InfoPrint 32

User's Guide

S544-5484-00

Note!

Before using this information and the product it supports, be sure to read the general information under “Appendix E. Notices” on page 273.

First Edition (September 1998)

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About This Book

This book is designed to help you use the InfoPrint 32. It describes how to:

- Use the operator panel to navigate menus and control the printer
- Load and select paper and other print materials
- Clear paper jams
- Change printer supplies
- Install printer options
- Troubleshoot printer problems
- Interpret messages displayed on the operator panel

Conventions Used

Names of keys on the operator panel are shown in bold typeface. For example:

- Press the **Enter** key.
- Press **Enter**.

Related Publications

The following books contain information that relates to the InfoPrint 32. Note that all InfoPrint 32 books are available on the CD-ROM that ships with the printer, they are also available on the web (see "Obtaining Documents, Drivers, and Utilities from the Web" on page 10).

- *InfoPrint 32: Quick Reference Card*, G544-5480, provides quick access to information such as using the operator panel, navigating menus, calling IBM for technical assistance, and clearing paper jams.
- *InfoPrint 32: Quick Setup Poster*, S544-5481, shows how to set up the InfoPrint 32.
- *InfoPrint 32: Warranty, Communication Statements, and Safety Information*, G544-5524, contains safety notices and warranty information in several languages.
- *IBM Network Printers: Ethernet and Token Ring Configuration Guide*, G544-5240, describes how to configure the Ethernet and token-ring network interface cards.

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- *IBM Network Printers: Ethernet and Token Ring Quick Configuration Guide*, G544-5499, is a condensed version of *IBM Network Printers: Ethernet and Token Ring Configuration Guide*. It is shipped with the network interface cards.
- *IBM Network Printers: Twinax/Coax Configuration Guide*, G544-5241, describes how to configure the twinax and coax network interface cards. This book is shipped with the cards.
- *IBM Network Printers: PCL5e and PostScript Technical Reference*, S544-5344, contains technical reference information about PCL5e and PostScript support.
- *IBM Network Printers: IPDS and SCS Technical Reference*, S544-5312, contains technical reference information about InfoPrint 32 IPDS and SCS support.
- *IBM Advanced Function Printer Cut Sheet Paper Reference for Use with IBM Electrophotographic Printers*, G544-3915, contains paper specification information.

Safety Notices

There are two types of safety notices:

DANGER indicates the presence of a hazard that has the potential of causing death or serious injury.

CAUTION indicates the presence of a hazard that has the potential of causing moderate or minor personal injury.

Safety Precautions

Electrical Safety

This printer is inspected and listed by recognized national testing laboratories, such as Underwriters Laboratories, Inc. (UL) in the U.S.A. and Canadian Standards Association (CSA) in Canada. Listing of a product by a national testing laboratory indicates that the product is designed and manufactured in accordance with national requirements intended to minimize safety hazards. IBM equipment meets a very high standard of safety in design and manufacture. Remember, however, that this product operates under conditions of high electrical potentials and heat generation, both of which are functionally necessary.

Fire Safety

Because the paper and toner used in the printer can burn, you should take normal precautions to prevent fire. These precautions include common-sense

measures, such as keeping potentially combustible materials (for example, curtains and chemicals) away from the printer, providing adequate ventilation and cooling, limiting unattended operation, and having trained personnel available and assigned to the printer.

Lightning Safety

To avoid personal risk, do not install or reconfigure a communication port or a teleport during an electrical storm.

Laser Safety

This printer complies with the performance standards set by the U.S. Food and Drug Administration for a Class 1 Laser Product. This means that the printer belongs to a class of laser products that does not produce hazardous laser radiation in a customer accessible area. This classification was accomplished by providing the necessary protective housing and scanning safeguards to ensure that laser radiation is inaccessible or within Class 1 limits.

There are various tool-operated machine covers that should be moved, removed, or replaced only by trained service personnel. There are no operator controls or adjustments associated with the laser.

No operator maintenance is required to keep the product in compliance as a Class 1 Laser Product. No adjustments that affect laser operation or power are accessible to the operator.

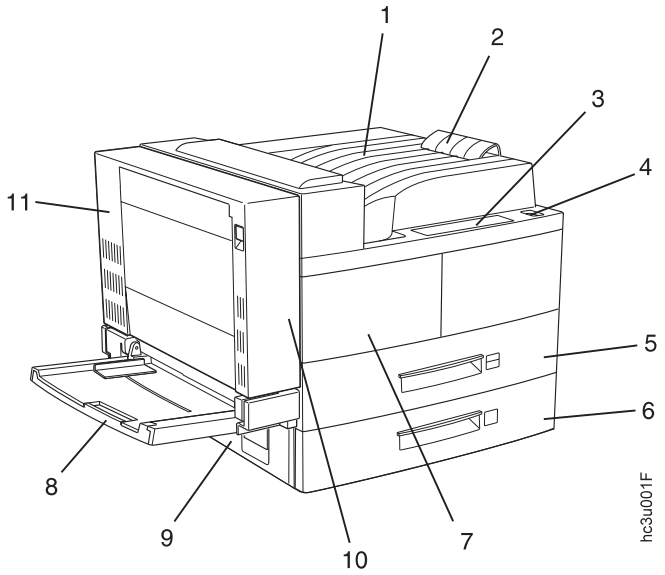
This printer is a Class 1 Laser Product that contains an enclosed Class 3B laser.

Chapter 1. About Your Printer

The InfoPrint 32 is a multifunctional, 32 page-per-minute laser printer. You can attach it directly to your workstation and, using optional network interface cards, you can attach it to networks and other computing environments.

InfoPrint 32 Main Unit

Front View



1	Face-down output bin
2	Paper stopper
3	Operator panel
4	Power switch
5	Paper Tray 1
6	Paper Tray 2
7	Toner cartridge area cover
8	Auxiliary tray
9	Cover B

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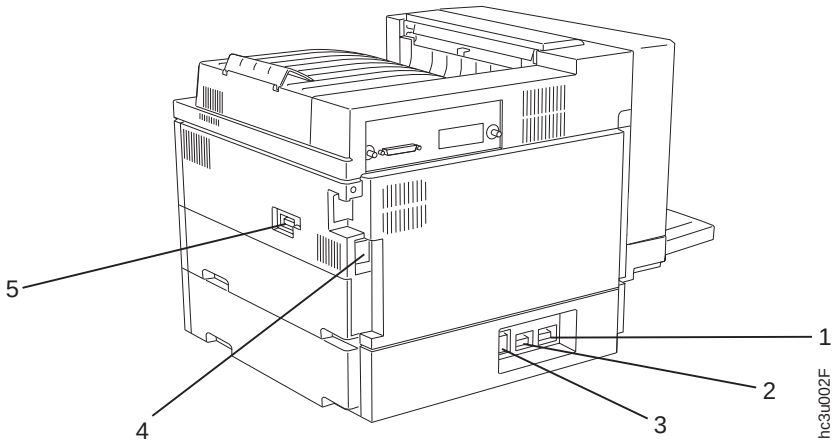
10	Cover A (inside duplex unit)
11	Duplex unit

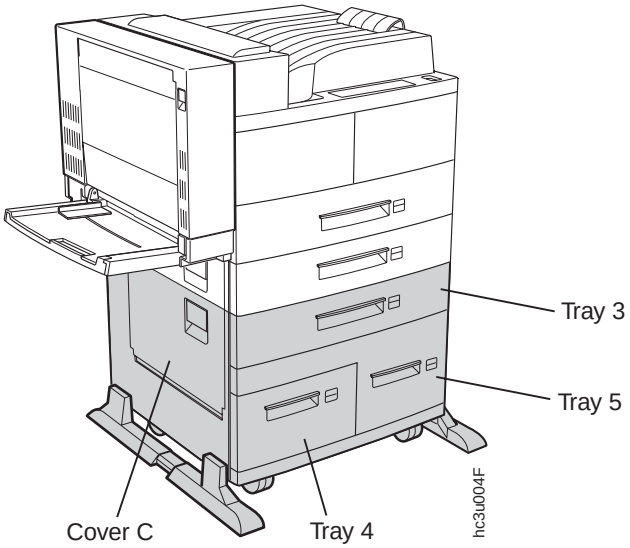
Rear View



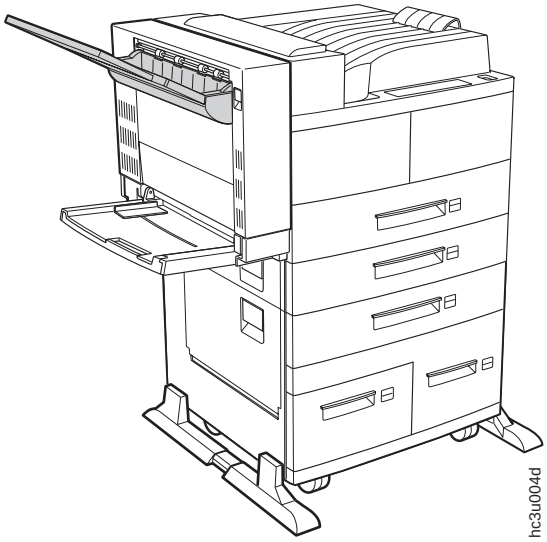
1	Duplex connector
2	2000-Sheet Finisher connector
3	2500-Sheet Input Unit connector
4	Power cord receptacle
5	AC power outlet (for 2000-Sheet Finisher)

InfoPrint 32 Optional Features

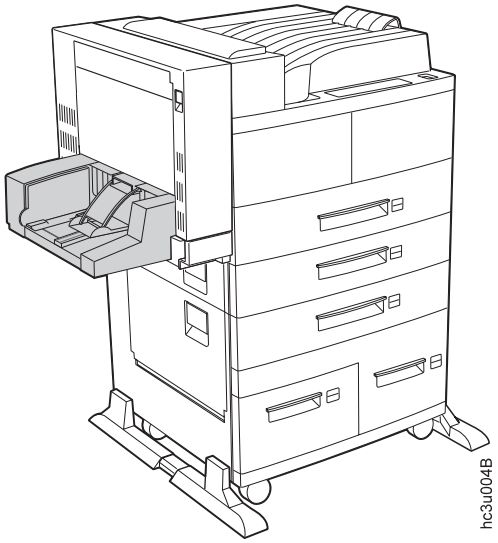
2500-Sheet Input Unit:



Face-Up Output Bin:

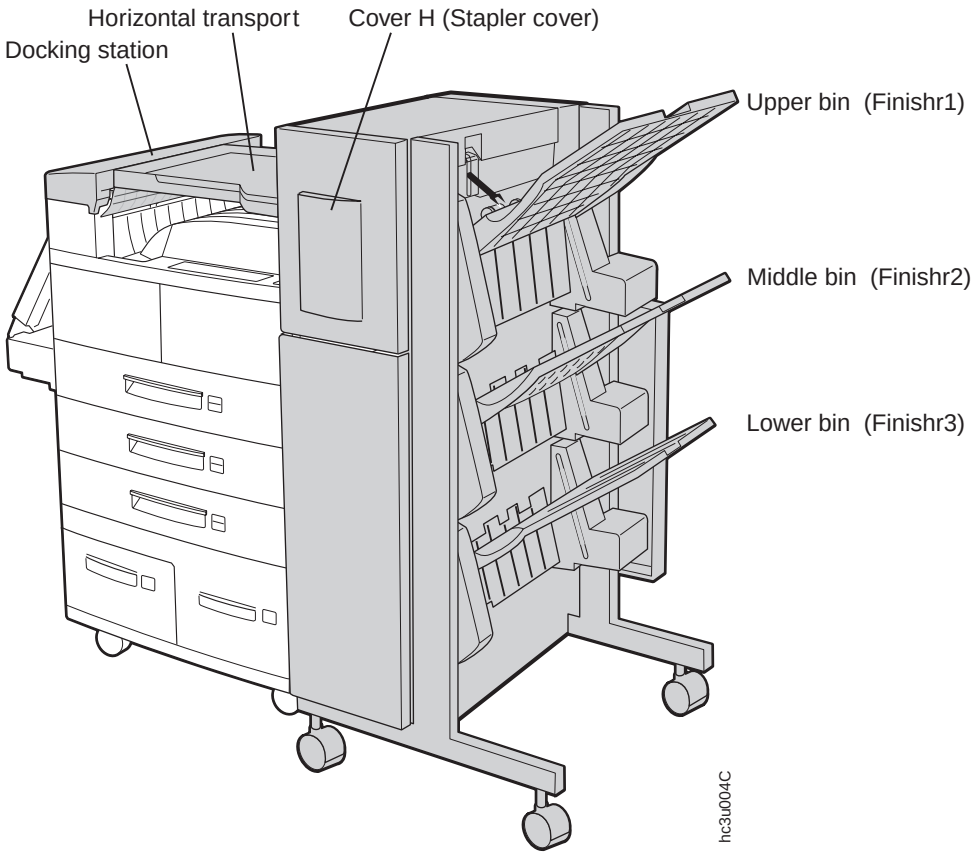


Envelope Feeder:



Note: The envelope feeder replaces the auxiliary tray.

2000-Sheet Finisher:



Standard Features

Standard features of the printer include:

- Printing speed of up to 32 pages per minute
- Resolution of 600 dots per inch (dpi)
- PCL5e support
- Adobe PostScript 3
- Printer drivers
- 8MB of memory
- Parallel interface (IEEE Std 1284-1994)
- Two 500-sheet paper trays
- 50-sheet auxiliary tray

- 500-sheet Face-down output bin with offset output capability
- Duplex unit

Optional Features

The following table lists optional features for the InfoPrint 32.

Notes:

1. To order optional features, contact your IBM Authorized Dealer or IBM Sales Representative.
2. For information about installing optional features, see "Chapter 8. Installing Printer Options" on page 175.
3. For information about printer memory and memory requirements, see "Memory Requirements" on page 8.

Feature	Feature Number	Part Number
500-Sheet Paper Tray (Extra)	4501	90H3538
2500-Sheet Input Unit	4520	90H3539
2000-Sheet Finisher (Low Voltage)	4620	90H3540
2000-Sheet Finisher (High Voltage)	4621	90H3541
Envelope Feeder	4511	90H3542
Optional Face-Up Output Bin	4630	90H3543
Network Card for Token-Ring	4120	06L9835
Network Card for Ethernet	4161	06L9838
IBM IPDS SIMM	4820	90H3547
IBM Coax SCS Interface	4171	06L9846
IBM Twinax SCS Interface	4141	06L9849
4MB Memory SIMM	4304	63H2463
8MB Memory SIMM	4308	63H2465
16MB Memory SIMM	4316	63H2467
32MB Memory SIMM	4332	63H2469
2MB Flash Memory	4030	63H2443
4MB Flash Memory	4032	63H2444
Hard Drive	4320	90H0610
PC Parallel Cable	4180	63H2804
Printer Stand	4530	90H3544
6 foot US (Chicago) Line Cord	9250	63H5828

Technical Support

If you run into a problem, see “Appendix A. Troubleshooting” on page 221. If you still cannot solve the problem, IBM customer technical support is available at no additional charge during the warranty period. In the U.S.A. and Canada, call 1-800-358-6661.

Notes:

1. Have your printer serial number ready. The serial number is next to the toner cartridge on the printer frame. It is also listed in the Printer Details section of the printer configuration page (see “Printing the Printer Configuration Page” on page 27). If you are asked for a machine type, specify InfoPrint 32.
2. If you need IBM operating system support (for example, AIX, OS/2, OS/400, and MVS), contact IBM software support (1-800-237-5511 in the U.S.A., 1-800-465-2222 in Canada).

Ordering Supplies

Printing supplies can be ordered through your IBM authorized printer or printer supplies reseller. If you have no reseller, you can call 1-888-IBM-PRINT (1-888-426-7746) in the U.S.A. or Canada to ask for an authorized dealer or to order from IBM Printer Supplies.

In other countries, contact your point of purchase for information about where to order supplies.

In Europe, you can call the IBM Supplies Fulfillment Operation at 31-43-350 2756 or at the following numbers:

- Belgium: 0800 71950
- Denmark: 80015534
- Finland: 08001-13110
- France: 0800 905871
- Germany: 0130 818005
- Italy: 1-678 78349
- Norway: 800-11389
- Spain: 900-983131
- Sweden: 020-794270
- United Kingdom: 0800-968679

The following table lists supplies for the InfoPrint 32. See “Chapter 7. Maintaining the Printer” on page 145 for more information.

Supply	Part Number
Toner Cartridge	90H3566
Usage Kit (100 Volt) (Japan only)	90H3569
Usage Kit (120 Volt)	90H3567
Usage Kit (230 Volt)	90H3568
Staple Refill	90H3570
Staple Cartridge (with staples)	90H3571

Memory Requirements

Table 1 shows the minimum memory requirements for InfoPrint 32.

Notes:

1. The PAGEPROT menu item is available on the PCL Menu, the PostScript (PS) Menu, and the IPDS Menu. It determines whether or not the printer uses compression when it prints complex pages.
   - PAGEPROT=AUTO—the printer uses compression when it runs into memory constraints. This can reduce print speed and requires less memory than PAGEPROT=ON.
   - PAGEPROT=ON—the printer does not use compression and therefore requires more memory.
2. When a column contains two values, the second value indicates the amount of memory required to support context saving. *Context saving* allows the printer to remember information about the current data stream when it switches back and forth from one job type (PostScript or PCL5e) to another. InfoPrint 32 always does context saving for IPDS.

   The Memory Configuration (MEMCONFIG) Menu provides two menu items, PCL SAVE and PS SAVE, which allow you to set context saving on or off for each of these two data streams. These menu items are displayed only if there is enough memory in the printer to permit context saving.
3. If you use Japanese DBCS (double-byte character set) PostScript fonts, IBM recommends that you have at least 16MB of memory.

Table 1. Memory Requirements

Requirements	Simplex	Duplex
Base configuration		
PAGEPROT=AUTO (letter-size paper)	8/12 MB	8/12 MB
PAGEPROT=AUTO (A3-size paper)	8/12 MB	8/12 MB
PAGEPROT=ON (letter-size paper)	8/12 MB	12/16 MB

Table 1. Memory Requirements (continued)

Requirements	Simplex	Duplex
PAGEPROT=ON (A3-size paper)	12/16 MB	24/28 MB
Base configuration and IPDS		
PAGEPROT=AUTO (letter-size paper)	8/12 MB	8/12 MB
PAGEPROT=AUTO (A3-size paper)	12/16 MB	12/16 MB
PAGEPROT=ON (letter-size paper)	12/16 MB	16/20 MB
PAGEPROT=ON (A3-size paper)	16/20 MB	28/32 MB

The InfoPrint 32 CD-ROM

The InfoPrint 32 ships with a CD-ROM which includes InfoPrint 32 documents, drivers, programs, and utilities, including:

- InfoPrint 32 Documentation—the CD-ROM includes most InfoPrint 32 documents in Adobe Acrobat Portable Data File (PDF) format for online viewing and printing.
- PCL5e and PostScript printer drivers for numerous systems, including Windows, Windows 95, Windows NT, OS/2, AIX, HP-UX, SCO UNIX, and Sun Solaris. For a complete list of drivers, see the CD-ROM.
- Network Printer Manager (NPM)—NPM is a tool for network administrators. It runs on the Web, Windows 95, Windows NT, and OS/2. NPM:
  - Enables you to install and configure InfoPrint 32 in Local Area Networks (LANs), including TCP/IP and Novell 3.12 and 4.X.
  - Monitors printers and provides network printer status information including printer status, paper jams, out of toner conditions, and empty tray conditions.

    NPM uses industry standard, open systems Simple Network Management Protocol (SNMP). SNMP supports Management Information Base (MIB) which is a collection of information that describes the printer's functions and features.
- Network Printer Resource Utility (NPRU)—NPRU enables administrators to download fonts and overlays (PCL macros and PostScript overlays) to the printer memory (DRAM, flash memory, or hard drive). NPRU runs on Windows 3.1, Windows 95, and OS/2.
- IBM TCP/IP Network Port Monitor for Windows NT 4.0—This enables users to receive up-to-date bidirectional printer and job status (including end-of-job notification) from their printers. The port monitor is fully integrated into the Windows NT 4.0 print subsystem, so the bidirectional status is displayed through the standard Windows NT printer queue view.

Clients on other Windows platforms can also see up-to-date status if their printers are defined on Windows NT 4.0 and shared to the network.

- IBM LPR Remote Printing Client Version 2.00—This utility provides a TCP/IP port driver for seamless Windows 95 network printing. This package also includes a command line LPR, RFC 1179, which is a program you can use to print jobs directly from DOS.

Obtaining Documents, Drivers, and Utilities from the Web

To obtain current versions of the InfoPrint 32 documentation, printer drivers, utilities, and programs, do the following:

1. Access the IBM Printing Systems Company home page:

   `http://www.printers.ibm.com`
2. Go to the document, printer driver, utility, or program you need and follow the download instructions.

Obtaining Code Updates from the Web

To obtain code updates for the InfoPrint 32, if required, do the following:

1. Access the IBM Printing Systems Company home page:

   `http://www.printers.ibm.com`
2. Go to the code update you need and follow the instructions to download it.

Chapter 2. Installing Your Printer

InfoPrint 32: Quick Setup Poster

To set up your printer, see *InfoPrint 32: Quick Setup Poster*, which is shipped with the printer. Use this checklist as a supplement to *InfoPrint 32: Quick Setup Poster*.

Installation Checklist

__ 1. Unpack your printer. See “Unpacking and Setting Up the Printer” on page 12 .

__ 2. Load the paper tray shipped with your printer. See:
- *InfoPrint 32: Quick Setup Poster*
- “Loading Paper and Envelopes into the Printer” on page 41.

__ 3. Install the toner cartridge. See:
- *InfoPrint 32: Quick Setup Poster*
- “Changing the Toner Cartridge” on page 146.

__ 4. Apply the operator panel overlay (if it has not already been applied to the operator panel). See “Applying the Operator Panel Overlay” on page 14 .

__ 5. Switch on the printer. See “Powering On the Printer” on page 16.

__ 6. Select a language for messages and menus (the default is English). See “Selecting a Language” on page 17.

__ 7. Print the printer configuration page to verify the printer works. See “Printing the Printer Configuration Page” on page 27.

__ 8. Connect a parallel cable (if desired). See “Connecting the Parallel Cable” on page 18.

Note: In addition to the parallel cable attachment, the InfoPrint 32 supports a wide variety of network attachment interfaces, including twinax, coax, token ring, and Ethernet attachments. For information about installing network attachments and other optional features, please read “The Network Interface Card” on page 182 .

__ 9. Install other options, such as the 2500-Sheet Input Unit, extra memory, the IPDS SIMM, flash memory, the hard drive, and network interface

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cards (Ethernet, token ring, twinax, and coax). See “Chapter 8. Installing Printer Options” on page 175.

__ 10. Install print drivers and configure your host environment. See “Installing Printer Drivers” on page 20.

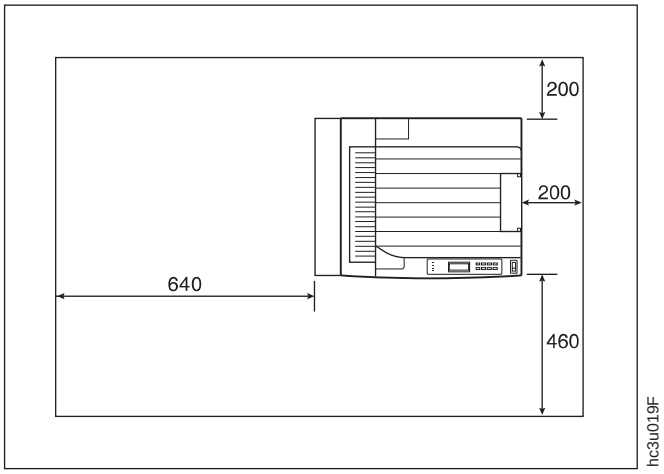
__ 11. Get familiar with your printer. See “Chapter 3. Using the Operator Panel” on page 23.

Unpacking and Setting Up the Printer

Before you install your printer, make sure you have a place large enough to put it. Without any of its optional features attached, the printer dimensions are:

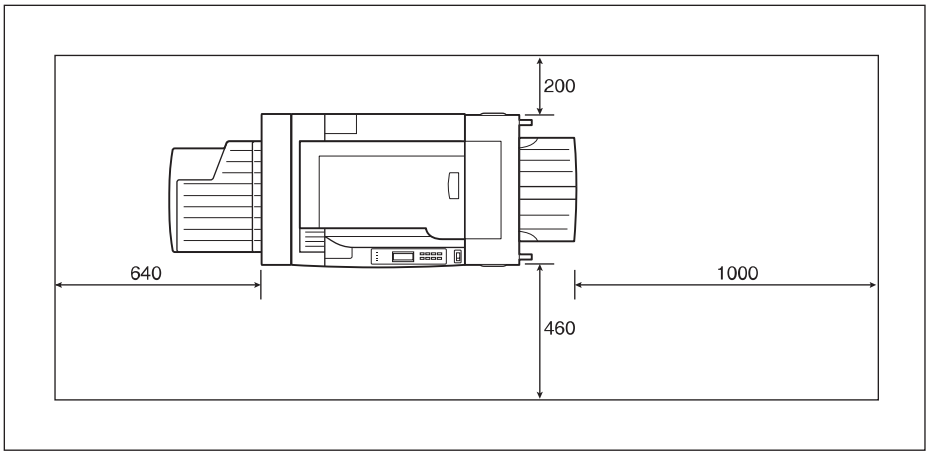
- Width: 28 inches (762 mm)
- Depth: 20.5 inches (520 mm)
- Height: 19.1 inches (486 mm)

In addition, make sure you leave enough room around the printer to access and operate it. For the standard configuration with no options, IBM recommends leaving at least 7.8 inches (200 mm) in the back of the printer, 18.1 inches (460 mm) in the front of the printer, 7.8 inches (200 mm) on the right side, and 25.2 inches (640 mm) on the left side of the printer.



When options are installed, IBM recommends leaving at least 7.8 inches (200 mm) in the back of the printer, 18.1 inches (460 mm) in the front of the printer, 39.4 inches (1000 mm) on the right side, and 25.2 inches (640 mm) on

the left side of the printer.



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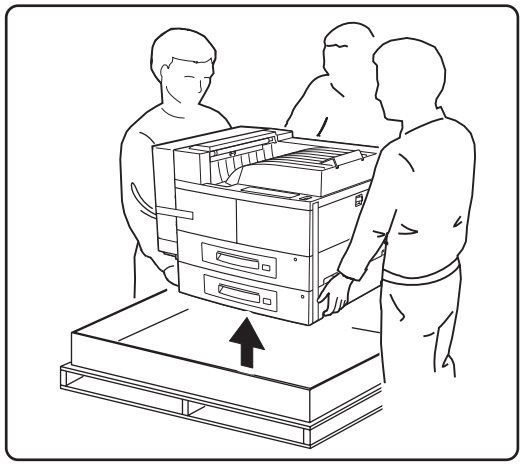
CAUTION:

<2-26> The printer, not including either the 2500-Sheet Input Unit (HCI) or the 2000-Sheet Finisher (HCF), weighs approximately 45 kg (100 lb.). Use three persons to carry the printer. Use appropriate lifting precautions.

hcsf0226



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Remove all items from the packing box including packaging pieces. Lift the printer and place it on a flat surface. If any of the following items are missing, contact your point of purchase:

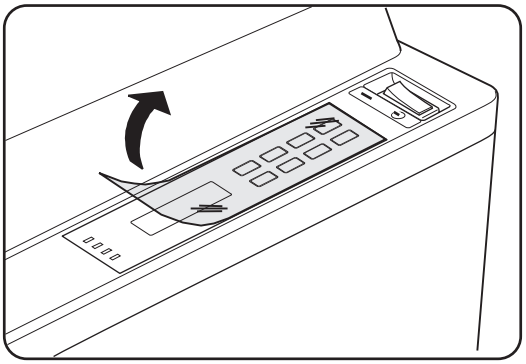
- InfoPrint 32
- Toner cartridge
- The following documents: *InfoPrint 32: Quick Reference Card*, *InfoPrint 32: Quick Setup Poster*, and *InfoPrint 32: Warranty, Communication Statements, and Safety Information*
- CD-ROM
- Power cord (In some countries the power cord needs to be ordered separately and is shipped in a separate box.)

Note: Save all packing materials in case you need to ship or store your printer.

Applying the Operator Panel Overlay

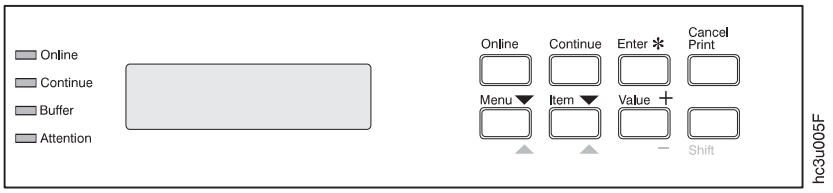
Important!
Some printers may have the overlay installed already. If yours does, skip this procedure.

1. Peel the thin layer of protective plastic off the operator panel.

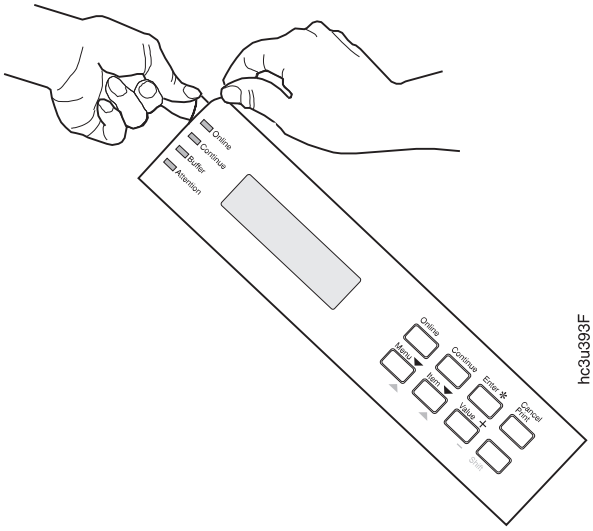


2. Use a dry cloth or towel to remove dust from the operator panel.

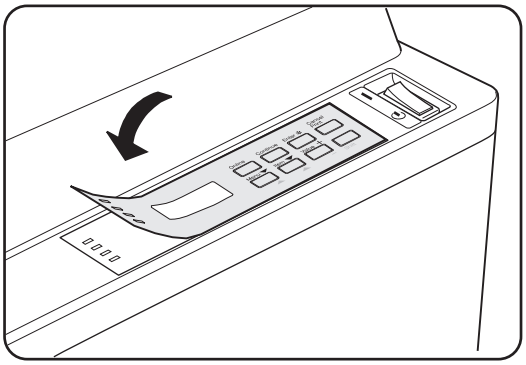
3. Locate the overlay. The overlay lists the names of the keys on the operator panel.



4. Remove the backing from the overlay.

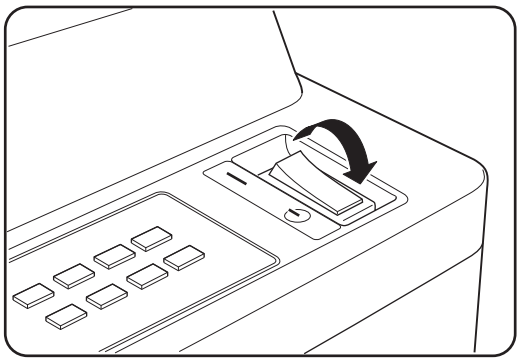


5. Position the overlay so that the top of it lines up squarely with the top of the operator panel. Working down from the top of the overlay, gently press it into place.

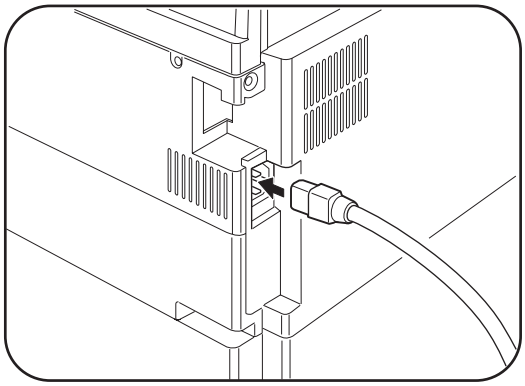


Powering On the Printer

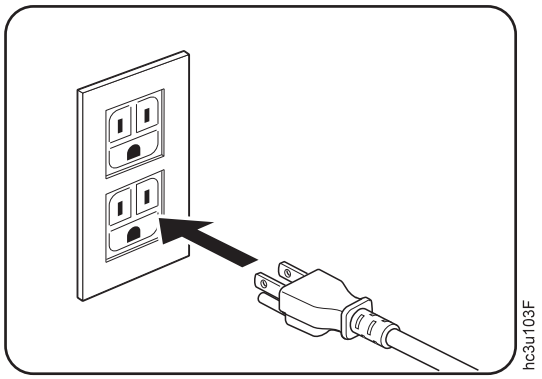
1. Make sure the printer is off. The printer is off when the O on the switch is pressed in.



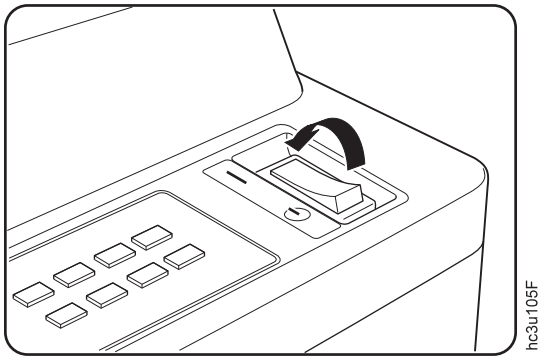
2. Plug the power cord into the receptacle located on the back of the printer.



3. Plug the other end of the cord into a grounded AC wall outlet or an equivalent fixture.



4. To switch on the printer, press the | on the power switch.



5. The printer displays the message IBM InfoPrint 32 and then WARMING UP... while it warms up (this usually takes a little longer than a minute). When the printer is ready, it displays the message READY.

Selecting a Language

Important!
English is the default language for messages and menus. If you use English, skip this procedure.

To display messages and menus in a language other than English, do the following:

1. Press the **Online** key once; you see OFFLINE in the message display area.

2. Press the **Menu** key until you see LANGUAGE MENU in the message display area. Then press the **Item** key until you see LANG=ENGLISH.
3. Press the **Value** key until you see the language you want to select.
4. To change the value, press the **Enter** key. An asterisk appears next to the language you select, indicating that it is now active.
5. Press the **Online** key to make the printer ready. You see the READY message in the language you selected.

Connecting the Parallel Cable

Important!

You need to supply the parallel cable; it is not included with the InfoPrint 32. The parallel cable must be IEEE Std 1284-1994 compliant (IBM part number 63H2804 or its equivalent). To order a parallel cable or other optional feature, contact your IBM Authorized Dealer or IBM Sales Representative. To install the following optional network interface cards, see "The Network Interface Card" on page 182:

- IBM Network Card for Ethernet (10Base2/10BaseT)
- IBM Network Card for Token Ring
- IBM Twinax SCS Interface
- IBM Coax SCS Interface

DANGER

<1-13> Do not connect or disconnect a communication port, a teleport, or any other connector during an electrical storm.

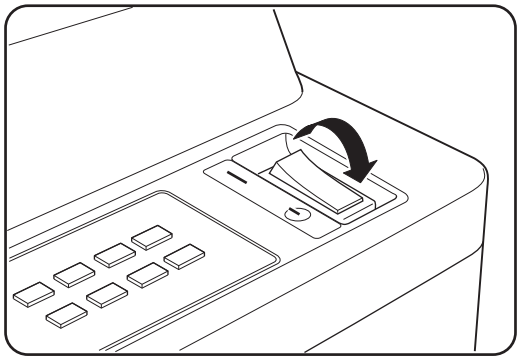
hcsf0113

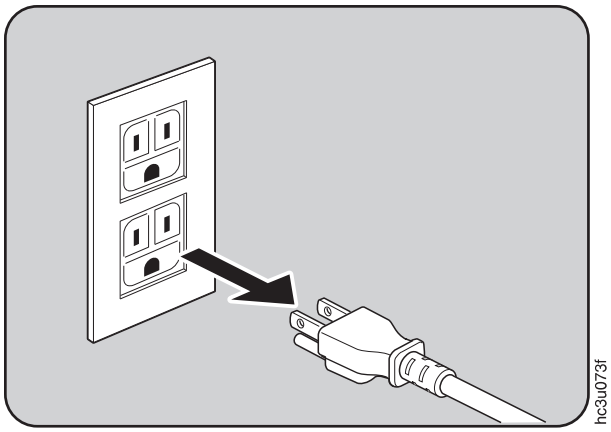
DANGER

<1-14> Switch off printer power and unplug the printer power cord before connecting or disconnecting a communication port, a teleport, or any other attachment connector.

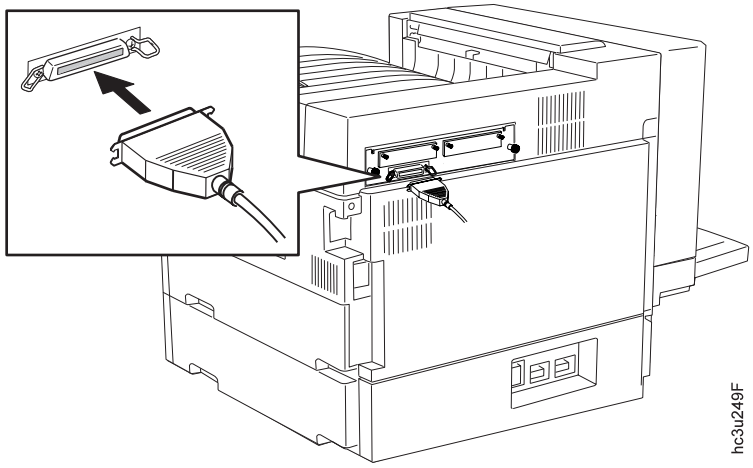
hcsf0114

1. Switch off the printer.
2. Unplug the printer.





3. Attach the parallel cable to the parallel interface port on the back of the printer.



4. Attach the other end of the cable into the parallel interface slot on your PC or workstation.

   Note: If there is a ground strap on your cable, attach it to the attachment screw provided.

5. Plug the printer power cord into the wall and switch the printer on.

Installing Printer Drivers

Before you can print from your PC or workstation to your printer, you need to install the correct printer driver on your system. The InfoPrint 32 includes a CD-ROM which contains PCL5e and PostScript printer drivers for numerous systems. (See the CD-ROM for a complete list.) To use the setup wizard provided on the CD-ROM, choose Set up printer or Browse products, click Start wizard, and follow the instructions.

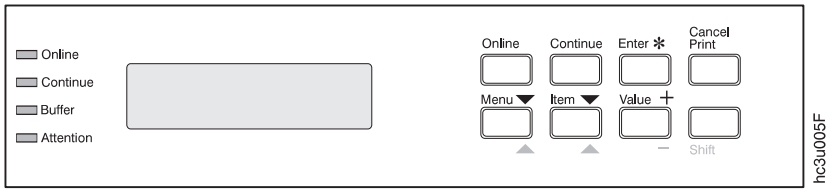
Notes:

1. For your printer driver to work effectively, you must indicate to your printer driver what features are installed on your printer, for example, what trays are installed, and how much memory is installed. Therefore, after you install a driver, make sure you update it to indicate the features installed on your printer. Also, if you install (or remove) a feature at a later date, make sure you update your printer driver.
2. Each operating system has unique driver installation procedures. For specific installation instructions, see the driver installation procedure and README documentation for your operating system.

3. Your printer may include additional drivers not included in this list.
4. Printer drivers are also available as follows:
   a. Access the IBM Printing Systems Home Page at:
      http://www.printers.ibm.com
   b. Go to the printer driver you need and follow the download instructions.

Chapter 3. Using the Operator Panel

This chapter describes how to use the InfoPrint 32 operator panel. The operator panel is located on the front of the printer. It consists of a message display area, status indicator lights, and operator keys.



- For information about indicator lights, see “Understanding the Operator Panel Indicator Lights” on page 24.
- For a description of all messages, see “Appendix C. Printer Messages” on page 239 .
- For information about operator panel keys, see “Using the Operator Panel Keys” on page 25 and “Navigating Menus” on page 26.
- For an overview of some of the most common operator panel tasks, see “Other Operator Panel Tasks” on page 29.
- For an overview of all printer menus, see “Chapter 6. Operator Panel Menus” on page 95.

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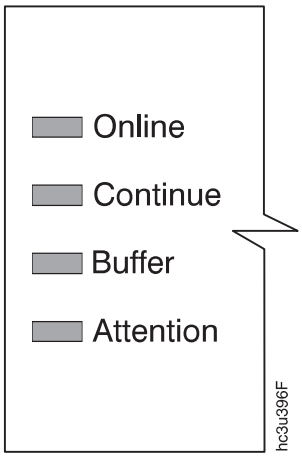
Understanding the Operator Panel Indicator Lights

The status indicators are located on the left side of the operator panel.



Indicator lights can be on, off, or blinking.

Indicator	Condition
Online	On—the printer is online and idle. Blinking—the printer is online and receiving or processing data. Off—the printer is offline. Note that the printer must be offline before you can change menu settings.
Continue	On—a condition that requires operator attention exists. Press the **Continue** key to continue printing or press the **Cancel Print** key to cancel printing. (If the Auto-continue function is on, the printer may automatically resume printing after thirty seconds. For more information, see the description of the AUTOCONTINU item under “Configuration (Config) Menu” on page 106.) Off—the printer is operating normally.
Buffer	On—a page or partial page is stored in memory. The page prints when it completes, or, for partial pages, when (a) another job starts, (b) a port timeout occurs, or (c) you press the **Enter** key. Blinking—the printer is receiving data. Off—no pages are stored in the printer memory.

Indicator	Condition
Attention	Blinking—the printer requires attention. Off—the printer is operating normally.

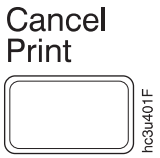
Using the Operator Panel Keys

The operator panel keys enable you to configure and operate the printer. They are located on the right side of the operator panel.

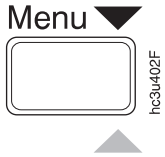
Use the **Online** key to take the printer offline or to put it back online.
Note: The printer must be offline before you can change menu settings or cancel jobs.

Use the **Continue** key to continue printing when the Continue indicator is on. When the Continue indicator is on, a condition that requires operator attention exists. If the Continue indicator is on and you do not want to continue printing, press the **Cancel Print** key to cancel printing.

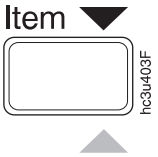
Use the **Enter** key to select an action menu item or a menu item value. Also use **Enter** to print a partial page stored in memory. (The Buffer indicator light goes on to indicate a partial page is in memory.)
Note: To select a new value for a menu item, you must press the **Enter** key when the value is displayed in the message display area. After you press **Enter**, an asterisk (*) appears next to the new value, indicating that it is active.



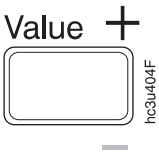
Use the **Cancel Print** key to cancel the current print job. (After you press the **Cancel Print** key, it may take a while before the current job stops printing.) After the job is canceled, the printer begins printing the next job in the queue.
Note: The printer must be offline or the Continue indicator must be on before you can cancel a job.



Use the **Menu** key to scroll through the menu list. As you scroll through the list, the current menu is displayed in the message display area.
Note: The printer must be offline before you can move between menus.



Use the **Item** key to scroll through the list of items for the menu listed in the message display area. As you scroll through the list, the current item and, if applicable, the current value for the item is displayed in the message display area, just below the name of the current menu.



Use the **Value** key to scroll through a list of acceptable values for a menu item. Press the **Value** key once to scroll forward one value. Press and hold the **Value** key to scroll more quickly through the list (especially for numeric values).
Note: To select a new value, press the **Enter** key when the value is displayed in the message display area. An asterisk (*) appears next to the value, indicating that it is now active.

Use the **Shift** key to reverse the order in which you scroll when you use the **Menu**, **Item**, or **Value** keys. To scroll up instead of down, press both keys at the same time.

Navigating Menus

There are two types of menus: action menus and configuration menus.

Action menus contain a list of actions you can perform, such as printing a list of active fonts or printing a printer configuration page. There are three action menus: the Test Menu, the Reset Menu, and the Machine Info Menu.

To work with action menus:

1. Make sure the printer is offline. If the printer is online, press the **Online** key to take it offline.
2. Press the **Menu** key to display the menu you want.
3. Press the **Item** key to display the action item you want.
4. Press the **Enter** key to perform the action.

For an example of working with an action menu, see “Printing the Printer Configuration Page” on page 27.

Configuration menus contain lists of items that define current settings for the printer, such as default fonts, default input trays and output bins, and attachment configuration settings.

To work with configuration menus:

1. Make sure the printer is offline. If the printer is online, press the **Online** key to take it offline.
2. Press the **Menu** key to display the menu you want.
3. Press the **Item** key to display the item you want.
4. Press the **Value** key to display the value you want.
5. Press the **Enter** key to change the setting to the value currently displayed in the message display area. An asterisk (*) appears next to the value after it is selected.

Notes:

1. When you select a new value, it stays selected until you change it or you reset the printer defaults. Menu settings are saved when you switch off the printer.
2. Many print applications and printer drivers allow you to specify values such as fonts and input trays. Values set by print applications or printer drivers override values set at the printer.

Locking Menus

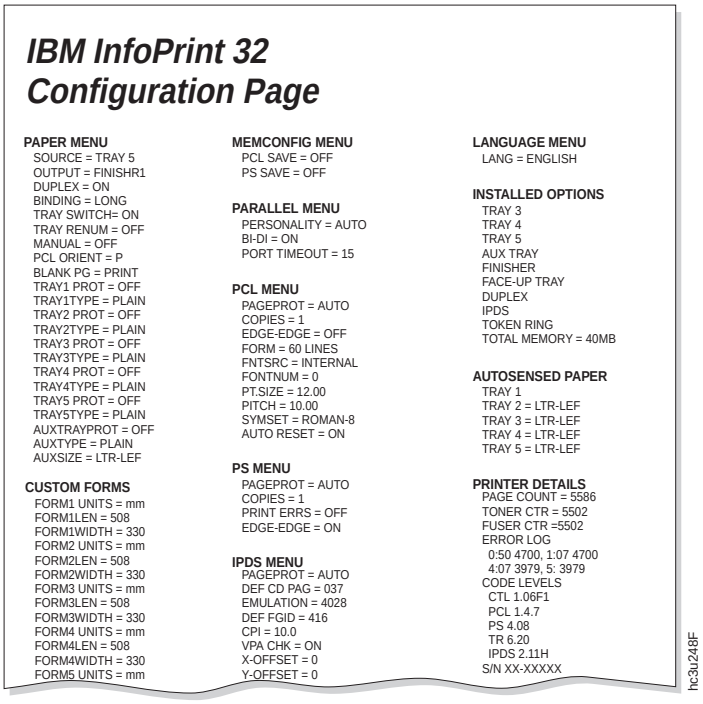
To lock menus, simultaneously press the **Enter** key and **Shift** key while you switch on the printer. When menus are locked, users can view menu settings, but they cannot change them. Users can print configuration pages and demo pages while menus are locked.

To unlock menus, simultaneously press the **Enter** key and **Item** key while you switch on the printer.

Printing the Printer Configuration Page

1. Make sure the printer is offline. If the printer is online, press the **Online** key to take it offline.
2. Press the **Menu** key once. TEST MENU appears in the message display area.
3. Press the **Item** key once. CONFIG PAGE appears in the message display area. Note that the menu name appears on the top line and the menu item appears on the second line.

4. Press the **Enter** key to print the configuration page. (It takes about a minute.) The following figure shows a sample printer configuration page.



The configuration page lists:

- **Menus**—All of the menu settings currently active for your printer. Note that the list of menus you see is determined by the options you have installed; for example, you see the Ethernet Menu only when you have the Ethernet attachment installed. The configuration page displays the configuration menus and options in the order they appear on the operator panel. The action menus (Test, Reset, and Machine Info) are not displayed on the configuration page.

  For a description of all available menus, see “Chapter 6. Operator Panel Menus” on page 95.

- **Installed Options**—The options and memory you have installed.

  Important: IBM recommends doing the following whenever you install a feature:

  – Print the printer configuration page. Then look under Installed Options to make sure the printer recognizes the option and the installation was successful.

- Update your printer driver to indicate the new feature is available. (This includes features such as new trays and extra memory; you do not need to indicate new network interface cards.)

- **Autosensed Paper**—The trays, the media size they contain, and the media orientation. All trays except the auxiliary tray can automatically determine the loaded media size and its orientation.
- **Printer Details**
  - **Serial Number**—The machine serial number.
  - **Page Count**—The number of pages printed on the printer.
  - **Toner CTR**—The number of pages printed since the cartridge was replaced. You should reset the toner counter whenever you replace the toner cartridge. See "Machine Information Menu" on page 141 for more information.
  - **Fuser CTR**—The number of pages printed with the fuser since the fuser counter was reset. You should reset the fuser counter whenever you install a new usage kit. See "Machine Information Menu" on page 141 for more information.
  - **Error Log**—The last ten error messages logged by the printer and the printer page count when each message occurred. Note that not all error messages get logged, including some severe errors that halt printer operations. See "Machine Information Menu" on page 141 for more information.
  - **Code Levels**—Code levels of the printer controller and other programs.
    - **CTL**—The code level of the printer controller.
    - **PCL**—The code level of the printer PCL code.
    - **PS**—The code level of the printer PostScript code.

    Note: In addition to the code levels listed here, the configuration page will list code levels for other installed options, such as network interface cards.

5. To restore the printer to READY status, press the **Online** key.

Other Operator Panel Tasks

The rest of this chapter contains examples of how to perform some other common operator panel tasks. In addition, "Common Paper Handling Tasks" on page 66 contains examples of how you can use the operator panel to change Paper Menu settings, such as default input trays and output bins, and default paper sizes. See "Chapter 9. Configuring Printer Network Addresses"

on page 217 for information about how to set TCP/IP network values (IP address, gateway address, subnet mask, locally administered MAC address) from the operator panel.

Making Duplex or Simplex Printing the Printer Default

Situation: You want to set the printer default to either duplex or simplex printing.

