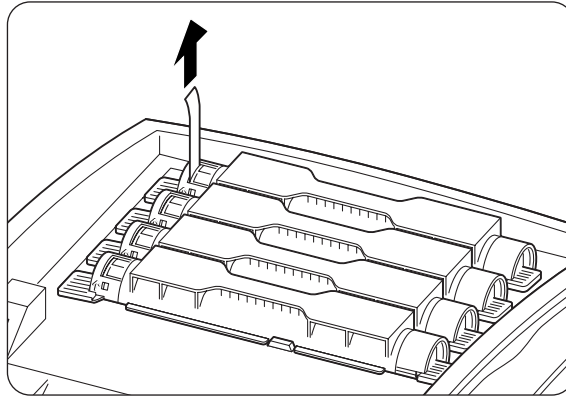
5. Shake the toner cartridge 7 or 8 times as illustrated to distribute the toner evenly.



6. Align the toner cartridge with the corresponding insertion point in the printer and insert it as illustrated.

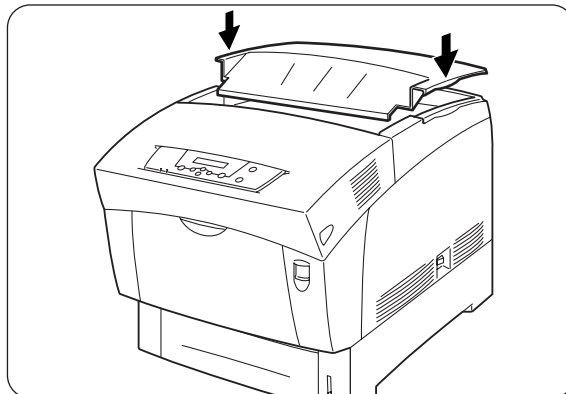


7. Grip the levers at each end of the toner cartridge with your fingers and then push down firmly to rotate the levers until they snap to the locked position. Make sure the toner cartridge is pressed down into the locked position or a TONER MISSING error message will be displayed.



8. Pull the toner seal straight up to remove it.

NOTE: Pull the toner seal straight up. Pulling the toner seal diagonally may tear the seal.



Replace the top cover.

Toner Cartridge Handling Precautions



WARNING: Never throw used toner cartridges into a fire. The residual toner could explode resulting in burns and injuries.



CAUTION: To prevent electric shock, always turn off the printer and disconnect the power cord from the AC outlet before cleaning the printer or performing maintenance.

Handling Precautions

- Never use a vacuum cleaner to clean toner. Static electricity could build up and damage sensors.
- Do not reuse toner cartridges once you have removed them from the printer. Loose toner could spill inside the printer and deteriorate print quality.
- To prevent residual toner from spilling, avoid shaking or bumping used toner cartridges.
- After moving a toner cartridge from a cold place to a warm place, allow 1 hour for the cartridge to adapt to room temperature before installing it. (This is not necessary if there is no condensation.)
- Toner is harmless, but should still be washed off immediately if it comes into contact with hands or clothing.
- Only use toner cartridges recommended by CPG International. Using toner cartridges that are not recommended may result in lower print quality and unsatisfactory printer performance.
- Wrap used toner cartridges in plastic bags and dispose of them as non-burnable waste.

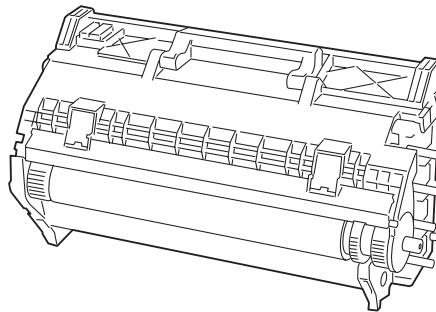
Storage Precautions

- Store toner cartridges away from direct sunlight under the following conditions:
- Ambient temperature range, 0 to 35°C. Humidity range 15 to 80% RH (no condensation).
- Avoid hot and humid areas.
- Avoid storing near magnetic objects such as CRT screens, disk drives, or floppy disks.

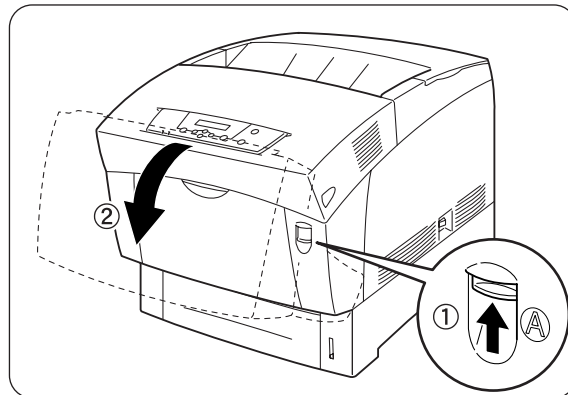
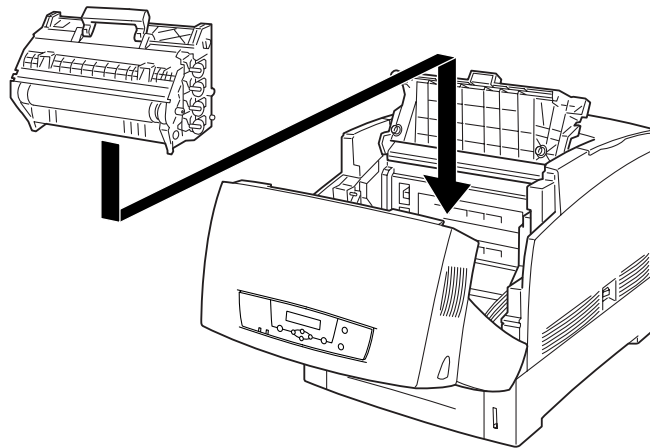
Keep out of reach of children.

Drum Cartridge

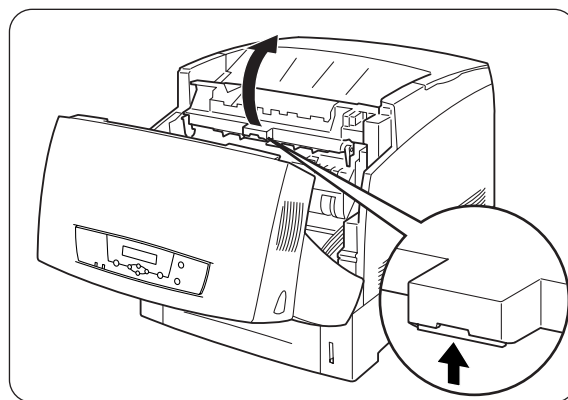
This section describes procedures for handling, storing and replacing the drum cartridge. The drum cartridge is composed of a light-sensitive drum, a developer and a transfer roller. Images are initially created as an electrical charge on the surface of this drum. When the drum cartridge reaches the end of its life span, print quality begins to deteriorate. Replace the drum cartridge at this stage.

**Replacing the Drum Cartridge**

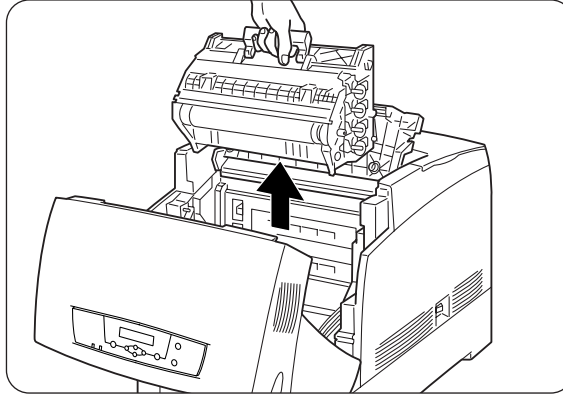
Follow the procedure below to replace the drum cartridge.



1. Push up button 'A' ① and fully open the front cover ②.

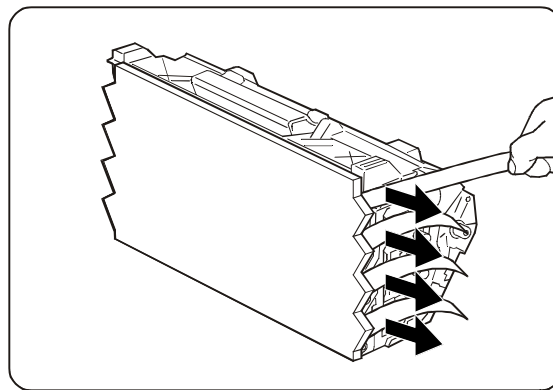


2. Open the paper outlet cover.



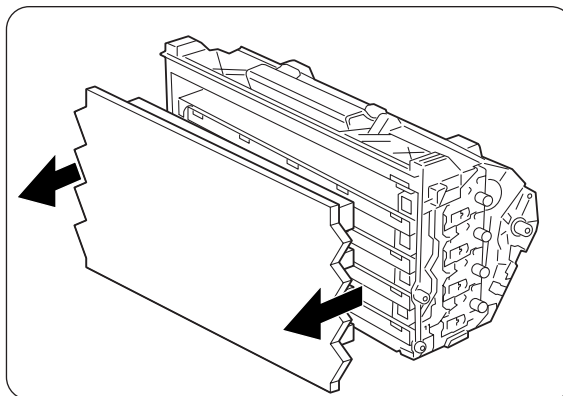
3. Grip the handle on top of the drum cartridge and gently lift it out of the printer.

NOTE: Hold the drum cartridge by the handle on top of the cartridge to prevent the cartridge from falling.

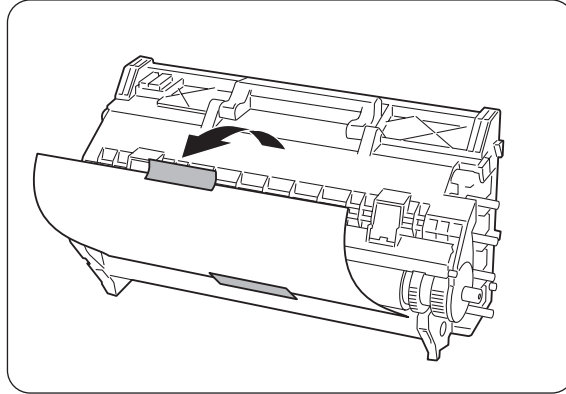


4. Take a new drum cartridge out of its package and pull hard on each the seals to remove them. Pull the seals completely out.

NOTE: Keep the aluminum package of the drum cartridge in case you need to transport the printer over long distances in the future.

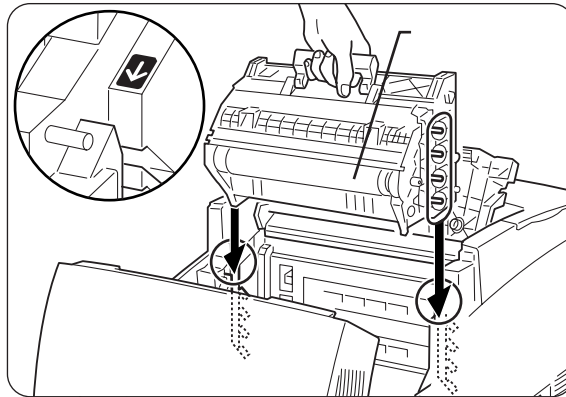


5. Hold the left and right sides of the drum cartridge and remove the protective cover from it.



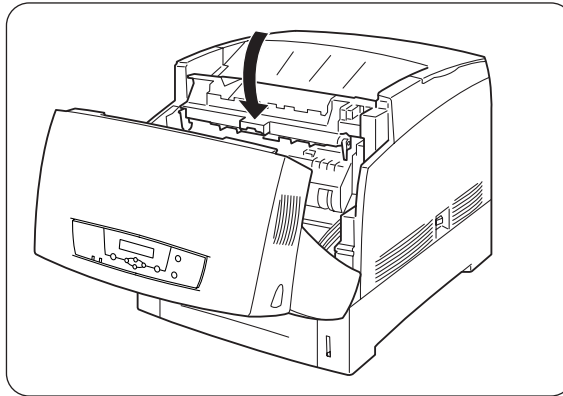
6. Remove the protective sheet from the drum cartridge as illustrated.

NOTE: Do not touch the transfer roller (black colored part). Make sure that nothing touches or scratches the roller surface. Scratches or oil from your hands on the roller deteriorates print quality. Make sure that you remove the protective sheet. Installing the drum cartridge with the protective sheet deteriorates print quality. Remove the protective sheet with the drum cartridge in a horizontal position.

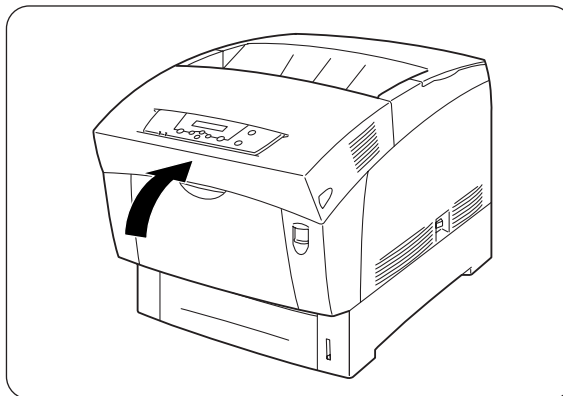


7. Hold the drum cartridge by the handle, align its 4 shafts with the slots indicated by the arrows on the printer, and gently lower it into the printer.

NOTE: Do not touch the transfer roller.
Lowering the cartridge into the printer without correctly aligning the shafts with the slots can damage the cartridge.
Do not allow the surface of the transfer roller to come into contact with anything.



8. Close the paper outlet cover.



Close the front cover.

Drum Cartridge Handling Precautions

The drum cartridge consists of a light-sensitive drum, a developer and a transfer roller. The drum cartridge is capable of printing about 30,000 Letter/A4 sheets (continuous portrait, at the default print density with 5% color coverage) with a 1:1 color/monochrome ratio.



CAUTION: To prevent electric shock, always turn off the printer and disconnect the power cord from the AC outlet before cleaning the printer or performing maintenance.

Handling Precautions

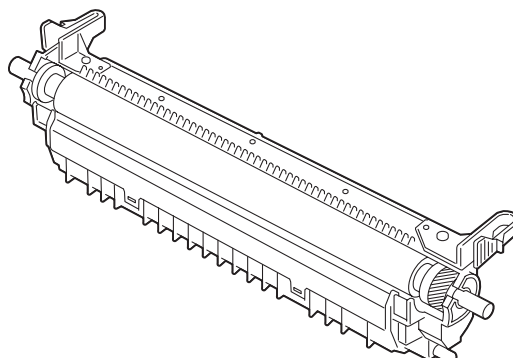
- Make sure nothing touches or scratches the light-sensitive drum surface (blue colored part) or transfer roller (black colored part). Scratches, dirt, or oil from your hands on the drum or transfer roller deteriorates print quality.
- Do not expose the drum cartridge to direct sunlight and avoid exposing the drum cartridge to fluorescent indoor light, as this may result in dropouts or dirty printing.
- When replacing the drum cartridge, work on a desk or other flat surface to avoid scratching the light-sensitive drum and transfer roller.
- Avoid removing the drum cartridge from the printer before it is time to replace it. Removing and replacing the drum cartridge can cause dirt to stick to the cartridge and deteriorate print quality.
- Avoid tilting or shaking the drum cartridge when removing it, as toner may spill inside the printer and cause damage.
- To ensure good print quality, keep the drum cartridge level when handling it.
- The drum cartridge weighs 10 lbs. (4.5 kg). Handle it carefully.
- Wrap used drum cartridges in a plastic bag and dispose of them as non-burnable waste.

Storage Precautions

- Do not unpack the new drum cartridge until you are ready to install it. If the drum cartridge is unpacked put it in its aluminum package for storage.
- Store drum cartridges away from direct sunlight under the following conditions:
- Ambient temperature range, 0 to 35°C; humidity range, 15 to 80 % RH (no condensation)
- Avoid storing in hot humid areas.
- Avoid storing near magnetic objects such as CRT screens, disk drives, or floppy disks.
- Keep out of reach of children.
- Store in a level position.

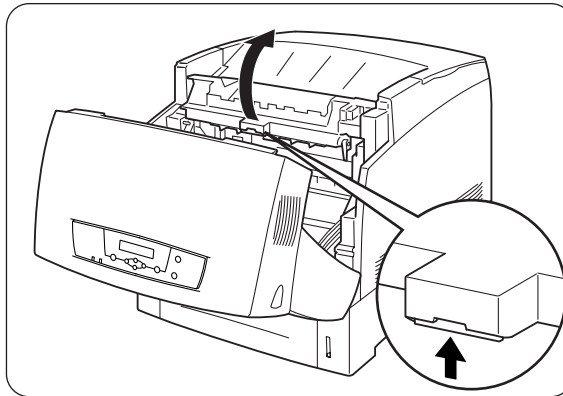
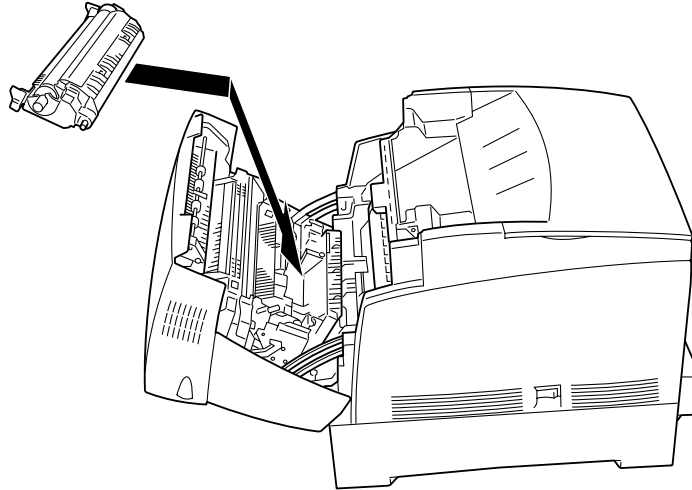
Transfer Roller Cartridge

This section describes the procedure for replacing the transfer roller cartridge. The transfer roller cartridge is composed of a transfer roller and a waste toner collection box. Usually, the transfer roller cartridge needs to be replaced after printing about 20,000 sheets (at default print density, with 5% color coverage). However, this figure varies depending on the content of the material printed, as well as the size and type of paper used. Replace the transfer roller cartridge as soon as the message prompting you to do so appears. The printer stops operating if you do not replace the transfer roller cartridge when required.

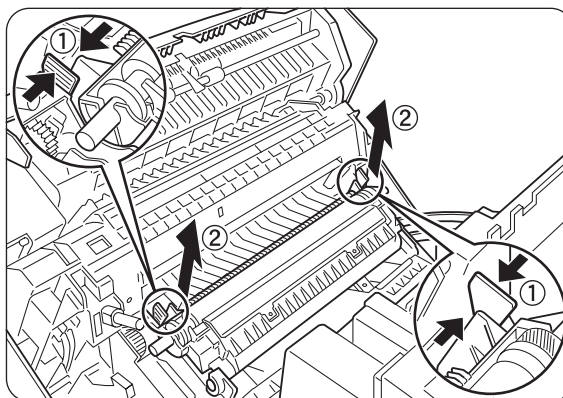


Replacing the Transfer Roller Cartridge

Follow the procedure below to replace the transfer roller cartridge.

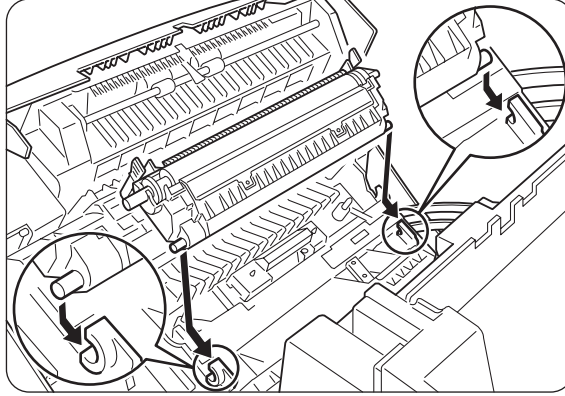


1. Push up button 'A' ① and fully open the front cover ②.

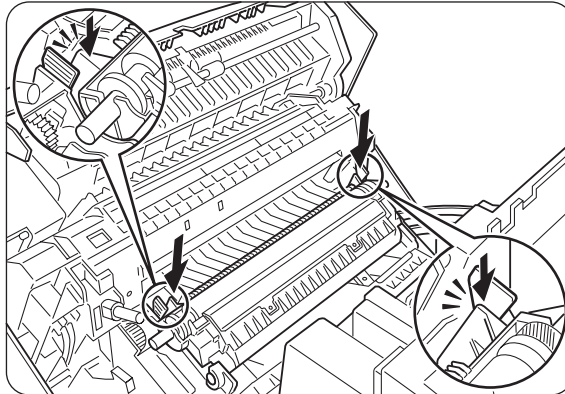


2. Grip the tabs at both ends of the transfer roller cartridge and gently lift the cartridge out of the printer.

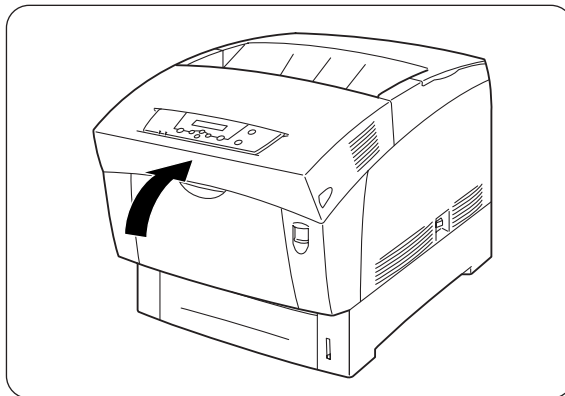
NOTE: Lift the roller carefully to prevent waste toner from spilling out.



3. Unpack a new transfer roller cartridge and insert the stubs on both ends of the transfer roller cartridge into the u-shaped guides inside the printer.



4. To lock the transfer roller cartridge into the printer, push down on the base of the tabs until you hear a click.



Close the front cover.

Transfer Roller Cartridge Handling Precautions

The transfer roller cartridge consists of a transfer roller and a waste toner collection box. .



WARNING: Never throw used transfer roller cartridges into a fire. The residual toner could explode, resulting in burns.



CAUTION: To prevent electric shock, always turn off the printer and disconnect the power cord from the AC outlet before cleaning the printer or performing maintenance.

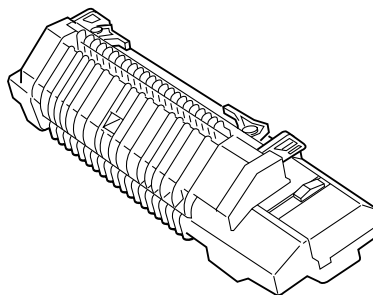
NOTE: The actual number of printable pages varies depending on the content of printed material, paper size, and operating environment. A message prompting you to replace the transfer roller may appear before the average number of pages indicated above is actually printed.

Handling Precautions

- Avoid removing the transfer roller cartridge before it is time to replace it.
- Replace the transfer roller as soon as the message prompting you to do so appears. The printer stops operating if you do not replace the transfer roller cartridge when required.
- Do not attempt to reuse toner from the waste toner collection box.
- When you remove the transfer roller cartridge from the printer because the waste toner collection box is full, do not attempt to empty the waste toner box and reuse the cartridge, as toner may spill inside the printer and cause damage.
- Do not remove the transfer roller from the printer before it is time to replace it, as toner may spill inside the printer and cause damage.

Fuser Unit

The fuser unit fixes the toner to the paper. Usually, the fuser unit needs to be replaced after printing about 100,000 sheets. However, this figure varies depending on the content the material printed, as well as the size and type of paper used.



NOTE: To avoid burns, do not replace the fuser unit immediately after printing, as the fuser gets very hot during this process.

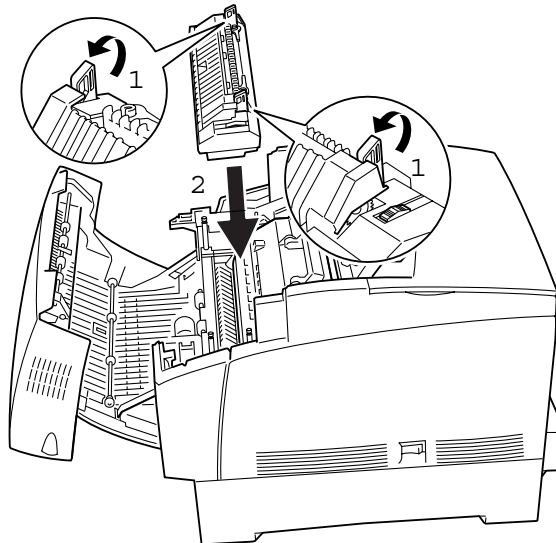


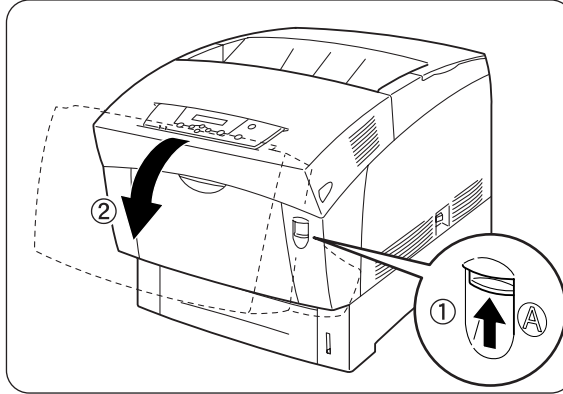
CAUTION: To prevent burns, never touch the area marked “CAUTION! HOT!” (fuser area). To avoid injury or burns, do not use excessive force to remove jammed paper that is difficult to remove or wound tightly around the fuser or rollers. If paper proves difficult to remove, turn off the printer and contact your CPG dealer or a CPG Customer Service Center for assistance. To prevent electric shock, always turn off the printer and disconnect the power cord from the AC outlet before cleaning the printer or performing maintenance.