Action:

1. Press the **Online** key until you see OFFLINE in the display.
2. Press the **Menu** key until you see PAPER MENU in the display.
3. Press the **Item** key until you see DUPLEX=ON or DUPLEX=OFF* in the display. (DUPLEX=OFF* is the default.)
4. Press the **Value** key until you see the new value you want.
5. Press the **Enter** key to select the new setting. An asterisk appears next to the value, showing that it is active.
6. To restore the printer to READY status, press the **Online** key.

Notes:

1. Values set in print jobs (either by the print application or by the printer driver) override values you set at the printer. If a print job specifies simplex printing and the printer default is duplex, the printer honors the print job setting and prints on one side only.
2. The BINDING item on the Paper Menu lets you specify how you want duplex jobs to print. If BINDING is set to LONG (the default value), the job prints as if the paper is to be bound along the long edge of the paper (on the left for portrait documents, along the top for landscape documents.) If you set BINDING to SHORT, the job prints as if the paper is to be bound along the short edge of the paper (on the top for portrait documents, on the left for landscape documents).

Canceling a Print Job

Situation: You want to cancel the job that is currently printing.

Action:

1. Press the **Online** key to take the printer offline.
2. Press the **Cancel Print** key. The current job will be canceled and removed from the queue after the printer completes the pages in the buffer.
3. To restore the printer to READY status, press the **Online** key.

Printing the Ethernet Network Interface Card Configuration Page

Situation: You want to print the configuration page for the Ethernet network interface card.

1. If the printer is online, press the **Online** key to take it offline.
2. Press the **Menu** key once. TEST MENU appears in the message display area.
3. Press the **Item** key until you see PRINT EN CONFIG.
4. Press the **Enter** key.
5. Press the **Online** key to restore the printer to READY status, and print the configuration page. The printer must be online to print the configuration page. It takes about a minute.

Note: The configuration page prints on the paper size specified by the PAGESIZE item in the PCL Menu.

Printing the Token-Ring Network Interface Card Configuration Page

Situation: You want to print the configuration page for the token-ring network interface card.

1. Make sure the printer is offline. If the printer is online, press the **Online** key to take it offline.
2. Press the **Menu** key once. TEST MENU appears in the message display area.
3. Press the **Item** key until you see PRINT TR CONFIG.
4. Press the **Enter** key.
5. Press the **Online** key to restore the printer to READY status, and print the configuration page. The printer must be online to print the configuration page. It takes about a minute.

Note: The configuration page prints on the paper size specified by the PAGESIZE item in the PCL Menu.

Printing a List of PCL5e Fonts

Situation: You want to see a list of the PCL5e fonts installed on the printer.

Action:

1. Press the **Online** key to take the printer offline.
2. Press the **Menu** key. TEST MENU appears in the display area.
3. Press the **Item** key until you see PRINT PCL FONTS.
4. Press the **Enter** key to print the PCL5e fonts list.

5. After the page prints, press the **Online** key to restore the printer to READY status.

Printing a List of PostScript Fonts

Situation: You want to see a list of the PostScript fonts installed on the printer.

Action:

1. Press the **Online** key to take the printer offline.
2. Press the **Menu** key. TEST MENU appears in the display area.
3. Press the **Item** key until you see PRINT PS FONTS.
4. Press the **Enter** key to print the PostScript fonts list.
5. After the page prints, press the **Online** key to restore the printer to READY status.

Printing a List of IPDS Resident Fonts

Situation: You have the optional IPDS SIMM installed on your printer and you want to see a list of the IPDS resident fonts.

Action:

1. Press the **Online** key to take the printer offline.
2. Press the **Menu** key. TEST MENU appears in the display area.
3. Press the **Item** key until you see PRINT IPDS FONTS. (This item appears only if you have the IPDS SIMM installed on your printer.)
4. Press the **Enter** key to print the IPDS resident fonts list.
5. After the page prints, press the **Online** key to restore the printer to READY status.

Adjusting Print Density

Situation: You want to increase or decrease the print density, making the print darker or lighter.

Action:

1. Press the **Online** key until you see OFFLINE in the display.
2. Press the **Menu** key until you see CONFIG MENU in the display.
3. Press the **Item** key until you see DENSITY=n* in the display, where n is the density value currently selected.
4. Press the **Value** key until you see the value you want to assign to the toner density; 6 is the most dense, 0 is the least dense, and 3 is the default.

5. Press the **Enter** key to select the new density. An asterisk (*) appears next to the value, showing that it is active.
6. To restore the printer to READY status, press the **Online** key.

Notes:

1. Increasing density may make documents appear darker; however, it also uses more toner, which decreases the number of images you can expect to print with your toner cartridge.
2. Decreasing toner density may improve image clarity.
3. Lowering density may have little effect on large black areas, unless the Config Menu QUALITY item is set to ECONO.
4. The Config Menu DENSITY item always controls the printer density setting. You cannot use a printer driver to change the density setting.

Changing the Power Savings (Sleep Mode) Interval

Situation: You want to increase or decrease the interval before your printer goes into power-saving mode. The default interval is 30 minutes. In power-saving mode, the printer powers down most of its systems. This saves energy, but also requires extra time to warm up when the next print is requested.

Action:

1. Press the **Online** key until you see OFFLINE in the display.
2. Press the **Menu** key until you see CONFIG MENU in the display.
3. Press the **Item** key until you see PWRSAV=30* in the display. (If this value has already been changed, a number other than 30 will appear in the display.)
4. Press the **Value** key until you see the value (number of minutes) you want to assign to the power-saver feature. Select OFF if you never want the printer to go into power-saving mode.
5. Press the **Enter** key to select the new power-savings value. An asterisk (*) appears next to the value, showing that it is active.
6. To restore the printer to READY status, press the **Online** key.

Changing the Language Shown on the Display Panel

Situation: You want to display operator panel messages and menus in a language other than English.

Action:

1. Press the **Online** key until you see OFFLINE in the display.
2. Press the **Shift** and **Menu** keys at the same time. You see LANGUAGE MENU.

3. Press the **Item** key. LANG=ENGLISH* appears as the first menu item unless the language has already been changed.
4. Press the **Value** key until you see the language you want to select.
5. Press the **Enter** key. An asterisk (*) appears next to the language, showing that it is active.
6. To restore the printer to READY status, press the **Online** key. The READY message displays in the language you selected.

Chapter 4. Paper Handling

This chapter describes how to:

- Select print media
- Load print media into the following:
  - Upper 500-sheet paper tray
  - Lower 500-sheet paper tray
  - 50-sheet auxiliary tray
  - Envelope feeder
  - 2500-Sheet Input Unit
- Use the Paper Menu to turn tray switching on or off, or to specify default input trays, output bins, and paper sizes for your printer.

Notes:

1. Printer menus refer to trays as follows:
   - TRAY 1 is the upper 500-sheet input tray on the printer. Tray 1 is the default source tray if the 2500-Sheet Input Unit is not installed.
   - TRAY 2 is the lower 500-sheet input tray on the printer.
   - TRAY 3 is the 500-sheet input tray in the 2500-Sheet Input Unit.
   - TRAY 4 is the left 1000-sheet input tray in the 2500-Sheet Input Unit. It is below Tray 3.
   - TRAY 5 is the right 1000-sheet input tray in the 2500-Sheet Input Unit. It is also below Tray 3. If the 2500-Sheet Input Unit is installed, Tray 5 is the default source tray.
   - AUXTRAY is the 50-sheet tray on the left side of the printer.
   - ENV is the optional envelope feeder.
2. Values specified in your print jobs normally override defaults set at the printer. For example, if a print job requests the main paper tray (Tray 1), the printer will use the main paper tray, even if the default tray is set to something else.
3. If the TRAY SWITCH item in the Paper Menu is ON, the printer automatically looks for the correct paper in another tray when the current tray is empty. The printer **always** looks in other trays when the specified tray contains the wrong size of paper, regardless of the TRAY SWITCH setting. See “Turning Tray Switching On or Off” on page 68.

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Selecting Paper and Other Printable Material

The following sections contain information about selecting print materials, including:

- "Media Size Specifications" on page 37
- "Media Weight and Thickness Specifications" on page 39
- "Selecting Paper and Pre-printed Forms" on page 40
- "Selecting Adhesive Labels" on page 41
- "Selecting Overhead Transparencies" on page 41
- "Selecting Envelopes" on page 41

IBM recommends that you use print media specifically designed for use in electrophotographic or "laser" printers. Before you purchase any media or specialized form in large quantities, make sure your paper supplier obtains and understands the media selection guidelines for your printer.

Notes:

1. Some print media, although they conform to size and weight specifications, may still function poorly in your printer. Print quality, jam rates, and output stacking can be affected by the printing environment (temperature and humidity) and other characteristics of the paper itself (such as structure, moisture, content, smoothness, or thickness). IBM recommends you test small amounts of print media using your printing application in your current operating environment before you purchase large quantities of the media or you print large volumes.

   For more information about paper specifications see *IBM Page Printers Paper Reference Booklet*, G544-3178, or *IBM Advanced Function Printer Cut Sheet Paper Reference for Use with IBM Electrophotographic Printers*, G544-3915.
2. The friction-feed design of the printer may cause skew and slight-registration variations in the print position on the page, especially when you use small size papers or preprinted forms. IBM recommends you test small amounts of print media using your printing application in your current operating environment before you purchase large quantities of the media or you print large volumes.
3. Using media outside of the media specifications and selection guidelines may cause problems requiring service and shorten the life of supplies. Such problems are not covered by the IBM warranty or service agreement.
4. IBM neither warrants nor recommends the use of any particular brand of print media. Media properties are subject to change by the manufacturer, and IBM has no control over these changes. It is possible that paper will

meet all of the specifications and guidelines, but still not print satisfactorily. This might be due to improper handling or storage, over which IBM has no control.

Media Size Specifications

The following table lists supported media sizes and compatible input trays.

Style	Size	Tray				
		Auxiliary	**Tray 1**	**Tray 2/3**	**Tray 4/5**	**Envelope Feeder**
Paper						
Letter	8.5 x 11 in 215.9 x 279.4 mm	SEF/LEF	SEF/LEF	SEF/LEF	LEF	No
Legal	8.5 x 14 in 215.9 x 355.6 mm	SEF	SEF	SEF	No	No
Folio	8.5 x 13 in 215.9 x 330.2 mm	SEF	SEF	SEF	No	No
Ledger	11 x 17 in 279.4 x 431.8 mm	SEF	SEF	SEF	No	No
A4	8.27 x 11.69 in 210 x 297 mm	SEF/LEF	SEF/LEF	SEF/LEF	LEF	No
B5-JIS	7.16 x 10.12 in 182 x 257 mm	SEF/LEF	SEF/LEF	SEF/LEF	LEF	No
B4	10.12 x 14.33 in 257 x 364 mm	SEF	SEF	SEF	No	No
A5	5.85 x 8.27 in 148.5 x 210 mm	SEF/LEF	LEF	No	No	No
A3	11.69 x 16.54 in 297 x 420 mm	SEF	SEF	SEF	No	No
Executive	7.25 x 10.5 in 184.2 x 266.7 mm	LEF	LEF	LEF	LEF	No
Statement	5.5 x 8.5 in 139.7 x 215.9 mm	SEF/LEF	LEF	No	No	No
Universal	Minimum: 3.94 x 5.83 in 100 x 148 mm Maximum: 11.69 x 17 in 297.4 x 431.8 mm	Simplex SEF	No	No	No	No
Envelopes and Card Stock						

Style	Size	Tray				
		Auxiliary	Tray 1	Tray 2/3	Tray 4/5	Envelope Feeder
Hagaki	3.94 x 5.83 in 100 x 148 mm	SEF	No	No	No	No
Monarch envelope	3.875 x 7.5 in 98.4 x 190.5 mm	LEF	No	No	No	LEF
COM10 envelope	4.125 x 9.5 in 104.8 x 241.3 mm	LEF	No	No	No	LEF
C5 envelope	6.38 x 9.02 in 162 x 229 mm	LEF	No	No	No	LEF
DL envelope	4.33 x 8.66 in 110 x 220 mm	LEF	No	No	No	LEF
Universal envelopes	Minimum: 3.94 x 5.83 in 100 x 148 mm Maximum: 8.5 x 9.6 in 215.9 x 245 mm	No	No	No	No	LEF
Transparencies						
Letter	8.5 x 11 in 215.9 x 279.4 mm	SEF/LEF	SEF/LEF	Tray 2 SEF/LEF Tray 3 No	No	No
A4	8.27 x 11.69 in 210 x 297 mm	SEF/LEF	SEF/LEF	Tray 2 SEF/LEF Tray 3 No	No	No
Labels						
Letter	8.5 x 11 in 215.9 x 279.4 mm	SEF/LEF	No	No	No	No
A4	8.27 x 11.69 in 210 x 297 mm	SEF/LEF	No	No	No	No

Notes:

1. Envelopes, card stock, labels, and transparencies are simplex only.
2. Duplexing universal paper sizes can cause jams and is not recommended or supported, although it is not restricted.
3. You may print duplex pages from the auxiliary tray using the same paper sizes as Tray 1. Paper feeds to the paper path one sheet at a time, though you can stack multiple sheets in the tray. Duplex printing from the auxiliary tray impacts printing speed.

4. As indicated in the previous table, some print media can be loaded long-edge feed (LEF) or short-edge feed (SEF). If you print SEF, there is some degradation in printing speed.
5. You may print universal paper sizes, but some small sizes may jam or register improperly.
6. The printer cannot distinguish between B4 and legal size paper or B5 and executive size paper. A4 paper group machines will display B4 and B5 paper sizes, but allow you to feed legal or executive if you load the paper and press the **Continue** key. Letter paper group machines will display legal and executive paper sizes but allow you to feed B4 or B5 paper sizes if you load the paper and press the **Continue** key.
7. Offset restrictions:
   - Offsetting is not supported in the Face-Up Output Bin.
   - Only the following media sizes can be offset: Letter, Legal, Folio, Ledger, A4, and A3.
8. 2000-Sheet Finisher restrictions:
   - You must load the following paper sizes long-edge (LEF) first, not short-edge (SEF): A5, Executive, and Statement.
   - The 2000-Sheet Finisher cannot process envelopes, Japanese Official Postcard (Hagaki), universal envelope sizes, or universal paper sizes.
   - The 2000-Sheet Finisher can finish jobs requiring one paper size within a job. Do not submit a job to the 2000-Sheet Finisher that requires mixed paper sizes.
   - Several conditions can cause the 2000-Sheet Finisher bins to fill at a reduced capacity, including:
     – Paper sizes larger than A4
     – Stapled output
     – Powering on the printer while there is output in the bins.

     If a problem occurs, empty the output bins, power off the printer, and then power on the printer.
   - When stapling, you can stack approximately 48mm or 600 sheets, in up to 100 stapled sets. (Results vary somewhat depending on paper characteristics such as thickness and weight.) For example, you can staple up to 12 sets of 50 sheets or 30 sets of 20 sheets, but you cannot staple more than 100 sets even if the total page count would be less than 600.

Media Weight and Thickness Specifications

The following media weights and thicknesses are supported:

- All standard paper trays: 17–24 pound paper (64 to 90 grams/meter²) for single-sided (simplex) printing

- All standard paper trays: 17–24 pound paper (64 to 90 grams/meter²) for two-sided (duplex) printing
- Envelope Feeder: should not exceed 24 pound (90 grams/meter²) bond
- Auxiliary tray:
  - Paper: 17–24 pound (64 to 90 grams/meter²)
  - Hagaki: 57 pound (190 grams/meter²)
  - Transparencies: 0.0039 to 0.0045 inches (0.099 to 0.114 mm) thick
  - Plain paper labels: 0.005 to 0.007 inches (0.127 to 0.178 mm) thick
- 2500-Sheet Input Unit: 17 to 24 pound (64 to 90 grams/meter²) for single-sided (simplex) printing or for two-sided (duplex) printing.
- 2000-Sheet Finisher: 17 to 24 pound (64 to 90 grams/meter²) for single-sided (simplex) printing or for two-sided (duplex) printing.

Selecting Paper and Pre-printed Forms

- Use only a high-quality xerographic paper from chemically pulped wood for optimum paper performance and print quality, and store it according to the manufacturer's recommendations.
- Recycled paper can be successfully used in your printer. Make sure that the recycled paper contains chemically pulped wood and has been designed for use in electrophotographic or laser printers.
- Make sure the paper is free of nicks and cuts, curled or bent edges, ragged edges, and loose dust.
- Keep your paper stored in its moisture-proof wrapping according to the manufacturer's recommendations.
- The paper should lie flat, with less than 0.25 inch (6 mm) of curl, or jamming may result.
- Your printer can print on pre-punched paper. Please note the labels on the printer trays indicating recommended orientation. The pre-punched paper should be free of interlocked edges around the pre-punched holes. Do not use paper with cutouts or perforations larger than 8 mm or with pre-punched holes in non-standard locations.
- Do not use letterhead papers that are printed with low-temperature inks. Use only colored papers or pre-printed forms that are compatible with your printer's fusing temperature of 392°F (200°C).
- Do not use paper that is very rough, very smooth, or embossed. Such paper may cause feeding or print quality problems. Very rough paper may have poor toner adhesion.
- The following types of paper are not recommended for use in your printer: duplicator papers, mimeo papers, carbonless papers, coated papers, highly electrically conductive papers, and papers with talc, wax, stearates, or plasticizers.

Selecting Adhesive Labels

- Only use plain paper labels recommended for use in electrophotographic or laser printers, and store them according to the manufacturer's recommendations.
- Print labels using the auxiliary tray.
- The label adhesive material must be stable at the 392°F (200°C) temperatures encountered during printing.
- Do not use labels with exposed areas between the labels. These types of labels may detach or shift during printing, causing serious jamming problems.
- The labels should lie flat with less than 0.25 inch (6 mm) of curl in any direction.

Selecting Overhead Transparencies

- Select only overhead transparencies recommended for use in electrophotographic or laser printers, and store them according to the manufacturer's recommendations.
- The transparencies should be able to withstand the 392°F.
- (200°C) temperatures encountered during printing.
- Only use the auxiliary tray, Tray 1, or Tray 2 for printing transparencies.

Selecting Envelopes

- Select only envelopes recommended for use in electrophotographic or laser printers, and store them according to the manufacturer's recommendations.
- Only use the auxiliary tray or the envelope feeder for printing envelopes.
- Orient the envelope flaps as indicated on the envelope feeder.
- In the auxiliary tray, load envelopes with the flaps folded, flap-side up, long-edge feed, and flap edge first if the flap is on the long edge.
- The weight of the envelope paper should not exceed 24 pounds (90 grams / meter^2).
- The envelopes should lie flat with less than 0.25 inch (6 mm) of curl.
- Do not use envelopes with windows, clasps, or with peel-off adhesive strips.

Loading Paper and Envelopes into the Printer

You need to add paper when the message LOAD <paper-size> IN <tray> is displayed. This message indicates the printer has stopped because the current print job requires paper from a tray that is empty. You can also add paper anytime the READY message is displayed, the printer is off, or offline. It is possible to add paper while the printer is printing, but do not open the tray the printer is drawing its paper from or you may cause a paper jam.

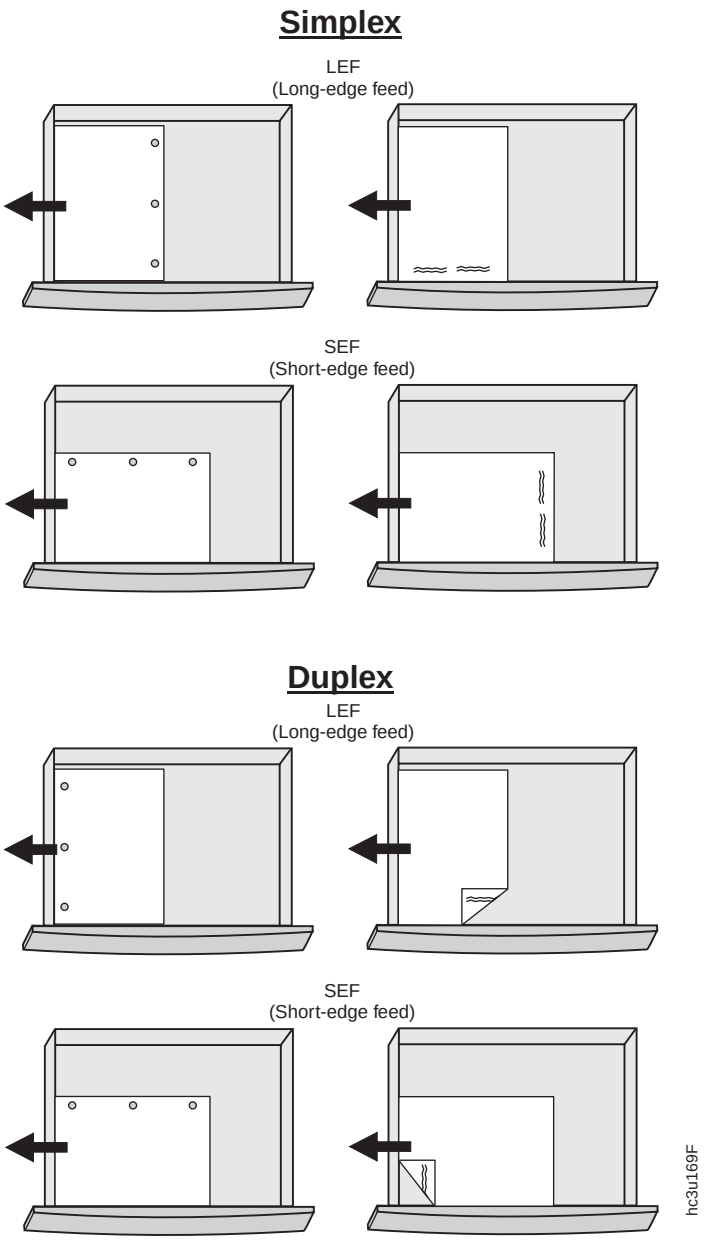
Loading Paper into a 500-Sheet Paper Tray (Tray 1 or Tray 2)

> **Note**
> Many applications allow you to specify the input tray you want to use. This value will override any value set at the printer. If your application does not let you pick an input tray, use the Paper Menu to select the tray.
>
> To select a 500-sheet main paper tray, set SOURCE to TRAY 1 or TRAY 2 (see "Selecting the Default Input Tray" on page 66).

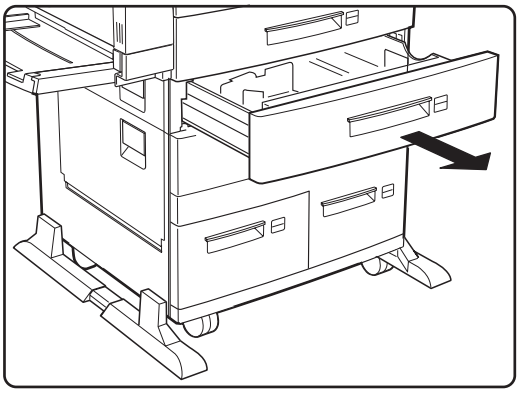
Use the following procedure to load paper into a 500-sheet paper tray:

1. See "Selecting Paper and Other Printable Material" on page 36 for information on media you can load. This illustration shows media loaded

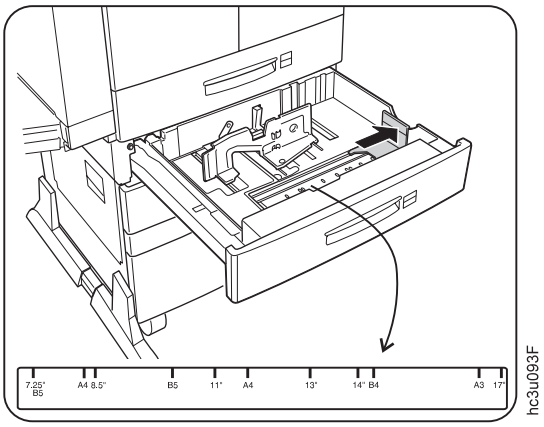
in LEF and SEF orientation.



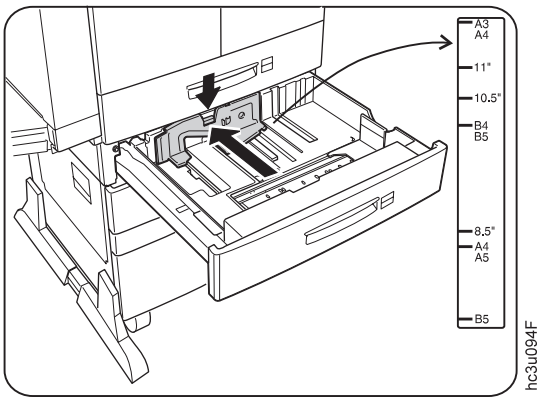
2. Pull the paper tray out until it stops.



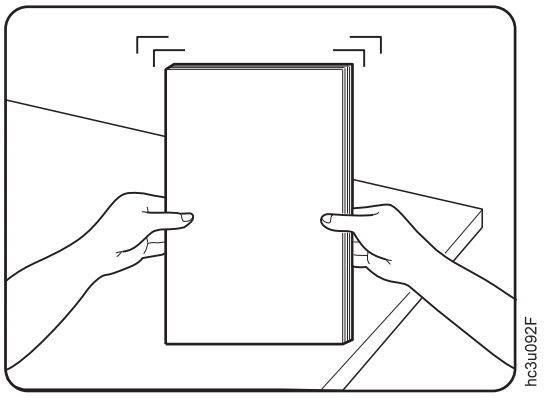
3. Gently lift up on the side paper guide, and slide it to the position for your paper size. Make sure that the guide is locked firmly in the guide hole.



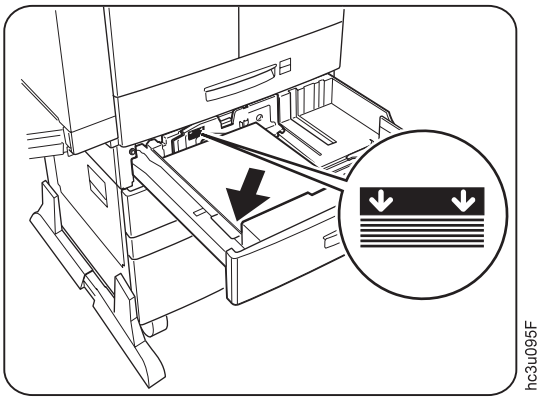
4. While pressing down on the gray handle, slide the rear paper guide to the position for your paper size.



5. Prepare a stack of paper.
   a. Fan the stack of paper to loosen any pages that may be stuck together.
   b. Make sure that the tops of the sheets are properly aligned.



6. Insert the paper into the tray. The paper should fit easily between the guides. Make sure the paper fits snugly in the indicated corner of the tray.

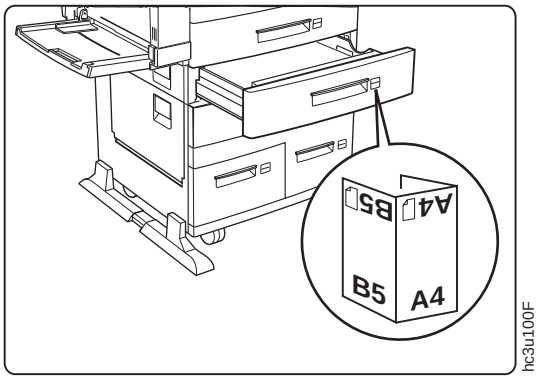


Notes:

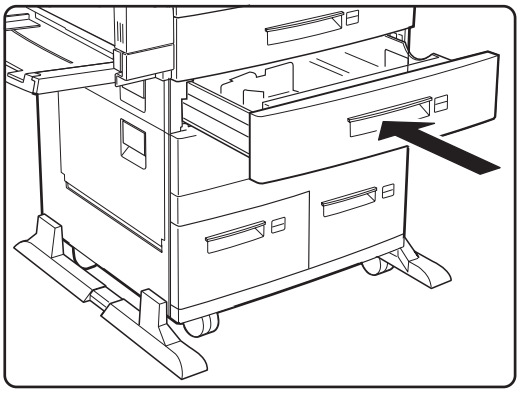
a. Make sure that the height of the paper stack does not exceed the paper limit mark. The paper should lay flat in the tray; it should not be bowed.

b. Failure to adjust the paper guides to the correct paper size could result in a paper jam.

7. From the bag of labels shipped in Tray 1, insert the correct paper size label into the label slot on the top of the paper tray.



8. Slide the paper tray back into the printer until it clicks into place.



Loading Paper into the Auxiliary Tray

Note

Many applications allow you to specify the input tray you want to use. This value will override any value set at the printer. If your application does not let you pick an input tray, use the Paper Menu to select the tray.

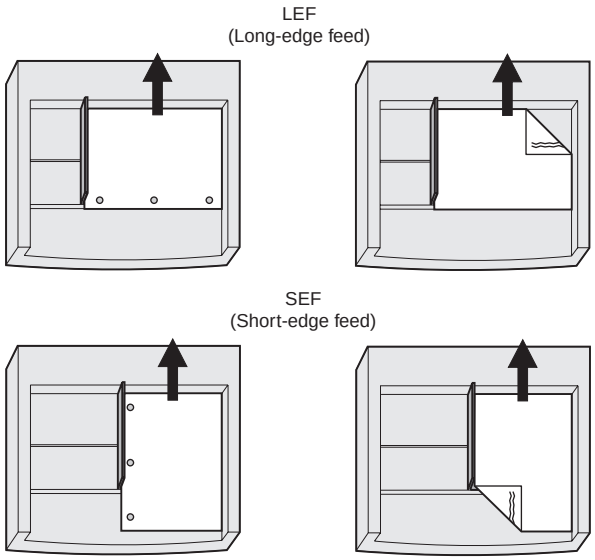
To select the auxiliary tray, set SOURCE to AUXTRAY (see "Selecting the Default Input Tray" on page 66).

Use the following procedure to load paper into the auxiliary tray:

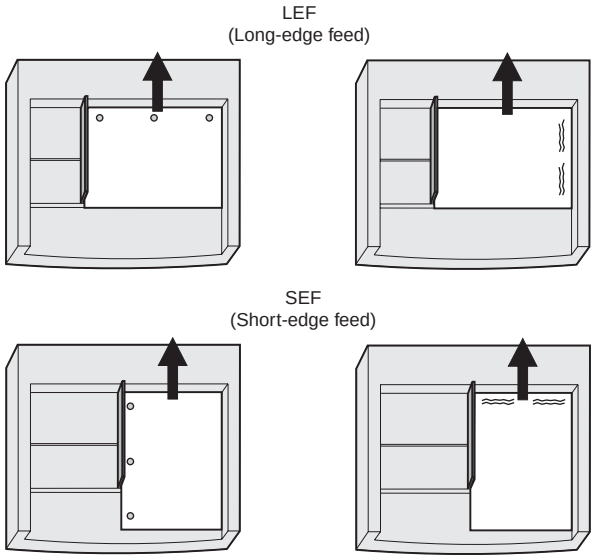
1. See "Selecting Paper and Other Printable Material" on page 36 for information on media you can load. This illustration shows media loaded

in LEF and SEF orientation.

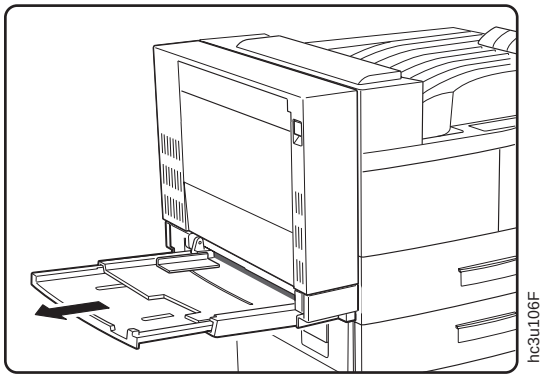
Simplex



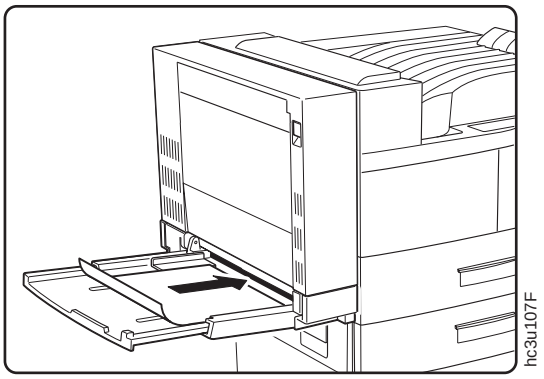
Duplex



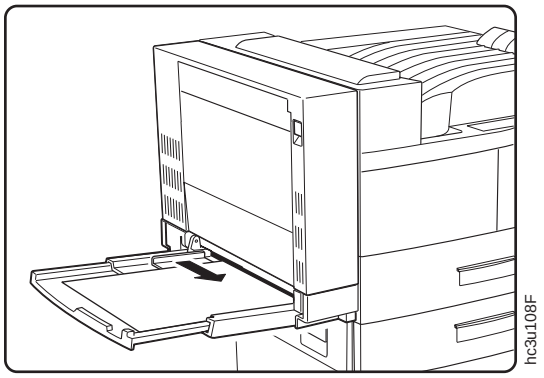
2. Pull out the extension tray to the desired paper length.



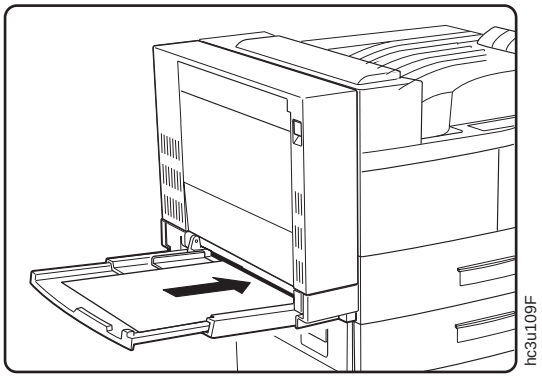
3. Place paper along the right side of the auxiliary tray.



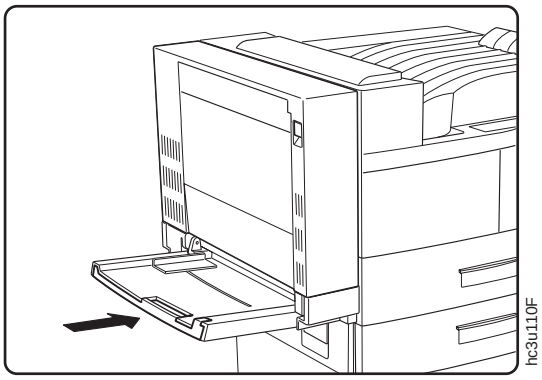
4. Push the paper guide to the right until it lightly touches the paper stack.



5. Insert the paper stack into the printer as far as it can go.



6. When the auxiliary tray is no longer needed, remove any remaining paper and push back the extension tray.



7. Use your print application or the AUXSIZE item in the PAPER MENU to match the paper size you loaded in the auxiliary tray (see “Defining the Auxiliary Tray Paper Size” on page 67). Values specified in print jobs override values you set at the printer.

   If you want to feed the paper manually from the auxiliary tray, use your print application or the Paper Menu to set MANUAL to ON (see “Paper Menu” on page 98).

   Note: PostScript jobs can override MANUAL=OFF; however, they cannot override MANUAL=ON. Therefore, if you do set MANUAL to ON, make sure you reset MANUAL to OFF after you complete the jobs you want to print manually.

Loading Universal Paper into the Auxiliary Tray

Note

Many applications allow you to specify the input tray you want to use. This value will override any value set at the printer. If your application does not let you pick an input tray, use the Paper Menu to select the tray.

To select the auxiliary tray, set SOURCE to AUXTRAY (see "Selecting the Default Input Tray" on page 66).

You can use the auxiliary tray to print any paper size that falls within the following range:

Minimum:
3.92 x 5.75 in
100 x 148 mm
Maximum:
11.6 x 17 in
297.4 x 431.8 mm

To print a custom form size, do the following:

1. Set the AUXSIZE item in the Paper Menu to UNIV.
2. Make sure your print application knows what size paper it is printing to. The printer does not reflow data to fit the paper you load in the auxiliary tray.
   - For the top and left margins, use whatever value you would normally use. No special calculations are required.
   - To determine the minimum bottom margin, subtract the length of the universal size paper from 431.8 mm or 17 in. For example, if your custom form is 300 mm long, subtract the custom form length from 431.8 mm (431.8 mm − 300 mm = 131.8 mm).

     Your application would then apply at least a 131.8 mm bottom margin.
   - To determine minimum right margin for a universal size paper: subtract the width of the universal size paper from 297.4 mm or 11.6 in. For example, if your paper is 210 mm wide, subtract the paper width from 297.4 mm (297.4 mm − 210 mm= 87.4 mm).

     Your application would then apply at least a 87 mm right margin.
3. If you are printing from an IPDS application:
   a. Use the Custom Forms Menu to define the custom form size. You can define up to five custom form sizes.

b. Use the IPDS Menu to set the Custom Form item to the custom form you want to use.

   See “Defining Custom Form Sizes for IPDS” on page 70 for more information.

4. Load paper short-edge first.

Loading Envelopes into the Auxiliary Tray

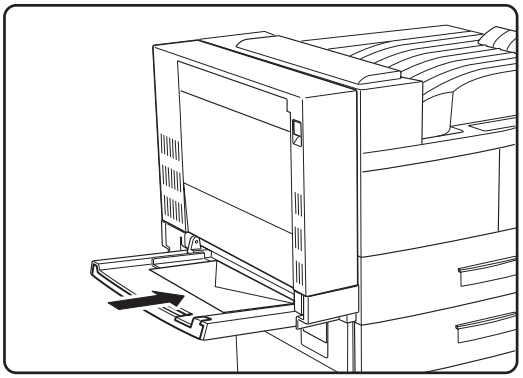
> **Note**
>
> Many applications allow you to specify the input tray you want to use. This value will override any value set at the printer. If your application does not let you pick an input tray, use the Paper Menu to select the tray.
>
> To select the auxiliary tray, set SOURCE to AUXTRAY (see “Selecting the Default Input Tray” on page 66).

You can use the auxiliary tray to print Monarch, COM10, C5, and DL envelopes. You can print universal envelopes from the envelope feeder. See “Loading Universal Envelopes into the Envelope Feeder” on page 65 for information.

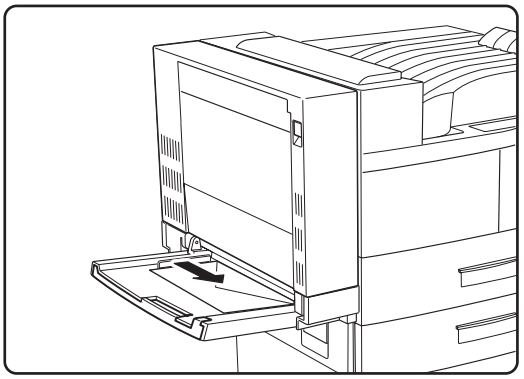
Use the following procedure to load envelopes into the auxiliary tray:

1. See “Selecting Paper and Other Printable Material” on page 36 for information on envelopes you can load.
2. Press the VALUE key to display the size envelope you are going to load.
3. Press the ENTER key to select the envelope size.
4. Place a stack of up to 4 envelopes along the right side of the auxiliary tray with the flaps folded, long-edge first, and flap-edge first if the flaps are on

the long edge of the envelope.



5. Push the paper guide to the right until it lightly touches the envelope stack.



6. Insert the envelope stack into the printer as far as it can go.

   Notes:

   a. Use your print application or the AUXSIZE item in the PAPER MENU to match the envelope size you loaded in the auxiliary tray (see "Defining the Auxiliary Tray Paper Size" on page 67). Values specified in print jobs override values you set at the printer.

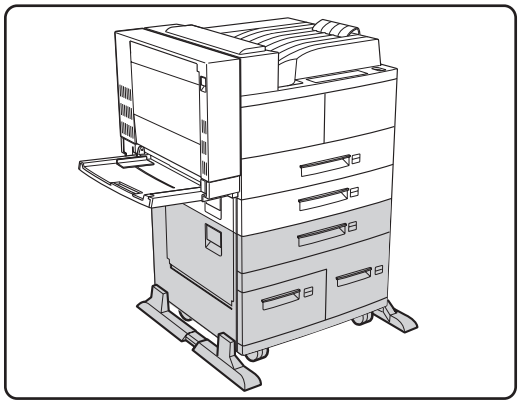
   b. If you want to feed the envelopes manually from the auxiliary tray, use your print application or the Paper Menu to set MANUAL to ON (see "Paper Menu" on page 98)

   c. PostScript jobs can override MANUAL=OFF; however, they cannot override MANUAL=ON. Therefore, if you do set MANUAL to ON, make sure you reset MANUAL to OFF after you complete the jobs you want to print manually.

d. If you want to print universal envelopes from the auxiliary tray, set the AUXSIZE Paper Menu item to UNIV.

Loading Paper into the 2500-Sheet Input Unit (Trays 3, 4, and 5)

The 2500-Sheet Input Unit adds one 500-sheet and two 1000-sheet paper trays for high-volume printing.



Loading Paper into Tray 3

Note

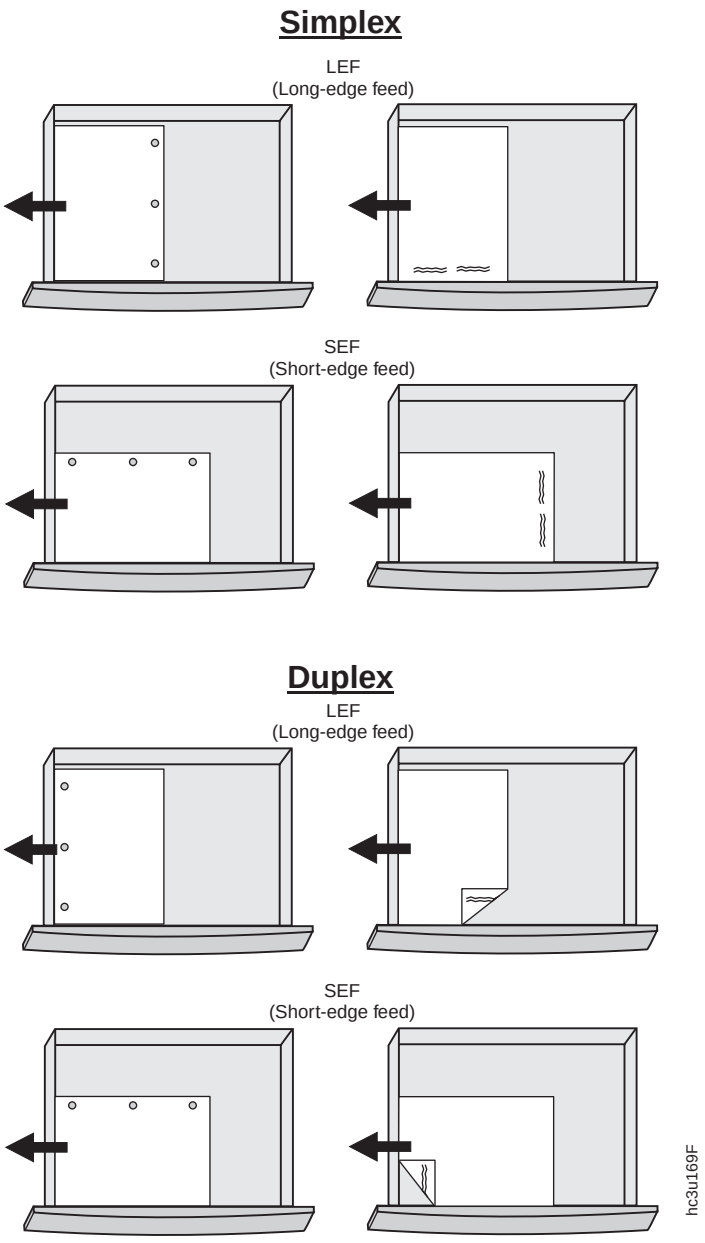
Many applications allow you to specify the input tray you want to use. This value will override any value set at the printer. If your application does not let you pick an input tray, use the Paper Menu to select the tray.

To select the 2500-Sheet Input Unit 500-sheet paper tray, set SOURCE to TRAY 3 (see “Selecting the Default Input Tray” on page 66).

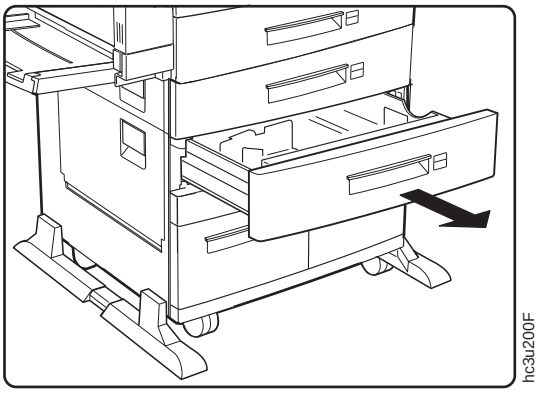
Use the following procedure to load paper into the 2500-Sheet Input Unit 500-sheet paper tray (Tray 3):

1. See “Selecting Paper and Other Printable Material” on page 36 for information on media you can load. This illustration shows media in LEF

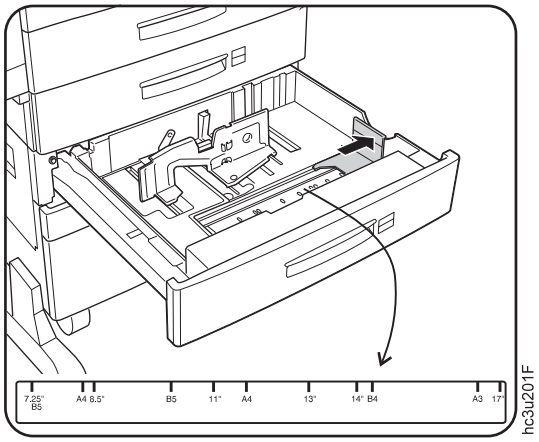
and SEF orientation.



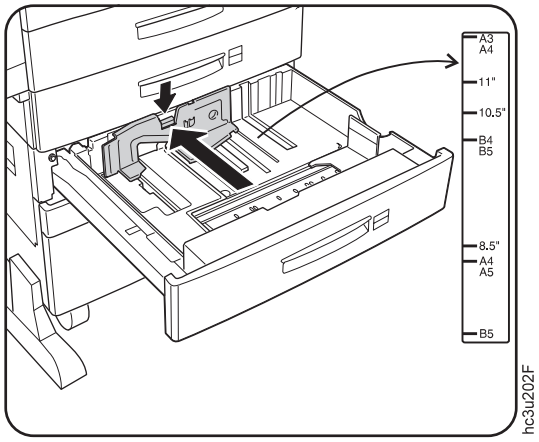
2. Pull the paper tray out until it stops.



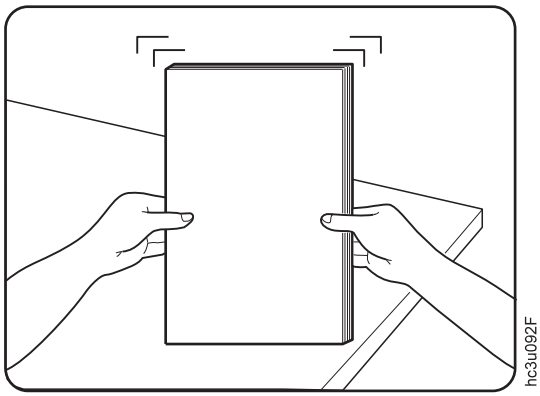
3. Gently lift up on the side guide, and slide it to the position for your paper size. Make sure that the guide is locked firmly in the guide hole.



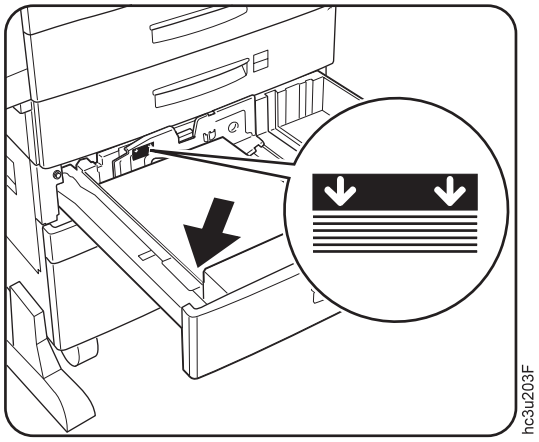
4. While pressing down on the gray handle, slide the rear guide to the position for your paper size.



5. Prepare a stack of paper.
   a. Fan the paper stack to loosen any pages that may be stuck together.
   b. Make sure that the tops of the sheets are properly aligned.



6. Insert the paper into the tray. The paper should fit easily between the guides. Make sure the paper fits snugly in the indicated corner of the tray.

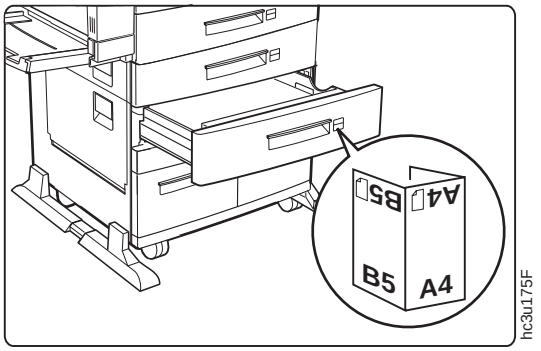


Notes:

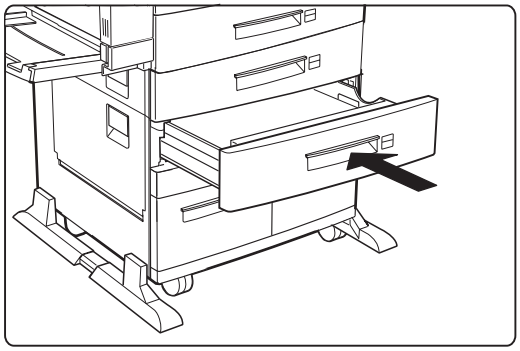
a. Make sure that the height of the paper stack does not exceed the paper limit mark. The paper should lay flat in the tray; it should not be bowed.

b. Failure to adjust the paper guides to the correct paper size could result in a paper jam.

7. Insert the correct paper size label into the label slot on the top of the paper tray.



8. Slide the paper tray back into the printer until it clicks into place.



Loading Paper into Tray 4 or Tray 5

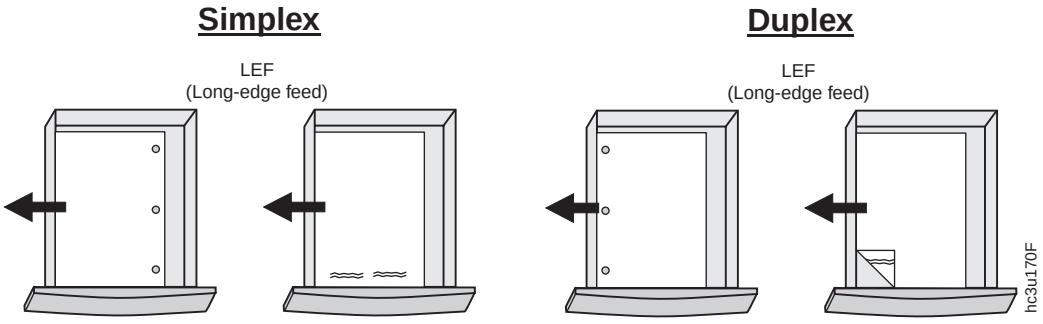
Note

Many applications allow you to specify the input tray you want to use. This value will override any value set at the printer. If your application does not let you pick an input tray, use the Paper Menu to select the tray.

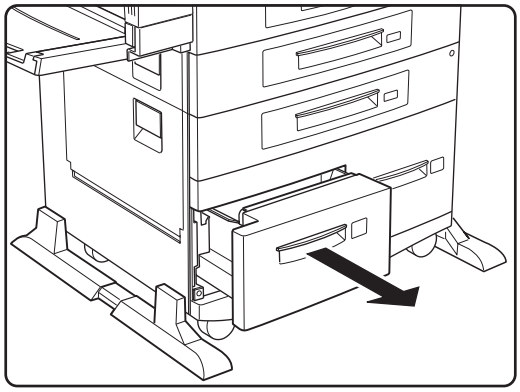
To select Tray 4 or Tray 5, set SOURCE to TRAY 4 or TRAY 5 (see "Selecting the Default Input Tray" on page 66).

Use the following procedure to load paper into the 1000-sheet paper trays (Tray 4 or Tray 5):

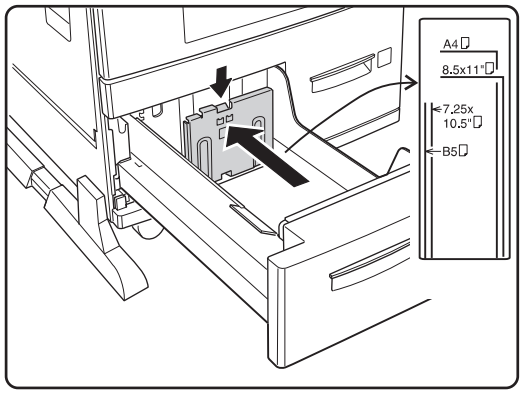
1. See "Selecting Paper and Other Printable Material" on page 36 for information on media you can load. Tray 4 and Tray 5 do not support SEF printing. This illustration shows media in LEF orientation.



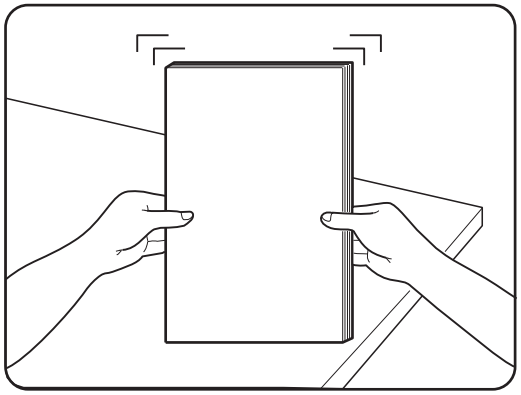
2. Pull out the paper tray until it stops.



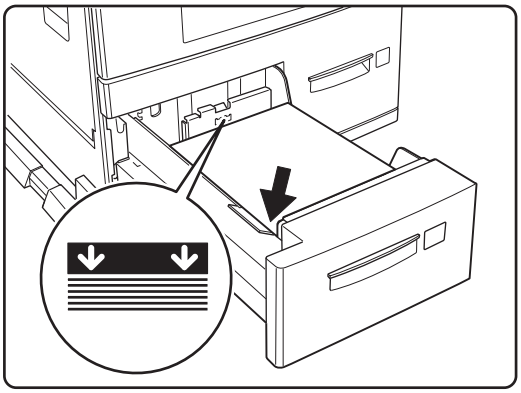
3. While pulling the gray handle toward you, slide the rear guide to the position for your paper size. Make sure the rear guide locks into place.



4. Prepare a stack of paper.
   a. Fan the paper stack to loosen any pages that are stuck together.
   b. Make sure that the tops of the sheets are properly aligned.



5. Insert the paper into the tray. Make sure the paper fits snugly in the indicated corner of the tray.



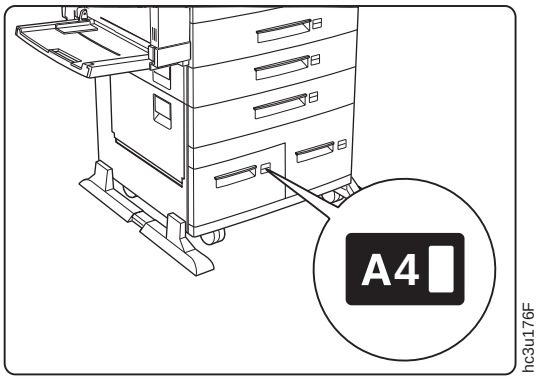
Notes:

a. If you paper has a curl, load the paper with the curl-side down.

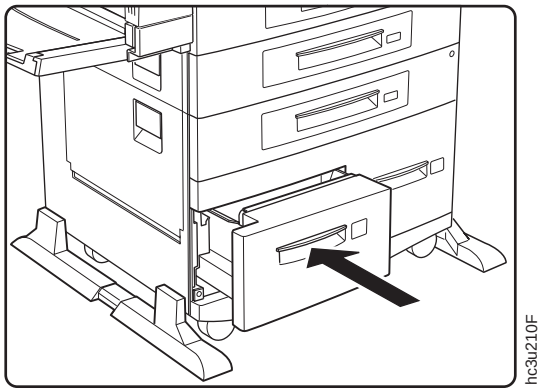
b. Make sure that the height of the paper stack does not exceed the paper limit mark. The paper should lay flat in the tray; it should not be bowed.

c. Failure to adjust the rear guide to the correct paper size could result in a paper jam.

6. Apply the correct paper size label under the tray number on the paper tray.



7. Slide the paper tray back into the printer.



Loading Envelopes into the Envelope Feeder

Note

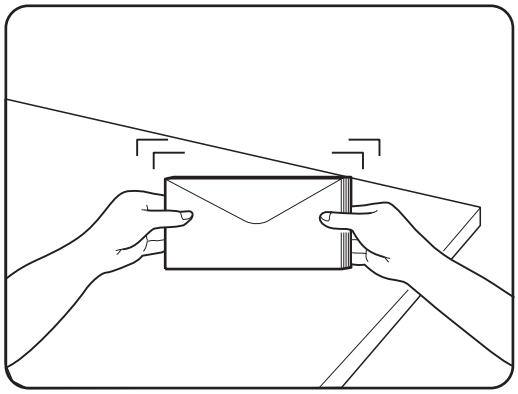
Many applications allow you to specify the input tray you want to use. This value will override any value set at the printer. If your application does not let you pick an input tray, use the Paper Menu to select the tray.

To select the envelope feeder, set SOURCE to ENVELOPE (see "Selecting the Default Input Tray" on page 66).

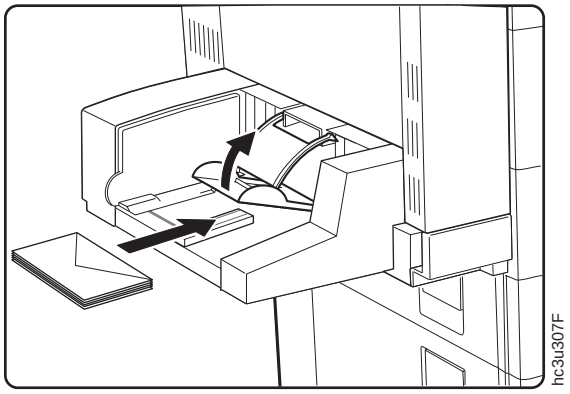
See "Installing the Envelope Feeder" on page 198 for envelope feeder installation instructions.

Use the following procedure to load envelopes into the envelope feeder. The envelope feeder replaces the auxiliary tray.

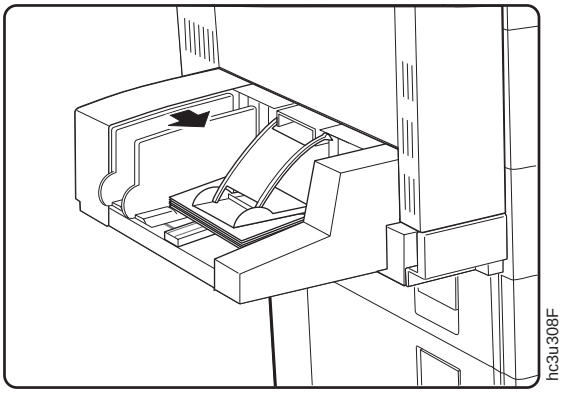
1. See "Selecting Paper and Other Printable Material" on page 36 for information on envelopes you can load.
2. Prepare a stack of envelopes. Envelopes must not be stuck together, and all flaps must be closed.



3. While lifting the envelope weight, insert the envelope stack as shown, flap-side up and long edge first.



4. Slide the size guide to the right until it lightly touches the edge of the envelope stack.



Notes:

a. Make sure the envelope stack does not exceed the paper limit mark.

b. Adding envelopes while printing can cause paper jams.

5. Use your print application or the PAPER MENU to set the ENVSIZE item to match the envelope size you loaded in the envelope feeder. Values specified in print jobs override values you set at the printer.

Loading Universal Envelopes into the Envelope Feeder

Note

Many applications allow you to specify the input tray you want to use. This value will override any value set at the printer. If your application does not let you pick an input tray, use the Paper Menu to select the tray.

To select the envelope feeder, set SOURCE to ENVELOPE (see "Selecting the Default Input Tray" on page 66).

See "Installing the Envelope Feeder" on page 198 for envelope feeder installation instructions.

You can use the envelope feeder to print any envelope size that falls within the following range:

Minimum:
3.87 x 7.5 in
98.4 x 190.5 mm
Maximum:
8.5 x 9.6 in
215.9 x 245 mm

To print universal envelopes, do the following:

1. Set the ENVSIZE item in the Paper Menu to UNI-ENV.
2. Make sure your print application knows what size envelope it is printing to. The printer does not reflow data to fit the envelope you load in the envelope tray.
   - For the top and left margins, use whatever value you would normally use. No special calculations are required.
   - To determine the minimum bottom margin, subtract the length of the envelope from 215.9 mm or 8.5 in. For example, if your envelope is 100 mm long, subtract the envelope length from 215.9 mm (215.5 mm − 100 mm = 115.5 mm).

     Your application would then apply at least a 115.5 mm bottom margin.
   - To determine minimum right margin for universal envelopes: subtract the width of the envelope from 245 mm or 9.6 in. For example, if your envelope is 210 mm wide, subtract the envelope width from 245 mm (245 mm − 210 mm= 35 mm).

     Your application would then apply at least a 35 mm right margin.
3. If you are printing from an IPDS application:

a. Use the Custom Form Menu to define the universal envelope size. You can define up to five universal sizes.
b. Use the IPDS Menu to set the Custom Form item to a universal size you defined.

See “Defining Custom Form Sizes for IPDS” on page 70 for more information.

4. Load envelopes as described in “Loading Envelopes into the Envelope Feeder” on page 63.

Common Paper Handling Tasks

This section describes some of the basic tasks you can perform using the operator panel menus, including how to:

- Select default input trays and output bins
- Define the media size used by the auxiliary tray and envelope feeder
- Turn tray switching on and off
- Make simplex or duplex printing the printer default
- Define custom sizes for IPDS

Note: The printer driver or print application you use may allow you to specify values such as paper size, input tray, output bin, and manual feeding. Values set in print jobs (either by the print application or by the printer driver) override values you set at the printer.

Selecting the Default Input Tray

Situation: You want to change the default input tray for your printer.

Action:

1. Press the **Online** key until you see OFFLINE in the display.
2. Press the **Menu** key until you see PAPER MENU in the display.
3. Press the **Item** key until you see SOURCE=source* in the display, where *source* is the current default.
4. Press the **Value** key until you see the input tray you want to use as the default.
5. Press the **Enter** key to select the new tray. An asterisk appears next to the value, showing that it is active.
6. To restore the printer to READY status, press the **Online** key.

Note: Values specified in your print jobs override defaults set at the printer. For example, if a print job requests Tray 1, the printer will use Tray 1, even if the default tray is set to something else.

Selecting the Default Output Bin

Situation: You have installed the 2000-Sheet Finisher and you want to make it the default output bin.

Action:

1. Press the **Online** key until you see OFFLINE in the display.
2. Press the **Menu** key until you see PAPER MENU in the display.
3. Press the **Item** key until you see OUTPUT=output* in the display, where *output* is the current default.
4. Press the **Value** key until you see the value you want. If you have the 2000-Sheet Finisher installed, you can select one of the following values:
   - MAIN is the face-down output bin.
   - FACE-UP is the Face-Up Output Bin.
   - FINISHR1 is the upper bin of the 2000-Sheet Finisher.
   - FINISHR2 is the middle bin of the 2000-Sheet Finisher.
   - FINISHR3 is the lower bin of the 2000-Sheet Finisher.
   - ANY-FIN specifies automatic bin switching.
5. Press the **Enter** key to select the new bin. An asterisk appears next to the value, showing that it is active.
6. To restore the printer to READY status, press the **Online** key.

Note: Values specified in your print jobs override defaults set at the printer. If a print job requests the main bin, the printer uses it, even if the default bin is set to something else.

Defining the Auxiliary Tray Paper Size

Situation: You want to select a new paper size for the auxiliary tray.

Action:

1. Press the **Online** key until you see OFFLINE in the display.
2. Press the **Menu** key until you see PAPER MENU in the display.
3. Press the **Item** key until you see AUXSIZE=size* in the display, where *size* is the current default.
4. Press the **Value** key until you see the new value you want.

Note: To select a paper size not on the menu, select UNIV. For more information, see “Loading Universal Paper into the Auxiliary Tray” on page 51.

5. Press the **Enter** key to select the new size. An asterisk appears next to the value, showing that it is active.
6. To restore the printer to READY status, press the **Online** key.

Defining the Envelope Feeder Envelope Size

Situation: You have the optional envelope feeder installed and want to change the envelope feeder default size.

Action:

1. Press the **Online** key until you see OFFLINE in the display.
2. Press the **Menu** key until you see PAPER MENU in the display.
3. Press the **Item** key until you see ENVSIZE=size* in the display, where *size* is the current default.
4. Press the **Value** key until you see the new value you want.
5. Press the **Enter** key to select the new size. An asterisk appears next to the value, showing that it is active.
6. To restore the printer to READY status, press the **Online** key.

Turning Tray Switching On or Off

Situation: You want to turn tray switching on or off. When switching is ON (the default value) the printer automatically looks in other trays for the right size of paper if the current tray is empty. Tray switching always occurs when the current tray contains the wrong size paper.

The search sequence is:

- The tray selected by the job, or the printer default tray if the job does not specify a tray
- Tray 5 (if installed)
- Tray 4 (if installed)
- Tray 3 (if installed)
- Tray 2
- Tray 1
- The auxiliary tray if the DUPLEX item in the Paper Menu is OFF. If duplex is ON, the auxiliary tray is not included in the tray switching sequence.

Action:

1. Press the **Online** key until you see OFFLINE in the display.

2. Press the **Menu** key until you see PAPER MENU in the display.
3. Press the **Item** key until you see TRAY SWITCH=ON* or TRAY SWITCH=OFF in the display.
4. Press the **Value** key until you see the new value you want.
5. Press the **Enter** key to select the new setting. An asterisk appears next to the value, showing that it is active.
6. To restore the printer to READY status, press the **Online** key.

Notes:

1. You can exclude trays from the tray switching search sequence that occurs when a tray is empty. See the description for the following items in the Paper Menu: AUXTRAYPROT (page 104), TRAYnPROT (page 103), or ENVTRAYPROT (page 105).
2. Tray switching does not occur when two trays have the same size paper but different orientations. For example, if Tray 1 and Tray 3 both have letter-size paper, but Tray 1 is short-edge feed and Tray 3 is long-edge feed, tray switching will not occur.
3. Tray switching is automatic when the printer detects the wrong size paper in the requested tray. You cannot turn this type of switching off; nor can you "protect" trays from being included in this switching sequence.
4. Tray switching is also automatic when the printer first looks for a tray to print a PostScript job. In other words, when you first send a PostScript job to the printer, the printer selects the first tray it finds that has the correct paper size, regardless of whether tray switching is on or the tray is protected. You cannot turn this type of switching off; nor can you "protect" trays from being included in this switching sequence.

   If the initial tray runs out of paper, however, regular tray switching and tray protection rules apply. (No switching if TRAY SWITCH is OFF, no selecting paper from "protected" trays.)
5. If the printer cannot find the correct size paper in any tray, it may display `11 LOAD size IN tray`, where tray is the **last** tray it looked in, not necessarily the tray you requested.

Making Duplex or Simplex Printing the Printer Default

Situation: You want to make duplex printing or simplex printing the printer default.

Action:

1. Press the **Online** key until you see OFFLINE in the display.
2. Press the **Menu** key until you see PAPER MENU in the display.
3. Press the **Item** key until you see DUPLEX=ON* or DUPLEX=OFF in the display.

4. Press the **Value** key until you see the new value you want.
5. Press the **Enter** key to select the new setting. An asterisk appears next to the value, showing that it is active.
6. To restore the printer to READY status, press the **Online** key.

Notes:

1. Values set in print jobs (either by the print application or by the printer driver) override values you set at the printer. If a print job specifies simplex printing and the printer default is duplex, the printer honors the print job setting and prints on one side only.
2. The BINDING item on the Paper Menu lets you specify how you want duplex jobs to print. If BINDING is set to LONG (the default value), the job prints as if the paper is to be bound along the long edge of the paper (on the left for portrait documents, along the top for landscape documents.) If you set BINDING to SHORT, the job prints as if the paper is to be bound along the short edge of the paper (on the top for portrait documents, on the left for landscape documents.)

Defining Custom Form Sizes for IPDS

Situation: You want to define a custom form size for IPDS jobs.

Note: You can define up to five custom forms. The following procedure shows how to define the first one (FORM1).

Action:

1. Press the **Online** key until you see OFFLINE in the display.
2. Press the **Menu** key until you see CUSTOM FORM MENU in the display.
3. Select the unit of measure.
   a. Press the **Item** key until you see FORM1 UNITS=mm* in the display.
   b. Press the **Value** key until you see the new value you want.
   c. Press the **Enter** key to select the new setting. An asterisk appears next to the value, showing that it is active.
4. Define the form length.
   a. Press the **Item** key until you see FORM1LEN=nn* in the display.
   b. Press the **Value** key until you see the new value you want.
   c. Press the **Enter** key to select the new setting. An asterisk appears next to the value, showing that it is active.
5. Define the form width.
   a. Press the **Item** key until you see FORM1WIDTH=nn* in the display.
   b. Press the **Value** key until you see the new value you want.

c. Press the **Enter** key to select the new setting. An asterisk appears next to the value, showing that it is active.

6. Specify the form on the IPDS Menu.
   a. Press the **Menu** key until you see IPDS MENU in the display.
   b. Press the **Item** key until you see CUSTOM FORM=n* in the display.
   c. Press the **Value** key until you see CUSTOM FORM=1* in the display.
   d. Press the **Enter** key to select the new setting. An asterisk appears next to the value, showing that it is active.
7. To restore the printer to READY status, press the **Online** key.

Note: Custom forms can be printed only from the auxiliary tray or the envelope feeder. For the auxiliary tray, set the AUXSIZE item in the Paper Menu to UNIV. See "Loading Universal Paper into the Auxiliary Tray" on page 51 for more information. For the envelope feeder, set the ENVSIZE item in the Paper Menu to UNI-ENV. See "Loading Universal Envelopes into the Envelope Feeder" on page 65 for more information.

Stapling

Situation: You want to staple print jobs using the 2000-Sheet Finisher.

Action:

1. Make sure the 2000-Sheet Finisher is installed.
2. Select one of the 2000-Sheet Finisher bins as the output destination. You can set the output destination at the operator panel (update the OUTPUT item on the Paper Menu), or from within the print job (for example, using the printer driver). Values set within the print job (by the printer driver or a print application) override values set at the operator panel.
3. Review Figure 1 on page 72 to determine which staple option to select. Staple position is determined by three factors:
   - The number of staples you want
   - The paper orientation you select (portrait or landscape)
   - The paper feed orientation (short-edge or long-edge)

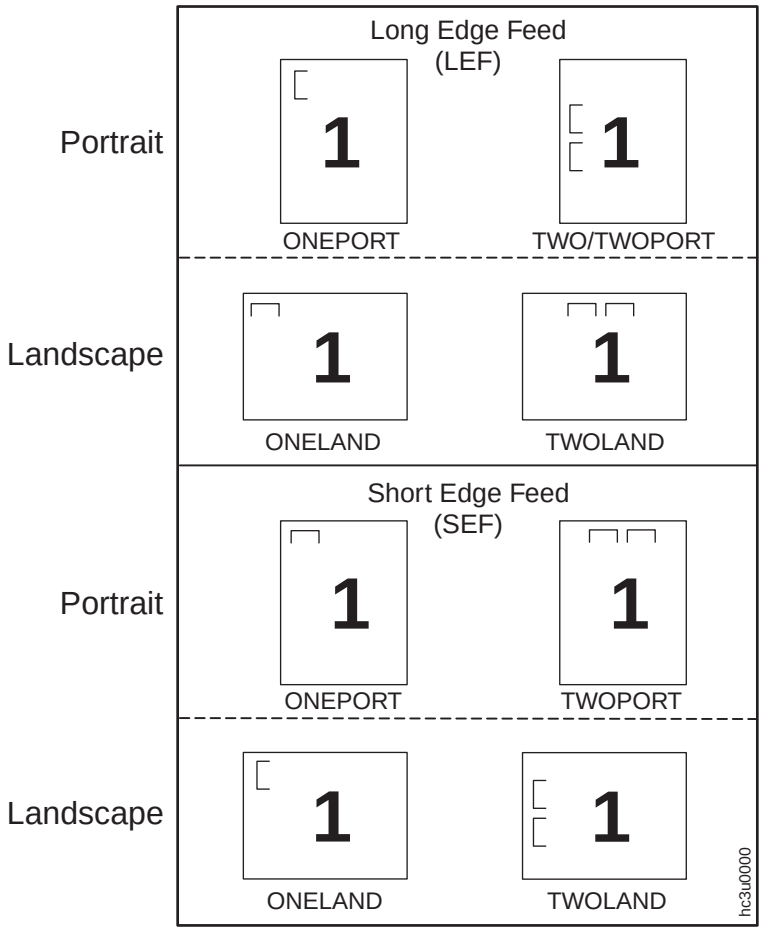


Figure 1. Staple Positions

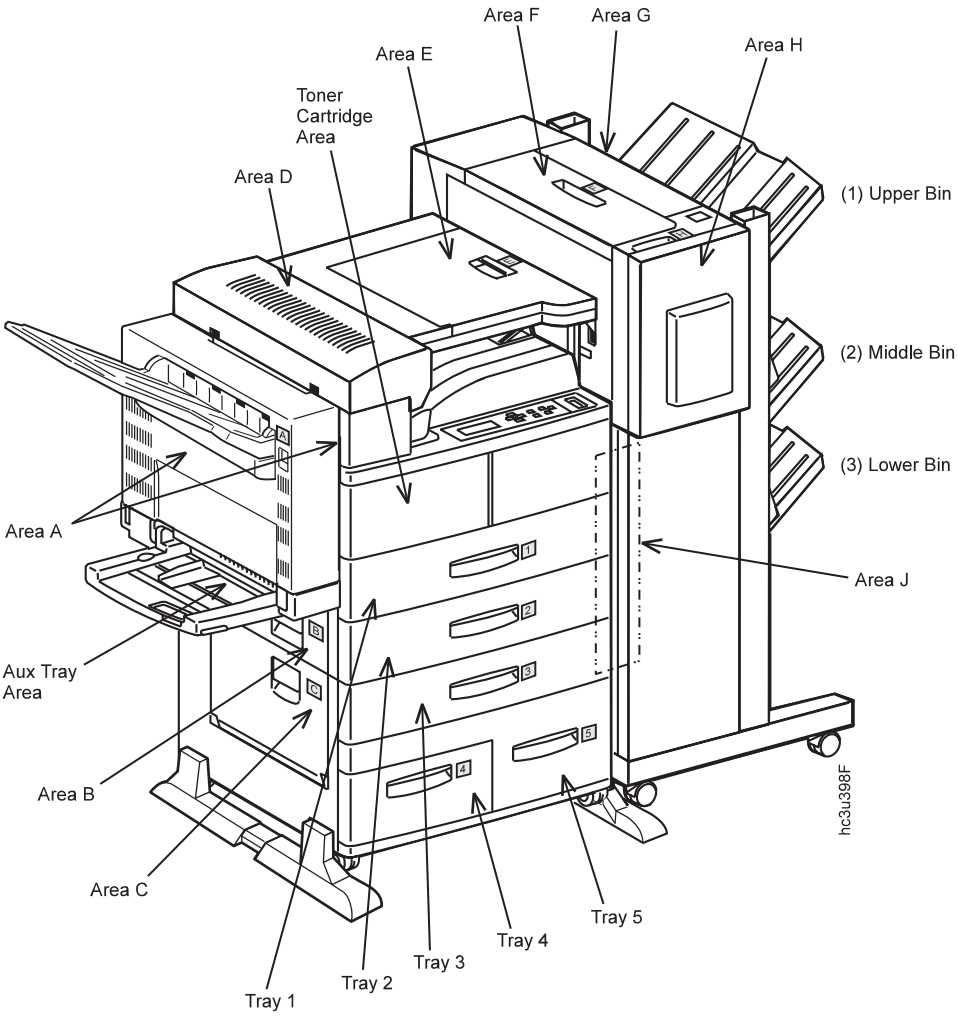
4. Select the staple option you want. You can use the printer driver to specify the staple option; or the option can be set from within the PostScript, PCL, or IPDS datastream. You cannot select staple options from the operator panel. From the printer driver, there are four options:
   a. NONE -- no staples
   b. ONEPORT -- one staple, portrait mode
   c. ONELAND -- one staple, landscape mode
   d. TWO -- two staples (this value is for compatibility with the IBM Network Printer 24, it does support landscape mode or SEF paper loading)
   e. TWOPORT -- two staples, portrait mode
   f. TWOLAND -- two staples, landscape mode

Notes:

1. Stapling is available for all paper sizes, excluding UNIV (Universal). A5, Statement, and Executive must be loaded long-edge first (LEF) for stapling to be available.
2. Single-sheet jobs are not stapled.
3. If a print job requests staples and the 2000-Sheet Finisher is not installed, the printer ignores the request.
4. The printer cannot staple jobs that contain both simplex and duplex sheets. This limitation may affect some IPDS jobs; it should not affect PCL or PostScript jobs, which are entirely simplex or entirely duplex.
5. You can stack approximately 48mm or 600 sheets, in up to 100 stapled sets. (Results vary somewhat depending on paper characteristics such as thickness and weight.) For example, you can staple up to 12 sets of 50 sheets or 30 sets of 20 sheets, but you cannot staple more than 100 sets even if the total page count would be less than 600.

Chapter 5. Clearing Jams

When paper gets jammed inside the printer, printing stops and an error message indicates the area of the jam.



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Typical Causes of Paper Jams

The most common causes of paper jams are:

- Paper is not loaded correctly.
- The print media does not conform to specifications.
- The paper guides are not adjusted for the current paper size.
- The paper is wrinkled or curled.

Handling Precautions

When removing jammed paper, make sure that no paper scraps or paper dust remain in the printer. Paper remnants in the printer can become a fire hazard. If paper cannot be removed or is tightly wound around the fuser or a roller, do not try to remove it by force. Contact your dealer or an authorized service representative.

A high-temperature warning label is affixed to the fuser and its peripheral parts to indicate that these parts should not be touched. Please do not remove this label.

Notes:

1. Do not try to remove paper by force. If paper is hard to see, hard to grasp, or wrapped tightly around a component, contact your dealer or an authorized service representative.
2. To prevent tearing the paper, remove jammed paper slowly and carefully. Always remove paper in the direction it flows through the printer.

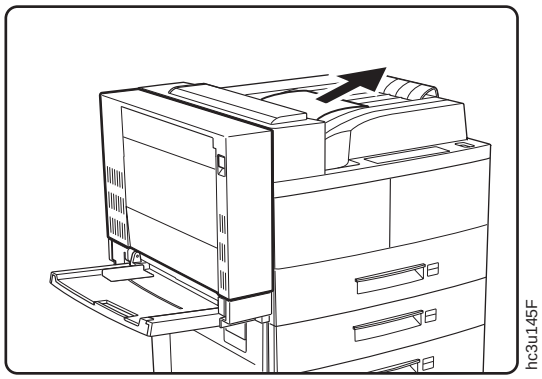
Procedures

The following sections describe how to clear paper jams from different parts of the printer. When the printer detects a jam, it displays a message. Note, however, that when paper gets jammed in one area of the paper path, it often gets jammed in other areas. Therefore it is a good idea to check the entire paper path whenever you see a paper jam message.

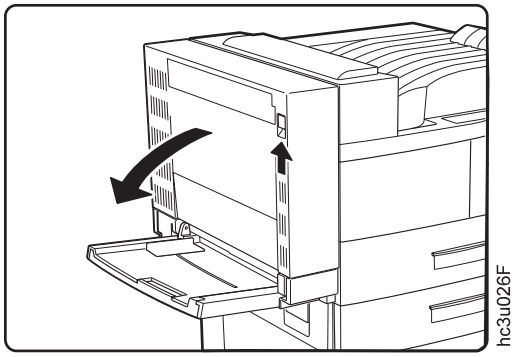
Clearing Exit Area Jams

Before performing this procedure, see “Typical Causes of Paper Jams” and “Handling Precautions”.

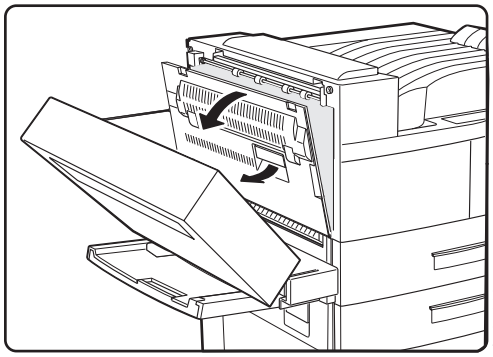
1. If the leading edge of the paper is already in the output tray, pull the paper out in the direction of the arrow.



2. Remove the envelope feeder if it is installed. See “Removing the Envelope Feeder” on page 199 for removal instructions.
3. If the leading edge of the paper is not already in the output tray, pull up on the indicated latch to open the duplex unit.



4. Pull on the latch to open Cover A.

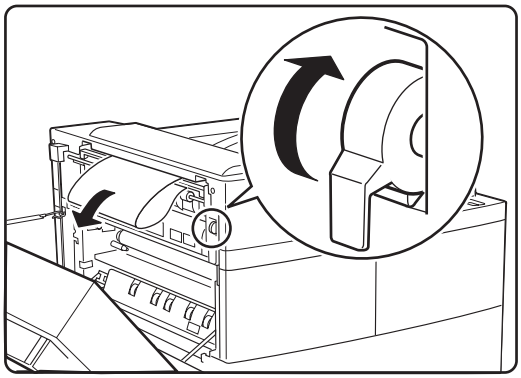


CAUTION:

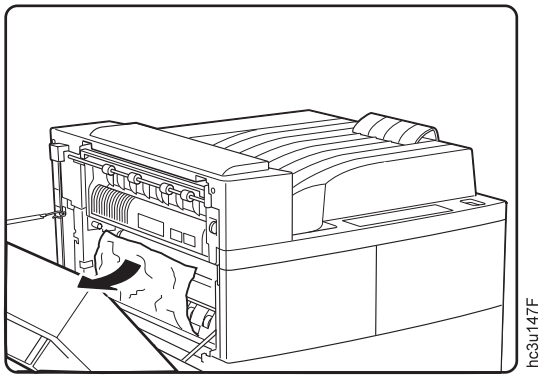
<2-25> High temperature; switch off the printer and allow at least 20 minutes for parts in this area to cool before handling.

hcsf0225

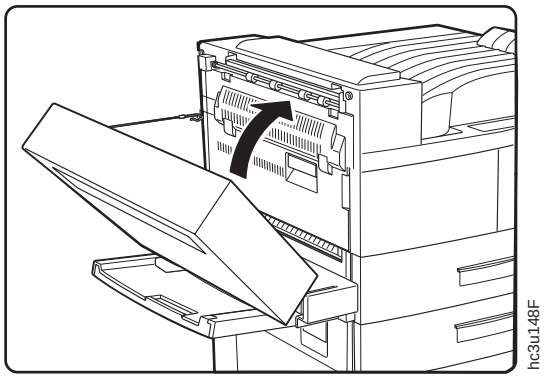
5. If the paper is jammed in the fuser area, pull it out carefully without touching the fuser. If the paper is difficult to pull, use the green lever to turn the roller in the direction of the arrow until you can pull the paper out. Push the lever in to engage the roller, and move it in the direction of the arrow.



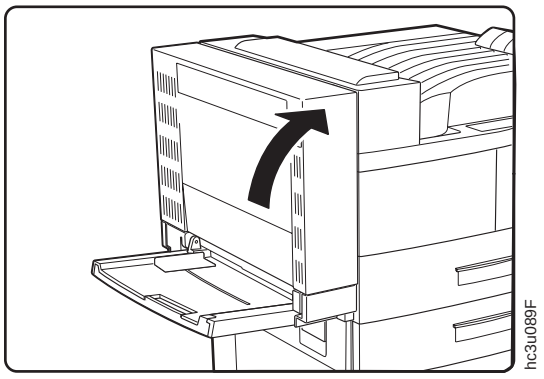
6. If the paper is jammed as shown, pull it out in the direction of the arrow.



7. Close Cover A.



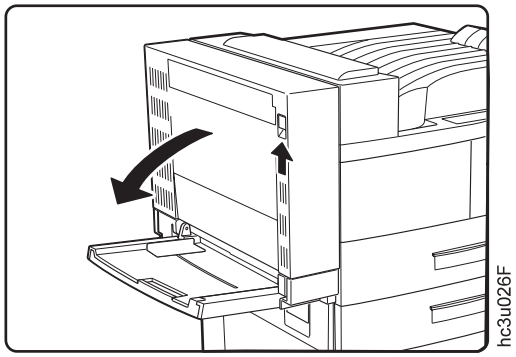
8. Close the duplex unit.



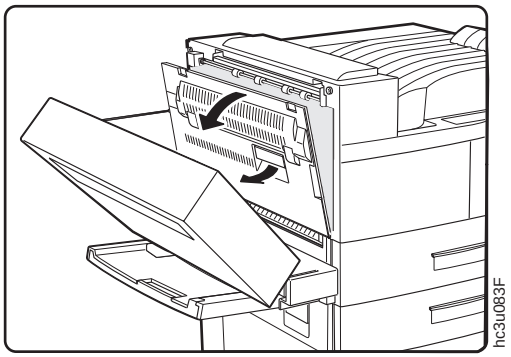
Clearing Paper Tray Area Jams

Before performing this procedure, see “Typical Causes of Paper Jams” on page 76 and “Handling Precautions” on page 76.

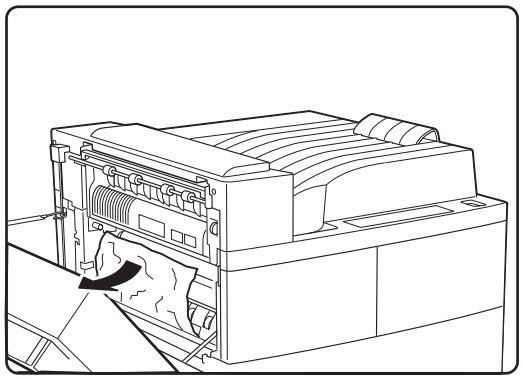
1. Remove the envelope feeder if it is installed. See “Removing the Envelope Feeder” on page 199 for removal instructions.
2. Pull up on the indicated latch to open the duplex unit.



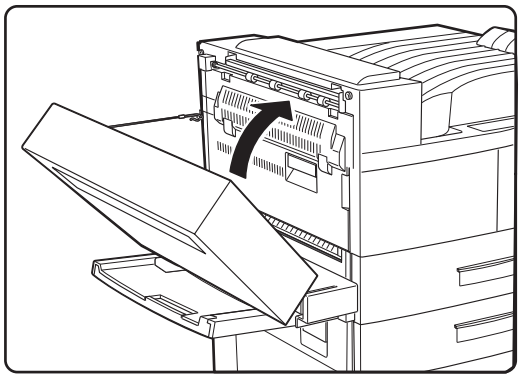
3. Pull on the latch to open Cover A.



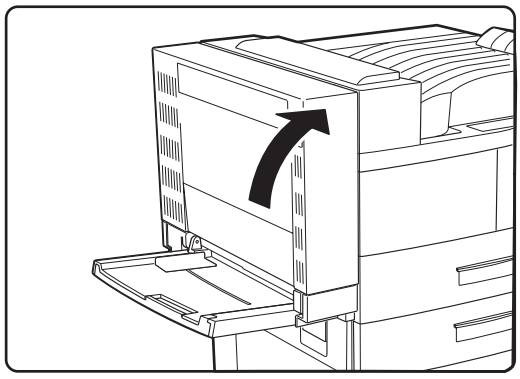
4. If the paper is jammed at Cover A, pull it out in the direction of the arrow.



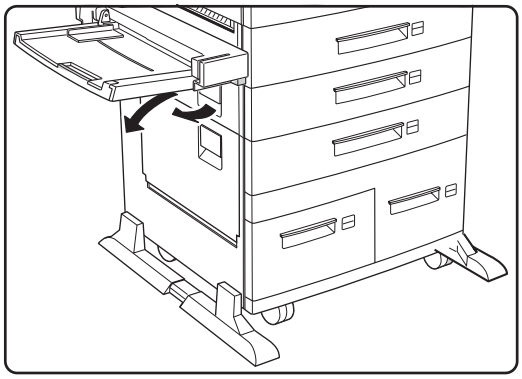
5. Close Cover A.

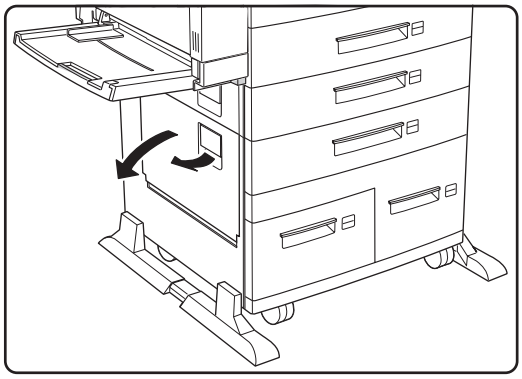


6. Close the duplex unit.

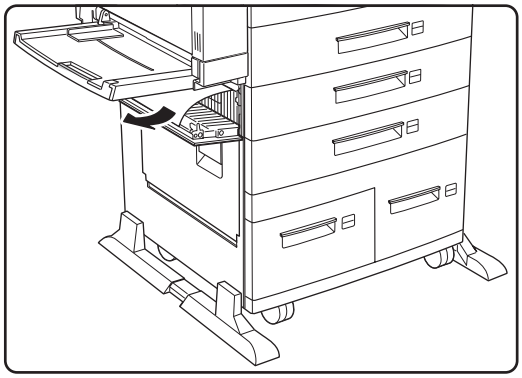


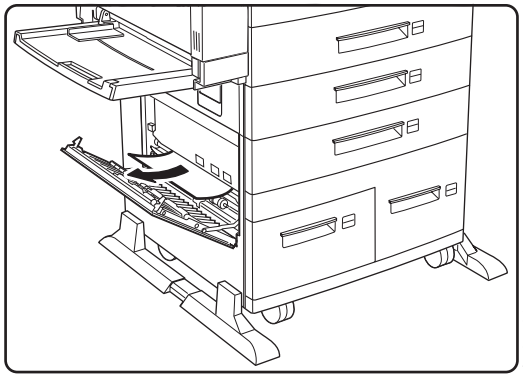
7. Pull on the latches to open Covers B and C.





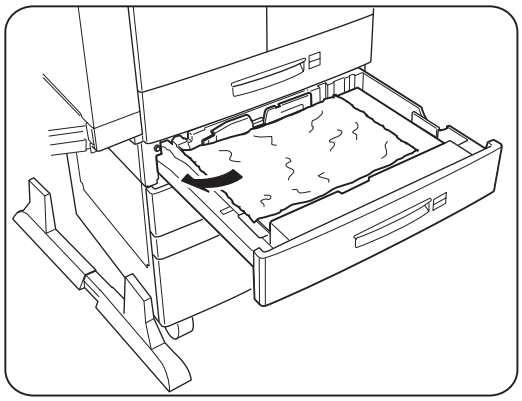
8. If the paper is jammed at Cover B or C, pull it out in the direction of the arrow.



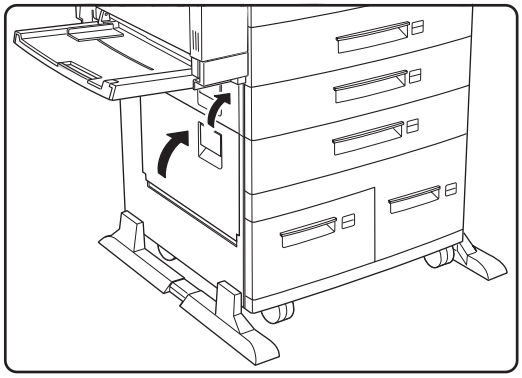


9. Check trays 1 and 2 for jammed paper. Pull out a tray and remove jammed paper in the direction of the arrow. Then gently push the tray back into the printer.

   Note: If the printer continues to jam in the tray area, try turning the paper stack over so the other edge feeds first.



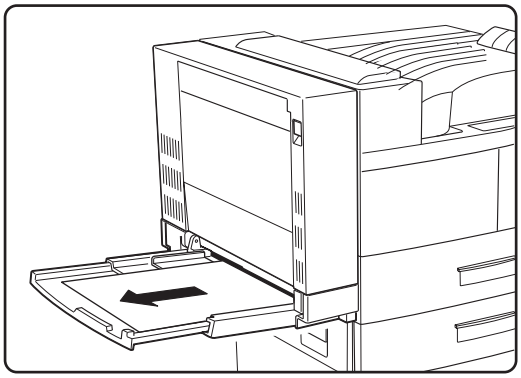
10. Close Covers B and C ensuring both sides of the covers latch.



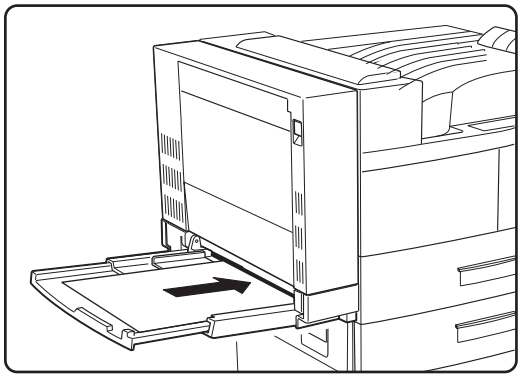
Clearing Auxiliary Tray Jams

Before performing this procedure, see “Typical Causes of Paper Jams” on page 76 and “Handling Precautions” on page 76.

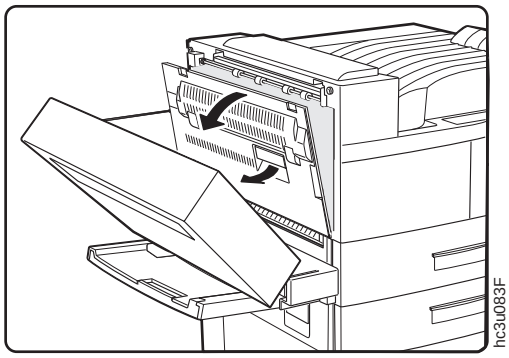
1. Remove the jammed paper by pulling it out in the direction of the arrow.

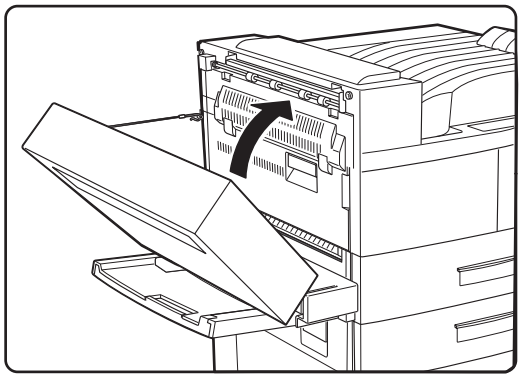


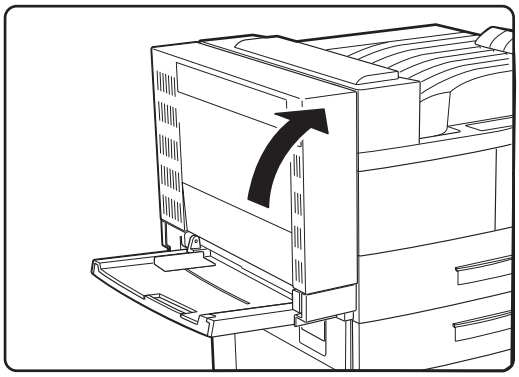
2. Remove all paper from the auxiliary tray and load the stack again.



3. To clear the jam message, open the duplex unit, open and close Cover A. Close the duplex unit.



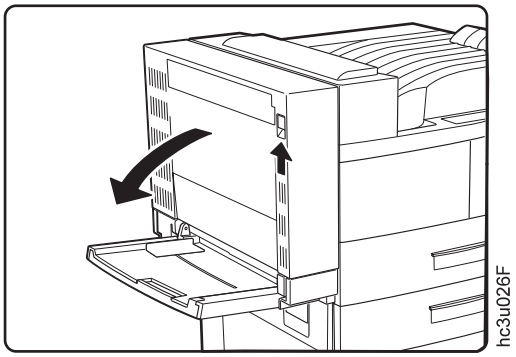




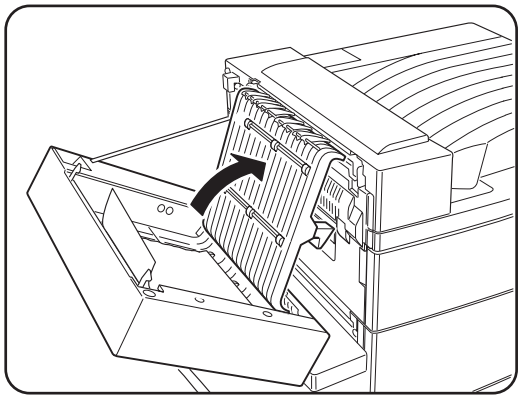
Clearing Duplex Unit Jams

Before performing this procedure, see “Typical Causes of Paper Jams” on page 76 and “Handling Precautions” on page 76.

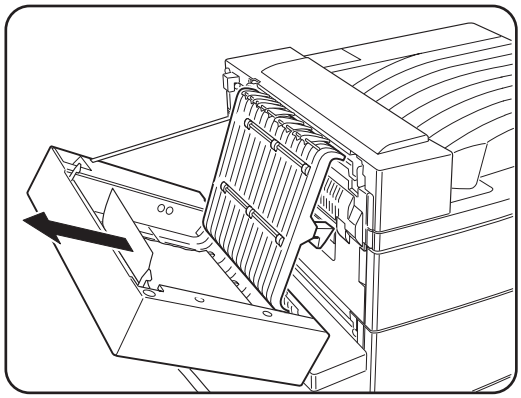
1. Remove the envelope feeder if it is installed. See “Removing the Envelope Feeder” on page 199 for removal instructions.
2. Pull up on the latch to open the duplex unit.



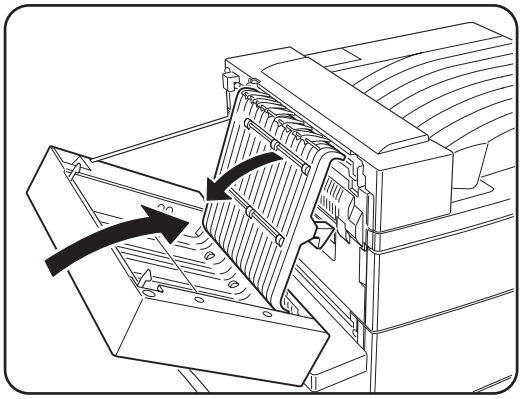
3. Open the cover inside the duplex unit.



4. Remove any jammed paper by pulling the paper in the direction of the arrow.



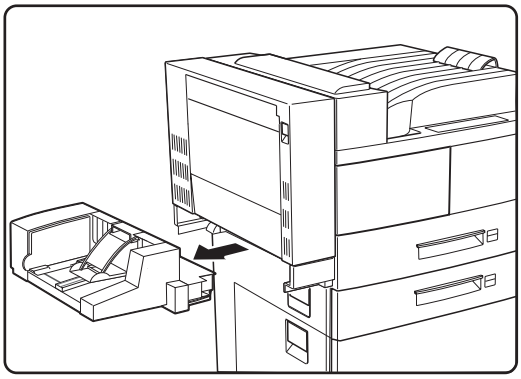
5. Close the inside cover, and then close the duplex unit.



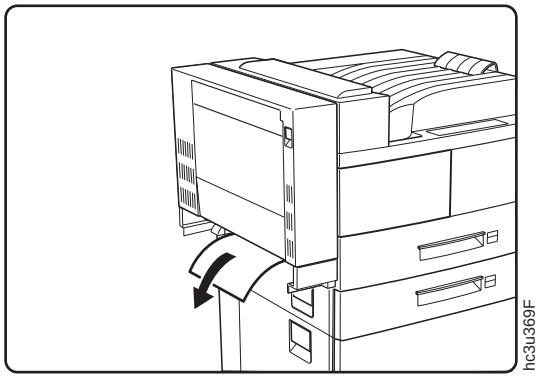
Clearing Envelope Feeder Jams

Before performing this procedure, see “Typical Causes of Paper Jams” on page 76 and “Handling Precautions” on page 76.