Replacing the Fuser Unit

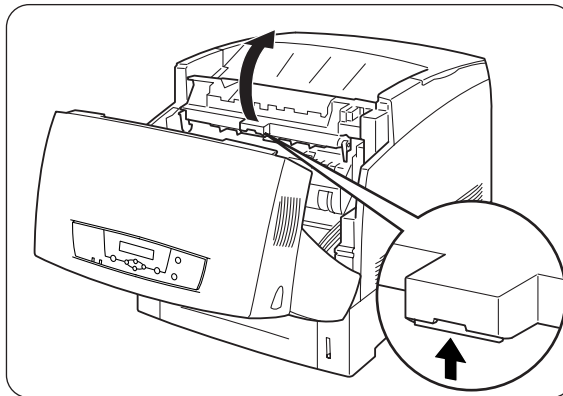
This section describes the procedure for replacing the fuser unit. Follow the procedure below to replace the fuser unit.

NOTE: To allow the fuser unit to cool down, turn the printer off for at least 30 minutes before replacing the fuser unit.

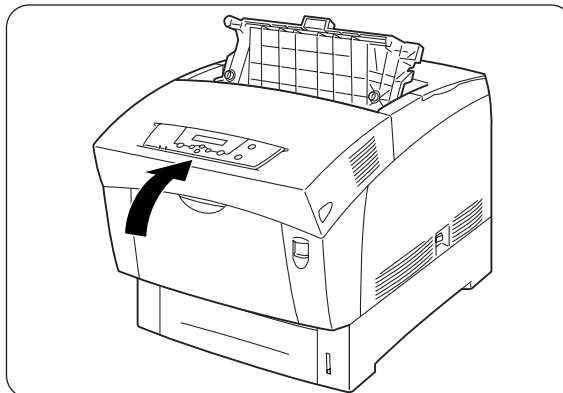




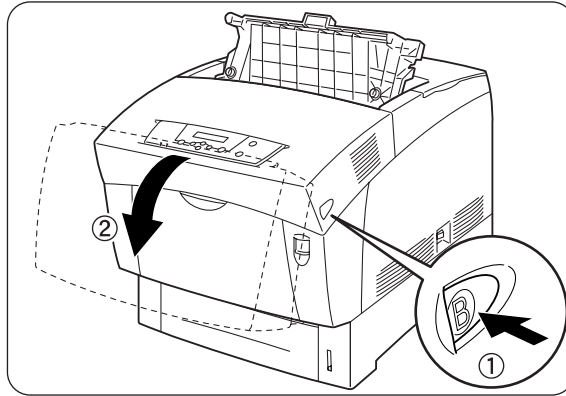
1. Push up button 'A' ① and fully open the front cover ②.



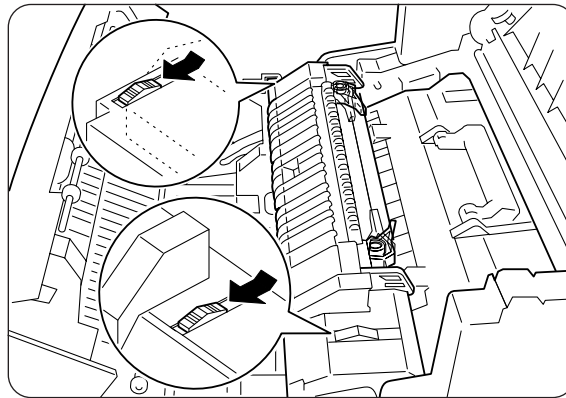
2. Open the paper outlet cover.



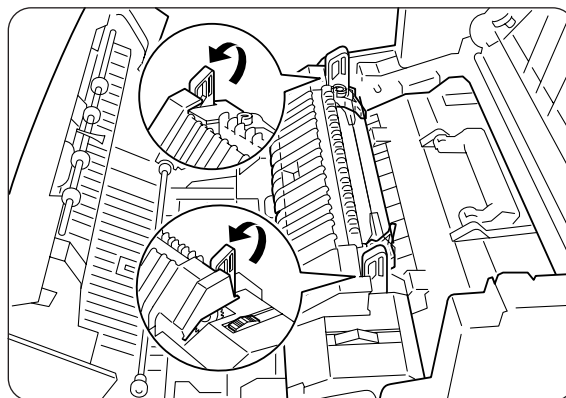
3. Close the front cover.



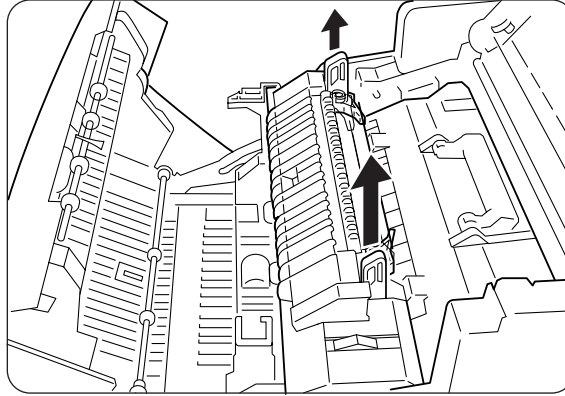
4. Press button 'B' ① and open the upper part of the front cover ②.



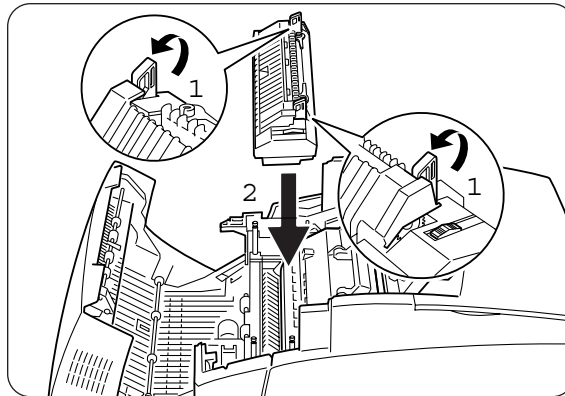
5. Move the slide switches at both ends of the fuser unit forward.



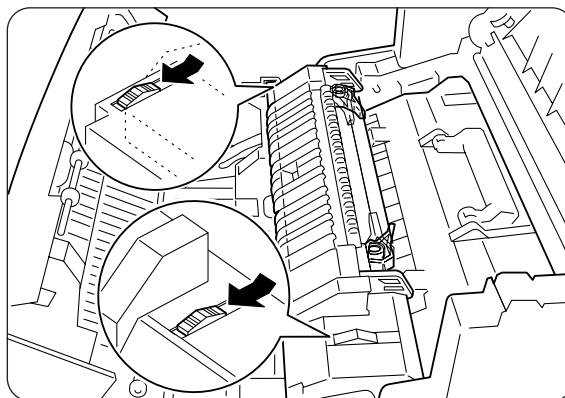
6. Lift up the levers at both ends of the fuser unit.



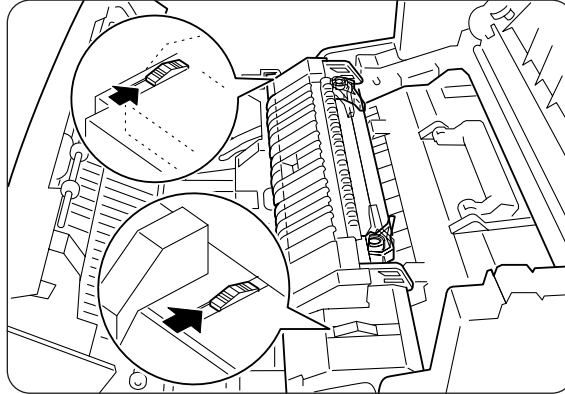
7. Grip the levers and gently lift the fuser unit out of the printer.



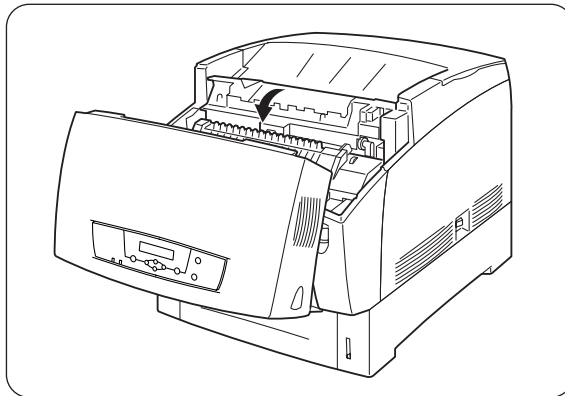
8. Unpack a new fuser unit, lift up the levers at both ends ①, grip the fuser unit by the levers, align it with the slots in the printer, and slowly push it in ②.



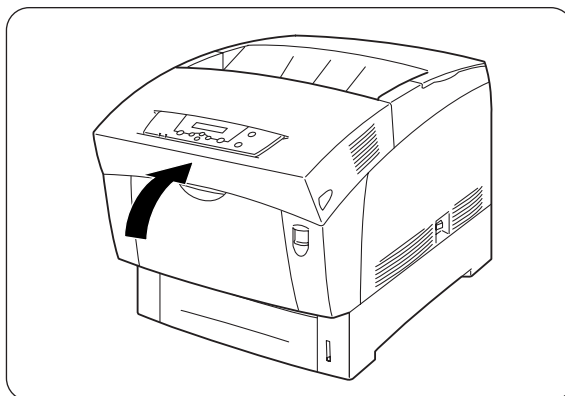
9. Completely push down the levers at both ends of the fuser unit.



10. Move the slide switches at both ends of the fuser unit all the way to the back.



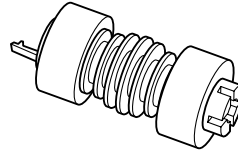
11. Close the paper outlet cover.



Close the front cover.

Paper Feed Roller

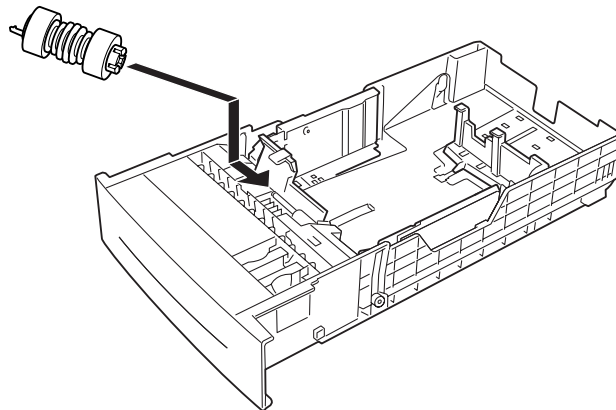
The paper feed roller feeds paper from the paper tray into the printer. Usually, the paper feed roller needs to be replaced after printing about 100,000 sheets. However, this figure varies depending on the size and type of paper used. When the paper feed roller deteriorates, paper may not feed correctly from the paper tray, resulting in paper jams.

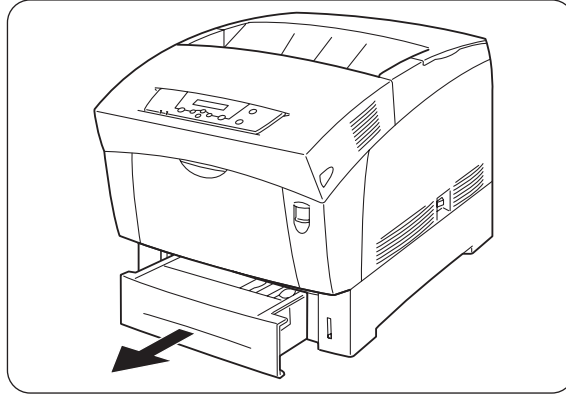


CAUTION: To prevent electric shock, always turn off the printer and disconnect the power cord from the AC outlet before cleaning the printer or performing maintenance procedures.

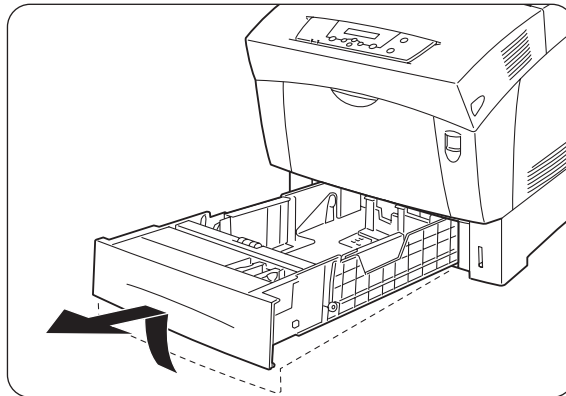
Replacing the Paper Feed Roller

This section describes the procedure for replacing the paper feed roller. Follow the procedure below to replace the paper feed roller.

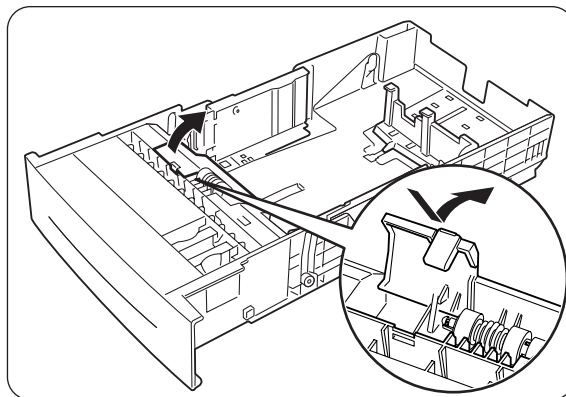




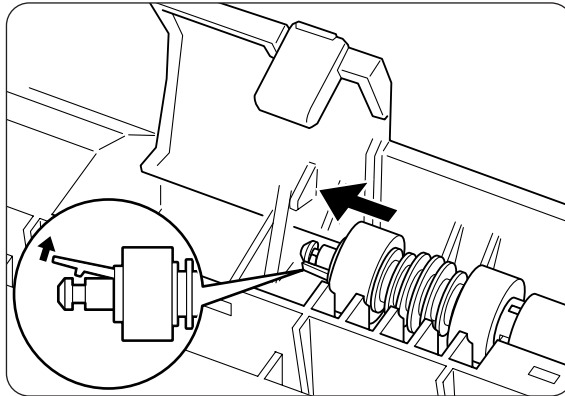
1. Pull the paper tray out of the printer until it stops.



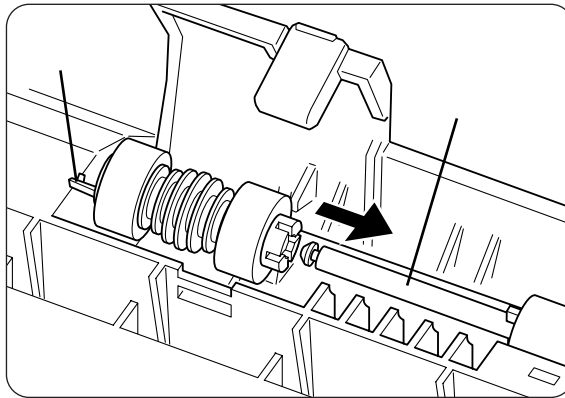
2. Hold the tray with both hands, lift the front slightly, and remove it from the printer.



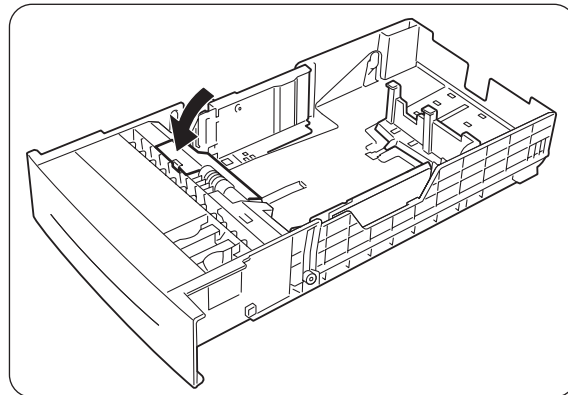
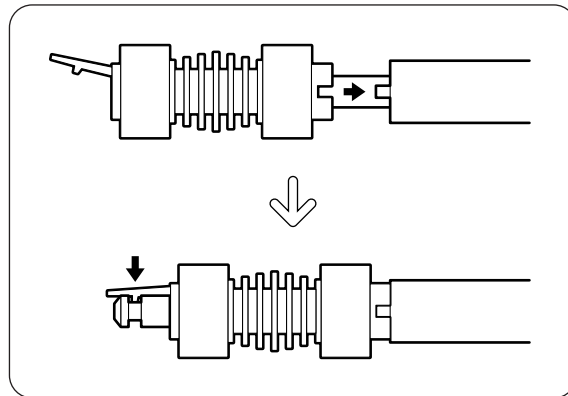
3. Push the tabs of the paper feed roller cover to open the cover.



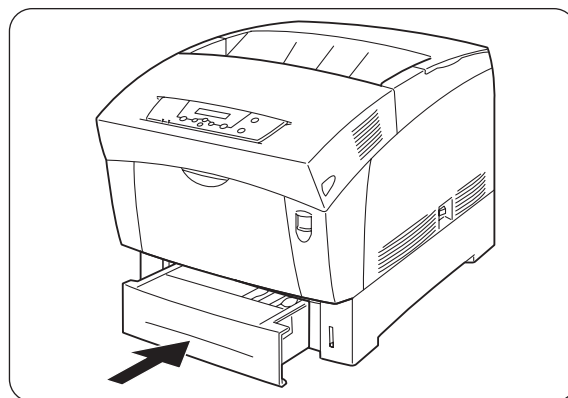
4. Lift the clip at the end of the paper feed roller and remove the paper feed roller.



5. Align the new paper feed roller axis with the shaft in the paper tray as illustrated and slide the shaft through the roller until the clip locks into the groove at the end of the shaft.



6. Close the paper feed roller cover.
7. Hold the paper tray with both hands, align it with the opening in the printer and gently insert it.



8. Push the paper tray completely back into the printer.

NOTE: Do not use excessive force on the paper tray.



Chapter 6

Options

In this Chapter . . .

- “About this Chapter” on page 6-2
- “Options Overview” on page 6-2
- “High Capacity Feeder (2 Shelves)” on page 6-2

About this Chapter

This chapter describes any available options and the procedures for their installation and removal.

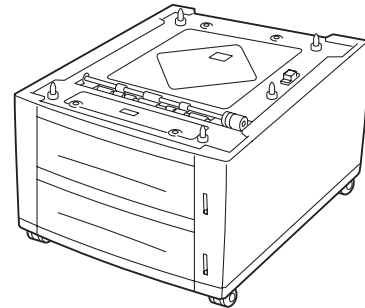
Options Overview

The following optional accessories are available with this printer. To order any of the options, contact your CPG dealer.

High Capacity Feeder (2 Shelves)

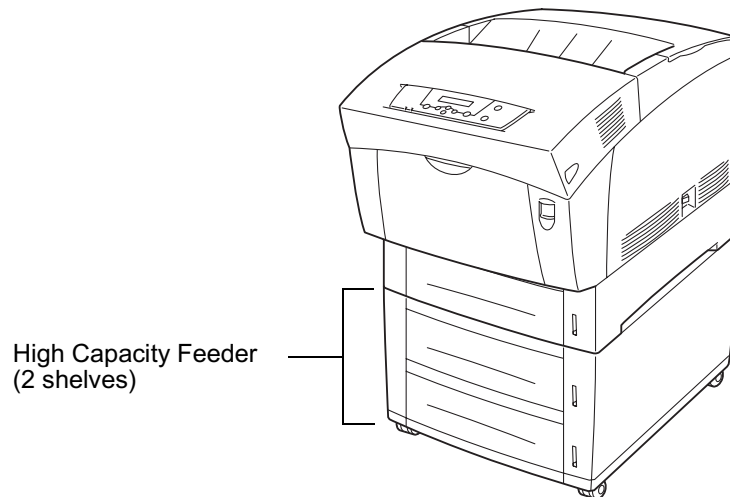
This option allows you to attach an additional 2 trays to the printer. Each tray of the module holds up to 500 sheets of paper. When installed, the trays become the printer's tray 2 and tray 3.

To install the High Capacity Feeder, refer to "High Capacity Feeder (2 Shelves)" on page 6-2 or to the documentation accompanying the High Capacity Feeder.



High Capacity Feeder (2 Shelves)

This section describes the procedures for installing and removing the High Capacity Feeder (2 shelves).



Installing the High Capacity Feeder (2 shelves)

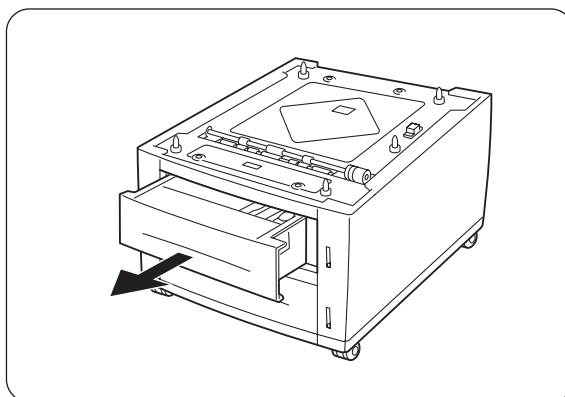
Follow the procedure below to install the High Capacity Feeder (2 shelves).



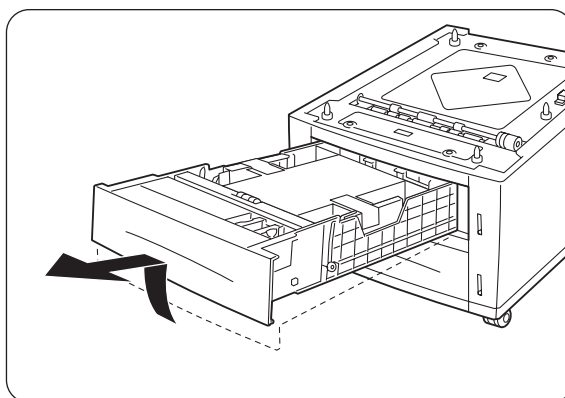
CAUTION: To prevent electric shock, turn off the printer before connecting optional accessories or interface cables.

The High Capacity Feeder (2 shelves) weighs 40 lbs. (18.5 kg). Make sure that 2 people carry it.

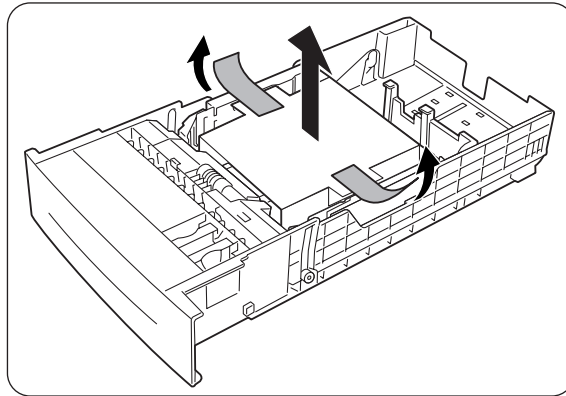
Bend your knees to avoid back injury when lifting the High Capacity Feeder (2 shelves).



1. Gently pull out the upper tray of the High Capacity Feeder until it stops.

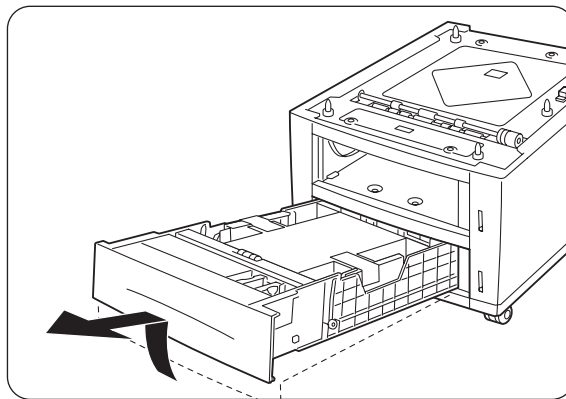


2. Hold the tray with both hands, lift up the front slightly and remove it from the High Capacity Feeder.

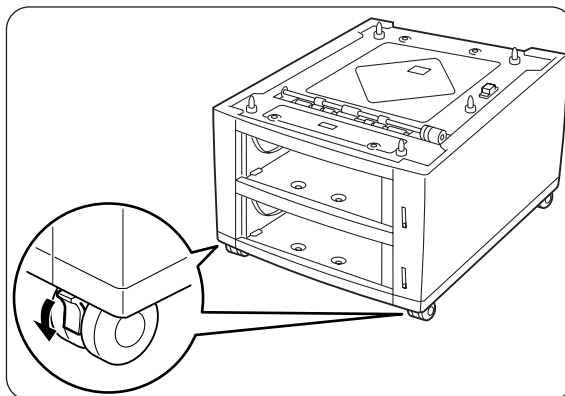


3. Remove the tape from the cardboard spacer in the tray and remove the spacer.

NOTE: Keep the spacer in case you need to transport the printer over long distances in the future.

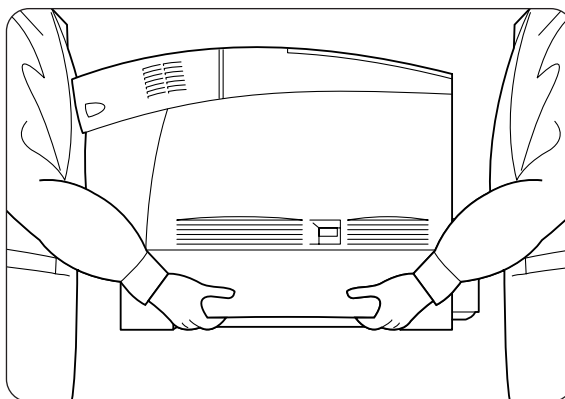


4. Remove the lower tray from the High Capacity Feeder and remove the cardboard spacer from the tray as explained in steps ❶ - ❸.



CAUTION: Failure to lock down the brakes can cause the printer to move unexpectedly, resulting in injury.

5. Lock down the brakes of the 2 casters at the front of the High Capacity Feeder (2 shelves) as illustrated on the left



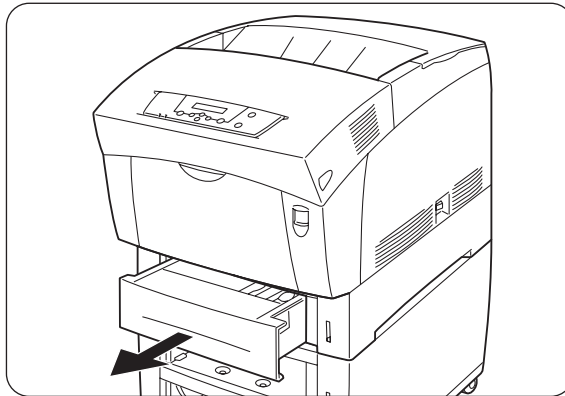
6. Lift the printer and align the 5 guide pins of the High Capacity Feeder (2 shelves) with the holes at the bottom of the printer.
Gently lower the printer onto the High Capacity Feeder.