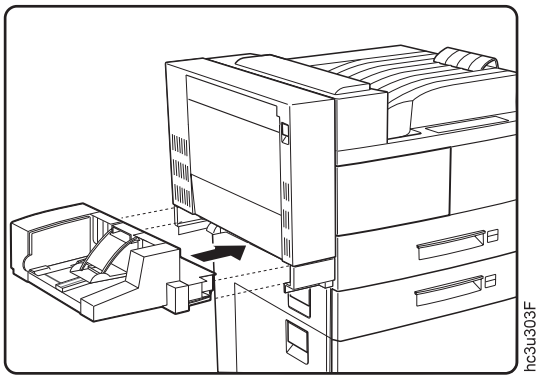
1. Remove the envelope feeder. See “Removing the Envelope Feeder” on page 199 for removal instructions.



2. Remove any jammed envelopes.



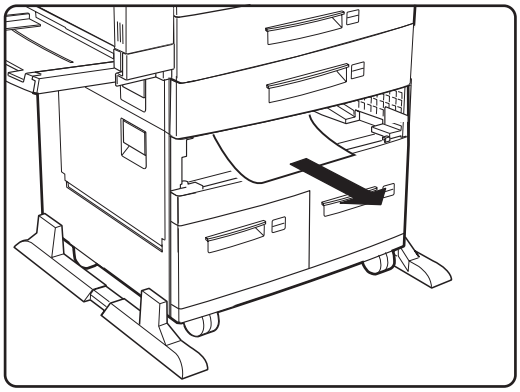
3. Replace the envelope feeder.



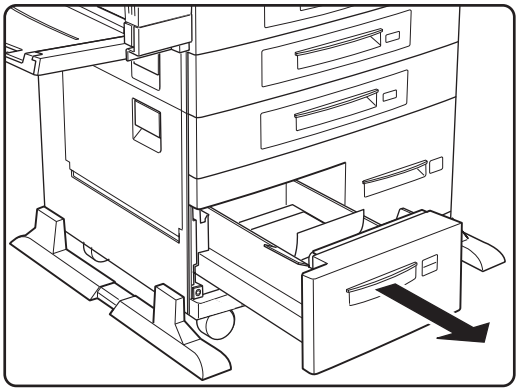
Clearing 2500-Sheet Input Unit Jams

Before performing this procedure, see “Typical Causes of Paper Jams” on page 76 and “Handling Precautions” on page 76.

1. Remove Tray 3. Check the paper feed area and pull out any jammed paper.

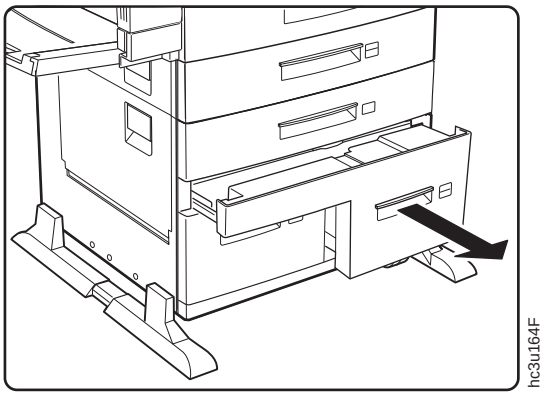


2. Pull out Tray 4.

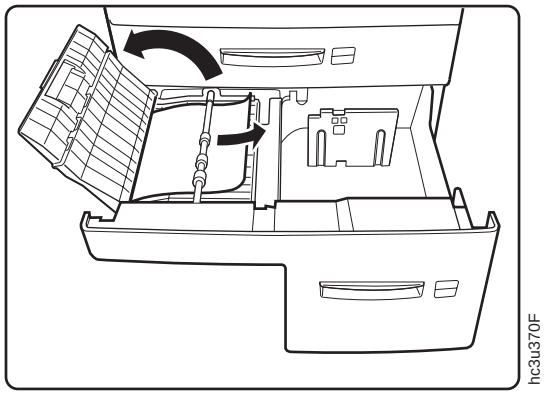


3. If the paper is jammed in the paper tray area, remove any jammed paper, and gently push the paper tray back into the printer.

4. Open Tray 5 so you have room to work. (Tray 5 does not come all the way out.)



5. Check the paper feed area, and remove any jammed paper by pulling in the direction of the arrow. Then, gently push the paper tray back into the printer.



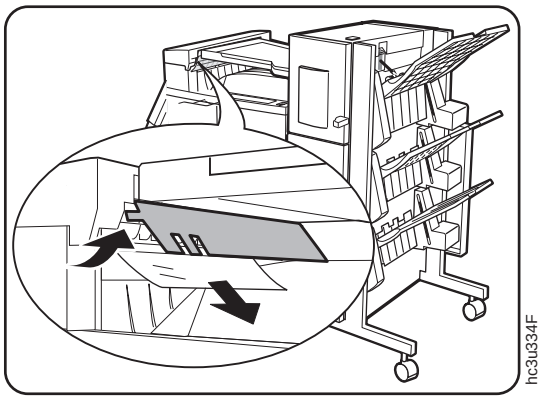
Notes:

1. If the printer continues to jam in the 2500-Sheet Input Unit, try turning the paper stack over so the other edge feeds first.
2. If the error message does not clear and you removed all of the jammed paper, open and close cover B or C to reset the printer. Ensure both sides of the cover latch.

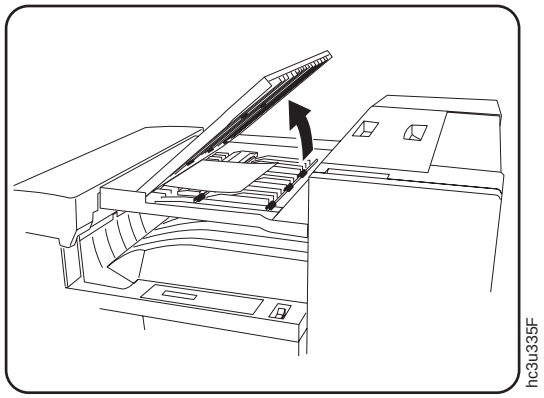
Clearing 2000-Sheet Finisher Jams

Before performing this procedure, see “Typical Causes of Paper Jams” on page 76 and “Handling Precautions” on page 76.

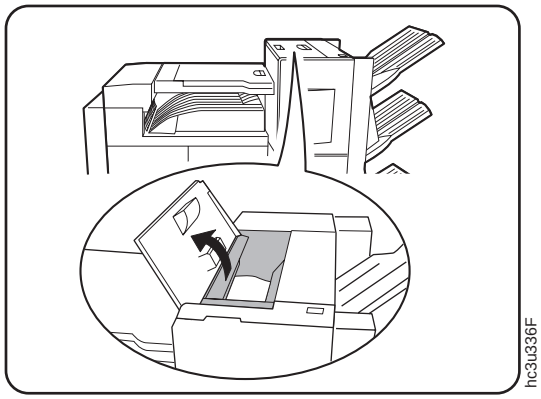
1. If paper is jammed at Cover D, lift the handle and remove any jammed paper.



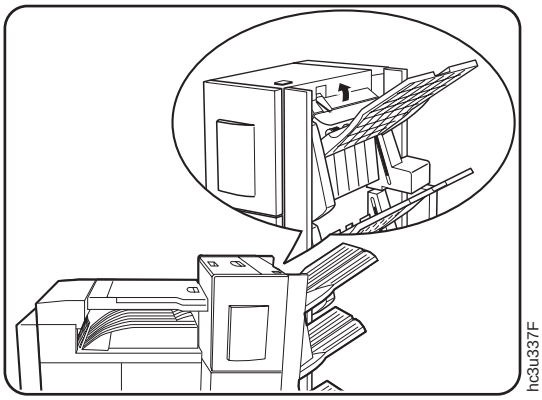
2. Open Cover E and remove any jammed paper.



3. Open Cover F and remove any jammed paper.



4. Slide up Cover G slightly, and remove any jammed paper.



Chapter 6. Operator Panel Menus

Important

This chapter describes the functions available from the printer menus.

1. To see a list of menus you can access and options you have installed, print a printer configuration page. See "Printing the Printer Configuration Page" on page 27. You can use the printer configuration page as a menu map. The *InfoPrint 32: Quick Reference Card* also contains a menu map.
2. Note that several of the menus and menu items listed in this book appear on your operator panel only if you have a particular option installed. For example, the Ethernet Menu appears only if you have installed the Ethernet network interface card.
3. If you are unfamiliar with using the operator panel to work with menus, please read "Using the Operator Panel Keys" on page 25 and "Navigating Menus" on page 26 before continuing.

The following table describes the basic function of each menu and lists the page where you can find more information.

Use this menu	To do this	See page
TEST MENU	Print configuration pages, font lists, and printer test pages; print a hexadecimal dump for troubleshooting purposes.	96
RESET MENU	Reset the printer to cancel a job or to use factory defaults.	97
PAPER MENU	Select input trays, output bins, duplex printing options, and other paper handling options.	98
CUSTOM FORMS MENU	Define custom paper sizes for IPDS jobs.	105
CONFIG MENU	Define how the printer handles paper jams and certain other error conditions; define toner density, power savings mode, and print quality.	106
MEMCONFIG MENU	Define whether the printer saves PCL5e and PostScript information when it switches ports.	108
PARALLEL MENU	Define how the printer handles jobs sent through the parallel port, including the data stream, bi-directional communications, and the timeout setting.	109
PCL MENU	Define how the printer handles PCL5e jobs, including number of copies, page size, page orientation, lines per page, font source, and default font.	110

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Use this menu	To do this	See page
PS MENU	Define how the printer handles PostScript jobs, including number of copies and whether error messages are printed.	114
IPDS MENU	Define how the printer handles IPDS jobs.	115
TOKEN RING MENU	Define the data stream, timeout, and network address values for the token-ring attachment.	122
ETHERNET MENU	Define the data stream, timeout, and network address values for the Ethernet attachment.	125
COAXIAL SCS MENU	Define how the printer handles SCS jobs sent through the coax attachment.	128
TWINAX SCS MENU	Define how the printer handles SCS jobs sent through the twinax attachment.	132
COAX SETUP MENU	Configure the coax attachment.	135
TWINAX SETUP MENU	Configure the twinax attachment.	137
COAX DSC/DSE MENU	Define how the printer handles DSC/DSE jobs sent through the coax attachment.	139
MACHINE INFO MENU	Displays page counts, the error log, and the toner and fuser usage counters.	141
LANGUAGE MENU	Define the language the printer uses to display operator panel messages and menus.	142

Test Menu

Use the Test Menu to display basic information about the printer and to perform basic troubleshooting tasks.

Notes:

1. To perform the action associated with the menu item you select, press the **Enter** key.
2. The actual menu items you see depend on what options you have installed. To find out what options you have installed, print a printer configuration page. See “Printing the Printer Configuration Page” on page 27 .
3. If you are unfamiliar with using the operator panel to work with menus, please read “Using the Operator Panel Keys” on page 25 and “Navigating Menus” on page 26 before continuing.
4. If you see the message WAIT FOR IDLE PRINTER while performing a Test Menu item, wait until you see the READY prompt and try again. If the PCL Menu item AUTO RESET is set to OFF, you may not get the READY

prompt even if you see the WAIT FOR IDLE PRINTER message. In this case, set AUTO RESET to ON to restore Test Menu functions.

Test Menu Item	Description
CONFIG PAGE	Prints the printer configuration page. See “Selecting the Default Input Tray” on page 66 for more information.
PRINT PS FONTS	Prints a list of PostScript fonts installed on the printer. See “Printing a List of PostScript Fonts” on page 32 for more information.
PRINT PCL FONTS	Prints a list of PCL5e fonts installed on the printer. See “Printing a List of PCL5e Fonts” on page 31 for more information.
DEMO PAGE	Prints the demo page.
CONTINUOUS TEST	Prints continuous test pages. To stop the test, press the **Cancel Print** key.
PRINT TR CONFIG	Prints a configuration page for the token-ring network interface card. See “Printing the Token-Ring Network Interface Card Configuration Page” on page 31 for more information.
PRINT EN CONFIG	Prints a configuration page for the Ethernet network interface card. See “Printing the Ethernet Network Interface Card Configuration Page” on page 31 for more information.
PRINT IPDS FONTS	Prints a list of IPDS fonts installed on the printer.
PRINT SCS CHARS	Prints the SCS code page (character set).
FORMAT DISK	Formats the optional hard drive.
ONLINE HEX PRT CANCEL HEX PRT	ONLINE HEX PRINT prints a hexadecimal dump for troubleshooting purposes. Use this option for PostScript or PCL jobs sent over the parallel, Ethernet, or token-ring attachments. After you select this item, it changes to CANCEL HEX PRT. To cancel the dump, select CANCEL HEX PRT. **Note:** Do not use ONLINE HEX PRT for IPDS jobs.
CX HEX PRT CANCEL CX PRT	CX HEX PRT prints a hexadecimal dump for troubleshooting problems with non-IPDS jobs sent over the coax attachment. After you select this item, it changes to CANCEL CX PRT. To cancel the dump, select CANCEL CX PRT. **Note:** Do not use CX HEX PRT for IPDS jobs.
TX HEX PRT CANCEL TX PRT	TX HEX PRT prints a hexadecimal dump for troubleshooting problems with non-IPDS jobs sent over the coax attachment. After you select this item, it changes to CANCEL TX PRT. To cancel the dump, select CANCEL TX PRT. **Note:** Do not use TX HEX PRT for IPDS jobs.

Reset Menu

Use the Reset Menu to cancel print jobs or to restore printer settings to the factory defaults.

Notes:

1. To perform the action associated with the menu item you select, press the **Enter** key.
2. If you are unfamiliar with using the operator panel to work with menus, please read "Using the Operator Panel Keys" on page 25 and "Navigating Menus" on page 26 before continuing.

Reset Menu Item	Description
RESET PRINTER	Cancels the current print job. **Notes:** 1. Before you use RESET PRINTER, try canceling the job from the operator panel. a. Press the **Online** key. b. Press the **Cancel Print** key. The current job will be canceled and removed from the queue after the printer completes the pages in the buffer. c. To restore the printer to READY status, press the **Online** key again. 2. RESET PRINTER is not available while you print over the twinax or coax attachments, or when you print IPDS jobs.
FACTORY DEFAULT	Resets settings to the factory defaults. Note that some values do not get reset. These values include LANGUAGE, AUXSIZE, PCL SAVE, PS SAVE, BI-DI, IP ADDRESS, SUBNET MASK, GATEWAY ADDRESS, and MAC ADDRESS. **Note:** To reset all values other than the internet addresses (IP ADDRESS, SUBNET MASK, GATEWAY ADDRESS, and MAC ADDRESS), do one of the following: • For the A4 paper group: switch on the printer power while simultaneously pressing the **Cancel Print** key. Hold the **Cancel Print** key until you see the message COLD RESET A4. • For the Letter paper group: switch on the printer power while simultaneously pressing the **Online** key. Hold the **Online** key until you see the message COLD RESET LTR. IBM recommends printing a printer configuration page before you do a reset so you can restore old settings if necessary.

Paper Menu

Use the Paper Menu to select input trays, output bins, duplex or simplex printing, and other paper handling options. The following table describes the settings you can change from the Paper Menu. An asterisk (*) next to a value in the table indicates the factory default.

Notes:

1. To select a new value, press the **Enter** key when the value is displayed in the message display area. An asterisk (*) appears next to the value in the message display area, indicating that it is now active.
2. Values set in print jobs (either by the print application or the printer driver) override values you set at the printer.
3. The actual menu items you see depend on what options you have installed. To find out what options you have installed, print a printer configuration page. See “Printing the Printer Configuration Page” on page 27 for more information.
4. If you are unfamiliar with using the operator panel to work with menus, please read “Using the Operator Panel Keys” on page 25 and “Navigating Menus” on page 26 before continuing.
5. See “Common Paper Handling Tasks” on page 66 for examples of changing values on the Paper Menu.

Paper Menu Item	Value	Description
SOURCE	TRAY 1* TRAY 2 TRAY 3 TRAY 4 TRAY 5 AUXTRAY ENVELOPE	Selects the default paper tray to use. Only installed trays appear in the list. • TRAY 1 is the upper 500-sheet input tray on the printer. • TRAY 2 is the lower 500-sheet input tray on the printer. • TRAY 3 is the 500-sheet tray in the 2500-Sheet Input Unit. • TRAY 4 is the left 1000-sheet tray in the 2500-Sheet Input Unit. It is below Tray 3. • TRAY 5 is the right 1000-sheet tray in the 2500-Sheet Input Unit. It is also below Tray 3. If the 2500-Sheet Input Unit is installed, Tray 5 is the default source tray. • AUXTRAY is the 50-sheet tray on the left side of the printer. • ENVELOPE is the optional envelope feeder.
OUTPUT	MAIN* FACE-UP FINISHR1 FINISHR2 FINISHR3 ANY-FIN	Selects the default output bin to use. Only installed trays appear in the list. • MAIN is the main face-down output bin. • FACE-UP is the Face-Up Output Bin. • FINSHR1 is the upper bin of the 2000-Sheet Finisher. • FINISHR2 is the middle bin of the 2000-Sheet Finisher. • FINISHR3 is the lower bin of the 2000-Sheet Finisher. • ANY-FIN specifies automatic bin switching.
DUPLEX	OFF* ON	Specifies whether to print on one side or both if the duplex unit is installed. See “Making Duplex or Simplex Printing the Printer Default” on page 69.

Paper Menu Item	Value	Description
BINDING	LONG* SHORT	Specifies how to print pages in duplex mode. • LONG—prints as if the paper is to be bound along the long edge of the paper (on the left for portrait documents, on the top for landscape documents). • SHORT—prints as if the paper is to be bound along the short edge of the paper (on the top for portrait documents, on the left for landscape documents).

Paper Menu Item	Value	Description
TRAY SWITCH	ON* OFF	Specifies whether or not to switch to another paper tray if the current one is empty or runs out of paper. (Tray switching always occurs when the requested tray contains the wrong size paper.) • ON—specifies that if the current tray is empty, the printer will automatically look in other trays for the right size of paper. The search sequence is the default tray, followed by the other trays in order of capacity. The normal search order would be: – The tray specified by the job or the printer default tray if the job does not specify a tray. – Tray 5 (if installed) – Tray 4 (if installed) – Tray 3 (if installed) – Tray 2 – Tray 1 – The auxiliary tray if duplexing is off. If the DUPLEX item in the Paper menu is ON, the printer excludes the auxiliary tray from the tray switching sequence. • OFF—specifies no switching when a tray is empty. **Notes:** • You can exclude trays from the tray switching search sequence that occurs when a tray is empty. See the description for the following items in the Paper Menu: AUXTRAYPROT (page 104), TRAYn PROT (page 103), or ENVTRAYPROT (page 105). • Tray switching does not occur when two trays have the same size paper but different orientations. For example, if Tray 1 and Tray 3 both have letter-size paper, but Tray 1 is short-edge feed and Tray 3 is long-edge feed, tray switching will not occur. • Tray switching is automatic when the printer detects the wrong size paper in the requested tray. You cannot turn this type of switching off; nor can you “protect” trays from being included in this switching sequence. continued on next page...

Paper Menu Item	Value	Description
TRAY SWITCH	ON* OFF	(continued from previous page...) • Tray switching is also automatic when the printer first looks for a tray to print a PostScript job. In other words, when you first send a PostScript job to the printer, the printer selects the first tray it finds that has the correct paper size, regardless of whether tray switching is on or the tray is protected. You cannot turn this type of switching off; nor can you "protect" trays from being included in this switching sequence. If the initial tray runs out of paper, however, regular tray switching and tray protection rules apply. (No switching if TRAY SWITCH is OFF, no selecting paper from "protected" trays.) • If the printer cannot find the correct size paper in any tray, it may display `011 LOAD paper-size IN tray`, where the tray is the last tray the printer checked, not necessarily the tray you requested.
TRAY RENUM	OFF* 1<>2 1<>3 1<>4 1<>5	Specifies tray renumbering: • OFF—no tray renumbering • 1<>2—tells the printer to treat TRAY 1 as TRAY 2, and TRAY 2 as TRAY 1. • 1<>3—tells the printer to treat TRAY 1 as TRAY 3, and TRAY 3 as TRAY 1. • 1<>4—tells the printer to treat TRAY 1 as TRAY 4, and TRAY 4 as TRAY 1. • 1<>5—tells the printer to treat TRAY 1 as TRAY 5, and TRAY 5 as TRAY 1. **Note:** Tray renumbering does not apply to PostScript jobs.

Paper Menu Item	Value	Description
MANUAL	OFF* ON	Specifies whether or not paper is to be fed manually from the auxiliary tray: • OFF—paper feeding is automatic, not manual. • ON—paper feeding is manual, one sheet at a time, depending on the data stream. Messages on the operator panel prompt you for each sheet. Press the **Continue** key to print the sheet. – PostScript—**all** PostScript jobs, regardless of what tray they request, are sent to the auxiliary tray to be printed manually. – PCL—jobs that do not request a specific tray or jobs that specifically request the auxiliary tray are sent to the auxiliary tray to be printed manually. – IPDS—jobs that request the auxiliary tray are sent to the auxiliary tray to be printed manually. – Non-IPDS over twinax or coax—the MANUAL setting has no effect on non-IPDS jobs sent over the twinax or coax attachments. **Note:** It is always a good idea to set MANUAL to OFF when you are done using manual mode; for PostScript jobs, you **must** set MANUAL to OFF, otherwise all PostScript jobs will print manually.
PCL ORIENT	P* L	Specifies the default page orientation for PCL jobs. • P—portrait (taller than wide) • L—landscape (wider than tall)
BLANK PG	PRINT* NO PRT	Specifies whether or not to print simplex or duplex sheets that contain no data. • PRINT—print blank sheets. • NO PRT—do not print blank sheets.

Paper Menu Item	Value	Description
TRAY1 PROT	OFF* ON	Specifies whether or not to include a tray in the auto-switching sequence. If a tray is not in the auto-switching sequence, its paper will not be selected when another tray runs out of paper. Tray switching is automatic when the printer detects the wrong size paper in the requested tray. Tray switching is also automatic when the printer first looks for a tray for PostScript jobs. You cannot "protect" trays from being included in these switching sequences. See the description of TRAY SWITCH for more information about tray switching. • OFF—include the tray in the auto-switching sequence. • ON—do not include the tray in the auto-switching sequence.
TRAY1TYPE	PLAIN PREPUN TRANS	Specifies the type of media in the tray: plain paper, pre-punched paper, or transparencies.
TRAY2 PROT	OFF* ON	See the description for TRAY1 PROT.
TRAY2TYPE	PLAIN PREPUN TRANS	Specifies the type of media in the tray: plain paper, pre-punched paper, or transparencies.
TRAY3 PROT	OFF* ON	See the description for TRAY1 PROT.
TRAY3TYPE	PLAIN PREPUN	Specifies the type of media in the tray: plain paper or pre-punched paper.
TRAY4 PROT	OFF* ON	See the description for TRAY1 PROT.
TRAY4TYPE	PLAIN PREPUN	Specifies the type of media in the tray: plain paper or pre-punched paper.
TRAY5 PROT	OFF* ON	See the description for TRAY1 PROT.
TRAY5TYPE	PLAIN PREPUN	Specifies the type of media in the tray: plain paper or pre-punched paper.
AUXTRAYPROT	OFF* ON	Specifies whether or not to include the auxiliary tray in the auto-switching sequence. If a tray is not in the auto-switching sequence, its paper will not be selected when another tray runs out of paper. • OFF—include the tray in the auto-switching sequence. • ON—do not include the tray in the auto-switching sequence. **Note:** See the description of "TRAY SWITCH" on page 100 for more information about tray switching.

Paper Menu Item	Value	Description
AUXTYPE	PLAIN* PREPUN TRANS LABEL	Specifies the type of media in the tray: plain paper, pre-punched paper, transparencies, or labels.
AUXSIZE	LTR-LEF* LTR-SEF LEGAL FOLIO 11X17 A4-LEF A4-SEF JB5-LEF JB5-SEF B4 A5 A3 EXEC STATMNT HAGAKI MONARCH COM10 C5 DL UNIV	Defines the paper or envelope size being used in the auxiliary tray. LEF means long-edge feed. SEF means short-edge feed. For more information about loading paper in the auxiliary tray, see “Loading Paper into the Auxiliary Tray” on page 47.
ENVTRAYPROT	OFF* ON	Specifies whether or not to include the envelope feeder in the auto-switching sequence. If a tray is not in the auto-switching sequence, its paper will not be selected when another tray runs out of paper. • OFF—include the tray in the auto-switching sequence. • ON—do not include the tray in the auto-switching sequence.
ENVSIZE	COM10* C5 DL MONARCH UNI-ENV	Defines the envelope size being used in the envelope tray.

Custom Forms Menu (IPDS)

Use the Custom Forms Menu to define custom paper sizes for IPDS jobs. The following table describes the settings you can change from the Custom Forms Menu. An asterisk (*) next to a value in the table indicates the factory default.

Notes:

1. To select a new value, press the **Enter** key when the value is displayed in the message display area. An asterisk (*) appears next to the value in the message display area, indicating that is now active.
2. This menu appears only when you have the IPDS option installed.
3. If you are unfamiliar with using the operator panel to work with menus, please read "Using the Operator Panel Keys" on page 25 and "Navigating Menus" on page 26 before continuing.
4. See "Defining Custom Form Sizes for IPDS" on page 70 for an example of defining a custom form.
5. Custom forms can only be fed from the auxiliary tray.

Custom Forms Menu Item	Value	Description
FORM1 UNITS	mm* in	Specifies the unit of measurement for the custom form.
FORM1LEN	nnn nn.n	Specifies the length of the custom form. If FORM UNITS is set to millimeters, acceptable values are 99 to 432 millimeters. If FORM UNITS is set to inches, acceptable values are 3.9 to 17.0 inches.
FORM1WIDTH	nnn nn.n	Specifies the width of the custom form. If FORM UNITS is set to millimeters, acceptable values are 100 to 297 millimeters. If FORM UNITS is set to inches, acceptable values are 3.9 to 11.7 inches.
FORM2 UNITS FORM2LEN FORM2WIDTH FORM3 UNITS FORM3LEN FORM3WIDTH FORM4 UNITS FORM4LEN FORM4WIDTH FORM5 UNITS FORM5LEN FORM5WIDTH		Specifies up to four more custom forms. See FORM1 UNITS, FORM1LEN, and FORM1WIDTH for a description of each field.

Configuration (Config) Menu

Use the Configuration Menu to configure the printer. The following table describes the settings you can change from the Configuration Menu. An asterisk (*) next to a value in the table indicates the factory default.

Notes:

1. To select a new value, press the **Enter** key when the value is displayed in the message display area. An asterisk (*) appears next to the value in the message display area, indicating that it is now active.
2. Values set in print jobs (either by the print application or the printer driver) override values you set at the printer.
3. If you are unfamiliar with using the operator panel to work with menus, please read "Using the Operator Panel Keys" on page 25 and "Navigating Menus" on page 26 before continuing.

Config Menu Item	Value	Description
JAMRECOVERY	OFF* ON	Sets the JAMRECOVERY function on or off for non-IPDS jobs. (For IPDS jobs, the host always does a recovery.) • OFF—the printer does not keep an image of the printed page. Jammed pages might not reprinted. • ON—the printer keeps the image for a printed page until the page successfully exits the printer. Jammed pages are automatically reprinted. Selecting ON can decrease the performance of your printer.
AUTOCONTINU	ON* OFF	Sets the auto-continue function on or off. • ON—following certain types of errors (such as memory allocation errors), the printer pauses for thirty seconds, and then continues running. Since some errors may cause data to be lost, setting AUTOCONTINU to ON can cause the printer to continue printing without operator intervention even though data has been lost. • OFF—following the same types of errors, the printer stops and waits for operator intervention. (Generally, the operator either presses the **Enter** key to continue printing, or the **Cancel Print** key to cancel the current job.)
DENSITY	n	Sets the toner density. n can be from 0 to 6 where 0 is the least dense (lightest) and 6 is the most dense (darkest). 3 is the default value. **Notes:** 1. Increasing density may make documents appear darker; however, it also uses more toner, which decreases the page yield of your toner cartridge. 2. Decreasing toner density may improve image clarity. 3. Density may have little effect on large black areas, unless the Config Menu QUALITY item is set to ECONO.

Config Menu Item	Value	Description
PWRSAV	30 MIN* 1 HR 2 HR 3 HR 4 HR OFF 15 MIN	Specifies how long the printer is inactive before it goes into power-savings (sleep) mode. In this mode, the printer powers down most of its systems and therefore requires extra time to warm up when the next print is requested.
QUALITY	NORMAL* REFINE ECONO	Specifies the print quality. • NORMAL—normal quality. Use for text documents. • REFINE—smooths edges. Use for documents that include images, shading, and complex graphics. • ECONO—reduces the amount of toner used in large black areas, which saves toner.
TONER LOW	STOP* CONT	Specifies whether or not to stop printing when the toner cartridge is low on toner. • STOP—stop printing. • CONT—continue printing. **Note:** To prevent loss of data, the printer stops when the toner cartridge is empty.

Memory Configuration (Memconfig) Menu

Use the Memory Configuration Menu to define whether or not the printer saves data stream information when it switches ports. The following table describes the settings you can change from the Memory Configuration Menu. An asterisk (*) next to a value in the table indicates the factory default.

Notes:

1. To select a new value, press the **Enter** key when the value is displayed in the message display area. An asterisk (*) appears next to the value in the message display area, indicating that it is now active.
2. If you do not have enough memory to support context saving (12 MB), this menu will not appear. Larger paper sizes, page protection, and duplex printing may further increase your memory requirements (see “Memory Requirements” on page 8). To find out how much memory you have installed, print a printer configuration page. See “Printing the Printer Configuration Page” on page 27 for more information.
3. If you are unfamiliar with using the operator panel to work with menus, please read “Using the Operator Panel Keys” on page 25 and “Navigating Menus” on page 26 before continuing.

Memconfig Menu Item	Value	Description
PCL SAVE	OFF* ON	Specifies whether or not the printer saves PCL5e information (downloaded fonts, macros, patterns) when it switches from PCL5e to another data stream: • OFF—the printer does not save data. • ON—the printer saves data. **Note:** Changing the PCL SAVE item causes the printer to restart. Therefore, IBM recommends you wait until no jobs are queued before you change this item.
PS SAVE	OFF* ON	Specifies whether or not the printer saves PostScript information (downloaded fonts, macros, patterns) when it switches from PostScript to another data stream: • OFF—the printer does not save data. • ON—the printer saves data. This option appears only when your printer has enough memory installed. See "Memory Requirements" on page 8 for more information about memory requirements. **Note:** Changing the PS SAVE item causes the printer to restart. Therefore, IBM recommends you wait until no jobs are queued before you change this item.

Parallel Menu

Use the Parallel Menu to define how the printer handles communications over the parallel attachment. The following table describes the settings you can change from the Parallel Menu. An asterisk (*) next to a value in the table indicates the factory default.

Notes:

1. To select a new value, press the **Enter** key when the value is displayed in the message display area. An asterisk (*) appears next to the value in the message display area, indicating that it is now active.
2. If you are unfamiliar with using the operator panel to work with menus, please read "Using the Operator Panel Keys" on page 25 and "Navigating Menus" on page 26 before continuing.

Parallel Menu Item	Value	Description
PERSONALTY	AUTO* PCL PS	Specifies how the printer treats jobs it receives over the parallel attachment. • AUTO—the printer determines if the data stream is PCL5e or PostScript and handles it accordingly. This is the recommended value. • PCL—the printer treats all data streams as PCL5e. • PS—the printer treats all data streams as PostScript.
BI-DI	ON* OFF	Turns bi-directional communications over the parallel attachment on or off. • OFF—the printer receives messages from the host, but does not send messages back. • ON—the printer receives and sends messages to the host.
PORT TMEOUT	nnn	Specifies how many seconds the printer waits for data before it determines there is no more data to receive for the job. The printer then checks other attachments for jobs, if other attachments are installed. The valid range is 5 to 300 seconds. The default value is 15 seconds.

PCL Menu

Use the PCL Menu to define the way the printer handles PCL5e jobs. The following table describes the settings you can change from the PCL Menu. An asterisk (*) next to a value in the table indicates the factory default.

Notes:

1. To select a new value, press the **Enter** key when the value is displayed in the message display area. An asterisk (*) appears next to the value in the message display area, indicating that it is now active.
2. Values set in PCL5e print jobs (either by the print application or the printer driver) override PCL Menu values you set at the printer.
3. If you are unfamiliar with using the operator panel to work with menus, please read “Using the Operator Panel Keys” on page 25 and “Navigating Menus” on page 26 before continuing.

PCL Menu Item	Value	Description
PAGEPROT	AUTO* ON	Sets page protection: • AUTO—the printer protects the minimum amount of memory necessary. • ON—the printer reserves enough memory to process an entire page without compression before it prints the page. This can help in the rare case where the printer compression scheme causes a loss of quality in complex graphics. This setting is available only when the printer has enough memory. See “Memory Requirements” on page 8 for more information.
COPIES	nnn	Specifies how many copies of each job to print. nnn can be from 1 to 999. 1 is the default.
PAGESIZE	LETTER* LEGAL FOLIO 11x17 A4 JIS-B5 B4 A5 A3 EXEC STATMNT MONARCH HAGAKI COM10 C5 DL UNIV UNI-ENV	Specifies the default page size for PCL5e jobs.
EDGE-EDGE	OFF* ON	Turns PCL edge-to-edge printing on or off. • OFF—the printer maintains a border of 4 mm on all four paper sides. • ON—The printer allows printing up to the physical page size. **Note:** To avoid toner contaminating the printer, IBM recommends leaving EDGE-EDGE set to OFF; use ON only when necessary.
FORM	nnn LINES	Specifies the number of lines per page the printer prints before it starts a new page. nnn can be from 5 to 128. 60 is the default for Letter-size paper; 64 is the default for A4-size paper.

PCL Menu Item	Value	Description
FNTSRC	INTERNAL* DISK FLASH SOFT	Specifies which font source the printer checks first for a specified font: • INTERNAL—use the printer's resident fonts first • DISK—use fonts stored on the printer hard drive first • FLASH—use fonts stored on the flash SIMM first • SOFT—use downloaded fonts first
FONTNUM	nnn	Specifies the default font. nnn is the number of the font. The default is 0. To display a list of available fonts and their corresponding numbers, select PRINT PCL FONTS from the Test Menu. See "Printing a List of PCL5e Fonts" on page 31 for more information.
PTSIZE	nnn.nn	Specifies the point size of the default font, if it is an outline font. Valid values are 4 to 999.75. The default is 12.
PITCH	nn.nn	Specifies the pitch to use for the default font, if the font is bitmapped (raster). Valid values are .44 to 99.99. The default is 10.

PCL Menu Item	Value	Description
SYMSET	ROMAN-8* ISO L1 ISO L2 ISO L5 PC-8 PC-8 D/N PC-850 PC-852 PC8-TK WIN L1 WIN L2 WIN L5 DESKTOP PS TEXT VN INTL VN US MS PUBL MATH-8 PS MATH VN MATH PI FONT LEGAL ISO 4 ISO 6 ISO 11 ISO 15 ISO 17 ISO 21 ISO 60 ISO 69 WIN 3.0	Specifies the symbol set to use.

PCL Menu Item	Value	Description
AUTO RESET	ON* OFF	Specifies whether a PCL reset (reset of the PCL environment and printing of any partial pages) occurs at the PORT TMEOUT value. • ON*—Reset occurs at the PORT TMEOUT values, which are set on each printer attachment menu. All PCL settings, such as orientation and paper source, will be reset to the power-on default values. Downloaded fonts that have NOT been designated as “permanent” will also be lost. Partial pages, such as the last page of a job sent without an end-of-forms command, will be ejected. The default of ON is recommended for most situations. • OFF—The above resets will NOT occur at the PORT TMEOUT. This allows compatibility with applications designed for HP printers with this behavior. It is not recommended for users printing with InfoPrint 32 drivers. **Notes:** 1. When the printer actually switches to another port, the PCL settings will be lost, regardless of the AUTO RESET value. 2. AUTO RESET is NOT relevant to datastream switching. If the printer switches datastreams before the PORT TMEOUT, the PCL settings will only be saved if PCL SAVE=YES. See “Memory Configuration (Memconfig) Menu” on page 108.

PS Menu

Use the PS Menu to define the way the printer handles PostScript jobs. The following table describes the settings you can change from the PS Menu. An asterisk (*) next to a value in the table indicates the factory default.

Notes:

1. To select a new value, press the **Enter** key when the value is displayed in the message display area. An asterisk (*) appears next to the value in the message display area, indicating that it is now active.
2. Values set in PostScript print jobs (either by the print application or the printer driver) override PS Menu values you set at the printer.
3. If you are unfamiliar with using the operator panel to work with menus, please read “Using the Operator Panel Keys” on page 25 and “Navigating Menus” on page 26 before continuing.

PS Menu Item	Value	Description
PAGEPROT	AUTO* ON	Sets page protection: • AUTO—the printer protects the minimum amount of memory necessary. • ON—the printer reserves enough memory to process an entire page without compression before it prints the page. This can help in the rare case where the printer compression scheme causes a loss of quality in complex graphics. This setting is available only when the printer has enough memory. See “Memory Requirements” on page 8 for more information.
COPIES	nnn	Specifies how many copies of each job to print. nnn can be from 1 to 999. 1 is the default.
PRINT ERRS	OFF* ON	Specifies how the printer handles PostScript errors: • OFF—the printer cancels the job, but does not print an error page. • ON—the printer prints an error page and cancels the job.
EDGE-EDGE	ON* OFF	Turns edge-to-edge printing on or off. • ON—The printer allows printing up to the physical page size. • OFF—the printer maintains a border of 4 mm on all four paper sides. **Notes:** 1. IBM recommends leaving EDGE-EDGE set to ON when you use IBM printer drivers for InfoPrint 32. If you use non-IBM printer drivers, you may need to set EDGE-EDGE to off to prevent toner contamination in the printer. 2. The IBM printer driver cannot override the OFF setting. If you set EDGE-EDGE to OFF, you cannot print edge-to-edge.

IPDS Menu

The following table describes the settings you can change from the IPDS Menu. An asterisk (*) next to a value in the table indicates the factory default. The IPDS Menu appears only if you have the IPDS SIMM installed.

Notes:

1. To select a new value, press the **Enter** key when the value is displayed in the message display area. An asterisk (*) appears next to the value in the message display area, indicating that it is now active.

2. Values specified in IPDS print jobs override IPDS Menu values set at the printer.
3. If you are unfamiliar with using the operator panel to work with menus, please read “Using the Operator Panel Keys” on page 25 and “Navigating Menus” on page 26 before continuing.

IPDS Menu Item	Value	Description
PAGEPROT	AUTO* ON	Sets page protection: • AUTO—the printer uses the minimum amount of memory necessary to print a page. • ON—the printer reserves enough memory to process an entire page without compression before it prints the page. This can help in the rare case where the printer compression scheme causes a loss of quality in complex graphics. This setting is available only when the printer has enough memory. See “Memory Requirements” on page 8 for more information.

IPDS Menu Item	Value	Description
DEF CD PAG	nnnn	Specifies the default code page. The default value is code page 037. 037 US, Canada, Netherlands, Portugal 038 US English ASCII 260 Canadian French 273 Austrian/German 274 Belgium 276 Canadian French 277 Danish/Norwegian 278 Finnish/Swedish 280 Italian 281 Japanese 284 Spanish 285 UK English 286 Austrian/German (alternate) 287 Danish/Norwegian (Alternate) 288 Finnish/Swedish (Alternate) 290 Japanese/Katakana 297 French 420 Arabic 423 Greek 424 Hebrew 500 Belgium, Switzerland / International 870 Latin 2 Multilingual 871 Icelandic 875 Greek 880 Cyrillic 892 OCR - A 893 OCR - B 905 Turkish 1025 Cyrillic 1026 Turkish The following code pages include the Euro character: 1140 - US, Canada, Netherlands, Brazil, Portugal 1141 - Austrian/German 1142 - Danish/Norwegian 1143 - Finnish/Swedish 1144 - Italian 1145 - Spanish 1146 - UK English 1147 - French 1148 - Belgium, Switzerland/International 1149 - Icelandic
EMULATION	4028* 4332	Specifies the printer to emulate. Select 4332 for the InfoPrint 32 only if you have the appropriate level of PSF software installed. (Consult your system administrator or contact technical support.)

IPDS Menu Item	Value	Description
DEF FGID	nnnnn	Specifies the default FGID (Font Typeface Global Identifier), which identifies the default resident font the printer uses. The default FGID is 416, which specifies Courier 10 point as the default resident font. To display the list of fonts and FGIDs the printer supports, print out a list of IPDS resident fonts (see “Printing a List of IPDS Resident Fonts” on page 32).
CPI	nn.n	Selects characters-per-inch (pitch) for the default font. Valid values are 5.0 to 30.0 in tenths of an inch. The default value is 10.
VPA CHK	ON* OFF	Turns valid printable area checking on or off. • ON—the printer checks for pels that fall outside the intersection of the logical and physical pages. If pels fall outside the area, the printer reports an error to the host if the IPDS Exception Handling Control command setting requires error reporting. • OFF—The printer does not report pels outside the valid printable area.
X-OFFSET	nnn	Sets the print offset in the X (horizontal) direction. nnn can be from -999 to 999. The default setting is 0 pels. Positive values move the starting point for printing to the right of the physical point of origin. Negative values move the starting point for printing to the left. The physical point of origin is towards the top left corner of a portrait page. If you rotate the page, the physical point of origin rotates as well. **Note:** The X-OFFSET and Y-OFFSET options are intended to allow line printer print jobs to fit on a page where edge-to-edge printing is not possible. Using X-OFFSET and Y-OFFSET is NOT recommended when generating new applications, especially duplex applications.
Y-OFFSET	nnn	Sets the print offset in the Y (vertical) direction. nnn can be from -999 to 999. The default setting is 0 pels. Positive values move the starting point for printing down from the physical point of origin. Negative values move the starting point for printing up. The physical point of origin is towards the top left corner of a portrait page. If you rotate the page, the physical point of origin rotates as well. **Note:** The X-OFFSET and Y-OFFSET options are intended to allow line printer print jobs to fit on a page where edge-to-edge printing is not possible. Using X-OFFSET and Y-OFFSET is NOT recommended when generating new applications, especially duplex applications.

IPDS Menu Item	Value	Description
PAGE	WHOLE* COMP1 COMP2 PRINT	Determines how data is positioned on the page. • WHOLE—IPDS whole page (default). The printer does not move or compress the page. This is the preferred method; all page positioning and formatting is done at the application level on the host. The PRINT, COMP1, and COMP2 options may alter the appearance of the page, or may not be compatible with predecessor products (for example, 3116, 3916), especially when combined with duplex and other IPDS MENU page format adjustments such as X-OFFSET and Y-OFFSET. PRINT, COMP1, and COMP2 are included to allow line printer jobs to fit on a page where edge-to-edge printing was not possible; they are not recommended for use in generating new applications. • PRINT—IPDS print page. If the page origin falls within the unprintable area, the origin of the page is moved to the inside edge of the nearest unprintable area border. If the origin violates the unprintable area on two edges, it is moved to the nearest inside corner of the unprintable area. If the origin violates only one edge of the unprintable area, then the origin is adjusted to avoid only that area. If a location adjustment is made, the printed page shifts in the direction of the adjustment. There is no compression, so the opposite-edge data may be pushed off the page. **Note:** PRINT requires EDGE-EDGE set OFF to work. Any data placed in this unprintable area is lost. Also, PRINT will not work on envelopes or media overlays (overlays that are part of the base page, not the overlays included in the variable print data). • COMP1—COMP1 format uses PRINT page as a base, and then compresses the spacing between text lines generated by the IPDS Begin Line command. Its primary purpose is to compress Begin Line text data into a page with unprintable borders. continued on next page...

IPDS Menu Item	Value	Description
PAGE	WHOLE* COMP1 COMP2 PRINT	(continued from previous page...) • COMP2—COMP2 format uses PRINT page as a base, and then adds compression IPDS Begin Line command (see COMP1) and of the following vertical text positioning commands: Absolute Move Baseline, Relative Move Baseline, Draw B Axis Rule, Draw I Axis Rule. **Note:** Alignment problems can occur if you select COMP1 or COMP2 and you print jobs that mix text with images, graphics, or bar codes. Problems arise when text positioning commands are used to move across text or into non-text (image, graphic, or bar code) areas. Both COMP1 and COMP2 reduce the line spacing of text only and have no effect on non-text data. To minimize this problem, select COMP1, because Begin Line commands are not normally used to move across or into non-text areas. If, however, the application you want to compress does not use Begin Line commands, you should select COMP2.
EDGE-EDGE	OFF* ON	Turns edge-to-edge printing on or off. • OFF—the printer maintains a no-print border of 4 mm on all four paper sides. • ON—The printer allows printing up to the physical page size. **Notes:** 1. To avoid toner contaminating the printer, IBM recommends leaving EDGE-EDGE set to OFF for IPDS; use ON only when necessary. 2. The IPDS Menu item EDGE-EDGE applies to IPDS data only. To specify edge-to-edge printing for non-IPDS data sent over the coax attachment, use the EDGE-EDGE item on the Coax Setup Menu. To specify edge-to-edge printing for non-IPDS data sent over the twinax attachment, use the EDGE-EDGE item on the Twinax Setup Menu.
FONT SUB	OFF* ON	Turns font substitution on or off. • OFF—if a job requests a font that is not loaded on the printer, the printer generates an IPDS NACK message and the host holds the job. • ON—if a job requests a font that is not loaded on the printer, the printer attempts to substitute another font.

IPDS Menu Item	Value	Description
PRINT MODE	ENH* STD	• ENH (ENHANCED)—the printer prints at 600 DPI which produces optimal print quality and slower printer performance. • STD (STANDARD)—the printer prints at 300 DPI which produces good print quality and optimal printer performance.
CACHING	ON* OFF	Specifies whether or not to use caching for repeated overlays. • ON—the printer uses caching, which provides better performance for jobs with repeated overlays, but uses more memory. • OFF—the printer does not use caching, which requires less memory but provides less performance for jobs with repeated overlays. **Note:** Overlay caching is recommend for repeated overlays. Overlay caching does not improve performance with non-overlay IPDS data or overlays that are used only once or infrequently.
EARLY COMPL	OFF* ON	Turns early print completion on or off for IPDS data sent over the twinax attachment. To turn early completion on or off for non-IPDS data over the coax attachment, use the EARLY COMPL item on the Coax Setup Menu. EARLY COMPL displays on the IPDS Menu only when the twinax network card is installed. • OFF—the printer waits until the job is physically complete to signal the host that the job is complete. • ON—the printer signals the host that the job is complete as soon as the IPDS data is formatted. Setting EARLY COMPL=ON may improve print performance, but may also degrade recovery and cause lost data from some printing problems, such as jams.
IPDS PORT	COAX* TX TRING ETHER	Specifies the attachment you use for IPDS jobs. **Note:** You can print IPDS from more than one port; setting this item, therefore, does not restrict you from printing from multiple ports.

IPDS Menu Item	Value	Description
OUTPUT	MAIN* FACE-UP FINISHR1 FINISHR2 FINISHR3 ANY-FIN	Selects the default output bin to use. Only installed trays appear in the list. • MAIN is the main face-down output bin. • FACE-UP is the Face-Up Output Bin. • FINSHR1 is the upper bin of the 2000-Sheet Finisher. • FINISHR2 is the middle bin of the 2000-Sheet Finisher. • FINISHR3 is the lower bin of the 2000-Sheet Finisher. • ANY-FIN specifies automatic bin switching. **Notes:** 1. If the 2000-Sheet Finisher is installed, FINISHR1 is the default bin. 2. If you change OUTPUT to another bin, power off and then power on the printer for the new value to take effect.
CUSTOM FORM	1* 2 3 4 5	Specifies the custom form to use. The Custom Forms Menu lets you specify up to five custom forms. See “Defining Custom Form Sizes for IPDS” on page 70 for information on defining custom forms.

Token Ring Menu

Important!

For information about configuring the token-ring attachment, please see *IBM Network Printers: Ethernet and Token Ring Quick Configuration Guide*, which comes with the token-ring network interface card. “Chapter 9. Configuring Printer Network Addresses” on page 217 describes how to define the IP address, default gateway address, and subnet mask from the operator panel.

Use the Token Ring Menu to configure the token-ring attachment. The following table describes the settings you can change from the Token Ring Menu. An asterisk (*) next to a value in the table indicates the factory default. The Token Ring Menu appears only if you have the token-ring attachment installed.

Notes:

1. To select a new value, press the **Enter** key when the value is displayed in the message display area. An asterisk (*) appears next to the value in the message display area, indicating that is now active.

2. If you are unfamiliar with using the operator panel to work with menus, please read “Using the Operator Panel Keys” on page 25 and “Navigating Menus” on page 26 before continuing.

Token Ring Menu Item	Value	Description
PERSONALTY	AUTO* PCL PS IPDS	Specifies how the printer treats jobs it receives over the token-ring attachment: • AUTO—the printer examines the data stream and handles it accordingly. • PCL—the printer treats all data streams as PCL5e. • PS—the printer treats all data streams as PostScript. • IPDS—the printer treats all data streams as IPDS. This option appears only if the IPDS SIMM is installed.
PORT TMEOUT	nnn	Specifies the number of seconds the printer waits for data before it determines there is no more data to receive for the job. The printer then checks other attachments for jobs, if other attachments are installed. Valid values are 5 to 300. The default is 15 seconds.
TCP/IP	ON* OFF	Turns TCP/IP communications on or off. • ON—enables TCP/IP communications. • OFF—disables TCP/IP communications. **Note:** If TCP/IP is OFF, the following menu items do not appear: IP ADDRESS, SUBNET MASK, GATEWAY ADDRESS, BOOTP, and DHCP.
IP ADDRESS	nnn.nnn.nnn.nnn	Specifies the printer’s IP address. Consult your network or LAN administrator before changing this value. See “Chapter 9. Configuring Printer Network Addresses” on page 217 for more information. **Note:** This menu item appears only when TCP/IP is ON.
SUBNET MASK	nnn.nnn.nnn.nnn	Specifies the printer’s subnet mask. Consult your network or LAN administrator before changing this value. See “Chapter 9. Configuring Printer Network Addresses” on page 217 for more information. **Note:** This menu item appears only when TCP/IP is ON.
GATEWAY ADDRESS	nnn.nnn.nnn.nnn	Specifies the IP address of the default gateway. Consult your network or LAN administrator before changing this value. See “Chapter 9. Configuring Printer Network Addresses” on page 217 for more information. **Note:** This menu item appears only when TCP/IP is ON.

Token Ring Menu Item	Value	Description
BOOTP	IFNO ADDR* ON OFF	Specifies whether the token-ring network interface card sends BOOTP requests to the server to have an IP address assigned to the printer. • IFNO ADDR—specifies that the token-ring network interface card sends BOOTP requests **only** if the address is not already set at the printer. • ON—specifies that the token-ring network interface card sends BOOTP requests. • OFF—specifies that the token-ring network interface card should not send BOOTP requests. **Notes:** 1. This menu item appears only when TCP/IP is ON. 2. The number of BOOTP requests is determined by a setting on the token-ring network interface card; the default is three.
DHCP	IFNO ADDR* ON OFF	Specifies whether the token-ring network interface card sends DHCP requests to the server to have an IP address assigned to the printer. • IFNO ADDR—specifies that the token-ring network interface card sends DHCP requests **only** if the address is not already set at the printer. • ON—specifies that the token-ring network interface card sends DHCP requests. • OFF—specifies that the token-ring network interface card should not send DHCP requests. **Notes:** 1. This menu item appears only when TCP/IP is ON. 2. The number of DHCP requests is determined by a setting on the token-ring network interface card; the default is three.
NETWARE	ON* OFF	Turns Netware communications on or off. • ON—enables Netware communications. • OFF—disables Netware communications.
NW FRAME	AUTO* 802.2 SNAP	Selects the Netware frame type. • AUTO—the printer uses the frame type of the first frame it receives. • 802.2—the printer uses the IEEE 802.2 frame type. • SNAP—the printer uses the SNAP frame type. **Note:** This menu item appears only when NETWARE is ON.

Token Ring Menu Item	Value	Description
NETBIOS	ON* OFF	Turns NetBIOS communications on or off. • ON—enables NetBIOS communications. • OFF—disables NetBIOS communications.
APPLETALK	ON* OFF	Turns AppleTalk communications on or off. • ON—enables AppleTalk communications. • OFF—disables AppleTalk communications.
MAC ADDRESS	nn.nn.nn.nn.nn.nn	Specifies the MAC (medium access control) number of the printer. **Note:** Normally, the MAC ADDRESS should be set to the unique MAC ADDRESS on the network interface card. You can, however, also use the MAC ADDRESS field to define locally administered addresses (LAA). Resetting the printer to factory defaults sets the LAA back to the MAC address. Each LAA must be unique, so make sure to consult your network or LAN administrator before changing this value. See "Setting the Locally Administered MAC Address (LAA)" on page 218 for more information.

Ethernet Menu

Important!

For information about configuring the Ethernet attachment, please see *IBM Network Printers: Ethernet and Token Ring Quick Configuration Guide*, which comes with the Ethernet Network Interface Card. "Chapter 9. Configuring Printer Network Addresses" on page 217 describes how to define the IP address, default gateway address, and subnet mask from the operator panel.

Use the Ethernet Menu to configure the Ethernet attachment. The following table describes the settings you can change from the Ethernet Menu. An asterisk (*) next to a value in the table indicates the factory default. The Ethernet Menu appears only if you have the Ethernet attachment installed.

Notes:

1. To select a new value, press the **Enter** key when the value is displayed in the message display area. An asterisk (*) appears next to the value in the message display area, indicating that it is now active.

2. If you are unfamiliar with using the operator panel to work with menus, please read “Using the Operator Panel Keys” on page 25 and “Navigating Menus” on page 26 before continuing.

Ethernet Menu Item	Value	Description
PERSONALTY	AUTO* PCL PS IPDS	Specifies how the printer treats jobs it receives over the Ethernet attachment: • AUTO—the printer examines the data stream and handles it accordingly. • PCL—the printer treats all data streams as PCL5e. • PS—the printer treats all data streams as PostScript. • IPDS—the printer treats all data streams as IPDS. This option appears only if the IPDS SIMM is installed.
PORT TMEOUT	nnn	Specifies the number of seconds the printer waits for data before it determines there is no more data to receive for the job. The printer then checks other attachments for jobs, if other attachments are installed. Valid values are 5 to 300. The default is 15 seconds.
TCP/IP	ON* OFF	Turns TCP/IP communications on or off. • ON—enables TCP/IP communications. • OFF—disables TCP/IP communications. **Note:** If TCP/IP is OFF, the following menu items do not appear: IP ADDRESS, SUBNET MASK, GATEWAY ADDRESS, BOOTP, and DHCP.
IP ADDRESS	nnn.nnn.nnn.nnn	Specifies the printer’s IP address. Consult your network or LAN administrator before changing this value. See “Chapter 9. Configuring Printer Network Addresses” on page 217 for more information. **Note:** This menu item appears only when TCP/IP is ON.
SUBNET MASK	nnn.nnn.nnn.nnn	Specifies the printer’s subnet mask. Consult your network or LAN administrator before changing this value. See “Chapter 9. Configuring Printer Network Addresses” on page 217 for more information. **Note:** This menu item appears only when TCP/IP is ON.
GATEWAY ADDRESS	nnn.nnn.nnn.nnn	Specifies the IP address of the default gateway. Consult your network or LAN administrator before changing this value. See “Chapter 9. Configuring Printer Network Addresses” on page 217 for more information. **Note:** This menu item appears only when TCP/IP is ON.

Ethernet Menu Item	Value	Description
BOOTP	IFNO ADDR* ON OFF	Specifies whether the Ethernet network interface card sends BOOTP requests to the server to have an IP address assigned to the printer. • IFNO ADDR—specifies that the Ethernet network interface card sends BOOTP requests **only** if the address is not already set at the printer. • ON—specifies that the Ethernet network interface card sends BOOTP requests. • OFF—specifies that the Ethernet network interface card should not send BOOTP requests. **Notes:** 1. This menu item appears only when TCP/IP is ON. 2. The number of BOOTP requests is determined by a setting on the Ethernet network interface card; the default is three.
DHCP	IFNO ADDR* ON OFF	Specifies whether the Ethernet network interface card sends DHCP requests to the server to have an IP address assigned to the printer. • IFNO ADDR—specifies that the Ethernet network interface card sends DHCP requests **only** if the address is not already set at the printer. • ON—specifies that the Ethernet network interface card sends DHCP requests. • OFF—specifies that the Ethernet network interface card should not send DHCP requests. **Notes:** 1. This menu item appears only when TCP/IP is ON. 2. The number of DHCP requests is determined by a setting on the Ethernet network interface card; the default is three.
NETWARE	ON* OFF	Turns Netware communications on or off. • ON—enables Netware communications. • OFF—disables Netware communications.

Ethernet Menu Item	Value	Description
NW FRAME	AUTO* ETH II 802.2 802.3 SNAP	Selects the Netware frame type. • AUTO—the printer uses the frame type of the first frame it receives. • ETHER II—the printer uses the Ethernet Standard Version 2 frame type. • 802.2—the printer uses the IEEE 802.2 protocol. • 802.3—the printer uses the IEEE 802.3 protocol. • SNAP—the printer uses the SNAP protocol. **Note:** This menu item appears only when NETWARE is ON.
NETBIOS	ON* OFF	Turns NetBIOS communications on or off. • ON—enables NetBIOS communications. • OFF—disables NetBIOS communications.
APPLETALK	ON* OFF	Turns AppleTalk communications on or off. • ON—enables AppleTalk communications. • OFF—disables AppleTalk communications.

Coaxial SCS Menu

Use the Coaxial SCS Menu to define how the printer handles SCS data over the coax attachment. The following table describes the settings you can change from the Coaxial SCS Menu. An asterisk (*) next to a value in the table indicates the factory default. The Coaxial SCS Menu appears only if you have the coax network interface card installed.

Notes:

1. To select a new value, press the **Enter** key when the value is displayed in the message display area. An asterisk (*) appears next to the value in the message display area, indicating that it is now active.
2. Values set in print jobs override Coaxial SCS Menu values set at the printer.
3. For more information about configuring the coax attachment, see *IBM Network Printers: Twinax/Coax Configuration Guide.*
4. If you are unfamiliar with using the operator panel to work with menus, please read “Using the Operator Panel Keys” on page 25 and “Navigating Menus” on page 26 before continuing.

Coaxial SCS Menu Item	Value	Description
TRAY 1 TRAY 2 TRAY 3 TRAY 4 TRAY 5 AUX ENV	COR* C-PORT PORT LAND	Specifies the default orientation for jobs printed from each tray. • TRAY 1 is the upper 500-sheet input tray on the printer. • TRAY 2 is the lower 500-sheet input tray on the printer. • TRAY 3 is the 500-sheet tray in the 2500-Sheet Input Unit. • TRAY 4 is the left 1000-sheet tray in the 2500-Sheet Input Unit. It is below Tray 3. • TRAY 5 is the right 1000-sheet tray in the 2500-Sheet Input Unit. It is also below Tray 3. • AUXTRAY is the 50-sheet tray on the left side of the printer. • ENV is the optional envelope feeder. Each input can be assigned one of the following default orientations: • COR—computer output reduction: Printing in landscape with the logical page reduced to fit more data on the physical page. The printer reduces vertical spacing and uses a smaller font with less space between letters. • C-PORT—compressed portrait: printing in portrait, but with horizontal and vertical compression. Horizontal compression makes it possible to print 80 characters per line in portrait when 10 cpi is used and 133 characters per line when 16.7 cpi is used. The horizontal compression factor differs depending on paper size used. Because of this, no horizontal compression can be seen when Letter paper is used because Letter paper in portrait already allows 80 characters in 10 cpi. Vertical compression makes it possible to print 66 lines per page in 6 LPI or 88 lines per page in 8 LPI. The vertical compression factor also varies depending on the paper size used. • PORT—portrait: the page has normal, upright business letter orientation. For envelopes from the auxiliary tray, PORT specifies normal envelope orientation. • LAND—landscape: the page is wider than long.

Coaxial SCS Menu Item	Value	Description
APO	ENABLE* DISABLE	Enables or disables automatic print orientation. • ENABLE—if the requested dimensions of the job fit on the paper, the page is printed either in portrait or landscape, whichever better fits the dimensions. If the requested dimensions do not fit on the paper, the default orientation for the tray (COR, PORT, LAND, or C-PORT) determines how the sheet is printed. • DISABLE—the page prints using the default orientation for the tray (COR, PORT, LAND, or C-PORT). **Notes:** 1. Values specified in the data stream override values set at the printer. 2. The factory defaults (orientation set to COR and APO=ENABLE) give you the most flexibility. 3. The requested dimensions are determined by the values of CPI, LINE SPACING, MPP, and MPL for the job. These values can be set in the data stream or on the Coaxial SCS Menu.
LPI	6* 8 0	Specifies a default lines per inch value for jobs received over the coax attachment. Valid values are 0, 6, and 8. The default is 6 lines per inch. 0 specifies either the value specified in the job, or the PCL default value for the printer.
LINE SPACING	1* 2	Specifies single or double spacing: • 1—single spacing • 2—double spacing
CPI	nn.n	Specifies the default characters per inch, or pitch. nn can be 0, 10, 12, 15, 16.7, 20, or 27. The default is 10 characters per inch. 0 specifies a proportional font (FGID 1452). Note that proportional fonts use proportional spacing, which may cause unexpected results (for example, tabular data may appear misaligned).
CASE	DUAL* MONO	Specifies the case of the printed text: • DUAL—characters print in the case received • MONO—all characters print in uppercase
MPL	nnn	Specifies the maximum page length (MPL) in lines per page. Valid values are 0 to 255. 66 is the default.
MPP	nnn	Specifies the maximum print position (MPP). Valid values are 0 to 255. 132 is the default.

Coaxial SCS Menu Item	Value	Description
CODE PAGE	nnn	Specifies the code page to use. Code page 037 is the default. 037 US, Canada, Netherlands, Portugal 260 Canadian/French 273 Austrian/German 275 Brazil 277 Danish/Norwegian 278 Finnish/Swedish 280 Italian 281 Japanese 284 Spanish 285 UK English 286 Austrian/German (alternate) 287 Danish/Norwegian (Alternate) 288 Finnish/Swedish (Alternate) 289 Spanish 297 French 420 Arabic 424 Hebrew 500 Belgium, Switzerland / International 871 Icelandic 875 Greek 000 download the code page from the 3174 control unit The following code pages include the Euro character: 1140 - US, Canada, Netherlands, and Portugal 1141 - Austrian/German 1142 - Danish/Norwegian 1143 - Finnish/Swedish 1144 - Italian 1145 - Spanish 1146 - UK English 1147 - French 1148 - Belgium, Switzerland/International 1149 - Icelandic
TBM	nn.n	The top binding margin (TBM) determines the position of line 1 relative to the top edge of the printable area when printing in portrait or landscape orientation. TBM is measured in tenths of an inch, with a default of 0. It applies to all paper sources.
LBM	nn.n	The left binding margin (LBM) determines the position of column 1 relative to the left edge of the printable area when printing in portrait or landscape orientation. LBM is measured in tenths of an inch, with a default of 0. It applies to all paper sources.

Coaxial SCS Menu Item	Value	Description
PA1	none	Selecting this value and pressing the **Enter** key sends a PA1 signal to the host. **Note:** This applies to SCS only; not DSC/DSE or IPDS.
PA2	none	Selecting this value and pressing the **Enter** key sends a PA2 signal to the host. **Note:** This applies to SCS only; not DSC/DSE or IPDS.

Twinax SCS Menu

Use the Twinax SCS Menu to define how the printer handles SCS data over the twinax attachment. The following table describes the settings you can change from the Twinax SCS Menu. An asterisk (*) next to a value in the table indicates the factory default. The Twinax SCS Menu appears only if you have the twinax network interface card installed.

Notes:

1. To select a new value, press the **Enter** key when the value is displayed in the message display area. An asterisk (*) appears next to the value in the message display area, indicating that it is now active.
2. Values set in print jobs (either by the print application or the printer driver) override Twinax SCS Menu values set at the printer.
3. For more information about configuring the twinax attachment, see *IBM Network Printers: Twinax/Coax Configuration Guide.*
4. If you are unfamiliar with using the operator panel to work with menus, please read “Using the Operator Panel Keys” on page 25 and “Navigating Menus” on page 26 before continuing.

Twinax SCS Menu Item	Value	Description
TRAY 1 TRAY 2 TRAY 3 TRAY 4 TRAY 5 AUX ENV	COR* C-PORT PORT LAND	Specifies the default orientation for jobs printed from each tray. • TRAY 1 is the upper 500-sheet input tray on the printer. • TRAY 2 is the lower 500-sheet input tray on the printer. • TRAY 3 is the 500-sheet tray in the 2500-Sheet Input Unit. • TRAY 4 is the left 1000-sheet tray in the 2500-Sheet Input Unit. It is below Tray 3. • TRAY 5 is the right 1000-sheet tray in the 2500-Sheet Input Unit. It is also below Tray 3. • AUXTRAY is the 50-sheet tray on the left side of the printer. • ENV is the optional envelope feeder. Each input can be assigned one of the following default orientations: • COR—computer output reduction: Printing in landscape with the logical page reduced to fit more data on the physical page. The printer reduces vertical spacing and uses a smaller font with less space between letters. • C-PORT—compressed portrait: printing in portrait, but with compression. Horizontal compression is supported with 10 cpi only. The compression factor is fixed; it makes it possible to print 80 characters per line on A4 paper and 85 characters per line on Letter size paper. • PORT—portrait: the page has normal, upright business letter orientation. • LAND—landscape: the page is wider than long.
LPI	6* 8 0 3 4	Specifies a default lines per inch value. 0 specifies either the value specified in the job, or the PCL default value for the printer.
CPI	nn.n	Specifies the default characters per inch, or pitch. nn can be 0, 5, 10, 12, 15, 17.1, 20, or 27. The default is 10.

Twinax SCS Menu Item	Value	Description
CODE PAGE	nnn	Specifies the default code page to use. The default value is code page 037. 037 U.S.A. and Canada 273 Austrian/German 274 Belgium 275 Brazil 277 Danish/Norwegian 278 Finnish/Swedish 280 Italy 281 Japanese (Latin) 282 Portugal 284 Spanish (Latin America) 285 United Kingdom 297 France 420 Arabic 424 Hebrew 500 Multinational (International #5) 871 Iceland 875 Greek The following code pages include the Euro character: 1140 - US, Canada, Netherlands, and Portugal 1141 - Austrian/German 1142 - Danish/Norwegian 1143 - Finnish/Swedish 1144 - Italian 1145 - Spanish 1146 - UK English 1147 - French 1148 - Belgium, Switzerland/International 1149 - Icelandic

Twinax SCS Menu Item	Value	Description
APO	ENABLE* DISABLE	Enables or disables automatic print orientation. • ENABLE—if the requested dimensions of the job fit on the paper, the page is printed either in portrait or landscape, whichever better fits the dimensions. If the requested dimensions do not fit on the paper, the default orientation for the tray (COR, PORT, LAND, or C-PORT) determines how the sheet is printed. • DISABLE—the page prints using the default orientation for the tray (COR, PORT, LAND, or C-PORT). **Notes:** 1. Values specified in the data stream override values set at the printer. 2. The factory defaults (orientation set to COR and APO=ENABLE) give you the most flexibility. 3. The requested dimensions are determined by the values of CPI, LPI, MPP, and MPL for the job. These values can be set in the data stream. CPI and LPI can be set on the Twinax SCS menu. The twinax default values for MPP and MPL cannot be set from a menu; they are 132 for MPP and 62 for MPL.

Coax Setup Menu

Use the Coax Setup Menu to configure the coax attachment. The following table describes the settings you can change from the Coax Setup Menu. An asterisk (*) next to a value in the table indicates the factory default. The Coax Setup Menu appears only if you have the coax network interface card installed.

Notes:

1. To select a new value, press the **Enter** key when the value is displayed in the message display area. An asterisk (*) appears next to the value in the message display area, indicating that it is now active.
2. For more information about configuring the coax attachment, see *IBM Network Printers: Twinax/Coax Configuration Guide.*
3. If you are unfamiliar with using the operator panel to work with menus, please read “Using the Operator Panel Keys” on page 25 and “Navigating Menus” on page 26 before continuing.

Coax Setup Menu Item	Value	Description
PORT TMEOUT	nnn	Specifies the number of seconds the printer waits for data before it determines there is no more data to receive for the job. The printer then checks other installed attachments, and will switch to attachments with jobs waiting. nnn can be from 0 to 255. The default is 90 seconds. 0 dedicates the printer to the coax attachment (the printer will not accept data from other attachments). **Note:** If you change PORT TMEOUT from 0 to another value, you must submit another coax job or power off and then power on the printer before the new value can take effect.
IRQ TMEOUT	nn	Specifies when an IRQ (intervention required) timeout is sent. This tells the printer how long to wait for an intervention required condition to be corrected before notifying the host of the error. nn can be from 0 to 20 minutes. The default is 1 minute. 0 specifies to never send an IRQ timeout.
HLD TMEOUT	nn	Specifies the hold timeout value. This value tells the printer how long to wait if the printer is offline for an intervention required condition to be corrected. After this time elapses, the host is notified of the error. nn can be from 0 to 20 minutes. The default is 1 minute. 0 specifies to never send a hold time out.
BUSY TMEOUT	nnn	Specifies the busy timeout value. This specifies the amount of time to wait (when the printer is connected to multiple ports) for control to be returned to the coax attachment, before notifying the host. nnn can be from 0 to 999 minutes. The default is 20 minutes. 0 specifies to never send a busy timeout.
EDGE-EDGE	OFF* ON	Turns edge-to-edge printing on or off. • OFF—the printer maintains a border of 4 mm on all four paper sides. • ON—The printer allows printing up to the physical page size. **Notes:** 1. To prevent toner from contaminating the printer, IBM recommends leaving EDGE-EDGE set to OFF for coax printing; use ON only when necessary. 2. The Coax Setup Menu item EDGE-EDGE applies to SCS data only. To specify edge-to-edge printing for IPDS data, use the EDGE-EDGE item on the IPDS Menu.

Coax Setup Menu Item	Value	Description
EAB	ENABLE* DISABLE	Enables or disables the extended attribute buffer support. **Note:** The EAB menu item also enables or disables the ability to print IPDS jobs over the coax attachment.
BUFFERSIZE	960 1920* 2560 3440 3564	Specifies the buffer size in bytes.
EARLY COMPL	ON* OFF	Turns early print completion on or off for non-IPDS data sent over the coax attachment. To turn early print completion on or off for IPDS data, use the EARLY COMPL item on the IPDS Menu. • ON—sends an "order complete" as soon as data is received. • OFF—waits until the print job is physically complete to send "order complete."

Twinax Setup Menu

Use the Twinax Setup Menu to configure the twinax attachment. The following table describes the settings you can change from the Twinax Setup Menu. An asterisk (*) next to a value in the table indicates the factory default. The Twinax Setup Menu appears only if you have the twinax network interface card installed.

Notes:

1. To select a new value, press the **Enter** key when the value is displayed in the message display area. An asterisk (*) appears next to the value in the message display area, indicating that it is now active.

   Important! If you change SCS ADDR or IPDS ADDR, you must switch off the printer, wait ten seconds, and then switch on the printer for the new value to take effect.
2. For more information about configuring the twinax attachment, see *IBM Network Printers: Twinax/Coax Configuration Guide.*
3. If you are unfamiliar with using the operator panel to work with menus, please read "Using the Operator Panel Keys" on page 25 and "Navigating Menus" on page 26 before continuing.

Twinax Setup Menu Item	Value	Description
SCS ADDR	OFF* n	The twinax hardware address of the SCS port. n can be from 0 to 6. **Notes:** 1. SCS ADDR and IPDS ADDR cannot be set to the same value. 2. If you change SCS ADDR or IPDS ADDR, you must power off the printer, wait ten seconds, and then switch on the printer power for the new value to take effect. 3. When the IPDS SIMM is installed, the InfoPrint 32 can act as two separate printers on the same twinax port. (The printer cannot be attached to two different twinax systems using the same twinax card.) One “printer” prints SCS data to one address (SCS ADDR), and the other prints IPDS to another address (IPDS ADDR).
IPDS ADDR	OFF* n	The twinax hardware address of the IPDS port. n can be from 0 to 6. **Notes:** 1. SCS ADDR and IPDS ADDR cannot be set to the same value. 2. If you change SCS ADDR or IPDS ADDR, you must power off the printer, wait ten seconds, and then switch on the printer for the new value to take effect. 3. When the IPDS SIMM is installed, the InfoPrint 32 can act as two separate printers on the same twinax port. (The printer cannot be attached to two different twinax systems using the same twinax card.) One “printer” prints SCS data to one address (SCS ADDR), and the other prints IPDS to another address (IPDS ADDR).
EDGE-EDGE	OFF* ON	Turns edge-to-edge printing on or off. • OFF—the printer maintains a no-print border of 4 mm on all four paper sides. • ON—The printer allows printing up to the physical page size. **Notes:** 1. To avoid toner contaminating the printer, IBM recommends leaving EDGE-EDGE set to OFF for twinax printing; use ON only when necessary. 2. The Twinax Setup Menu item EDGE-EDGE applies to SCS data only. To specify edge-to-edge printing for IPDS data, use the EDGE-EDGE item on the IPDS Menu.

Twinax Setup Menu Item	Value	Description
BUFFERSIZE	1024* 256	Specifies the IPDS buffer size in bytes. The SCS buffer size is always 256.
PORT TMEOUT	nnn	Specifies the number of seconds the printer waits for data before it determines there is no more data to receive for the job. The printer then checks other installed attachments, and will switch to attachments with jobs waiting. Valid values are 0 to 255. The default is 90 seconds. **Notes:** 1. Setting PORT TMEOUT to 0 dedicates the printer to the twinax port only. If you set PORT TMEOUT to 0, and you print a non-IPDS job, you will not be able to print IPDS jobs until you power off and then power on the printer. 2. Setting PORT TMEOUT too low can cause timeouts to occur during normal pauses in the data stream, which, in turn, can cause jobs into printing again. If this problem occurs, set PORT TMEOUT to a higher value. IBM recommends that you do not set PORT TMEOUT to a value less than 30.

Coax DSC/DSE Menu

Use the Coax DSC/DSE Menu to define how the printer handles DSC/DSE data over the coax attachment. The following table describes the settings you can change from the Coax DSC/DSE Menu. The options you specify apply only to DSC/DSE mode. An asterisk (*) next to a value in the table indicates the factory default. The Coax DSC/DSE Menu appears only if you have the coax network interface card installed.

Notes:

1. To select a new value, press the **Enter** key when the value is displayed in the message display area. An asterisk (*) appears next to the value in the message display area, indicating that it is now active.
2. For more information about configuring the coax attachment, see *IBM Network Printers: Twinax/Coax Configuration Guide.*
3. If you are unfamiliar with using the operator panel to work with menus, please read “Using the Operator Panel Keys” on page 25 and “Navigating Menus” on page 26 before continuing.

Coax DSC/DSE Menu Item	Value	Description
PRINT IMAGE	ON* OFF	Selects printing options in non-SCS mode. • ON – True Screen image in Local Copy – True Screen image in Non-SCS print – Unformatted print in Local Copy – Unformatted print in Non-SCS print • OFF – Null line suppression in Local Copy – Null line suppression in Non-SCS print – Formatted print in Local Copy – Formatted print in Non-SCS print
CR AT MPP+1	ON* OFF	Sets a carriage return relative to the maximum print position (MPP). • ON—a new line occurs when the carriage return occurs at MPP+1. The next print position will be at the first print position of the new line (current line + 1, column 1). • OFF—no new line occurs when the carriage return occurs at MPP+1. The next print position will be at the first print position of the current line (current line, column 1).
NL AT MPP+1	ON* OFF	Forces a new line at MPP+1. • ON—an additional new line occurs at MPP+1, followed by the carriage return. The next print position will be at the first print position of the new line (current line + 2, column 1). • OFF—no additional new line when the new line occurs at MPP+1. The next print position will be at the first print position of the next line (current line + 1, column 1).
FF DATA	ON* OFF	Forces the printer to eject the current page. • ON—when a Form Feed command is encountered, the current page is ejected and the form is indexed to the first line of the next page. The next print position will be at the first print position of the first line of the next page (next form, line 1, column 1). • OFF—when a Form Feed command is encountered, the current page is ejected and the form is indexed to the first line of the next page and spaced one position. The next print position will be at the first print position plus 1 of the first line of the next page (next form, line 1, column 2).

Coax DSC/DSE Menu Item	Value	Description
FF LAST	ON* OFF	Determines where to position the next character when the Form Feed command occurs at the end of the print buffer. • ON—an automatic new line occurs after the print order is completed (next form, line 2, column 1). • OFF—suppress automatic new line after the print order is completed (next form, line 1, column 1).
FF VALID	OFF* ON	Determines when a form feed command is valid. • ON—a Form Feed command occurs whenever it is encountered. • OFF—a Form Feed command occurs only if it appears at the first print position in a line, or at MPP+1. Treats a form feed at other locations as blanks.
AUTO FUNCT	OFF* ON	Selects whether the next print position will be on a new line or a new page. • ON—a form feed will be executed automatically at the end of the print order (when printing of a buffer is completed) unless a form feed (FF) is the last character in the print order. • OFF—a new line will be executed automatically at the end the print order (when printing of a buffer is completed) unless a form feed (FF), new line (NL), or carriage return (CR) was the last character in the print order.

Machine Information Menu

Use the Machine Info Menu to display information about printer supply usage. The following table describes the functions you can perform from the Machine Info Menu.

Note: To perform the action associated with the menu item you select, press the **Enter** key. If you are unfamiliar with using the operator panel to work with menus, please read “Using the Operator Panel Keys” on page 25 and “Navigating Menus” on page 26 before continuing.

Machine Info Menu Item	Description
PAGE COUNT	Displays the number of pages the printer has printed.
ERROR LOG	Displays the last ten error messages logged by the printer and the printer page count when each message occurred. Use the **Value** key to scroll through the list. Note that not all error messages get logged, including some severe errors that halt printer operations.

Machine Info Menu Item	Description
TONER CTR	Displays the toner cartridge counter. **Note:** IBM recommends resetting this counter whenever you change the toner cartridge. To reset the counter to 0: 1. Simultaneously press the **Shift** and **Value** keys. 2. Press the **Enter** key. The new value will not be displayed until the next time you switch off and then switch on the printer.
FUSER CTR	Displays the fuser counter. **Note:** IBM recommends resetting this counter whenever you change the usage kit. To reset the counter to 0: 1. Simultaneously press the **Shift** and **Value** keys. 2. Press the **Enter** key.
SERIAL NUMBER	Displays the printer serial number.

Language Menu

Use the Language Menu to select the language that the printer uses to display messages and menus on the operator panel. English is the factory default.

Notes:

1. To select a language, press the **Enter** key when the language value is displayed in the message display area. An asterisk (*) appears next to the new value, indicating that it is now active.
2. If you are unfamiliar with using the operator panel to work with menus, please read “Using the Operator Panel Keys” on page 25 and “Navigating Menus” on page 26 before continuing.

Item	Description
ENGLISH* DEUTSCH FRANCAIS ESPANOL ITALIANO NEDERLANDS BRAZ PORT DANSK SUOMI SVENSKA NORSK (KATAKANA)	Selects the language in which the printer displays operator panel messages and menus.

Chapter 7. Maintaining the Printer

This chapter describes how to:

- Replace the toner cartridge
- Replace staples in the 2000-Sheet Finisher
- Replace the usage kit (fuser unit, transfer roller, and paper feed rollers)
- Clean the printer

Note: Routine care and maintenance of the printer is the customer's responsibility.

CAUTION:

<2-20> This product may contain materials, components (such as a battery) or consumable supplies (such as toner and toner cartridges), that are regulated for disposal. Dispose of these items in accordance with local regulations. Do not dispose of these items in fire.

hcsf0220

Replacing Supplies

It is the customer's responsibility to order and install supplies for the InfoPrint 32. To ensure best print quality and performance, use IBM supplies.

Printing supplies can be ordered through your IBM authorized printer or printer supplies reseller. If you have no reseller, you can call 1-888-IBM-PRINT (1-888-426-7746) in the U.S. or Canada to ask for an authorized dealer or to order from IBM Printer Supplies.

In other countries, contact your point of purchase for information about where to order supplies.

In Europe, you can call IBM Supplies Fulfillment Operations at 31-43-350 2756 or at the following numbers:

- Denmark: 80015534
- Finland: 08001-13110
- France: 05-905871
- Germany: 0130 818005

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- Italy: 1-678 78349
- Norway: 800-11389
- Sweden: 020-794270
- United Kingdom: 0800-968679

Changing the Toner Cartridge

Important
The part number for a replacement toner cartridge is 90H3566.

The approximate average yield for the toner cartridge is 23,000 pages (simplex, one side printed). This yield was established with a toner coverage of 5% on letter-size paper, default DENSITY setting and QUALITY=NORMAL (Config Menu) setting. The QUALITY=ECONO setting can increase the life of the toner cartridge by up to 20% to 30%. This yield increase was established with a toner coverage of 5% on letter-size paper, default DENSITY setting, QUALITY=ECONO setting, and an average of 3 to 4 pages per print job.

Notes:

1. It may be possible to increase the yield of the toner cartridge from the average of approximately 23,000 pages, if you select toner saver print quality mode from your printer driver. (Note that the driver setting will override the menu setting.)
2. The actual page yield is affected by the environment, the type of print media, the percentage of text and graphics, the complexity of the graphics, and other factors, so actual results can vary.

When the toner cartridge is low or empty, the 002 TONER LOW message appears in the display. Use the TONER LOW item in the Config Menu to specify whether to continue or stop printing when the toner cartridge is low on toner. The default is to stop.

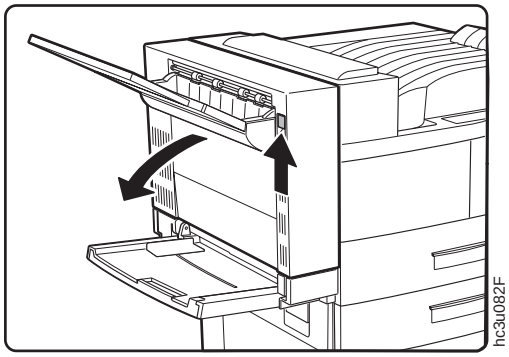
Note: Do not remove the toner cartridge and shake it when the TONER LOW message appears. This will cause toner to spill out of the cartridge.

To display the number of pages printed using the current toner cartridge, select TONER CTR on the Machine Info Menu (see “Machine Information Menu” on page 141).

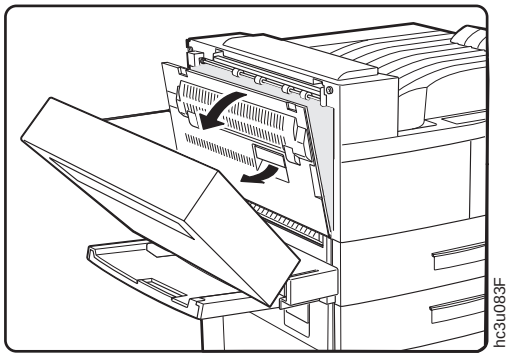
Note: Be sure to reset the TONER CTR item in the Machine Info Menu when you replace the toner cartridge. See step 13 on page 152.

Use the following procedure to replace the toner cartridge:

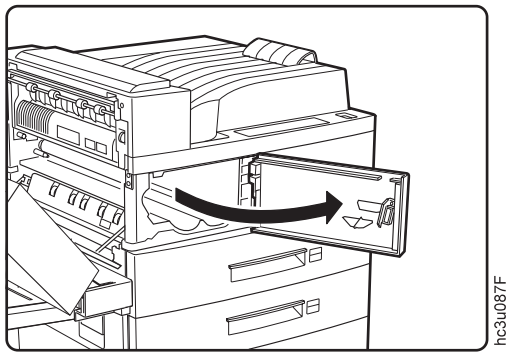
1. Remove the envelope feeder if attached. See “Removing the Envelope Feeder” on page 199 for removal instructions.
2. Pull up on the latch as indicated to open the duplex unit.



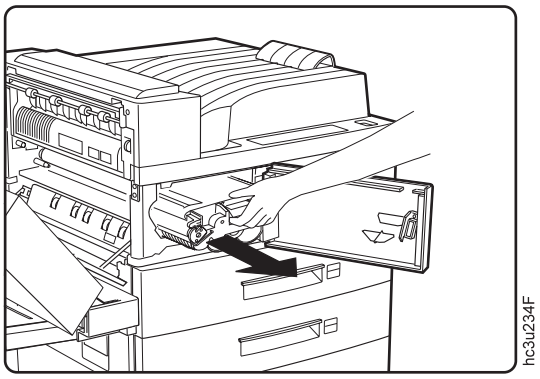
3. Pull on the latch to open Cover A.



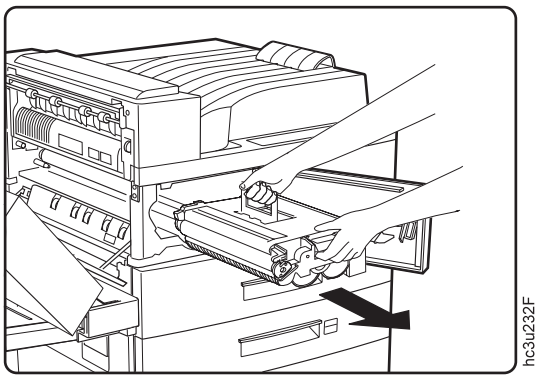
4. Open the toner cartridge area cover.



5. Remove the old toner cartridge. Lift the orange latch to release it, and gently slide the cartridge toward you.



6. Lift the orange handle when it becomes accessible, and hold the cartridge by the handle as you remove it from the printer.

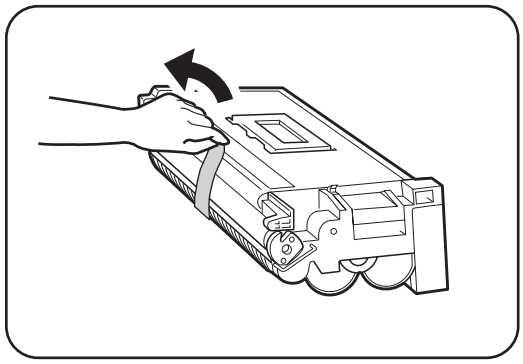


Note: Keep the old toner cartridge level to avoid spilling toner.

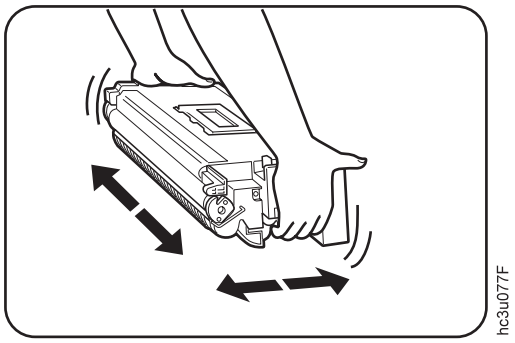
Note: Use the IBM Printer Supplies Return Program to return the used toner cartridge to IBM for recycling. You can use the box containing the new toner cartridge to return the old toner cartridge. Follow the instructions on the brochure included with the new toner cartridge.

7. Get the new toner cartridge, open the foil wrapper, and remove the new toner cartridge. Pull out the protective paper sheet from the drum shutter. Do not remove the yellow sealing tape at this time.

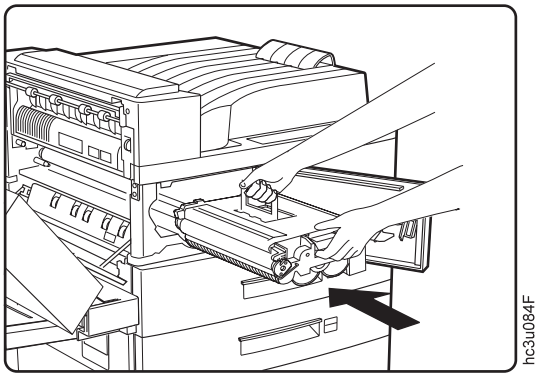
   Attention: Do not expose the cartridge to direct sunlight. Do not leave the cartridge exposed outside the printer or the foil wrapper for more than five minutes.



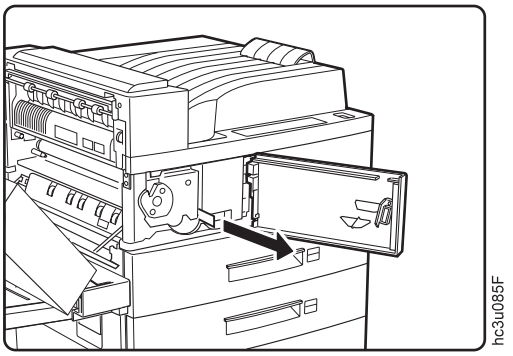
8. Grip the cartridge by the ends and gently rock it from side to side to evenly distribute the toner.



9. While holding the orange handle with one hand, gently push the toner cartridge into the printer. Release the orange handle and slide the cartridge all the way into the printer.

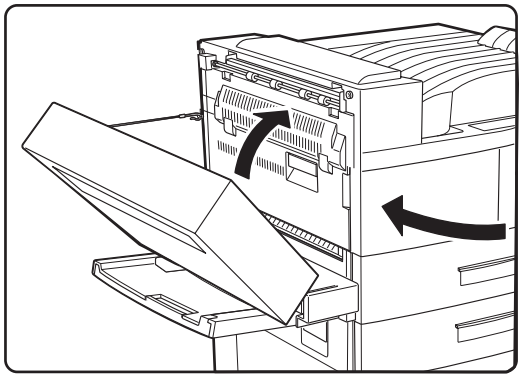


10. Gently pull out the yellow sealing tape in the direction of the arrow.

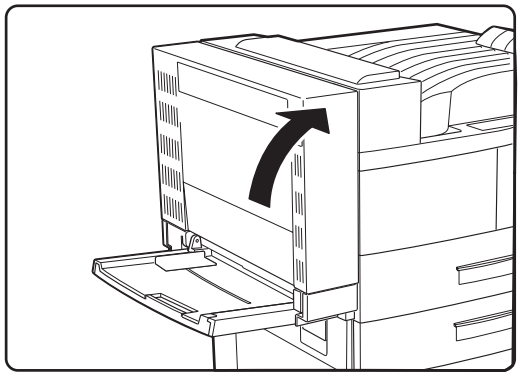


Note: If you have to remove the toner cartridge after the sealing tape is pulled, keep the cartridge level to avoid spilling toner.

11. Close the toner cartridge area cover and then Cover A.



12. Close the duplex unit.

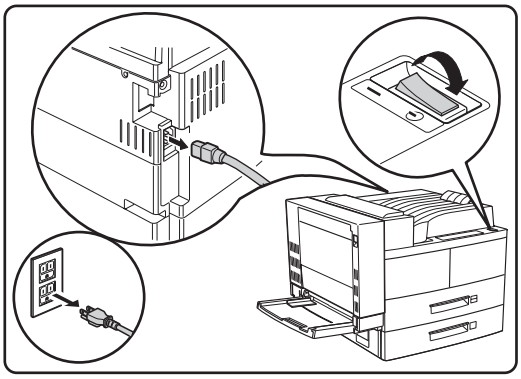


13. Switch the printer on and then reset the toner counter.
    a. Press the **Online** key until you see OFFLINE in the display.
    b. Press the **Menu** key until you see MACHINE INFO MENU.
    c. Press the **Item** key until you see TONER CTR.
    d. Simultaneously press the **Shift** and **Value** keys.
    e. Press the **Enter** key.

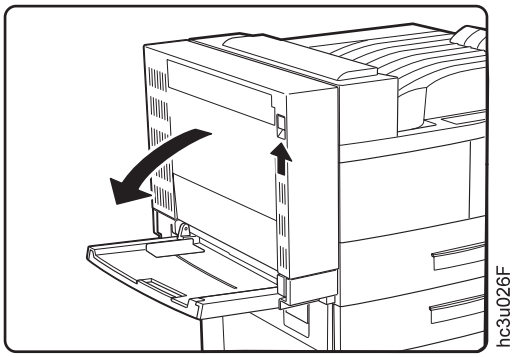
    The new value will not be displayed until the next time you switch on the printer.

Removing the Duplex Unit

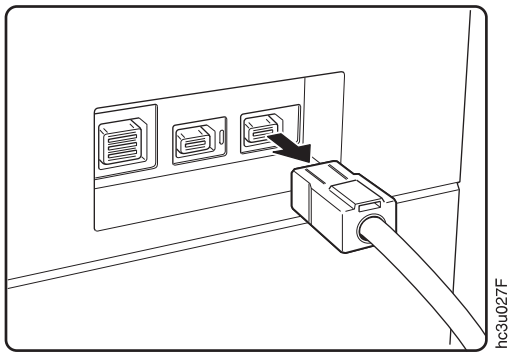
1. Switch off the printer.
2. Unplug the printer.



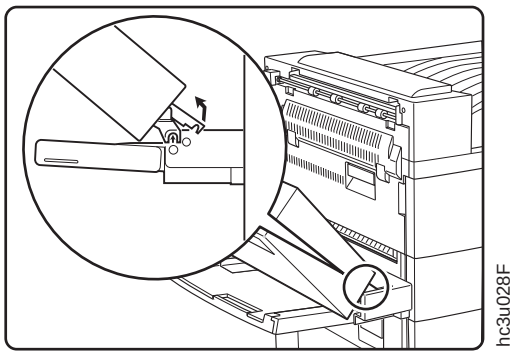
3. Remove the envelope feeder if attached. See “Removing the Envelope Feeder” on page 199 for removal instructions.
4. Open the duplex unit.



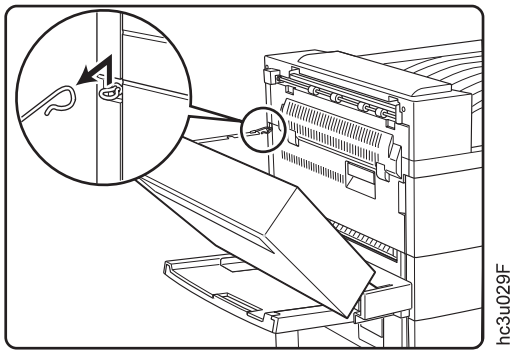
5. Unplug the duplex unit cable from the printer. (To release the plug, push down on the clip on the top of the plug.)



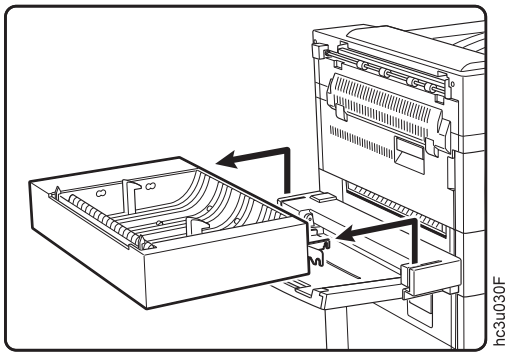
6. Unhook the duplex unit stopper latch from the metal stud on the right side of the auxiliary tray support. Lift and move the stopper latch slightly toward the duplex unit to prevent it from reconnecting.



7. Disconnect the safety strap from the printer.



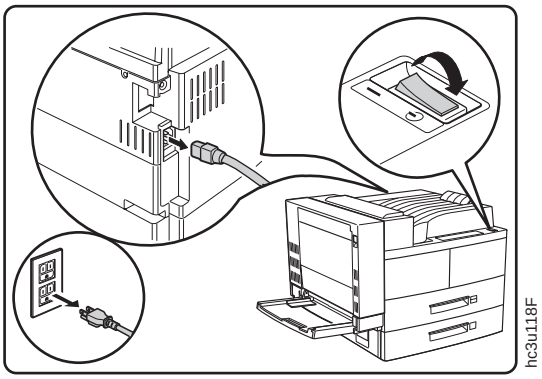
8. Use both hands to remove the duplex unit. Lift the duplex unit to unlock it from the auxiliary tray support, then pull it away from the printer.



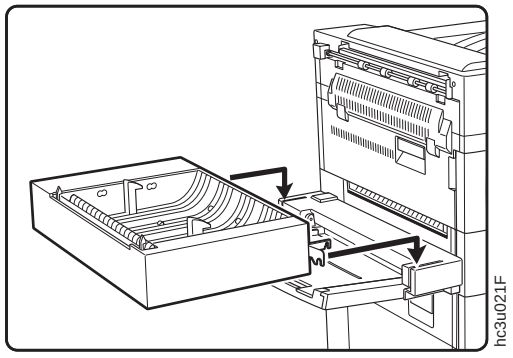
9. Store the duplex unit in a safe location.

Re-installing the Duplex Unit

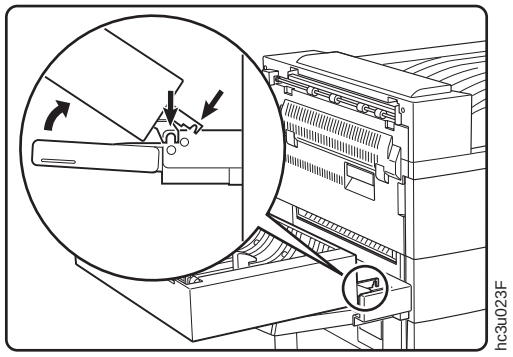
1. Switch off the printer.
2. Unplug the printer.



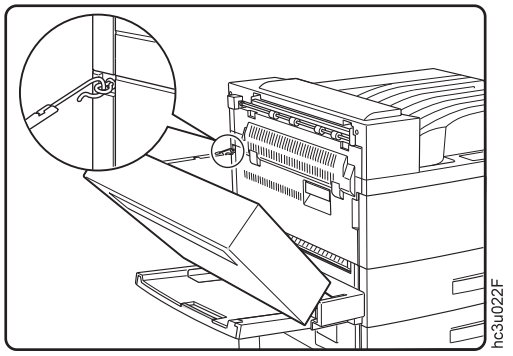
3. Hook the duplex unit brackets onto the metal studs on the auxiliary tray support.



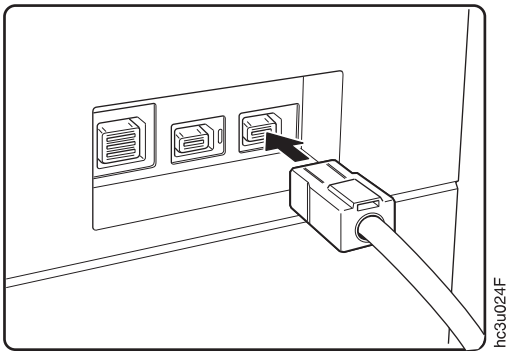
4. Lift the duplex unit and snap the stopper latch onto the metal stud on the right side of the auxiliary tray support.



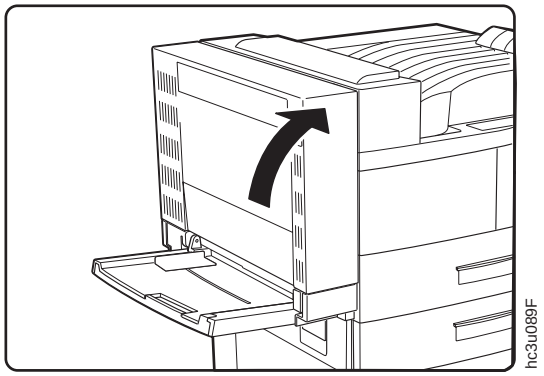
5. Secure the duplex unit by hooking the safety strap to the printer.