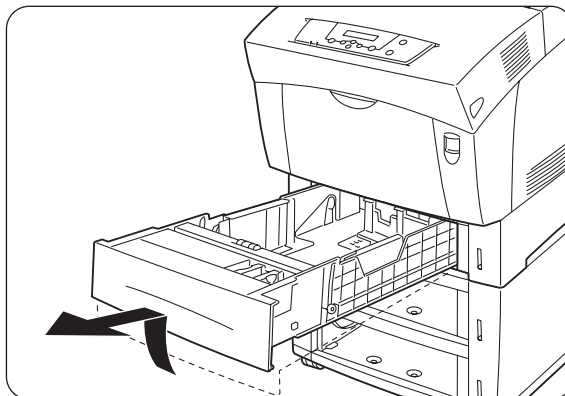
CAUTION: Because the printer weighs 76 lbs. (34.5 kg) fully assembled, make sure that at least two people carry it.

To lift the printer, face the front and back of the printer and grip the recessed areas at the bottom left and right with both hands. Never try to lift the printer by gripping any other areas. Lifting the printer by gripping other areas can cause the printer to fall, resulting in injury. Bend your knees when lifting the printer to avoid back injury.

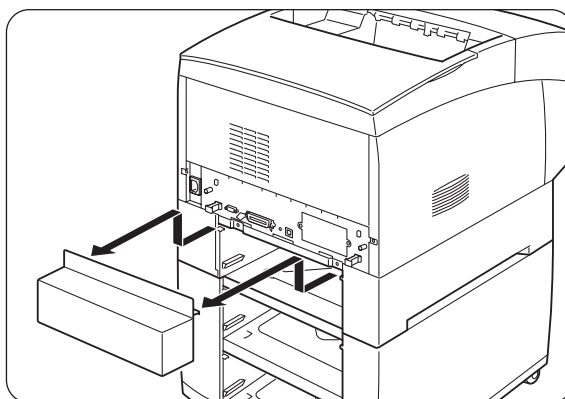
NOTE: Be careful not to pinch your fingers when lowering the printer onto the High Capacity Feeder (2 shelves).



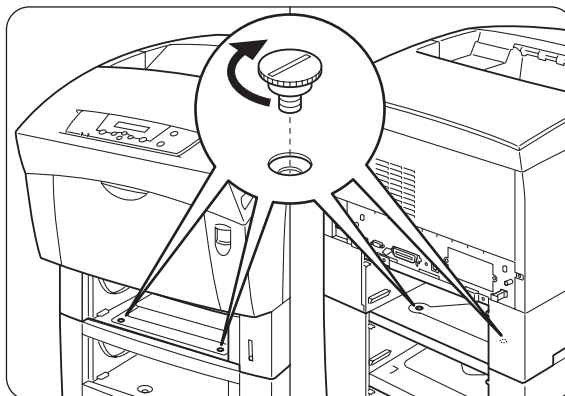
7. Pull the printer's paper tray out until it stops.



8. Hold the tray with both hands, lift the front slightly and remove it from the printer.

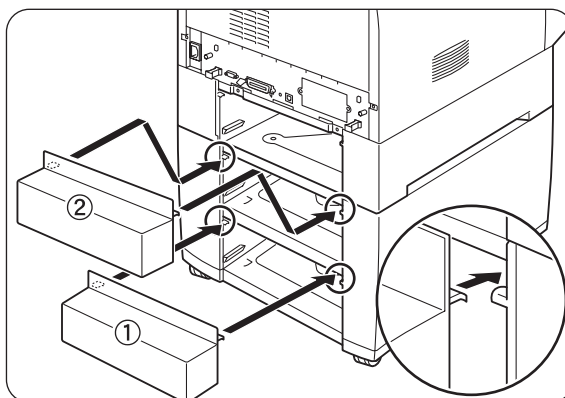


9. Remove the tray cover from the printer.



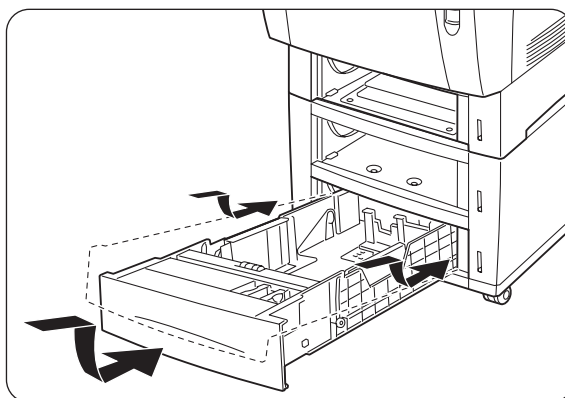
10. Insert the 4 screws provided into the 4 holes inside the printer and tighten them with a coin to secure the printer to the High Capacity Feeder (2 shelves).

NOTE: Make sure the screws are firmly tightened.

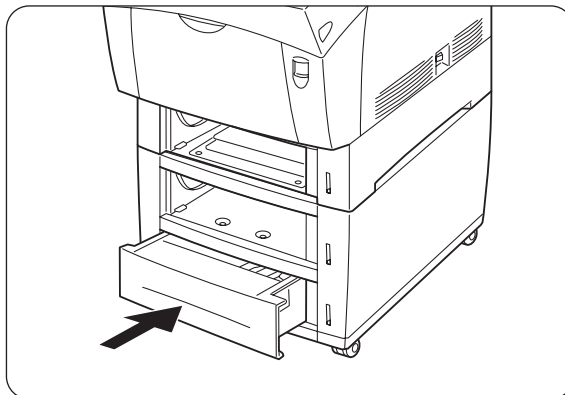


11. Install the tray covers provided with the High Capacity Feeder (2 shelves).

NOTE: Replace the printer's tray cover in the same manner.

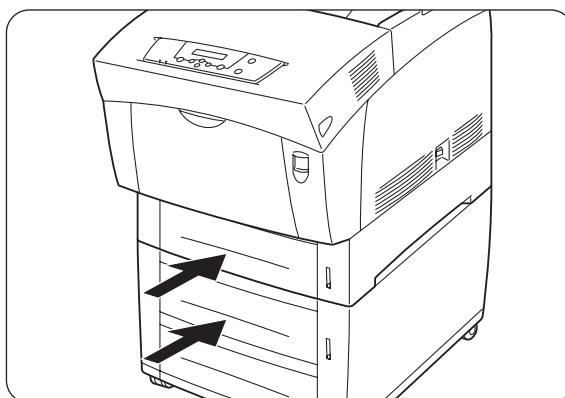


12. Insert the High Capacity Feeder's lower paper tray in to the High Capacity Feeder (2 shelves).



13. Push the paper tray until it stops.

NOTE: Do not use excessive force on the paper tray.



14. Replace the High Capacity Feeder's upper paper tray and the printer's paper tray in the same manner.

Removing the High Capacity Feeder (2 shelves)

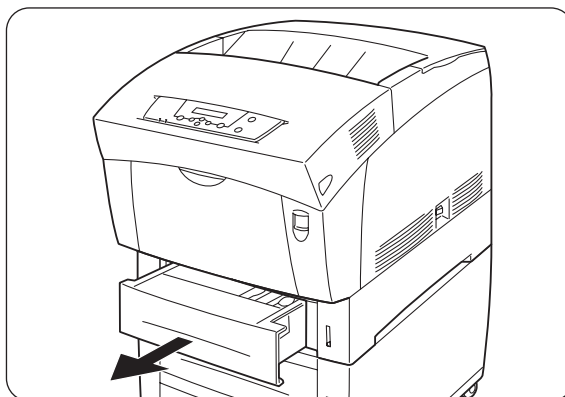
Follow the procedure below to remove the High Capacity Feeder (2 shelves).



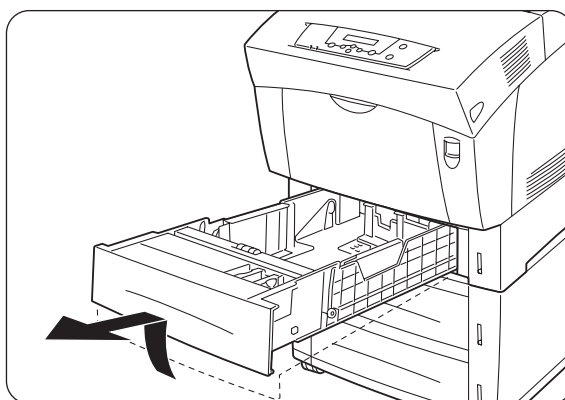
CAUTION: To prevent electric shock, turn off the printer before disconnecting optional accessories or interface cables.

The High Capacity Feeder (2 shelves) weighs 40 lbs. (18.5 kg). Make sure that 2 people carry it.

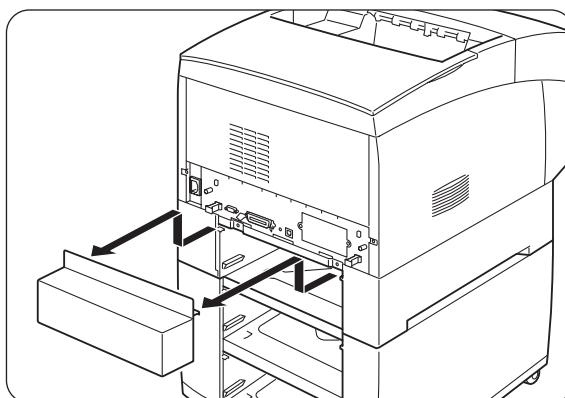
Bend your knees to avoid back injury when lifting the High Capacity Feeder (2 shelves).



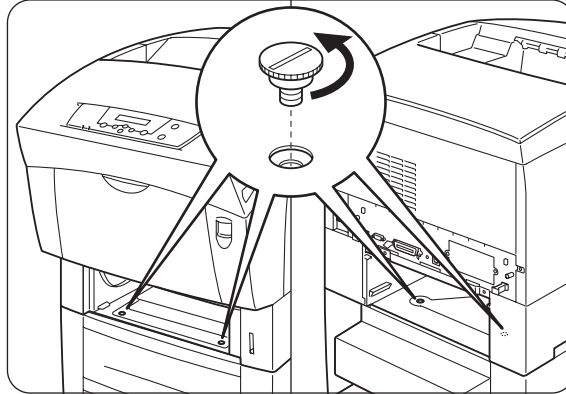
1. Pull the printer's paper tray out until it stops.



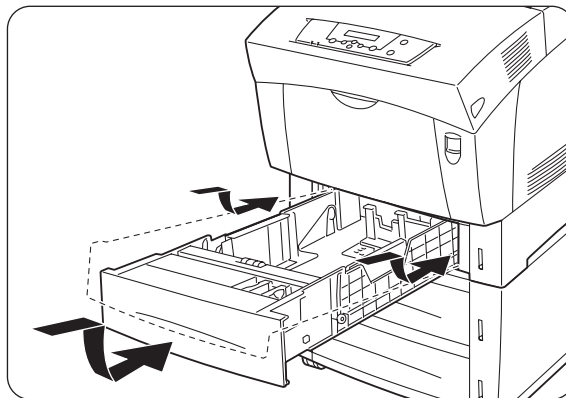
2. Hold the tray with both hands, lift the front slightly and remove it from the printer.



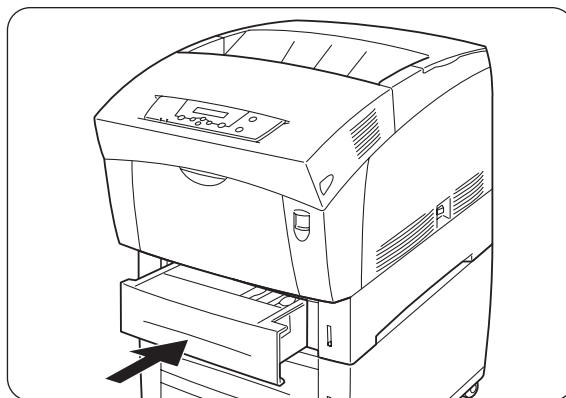
3. Remove the tray cover from the printer.



4. Using a coin, remove the 4 screws inside the printer.

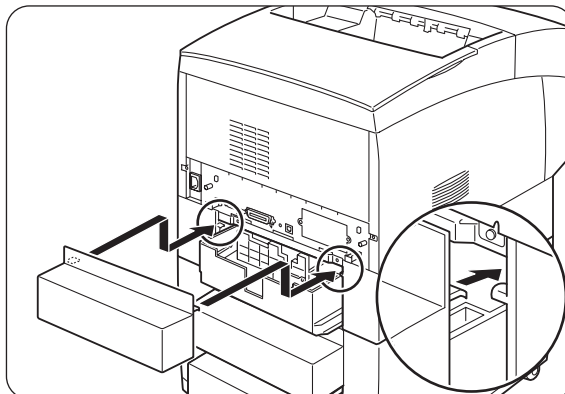


5. Hold the paper tray with both hands, align it with the opening in the printer and gently insert it.

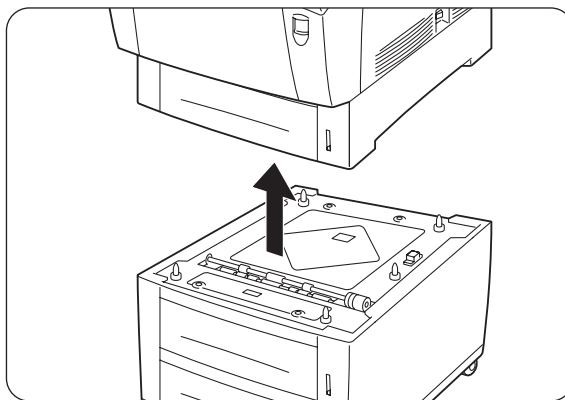


6. Push the paper tray completely back into the printer.

NOTE: Do not use excessive force on the paper tray.



7. Replace the printer's tray cover.



8. Gently lift the printer off the High Capacity Feeder, and place it on a level surface.



CAUTION: Because the printer weighs 76 lbs. (34.5) kg fully assembled, make sure that at least two people carry it.

To lift the printer, face the front and back of the printer and grip the recessed areas at the bottom left and right with both hands. Never try to lift the printer by gripping any other areas. Lifting the printer by gripping other areas can cause the printer to fall, resulting in injury. Bend your knees when lifting the printer to avoid back injury.

NOTE: Be careful not to pinch your fingers when lowering the printer.



Chapter 7

Understanding and Navigating the Control Panel Menus

In this Chapter . . .

- “About this Chapter” on page 7-2
- “Control Panel Features” on page 7-2
- “Navigating the Control Panel Menus” on page 7-5
- “Menu Structure” on page 7-7
- “Paper Menu” on page 7-9
- “Interface Menu” on page 7-12
- “PS Menu” on page 7-15
- “PCL Menu” on page 7-16
- “System Menu” on page 7-19
- “Quality Menu” on page 7-21
- “Color Menu” on page 7-22
- “Functions Menu” on page 7-26
- “FLASH Menu” on page 7-26
- “DISK Menu” on page 7-27

About this Chapter

This chapter explains the control panel and its functions, and also demonstrates how to navigate through the control panel menus and submenus that allow you to view and change the printer settings.

Control Panel Features

The control panel is located on the front of the printer, and contains the display, indicators, and pushbuttons that allow you to view and change the printer settings.

The figure below shows the control panel features.

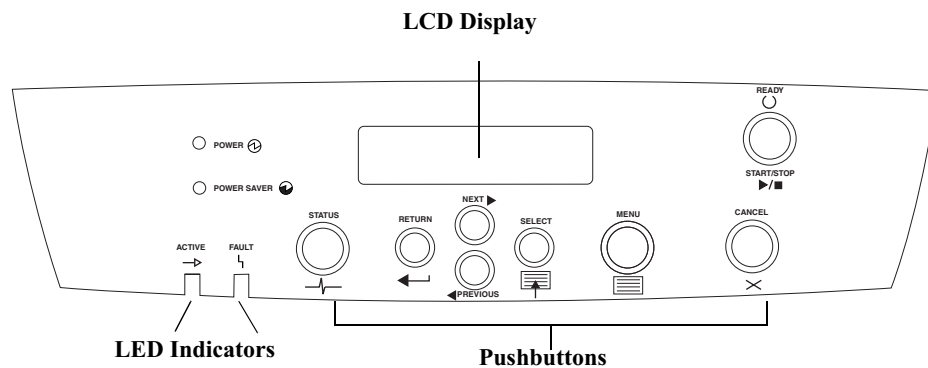







Figure 7-1: Control Panel.

LCD Display

The LCD display shows status and error messages that inform you of the current status of the printer, and also displays menus, submenus, and printer settings when you are in the menu system. The display contains two lines of text, each with a maximum of sixteen characters.






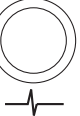
LED Indicators



The LED indicators also indicate printer status. The four indicators can each be on, off, or blinking, indicating different phases of printer operation. The table below explains the LED indicators.

LED	COLOR	WHEN OFF	WHEN ON	WHEN BLINKING
READY 	Green	Printer is NOT READY	Printer is READY	N/A
ACTIVE 	Green	Printer is IDLE	Printer is ACTIVE (processing a job)	Printer is WAITING (a partial job has been printed, and the printer is waiting for additional job data)
FAULT 	Red	Printer is not in error mode	There is an error that requires user intervention, such as a paper jam, a service call required, etc.	N/A
POWER 	Red	POWER is off	POWER is on	N/A
POWER SAVER 	Red	Ready	N/A	Power Saver is on

Pushbuttons

The control panel pushbuttons allow you to access and navigate menus, and also assist you in recovering from printer errors. The table below explains the functions of the eight pushbuttons.

PUSHBUTTON	FUNCTION
 <p>START/STOP ▶/■</p>	START/STOP—Push this button to start or stop the printer, or to exit the menu system.
 <p>MENU</p>	MENU—Push this button to enter the menu system.
 <p>NEXT ▶</p>	NEXT—Push this button to move to the next menu, submenu, or setting within the same level of the menu structure.
 <p>SELECT</p>	SELECT—Push this button to select the menu or submenu that is shown on the second line of the display or to choose and save the setting shown on the second line of the display.
 <p>CANCEL</p>	CANCEL—Push this button to cancel an action.
 <p>STATUS</p>	STATUS—Push this button to enter the Status Menu and view the current status of printer.

PUSHBUTTON	FUNCTION
	<p>PREVIOUS—Push this button to return to the previous menu, submenu, or option within the same level of the menu structure.</p>
	<p>RETURN—Push this button to move up one level in the menu structure to the menu shown on the first line of the display.</p>

Navigating the Control Panel Menus

When you press the **MENU** button on the control panel, you enter the printer's menu system. At that point, the first line of the display contains the text “**Menu**”, indicating that you are in the menu system. The second line of the display lists the active menu, which you can change by pressing the **NEXT** or **PREVIOUS** button.

Menu
Paper Menu

If you press the **NEXT** button repeatedly, the second line of the display cycles through the main menus in the following order:

- n Paper Menu
- n Interface Menu
- n PS Menu
- n PCL Menu
- n System Menu
- n Quality Menu
- n Color Menu
- n Functions

NOTE: Additional menus and submenus may appear in the printer menu system when other options are installed.

The following figure shows the sequence of pushbuttons and display messages that would allow you to change the number of copies printed. This example illustrates the basic relationship between menus and submenus and demonstrates how the **NEXT**, **PREVIOUS**, **SELECT**, and **RETURN** buttons help you to navigate through the menus.

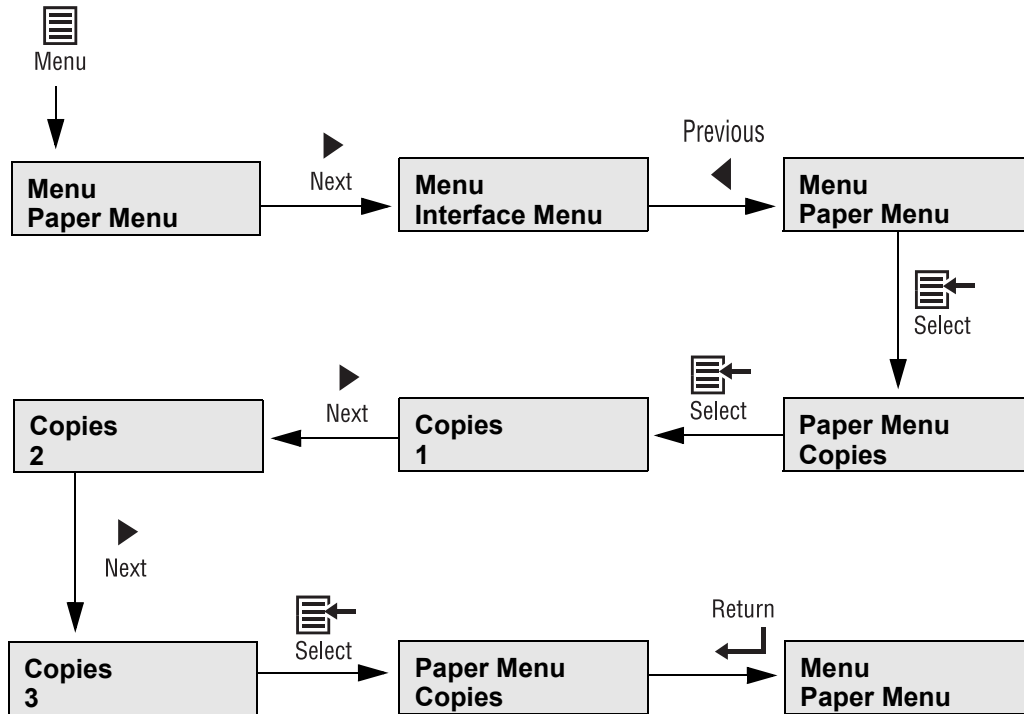


Figure 7-2: Navigating the Paper Menu.

1. Press the **MENU** button on the control panel.
2. Press the **NEXT** button until the text “**Paper Menu**” is shown on the second line of the display.
3. Press the **SELECT** button to enter the paper menu.
4. Press the **NEXT** button until the text “**Copies**” is shown on the second line of the display.
5. Press the **SELECT** button to enter the copies submenu.
6. Press the **NEXT** or **PREVIOUS** button to increase or decrease the number of copies printed.
7. Press the **SELECT** button to save this setting.
8. Press the **START/STOP** button to exit the menu system.

Menu Structure

The following figure shows the structure of the control panel main menus and submenus.

<i>Paper Menu</i> Copies Duplex Duplex Bind Default Source Manual Feed Media Size/Type <i>MBF</i> <i>Tray 1</i> <i>Tray 2 (optional)</i> <i>Tray 3 (optional)</i> Tray Linking Blank Pages MBF First Gloss Level Auto Resize Custom Size Unit	<i>Interface Menu</i> Port <i>Parallel</i> <i>Network Card 1</i> <i>USB</i> Parallel Setup <i>Interpreter</i> <i>Format</i> <i>Mode</i> <i>Delay Out Close</i> <i>Binary PS</i> Network 1 Setup <i>Interpreter</i> <i>Format</i> <i>Network Channel</i> <i>Network Address</i> <i>IP Address</i> <i>Subnet Mask</i> <i>Default Router</i> <i>LPD Banner</i> <i>DHCP</i> <i>Netware Frame</i> <i>Delay Out Close</i> <i>Binary PS</i> USB Setup <i>Interpreter</i> <i>Format</i> <i>Delay Out Close</i> <i>Binary PS</i>	<i>PS Menu</i> Print PS Errors Manual Feed TO	<i>PCL Menu</i> Orientation Font Source Font Number Pitch Symbol Set Macro Filter Lines Per Page CR Mode LF Mode FF Mode Print Area Parameter Values <i>Paper Source</i> <i>Paper Size</i>
<i>System Menu</i> Factory Defaults Display Language Alarm Control Wait Timeout Job Timeout Jam Recovery Hex Print DatastreamMaster (*)	<i>Quality Menu</i> Resolution Toner Saver	<i>Color Menu</i> Screening Mode Rendering Intent Color Matching	<i>Functions</i> Reset Printer Print Demo Print Summary Print Fonts

Figure 7-3: Printer Menu Structure.

NOTE: (*) Please consult your CPG Technical Support person for information on use of this feature.

NOTE: Additional menus and submenus may appear in the printer menu system when other options are installed.

Status Menu

In addition to the main menus listed above, the printer also provides a status menu that allows you to view the current printer settings. Push the **STATUS** button to enter the Status Menu.

Status
MBF
Media Size
Media Type
Level
Tray 1
Media Size
Media Type
Level
Tray 2 (optional)
Media Size
Media Type
Level
Tray 3 (optional)
Media Size
Media Type
Level
Face Down Tray
CyanToner
MagentaToner
Yellow Toner
BLACK Toner

Paper Menu

The **Paper Menu** provides access to the printer settings for various paper-handling functions. Use the following procedure to enter the paper menu:

1. Press the **MENU** button on the control panel.
2. Press the **NEXT** button until the text “**Paper Menu**” is shown on the second line of the display.
3. Press the **SELECT** button to enter the Paper Menu.
4. Press the **NEXT** button to move through the submenus: **Copies, Duplex, Duplex Bind, Default Source, Manual Feed, Media Size/Type, Tray Linking, Blank Pages, MBF First, Gloss Level, Auto Resize and Custom Size Unit.**
5. Use the procedures in the following table to access and change the printer paper-handling settings:

Submenus	Default Setting	Available Settings		Procedure for Changing Setting
Copies This submenu allows you to change the number of copies printed.	1	Numbers 1 - 999		1. Press NEXT or PREVIOUS to increase or decrease the number of copies printed. 2. Press SELECT to save this setting.
Duplex This submenu allows you to turn the duplex print function on or off.	Off	On Off		1. Press NEXT or PREVIOUS to toggle between ON and OFF. 2. Press SELECT to save this setting.
Duplex Bind This submenu allows you to select duplex bindery. The “Long Edge ” setting will produce horizontal printed pages. The “Short Edge” setting will produce vertical printed pages.	Long Edge	Long Edge Short Edge		1. Press NEXT or PREVIOUS to toggle between LONG EDGE and SHORT EDGE. 2. Press SELECT to save this setting.
Default Source This submenu allows you to choose a default paper source from a list of all installed sources.	Tray 1	MBF Tray 1 Tray 2 (optional) Tray 3 (optional)		1. Press NEXT or PREVIOUS to scroll through the list of available sources of paper. 2. Press SELECT to set a source as the default.
Manual Feed This submenu allows you to turn the manual feed on or off.	Off	On Off		1. Press NEXT or PREVIOUS to toggle between ON and OFF. 2. Press SELECT to save this setting.

Submenus	Default Setting	Available Settings		Procedure for Changing Setting
Media Size/Type This submenu allows you to set the media size and type for the MBF Tray and set the medial type for all other trays.	MBF Size: A4 SEF Type: Plain Custom Size: Width:209 mm Length:39 mm Tray 1 Type: Plain Tray 2 (optional) Type: Plain Tray 3 (optional) Type: Plain	Size MBF: A4 SEF, Letter SEF, B5 SEF, Statement SEF, A5 SEF, A6, C5 Envelope, DL Envelope, Com10 Envelope, Monarch Envelope, Executive Legal, Folio, <i>Note: there are other available paper sizes for other trays: Legal, Folio, Letter, A4, Executive, B5, A5</i>	Type MBF: Plain, Transparency, Prepunched, Letterhead, Colored, Preprinted, Bond, Label, Card Stock, Postcard, Envelope, Thick 1, Thick 2, Thick 3 Other Other Trays: Plain, Transparency, Prepunched, Letterhead, Colored, Preprinted, Bond, Card Stock, Thick 1, Thick 2 Other	1. Press NEXT or PREVIOUS to scroll through the list of available sources of paper. 2. Press SELECT to choose a tray. 3. Press NEXT or PREVIOUS to toggle between MEDIA SIZE and MEDIA TYPE, CUSTOM SIZE. 4. Press SELECT to choose either. 5. Press NEXT or PREVIOUS to scroll through the available sizes or types. 6. Press SELECT to set a size or type.
Tray Linking This submenu allows you to turn the tray linking function on or off.	On	On Off		1. Press NEXT or PREVIOUS to toggle between ON and OFF. 2. Press SELECT to save this setting.
Blank Pages This submenu allows you to choose to either print or not print blank pages of a document.	Print	Print Do Not Print		1. Press NEXT or PREVIOUS to toggle between PRINT and DO NOT PRINT. 2. Press SELECT to save this setting.
MBF First	Off	On Off		1. Press NEXT or PREVIOUS to toggle between ON and OFF. 2. Press SELECT to save this setting.

Submenus	Default Setting	Available Settings		Procedure for Changing Setting
Gloss Level This menu is used to set the level of gloss in toned areas of printed output. The “Low” setting will produce printed pages with a slight gloss wherever toner is placed. The printer prints at full speed in this mode. The “High” setting causes toned areas to be printed with a higher level of gloss. The printer prints at half speed in this mode.	Low	Low	High	1. Press NEXT or PREVIOUS to toggle between LOW and HIGH. 2. Press SELECT to save this setting.
Auto Resize This menu is used to cause the printer to print on paper that is the closest in size to the requested paper size in the print job. In PostScript mode, the print data is also scaled to fit on the paper used for the job. In PCL mode, print data is not scaled but the nearest paper size is used.	Off	On	Off	1. Press NEXT or PREVIOUS to toggle between ON and OFF. 2. Press SELECT to save this setting.
Custom Size Unit This submenu allows you to set the unit of measurement for the custom paper size.	Millimeters	Millimeters	Inches	1. Press NEXT or PREVIOUS to select millimeters or inches. 2. Press SELECT to save this setting.

Interface Menu

The **Interface Menu** provides access to the printer interface settings. Use the following procedure to enter the interface menu:

1. Press the **MENU** button on the control panel.
2. Press the **NEXT** button until the text “**Interface Menu**” is shown on the second line of the display.
3. Press the **SELECT** button to enter the interface menu.
4. Press the **NEXT** button to move through the submenus: **Port, Parallel Setup, Network Card Setup and USB Setup**.
5. Use the procedures in the following table to access and change the printer interface settings:

Submenus	Default Setting	Available Settings	Procedure for Changing Setting
Port This submenu allows you to enable the type of interface.	Parallel: On Network Card 1: On USB: On	Parallel: On, Off Network Card 1: On, Off USB: On, Off	1. Press NEXT or PREVIOUS to scroll through PARALLEL NETWORK CARD 1 and USB. 2. Press SELECT to save this setting.
Parallel Setup This submenu allows you to set up the parallel interface.	Interpreter: Auto Switch Format: Raw Mode: Bidirectional Delay Out Close: Off Binary PS: Off	Interpreter: Auto Switch PCL PostScript 3 Format: Raw Normal Binary Mode: Bidirectional Standard Delay Out Close: Off On Binary PS: Off On	1. Press NEXT or PREVIOUS to scroll through the INTERPRETER, FORMAT, MODE, and DELAY OUT CLOSE submenus. 2. Press SELECT to choose a submenu. 3. Press NEXT or PREVIOUS to scroll through the settings. 4. Press SELECT to choose and save a setting.

Submenus	Default Setting	Available Settings	Procedure for Changing Setting
Network 1 Setup This submenu allows you to set up the Network interface.	Interpreter: Auto Switch Format: Raw Network Channel: Netware Network Address: IP Address: (user-specified) Subnet Mask: (user-specified) Default Router: (user-specified) LPD Banner: On DHCP: Off Netware Frame: Auto-Sense Delay Out Close: Off Binary PS: Off	Interpreter: Auto Switch PCL PostScript 3 Format: Raw Normal Binary Network Channel: Netware, DEC LAT, AppleTalk, TCP/IP Network Address: IP Address: (user-specified) Subnet Mask: (user-specified) Default Router: (user-specified) LPD Banner: On Off DHCP: Off On Netware Frame: Auto-Sense, 802.3, Ethernet II, 802.2 SNAP, 802.2, Delay Out Close: Off On Binary PS: Off On	1. Press NEXT or PREVIOUS to move among the submenus. 2. Press SELECT to choose a submenu. 3. Press NEXT or PREVIOUS to scroll through the settings. 4. Press SELECT to save this setting.

Submenus	Default Setting	Available Settings	Procedure for Changing Setting
USB Setup This submenu allows you to set up the USB interface.	Interpreter: Auto Switch Format: Raw Delay Out Close: Off Binary PS: Off	Interpreter: Auto Switch PCL PostScript 3 Format: Raw Normal Binary Delay Out Close: Off On Binary PS: Off On	1. Press NEXT or PREVIOUS to scroll through the INTERPRETER, FORMAT and DELAY OUT CLOSE submenus. 2. Press SELECT to choose a submenu. 3. Press NEXT or PREVIOUS to scroll through the settings. 4. Press SELECT to choose and save a setting.

PS Menu

The PS Menu provides access to the PostScript settings. Use the following procedure to enter the PS Menu:

1. Press the **MENU** button on the control panel.
2. Press the **NEXT** button until the text “**PS Menu**” is shown on the second line of the display.
3. Press the **SELECT** button to enter the PS menu.
4. Press the **NEXT** button to move through the submenus: **Print PS Errors**, and **Manual Feed TO**.
5. Press the **SELECT** button to enter a submenu.
6. Use the procedures in the following table to access and change the PostScript settings:

Submenus	Default Setting	Available Settings	Procedure for Changing Settings
Print PS Errors This submenu allows you to choose to either print or not print PS errors.	Off	On Off	1. Press NEXT or PREVIOUS to toggle between ON (print) and OFF (do not print). 2. Press SELECT to save this setting.
Manual Feed TO This submenu allows you to set the manual feed timeout—the number of seconds the printer should wait for a manual feed. A setting of 0 will cause printer to wait indefinitely for a manual feed.	00000	0 - 99999	1. Press NEXT or PREVIOUS to increase or decrease each digit of the five-digit number. 2. Press SELECT to move to the next number. 3. Press SELECT after setting the last digit to save the setting.

PCL Menu

The **PCL Menu** provides access to the PCL settings. Use the following procedure to enter the PCL menu:

1. Press the **MENU** button on the control panel.
2. Press the **NEXT** button until the text “**PCL Menu**” is shown on the second line of the display.
3. Press the **SELECT** button to enter the PCL menu.
4. Press the **NEXT** button to move through the submenus: **Orientation, Font Source, Font Number, Pitch, Symbol Set, Macro Filter, Lines Per Page, CR Mode, LF Mode, FF Mode, Print Area, Parameter Values.**
5. Press the **SELECT** button to enter a submenu.
6. Use the procedures in the following table to access and change the PCL settings:

Submenus	Default Setting	Available Settings	Procedure for Changing Setting
Orientation This submenu allows you to choose the orientation of the page.	Portrait	Portrait Landscape	1. Press NEXT or PREVIOUS to toggle between PORTRAIT and LANDSCAPE. 2. Press SELECT to choose and save an orientation.
Font Source This submenu allows you to choose a font source.	Internal	Internal	1. Press NEXT or PREVIOUS to scroll through the available font sources. 2. Press SELECT to choose and set a source.
Font Number This submenu allows you to set the font number.	12	Numbers 0-53	1. Press NEXT or PREVIOUS to increase or decrease the font number. 2. Press SELECT to save this setting.
Pitch This submenu allows you to change the pitch of text.	10.00	0.08 - 100.00	1. Press NEXT or PREVIOUS to increase or decrease the pitch. 2. Press SELECT to save this setting.

Submenus	Default Setting	Available Settings	Procedure for Changing Setting
Symbol Set This submenu allows you to choose a symbol set.	10U:PC-8 CP437	10U:PC-8 CP437 11U:PC-8 D/N 12U:PC-850 17U:PC-852 9T:PC-Turkish 19U:WIN Latin1 9E:WIN Latin2 5T:WIN Latin5 7J:Desk Top 10J:PS Text 13J:Ventura Intl 14J:Ventura US 6J:Microsoft Pub 8M:Math-8 PS:Math 6M:Ventura Math 15U:Pi Font 1U: Legal 1E: ISO4 UK 0U:ISO6 ASCII 0S:ISO11 Swedish 0I:ISO15 Italian 2S:ISO17 Spanish 1G:ISO21 German 0D:ISO60 Norweg. 1F:ISO69 French 9U:WIN3.0 Latin1 8U:Roman 8 0N:ISO 8859-1 2N:ISO 8859-2 5N:ISO 8859-5	1. Press NEXT or PREVIOUS to scroll through the available symbol sets. 2. Press SELECT to choose and set a symbol set.
Macro Filter This submenu allows you to turn the macro filter on or off.	Off	On Off	1. Press NEXT or PREVIOUS to toggle between ON and OFF. 2. Press SELECT to save this setting.
Lines Per Page This submenu allows you to change the number of lines per page.	60	5 - 128	1. Press NEXT or PREVIOUS to increase or decrease the lines per page. 2. Press SELECT to save this setting.
CR Mode This submenu allows you to define the action prompted by a carriage return—a carriage return equals either a carriage return alone, or a carriage return and a line feed together.	CR = CR	CR = CR CR = CR/LF	1. Press NEXT or PREVIOUS to choose from CR=CR or CR=CR/LF. 2. Press SELECT to save this setting.

Submenus	Default Setting	Available Settings		Procedure for Changing Setting
LF Mode This submenu allows you to define the action prompted by a line feed—a line feed equals either a line feed alone or a carriage return and a line feed together.	LF = LF	LF = LF LF = CR/LF		1. Press NEXT or PREVIOUS to choose from LF=LF or LF=CR/LF. 2. Press SELECT to save this setting.
FF Mode This submenu allows you to define the action prompted by a form feed—a form feed equals either a form feed alone or a carriage return and a form feed together.	FF = FF	FF = FF FF = CR/FF		1. Press NEXT or PREVIOUS to choose from FF=FF or FF=CR/FF. 2. Press SELECT to save this setting.
Print Area This submenu allows you to set the print area.	Normal	Normal Expanded		1. Press NEXT or PREVIOUS to toggle between the NORMAL and EXPANDED settings. 2. Press SELECT to save this setting.
Parameter Values	Paper Source: MBF Paper Size: Executive	Paper Source: MBF (= 0008) Tray 1 (= 0001) Tray 2 (= 0004 - optional tray) Tray 3 (= 0005 - optional tray) Auto-Select (= 0007)	Paper Size: Executive (= 0001), Letter (= 0002), Legal (= 0003), Statement (= 0004), Folio (= 0005), A6 (= 0024), A5 (= 0025), A4 (=0026), B5 (= 0045), Monarch Envelope (= 0080), Com10 Envelope (=0081), DL Envelope (= 0090), C5 Envelope (= 0091)	1. Press NEXT or PREVIOUS to toggle between the PAPER SOURCE and PAPER SIZE submenus. 2. Press SELECT to choose a submenu. 3. Press NEXT or PREVIOUS to scroll through the settings. 4. Press SELECT to save this setting.

System Menu

The system menu provides access to system settings. Use the following procedure to enter the system menu:

1. Press the **MENU** button on the control panel.
2. Press the **NEXT** button until the text “**System Menu**” is shown on the second line of the display.
3. Press the **SELECT** button to enter the system menu.
4. Press the **NEXT** button to move through the submenus: **Factory Defaults, Display Language, Alarm Control, Wait Timeout, Job Timeout, Jam Recovery, Hex Print, and DatastreamMaster.**
5. Press the **SELECT** button to enter a submenu.
6. Use the procedures in the following table to access and change the system settings:

Submenus	Default Setting	Available Settings	Procedure for Changing Setting
Factory Defaults This submenu allows you to reset the printer to U.S. or Non-U.S. factory defaults.	U.S.	U.S. Non-U.S.	1. Press NEXT or PREVIOUS to toggle between U.S. and NON-U.S. 2. Press SELECT to choose and set the factory defaults.
Display Language This submenu allows you to change the language of the display messages.	English	English Francais (French) Deutsch (German) Italiano (Italian) Espanol (Spanish)	1. Press NEXT or PREVIOUS to scroll through the available languages: English, French (Francais), German (Deutsch), Italian (Italiano), or Spanish (Espanol). 2. Press SELECT to choose and set the language.
Alarm Control This submenu allows you to set the alarm control.	Single	Single Continuous Off	1. Press NEXT or PREVIOUS to move among the alarm settings. 2. Press SELECT to choose and set the alarm setting.
Wait Timeout This submenu allows you to increase or decrease the length of time (in seconds) that the printer will remain in the waiting state—a job is being processed, no end-of-file has been detected, and there is no more data to process. This setting applies to <i>both PCL and PostScript print jobs</i> .	00020	0 - 99999	1. Press NEXT or PREVIOUS to increase or decrease each digit of the five-digit number. 2. Press SELECT set one digit and move to the next digit. 3. Press SELECT after changing the last digit to save this setting.
Job Timeout This submenu allows you to increase or decrease the time limit (in seconds) for PostScript jobs. A 0 setting indicates no timeout. This setting applies <i>only to PostScript jobs</i> .	00000	0 - 99999	1. Press NEXT or PREVIOUS to increase or decrease each digit of the five-digit number. 2. Press SELECT set one digit and move to the next digit. 3. Press SELECT after changing the last digit to save this setting.

Submenus	Default Setting	Available Settings		Procedure for Changing Setting
Jam Recovery This submenu allows you to turn jam recovery on or off.	On	On	Off	1. Press NEXT or PREVIOUS to toggle between ON and OFF. 2. Press SELECT to save this setting.
Hex Print This submenu allows you to print hexadecimal characters.	Off	On	Off	1. Press NEXT or PREVIOUS to toggle between ON and OFF. 2. Press SELECT to save this setting.
DatastreamMaster This submenu allows to turn the DatastreamMaster feature on or off. <i>Note:</i> Please consult your Technical Support person for information on use of this feature.	On	On	Off	1. Press NEXT or PREVIOUS to toggle between ON and OFF. 2. Press SELECT to save this setting.

Quality Menu

The Quality Menu provides access to the printer settings that are related to print quality. Use the following procedure to enter the Quality Menu:

1. Press the **MENU** button on the control panel.
2. Press the **NEXT** button until the text “**Quality Menu**” is shown on the second line of the display.
3. Press the **SELECT** button to enter the system menu.
4. Press the **NEXT** button to move through the submenus: **Resolution and Toner Saver**.
5. Press the **SELECT** button to enter a submenu.
6. Use the procedures in the following table to access and change the system settings:

Submenus	Default Setting	Available Settings	Procedure for Changing Setting
Resolution This submenu allows you to set the resolution (dpi).	600 dpi	600 dpi 1200 dpi	1. Press NEXT or PREVIOUS to scroll through the available resolutions. 2. Press SELECT to choose and set the dpi.
Toner Saver This submenu allows you to choose from several toner-saving settings.	Off	Off On	1. Press NEXT or PREVIOUS to scroll through the available toner settings. 2. Press SELECT to choose and save this setting.

Color Menu

The Color Menu contains the settings related to the quality of printed color.. Use the following procedure to enter the Color Menu:

1. Press the **MENU** button on the control panel.
2. Press the **NEXT** button until the text “**Color Menu**” is shown on the second line of the display.
3. Press the **SELECT** button to enter the system menu.
4. Press the **NEXT** button to move through the submenus: **Screening Mode, Rendering Intent, Color Matching and Alignment,**
5. Press the **SELECT** button to enter a submenu.

Use the procedures in the table on the following page to access and change the sytem settings.

Submenus	Default Setting	Available Settings	Procedure for Changing Setting
Screening Mode The screening mode setting determines the method used to produce the various tones to be printed. “Enhanced” screening, the default, which may reproduce finer detail in photographic images. If you experience print quality problems in photographic images, select the "normal" screening. This menu allows you to set the fine detail printing.	Enhanced	Enhanced Normal	1. Press NEXT or PREVIOUS to toggle between ENHANCED and NORMAL. 2. Press SELECT to choose and set the screening mode.

Submenus	Default Setting	Available Settings	Procedure for Changing Setting
Rendering Intent This submenu allows you to choose from several color settings. Depending on the type of printing you do, this setting should be set to an appropriate value	Photographic	Photographic: This setting will print the most realistic photographic images. Presentation: This setting is best suited when printing Business Graphics, Presentations, etc. This setting places emphasis on bold, saturated colors. Logo Art: When absolute color fidelity is important, as when corporate logos and the like are being printed, this setting will yield the greatest color fidelity. Colors that not possible to accurately produce will be remapped to the closest possible color. Proofing: This setting is very similar to the Logo Art setting, but the colors will be shifted by the color of the media on which you are printing.	1. Press NEXT or PREVIOUS to scroll through the available color rendering settings. 2. Press SELECT to choose and save this setting.

Submenus	Default Setting	Available Settings	Procedure for Changing Setting
Color Matching This submenu allows you to enable automatic color correction when printer color documents in RGB format.	On	<p>Off</p> <p>With this setting set to Off, RGB colors are internally converted to their CMYK equivalent and are then placed on the paper. It is possible that the colors that print will be different than what you see on your screen.</p> <p>On</p> <p>With this setting set to On, the RGB colors are processed by the printer's internal Color Matching system before being placed on the page. The Rendering Intent menu setting is used to determine the exact color translations performed. This setting will yield printed colors that are as true as possible to what you see on your screen.</p>	<ol style="list-style-type: none"> 1. Press NEXT or PREVIOUS to toggle between ON and OFF. 2. Press SELECT to choose and save this setting.

Submenus	Default Setting	Available Settings	Procedure for Changing Setting
Alignment This submenu allows you to align all four color planes (black, yellow, magenta, cyan) to obtain the best color print quality.	Alignment Page	<p>Alignment Page: with this setting you can print the alignment page for the proper image positioning.</p> <p>K-V Adjust: to adjust black-ink vertical alignment for all resolutions.</p> <p>M-V Adjust (600) or M-V Adjust (1200): to adjust magenta-ink vertical alignment for 600 or 1200 dpi resolutions.</p> <p>Y-V Adjust (600) or Y-V Adjust (1200): to adjust yellow-ink vertical alignment for 600 or 1200 dpi resolutions.</p> <p>C-V Adjust (600) or C-V Adjust (1200): to adjust cyan-ink vertical alignment for 600 or 1200 dpi resolutions.</p> <p>M-H Adjust: to adjust magenta-ink horizontal alignment.</p> <p>Y-H Adjust: to adjust yellow-ink horizontal alignment.</p> <p>C-H Adjust: to adjust cyan-ink horizontal alignment.</p> <p>K-H Adj. Tray 1: to adjust black-ink horizontal alignment for printing from Tray 1.</p>	<ol style="list-style-type: none"> 1. Print the “Alignment Page”. 2. Adjust the black ink alignment settings. 3. Print the “Alignment Page”. 4. Adjust the color inks alignment settings. <p><i>Note:</i> see “Adjusting Color Registration” section in the Chapter 1 for more information.</p>

Functions Menu

The Functions Menu provides access to several printer functions that can supply you with information about the printer and its settings. Use the following procedure to enter the Functions Menu:

1. Press the **MENU** button on the control panel.
2. Press the **NEXT** button until the text “**Functions Menu**” is shown on the second line of the display.
3. Press the **SELECT** button to enter the system menu.
4. Press the **NEXT** button to move through the available functions: **Reset Printer, Print Demo, Print Summary and Print Fonts**.
5. Use the procedures in the following table to execute the functions:

Functions	Procedure for Executing Function
Reset Printer This function resets the printer.	Press SELECT to reset the printer.
Print Demo This function allows you to print a Demo Page.	Press SELECT to print a Demo Page.
Print Summary This function prints a list of all printer settings:	Press SELECT to print a summary of the printer settings.
Print Fonts This function allows you to print Postscript or PCL font lists.	<ol style="list-style-type: none"> 1. Press NEXT or PREVIOUS to toggle between POSTSCRIPT and PCL. 2. Press SELECT to select and print the specific fonts list.

FLASH Menu

NOTE: This menu will only appear if an optional FLASH DIMM has been installed in the FLASH DIMM slot. Consult the documentation that came with your FLASH DIMM for detailed installation and usage instructions.

The FLASH Menu provides access to the printer settings that are related to the optional FLASH DIMM. Use the following procedure to enter the FLASH Menu:

1. Press the **MENU** button on the control panel.
2. Press the **NEXT** button until the text “**FLASH Menu**” is shown on the second line of the display.
3. Press the **SELECT** button to enter the system menu.
4. Press the **NEXT** button to move through the submenus: **Print, Delete, Format FLASH, and FLASH summary**.
5. Press the **SELECT** button to enter a submenu.

6. Use the procedures in the following table to access and change the system settings:

Submenus	Procedure for Changing Setting
Print This selection will read the selected file from FLASH and print it as if it were being received from one of the input ports.	1. Press NEXT or PREVIOUS to scroll through the files. 2. Press SELECT to choose and print the file.
Delete This selection will delete the selected disk file or directory from the FLASH DIMM. To delete an entire directory, you must first delete all the files within that directory.	1. Press NEXT or PREVIOUS to scroll through the files. 2. Press SELECT to choose and delete the file.
Format Flash This selection will reformat the FLASH DIMM.	1. Press SELECT to reformat the FLASH DIMM.
Flash Summary This selection will print a page containing information about the installed FLASH DIMM including a list of all the current existing files and directories.	1. Press SELECT to print the FLASH summary.



WARNING! All files on the FLASH DIMM will be deleted if the **Format FLASH** function is selected.

DISK Menu

NOTE: This menu selection will only appear if an optional hard disk drive has been installed. Consult the documentation that came with your hard disk drive for detailed installation and usage instructions.

The Disk Menu provides access to the printer settings that are related to the optional Hard Disk. Use the following procedure to enter the Disk Menu:

1. Press the **MENU** button on the control panel.
2. Press the **NEXT** button until the text “**Disk Menu**” is shown on the second line of the display.
3. Press the **SELECT** button to enter the system menu.
4. Press the **NEXT** button to move through the submenus: **Print, Delete, Format Disk, and Disk Summary.**
5. Press the **SELECT** button to enter a submenu.

6. Use the procedures in the following table to access and change the system settings:

Submenus	Procedure for Changing Setting
Print This selection will read the selected file from Disk and print it as if it were being received from one of the input ports.	1. Press NEXT or PREVIOUS to scroll through the files. 2. Press SELECT to choose and print the file.
Delete This selection will delete the selected disk file or directory from the hard disk. To delete an entire directory, you must first delete all the files within that directory.	1. Press NEXT or PREVIOUS to scroll through the files. 2. Press SELECT to choose and delete the file.
Format Disk This selection will reformat the hard disk.	1. Press SELECT to reformat the hard disk.
Disk Summary This selection will print a page containing information about the installed hard disk, including a list of all the current existing files and directories.	1. Press SELECT to print the Disk summary.



WARNING! All files on the hard disk will be deleted if the **Format Disk** function is selected.

Chapter 8

Optional Extended Features

In this Chapter . . .

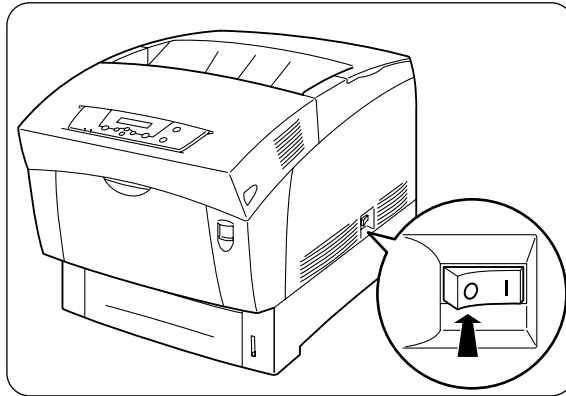
- “About this Chapter” on page 8-2
- “Installing DRAM Memory DIMMS” on page 8-2
- “Installing the Hard Disk Option in the Color Laser Printer” on page 8-5
- “Installing the User FLASH DIMM Module” on page 8-9
- “Using the Hard Disk Option and User Flash DIMM Module” on page 8-12
- “Using the Power-On Files Feature” on page 8-15
- “Extended Features Using the Hard Disk or User Flash Option” on page 8-16
- “Installing the RS-232C/RS-422 Serial Interface in the Color Laser Printer” on page 8-24
- “Using the RS-232C/RS-422 Serial Interface” on page 8-26
- “Using the Custom Paper Size Feature” on page 8-34

About this Chapter

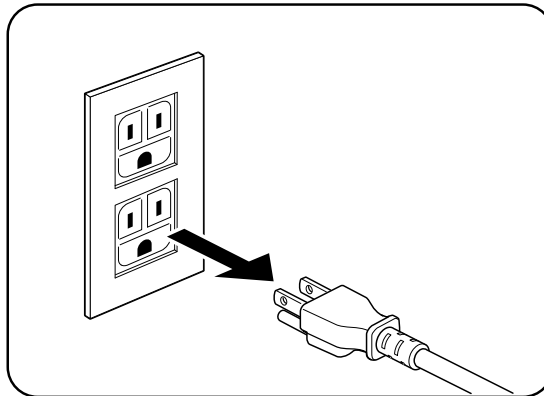
This chapter describes the procedures for installation of DRAM Memory DIMMs, Hard Disk Option, User FLASH DIMM Modules, and the RS232 Serial Interface.