6. Plug the duplex unit cable into the duplex connector on the printer.



7. Close the duplex unit.



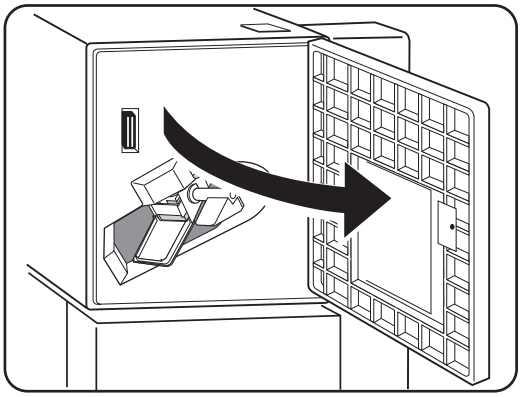
8. Plug in the printer and switch the printer on.
9. To verify that the duplex unit is installed correctly, print a list of PCL5e fonts. This list is long enough to print on a duplex page. See “Printing a List of PCL5e Fonts” on page 31.
10. Make sure you update your printer driver to indicate the duplex unit is installed.

Replenishing Staples in the 2000-Sheet Finisher

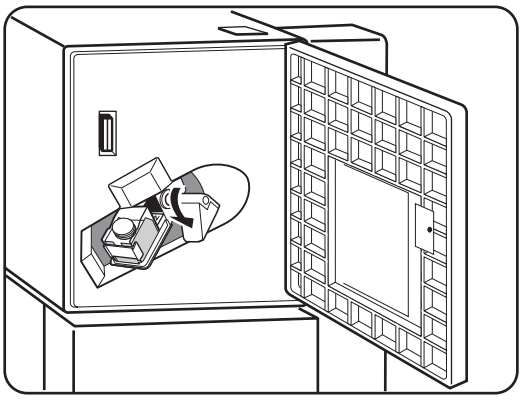
When the stapler is empty, the printer continues sending jobs to the 2000-Sheet Finisher. The jobs will not be stapled even though stapling was requested. To refill the staples:

1. Press the Pause button on the 2000-Sheet Finisher to suspend the finishing operation, or the Cancel Print button on the operator panel to cancel the job.

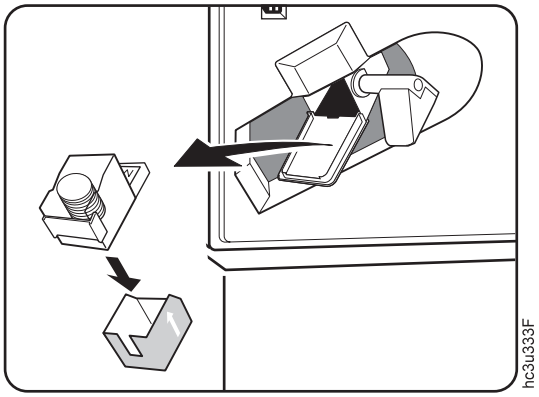
2. Open Cover H on the 2000-Sheet Finisher.



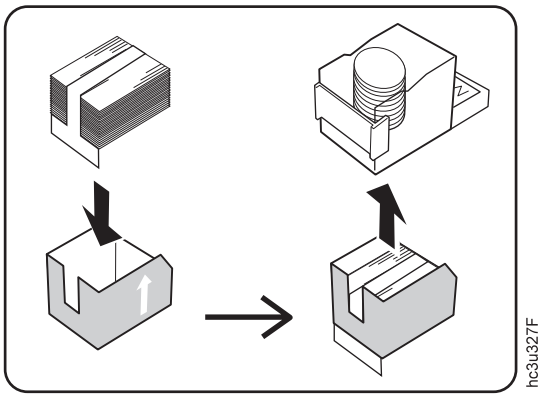
3. Press the orange handle down in the direction of the arrow to release the staple cartridge. Be ready to catch the staple cartridge; it may eject completely out of the machine.



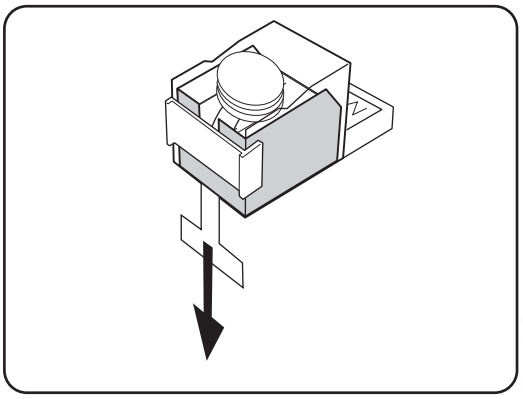
4. Take out the staple cartridge and remove the empty staple container.



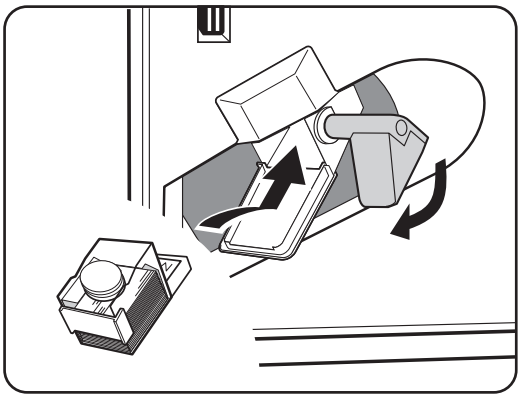
5. Insert a staple refill into the staple cartridge.



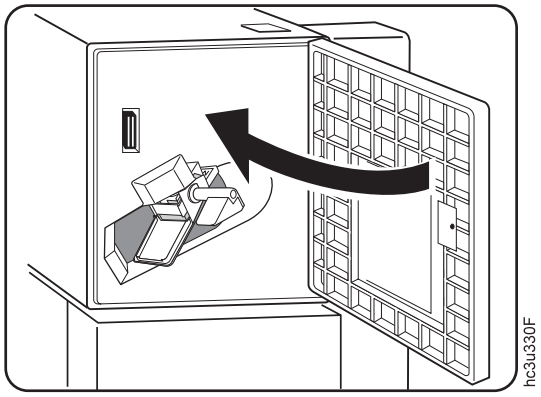
6. Pull the seal straight out and remove it.



7. Gently push the staple cartridge into the 2000-Sheet Finisher until it snaps into place. The orange lever beside the staple cartridge should snap into the upright position.



8. Close Cover H.



9. If you pressed the Pause button to suspend the 2000-Sheet Finisher operation, press the Pause button again to resume printing. If you used Cancel Print, resubmit your job.

Changing the Usage Kit

The usage kit typically needs to be changed every 300,000 prints, however, the life of the usage kit depends on the type of paper you use and the type of output you print. The customer is responsible to purchase and install the usage kit.

The part numbers for replacement usage kits are:

- (100 volt): 90H3569
- (120 volt): 90H3567
- (230 volt): 90H3568

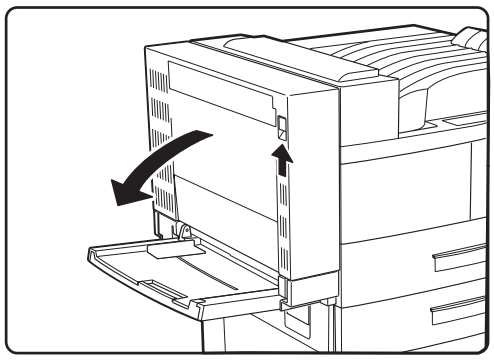
To change the usage kit, do the following:

1. Switch off the printer.
2. Unplug the printer.
3. Remove the power cord from the back of the printer.

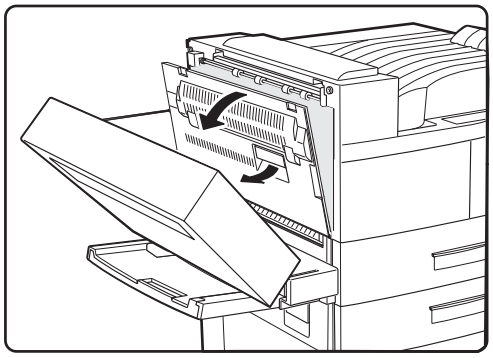
CAUTION:

<2-25> High temperature; switch off the printer and allow at least 20 minutes for parts in this area to cool before handling. hcsf0225

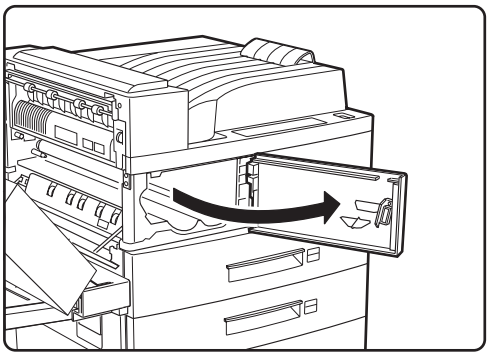
4. Remove the envelope feeder if attached. See “Removing the Envelope Feeder” on page 199 for removal instructions.
5. Open the duplex unit.



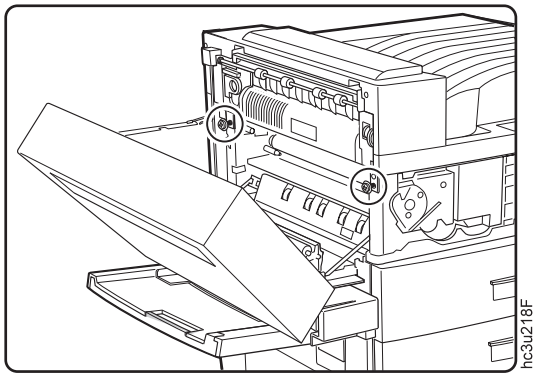
6. Pull on the latch to open Cover A.



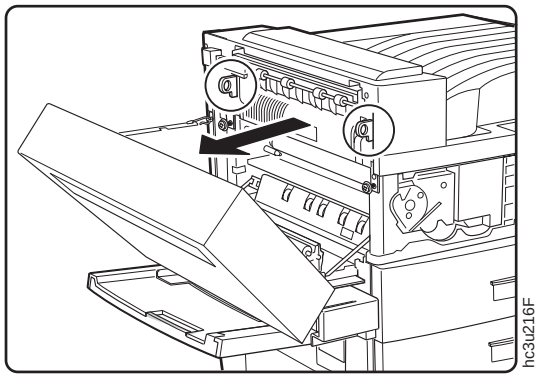
7. Open the toner cartridge area cover.



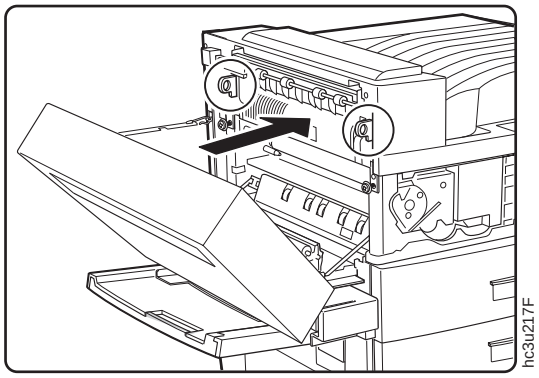
8. Replace the fuser.
   a. Loosen the two fuser locking screws as indicated. (They cannot be completely removed.)



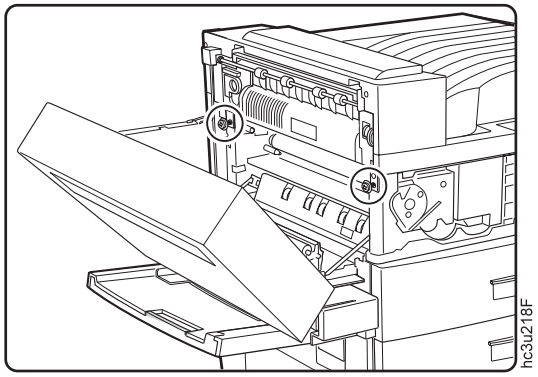
b. Hold the orange rings on the ends of the fuser and pull it out of the printer. Dispose of the old fuser.



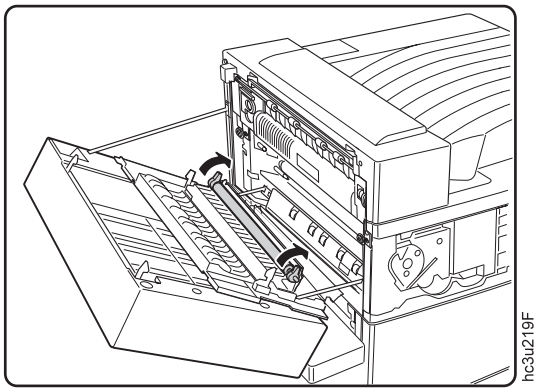
c. Get the new fuser from the usage kit. Hold the new fuser by the two orange rings and slide it into the printer, making sure it is seated firmly.



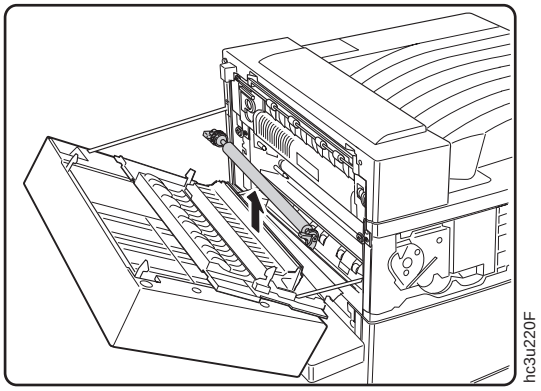
d. Tighten the two fuser locking screws.



9. Replace the transfer roll.
   a. To unlock the transfer roll, lift up the orange tabs on the ends of the roll.

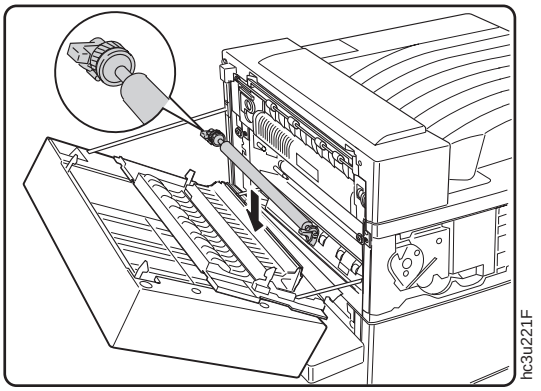


b. Remove and dispose of the old transfer roll.

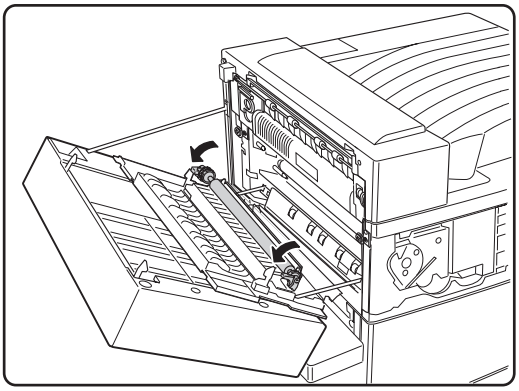


c. Hold the new transfer roll by its orange tabs, and position the transfer roll with the gear toward the rear of the printer. Press down to snap the new transfer roll into place.

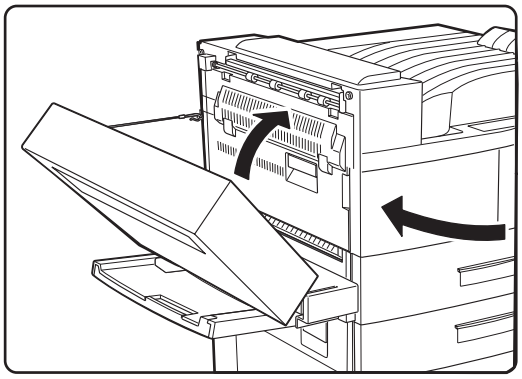
Attention: Be careful not to touch the surface of the new transfer roll.



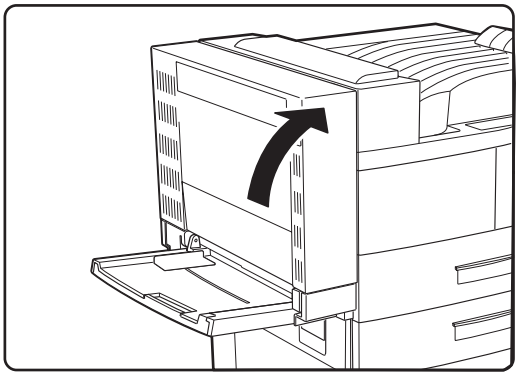
d. Push the handles down to lock the transfer roll into place.



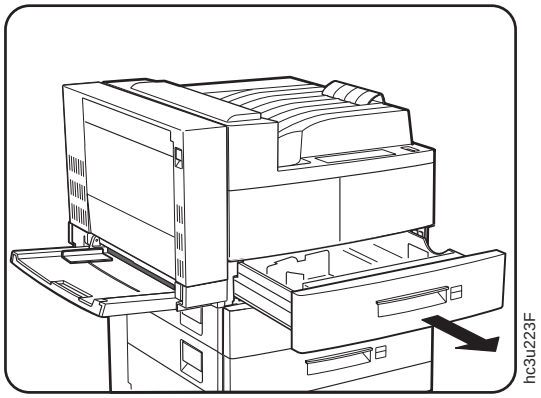
10. Close the toner cartridge area cover and then Cover A.



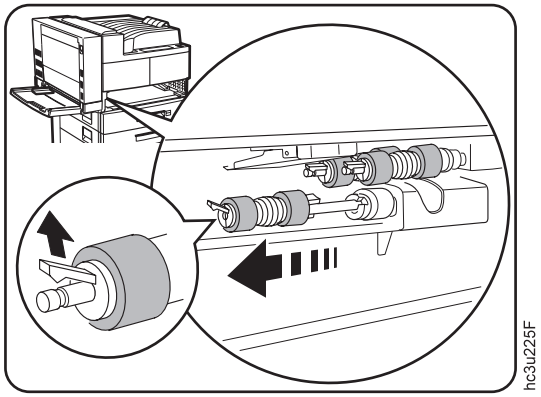
11. Close the duplex unit.



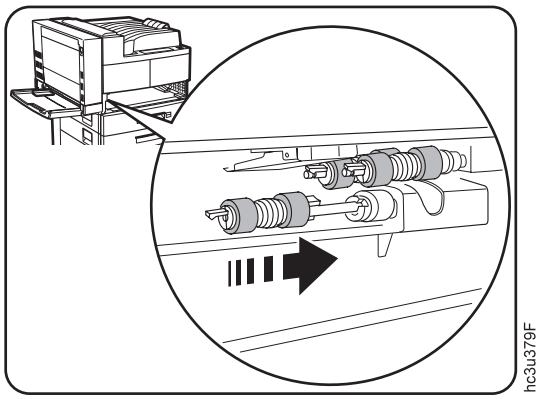
12. Replace the Tray 1 and Tray 2 paper feed rollers. (Replace Tray 3 paper feed rollers if the 2500-Sheet Input Unit is installed.)
    a. To replace the Tray 1 feed rollers, remove Tray 1.



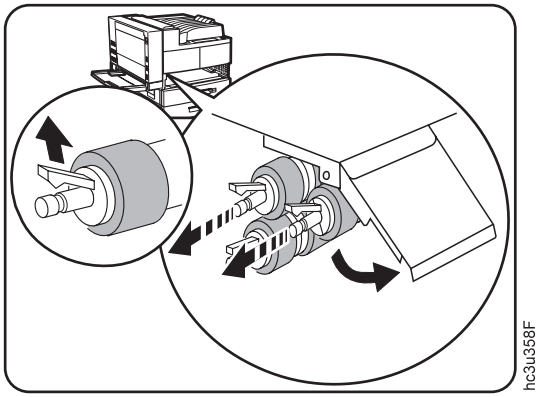
    b. While releasing the feed roller tab, remove the lower feed roller.



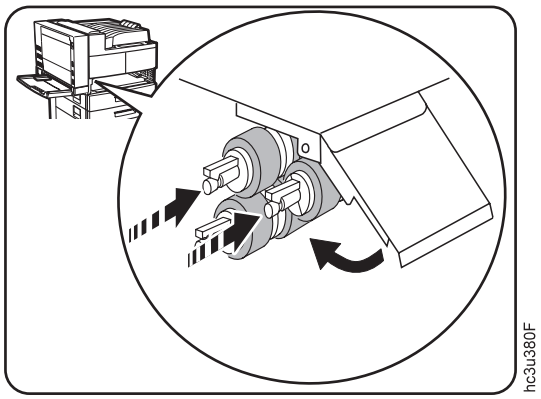
c. Insert the new lower feed roller.



d. Hold the cover open and remove the two upper feed rollers by releasing the feed roller tabs.



e. Insert the two new upper feed rollers.

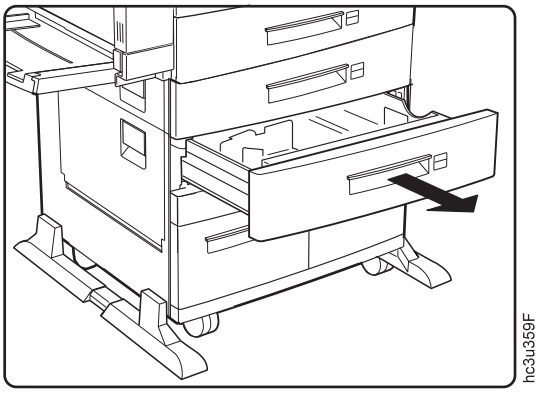


f. Re-insert Tray 1.

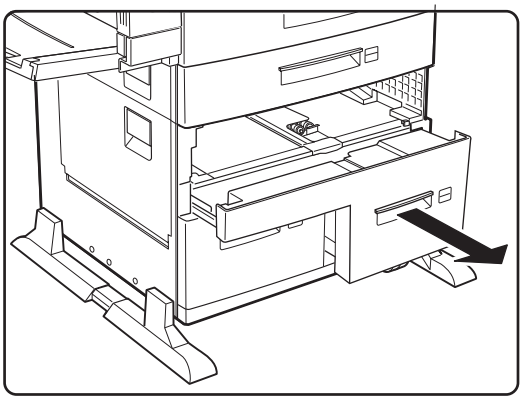
g. Follow the same procedure to replace the rollers for Tray 2 and Tray 3 (if the 2500-Sheet Input Unit is installed).

13. Replace the Tray 5 feed rollers (if the 2500-Sheet Input Unit is installed).

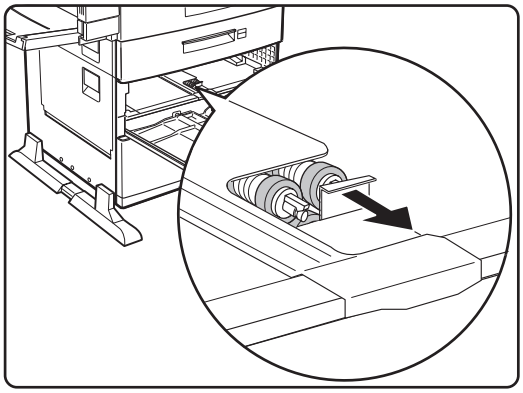
a. Remove Tray 3.



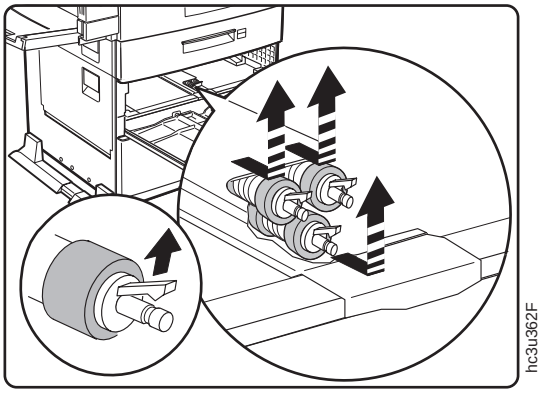
b. Open Tray 5 so you have room to work. (Tray 5 does not come out all the way.)



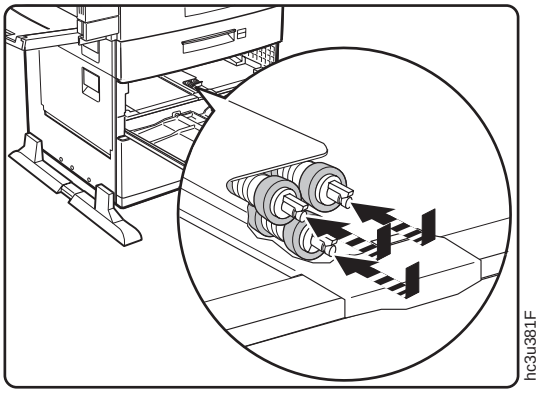
c. Pull the roller cover toward you.



d. While releasing the feed roller tab, remove the three feed rollers.



e. Insert the three new feed rollers.

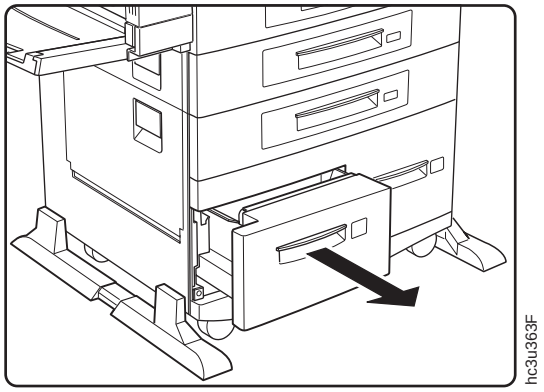


f. Push Tray 5 back into the 2500-Sheet Input Unit.

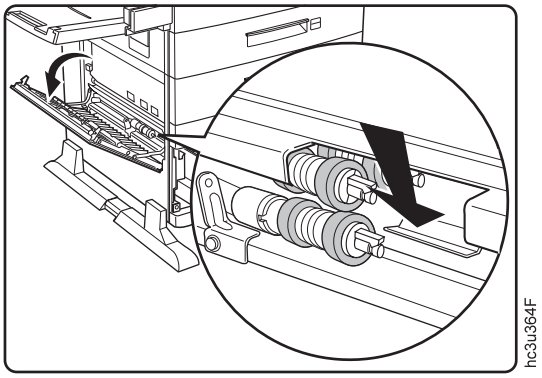
g. Re-insert Tray 3.

14. Replace the Tray 4 feed rollers.

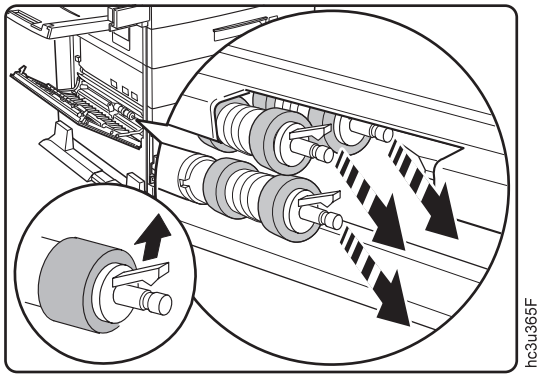
a. Pull out Tray 4.



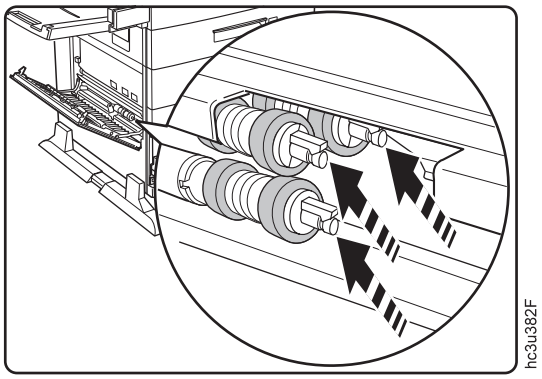
b. Open Cover C. Press the roller cover down.



c. While releasing the feed roller tab, remove the three feed rollers.



d. Insert the three new feed rollers.



e. Push Tray 4 back into the 2500-Sheet Input Unit and close Cover C ensuring both sides of the cover latch.

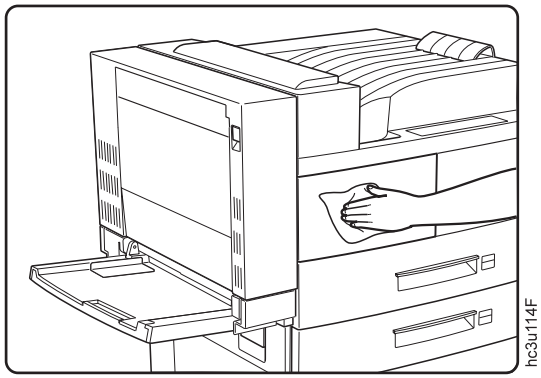
15. Plug in the printer.
16. Switch on the printer power and reset the fuser counter:
    a. Press the **Online** key until you see OFFLINE in the display.
    b. Press the **Menu** key until you see MACHINE INFO MENU.
    c. Press the **Item** key until you see FUSER CTR.
    d. Simultaneously press the **Shift** and **Value** keys.
    e. Press the **Enter** key.

Cleaning the Printer

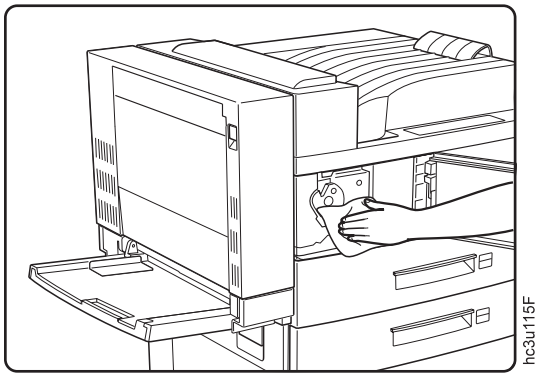
IBM recommends cleaning your printer approximately once per month.

1. Switch off the printer.
2. Unplug the printer.
3. Use a soft, damp cloth to carefully wipe the outside of the printer.

   Attention: Do not use abrasive cleaners on the printer covers. Do not use detergent solutions or other liquids on electronic components. Do not use cleaners that contain ammonia.



4. Wipe the printer dry with a soft, dry cloth.
5. After removing a paper jam or replacing the toner cartridge, check the inside of the printer. Remove any paper scraps and wipe off paper dust with a dry, clean cloth.



Chapter 8. Installing Printer Options

This chapter describes how to install and remove the following options:

- The SIMM and hard drive (see page 176)
- Network interface cards (see page 182)
- The Face-Up Output Bin (see page 185)
- The 2500-Sheet Input Unit (see page 190)
- The Envelope Feeder (see page 198)
- The 2000-Sheet Finisher (see page 200)

Important!

To verify that an option is installed correctly, print the configuration page. See “Printing the Printer Configuration Page” on page 27. Also, make sure you update your printer driver to indicate the new feature is installed.

Handling Static Sensitive Devices

When you handle options and other computer components, take these precautions:

- Limit your movement. Movement can cause static electricity to build up around you.
- Always handle components carefully. Handle adapters and memory-module kits by the edges. Never touch any exposed circuitry.
- When you are installing a new option, touch the static-protective package containing the option to the mounting bracket on the controller card for at least two seconds. This reduces static electricity from the package and from your body.
- When possible, remove the option and install it directly in the controller without setting the option down. When this is not possible, place the static-protective package that the option came in on a smooth, level surface and place the option on it.
- Do not place the option on the printer cover or other metal surface.

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The SIMM and Hard Drive Options

Optional SIMMs include:

- Dynamic random access memory (DRAM) SIMMs: 4MB, 8MB, 16MB, or 32MB
- Flash memory SIMMs: 2MB or 4MB
- Double Byte Character Set (DBCS) SIMMs: Chinese PCL (Simplified), Chinese PCL (Traditional), and Japanese PostScript.
- Intelligent Printer Data Stream (IPDS) SIMM

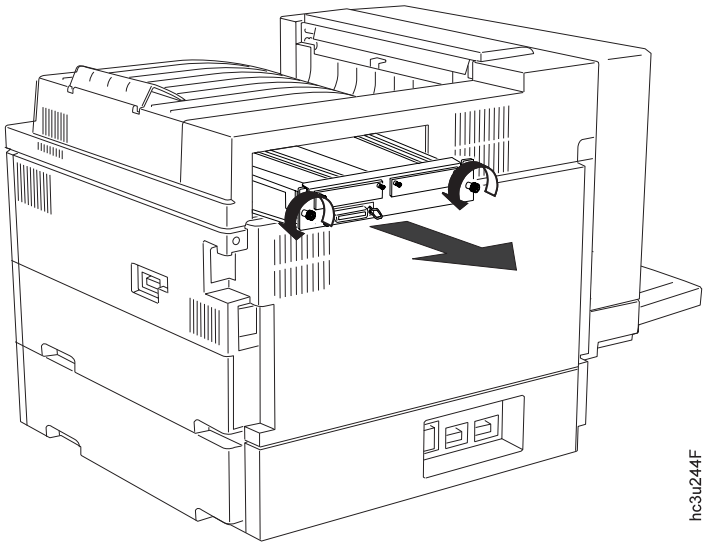
To install any SIMM or the optional hard drive, you must remove the controller card (see “Removing the Controller Card”).

Removing the Controller Card

Use the following procedure to remove the controller card:

1. Switch off the printer.

   Attention: Do not switch the power off if the printer is printing a page. This action jams the printer.
2. Unplug the printer.
3. Remove the power cord from the back of the printer.
4. Loosen the thumbscrews located on the controller card at the back of the printer. Remove the controller card.



Note: The illustration shows a controller card with no network interface cards installed. You do not need to remove network interface cards before removing the controller card.

5. Lay the controller card on a flat surface.
6. To install a SIMM, see “Installing a SIMM”. To install a hard drive, see “Installing a Hard Drive” on page 179.

Installing a SIMM

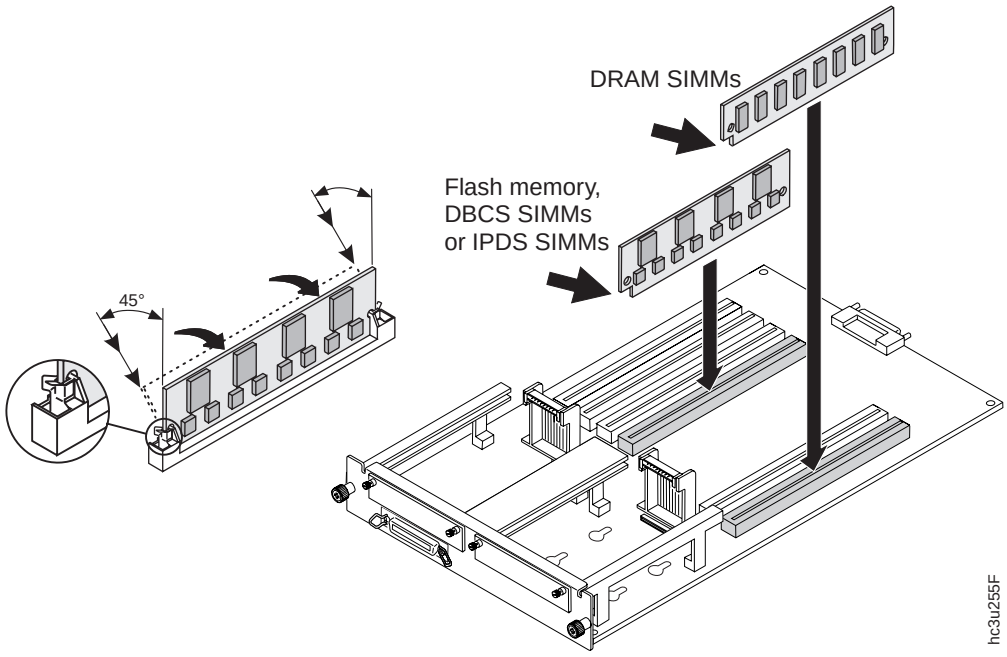
Important!
Follow the instructions for handling static-sensitive devices described on page 175.

Use the following procedure to install a SIMM:

1. Switch off the printer.
2. Unplug the printer.
3. Remove the controller card. See “Removing the Controller Card” on page 176 .
4. Locate the correct socket group for the type of SIMM you are installing. There are two socket groups: one contains two sockets, the other contains four sockets. You must install DRAM SIMMs (memory) in one of the sockets in the socket group of two. You must install data stream SIMMs and flash memory SIMMs in one of the sockets in the socket group of four.

   Note: The position of the SIMM within a group of sockets does not matter except for ease of insertion when you load more than one SIMM in a socket group. Load the first SIMM in the DRAM SIMM socket group in the socket closest to the edge of the controller card. Load the first SIMM in the data stream or flash memory SIMM socket

group in the socket closest to the center of the controller card.



5. Hold the SIMM with the notched edge toward the socket and the notch toward the network card slots. Insert the SIMM at a 45 degree angle and move it into position in the socket. Using your thumbs, press with even pressure on both ends of the SIMM until the SIMM is firmly seated in the socket.

   Make sure the clips on either end of the socket snap into place to hold the SIMM. If necessary, use your thumbs to move the clips upright into the grooves to lock the SIMM in place.
6. Verify that the SIMM is correctly installed in the socket by looking at its position from the sides of the controller card.
7. Reinstall the controller card. See “Reinstalling the Controller Card” on page 180 .

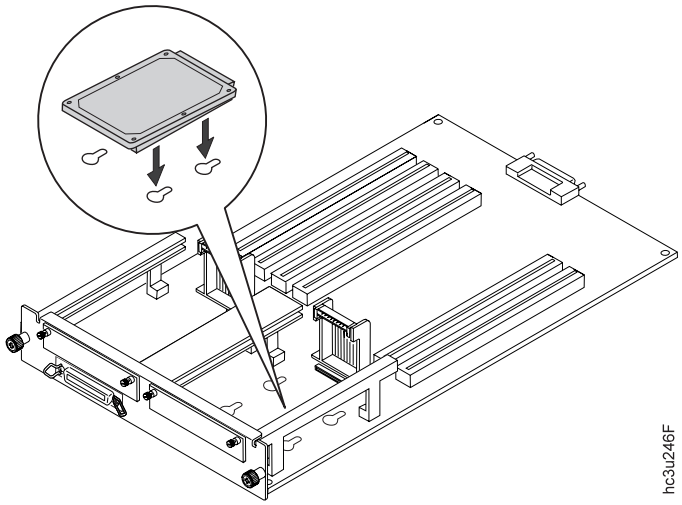
Installing a Hard Drive

Important!
Follow the instructions for handling static-sensitive devices described on page 175.

Installing a hard drive in your printer will allow you to print jobs with multiple collated copies. Use the following procedure to install a hard drive:

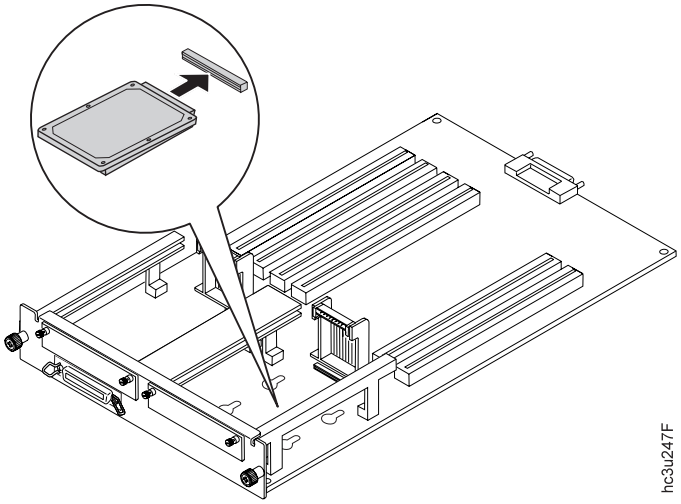
1. Switch off the printer.
2. Unplug the printer.
3. Remove the controller card. See “Removing the Controller Card” on page 176 .
4. Unpack the hard drive.
5. Position the hard drive with the four screws facing the four matching holes on the controller card.

   Note: If a network interface card is installed in the slot above the hard drive position, you will need to remove the card before you install the hard drive.



6. Push the hard drive firmly into the card and slide it down toward the connector at the bottom of the controller card. The pins on the hard drive

should be firmly seated in the connector slots.



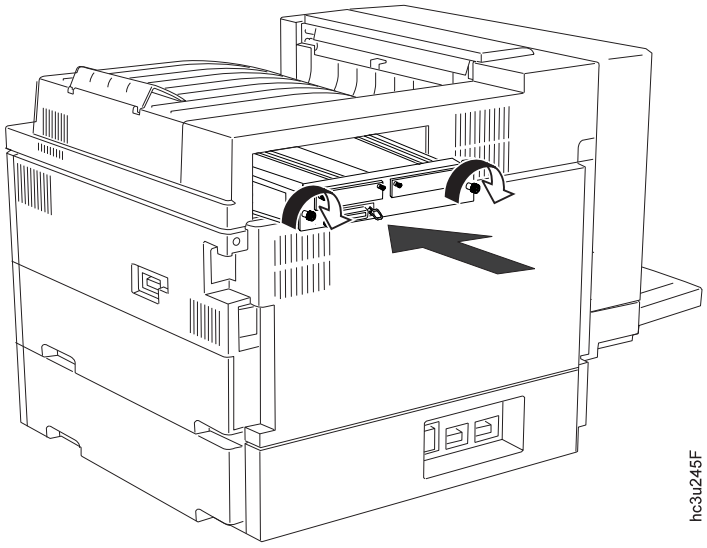
7. Reinstall the controller card. See “Reinstalling the Controller Card”.
8. Make sure you update your printer driver to indicate the new hard drive is installed.

Reinstalling the Controller Card

Use the following procedure to reinstall the controller card:

1. Switch off the printer.
2. Unplug the printer.
3. Place the controller card into the guide channels at the sides of the back opening. Slide the controller card back into the printer.

4. Tighten the thumbscrews at the left and right ends of the controller card mounting bracket.



5. Connect the power cord to the back of the printer.
6. Plug in and switch on the printer.
7. After the printer warms up, the READY message displays on the operator panel.

   Note: If the message display area shows solid rectangles, reseat the controller card.

8. To confirm that you have correctly installed a memory SIMM, hard drive, data stream SIMM, or any combination, print a configuration page. The INSTALLED OPTIONS section will list the features if they have been correctly installed. See “Printing the Printer Configuration Page” on page 27 .

   Note: If the SIMM or hard drive options do not appear on the configuration page, remove the controller card, make sure that the SIMM or hard drive is correctly seated, and reinstall the controller card.

9. Make sure you update your printer driver to indicate the new DRAM SIMM, IPDS SIMM, Flash Memory SIMM, or hard drive is installed.

The Network Interface Card

The InfoPrint 32 attaches to networks and other system configurations through these optional cards:

- IBM Network Card for Ethernet (10BaseT/10Base2)
- IBM Network Card for Token Ring
- IBM Twinax SCS Interface Card
- IBM Coax SCS Interface Card

If you have purchased optional network interface cards for your printer, install them in the printer following the steps listed in this section. Two cards to connect to two different systems can be installed.

Note: You cannot install two identical cards. For example, the printer cannot accept two IBM Network Cards for Ethernet, but can accept an IBM Ethernet card and an IBM Token-Ring card.

A system or network administrator should review the documentation shipped with the network interface card to configure the printer and your computing environment correctly. *IBM Network Printers: Ethernet and Token Ring Quick Configuration Guide* is shipped with the Ethernet and token-ring network interface cards. *IBM Network Printers: Twinax/Coax Configuration Guide* is shipped with the Twinax and Coax network interface cards.

Only a system or network administrator should configure your network computing environment for this printer.

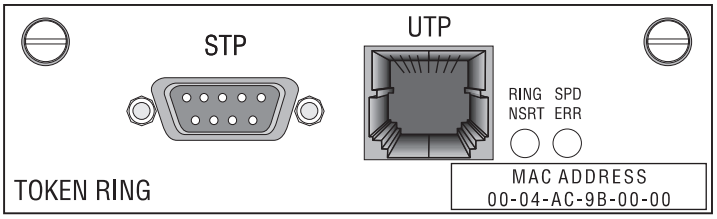
Installing a Network Interface Card

Important!
Follow the instructions for handling static-sensitive devices described on page 175.

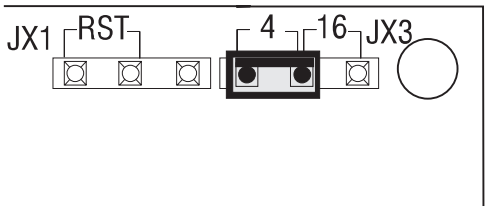
Use the following procedure to install a network interface card:

1. Unpack the network interface card, and set aside the software and documentation that arrived with the card.
2. If you are installing a token-ring card, you must complete the following procedure to set the line speed for the card. If you are not installing a token-ring card, skip this step and go to Step 3.

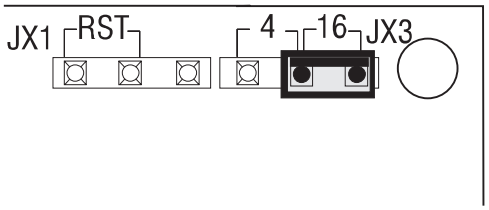
a. Lay the token-ring card in front of you with the faceplate towards you.



b. On the right, rear side are six pins and two small jumpers.
   - If you are installing the card for a 4Mbps network, place a jumper over the pins labeled 4.



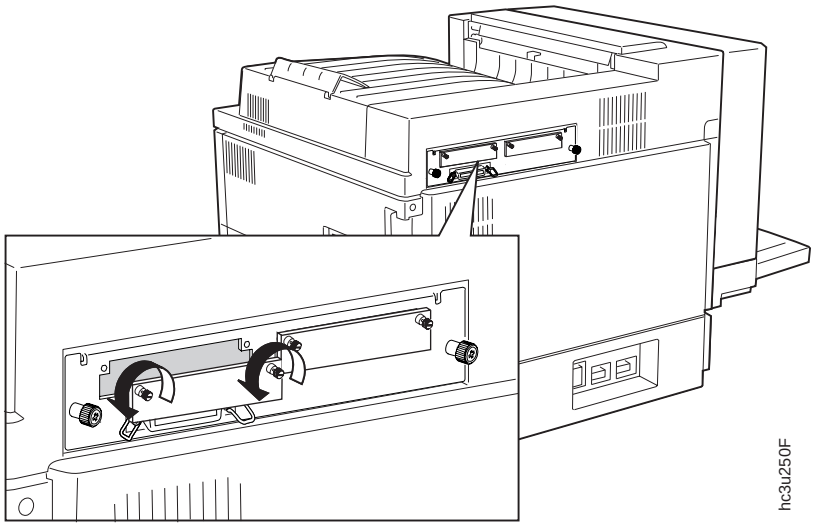
   - If you are installing the card for a 16Mbps network, place a jumper over the pins labeled 16.



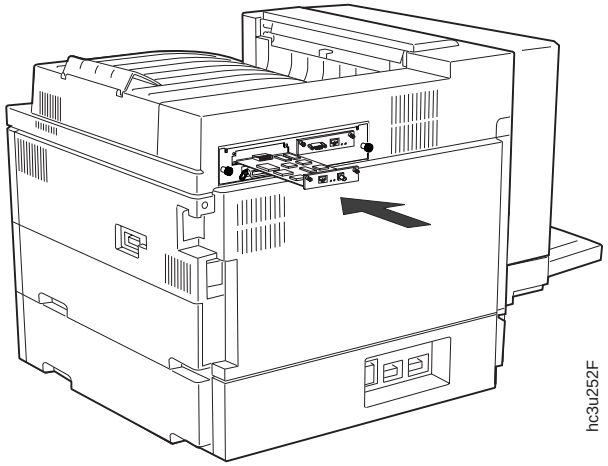
3. Switch off the printer.

   Attention: Do not switch the power off if the printer is printing a page. This action jams the printer.
4. Unplug the printer.
5. Remove the power cord from the back of the printer.
6. Two slots for interface cards are located at the left side of the back of the printer. If you are installing only one card, use the left slot.

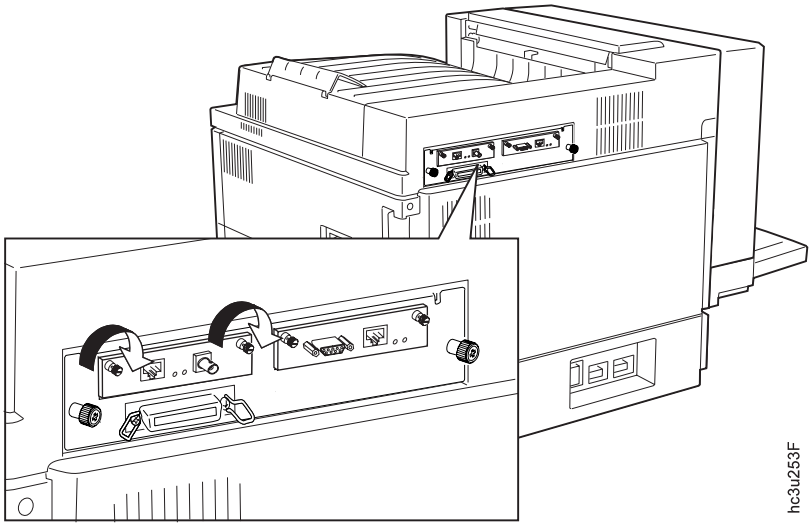
7. Loosen and remove the screws that hold the slot cover. Remove the cover and store it for future use.



8. Insert the card into the slot, aligning it with the two guides on either side of the slot. Slide the card into these guides, pushing slowly and firmly until you can feel the card seat into the socket.



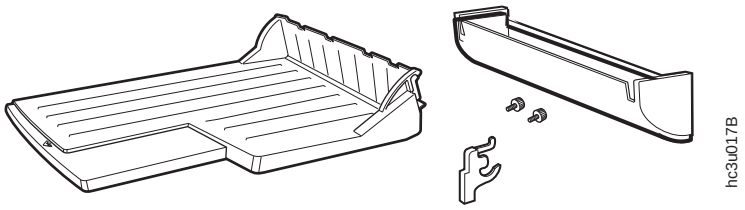
9. Tighten the thumbscrews.



10. If you have a second card to install, repeat Steps 7 to 9.
11. Now that you have installed the card, your system administrator will need to configure the printer and its computing environment. See *IBM Network Printers: Ethernet and Token Ring Quick Configuration Guide* for Ethernet and token-ring cards. See *IBM Network Printers: Twinax/Coax Configuration Guide* for twinax and coax cards. These documents are shipped with the cards.