Installing DRAM Memory DIMMS

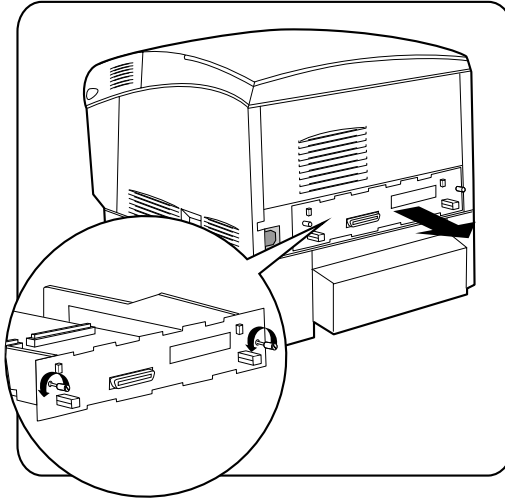
1. Ensure that the printer power switch is set to the OFF [O] position.



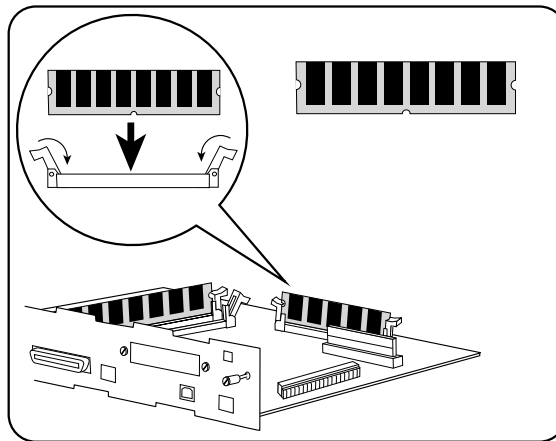
2. Disconnect the power cord from the wall outlet.



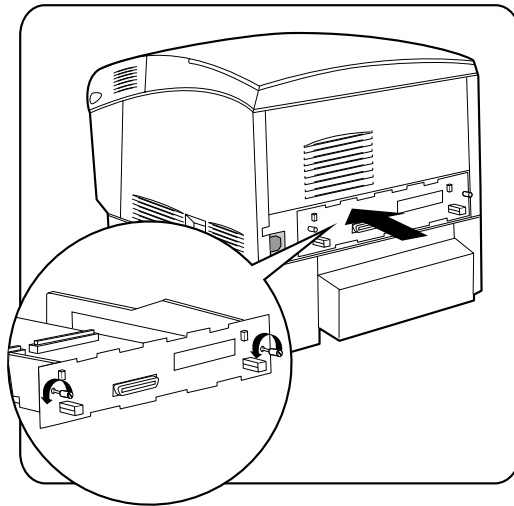
3. Turn thumbscrews on controller assembly counterclockwise until loose and gently pull controller assembly towards you to remove from printer.



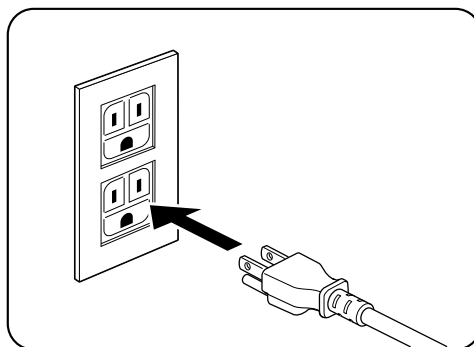
4. Carefully insert a DRAM DIMM which is compatible with your printer into any available DRAM DIMM slot as shown below. When properly seated, gently push down on the DIMM until the white braces close and snap onto the ends of the DIMM.



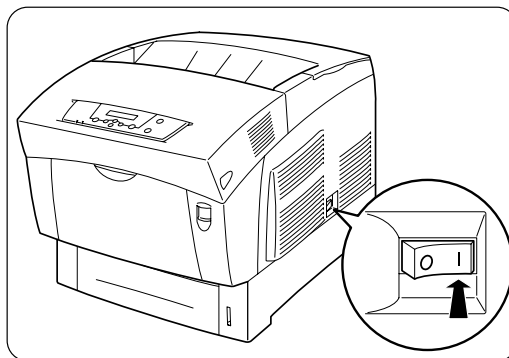
5. Reinstall the controller assembly. Once firmly in place, push and hand tighten the thumb-screws in a clockwise direction.



6. Connect the power cord to the wall outlet.

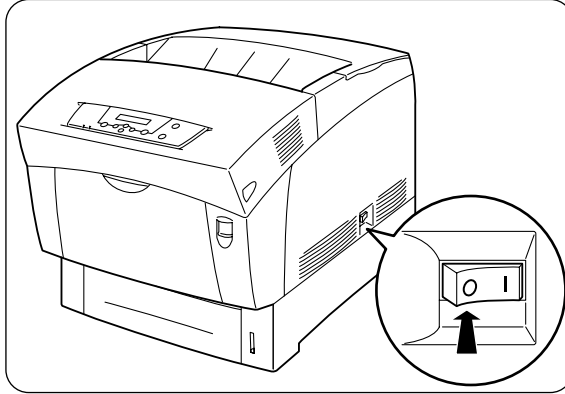


7. Turn the printer power switch to the ON [I] position.

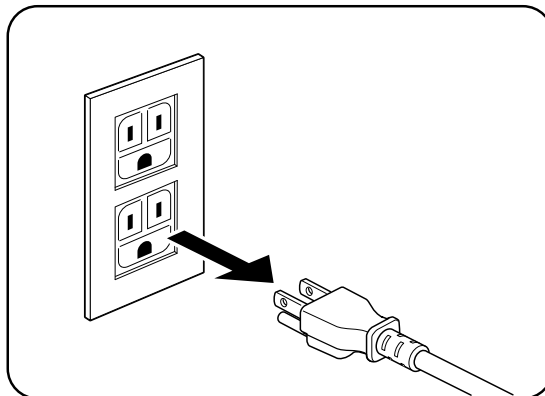


Installing the Hard Disk Option in the Color Laser Printer

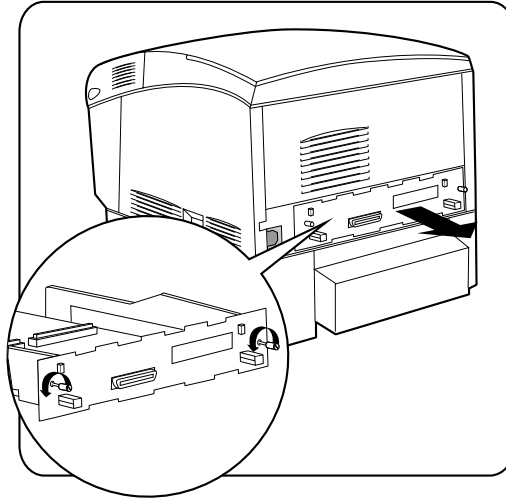
1. Carefully review the safety precautions in the front of this guide before starting this installation procedure.
2. Ensure that the printer power switch is set to the OFF [O] position.



3. Disconnect the power cord from the wall outlet.



4. Turn thumbscrews on controller assembly counterclockwise until loose and gently pull controller assembly towards you to remove from printer.

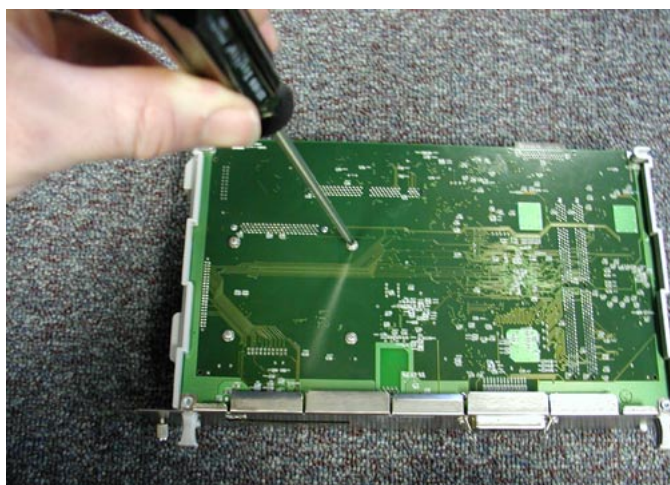
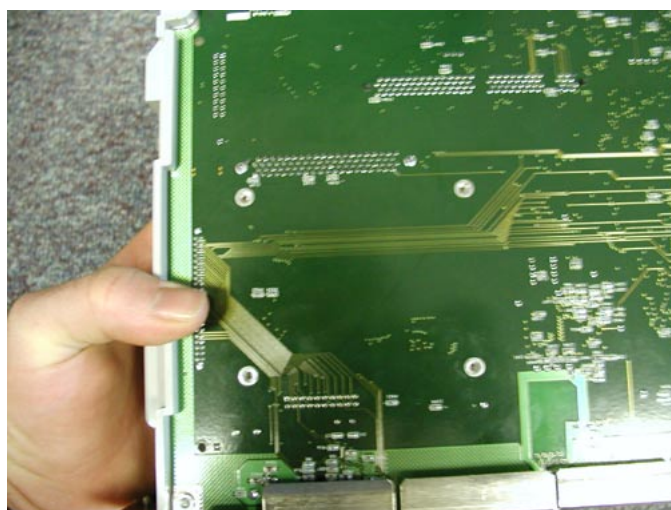


5. Locate the area of the controller identified as “Hard Disk”. Align the hard disk within the designated area and gently move up to ensure the 44-pin male connector of the hard disk is connected to the 44-pin female connector on the controller assembly.



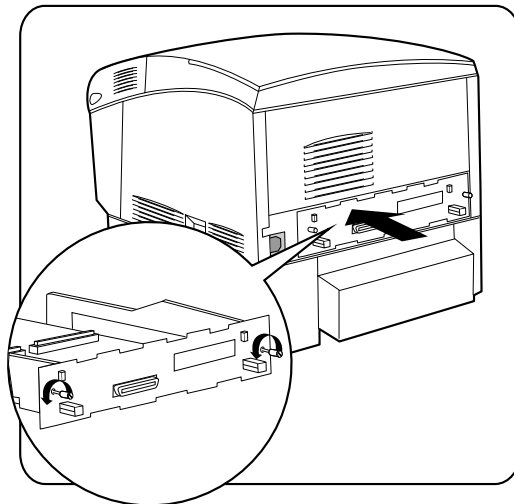
6. The hole in the hard disk four mounting screws should be aligned with the holes in the back of the controller. Insert the plastic rivet through the aligned holes. If you fail to align the hard disk within the designated outlined area for the hard drive placement, the four mounting

holes for the four screws will NOT line up. If there is improper alignment, remove the Hard Drive and reinstall.

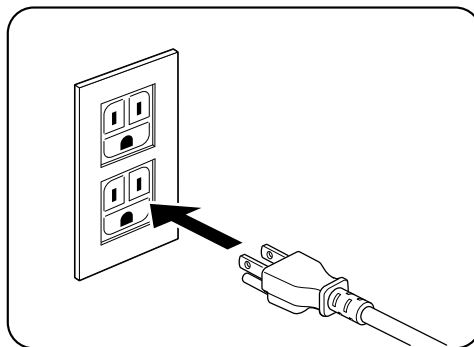


NOTE: Improper alignment will damage the hard drive and possibly the controller board.

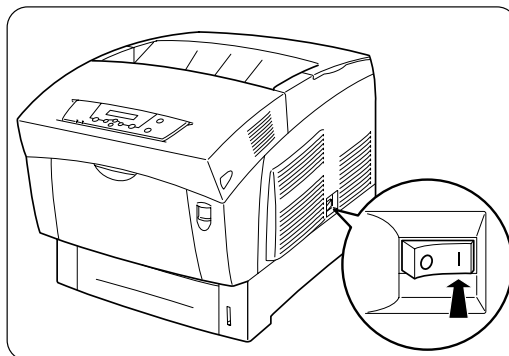
7. Reinstall the controller assembly. Once firmly in place, push and hand tighten the thumb-screws in a clockwise direction.



8. Connect the power cord to the wall outlet.



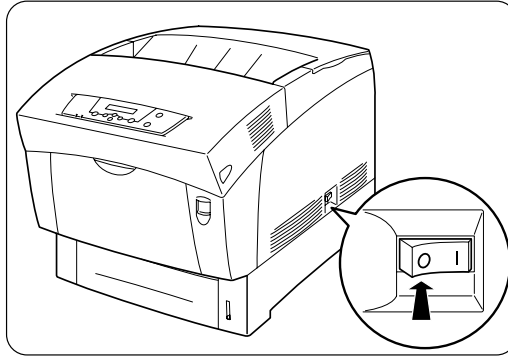
9. Turn the printer power switch to the ON [I] position.



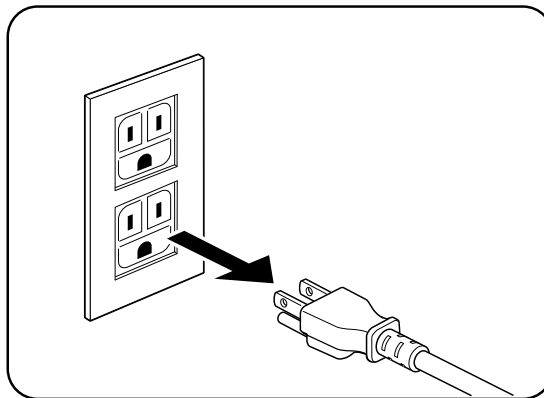
The installation of your Hard Disk option in your printer is now complete. Proceed to “Using the Hard Disk Option and User Flash DIMM Module” on page 8-12.

Installing the User FLASH DIMM Module

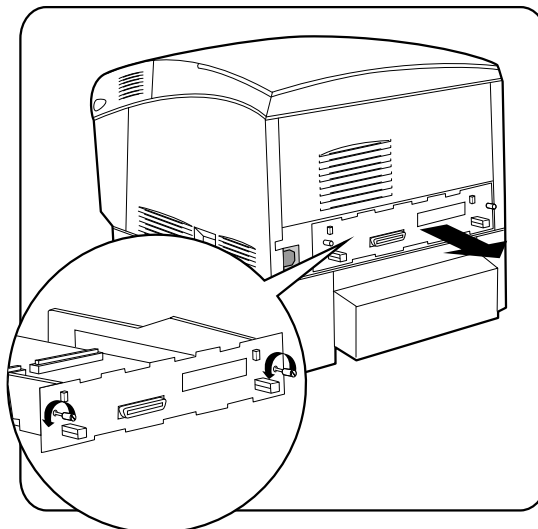
1. Ensure that the printer power switch is set to the OFF [O] position.



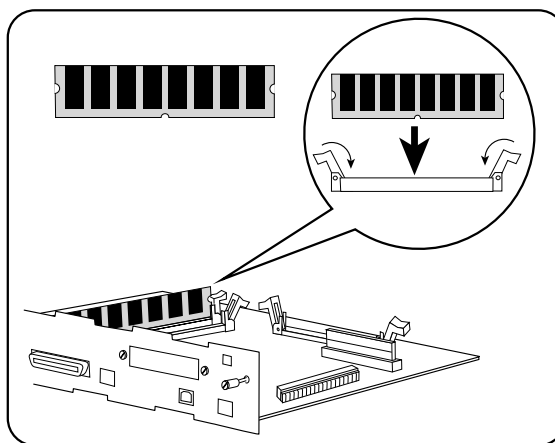
2. Disconnect the power cord from the wall outlet.



3. Turn thumbscrews on controller assembly counterclockwise until loose and gently pull controller assembly towards you to remove from printer.

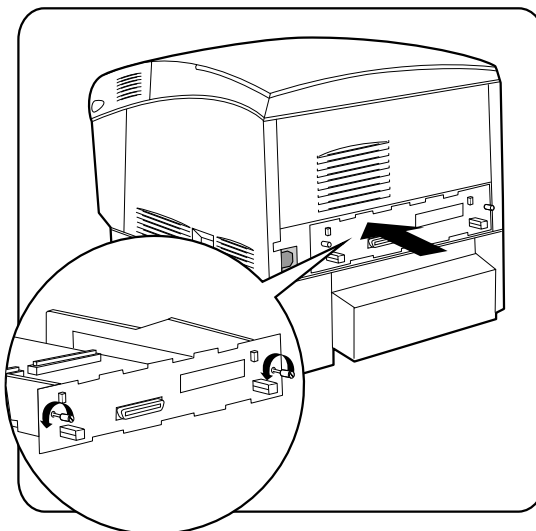


4. Carefully insert a FLASH DIMM module in FLASH DIMM slot as shown below. When properly seated, gently push down on the DIMM until the white braces close onto the ends of the DIMM.

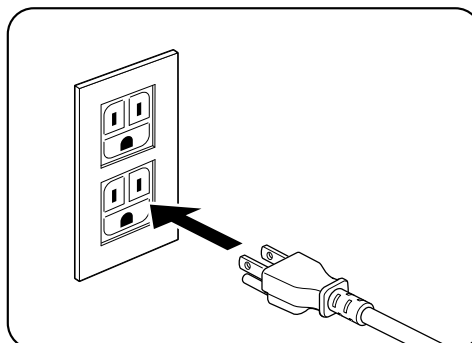


NOTE: To remove the FLASH DIMM, pull the white braces away from the ends of the DIMM until the DIMM snaps out of the slot.

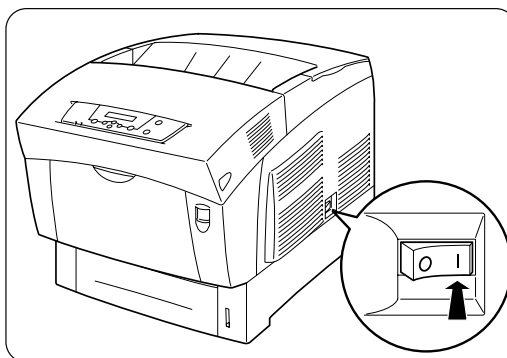
5. Reinstall the controller assembly. Once firmly in place, push and hand tighten the thumb-screws in a clockwise direction.



6. Connect the power cord to the wall outlet.



7. Turn the printer power switch to the ON [I] position.



Using the Hard Disk Option and User Flash DIMM Module

This section discusses the available control panel menus when the Hard Disk option is installed. Power-on files and the storage of files on the Hard Disk option are also discussed.

Control Panel MENU Structure

When the Hard Disk option is installed, the printer control panel menu structure is enhanced as shown in the following table. The shaded areas denote additional features and settings relevant to the Hard Disk option.

Menu				
	Paper Menu			
	Interface Menu			
	PS Menu			
	PCL Menu			
	System Menu			
		Display Language		
		Alarm Control		
		Power Saver		
		Wait Timeout		
		Job Timeout		
		Jam Recovery		
		Hex Print		
		Toner Out		
		Power-On Files		
			Playback	FILE01.POR
				FILE02.POR
				FILE03.POR
				...
				...
			Delete	FILE01.POR
				FILE02.POR
				FILE03.POR
				...
				...
	Quality Menu			
	Functions			
	Disk Menu			
		Print		
		Delete		
		Format Disk		
		Disk Summary		

NOTE:

1. The Flash Menu and Disk Menu will only appear when the respective FLASH SIMM and/or Hard Disk option is installed.
2. Power-On Files menu will only appear if either a FLASH SIMM or a Hard Disk option is installed and power-on files exist.

Using the Disk Menu

Manipulation of files stored on the hard disk option can be accomplished using the Disk Menu.

Disk Menu	
	Print
	Delete
	Format Disk
	Disk Summary

Print

This selection will read the selected file from the Hard Disk and print it as if it were being received from one of the input ports.

Delete

This selection will delete the selected disk file or directory from the hard drive. To delete an entire directory, you must first delete all the files within that directory.

Format Disk

This selection will reformat the hard drive.



CAUTION: All files on the hard drive will be deleted if this function is selected.

Disk Summary

This selection will print a page containing information about the hard disk drive including a list of all the current existing files and directories.

Using the PCL and PostScript Power-On Files Feature

Power-on Files Defined

If an optional FLASH SIMM or Hard Disk option is installed in your printer, your printer has the capability of storing additional power-on files which can be read and interpreted at power-on.

Power-on files can contain either PCL or PostScript language content. Examples of power-on files include soft fonts, and macro/overlay definitions. The FLASH SIMM can store approximately 8MB of file storage, the hard disk drive storage depends on the size of the drive that is installed in your printer.

NOTE: Power-on files are processed at power-on initialization only and not at the start of every print job.

Contact the technical support organization at your point of purchase for full details about the power-on files feature.

Using the FLASH SIMM or Hard Disk Option as a PostScript Device

In order to allow PostScript programs to access the FLASH SIMM and/or hard disk options, a full implementation of a PostScript storage device is provided. This section discusses an overview of the PostScript operators and parameter sets that are included in the support.

For detailed information on using the operators/parameter sets, please refer to the following publications:

PostScript Language Reference Manual

Adobe PostScript 3 Version 3010 Product Supplement

Device Names and Priority

The device names assigned to the FLASH SIMM and hard disk options are as follows:

%flash%	device name for the FLASH SIMM
%disk0%	device name for the hard disk

If both devices are installed, both devices can be referenced uniquely by name. If no device name is specified in the PostScript operation, the *SearchOrder* parameter in the device parameter set establishes the priority for file operations. When both devices are installed, the *SearchOrder* value for the hard disk is set to 1, while the *SearchOrder* value for the FLASH SIMM is set to 2. This gives priority to the hard disk.

PostScript Operators

All of the standard file-object related operators (file, read, write, etc) are supported. In addition, following is a list of device-related PostScript Compatibility operators that are supported for use with the FLASH SIMM(%flash%) or hard disk (%disk0%) options:

- devdismount
- devforall
- devformat
- devmount
- devstatus
- diskonline
- diskstatus
- initializedisk
- dosysstart
- setdosysstart

Device Parameter Sets

When installed, a device parameter set will be supported for either or both FLASH SIMM and hard disk options. The parameter sets can be referenced using the device names %flash% or %disk0%. Each parameter set will include the following parameters:

- LogicalSize
- Writeable
- BlockSize
- Searchable
- SearchOrder
- Type
- Mounted
- HasNames
- PhysicalSize
- InitializeAction
- Free
- Removable

Warmstart.ps and Sys/Start Files

When either or both the FLASH SIMM or hard disk options are installed, there are two features which provide support for automatic execution of a PostScript program during power-on initialization.

The first feature is the *warmstart.ps* file. Each time the printer is powered on, either or both optional storage devices will be checked for a file named *warmstart.ps*. If this file is found, it will be read and parsed by the PostScript interpreter. It is up to the PostScript programmer to create the content of this file and get the file onto the storage device using the PostScript device and file operators.

The second feature is the *Sys/Start* file. If either or both of the optional storage devices are installed, an additional parameter will be supported in the System Parameter set. This parameter is an integer parameter called *StartupMode* and is set to 1 by default.

NOTE: This parameter can be read or written using the *dosysstart* and *setdosysstart* operators.

Each time the printer is powered on, if the *StartupMode* parameter is set to 1, either or both the optional storage devices will be searched for a file called *Sys/Start*, a file named *Start* in a path called *Sys*. If this file is found, it will be read and parsed by the PostScript interpreter. Again, it is up to the PostScript programmer to create the content of this file and get the file onto the storage device using the PostScript device and file operators.

Using the Power-On Files Feature

Power-on Files Defined

If an optional FLASH DIMM or hard disk drive is installed in your printer, your printer has the capability of storing additional power-on files which can be read and interpreted at power-on. See “FLASH Menu” on page 8-23 and “DISK Menu” on page 8-24

Power-on files can contain either PCL or PostScript language content. Examples of power-on files include soft fonts, and macro/overlay definitions. The FLASH DIMM can store approximately 8MB of file storage, the hard disk drive storage depends on the size of the drive that is installed in your printer.

NOTE: Power-on files are processed at power-on initialization only and not at the start of every print job.

Optional control panel menu selections become available when either of these options are installed and power-on files are detected. See “FLASH Menu” on page 8-23 and “DISK Menu” on page 8-24

NOTE: Contact the technical support team at your point of purchase for additional information regarding loading and using power-on files.

Extended Features Using the Hard Disk or User Flash Option

The features discussed in this section are designed to work with the Hard Disk Option. However, if no Hard Disk Option is installed, but a User Flash Option is installed, these features will utilize the User Flash Option. If both the Hard Disk Option and a User Flash Option are installed, these features will default to the Hard Disk Option.

There are two new features available using the Hard Disk or User Flash Option; Collating and Saved Jobs. The drivers that support these new features are as follows:

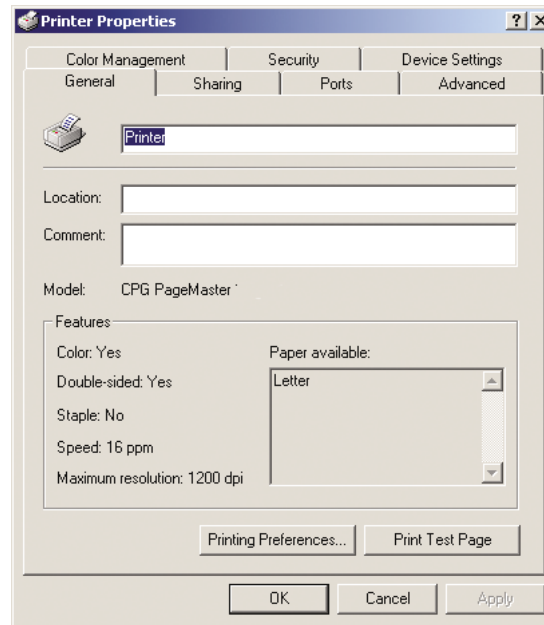
- PCL - All windows platforms
- PostScript - Windows 2000 and Windows XP

Collating

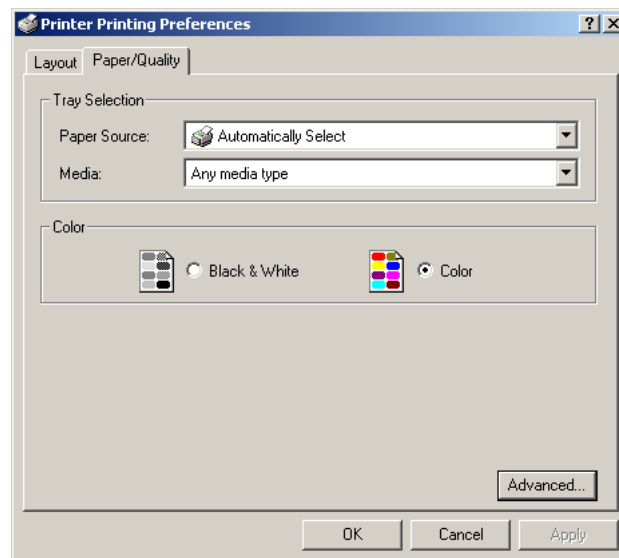
When this feature is enabled multiple copies of the entire document (all pages eg 1-3, 1-3, 1-3) will be printed in sequential order rather than multiple copies of each individual page (111, 222, 333).

You access the collating feature through the drivers that support this feature. To access the Collating feature on your desktop, go to the Start menu, left click on Settings, left click on Printers, and then click on your printer driver icon, right click and follow the menu to the Properties menu. Use the following procedure to enable collating:

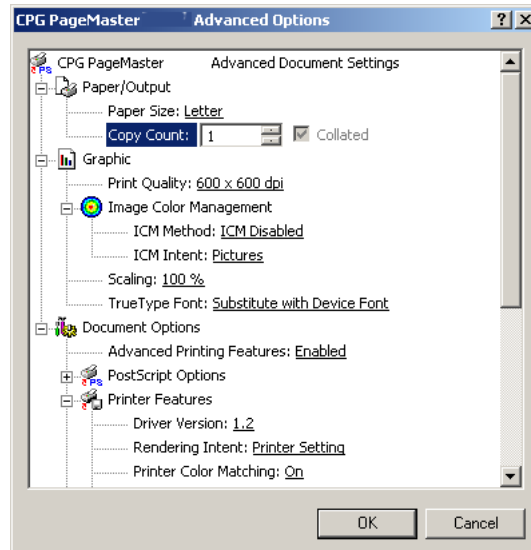
1. Press the **Printing Properties** button printer icon.



2. Click on the **Printing Preferences** button.
3. Click on the **Paper Quality** button and then the **Advanced** button.



- Click on the **Copy Count** button to enter the number of copies and make sure the **Collate** button is checked.



- Click to **OKAY** button and your printer driver is set to collate the number of copies specified.

Saved Jobs

You can create saved jobs using the drivers that support this feature. The drivers that support this feature are as follows:

- PCL - All windows platforms
- PostScript - Windows 2000 and Windows XP

There are three job types available, Normal, Saved, and Private. The descriptions of the job types are as follows:

Normal

A normal print job. No print job data is saved.

Saved

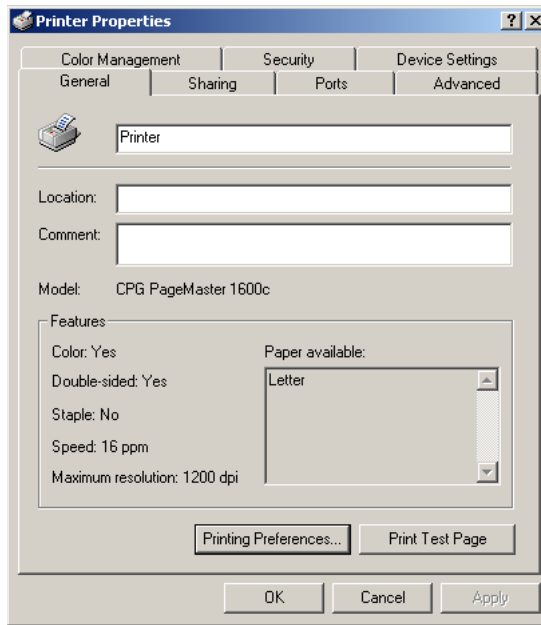
The print job data is saved on the Hard Disk or User Flash Option. The job will be saved in the "Job Library" folder. A sub-folder in the Job Library folder will be created, if necessary, for the user, as specified by the user name. The print job will be stored in a file in this folder with a name created by the user in the job name field of the printer driver.

Private

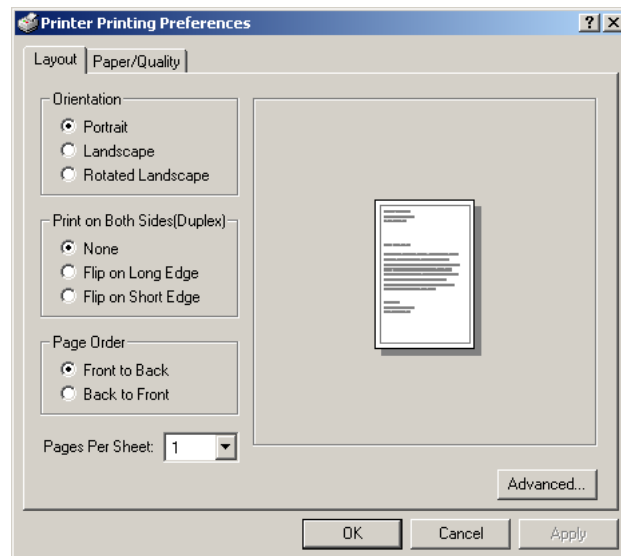
The print job data is saved on the Hard Disk or User Flash Option. The job will be saved in the "Job Library" folder. A sub-folder will be created, or the by the user as specified by user name. The print job will be stored in a file in this folder, with a name specified by user in the job name field of the printer driver. "Private" print job files are secured by having an associated PIN which is entered in the PIN field of the driver by the user. Any access to this file will require the PIN to be entered.

To access the Saved Jobs on your desktop, go to the Start menu, left click on Settings, left click on Printers, and then click on your printer driver icon, right click and follow the menu to the Properties menu.

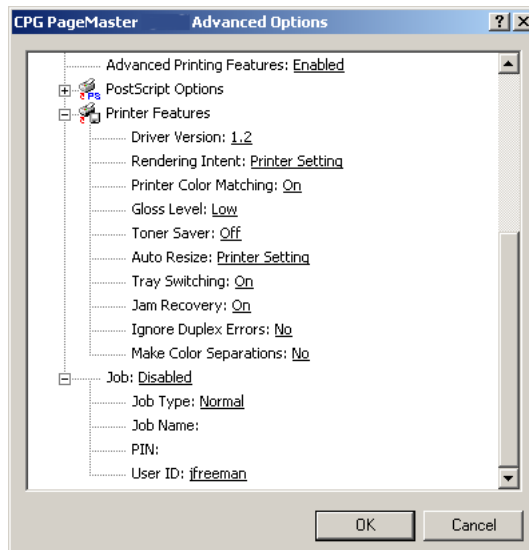
1. You are now in the **Printing Properties** menu, click on the **Printing Preference** button.



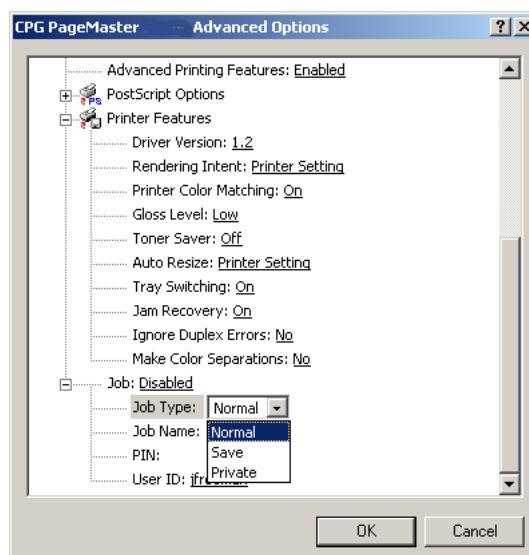
2. Click on the **Advanced** button.



3. Now scroll down to the **Job Type** Section of the menu.

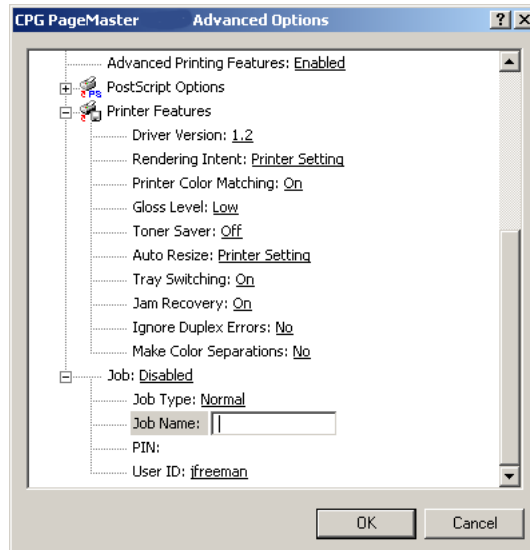


4. When you click on Job Type, three job types are available. **Normal**, **Saved**, and **Private**.

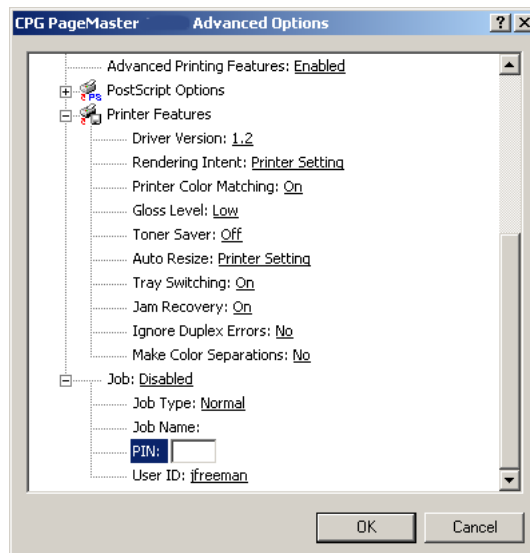


Extended Features Using the Hard Disk or User Flash Option

- If you want to **Save** your print job, enter a name you want to save the job as and it will be saved under User ID folder listed. You can change the User ID in this menu also.



- If you want to make your job **Private**, you can enter a number in the PIN menu. You will only be able to print this document if you know the PIN number..

***Working with Saved Jobs***

There are two ways to work with Saved Jobs. One is through the front panel menus, the other is through the printer web pages. Please refer to “Accessing the Printer Web Page” on page 7-25 to use this feature through the web page.

Front Panel Access

The Job Library Menu provides access to the printer settings that are related to the optional Hard Disk. Use the following procedure to enter the Job Library Menu to Print or Delete jobs that are Saved in the Job Library, including jobs that have a PIN number:

1. Press the **MENU** button on the control panel.
2. Press the **NEXT** button until the text “**Job Library Menu**” is shown on the second line of the display.
3. Press the **SELECT** button to enter the system menu.
4. Press the **NEXT** button to move through the submenus: **Print or Delete**.
5. Press the **SELECT** button to enter a submenu.

Use the procedures in the following table to access and change the system settings.

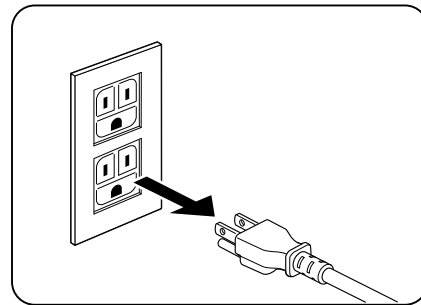
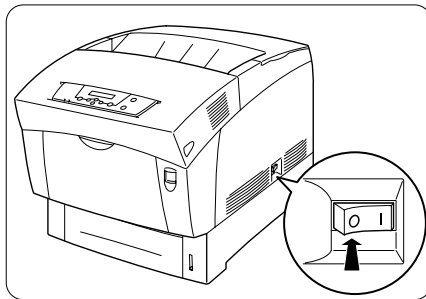
Menu	Submenus	Procedure for Changing Setting
Job Library SAVED JOB	Print (To print a saved job)	<ol style="list-style-type: none"> 1. Press NEXT or PREVIOUS to scroll through Print or Delete options. 2. Press SELECT to choose Print.
	Print User Folder 1	<ol style="list-style-type: none"> 1. Press NEXT or PREVIOUS to scroll through the User Folder Names. 2. Press SELECT to choose the desired User Folder.
	Print Job1	<ol style="list-style-type: none"> 1. Press NEXT or PREVIOUS to scroll through the Print Job Names. 2. Press SELECT to choose the desired Print Job.
	Job Name Copies - Select 1-99	<ol style="list-style-type: none"> 1. Press NEXT or PREVIOUS to increase or decrease each digit of the two-digit number. 2. Press SELECT set one digit and move to the next digit. 3. Press SELECT after changing the last digit to save this setting.
	Job Name Copies	<ol style="list-style-type: none"> 1. Press SELECT to print the job.
	Printing Playback	<ol style="list-style-type: none"> 1. The printer will display PRINTING on Line 1 and PLAYBACK on Line 2 of the display while printing the job.
SAVED JOB with PIN	Print (To print a saved job with a PIN)	<ol style="list-style-type: none"> 1. Press NEXT or PREVIOUS to scroll through Print or Delete options. 2. Press SELECT to choose Print.
	Print User Folder 1	<ol style="list-style-type: none"> 1. Press NEXT or PREVIOUS to scroll through the User Folder Names. 2. Press SELECT to choose the desired User Folder.
	Print Job1	<ol style="list-style-type: none"> 1. Press NEXT or PREVIOUS to scroll through the Print Job Names. 2. Press SELECT to choose the desired Print Job.
	Job Name PIN	<ol style="list-style-type: none"> 1. Press NEXT or PREVIOUS to increase or decrease each digit of the four-digit number. 2. Press SELECT to set one digit and move to the next digit. 3. Press SELECT after changing the last digit to save this setting.

Menu	Submenus	Procedure for Changing Setting
	Job Name INCORRECT PIN	1. If an incorrect PIN is entered, press PREVIOUS to re-enter the correct PIN.
	Job Name Copies - Select 1-99	1. Press NEXT or PREVIOUS to increase or decrease each digit of the two-digit number. 2. Press SELECT to set one digit and move to the next digit. 3. Press SELECT after changing the last digit to save this setting.
	Job Name Copies	1. Press SELECT to print the job.
	Printing Playback	The printer will display PRINTING on Line 1 and PLAYBACK on Line 2 of the display while printing the job.
Job Library DELETE	Delete (To delete a saved job)	1. Press NEXT or PREVIOUS to scroll through Print or Delete options. 2. Press SELECT to choose Delete.
	Delete User Folder 1	1. Press NEXT or PREVIOUS to scroll through the User Folder Names. 2. Press SELECT to choose the desired User Folder.
	Delete Job1	1. Press NEXT or PREVIOUS to scroll through the Print Job Names. 2. Press SELECT to choose the desired Print Job to Delete.
DELETE SAVED JOB with PIN	Delete (To delete a saved job with a PIN)	1. Press NEXT or PREVIOUS to scroll through Print or Delete options. 2. Press SELECT to choose Delete.
	Delete User Folder 1	1. Press NEXT or PREVIOUS to scroll through the User Folder Names. 2. Press SELECT to choose the desired User Folder.
	Delete Job1	1. Press NEXT or PREVIOUS to scroll through the Print Job Names. 2. Press SELECT to choose the desired Print Job to Delete.
	Job Name PIN	1. Press NEXT or PREVIOUS to increase or decrease each digit of the four-digit number. 2. Press SELECT to set one digit and move to the next digit. 3. Press SELECT after changing the last digit to save this setting.
	Job Name INCORRECT PIN	1. If an incorrect PIN is entered, press PREVIOUS to re-enter the correct PIN.
	Job Name	1. Press SELECT to Delete the job.

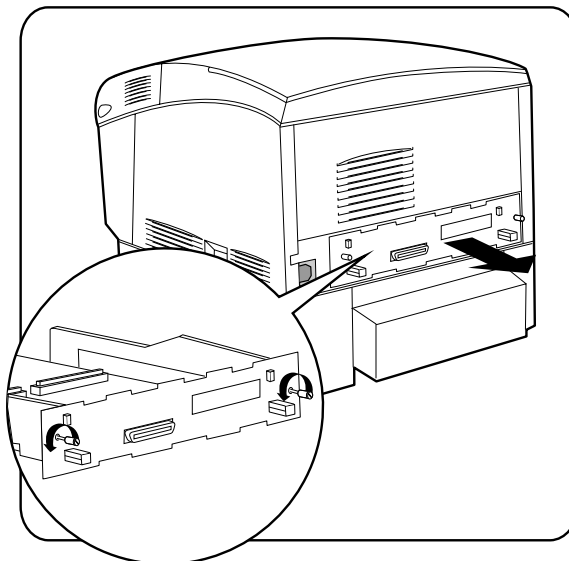
Installing the RS-232C/RS-422 Serial Interface in the Color Laser Printer

This section explains the procedure for installing the RS-232C/RS-422 Serial Interface option in the color laser printer.

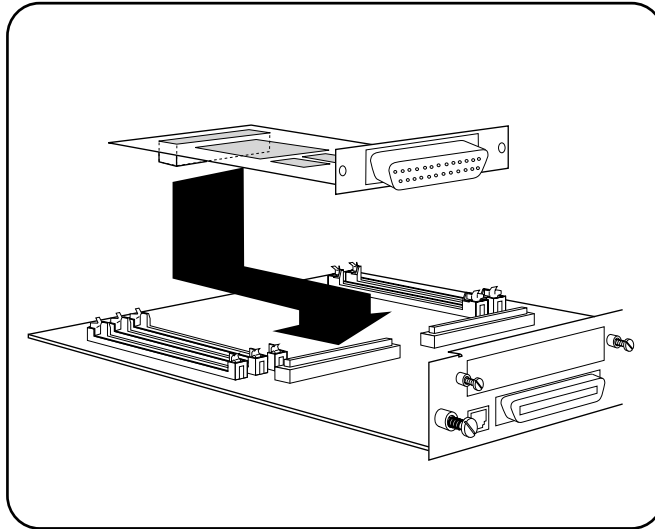
1. Carefully review the safety precautions in the front of this guide before starting this installation procedure.
2. Ensure that the printer power switch is set to the OFF [O] position and unplug the power cord from the AC outlet.



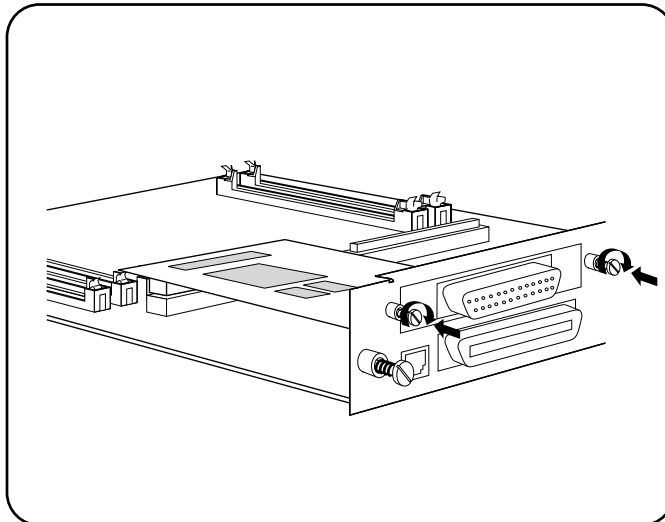
3. Turn thumbscrews on controller assembly counterclockwise until loose and gently pull controller assembly towards you to remove from printer.



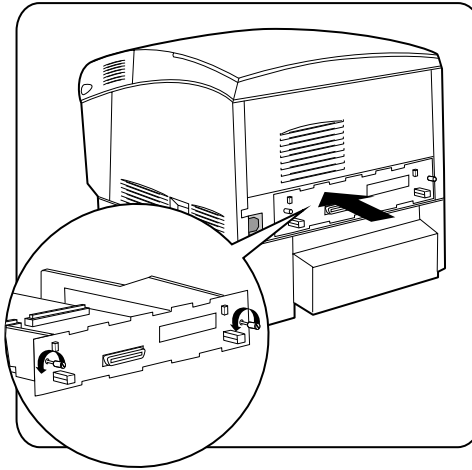
4. While aligning the front bracket of the serial interface assembly to the two respective thumbscrews on the controller assembly bracket, firmly seat the 80-pin male connector on the underside of the interface to the 80-pin female connector on the controller assembly.



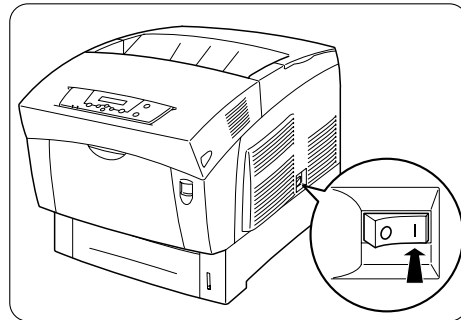
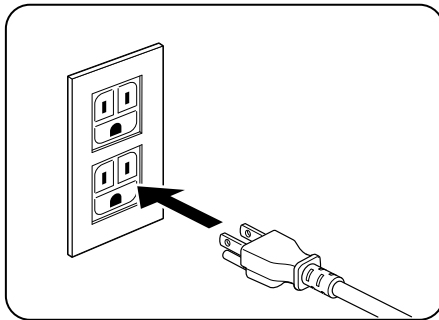
5. Secure the serial interface assembly to the controller bracket by tightening the two smaller thumbscrews in a clockwise direction.



6. Reinstall the controller assembly. Once firmly in place, push and hand tighten the thumb-screws in a clockwise direction.



7. Connect the power cord to the wall outlet and turn the printer power switch to the ON [I] position.



The installation of your RS-232C/RS-422 serial interface option in your color laser printer is now complete.

Using the RS-232C/RS-422 Serial Interface”

This section lists the Serial Interface setup features and available selections via the control panel menus. The Serial Interface connector pinouts are listed. Troubleshooting error messages appearing on the printer's control panel are also discussed.

Control Panel MENU structure

When the RS-232C/RS-422 serial interface is installed, the printer control panel menu structure is enhanced as shown in the following table. The shaded areas denote additional features and settings relevant to the RS-232C/RS-422 interface.

Menu				
	Paper Menu			
	Interface Menu			
		Port		
			Parallel	
			Serial	
		Parallel Setup		On
		Serial Setup		Off
			Interpreter	
				Auto Switch
				PCL
				Postscript 3
			Format	
				Normal
				Binary
				Raw
			Serial Mode	
				RS232
				RS422
			Baud Rate	
				1200
				2400
				4800
				9600
				19200
				38400
				57600
				115200
			Data Bits	
				7
				8
			Stop Bits	
				1
				2
			Parity	

				None
				Even
				Odd
			DTR Ready/Busy	
				On
				Off
			DTR Onl/Offl	
				On
				Off
			DTR Error	
				On
				Off
			RTS Ready/Busy	
				On
				Off
			RTS Onl/Offl	
				On
				Off
			RTS Error	
				On
				Off
			XON Ready/Busy	
				On
				Off
			XON Onl/Offl	
				On
				Off
			XON Error	
				On
				Off
			DTR Polarity	
				High
				Low
			RTS Polarity	
				High
				Low
			Robust XON	
				On
				Off
	PS Menu			
	PCL Menu			
	System Menu			

NOTE: The structure of your display menus may vary slightly depending on the options installed in your printer.

SERIAL SETUP Menu

The following selections becomes available within a SERIAL SETUP submenu of the INTERFACE menu when the RS-232C/RS-422 serial interface is installed.

Interpreter

AVAILABLE SELECTIONS	Auto Switch PCL Postscript 3
DEFAULT	Auto Switch

Format

AVAILABLE SELECTIONS	Normal Binary Raw
DEFAULT	Raw

Serial Mode

AVAILABLE SELECTIONS	RS232 RS422
DEFAULT	RS232

Baud Rate

AVAILABLE SELECTIONS	1200 2400 4800 9600 19200 38400 57600 115200
DEFAULT	9600

Data Bits

AVAILABLE SELECTIONS	7 8
DEFAULT	8

Stop Bits

AVAILABLE SELECTIONS	1 2
DEFAULT	1

Parity

AVAILABLE SELECTIONS	None Even Odd
DEFAULT	None

DTR Ready/Busy

AVAILABLE SELECTIONS	Off On
DEFAULT	Off

DTR Onl/Offl

AVAILABLE SELECTIONS	Off On
DEFAULT	Off

DTR Error

AVAILABLE SELECTIONS	Off On
DEFAULT	Off

RTS Ready/Busy

AVAILABLE SELECTIONS	Off On
DEFAULT	Off

RTS Onl/Offl

AVAILABLE SELECTIONS	Off On
DEFAULT	Off

RTS Error

AVAILABLE SELECTIONS	Off On
DEFAULT	Off

XON Ready/Busy

AVAILABLE SELECTIONS	Off On
DEFAULT	Off

XON Onl/Offl

AVAILABLE SELECTIONS	Off On
DEFAULT	Off

XON Error

AVAILABLE SELECTIONS	Off On
DEFAULT	Off

DTR Polarity

AVAILABLE SELECTIONS	High Low
DEFAULT	High

RTS Polarity

AVAILABLE SELECTIONS	High Low
DEFAULT	High

Robust XON

AVAILABLE SELECTIONS	Off On
DEFAULT	Off

Disabling the Serial Interface

The following selection becomes available within the PORT submenu of the INTERFACE menu when the RS-232C/RS-422 serial interface is installed.

Serial

The **Serial** option enables you to turn off the serial port on the interface. This selections is often used to permit uninterrupted communication to other ports such as the parallel or other network ports.

AVAILABLE SELECTIONS	On Off
DEFAULT	On

References for OpenVMS users

You can print to your laser printer via the serial interface option from an OpenVMS system, either directly connected to the system or through a network device such as a terminal server.