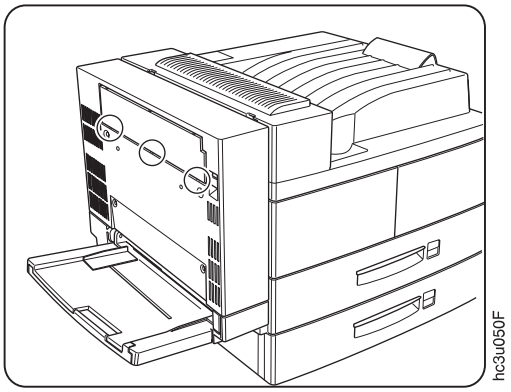
The Face-Up Output Bin Option

Installing the Face-Up Output Bin

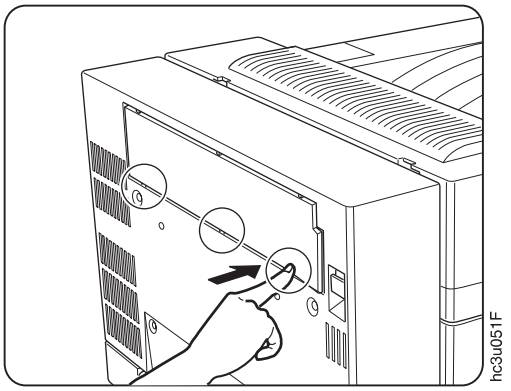


1. Switch off the printer.
2. Unplug the printer.
3. Remove the filler panel.

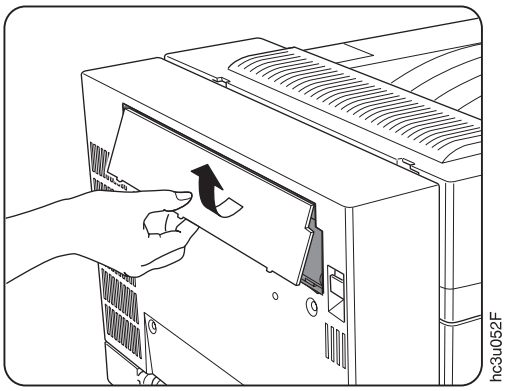
a. Break the three indicated connecting parts on the lower end of the filler panel.



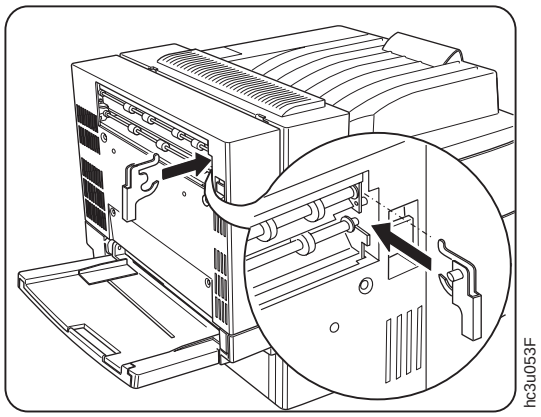
b. Using your finger, press on the indicated point to break the first connecting part. Repeat this procedure to break the two remaining connecting parts.



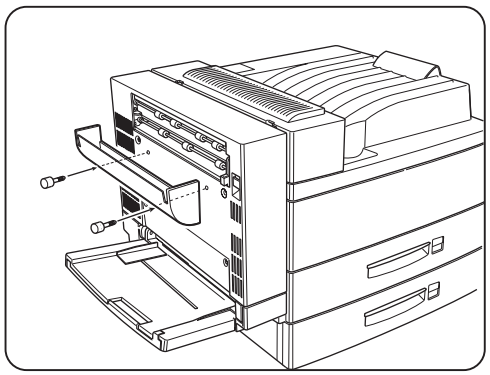
c. Lift the filler panel as indicated to break it away from the printer body.



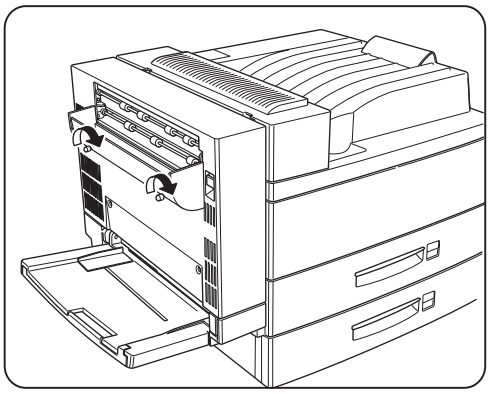
4. Insert the hinge bracket into the duplex unit.



5. Insert the two supplied thumbscrews into the holes in the face-up output bin holder.

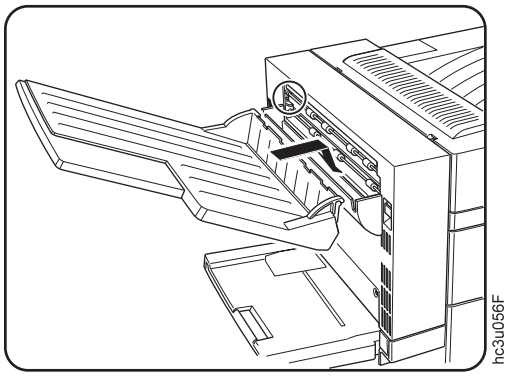


6. Attach the holder onto the duplex unit and tighten the thumbscrews.



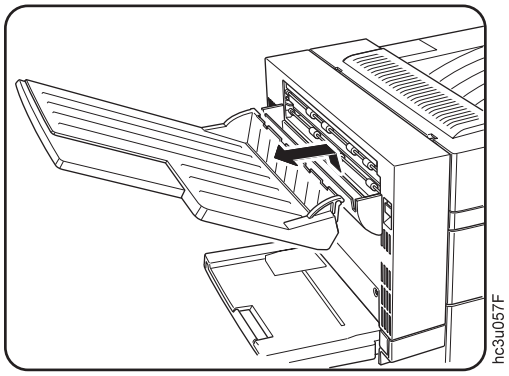
7. Attach the face-up output bin to the holder, making sure the projecting part on the duplex unit goes securely into the opening on the left side of

the bin.

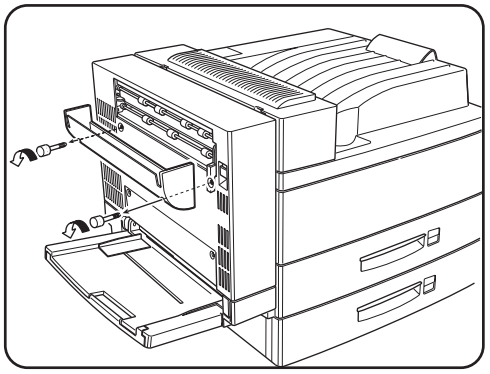


Removing the Face-Up Output Bin

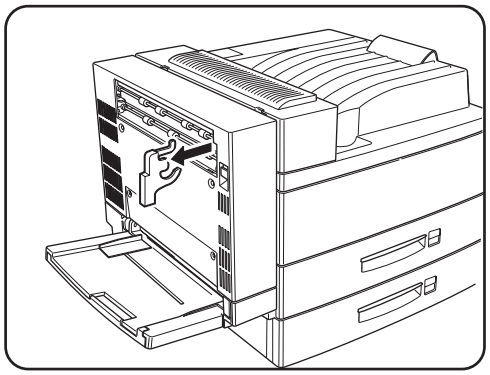
1. Switch off the printer.
2. Unplug the printer.
3. Lift the face-up output bin slightly to unlock it from the duplex unit, then remove the bin.



4. Loosen the thumbscrews and remove the holder.



5. Remove the hinge bracket from the duplex unit and store it for future use.



The 2500-Sheet Input Unit Option

The 2500-Sheet Input Unit option consists of one 500–sheet and two 1000–sheet input trays.

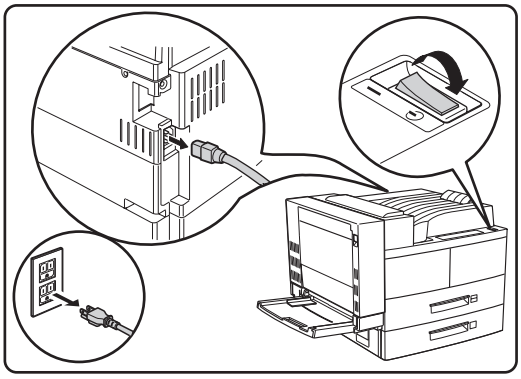
Installing the 2500-Sheet Input Unit

CAUTION:

<2-28> The 2500-Sheet Input Unit (also called the High Capacity Input Unit or HCI) weighs approximately 35 kg (78 lb.). Use two persons to carry the 2500-Sheet Input Unit. Use appropriate lifting precautions. One person can roll the 2500-Sheet Input Unit.

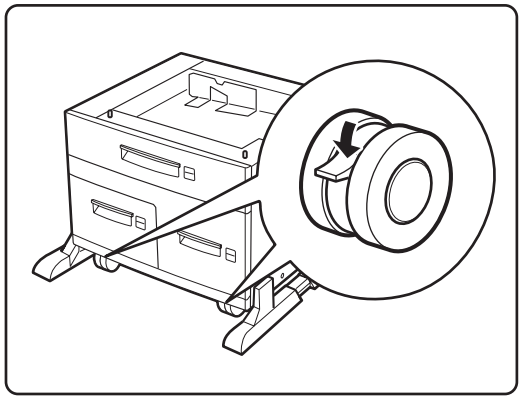
hcsf0228

1. Switch off the printer.
2. Unplug the printer.



hc3u118F

3. Remove the power cord from the back of the printer.
4. Lock the two front casters on the 2500-Sheet Input Unit.



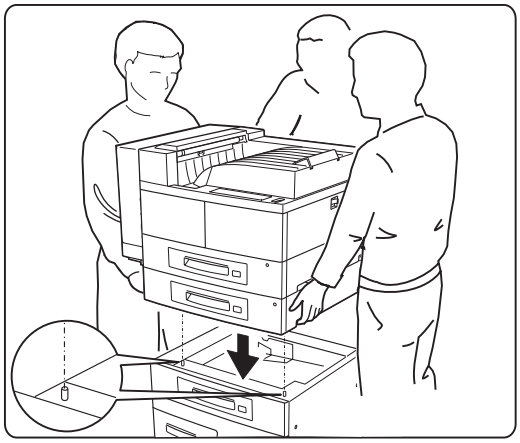
hc3u061F

5. With three persons, lift the printer and lower it onto the 2500-Sheet Input Unit. Be sure to align the printer with the 2500-Sheet Input Unit as shown.

CAUTION:

<2-26> The printer, not including either the 2500-Sheet Input Unit (HCI) or the 2000-Sheet Finisher (HCF), weighs approximately 45 kg (100 lb.). Use three persons to carry the printer. Use appropriate lifting precautions.

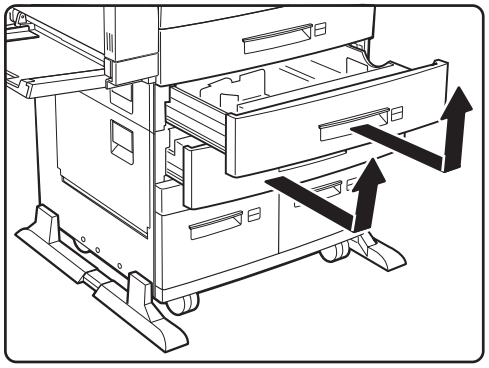
hcsf0226



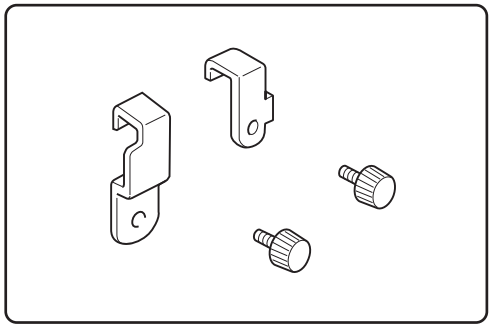
hc3u009F

6. Pull Tray 2 in the printer base unit all the way out until it stops. Then lift it up slightly and remove it. Remove Tray 3 in the 2500-Sheet Input Unit in the same way. Remove any packing material still inside the paper

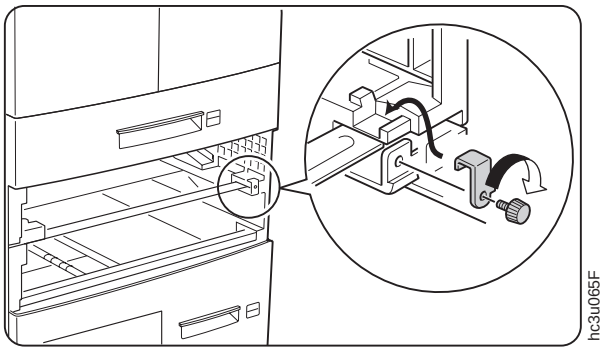
trays. Save the packing materials for future use.



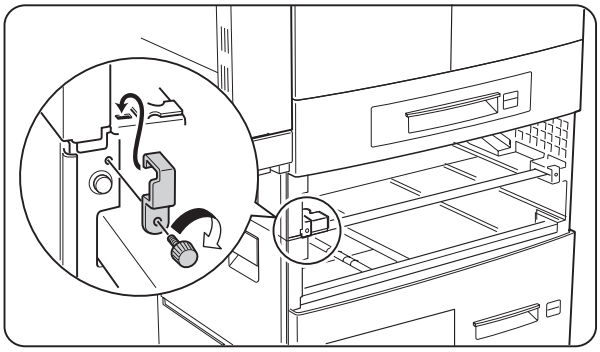
7. Locate the two connecting brackets and screws that came with the 2500-Sheet Input Unit. Note that each bracket is unique.



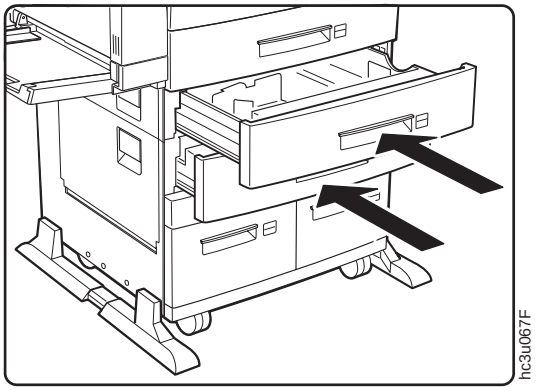
8. Attach the right bracket to the printer with a screw, as shown.



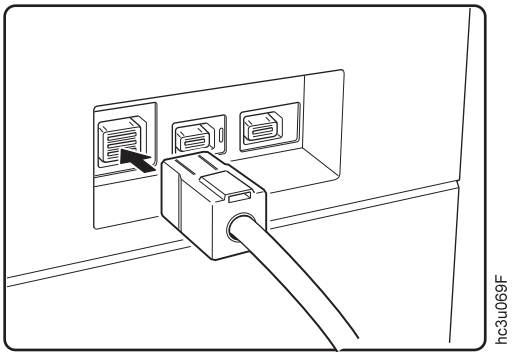
9. Attach the left bracket to the printer in the same way.



10. Insert Tray 2 and Tray 3 back into the printer.



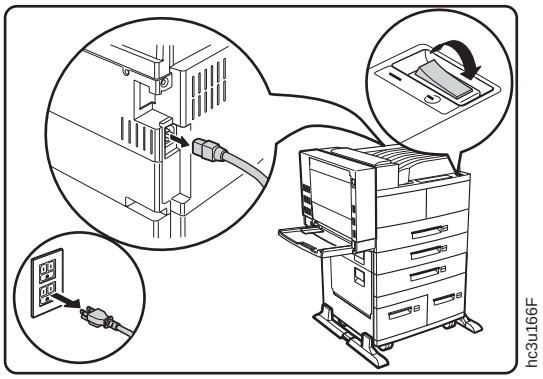
11. Remove the tape securing the 2500-Sheet Input Unit connector cable to the unit. Plug the connector cable into the tray connector on the printer as shown.



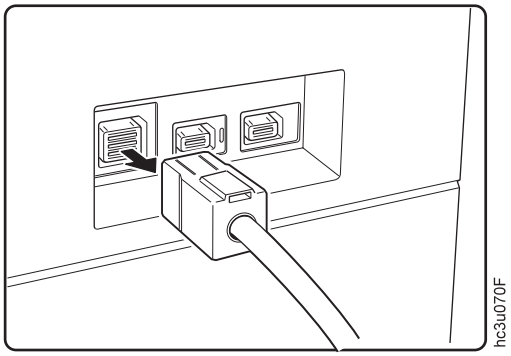
Removing the 2500-Sheet Input Unit

Use the following procedure to remove the 2500-Sheet Input Unit:

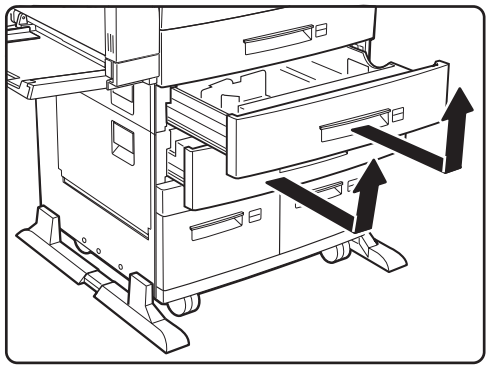
1. Switch off the printer.
2. Unplug the printer.



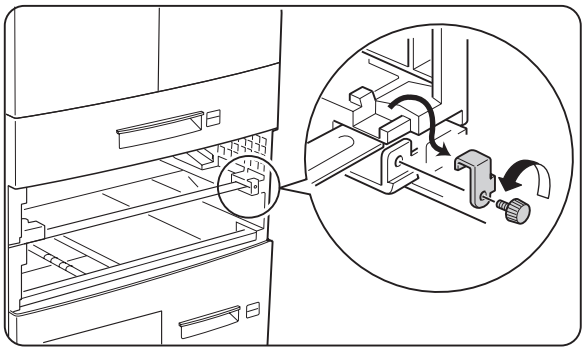
3. Remove the power cord from the back of the printer.
4. Unplug the 2500-Sheet Input Unit connecting cable from the printer.



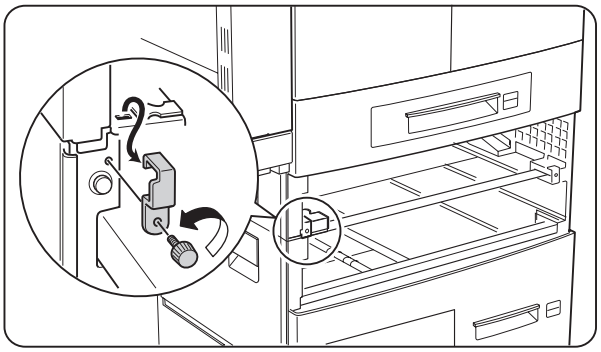
5. Remove Tray 2 from the printer base unit and Tray 3 from the 2500-Sheet Input Unit.



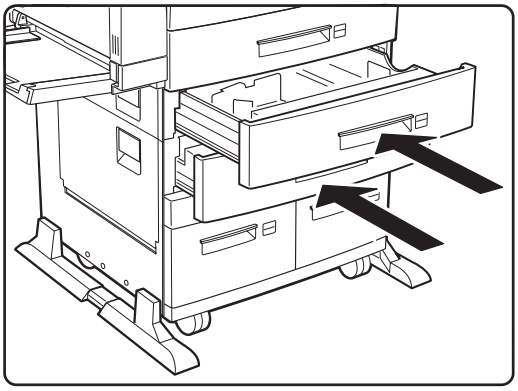
6. Remove the screw attaching the right bracket to the printer and remove the bracket. Store the screw and the bracket.



7. Remove the screw attaching the left bracket to the printer and remove the bracket. Store the screw and the bracket.



8. Insert trays 2 and 3 back into the printer.

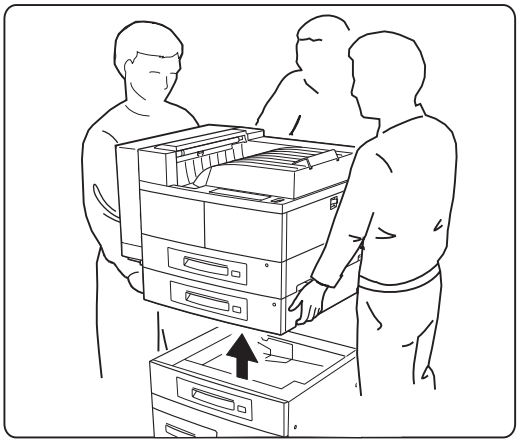


9. With three persons, lift the printer off of the 2500-Sheet Input Unit.

CAUTION:

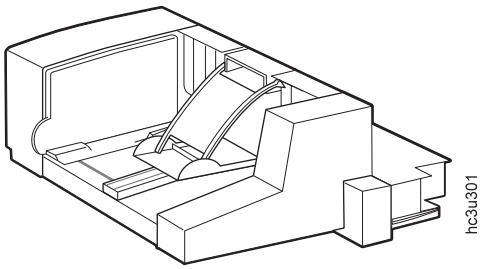
<2-26> The printer, not including either the 2500-Sheet Input Unit (HCI) or the 2000-Sheet Finisher (HCF), weighs approximately 45 kg (100 lb.). Use three persons to carry the printer. Use appropriate lifting precautions.

hcsf0226



The Envelope Feeder Option

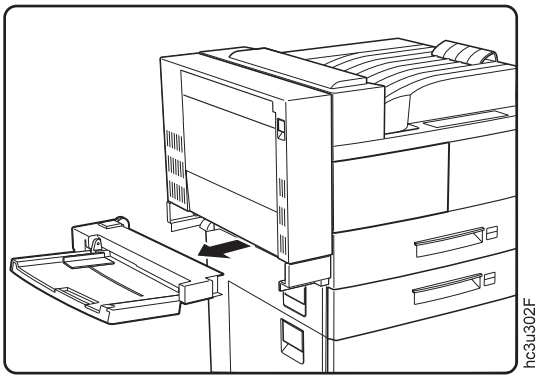
The optional envelope feeder can hold up to 50 envelopes. The auxiliary tray must be removed to install the envelope feeder.



Attention: Always remove the envelope feeder before opening the duplex unit.

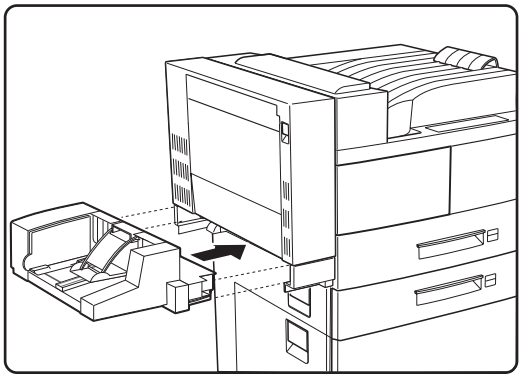
Installing the Envelope Feeder

1. Switch off the printer.
2. Unplug the printer.
3. Remove the auxiliary tray by tilting it up slightly and pulling it toward you to detach it from the auxiliary tray support.



4. Hold the envelope feeder horizontally and slide it into the auxiliary tray support. Make sure the two stubs on the feeder are inserted securely into

the printer openings.



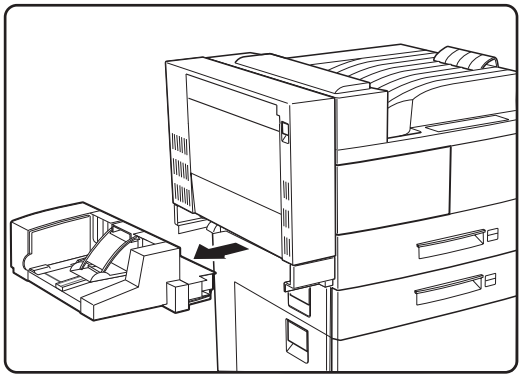
Removing the Envelope Feeder

CAUTION:

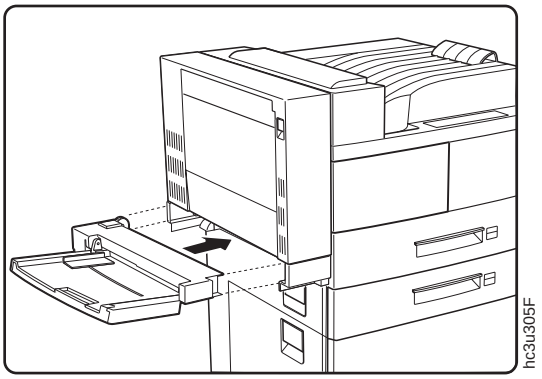
<2-36> Do not switch on printer power unless either the auxiliary tray or the envelope feeder is attached.

hcsf0236

1. Switch off the printer.
2. Unplug the printer.
3. Remove the envelope feeder by tilting it up slightly and pulling it toward you to detach it from the auxiliary tray support.



4. Hold the auxiliary tray horizontally and slide it into the auxiliary tray support.

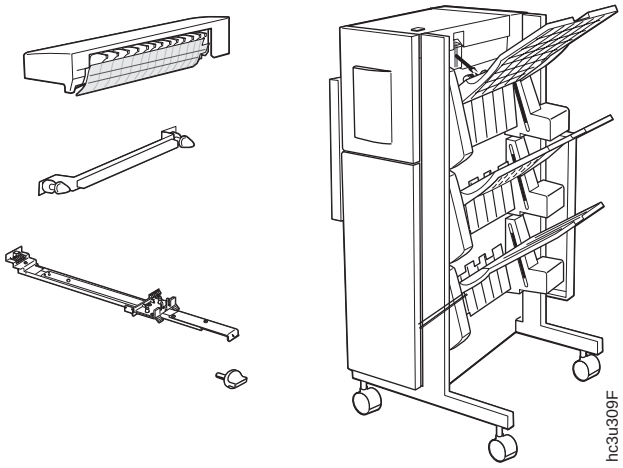


The 2000-Sheet Finisher

The 2000-Sheet Finisher is a 2000–sheet stacker, stapler, and offsetter. It has three bins, each with a stacking capacity of 670 unstapled sheets. Output can be delivered to the stack bins in offset stacks or in up to 100 stapled sets.

Notes:

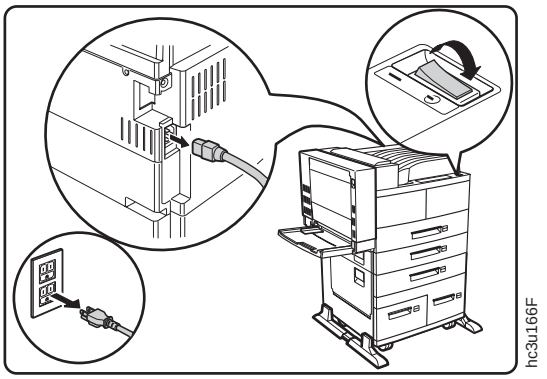
1. The 2500-Sheet Input Unit must be installed before you can install the 2000-Sheet Finisher.
2. The 2000-Sheet Finisher can finish jobs requiring one paper size within a job. Do not submit a job to the 2000-Sheet Finisher that requires mixed paper sizes.
3. When you need to load more staples, see “Replenishing Staples in the 2000-Sheet Finisher” on page 156.



Attention: Do not put drinks on top of the 2000-Sheet Finisher, cover up the vents in the docking station, or put heavy items, such as paper reams, on the horizontal transport. Do not grasp the bins to move the 2000-Sheet Finisher.

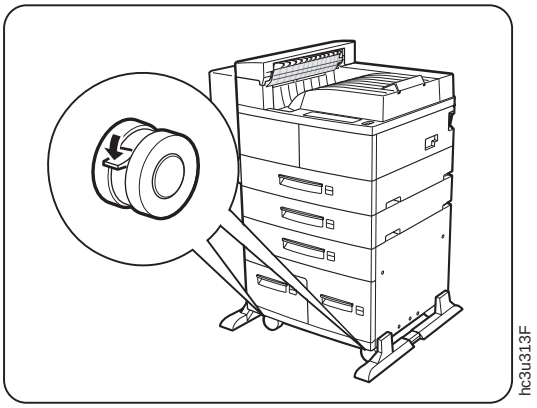
Installing the 2000-Sheet Finisher

1. Install the 2500-Sheet Input Unit if it is not already installed. See "Installing the 2500-Sheet Input Unit" on page 191.
2. Unpack the 2000-Sheet Finisher following the illustration included in the packaging.
3. Switch off the printer.
4. Unplug the printer.

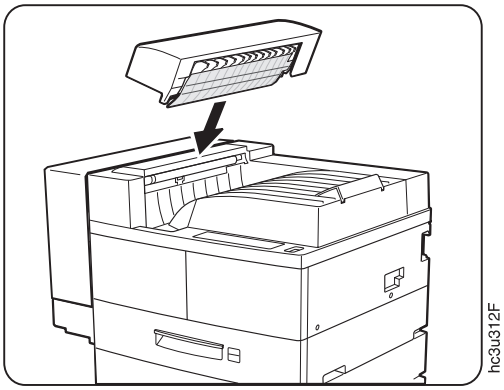


5. Remove the power cord from the back of the printer.

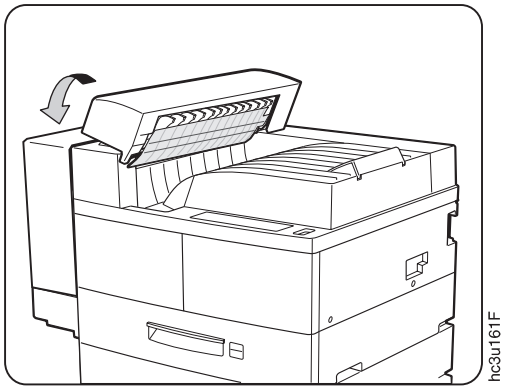
6. Lock the front casters of the 2500-Sheet Input Unit.



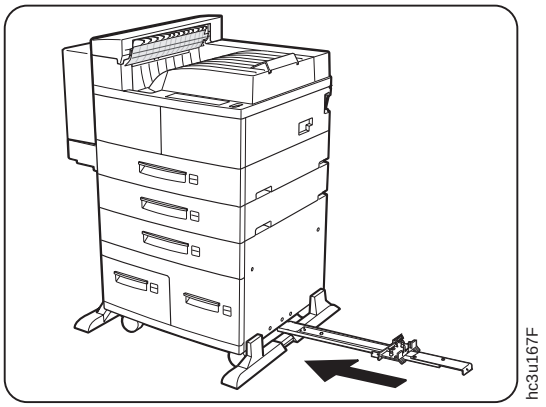
7. Install the docking station onto the top of the printer, as shown.
   a. Catch the docking station lip (behind the clear plastic gate) on the front of the printer main output cowling.



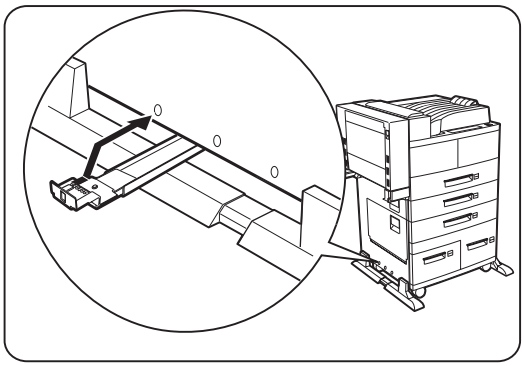
b. Press down on the tabbed side of the docking station to snap it into place. The docking station should be firmly seated.



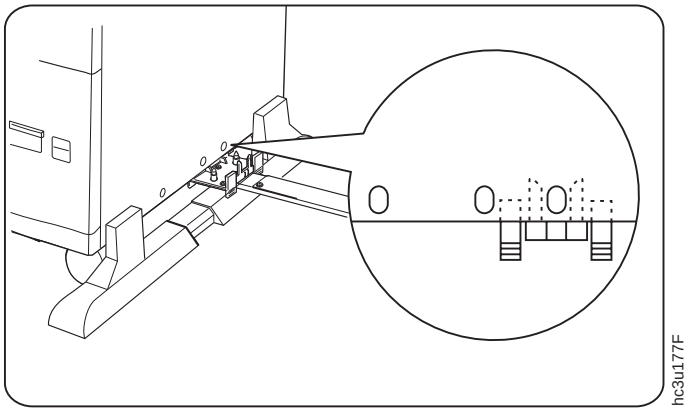
8. Install the guide rail.
   a. Pass the guide rail under the 2500-Sheet Input Unit from the right side of the printer to the duplex side, tab end first. (The guide rail should be visible on both sides of the printer.)



b. Hook the guide rail tab into the third hole on the left side (the duplex side) of the 2500-Sheet Input Unit.

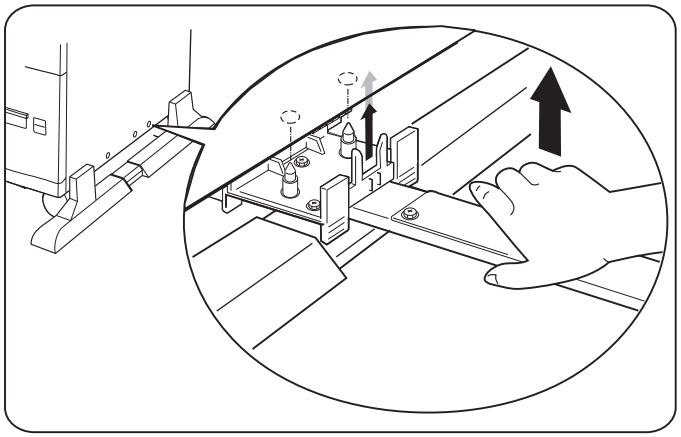


c. On the right side of the 2500-Sheet Input Unit, position the guide rail support unit's plastic prongs so the third hole on the 2500-Sheet Input Unit cover is centered between the prongs. The plastic prongs and tabs on the guide rail support unit fit behind the cover.

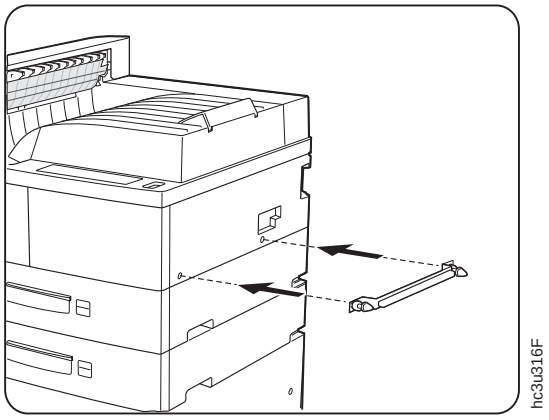


d. Lift up on the guide rail to snap the guide rail support unit metal prongs into the holes on the bottom of the 2500-Sheet Input Unit frame, as shown. (You cannot see the holes on the bottom of the

frame.)

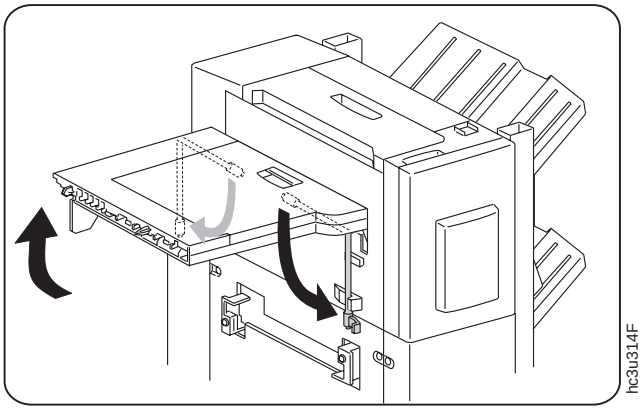


9. Install the cable protection bracket on the right side of the printer. Insert the two thumbscrews attached to the cable protection bracket into the holes on the side of the printer and tighten the thumbscrews.



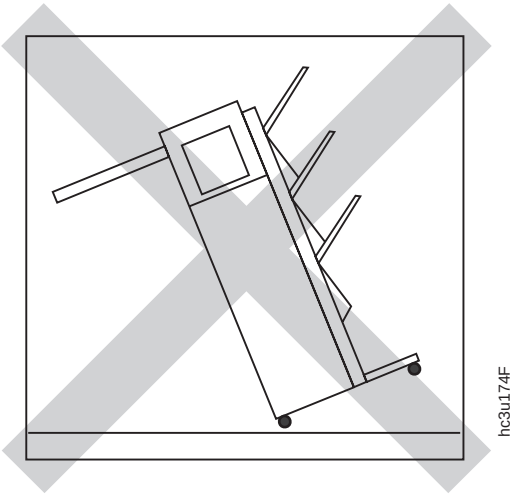
10. Raise the horizontal transport and lower the two support legs until they are positioned against the stoppers. The two support legs are tucked up

horizontally under the transport.

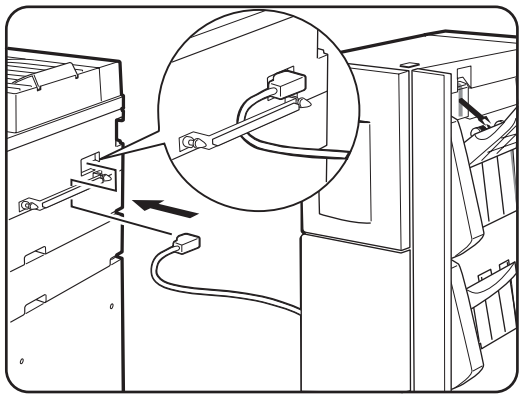


11. Move the 2000-Sheet Finisher close enough to the printer to connect the cable.

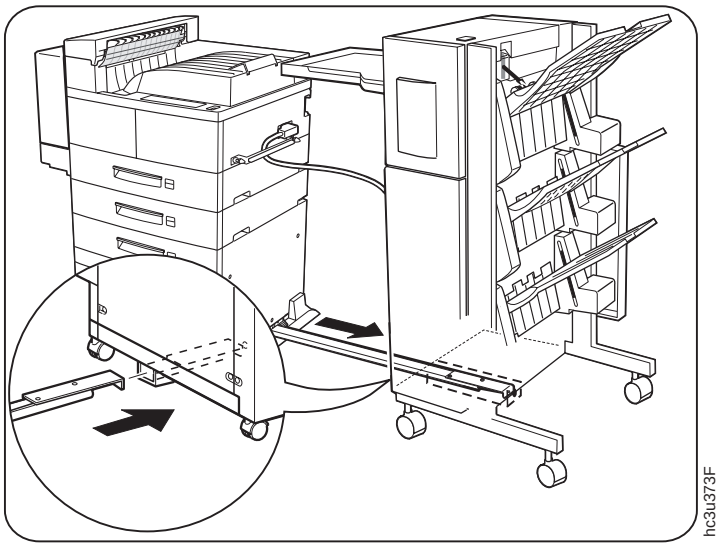
    Attention: Be careful when moving the 2000-Sheet Finisher. It is unstable when not connected to the printer and it will tip in the direction of the horizontal transport.



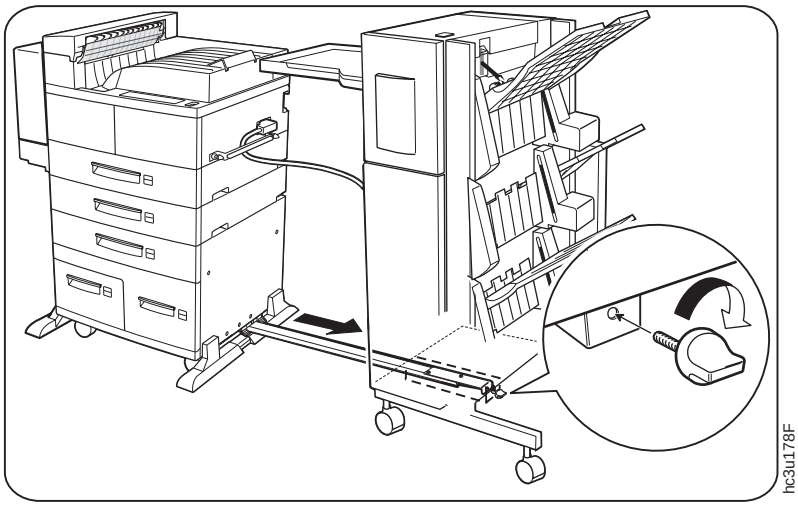
12. Pass the 2000-Sheet Finisher power cord behind the cable protection bracket and plug it into the AC outlet on the printer.



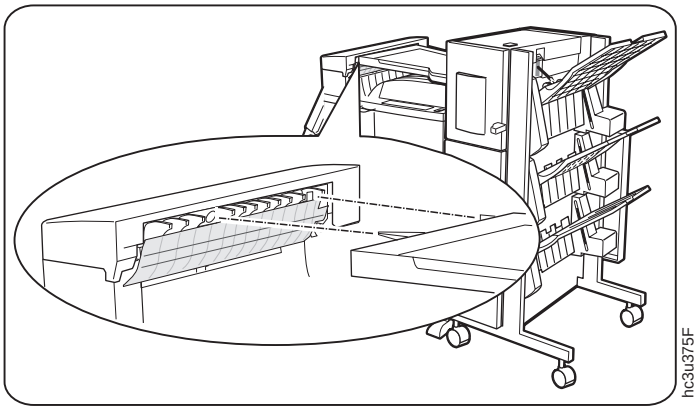
13. Insert the end of the guide rail into the opening on the bottom of the 2000-Sheet Finisher and push it through until it stops against the bracket on the other side of the 2000-Sheet Finisher.



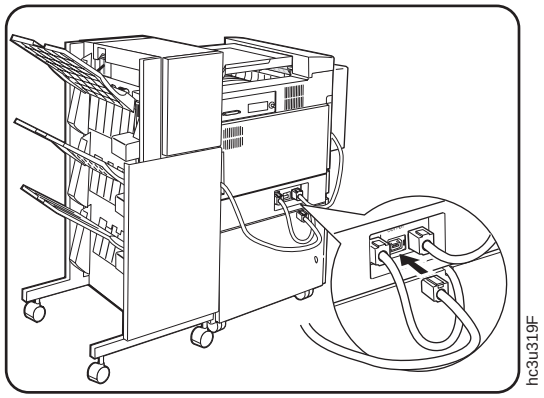
14. Tighten the thumbscrew on the end of the guide rail to secure the 2000-Sheet Finisher to the printer.



15. Gently push the 2000-Sheet Finisher toward the printer until the horizontal transport fits securely into the docking station.



16. Plug the 2000-Sheet Finisher interface cable into the output connector on the printer, as shown.



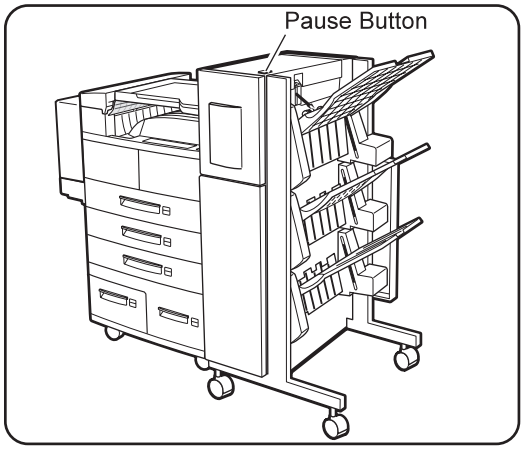
17. Connect the printer power cord to the back of the printer.
18. Plug in and switch on printer. (The 2000-Sheet Finisher bins move up and down slightly during the warm up sequence.)
19. Print a configuration page and ensure the 2000-Sheet Finisher is listed as installed.

About the Pause Button

The pause button allows you to suspend the 2000-Sheet Finisher operation so that you can remove some of the documents from the stack bins or replenish staples. The operation will pause at the end of the current job boundary. To resume printing to the 2000-Sheet Finisher, press the pause button again.

Notes:

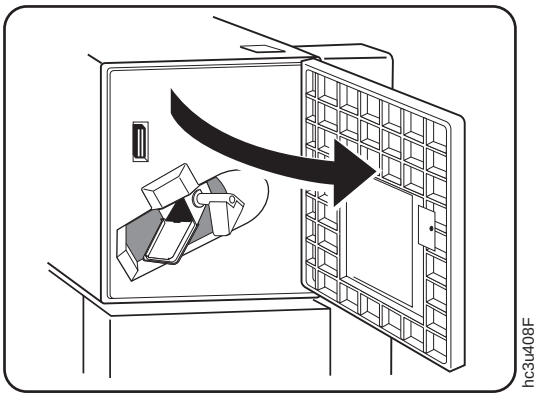
1. The pause button light turns on when you pause the 2000-Sheet Finisher operation.
2. The pause button light is off when the 2000-Sheet Finisher operation is running.



Installing the Staple Cartridge

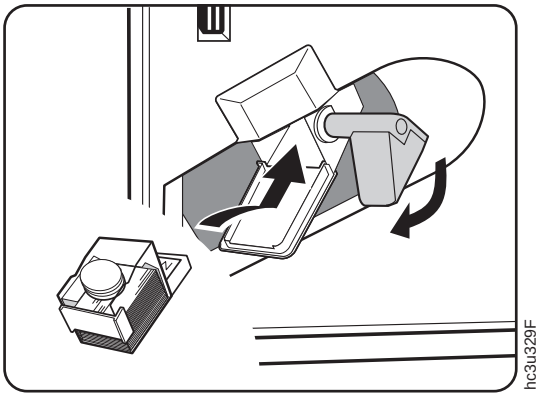
If you need to replenish the staples in the staple cartridge, see “Replenishing Staples in the 2000-Sheet Finisher” on page 156. If the staple cartridge does not arrive installed in your 2000-Sheet Finisher, follow these instructions:

1. Open Cover H on the 2000-Sheet Finisher.

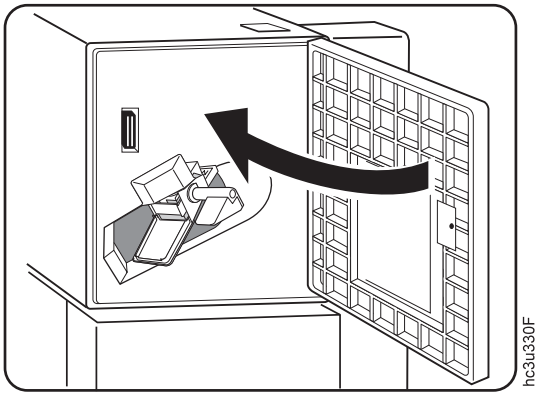


2. Gently push the staple cartridge into the 2000-Sheet Finisher until it snaps into place. The orange lever beside the staple cartridge should snap into

the upright position.



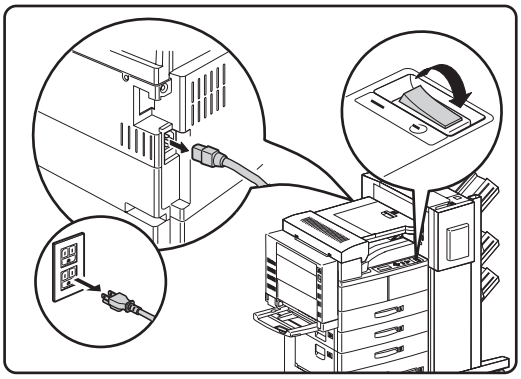
3. Close Cover H.



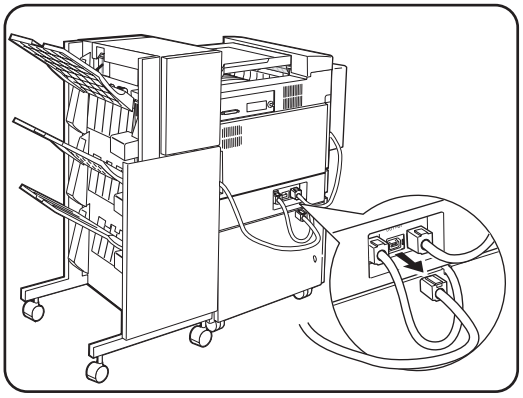
Removing the 2000-Sheet Finisher

1. Switch off the printer.

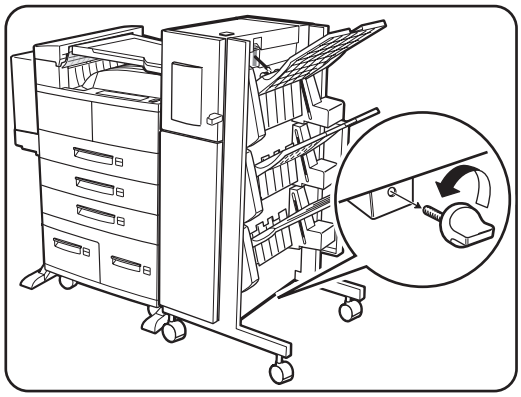
2. Unplug the printer.



3. Remove the power cord from the back of the printer.
4. Unplug the 2000-Sheet Finisher interface cable from the printer.

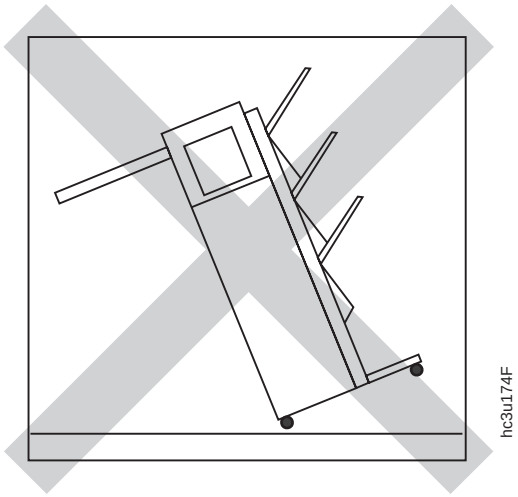


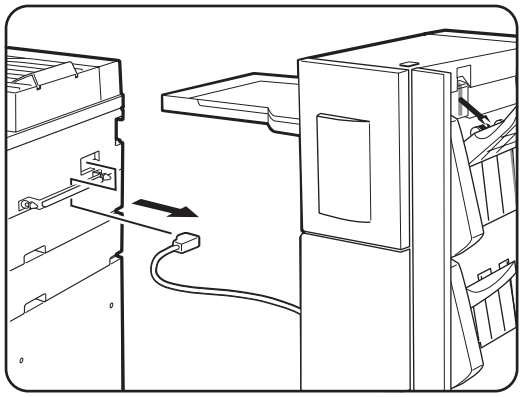
5. Remove the thumbscrew at the end of the guide rail.