It is recommended that DECprint Supervisor (DCPS) be used for printing. Please see the "Setting Up Printers" chapter of the *DCPS System Manager's manual* for information on creating a DCPS print queue.

If DCPS will not be used, please see the "Setting Up and Maintaining Queues" chapter of the *OpenVMS System Manager's manual* for information on setting up print queues using the Open-VMS print symbiont.

RS-232C Serial Cable Pin Assignments

Eight pins of the 25-pin serial cable are utilized for the RS-232C standard:

Pin No.	Signal	Direction	Description
1	GND		Frame Ground
2	TXD	Out	Transmit Data
3	RXD	In	Receive Data
4	RTS		Request To Send
5	CTS	In	Clear To Send
6	DSR	In	Data Set Ready
7	GND		Logic Ground
20	DTR	Out	Data Terminal Ready

RS-422 Serial Cable Pin Assignments

Five pins of the 25-pin serial cable are utilized for the RS-422 standard:

Pin No.	Signal	Direction	Description
1	GND		Frame Ground
15	RXD -	In	Receive Data +
17	RXD +	In	Receive Data -
19	TXD -	Out	Transmit Data -
25	TXD +	Out	Transmit Data +

Troubleshooting

This section discusses troubleshooting error messages appearing on the printer’s control panel. Sources of help, information and technical support are also discussed.

Control Panel Error Messages

The format of control panel error messages is:

NETx: ERROR y

and where x indicates the network slot where the serial interface is installed and where y reflects the error number as shown below:

Error No.	Description	Action Required
1	Overrun Error	Verify that all DTS, RTS and XON settings within the SERIAL SETUP menu are configured correctly. Check the pinout assignments of cabling between the printer and the host.
2	Parity Error	Verify that the PARITY setting within the SERIAL SETUP menu is configured correctly. Check the pinout assignments of cabling between the printer and the host.
3	Framing Error	Verify that the SERIAL MODE, BAUD RATE, DATA BITS, STOP BITS and PARITY settings within the SERIAL SETUP menu are configured correctly.
4	Flow Control Error	Verify that all DTS, RTS and XON settings within the SERIAL SETUP menu are configured correctly. Check the pinout assignments of cabling between the printer and the host.

Example

An error message of:

NET2: ERROR3

indicates that the serial interface which is located in network slot 2 has experienced a framing error.

Obtaining Help and Information

Several sources of help and information are available, depending on the type of help you need:

Your Point of Purchase

Your local vendor from whom you purchased this printer may be best equipped to help you. Your vendor has specially trained service technicians available to answer questions and the equipment to analyze your printer problems.

Your Application Vendor

Often, “printing” problems have more to do with the application being used than with the printer. In this case, the application manufacture is the best source of help.

Technical Support

Technical Support is available world-wide. Please refer to your point of purchase for the appropriate contact in your area.

When calling for assistance, please have the following information readily available:

- Your phone number, fax number and shipping address.
- A description of the problem.

- The printer model.
- The type of host computer you are using.
- The type and version of operating system you are using.
- The application and version you are using.
- The interface you are using (e.g., network, parallel, serial).
- If using the network interface, the network protocol (TCP/IP, EtherTalk, IPX/SPX, NetBIOS/NetBEUI).
- The printer emulation you are using (e.g., PCL or PostScript).
- A printout of your printer's Configuration Summary. (Refer to your printer's *User* manual).
- If you have a printer hardware problem you cannot resolve, provide the error message displayed on the Control Panel. For a list of error messages, refer to your printer's *User* manual.

NOTE: To confirm that a problem is isolated to the RS-232C/RS-422 Serial Interface, you may want to remove the serial interface from the printer and diagnose the printer using the User's Manual that came with your printer. If the condition persists, it can be assumed that the problem resides within the printer and not necessarily the serial interface.

Using the Custom Paper Size Feature

There are two ways to work with the Custom Paper Size Feature. One is through the front panel menus, the other is through the printer driver.

Front Panel Access

The Paper Menu provides access to the Custom Paper Size settings. The range for setting a custom paper size is:

Paper Width	3.5 inches minimum to 8.5 inches maximum
Paper Length	5.5 inches minimum to 35.45 inches maximum

Use the following procedure to enter the Paper Menu to set a Custom Paper Size:

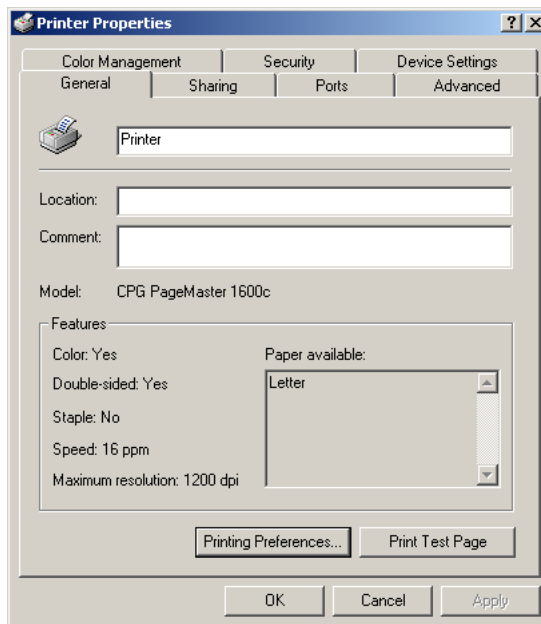
1. Press the **MENU** button on the control panel.
2. Press the **NEXT** button until the text "**Paper Menu**" is shown on the second line of the display.
3. Press the **SELECT** button to enter the **Paper Menu**.
4. Press the **NEXT** button until the text "**Media Size/Type**" is shown on the second line of the display and press the **SELECT** button.
5. Press the **NEXT** button until the text "**MBF**" is shown on the second line of the display.
6. Press the **SELECT** button.
7. Press the **NEXT** button until the text "**Custom Size**" is shown on the second line of the display.
8. Press the **SELECT** button to enter the "**Custom Size**" menu. "**Width**" is shown on the second line of the display.

9. Press **NEXT** or **PREVIOUS** to increase or decrease each digit of the three-digit number to set the width of your paper. When the width of paper is correct, press the **SELECT** button.
10. Next **"Length"** is shown on the second line of the display.
11. Press **NEXT** or **PREVIOUS** to increase or decrease each digit of the three-digit number to set the length of your paper. When the length of paper is correct, press the **SELECT** button.
12. Press **RETURN** until you exit out of all the submenus and return to **READY**.

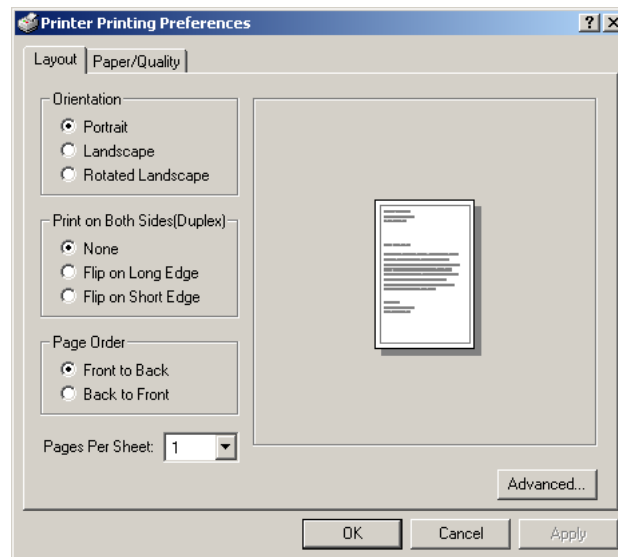
Printer Driver Access

To access the Custom Paper Size Feature through your printer driver, use the following procedure:

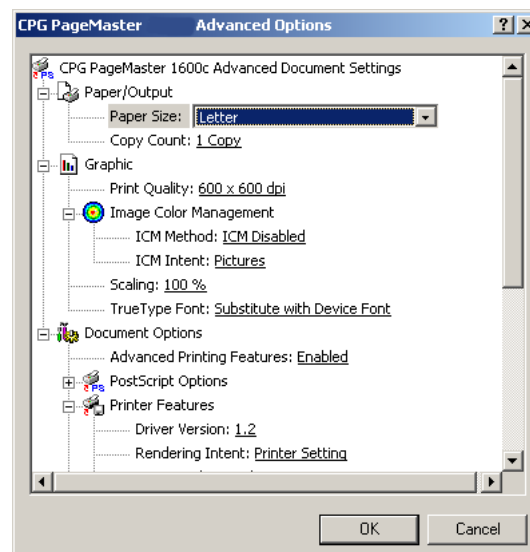
1. On your desktop, go to the Start menu, left click on Settings, left click on Printers, and then click on your printer driver icon, right click and follow the menu to the Properties menu.
2. You are now in the **Printing Properties** menu, click on the **Printing Preference** button.



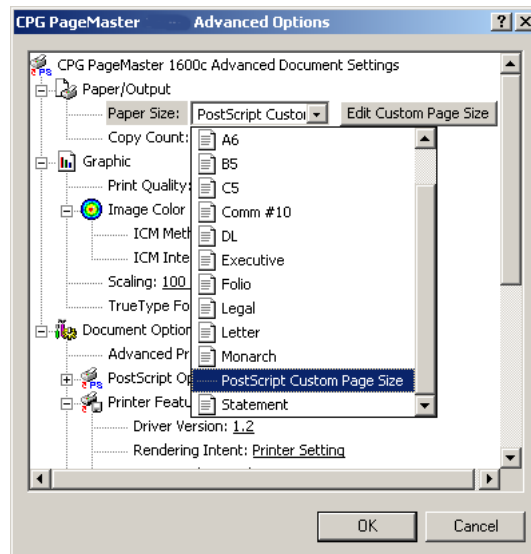
3. Click on the **Advanced** button.



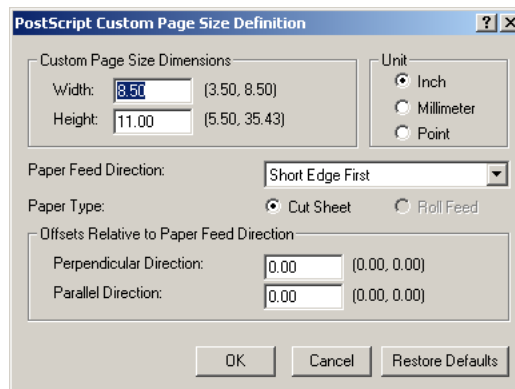
4. Click on the Paper Size button.



5. Scroll down to Custom Page Size and click.



6. Then enter the width and height of your custom paper size.



7. Click the OKAY button until you exit out of the driver menu. You are now ready to print your custom sized document.



Appendix A

Safety Notes and Regulatory Compliance

In this Chapter . . .

- “About this Appendix” on page A-2
- “Safety Notes” on page A-2
- “Regulatory Compliance” on page A-2

About this Appendix

This appendix lists important safety precautions and identifies the applicable regulatory compliances of your printer.

Safety Notes

- Be sure to switch off and unplug the printer before accessing the interior of the printer for cleaning, maintenance, or fault clearance. Accessing the interior of a live machine exposes you to the risk of electric shock.
- Do not place the printer in a hot, humid, dusty, or poorly ventilated environment. Prolonged exposure to these adverse conditions may cause fire or expose you to electric shock.
- The printer is capable of operating normally within the following environmental limits:
 - Temperature range: 50°F -95°F (10°C -35°C)
At high temperatures (95°F /35°C), humidity should be at or below 70%.
 - Humidity range: 15%-85% (no condensation)
At maximum humidity (85%), temperature should be at or below 82°F(28°C).
- Stop operation immediately if your printer produces smoke, excessive heat, unusual noise, or smell. These conditions can indicate or result in a fire. Immediately switch off and unplug the printer, and contact your point of purchase.
- The fuser becomes very hot in normal operation. If a paper jam has occurred, turn the power off and wait at least 10 minutes before removing the drum cartridge and touching the fuser section.

Regulatory Compliance

Safety Compliance

This product conforms the following safety standards:

- UL1950
- CSA C22.2 No. 950
- EN 60950
- IEC 950
- 73/23/EEC

Class 1 Laser Device and CDRH Compliance

This printer is certified as a Class 1 laser product under the U.S. Department of Health and Human Services (DHHS) Radiation Performance Standard according to the Radiation Control for Health and Safety Act of 1968. This certification indicates that the printer does not emit hazardous laser radiation. Since radiation emitted inside the printer is completely confined within the protective housings and external covers, the laser beam cannot escape from the machine during any phase of user operation.

The Center for Devices and Radiological Health (CDRH) of the U.S. Food and Drug Administration implemented regulations for laser products on August 1976. These regulations apply to laser products marketed in the United States. The label on the printer indicates compliance with the CDRH regulations and must be attached to laser products marketed in the United States.

EMC Compliance

Class B Equipment

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

If your machine is a 220-240V model, there is no need to attach a separate earth line since the earth connection is incorporated in the power line. Plug it into a properly rated outlet.

The use of a non-shielded interface cable with the reference devices is prohibited. Shielded interface cables must not exceed the following limitations:

- The length of the IEEE 1284 parallel interface cable must be 50 feet (15 meters) or less.
- The length of the Ethernet interface cable must be 328 feet (100 meters) or less for type 10/100BASE-2 or 185 meters (607 feet) or less for type 10/BASE-T.
- The length of the power cord must be 10 feet (3 meters) or less.

This equipment generates, uses, and can radiate radio frequency energy. If the equipment is not installed and used in accordance with the instructions, it may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, try to correct the interference using one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment and the receiver to outlets that are on different circuits.
- Consult with the dealer or an experienced radio/television technician to help.
- Always use the power cord provided with your machine. When an extension cord is required, always use a properly rated cord.
- In countries other than the United States, please contact your point of purchase.

Other EMC Standards

This product also conforms to the following EMC standards:

- CNS 13438
- VCCI V-3/97.04
- AS/NZS 3548:1995 including A1:1997 and A2:1997
- EN55022: 1994 including A1:1995 and A2:1997
- FCC Part 15, Subpart B (CFR 47, 1995)
- CISPR22: 1993 including A1:1995 and A2:1996



Appendix B

Printing Font Summaries

In this Chapter . . .

- “About this Appendix” on page B-2
- “Printing a Font Summary” on page B-2
- “PostScript Font Summary” on page B-3
- “PCL Font Summary” on page B-7

About this Appendix

This appendix explains the procedure for printing summaries of PCL or PostScript fonts installed in your printer.

Printing a Font Summary

Your printer has the capability of printing summaries of all installed PCL or PostScript fonts. To print a Font Summary, follow these steps:

1. From the Ready status, press MENU, the control panel display will read:

Menu
Paper Menu

2. Press PREVIOUS or NEXT until the display reads:

Menu
Functions

3. Press SELECT, the display will read:

Functions
Reset Printer

4. Press NEXT or PREVIOUS until the display reads:

Functions
Print Fonts

5. Press SELECT, the display will read:

Print Fonts
PCL Fonts

NOTE: You may toggle between PCL Fonts and Postscript Fonts using the PREVIOUS or NEXT push-buttons.

6. Press SELECT. A multi page Font Summary will print.

Examples of PCL and PostScript Font Summaries follow.

PostScript Font Summary

PostScript Fonts

Font Name	Print Sample
Times-BoldItalic	<i>abcdABCD0123456789</i>
Univers-Bold	abcdABCD0123456789
Univers-CondensedBold	abcdABCD0123456789
AntiqueOlive-Compact	abcdABCD0123456789
NewCenturySchlbk-BoldItalic	<i>abcdABCD0123456789</i>
Univers-Oblique	<i>abcdABCD0123456789</i>
Coronet-Regular	<i>abcdABCD0123456789</i>
Optima-BoldItalic	<i>abcdABCD0123456789</i>
Clarendon-Light	<i>abcdABCD0123456789</i>
Apple-Chancery	<i>abcdABCD0123456789</i>
Carta	<i>abcdABCD0123456789</i>
NewYork	<i>abcdABCD0123456789</i>
Bodoni-BoldItalic	<i>abcdABCD0123456789</i>
HoeflerText-BlackItalic	<i>abcdABCD0123456789</i>
Optima-Italic	<i>abcdABCD0123456789</i>
TimesNewRomanPS-BoldMT	<i>abcdABCD0123456789</i>
TimesNewRomanPS-BoldItalicMT	<i>abcdABCD0123456789</i>
GillSans-LightItalic	<i>abcdABCD0123456789</i>
NewCenturySchlbk-Roman	<i>abcdABCD0123456789</i>
TimesNewRomanPSMT	<i>abcdABCD0123456789</i>
Arial-ItalicMT	<i>abcdABCD0123456789</i>
Helvetica-Bold	abcdABCD0123456789
GillSans	<i>abcdABCD0123456789</i>
Bookman-LightItalic	<i>abcdABCD0123456789</i>
Eurostile-ExtendedTwo	<i>abcdABCD0123456789</i>
GillSans-Bold	abcdABCD0123456789
Helvetica-Narrow	<i>abcdABCD0123456789</i>
Helvetica-Narrow-Oblique	<i>abcdABCD0123456789</i>
HoeflerText-Black	abcdABCD0123456789
LubalinGraph-DemiOblique	<i>abcdABCD0123456789</i>
Optima	<i>abcdABCD0123456789</i>
Oxford	<i>abcdABCD0123456789</i>
Univers-BoldExtObl	abcdABCD0123456789
Univers-CondensedBoldOblique	abcdABCD0123456789
Optima-Bold	abcdABCD0123456789
Univers-Extended	<i>abcdABCD0123456789</i>
Arial-BoldItalicMT	abcdABCD0123456789
MonaLisa-Recut	<i>abcdABCD0123456789</i>
AntiqueOlive-Italic	<i>abcdABCD0123456789</i>
Copperplate-ThirtyThreeBC	ABCDABCD0123456789
GillSans-BoldCondensed	abcdABCD0123456789
Helvetica-BoldOblique	abcdABCD0123456789
Copperplate-ThirtyTwoBC	<i>ABCDABCD0123456789</i>

PostScript Font Summary (cont'd)

PostScript Fonts

Font Name	Print Sample
Univers-Light	abcdABCD0123456789
Univers-ExtendedObl	<i>abcdABCD0123456789</i>
Times-Roman	abcdABCD0123456789
Goudy-BoldItalic	<i>abcdABCD0123456789</i>
Palatino-BoldItalic	<i>abcdABCD0123456789</i>
AntiqueOlive-Bold	abcdABCD0123456789
Bookman-DemiItalic	<i>abcdABCD0123456789</i>
Chicago	abcdABCD0123456789
Univers-BoldOblique	<i>abcdABCD0123456789</i>
Eurostile-BoldExtendedTwo	abcdABCD0123456789
LubalinGraph-Demi	<i>abcdABCD0123456789</i>
AvantGarde-DemiOblique	<i>abcdABCD0123456789</i>
LetterGothic-Slanted	<i>abcdABCD0123456789</i>
AlbertusMT-Italic	<i>abcdABCD0123456789</i>
Eurostile	abcdABCD0123456789
GillSans-ExtraBold	abcdABCD0123456789
ArialMT	abcdABCD0123456789
Goudy-Bold	abcdABCD0123456789
AntiqueOlive-Roman	abcdABCD0123456789
CooperBlack	abcdABCD0123456789
Univers-LightOblique	<i>abcdABCD0123456789</i>
Arial-BoldMT	abcdABCD0123456789
Helvetica-Condensed	abcdABCD0123456789
HoeflerText-Italic	<i>abcdABCD0123456789</i>
Eurostile-Bold	abcdABCD0123456789
AvantGarde-BookOblique	<i>abcdABCD0123456789</i>
AvantGarde-Demi	abcdABCD0123456789
HoeflerText-Regular	abcdABCD0123456789
JoannaMT-Italic	abcdABCD0123456789
LubalinGraph-BookOblique	<i>abcdABCD0123456789</i>
NewCenturySchlbk-Italic	<i>abcdABCD0123456789</i>
Bodoni	abcdABCD0123456789
GillSans-Light	abcdABCD0123456789
Helvetica-Condensed-Bold	abcdABCD0123456789
LetterGothic	abcdABCD0123456789
Monaco	abcdABCD0123456789
Palatino-Italic	<i>abcdABCD0123456789</i>
Univers-CondensedOblique	<i>abcdABCD0123456789</i>
Palatino-Roman	abcdABCD0123456789
Goudy-Italic	<i>abcdABCD0123456789</i>
ZapfChancery-MediumItalic	<i>abcdABCD0123456789</i>
JoannaMT-Bold	abcdABCD0123456789
ZapfDingbats	

PostScript Font Summary (cont'd)

PostScript Fonts

<i>Font Name</i>	<i>Print Sample</i>
CooperBlack-Italic	abcdABCD0123456789
Times-Bold	abcdABCD0123456789
Palatino-Bold	abcdABCD0123456789
Univers-Condensed	abcdABCD0123456789
Marigold	<i>abcdABCD0123456789</i>
Bookman-Light	abcdABCD0123456789
Helvetica	abcdABCD0123456789
Helvetica-Condensed-Oblique	<i>abcdABCD0123456789</i>
Bodoni-Poster	abcdABCD0123456789
Geneva	abcdABCD0123456789
Courier	abcdABCD0123456789
HoeflerText-Ornaments	  
LetterGothic-BoldSlanted	abcdABCD0123456789
Tekton	<i>abcdABCD0123456789</i>
Helvetica-Narrow-BoldOblique	abcdABCD0123456789
Wingdings-Regular	
Univers-BoldExt	abcdABCD0123456789
AlbertusMT-Light	<i>abcdABCD0123456789</i>
NewCenturySchlbk-Bold	abcdABCD0123456789
Bodoni-Bold	abcdABCD0123456789
Goudy-ExtraBold	abcdABCD0123456789
TimesNewRomanPS-ItalicMT	<i>abcdABCD0123456789</i>
Courier-BoldOblique	<i>abcdABCD0123456789</i>
LubalinGraph-Book	abcdABCD0123456789
Courier-Bold	abcdABCD0123456789
Bodoni-PosterCompressed	abcdABCD0123456789
GillSans-BoldItalic	<i>abcdABCD0123456789</i>
LetterGothic-Bold	abcdABCD0123456789
Helvetica-Narrow-Bold	abcdABCD0123456789
StempelGaramond-Bold	abcdABCD0123456789
StempelGaramond-BoldItalic	<i>abcdABCD0123456789</i>
Times-Italic	<i>abcdABCD0123456789</i>
JoannaMT	abcdABCD0123456789
StempelGaramond-Roman	abcdABCD0123456789
JoannaMT-BoldItalic	<i>abcdABCD0123456789</i>
AvantGarde-Book	abcdABCD0123456789
Clarendon	abcdABCD0123456789
Helvetica-Oblique	<i>abcdABCD0123456789</i>
Univers	abcdABCD0123456789
Bodoni-Italic	<i>abcdABCD0123456789</i>
Goudy	abcdABCD0123456789
GillSans-Condensed	abcdABCD0123456789
Courier-Oblique	<i>abcdABCD0123456789</i>

PostScript Font Summary (cont'd)

PostScript Fonts

Font Name	Print Sample
AlbertusMT	abcdABCD0123456789
Bookman-Demi	abcdABCD0123456789
Clarendon-Bold	abcdABCD0123456789
GillSans-Italic	abcdABCD0123456789
Helvetica-Condensed-BoldObl	abcdABCD0123456789
StempelGaramond-Italic	abcdABCD0123456789
Symbol	αβχδABXΔ0123456789

PCL FONTS

Typeface	Pitch/Point	Escape Sequence	Font #	Font
ABCDEFghijf6 {~}~12 Line Prin. 2013Z	16.67/8.51	<esc>{2013Z<esc>{s0p16.67h8.51v0s0b0T	I 000	
ABCDEFghijje'zqz'»aA#s@a «^`{)~12 Line Printer 9N	16.67/8.51	<esc>{9N<esc>{s0p16.67h8.51v0s0b0T	I 001	
ABCDE f6 {~}~12 Line Prin. 2015Z	16.67/8.51	<esc>{2015Z<esc>{s0p16.67h8.51v0s0b0T	I 002	
ABCDEFghijf6 {~}~12 Line Printer 15H	16.67/8.51	<esc>{15H<esc>{s0p16.67h8.51v0s0b0T	I 003	
ABCDEFghijf6 {~}~12 Line Prin. 2007Z	16.67/8.51	<esc>{2007Z<esc>{s0p16.67h8.51v0s0b0T	I 004	
ABCDEFghijf6 {~}~12 Line Printer 9T	16.67/8.51	<esc>{9T<esc>{s0p16.67h8.51v0s0b0T	I 005	
ABCDEFghijf6 {~}~12 Line Printer 16U	16.67/8.51	<esc>{16U<esc>{s0p16.67h8.51v0s0b0T	I 006	
ABCDEFghijf6 {~}~12 Line Prin. 2006Z	16.67/8.51	<esc>{2006Z<esc>{s0p16.67h8.51v0s0b0T	I 007	
ABCDEFghijj~`k`q,a»`A#s@a «^`{)~12 Line Printer 9E	16.67/8.51	<esc>{9E<esc>{s0p16.67h8.51v0s0b0T	I 008	
ABCDEFghijje'zqz'»aA#s@a «^`{)~12 Line Printer 5T	16.67/8.51	<esc>{5T<esc>{s0p16.67h8.51v0s0b0T	I 009	
ABCDEFghijf6 {~}~12 Line Printer 17U	16.67/8.51	<esc>{17U<esc>{s0p16.67h8.51v0s0b0T	I 010	
ABCDEFghijje'zqz'»aA#s@a «^`{)~12 Line Printer 12J	16.67/8.51	<esc>{12J<esc>{s0p16.67h8.51v0s0b0T	I 011	
ABCDEFghijje'zqz'»aA#s@a «^`{)~12 Line Printer 19U	16.67/8.51	<esc>{19U<esc>{s0p16.67h8.51v0s0b0T	I 012	
ABCDEFghijj\$%& *~z#s@a «^`{)~12 Line Printer 7J	16.67/8.51	<esc>{7J<esc>{s0p16.67h8.51v0s0b0T	I 013	
ABCDEFghijje'zqz'»aA#s@a «^`{)~12 Line Printer 9U	16.67/8.51	<esc>{9U<esc>{s0p16.67h8.51v0s0b0T	I 014	
Line Printer 6J	16.67/8.51	<esc>{6J<esc>{s0p16.67h8.51v0s0b0T	I 015	
Line Printer 15U	16.67/8.51	<esc>{15U<esc>{s0p16.67h8.51v0s0b0T	I 016	
AB ΔE t→ n °∞ ≥ ≡ 12 Line Printer 8M	16.67/8.51	<esc>{8M<esc>{s0p16.67h8.51v0s0b0T	I 017	
ABCDEFghijje'zqz'»aA#s@a «^`{)~12 Line Printer 10J	16.67/8.51	<esc>{10J<esc>{s0p16.67h8.51v0s0b0T	I 018	
ABXΔE '≥×ð÷µ∞ # ** {)~12 Line Printer 5M	16.67/8.51	<esc>{5M<esc>{s0p16.67h8.51v0s0b0T	I 019	
ABCDEFghij ° § #s@a «^`{)~12 Line Printer 14J	16.67/8.51	<esc>{14J<esc>{s0p16.67h8.51v0s0b0T	I 020	

PCL FONTS

ABCDEFghijjÄÄ°ÇÑizŁšš#šš <^'Ç)~12 Line Printer 13J	16.67/8.51	<esc>(13J<esc>(s0p16.67h8.51v0s0b0T	I 021
ABXΔE ... *# (})~12 Line Printer 6M	16.67/8.51	<esc>(6M<esc>(s0p16.67h8.51v0s0b0T	I 022
ABCDEFghijj6 { } ~12#šš#šš <^'Ç)~12 Line Prin. 2005Z	16.67/8.51	<esc>(2005Z<esc>(s0p16.67h8.51v0s0b0T	I 023
ABCDEFghijj6 { } ~12#šš#šš <^'Ç)~12 Line Prin. 2004Z	16.67/8.51	<esc>(2004Z<esc>(s0p16.67h8.51v0s0b0T	I 024
ÜööüÜö00 ♡ ♡ < ~12 Line Prin. 2003Z	16.67/8.51	<esc>(2003Z<esc>(s0p16.67h8.51v0s0b0T	I 025
ÜööüÜö# ♡ ♡ < ~12 Line Printer 9Q	16.67/8.51	<esc>(9Q<esc>(s0p16.67h8.51v0s0b0T	I 026
ABCDEFghijj6 { } ~12#šš#šš <^'Ç)~12 Line Printer 8Q	16.67/8.51	<esc>(8Q<esc>(s0p16.67h8.51v0s0b0T	I 027
ABCDEFghijj6 { } ~12#šš#šš <^'Ç)~12 Line Printer 25U	16.67/8.51	<esc>(25U<esc>(s0p16.67h8.51v0s0b0T	I 028
ABCDEFghijj'6 { } ~12#šš#šš <^'Ç)~12 Line Printer 23U	16.67/8.51	<esc>(23U<esc>(s0p16.67h8.51v0s0b0T	I 029
ABCDEFghijj6 { } ~12#šš#šš <^'Ç)~12 Line Printer 20U	16.67/8.51	<esc>(20U<esc>(s0p16.67h8.51v0s0b0T	I 030
ABCDEFghijj6 { } ~12#šš#šš <^'Ç)~12 Line Prin. 2002Z	16.67/8.51	<esc>(2002Z<esc>(s0p16.67h8.51v0s0b0T	I 031
ABCDEFghijj6 { } ~12#šš#šš <^'Ç)~12 Line Prin. 2001Z	16.67/8.51	<esc>(2001Z<esc>(s0p16.67h8.51v0s0b0T	I 032
ABCDEFghij ššÉ ^éäöäÜ12 Line Printer 93S	16.67/8.51	<esc>(93S<esc>(s0p16.67h8.51v0s0b0T	I 033
ABCDEFghij ššÉ ÜéäöäÜ12 Line Printer 92S	16.67/8.51	<esc>(92S<esc>(s0p16.67h8.51v0s0b0T	I 034
ABCDEFghij #šš ÜéäöäÜ12 Line Printer 91S	16.67/8.51	<esc>(91S<esc>(s0p16.67h8.51v0s0b0T	I 035
ëöÜäé100Öö ËËÄ BÄ«»±Ýý Line Printer 0E	16.67/8.51	<esc>(0E<esc>(s0p16.67h8.51v0s0b0T	I 036
ABCDEFghij Łšš ^'Ç)~12 Line Printer 90D	16.67/8.51	<esc>(90D<esc>(s0p16.67h8.51v0s0b0T	I 037
ABCDEFghijjAËgT{k dē-Ä#šš#šš <^'Ç)~123 Line Printer 6N	16.67/8.51	<esc>(6N<esc>(s0p16.67h8.51v0s0b0T	I 038
ABCDEFghijjē'ŕ.'»½Ä#šš#šš <^'Ç)~123 Line Printer 5N	16.67/8.51	<esc>(5N<esc>(s0p16.67h8.51v0s0b0T	I 039
ABCDEFghijjÄ`t`š`š`Ä#šš#šš <^'Ç)~123 Line Printer 2N	16.67/8.51	<esc>(2N<esc>(s0p16.67h8.51v0s0b0T	I 040
ABCDEFghijjÄÄ°ÇÑizŁšš#šš <^'Ç)~123 Line Printer 8U	16.67/8.51	<esc>(8U<esc>(s0p16.67h8.51v0s0b0T	I 041
ABCDEFghijjē'ŕ.'»½Ä#šš#šš <^'Ç)~123 Line Printer 0N	16.67/8.51	<esc>(0N<esc>(s0p16.67h8.51v0s0b0T	I 042

PCL Font Summary (cont'd)

PCL FONTS

ABCDEFghijf6 }111111#sae%`()~12 Line Printer 10U	16.67/8.51	<esc>{10U<esc>(s0p16.67h8.51v0s0b0T	I 043
ABCDEFghijf6 }111111#sae%`()~12 Line Printer 11U	16.67/8.51	<esc>{11U<esc>(s0p16.67h8.51v0s0b0T	I 044
ABCDEFghijf6 }111111#sae%`()~12 Line Printer 12U	16.67/8.51	<esc>{12U<esc>(s0p16.67h8.51v0s0b0T	I 045
ABCDEFghij#sae%`()~123 Line Printer 1U	16.67/8.51	<esc>{1U<esc>(s0p16.67h8.51v0s0b0T	I 046
Courier Bdit	Scale	<esc>{[]<esc>(s0p[]h1s3b4099T	I 047
Courier Bd	Scale	<esc>{[]<esc>(s0p[]h0s3b4099T	I 048
Courier It	Scale	<esc>{[]<esc>(s0p[]h1s0b4099T	I 049
Courier	Scale	<esc>{[]<esc>(s0p[]h0s0b4099T	I 050
LetterGothic	Scale	<esc>{[]<esc>(s0p[]h0s0b4102T	I 051
LetterGothic It	Scale	<esc>{[]<esc>(s0p[]h1s0b4102T	I 052
LetterGothic Bd	Scale	<esc>{[]<esc>(s0p[]h0s3b4102T	I 053
ABCDEFghij OCR-A	Scale	<esc>{00<esc>(s0p[]h0s0b104T	I 054
ABCDEFghij ñ £\$ OCR-B	Scale	<esc>{10<esc>(s0p[]h0s0b110T	I 055
ABCDEFghij- ل٣٤٦٨٩ عش Koufi	Scale	<esc>{10V<esc>(s0p[]h0s0b4264T	I 056
ABCDEFghij- ل٣٤٦٨٩ عش Koufi Bd	Scale	<esc>{10V<esc>(s0p[]h0s3b4264T	I 057
ABCDEFghij- ل٣٤٦٨٩ عش Naskh	Scale	<esc>{10V<esc>(s0p[]h0s0b4124T	I 058
ABCDEFghij- ل٣٤٦٨٩ عش Naskh Bd	Scale	<esc>{10V<esc>(s0p[]h0s3b4124T	I 059
CG Times Bdit	Scale	<esc>{[]<esc>(s1p[]v1s3b4101T	I 060
CG Times Bd	Scale	<esc>{[]<esc>(s1p[]v0s3b4101T	I 061
CG Times It	Scale	<esc>{[]<esc>(s1p[]v1s0b4101T	I 062
CG Times	Scale	<esc>{[]<esc>(s1p[]v0s0b4101T	I 063
Albertus Md	Scale	<esc>{[]<esc>(s1p[]v0s1b4362T	I 064
Albertus Xb	Scale	<esc>{[]<esc>(s1p[]v0s4b4362T	I 065
AntiqOlive	Scale	<esc>{[]<esc>(s1p[]v0s0b4168T	I 066
AntiqOlive It	Scale	<esc>{[]<esc>(s1p[]v1s0b4168T	I 067
AntiqOlive Bd	Scale	<esc>{[]<esc>(s1p[]v0s3b4168T	I 068
Arial	Scale	<esc>{[]<esc>(s1p[]v0s0b16602T	I 069
Arial It	Scale	<esc>{[]<esc>(s1p[]v1s0b16602T	I 070


PCL Font Summary (cont'd)

PCL FONTS

Arial Bd	Scale	<esc>(□<esc>(s1p▒v0s3b16602T	I 071
Arial BdlIt	Scale	<esc>(□<esc>(s1p▒v1s3b16602T	I 072
Clarendon CdBd	Scale	<esc>(□<esc>(s1p▒v4s3b4140T	I 073
Coronet	Scale	<esc>(□<esc>(s1p▒v1s0b4116T	I 074
Garamond Antiqua	Scale	<esc>(□<esc>(s1p▒v0s0b4197T	I 075
Garamond Krsv	Scale	<esc>(□<esc>(s1p▒v1s0b4197T	I 076
Garamond Hlb	Scale	<esc>(□<esc>(s1p▒v0s3b4197T	I 077
Garamond KrsvHlb	Scale	<esc>(□<esc>(s1p▒v1s3b4197T	I 078
Marigold	Scale	<esc>(□<esc>(s1p▒v0s0b4297T	I 079
CG Omega	Scale	<esc>(□<esc>(s1p▒v0s0b4113T	I 080
CG Omega It	Scale	<esc>(□<esc>(s1p▒v1s0b4113T	I 081
CG Omega Bd	Scale	<esc>(□<esc>(s1p▒v0s3b4113T	I 082
CG Omega BdlIt	Scale	<esc>(□<esc>(s1p▒v1s3b4113T	I 083
ABXΔEφγηιφΥ'≥×ð÷≈ З#Э Symbol	Scale	<esc>(19M<esc>(s1p▒v0s0b16686T	I 084
TimesNewRmn	Scale	<esc>(□<esc>(s1p▒v0s0b16901T	I 085
TimesNewRmn It	Scale	<esc>(□<esc>(s1p▒v1s0b16901T	I 086
TimesNewRmn Bd	Scale	<esc>(□<esc>(s1p▒v0s3b16901T	I 087
TimesNewRmn BdlIt	Scale	<esc>(□<esc>(s1p▒v1s3b16901T	I 088
Univers Md	Scale	<esc>(□<esc>(s1p▒v0s0b4148T	I 089
Univers MdlIt	Scale	<esc>(□<esc>(s1p▒v1s0b4148T	I 090
Univers Bd	Scale	<esc>(□<esc>(s1p▒v0s3b4148T	I 091
Univers BdlIt	Scale	<esc>(□<esc>(s1p▒v1s3b4148T	I 092
Univers CdMd	Scale	<esc>(□<esc>(s1p▒v4s0b4148T	I 093
Univers CdMdlIt	Scale	<esc>(□<esc>(s1p▒v5s0b4148T	I 094
Univers CdBd	Scale	<esc>(□<esc>(s1p▒v4s3b4148T	I 095
Univers CdBdlIt	Scale	<esc>(□<esc>(s1p▒v5s3b4148T	I 096
𐀀𐀁𐀂𐀃𐀄𐀅𐀆𐀇𐀈𐀉𐀊𐀋𐀌𐀍𐀎𐀏𐀐𐀑𐀒𐀓𐀔𐀕𐀖𐀗𐀘𐀙𐀚𐀛𐀜𐀝𐀞𐀟𐀠𐀡𐀢𐀣𐀤𐀥𐀦𐀧𐀨𐀩𐀪𐀫𐀬𐀭𐀮𐀯𐀰𐀱𐀲𐀳𐀴𐀵𐀶𐀷𐀸𐀹𐀺𐀻𐀼𐀽𐀾𐀿𐁀𐁁𐁂𐁃𐁄𐁅𐁆𐁇𐁈𐁉𐁊𐁋𐁌𐁍𐁎𐁏𐁐𐁑𐁒𐁓𐁔𐁕𐁖𐁗𐁘𐁙𐁚𐁛𐁜𐁝𐁞𐁟𐁠𐁡𐁢𐁣𐁤𐁥𐁦𐁧𐁨𐁩𐁪𐁫𐁬𐁭𐁮𐁯𐁰𐁱𐁲𐁳𐁴𐁵𐁶𐁷𐁸𐁹𐁺𐁻𐁼𐁽𐁾𐁿𐂀𐂁𐂂𐂃𐂄𐂅𐂆𐂇𐂈𐂉𐂊𐂋𐂌𐂍𐂎𐂏𐂐𐂑𐂒𐂓𐂔𐂕𐂖𐂗𐂘𐂙𐂚𐂛𐂜𐂝𐂞𐂟𐂠𐂡𐂢𐂣𐂤𐂥𐂦𐂧𐂨𐂩𐂪𐂫𐂬𐂭𐂮𐂯𐂰𐂱𐂲𐂳𐂴𐂵𐂶𐂷𐂸𐂹𐂺𐂻𐂼𐂽𐂾𐂿𐃀𐃁𐃂𐃃𐃄𐃅𐃆𐃇𐃈𐃉𐃊𐃋𐃌𐃍𐃎𐃏𐃐𐃑𐃒𐃓𐃔𐃕𐃖𐃗𐃘𐃙𐃚𐃛𐃜𐃝𐃞𐃟𐃠𐃡𐃢𐃣𐃤𐃥𐃦𐃧𐃨𐃩𐃪𐃫𐃬𐃭𐃮𐃯𐃰𐃱𐃲𐃳𐃴𐃵𐃶𐃷𐃸𐃹𐃺𐃻𐃼𐃽𐃾𐃿𐄀𐄁𐄂𐄃𐄄𐄅𐄆𐄇𐄈𐄉𐄊𐄋𐄌𐄍𐄎𐄏𐄐𐄑𐄒𐄓𐄔𐄕𐄖𐄗𐄘𐄙𐄚𐄛𐄜𐄝𐄞𐄟𐄠𐄡𐄢𐄣𐄤𐄥𐄦𐄧𐄨𐄩𐄪𐄫𐄬𐄭𐄮𐄯𐄰𐄱𐄲𐄳𐄴𐄵𐄶𐄷𐄸𐄹𐄺𐄻𐄼𐄽𐄾𐄿𐅀𐅁𐅂𐅃𐅄𐅅𐅆𐅇𐅈𐅉𐅊𐅋𐅌𐅍𐅎𐅏𐅐𐅑𐅒𐅓𐅔𐅕𐅖𐅗𐅘𐅙𐅚𐅛𐅜𐅝𐅞𐅟𐅠𐅡𐅢𐅣𐅤𐅥𐅦𐅧𐅨𐅩𐅪𐅫𐅬𐅭𐅮𐅯𐅰𐅱𐅲𐅳𐅴𐅵𐅶𐅷𐅸𐅹𐅺𐅻𐅼𐅽𐅾𐅿𐆀𐆁𐆂𐆃𐆄𐆅𐆆𐆇𐆈𐆉𐆊𐆋𐆌𐆍𐆎𐆏𐆐𐆑𐆒𐆓𐆔𐆕𐆖𐆗𐆘𐆙𐆚𐆛𐆜𐆝𐆞𐆟𐆠𐆡𐆢𐆣𐆤𐆥𐆦𐆧𐆨𐆩𐆪𐆫𐆬𐆭𐆮𐆯𐆰𐆱𐆲𐆳𐆴𐆵𐆶𐆷𐆸𐆹𐆺𐆻𐆼𐆽𐆾𐆿𐇀𐇁𐇂𐇃𐇄𐇅𐇆𐇇𐇈𐇉𐇊𐇋𐇌𐇍𐇎𐇏𐇐𐇑𐇒𐇓𐇔𐇕𐇖𐇗𐇘𐇙𐇚𐇛𐇜𐇝𐇞𐇟𐇠𐇡𐇢𐇣𐇤𐇥𐇦𐇧𐇨𐇩𐇪𐇫𐇬𐇭𐇮𐇯𐇰𐇱𐇲𐇳𐇴𐇵𐇶𐇷𐇸𐇹𐇺𐇻𐇼𐇽𐇾𐇿𐈀𐈁𐈂𐈃𐈄𐈅𐈆𐈇𐈈𐈉𐈊𐈋𐈌𐈍𐈎𐈏𐈐𐈑𐈒𐈓𐈔𐈕𐈖𐈗𐈘𐈙𐈚𐈛𐈜𐈝𐈞𐈟𐈠𐈡𐈢𐈣𐈤𐈥𐈦𐈧𐈨𐈩𐈪𐈫𐈬𐈭𐈮𐈯𐈰𐈱𐈲𐈳𐈴𐈵𐈶𐈷𐈸𐈹𐈺𐈻𐈼𐈽𐈾𐈿𐉀𐉁𐉂𐉃𐉄𐉅𐉆𐉇𐉈𐉉	Scale	<esc>(579L<esc>(s1p▒v0s0b31402T	I 097
	Scale	<esc>(15Y<esc>(s1p▒v0s0b0T	I 098
	Scale	<esc>(97Y<esc>(s1p▒v0s0b0T	I 099
	Scale	<esc>(98Y<esc>(s1p▒v0s0b0T	I 100
□	Scale	<esc>(99Y<esc>(s1p▒v0s0b0T	I 101

PCL FONTS

```
Scale          <esc>(10V<esc>(s1p[REDACTED]v0s0b4859T          I 102
```

Scale <esc>(10V<esc>(s1pv0s3b4859T I 103

```
Scale      <esc>(10L<esc>(s1p[REDACTED]v0s0b31402T      I 104
```


Appendix C

Frequently Used Ethernet Commands

In this Chapter . . .

- “About this Appendix” on page C-2
- “Server Commands” on page C-3
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About this Appendix

This appendix lists some of the most frequently-used commands of the Print Server command set. More information about the command set, including additional options, can be found in the *Ethernet Network Interface Guide* on the *PageMaster 16000c* Electronic Library CD-ROM.

Please note the following before continuing:

- In this command set appendix the NIC is referred to as the Server.
- Commands are divided into Server (general), Port, and Protocol sections. Within each section, commands are listed alphabetically.
- Commands may require privileged user status. Enter `Set Privileged`, then enter the privileged password when prompted.
- When you enter a Define or Purge command, you must reboot the Server for the command to take effect.
- When the abbreviated syntax “{EN|DIS}” is shown, you must choose either **Enabled** or **Disabled** to complete the command.

Each section lists additional information needed to use the command table in that section.

Server Commands

Frequently-used Server Commands		
Command	Option(s)	Description
DEFINE SERVER BOOTP {EN DIS}		Enables or disables querying for a BOOTP host at system boot time.
DEFINE SERVER DHCP {EN DIS}		Enables or disables querying for a DHCP host at system boot time.
DEFINE SERVER GATEWAY ipaddress		Specifies the host to be used as a TCP/IP gateway to forward packets between networks. Enter an IP address.
DEFINE SERVER INCOMING option	BOTH	Enables incoming LAT and Telnet connections.
	LAT	Enables only incoming LAT connections.
	NONE	Disables incoming connections.
	TELNET	Enables only incoming Telnet connections.
	PASSWORD	Causes the server to prompt for a password for all incoming connections.
	NOPASSWORD	Allows connections to be established without prompting for a password.
DEFINE SERVER IPADDRESS ipaddress		Sets the Server's network IP address.
DEFINE SERVER LOADHOST ipaddress		Specifies the TCP/IP host from which the Server requests its run-time code.
DEFINE SERVER LOGIN PASSWORD		Sets a new password that will be required before incoming logins are accepted. You will be prompted for the new password (up to 6 alphanumeric characters, case-insensitive).
DEFINE SERVER NAME "newname"		Specifies a new name for the Server. Names are restricted in length; generally a name of 11 or fewer characters is permissible.
DEFINE SERVER NETWARE LOADHOST server		Specifies the NetWare host from which the Server requests its run-time code. Enter a file server name of up to 11 characters.
DEFINE SERVER PRIVILEGED PASSWORD		Sets a new password that will be required for privileged user status. You will be prompted for the new password (up to 6 alphanumeric characters, case-insensitive).
DEFINE SERVER RARP {EN DIS}		Enables or disables querying for a RARP host at system boot time.
DEFINE SERVER SOFTWARE "filename"		Specifies the name or path (TCP) of the software download file. The filename can be up to 11 characters, and the pathname can be up to 26. The Server will add a ".SYS" extension.

Frequently-used Server Commands		
Command	Option(s)	Description
DEFINE SERVER SUBNET MASK <i>ipmask</i>		Specifies the subnet mask to be used for the Server. The <i>ipmask</i> must be in n.n.n.n format.
HELP option	<nothing>	Displays a list of top-level (general) Help topics.
	<keyword>	Displays information about the keyword(s) entered. Multiple keywords must be specified in the order they occur in a command.
DEFINE SERVICE "name" PORT <i>num</i>		Creates a new service and associates it with the specified port.
DEFINE SERVICE "name" option	APPLETALK {EN DIS}	Toggles whether the named service can be used to service networks running the specified protocol. RTEL applies to TCP/IP networks.
	LAT {EN DIS}	
	NETWARE {EN DIS}	
	RTEL {EN DIS}	
DEFINE SERVICE "name" option	BANNER {EN DIS}	When Enabled, causes the Server to print a banner page before jobs.
	BINARY {EN DIS}	When Enabled, the Server will not process data passed through the service. This characteristic should be enabled when printing PCL data.
	EOJ string	Causes the Server to send an end-of-job string to the attached device after every job. Enter an end string or the word none .
	FORMFEED {EN DIS}	When Enabled, causes the Server to append a formfeed to the end of LPR print jobs.
	PS CONVERT {EN DIS}	When Enabled, causes the Server to place a PostScript wrapper around each job.
	SOJ string	Causes the Server to send a start-of-job string to the attached device before every job. Enter a start string or the word none .
DEFINE SERVICE "name" option	TCP PORT string	Specifies a <i>raw</i> TCP listener socket for the service. Enter a socket number (4000 to 4999) or the word none .
	TELNET PORT string	Specifies a TCP listener socket for the service. Unlike TCP port, this option performs Telnet IAC interpretation on the data stream. Enter a socket number (4000 to 4999) or the word none .

Frequently-used Server Commands		
Command	Option(s)	Description
INITIALIZE option	DELAY num	Schedules a reboot after num minutes. Enter a value from 0 to 120.
	CANCEL	Cancels an impending initialization.
	FACTORY	Reboots the server to its factory default settings.
	NOBOOT	Forces the Server to stop in Boot Configuration Mode rather than fully rebooting.
	RELOAD	Forces the Server to download new operational code and reprogram its flash-ROM.
LOGOUT option	<nothing>	Logs out the current port (the port that issued the command).
	PORT num	Logs out the specified port.
PURGE SERVICE option	LOCAL	Removes the definitions of all local services.
	"service"	Removes the definition of the specified service.
SET PRIVILEGED		Enters privileged mode, provided the user enters the proper privileged password when prompted.
{SHOW MONITOR} QUEUE		Displays the status of Server queues once (Show) or continually every three seconds (Monitor).
{SHOW MONITOR} SERVER		Displays Server information once (Show) or continually every three seconds (Monitor).
{SHOW MONITOR} SERVICE option	<nothing>	Displays characteristics about all configured services once (Show) or continually every three seconds (Monitor).
	"service"	Displays only characteristics related to the named service.
ZERO COUNTERS option	ALL	Zeroes all port, node, and Server counters.
	PORT num	Zeroes port counters for the specified port.

Protocol Commands

In the following table, `PROTO` is an abbreviation for the optional keyword `PROTOCOL`.

Protocol Commands		
Command	Option(s)	Description
DEFINE PROTO APPLETALK option	{EN DIS}	Enables or Disables the AppleTalk protocol for the Server.
	ZONE newzone	Places the Server in a zone other than the default.
DEFINE PROTO IP option	{EN DIS}	Enables or Disables the TCP/IP protocol for the Server.
	GATEWAY ipaddr	Same as “DEFINE SERVER GATEWAY ipaddres” on page C-3.
	IPADDRESS ipaddr	Same as “DEFINE SERVER IPADDRESS ipaddres” on page C-3.
	LOADHOST ipaddr	Same as “DEFINE SERVER LOADHOST ipaddres on page C-3.
	NAMESERVER ipaddr	Specifies the IP address of the host that will resolve text host names into their numeric equivalents for TCP/IP connection attempts.
DEFINE PROTO LAT option	{EN DIS}	Enables or Disables the LAT protocol for the Server.
DEFINE PROTO NETWARE option	{EN DIS}	Enables or Disables the NetWare (IPX) protocol for the Server.
	DSCONTEXT string	Configures the NetWare Directory Services context in which the Server is located. For more information about NDS contexts, see your NDS documentation.
	DSLICENSE string	Configures the NetWare Directory Services license needed to enable NDS on your Server. Enter the license string obtained from your dealer or Lantronix.
	DSTREE string	Configures the NetWare Directory Services tree in which the Server is located. For more information about NDS trees, see your NDS documentation.
DEFINE PROTO NETWARE ENCAPSULATION option {EN DIS}	NATIVE	Configures the Server to use the “native mode” frame format.
	ETHER_II	Configures the Server to use Ethernet v2 frame format.
	802_2	Configures the Server to use 802.2 frame format with NetWare SAPs.
	SNAP	Configures the Server to use 802.2 frame format with SNAP SAPs.

Protocol Commands		
Command	Option(s)	Description
DEFINE PROTO NETWARE LOADHOST server		Same as “DEFINE SERVER NETWARE LOADHOST server” on page C-3
PURGE PROTO NETWARE ACCESS option	ALL	Removes all entries from the NetWare access list.
	server	Removes entries from the NetWare access list that are related to the specified file server.
{SHOW MONITOR} protocolname		Displays operating characteristics of the specified protocol.