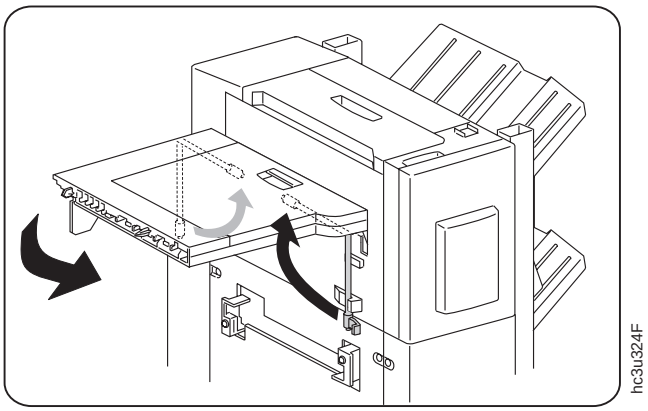
6. Gently push the 2000-Sheet Finisher away from the printer and unplug the 2000-Sheet Finisher power cord from the printer.

   Attention: Be careful when moving the 2000-Sheet Finisher. It is unstable when not connected to the printer and it will tip in the direction of the horizontal transport.

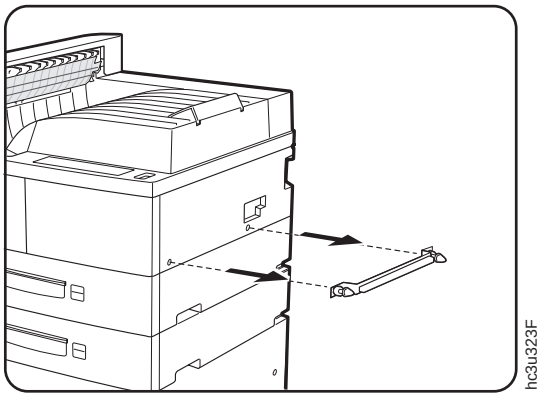




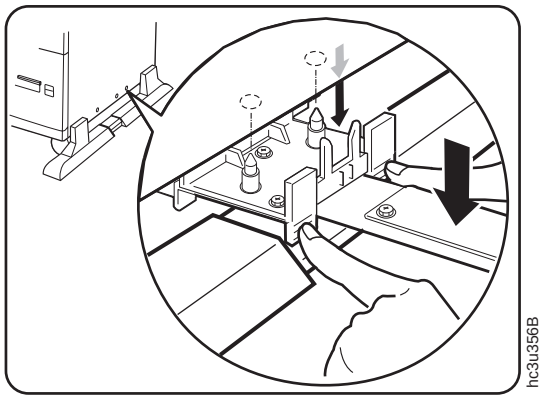
7. Raise the horizontal transport slightly, fold the two support legs into their storage position, and lower the transport.



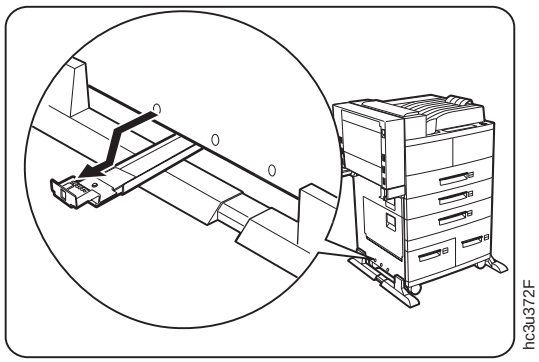
8. Loosen the thumbscrews and remove the cable protection bracket from the right side of the printer.



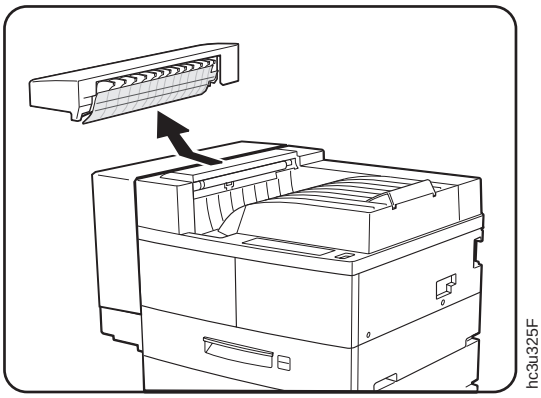
9. Push in and release the plastic guide rail support unit tabs, then press down on the guide rail to release the support unit from the printer.



10. Unhook the guide rail tab from the hole in the left side of the 2500-Sheet Input Unit and remove the guide rail.



11. Remove the docking station by pulling it toward the duplex unit to release the holding tabs, then lift it off of the printer.



Chapter 9. Configuring Printer Network Addresses

Important

Defining the printer's network address should be performed by a network administrator or someone familiar with network addresses. If you have *IBM Network Printers: Ethernet and Token Ring Quick Configuration Guide*, please refer to it when you configure your Ethernet or token-ring card.

Use this section to set the following values from the operator panel:

- IP address
- Subnet mask
- Gateway address
- Locally administered MAC address

Note: The MAC address is the Globally Administered Address (GAA). The MAC address can be changed to the Locally Administered address (LAA).

Setting IP, Subnet Mask, and Gateway Addresses

To set an IP, subnet mask, or gateway address for the printer, perform these steps:

1. Press the **Online** key to take the printer OFFLINE.
2. Press the **Menu** key until the operator panel displays ETHERNET MENU or TOKEN RING MENU.
3. Press the **Item** key until the operator panel displays the address to change (IP ADDRESS, SUBNET MASK, or GATEWAY ADDRESS). This example shows how to change the IP ADDRESS.
4. Press the **Enter** key. For a new printer whose IP address has not yet been set, the operator panel displays:

   ```
   IP ADDRESS 0<0.0.0 *
   ```

   The "<" indicates the field whose value you can change at this point.
5. Press the **Value** key until the desired value is displayed. The range of the address values is zero to 255. To decrement the value, simultaneously press the **Value** key and the **Shift** key. To increment or decrement the value by 10, press and hold the keys.

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6. When the operator panel displays the value you want, press **Enter**. The "<" moves to the next value, for example:

   ```
   10.0<0.0
   ```

7. Press the **Value** key until the desired value is displayed, then press the **Enter** key.
8. Repeat step 7 until all four values have been set, then press the **Enter** key to set the address. The value has been set if an asterisk (*) displays to the right of the value, for example:

   ```
   9.99.40.2 *
   ```

9. Press the **Online** key to return the printer to READY status. The panel displays the message I/O INITIALIZING and writes the new addresses to non-volatile memory. (This process takes a few minutes.) **Do not power off the printer** while the I/O INITIALIZING message is displayed.

Setting the Locally Administered MAC Address (LAA)

Network Administrator Tip

Each token-ring network interface card comes with a unique, pre-assigned MAC address printed on its faceplate and set at the factory. The following procedure allows you to use locally administered addresses (LAA) instead of the factory value. Resetting the printer to factory defaults sets the LAA back to the MAC address. IBM recommends that you contact your network administrator before you change the MAC address because each LAA must be unique on the network.

To change the LAA address for the printer:

1. Press the **Online** key to take the printer offline.
2. Press the **Menu** key until the operator panel displays TOKEN RING MENU.
3. Press the **Item** key until the operator panel displays MAC ADDRESS.
4. Press the **Enter** key. For a new printer whose MAC address has not yet been changed, the operator panel displays the unique MAC address that came with the card, for example:

   ```
   MAC ADDRESS 01< 04-AC-9A-00-00
   ```

   The "<" indicates the value you can change at this point. Notice that the first pair of values (01, in this case) is shown on the same line as "MAC ADDRESS".
5. Press the **Value** key. The asterisk (*) goes away and the value is incremented by one. The range of the address values is zero to 255 hex

(that is, FF). To decrement the value, simultaneously press the **Value** key and the **Shift** key. To increment or decrement the value by 10, press and hold the keys.

6. Press the **Value** key until the desired value is displayed, then press **Enter** to set the value. The "<" moves to the next value, for example:

   ```
   04<AC-9A-00-00
   ```

7. Press the **Value** key until the desired value is displayed, then press the **Enter** key.
8. Repeat step 7 until all six value pairs have been set, then press the **Enter** key to set the LAA address. The value has been set if an asterisk (*) displays to the right of the value, for example:

   ```
   MAC ADDRESS 01- 04-9A-01-02-02 *
   ```

9. Press the **Online** key to return the printer to READY status. The panel displays the message I/O INITIALIZING and writes the new addresses to non-volatile memory. (This process takes a few minutes.) **Do not power off the printer** while the I/O INITIALIZING message is displayed.

Appendix A. Troubleshooting

This section provides simple methods for detecting and solving some of the problems that most frequently occur in printing environments. If your printer does not print your job, follow these steps:

1. Turn the printer off and leave it off for approximately ten seconds. Turn it back on. This action resets the printer to its programmed configuration and may clear the error.
2. Print a sample page to determine whether the problem is with the printer or with the network or cabling leading to the printer. The printer configuration page can be used as a sample page; see “Printing the Printer Configuration Page” on page 27 for instructions. If the problem is with the printer, it is likely that the printer will not print the configuration page. If the problem is in the network or cabling leading to the printer, the configuration page will still print.
3. See “Troubleshooting Checklist” to help identify and solve problems.
4. If you cannot solve a problem, call your point of purchase or IBM customer technical support (1-800-358-6661 in the U.S.A. and Canada).

   Notes:

   a. Have your printer serial number ready. The serial number is on the data information plaque in the toner cartridge area. The serial number is also listed in the Printer Details section of the printer configuration page (see “Printing the Printer Configuration Page” on page 27). If you are asked for a machine type, specify 4332.

   b. If you need IBM operating system support (for example, AIX, OS/2, OS/400, and MVS), contact IBM software support (1-800-237-5511 in the U.S.A., 1-800-465-2222 in Canada).

Troubleshooting Checklist

Symptom	Action
A message appears in the message display area	See “Appendix C. Printer Messages” on page 239.
Solid rectangles in the message display area	This usually indicates a problem with the controller card or one of its options (SIMM or hard drive). **Response**: Make sure the controller card is inserted correctly and that all SIMMs are installed correctly in the correct group of sockets. See “The SIMM and Hard Drive Options” on page 176 for instructions on installing the optional SIMMs and hard drive.

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Symptom	Action
No display messages	No message is in the message display area. **Response**: The printer may not be turned on or the power cord has become unplugged. Press the | on the power switch to power on the printer. Make sure the power cord is plugged in.
Changed toner cartridge and the printer does not work	**Response**: Turn off the printer. Open the printer and reseat the toner cartridge. Keep the toner cartridge level to avoid spilling toner. Make sure you remove all tape and packaging material, including the yellow tape at the end of the cartridge. See “Changing the Toner Cartridge” on page 146.

Symptom	Action
Printer never prints the job	**Responses**: 1. Make sure that the printer is running by printing a configuration page. See “Printing the Printer Configuration Page” on page 27. Check the settings for PORT TMEOUT and PERSONALTY for possible problems. See the appropriate menu for information about the settings for your attachment: • “Token Ring Menu” on page 122 • “Ethernet Menu” on page 125 • “Parallel Menu” on page 109 • “Coax Setup Menu” on page 135 • “Twinax Setup Menu” on page 137 2. Make sure your printer driver is installed and is connected to the correct port. 3. For parallel printing, verify the connection by copying a text file (such as config.sys) to that port. If this file prints successfully, suspect a driver problem. Also, make sure you use properly shielded and grounded cables and connectors (IBM part number 63H2804 or its equivalent) that are no more than ten feet (3 meters) in length. 4. For LAN printing problems, print a configuration page (see “Printing the Token-Ring Network Interface Card Configuration Page” on page 31 or “Printing the Ethernet Network Interface Card Configuration Page” on page 31). This verifies the card is connected and functional. If the configuration page options are not available on the Test Menu, reseat the card (see “The Network Interface Card” on page 182). If problems persist, you may need a new card. Also, refer to *IBM Network Printers: Ethernet and Token Ring Quick Configuration Guide*, which is shipped with the Ethernet and token-ring network interface cards. 5. For twinax/coax printing problems, press the **TEST** button on the back of the twinax or coax card to generate an internal configuration page. This verifies that the card is connected and functional. Also, refer to *IBM Network Printers: Twinax/Coax Configuration Guide*, which is shipped with the twinax and coax network interface cards.
Output sent to wrong bin	Check the OUTPUT setting in the Paper Menu. See “Paper Menu” on page 98. Note that the job value (set using the printer driver or the application) will override the panel setting.

Symptom	Action
Wrong size paper selected	Check the SOURCE setting in the Paper Menu. See “Paper Menu” on page 98. Note that the job value (set using the printer driver or the application) will override the panel setting. Also verify the AUXSIZE value set in the Paper Menu.
Paper selected from wrong source	The printer automatically looks for paper in other trays when the following situations occur: • The requested tray contains the wrong size paper. • The requested tray is empty **and** the Paper Menu TRAY SWITCH item is ON. If the printer cannot find the correct size paper in any tray, it displays 011 LOAD <paper-size> IN <tray>, where the tray is the **last** tray it looked in, not necessarily the tray you specified. **Responses**: 1. To turn tray switching off for empty tray conditions, set the Paper Menu TRAY SWITCH item to OFF. 2. To remove a specific tray from the automatic tray switching sequence, set the value to ON in the following Paper Menu items, as appropriate: AUXTRAYPROT, TRAY1 PROT, TRAY2 PROT, TRAY3 PROT, TRAY4 PROT, TRAY5 PROT, or ENVTRAYPROT. 3. Tray switching is automatic when the printer detects the wrong size paper in the requested tray. You cannot turn this type of switching off; nor can you “protect” trays from being included in this switching sequence.
Tray switching does not work	**Responses**: 1. Make sure TRAY SWITCH is set to ON on the Paper Menu. See “Paper Menu” on page 98. 2. Tray switching does not occur when two trays have the same size paper but different orientations. For example, if Tray 1 and Tray 3 both have letter-size paper, but Tray is short-edge feed and Tray 3 is long-edge feed, tray switching will not occur. Reload the paper so that the orientation matches. See “Chapter 4. Paper Handling” on page 35.
Pages lost after clearing paper jam	Set JAMRECOVERY to ON in the Config Menu or using the printer driver. (The driver setting overrides the menu setting.) See “Configuration (Config) Menu” on page 106. Note that this will decrease performance.

Symptom	Action
Printing is too slow	**Responses**: 1. Consider setting JAMRECOVERY to OFF in the Config Menu or by using the printer driver. (The driver setting overrides the menu setting.) See “Configuration (Config) Menu” on page 106. 2. If you have installed extra memory, make sure the printer recognizes it. Print a configuration page (see “Printing the Printer Configuration Page” on page 27). Under “Installed Options” look for TOTAL MEMORY. If the printer does not recognize all of the memory you have installed, remove and reseat the memory SIMM. If reseating the memory SIMM does not correct the problem, replace it. 3. For IPDS, try setting VPA CHK to OFF in the IPDS Menu.
Added paper and the printer does not work	You have added or changed paper and now the printer will not print. **Responses**: 1. Open and close the printer tray and make sure it is positioned correctly. 2. Make sure that paper is loaded correctly. See “Chapter 4. Paper Handling” on page 35 for instructions on loading paper.
Printer prints wrong font	You started a print job and the font you see is not what you want. **Responses**: 1. If you are printing IPDS jobs, see if you have turned on font substitution (FONT SUB set to ON on the IPDS Menu). See “IPDS Menu” on page 115. 2. Print a list of fonts for the type of data you are printing. See “Printing a List of PCL5e Fonts” on page 31, “Printing a List of PostScript Fonts” on page 32, or “Printing a List of IPDS Resident Fonts” on page 32. 3. The problem may also be with the software; check to see that you have loaded the correct fonts.
Duplex setting is ignored	The DUPLEX=OFF setting on the Paper Menu is the printer default. Your application or driver settings override this default. Make sure that the application, driver, or both specify the correct duplex setting.

Symptom	Action
PostScript printing problem	If your printer is not printing PostScript jobs correctly, the printed output will be unformatted and will include unrecognizable characters (including %% identifiers and other font information). Some print jobs such as screen dumps and PCL5e jobs may print correctly. **Responses**: 1. Make sure you have a PostScript printer driver installed and that it is connected to the correct port. 2. If the driver is installed and connected correctly, make sure your printer has enough memory (see “Memory Requirements” on page 8). If it does have enough memory, suspect a problem with the PostScript printer driver or a problem with the print job. 3. If you use either an Ethernet or token-ring connection, make sure the PERSONALTY item in the Token Ring Menu or the Ethernet Menu is set to AUTO or PS. AUTO allows the printer to handle any data stream; PS dedicates the card to PostScript jobs. If PERSONALTY is set to either PCL or IPDS, you cannot print PostScript jobs using the card. 4. Set the PRINT ERRS item to ON in the PS Menu (see “PS Menu” on page 114).
IPDS printing problem	IPDS jobs are not printing. **Responses**: 1. Print a configuration page. See “Printing the Printer Configuration Page” on page 27. If the controller recognizes the IPDS feature, the configuration page will list the IPDS menu and Installed options will list “IPDS”. If IPDS is not listed, remove and reseat the IPDS SIMM. If reseating the SIMM does not correct the problem, replace the SIMM. 2. If you use either an Ethernet or token-ring connection, make sure your printer is configured for TCP/IP. You cannot send IPDS jobs to the printer using an Ethernet or token-ring card that is not configured for TCP/IP. See *IBM Network Printers: Ethernet and Token Ring Quick Configuration Guide* for more information about configuring Ethernet and token-ring cards. 3. If you use either an Ethernet or token-ring connection, make sure the PERSONALTY item in the Token Ring Menu or the Ethernet Menu is set to AUTO or IPDS. AUTO allows the printer to handle any data stream; IPDS dedicates the card to IPDS jobs. If PERSONALTY is set to either PCL or PS (PostScript), you cannot print IPDS jobs using the card. 4. Make sure you have enough memory. See “Memory Requirements” on page 8.

Symptom	Action
Parallel attachment printing problems	Make sure your printer driver is installed and connected to the correct port. Also, make sure you use properly shielded and grounded cables and connectors (IBM part number 63H2804 or its equivalent) that are no more than ten feet (3 meters) in length.
Poor quality shading patterns	**Responses**: 1. Make sure the QUALITY item in the Config Menu is set to REFINE. See "Configuration (Config) Menu" on page 106. Also make sure your printer driver or printer application specifies Edge Refinement. Values set in print jobs (either by the print application or the printer driver) override values you set at the printer. 2. Try increasing the print density if shading is too light. If shading is too dark, try decreasing print density. See "Adjusting Print Density" on page 32.
Any print quality problem	The quality of the printed output is not acceptable. Examples of unacceptable output include light printing, streaks, splotches, random deletions, blank pages, and so on. See "Appendix B. Print Quality Problems" on page 231 for a quality-check procedure and samples of print quality problems.
Blank pages, double sheet feeds	**Responses**: 1. If all sheets are blank, the toner supply could be low without the toner sensor detecting it. Replace the toner cartridge. See "Changing the Toner Cartridge" on page 146 for instructions on removing and replacing the toner cartridge. 2. Random blank pages during a print job can be caused by multiple sheets of paper being fed through the machine simultaneously. Turn the paper over and feed from the other edge or reload the paper tray with fresh, dry paper. Fan the paper before loading it. If the problem still exists with the new toner cartridge installed, consider replacing the usage kit. See "Changing the Usage Kit" on page 160 .

Symptom	Action
Paper jams in the printer repeatedly	**Responses:** 1. Make sure that the paper tray guides are adjusted correctly for the size paper you are using. 2. Do not refeed the same sheet of paper. 3. The paper you are using in the printer may not be compatible with your printer. Verify that the paper you are using conforms to the specifications for the printer. See “Selecting Paper and Other Printable Material” on page 36. 4. Check for obstructions in the paper path. Obstructions may include paper clips and corners of previously jammed paper. 5. Check the paper supply tray for damaged paper. 6. Turn the paper over and feed from the other edge or reload the paper tray with fresh, dry paper. Fan the paper before loading it. 7. For duplex jams, ensure that the duplex unit is installed correctly. See “Re-installing the Duplex Unit” on page 154. 8. If nothing else works, you may need to replace the paper feed rollers. Paper feed rollers are included as part of the usage kit. See “Changing the Usage Kit” on page 160.
The printer takes too long to start printing	The printer is frequently “warming up”. **Response**: Change the value for the power-saving mode (or sleep mode) to a larger value. See “Changing the Power Savings (Sleep Mode) Interval” on page 33 for instructions on how to change the setting.
Factory defaults did not get reset	Invoking the FACTORY DEFAULT item on the Test Menu resets **most** values to the factory defaults. Some values do not get reset. These values include LANGUAGE, PCL SAVE, PS SAVE, BI-DI, IP ADDRESS, SUBNET MASK, GATEWAY ADDRESS, and MAC ADDRESS. **Response:** To reset all values other than the internet addresses (IP ADDRESS, SUBNET MASK, GATEWAY ADDRESS, and MAC ADDRESS), do one of the following: • For the A4 paper group: power on the printer while simultaneously pressing the **Cancel Print** key. COLD RESET A4 appears in the message display area. • For the Letter paper group: power on the printer on while simultaneously pressing the **Online** key. COLD RESET LTR appears in the message display area. IBM recommends printing a printer configuration page before you do a cold reset, so you can restore old settings if necessary.
Problems with pre-printed forms	**Response:** Allow 5 mm between printed information and pre-printed lines, cuts, or perforations on the pre-printed forms.

Symptom	Action
Printer does not work after powering it off and then on.	**Response:** Power off again. Wait ten seconds, and then power on.
Excessive paper curling	**Response:** 1. Make sure the paper drawers are installed correctly. 2. Make sure paper meets specifications. See “Selecting Paper and Other Printable Material” on page 36. 3. If the paper is stored at a different temperature or humidity than the printer room, let the paper adjust to the new environment. Leave the paper in its wrapper while it adjusts. 4. Sto re paper in its origina l wrappin g. 5. Turn the paper over in its tray to see if the curl improves. 6. Use fresh paper (paper recently removed from its wrapper). Do not use stale paper (paper that has been out of its wrapper for several days.)

Appendix B. Print Quality Problems

Use the following procedure to try to resolve print quality problems, including light printing, streaks, splotches, random deletions, blank pages, and so on. See the rest of this appendix for samples of print quality problems.

Important!
Your printer driver or application may allow you to select print quality settings. If it does, these settings override values set at the printer. When the following steps recommend changing a value at the printer, make sure you also change the setting in your driver.

1. Print a demo page. Verify that it has the same print quality problem. If not, suspect a problem with your job. To print a demo page:
   a. Make sure the printer is offline. If the printer is online, press the **Online** key to take it offline.
   b. Press the **Menu** key once. TEST MENU appears in the message display area.
   c. Press the **Item** key until you see DEMO PAGE.
   d. Press the **Enter** key.
   e. To restore the printer to READY status, press the **Online** key.
2. If printing is too light, make sure the Config Menu QUALITY item is not set to ECONO. Also, try increasing the DENSITY setting to a higher value. See “Configuration (Config) Menu” on page 106.
3. If printing is dark, try decreasing the DENSITY setting to a lower value. Also, try setting QUALITY to REFINE.
4. If image quality is poor, set QUALITY to REFINE. Also, try decreasing the DENSITY setting to a lower value.
5. If small characters are hard to read, set QUALITY to REFINE. Also, try decreasing the DENSITY setting to a lower value.
6. Make sure that the paper being used is fresh and dry and meets specifications. See “Selecting Paper and Other Printable Material” on page 36 for more information.
7. Install a new toner cartridge. Light prints may indicate that you need to replace the toner cartridge. See “Changing the Toner Cartridge” on page 146 for instructions on removing and replacing the toner cartridge.

   Attention: Do not remove the toner cartridge and shake it. This will cause toner to spill out of the cartridge.

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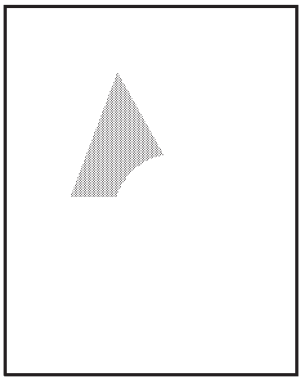
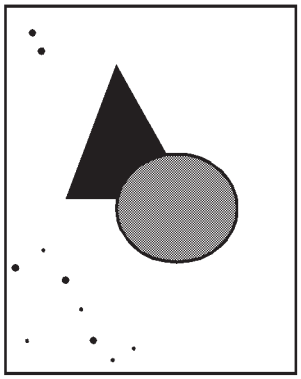
8. If the problem involves spots or streaks, print several test pages to clean out contamination.
9. If the problem is with complex graphics or images and the message MRT COMPRESSION displays, try changing the PAGEPROT menu item to ON. This item can be individually set in specific data stream menus (PCL Menu, PS Menu, or IPDS Menu.) You may also need more memory. See “Memory Requirements” on page 8 for information about memory requirements.
10. If you have an EDGE-EDGE setting set to ON, set it to OFF. EDGE-EDGE can be found on the following menus:
    - “PCL Menu” on page 110
    - “PS Menu” on page 114
    - “Coax Setup Menu” on page 135
    - “Twinax Setup Menu” on page 137
    - “IPDS Menu” on page 115
11. Consider replacing the fuser. See “Changing the Usage Kit” on page 160.

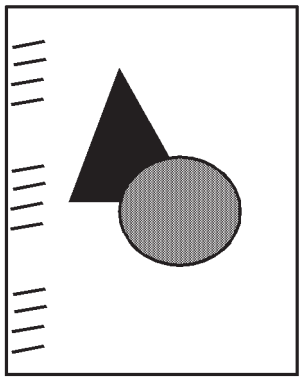
Print Is Too Light

Possible Causes	Actions You Should Take	Print Sample
Economy mode is set on.	Make sure economy mode is not set. Check your print driver settings and also see “Configuration (Config) Menu” on page 106.	
Density is set too low.	Reset it to a higher value if necessary. See “Configuration (Config) Menu” on page 106.	
There is moisture in the paper.	Load fresh, dry paper.	
The toner cartridge is low on toner.	Replace the toner cartridge. See “Changing the Toner Cartridge” on page 146 .	
The toner cartridge is damaged or life exceeds 23,000 pages.	Replace the toner cartridge. See “Changing the Toner Cartridge” on page 146 .	

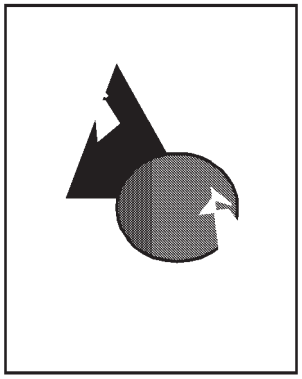
Toner Spots on the Print

Possible Causes.	Actions You Should Take	Print Sample
Paper does not meet specification.	Use recommended paper. See “Selecting Paper and Other Printable Material” on page 36.	
The toner cartridge is damaged.	Replace the toner cartridge. See “Changing the Toner Cartridge” on page 146 .	

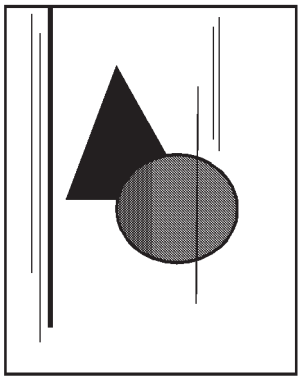
Repetitive Marks on the Print

Possible Causes	Actions You Should Take	Print Sample
The paper path is contaminated.	Print several blank sheets of paper to clear out the contamination.	
The toner cartridge is damaged.	Replace the toner cartridge. See “Changing the Toner Cartridge” on page 146 .	

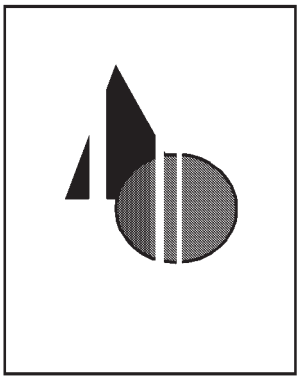
Random Deletions or Light Areas on the Print

Possible Causes	Actions You Should Take	Print Sample
There is moisture in the paper.	Load fresh, dry paper.	
Paper does not meet specification.	Use recommended paper. See “Selecting Paper and Other Printable Material” on page 36.	
The toner cartridge seal is still in place.	Remove the toner cartridge seal.	

Vertical Marks on the Print

Possible Causes	Actions You Should Take	Print Sample
The toner cartridge is damaged.	Replace the toner cartridge. See “Changing the Toner Cartridge” on page 146 .	

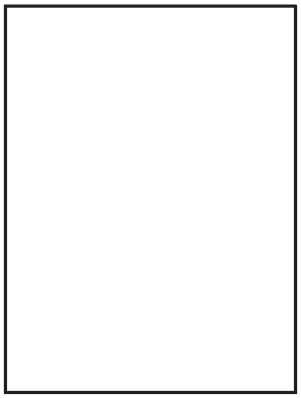
Vertical Bands of Deletions or Light Areas on the Print

Possible Causes	Actions You Should Take	Print Sample
The toner cartridge is not installed correctly.	Reinstall the toner cartridge.	
The toner cartridge is damaged.	Replace the toner cartridge. See “Changing the Toner Cartridge” on page 146 .	

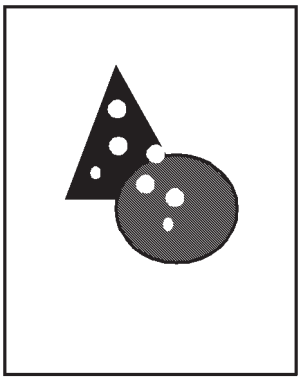
Entire Print is Black

Possible Causes	Actions You Should Take	Print Sample
The toner cartridge is damaged.	Replace the toner cartridge. See “Changing the Toner Cartridge” on page 146 .	
The printer power supply has failed.	Call for service.	

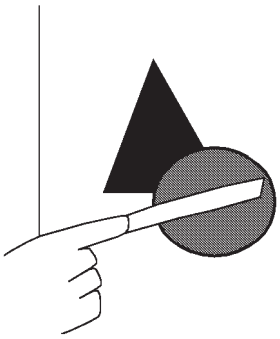
Entire Print Is Blank

Possible Causes	Actions You Should Take	Print Sample
The toner cartridge seal is in place.	Remove the toner cartridge seal.	
There was a multiple sheet feed.	Fan the paper.	
The toner cartridge is low on toner.	Replace the toner cartridge. See “Changing the Toner Cartridge” on page 146 .	
The toner cartridge is damaged.	Replace the toner cartridge. See “Changing the Toner Cartridge” on page 146 .	
The printer power supply has failed.	Call for service.	

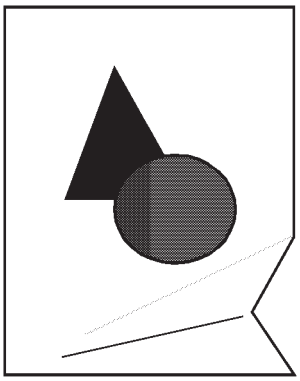
White Spots Within Black Image Area

Possible Causes	Actions You Should Take	Print Sample
Paper does not meet specification.	Use recommended paper. See “Selecting Paper and Other Printable Material” on page 36.	
The toner cartridge is damaged.	Replace the toner cartridge. See “Changing the Toner Cartridge” on page 146 .	

Printed Image Rubs Off or Smears

Possible Causes	Actions You Should Take	Print Sample
There is moisture in the paper.	Load fresh, dry paper.	
Paper does not meet specification.	Use recommended paper. See “Selecting Paper and Other Printable Material” on page 36.	
The fuser is not functioning properly.	Consider replacing the usage kit. See “Changing the Usage Kit” on page 160 .	

The Print Is Damaged

Possible Causes	Actions You Should Take	Print Sample
Paper does not meet specification.	Use recommended paper. See “Selecting Paper and Other Printable Material” on page 36.	
There is excessive moisture in the paper.	Load fresh, dry paper.	
Damaged paper has been loaded in the paper tray.	Load fresh, dry paper.	

The Printed Image Is Blurred

Possible Causes	Actions You Should Take	Print Sample
Paper does not meet specification.	Use recommended paper. See “Selecting Paper and Other Printable Material” on page 36.	
There is moisture in the paper.	Load fresh, dry paper.	

Appendix C. Printer Messages

This chapter lists printer messages. Printer status messages are listed alphabetically in the next section, “Status Messages”. Error messages are preceded by a number; see “Error Messages” on page 247.

Status Messages

CANCEL REQUESTED

Meaning: A user pressed the **Cancel Print** key to cancel printing. The printer continues to print until it can honor the request.

Action: None required.

COLD RESET A4

Meaning: The printer is powering up and resetting all menu values to the factory defaults. The A4 paper group is the default.

Action: None required; however, you need to restore any unique settings for the printer (such as default trays or bins).

COLD RESET LTR

Meaning: The printer is powering up and resetting all menu values to the factory defaults. The LTR paper group is the default.

Action: None required; however, you need to restore any unique settings for the printer (such as the default tray).

CONTEXT SAVE ADJUSTED

Meaning: The printer is configured to use the context saving option (PCL SAVE and PS SAVE under the Memconfig Menu); however, due to a configuration change, the printer no longer has enough memory to support context saving.

Action: Press **Continue**. To restore context saving, add more memory to the printer. See “Memory Requirements” on page 8 for more information.

CONTEXT SAVE CHANGED

Meaning: The values for the PCL SAVE or PS SAVE items under the Memconfig menu have been changed.

Action: Press the **Continue** key to accept the new values and continue printing.

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COAX HEX PRT

Meaning: You are printing a hexadecimal dump for troubleshooting problems with non-IPDS jobs sent over the coax attachment.

Action: To cancel the dump, select CANCEL CX PRT from the Test Menu.

COPY n OF nn

Meaning: You requested multiple copies of a print job. This message increments with each copy the printer completes.

Action: None required.

DISK DOWN/PRESS *

Meaning: The hard drive is installed but not usable. A user selected IGNORE DISK when asked to format the hard drive.

Action: Do one of the following:

- Format the hard drive. Select FORMAT DRIVE from the Test Menu.
- Power off the printer and remove the hard drive.

DO NOT POWER OFF

Meaning: You sent a microcode update to the printer, which is currently processing.

Action: None required.

Note: Do not power off the printer while this message displays. Powering off could damage the printer.

DSK FMT RESTART

Meaning: The printer is restarting to include a hard drive in its configuration.

Action: None required.

FINISHER PAUSE

Meaning: You pressed the Pause button on the 2000-Sheet Finisher. The printer stops at the next job boundary.

Action: Press Pause again to resume printing.

FORMAT DISK / IGNORE DISK

Meaning: You are powering up with an unformatted hard drive, or you selected the FORMAT DISK action on the Test Menu.

Action: Press the **Value** key to format the hard drive. Press the **Shift** and **Value** keys simultaneously to continue as if there were no hard drive installed.

FLUSHING...

Meaning: The printer is canceling a PCL5e or PostScript job.

Action: None required.

FORMATTING

Meaning: The printer is formatting the hard drive.

Action: None required.

F/W xxxxxxx

Meaning: Firmware error (xxxxxxx can be any alphanumeric value).

Action: Power the printer off, wait ten seconds, and power the printer back on. If problems persist, call for technical support.

Note: When firmware errors occur, the printer might also print an error page. If the printer **does** print an error page, save it so you can tell technical support.

I/O INITIALIZING

Meaning: The network interface card is initializing.

Action: Normally none. If the message remains on the display and nothing prints, and you have an Ethernet or token-ring card, make sure your LAN cable is connected and the network interface card is seated.

IPDS COAX

Meaning: The printer is receiving IPDS data through the coax interface.

Action: None required.

IPDS ETHERNET

Meaning: The printer is receiving IPDS data through the Ethernet interface.

Action: None required.

IPDS TOKEN-RING

Meaning: The printer is receiving IPDS data through the token-ring interface.

Action: None required.

IPDS TWINAX

Meaning: The printer is receiving IPDS data through the twinax interface.

Action: None required.

JOB QUEUED

Meaning: An informational page has been added to the print queue.

Action: None required.

KEY NOT VALID

Meaning: You pressed a key that is not valid.

Action: Press another key. In some instances, you may need to press the **Online** key to use other keys such as the **Menu** key.

MENU LOCKED

Meaning: The system administrator has locked the menu. You can view menu settings but you cannot change them.

Action: None required.

MRT COMPRESSION

Meaning: The printer is compressing the page image it is currently printing.

Action: None required.

MRT LOSSY COMPRESSION ACTIVE

Meaning: The printer is compressing the page image it is currently printing. Check to make sure the output is acceptable.

Action: None required. To prevent page compression, turn page protection on by setting the PAGEPROT menu item to ON. The PAGEPROT menu item is available on the PCL Menu, the PostScript (PS) Menu, and the IPDS Menu.

Note: Page protection works only if the printer has enough memory. See “Memory Requirements” on page 8 for information on how much memory various options require.

NEW VALUES AT NEXT BOUNDARY

Meaning: You have taken the printer offline while a job was printing in order to change a menu value. The new value might not take effect until the next “job boundary”. Different data streams, in particular SCS, define job boundaries in different ways, so it may take a while for the new value to take effect.

Action: None required. If problems occur, make sure you take the printer offline to change menu values only when no jobs are printing (the printer is in Ready state).

NONIPDS COAX

Meaning: The printer is receiving SCS or DSC/DSE data through the coax interface.

Action: None required.

NONIPDS TWINAX

Meaning: The printer is receiving SCS data through the twinax interface.

Action: None required.

OFFLINE

Meaning: The printer is offline.

Action: Press the **Online** key to make the printer active.

ONLINE HEX PRINT

Meaning: The printer is performing a hexadecimal dump.

Action: None required.

PA1 REQUESTED

Meaning: A PA1 request was sent to the host over the coax interface.

Action: None required.

PA2 REQUESTED

Meaning: A PA2 request was sent to the host over the coax interface.

Action: None required.

PAGES:nnnn

Meaning: This is a response to the PAGE COUNT item on the Machine Info Menu, where nnnn is the number of pages the printer has printed.

Action: None required.

PCL ETHERNET

Meaning: The printer is receiving PCL5e data through the Ethernet interface.

Action: None required.

PCL PARALLEL

Meaning: The printer is receiving PCL5e data through the parallel interface.

Action: None required.

PCL TOKEN-RING

Meaning: The printer is receiving PCL5e data through the token-ring interface.

Action: None required.

PJL COAX

Meaning: The printer is receiving or sending PJL information through the coax port.

Action: None required.

PJL ETHERNET

Meaning: The printer is receiving or sending PJL information through the Ethernet port.

Action: None required.

PJL PARALLEL

Meaning: The printer is receiving or sending PJL information through the parallel port.

Action: None required.

PJL TWINAX

Meaning: The printer is receiving or sending PJL information through the twinax port.

Action: None required.

PLEASE WAIT

Meaning: The printer is processing data and cannot immediately respond to a request.

Action: Wait until the message clears. If the message remains and processing on the host appears to have stopped, power off the printer, wait ten seconds, and then power on the printer.

POWER SAVER ON

Meaning: The printer is in power-saving mode and has temporarily shut off power to certain of its components. Power will be restored as soon as a job is submitted.

Action: None required.

PRINTER ERROR / POWER OFF

Meaning: An unexpected firmware error has occurred.

Action: Power off and then power on the printer. The printer should print an error page. If the error persists, call for service.

PS COAX

Meaning: The printer is receiving PostScript data through the coax interface.

Action: None required.

PS ETHERNET

Meaning: The printer is receiving PostScript data through the Ethernet interface.

Action: None required.

PS PARALLEL

Meaning: The printer is receiving PostScript data through the parallel interface.

Action: None required.

PS TOKEN-RING

Meaning: The printer is receiving PostScript data through the token-ring interface.

Action: None required.

PS TWINAX

Meaning: The printer is receiving PostScript data through the twinax interface.

Action: None required.

PS WAITING

Meaning: The printer is waiting for PostScript data.

Action: None required.

READY

Meaning: The printer is ready to receive data.

Action: None required.

REALLY FORMAT / IGNORE DISK

Meaning: A prompt to ask you to verify that you want to format the hard drive.

Action: Press the **Value** key to format the disk. Simultaneously press the **Value** and **Shift** keys to cancel the format.

RECONFIGURING MEMORY

Meaning: The printer has received a print job that requires it to adjust memory settings for the current page.

Action: No action is required. The printer reconfigures its memory settings to print the current page. Afterward, its settings revert to normal. See “Memory Requirements” on page 8 for more information.

RESETTING PRINTER

Meaning: The printer is resetting to its default values.

Action: None required.

RESTORING DEFAULTS

Meaning: The printer is restoring the factory defaults for the printer.

Action: None required.

SWITCHING TO IPDS

Meaning: The printer is switching to IPDS.

Action: None required.

SWITCHING TO PCL

Meaning: The printer is switching to PCL5e.

Action: None required.

SWITCHING TO PS

Meaning: The printer is switching to PostScript.

Action: None required.

TRAY LIFTING

Meaning: A paper tray is on the rise.

Action: None required.

TWINAX HEX PRT

Meaning: You are printing a hexadecimal dump for troubleshooting problems with non-IPDS jobs sent over the twinax attachment.

Action: To cancel the dump, select CANCEL TX PRT from the Test Menu.

UPDATING FLASH/DO NOT POWER OFF

Meaning: You sent a microcode update to the printer, which is currently processing.

Action: None required.

Note: Do not power off the printer while this message displays. Powering off could damage the printer.

WAIT FOR IDLE PRINTER

Meaning: You attempted to print from the Test Menu while the printer was processing PCL, PostScript, or IPDS data.

Action: When a port timeout occurs for the data stream (PCL5e, PostScript, or IPDS), the READY message appears on the operator panel. Wait for the READY message and then try printing again.

WARMING UP

Meaning: The printer is warming up. When it is warm, it displays the READY message.

Action: None required. If the message seems to appear too frequently, change the value for the power-saving mode to a larger value. See “Changing the Power Savings (Sleep Mode) Interval” on page 33 for instructions on how to change the setting.

If the message displays for several minutes, the printer controller connection may be bad. In this case, call for service.

The following error messages require operator intervention; they are listed numerically.

002 TONER LOW

Meaning: The toner in the printer cartridge is low.

Action: Press the **Continue** key to continue printing (the TONER LOW message remains on the display). Ensure that a new toner cartridge is available. If the print quality becomes unacceptable, install the new toner cartridge. See “Changing the Toner Cartridge” on page 146 .

The TONER LOW item on the Config Menu lets you specify whether or not you want the printer to stop printing when it detects a TONER LOW condition. See “Configuration (Config) Menu” on page 106.

Important!

Do not remove the toner cartridge and shake it when the TONER LOW message appears. This will cause toner to spill out of the cartridge.

003 TONER CART / REPLACE CART

Meaning: The toner cartridge has printed the specified number of prints and should be replaced with a new one.

Action: Replace the toner cartridge.

004 TONER CART / RESEAT CART

Meaning: The toner cartridge is missing or installed incorrectly.

Action: Open the printer and make sure the toner cartridge is seated correctly. If you have not installed a toner cartridge, do so now.

005 TONER CART / WRONG CART

Meaning: The wrong toner cartridge is installed in the printer.

Action: Replace with the correct toner cartridge, part number 90H3566.

006 TONER CART / RESEAT CART

Meaning: The printer has detected an error in the toner cartridge. The cartridge might not be seated properly, or it might be defective.

Action: Open the printer and make sure the toner cartridge is seated correctly. If error code 006 persists, call for service.

007 TONER CART / REPLACE CART

Meaning: The printer has detected an error in the toner cartridge.

Action: Replace the toner cartridge. If error code 007 persists, call for service.

009 STAPLER / CHECK STAPLES

Meaning: The 2000-Sheet Finisher staple cartridge is either empty or there is a staple jam.

Action:

1. Press the **Pause** button on the 2000-Sheet Finisher to suspend the finishing operation, or the **Cancel Print** key on the operator panel to cancel the job.

   Note: When the stapler is jammed or out of staples, the printer continues sending jobs to the 2000-Sheet Finisher. The jobs will not be stapled even though stapling was requested.

2. Open Cover H, remove the staple cartridge, remove any jammed staples or replenish the staples if the cartridge is empty. See“Replenishing Staples in the 2000-Sheet Finisher” on page 156.

3. Press the **Pause** button again to resume printing, or if you used the **Cancel Print** key, resubmit your job.

010 STAPLER / CHECK CART

Meaning: The staple cartridge is either missing or not seated properly.

Action: Open Cover H, and reseat the staple cartridge.

011 LOAD <paper> / IN <tray>

Meaning: The tray is out of paper, the tray contains the wrong size paper, or the tray is loaded incorrectly. The message identifies the size of paper (*paper*) and the tray (*tray*) that needs paper. (ANY indicates you can load any tray that supports the paper size.) If the message indicates a tray you did not specify, either the original tray is out of paper and automatic tray switching is enabled, or the original tray contains the wrong size paper. (Tray switching is automatic for paper size mismatches. See “Turning Tray Switching On or Off” on page 68.)

Actions:

- If the tray is empty, refill it. The printer resumes printing on its own.
- If the tray contains the wrong size paper, you have two choices:
  1. To use the current paper size, press the **Continue** key.
  2. Load the correct paper size into the tray.
- If the tray contains the correct size paper, make sure the paper is loaded correctly. Check the paper guides. The AUTOSENSED PAPER section of the printer configuration page shows what size

paper the printer paper size sensors have determined is in each tray. See “Printing the Printer Configuration Page” on page 27.

- If you specified a different tray, and you do not want to use the tray specified in the message, you can do the following:
  1. Reset the printer by doing one of the following:
     a. Select RESET PRINTER from the Reset Menu. See “Reset Menu” on page 97.
     b. Switch the printer off and then switch it back on.
  2. Load the correct paper size in the tray you want to use.
  3. Resubmit the job.
- You can exclude trays from the tray switching search sequence when trays are empty. See the description for the following Paper Menu items: TRAY SWITCH (page 100), AUXTRAYPROT (page 104), TRAYnPROT (page 103), or ENVTRAYPROT (page 105).

012 LOAD <paper> / IN AUX/ENV TRAY

Meaning: Auxiliary tray or the envelope feeder is out of paper, or contains the wrong size paper. The message identifies the size of paper <paper> required.

Action:

- If the auxiliary tray or envelope feeder is empty, refill it. The printer resumes printing on its own.
- If the auxiliary tray or envelope feeder contains the wrong size paper, you have two choices:
  1. To use the current paper size, press the **Continue** key.
  2. Load the correct paper size into the auxiliary tray or envelope feeder.

013 LOAD <paper> / IN ANY TRAY

Meaning: None of the trays contain the paper requested by a PostScript job. The message identifies the size of paper <paper> required.

Action: Load the indicated paper size in any tray that supports the paper size. You can also press the **Continue** key to print the job using the paper currently loaded in the auxiliary tray; however, paper errors may occur and you will need to press **Continue** for each sheet remaining in the job.

031 OUTPUT FULL / FACE-DOWN BIN

Meaning: The face-down output bin is full.

Action: Remove the output from the bin.

032 OUTPUT FULL / (1)UPPER BIN

Meaning: The upper bin in the 2000-Sheet Finisher is full.

Action: Remove the output from the bin.

033 OUTPUT FULL / (2)MIDDLE BIN

Meaning: The middle bin in the 2000-Sheet Finisher is full.

Action: Remove the output from the bin.

034 OUTPUT FULL / (3)LOWER BIN

Meaning: The lower bin in the 2000-Sheet Finisher is full.

Action: Remove the output from the bin.

041 TRAY MISSING / REPLACE TRAY 1

Meaning: Tray 1 is not closed or not installed.

Action: Open and close the tray. If you have not installed the tray, do so at this time.

042 TRAY MISSING / REPLACE TRAY 2

Meaning: Tray 2 is not closed or not installed.

Action: Open and close the tray. If you have not installed the tray, do so at this time.

043 TRAY MISSING / REPLACE TRAY 3

Meaning: Tray 3 is not closed or not installed.

Action: Open and close the tray. If you have not installed the tray, do so at this time.

044 TRAY MISSING / REPLACE TRAY 4

Meaning: Tray 4 is not closed or not installed.

Action: Open and close the tray. If you have not installed the tray, do so at this time.

045 TRAY MISSING / REPLACE TRAY 5

Meaning: Tray 5 is not closed or not installed.

Action: Open and close the tray. If you have not installed the tray, do so at this time.

046 AUX - ENV TRAY / REPLACE TRAY

Meaning: The auxiliary tray or the envelope feeder is not installed correctly or is not installed.

Action: Reseat the auxiliary tray or envelope feeder. If you have not installed the auxiliary tray or envelope feeder, do so at this time.

056 TRAY 1 / LIFT FAILURE

Meaning: Problem with Tray 1.

Action: Open Tray 1 and check for obstructions, then remove and reinstall the tray.

057 TRAY 2 / LIFT FAILURE

Meaning: Problem with Tray 2.

Action: Open Tray 2 and check for obstructions, then remove and reinstall the tray.

058 TRAY 3 / LIFT FAILURE

Meaning: Problem with Tray 3.

Action: Open Tray 3 and check for obstructions, then remove and reinstall the tray.

059 TRAY 4 / LIFT FAILURE

Meaning: Problem with Tray 4.

Action: Open Tray 4 and check for obstructions, then remove and reinstall the tray.

060 TRAY 5 / LIFT FAILURE

Meaning: Problem with Tray 5.

Action: Open Tray 5 and check for obstructions, then remove and reinstall the tray.

071 COVER OPEN / CLOSE COVER C

Meaning: Cover C is open.

Action: Close Cover C. Ensure both sides of Cover C latch. If the message does not clear, ensure the 2500-Sheet Input Unit interface cable is connected to the printer.

072 COVER OPEN / CLOSE COVER A

Meaning: Cover A is open.

Action: Close Cover A.

073 COVER OPEN / CLOSE COVER B

Meaning: Cover B is open.

Action: Close Cover B.

210 PAPER JAM / AREA A, AUX TRAY

Meaning: Paper has jammed area A or in the auxiliary tray area.

Action: Remove jammed paper from the paper path. Open the duplex unit and Cover A. Close Cover A and the duplex unit to reset the printer and clear the error message. See “Clearing Auxiliary Tray Jams” on page 84.

211 PAPER JAM / AREA A, ENV FEED

Meaning: Paper has jammed in area A or in the envelope feeder area.

Action: Remove jammed paper from area A and the envelope feeder. See “Clearing Envelope Feeder Jams” on page 88.

212 PAPER JAM / AREA B, C

Meaning: Paper has jammed in area B or C.

Action: Remove jammed paper from areas B and C. See “Clearing 2500-Sheet Input Unit Jams” on page 89.

213 PAPER JAM / AREA B, C

Meaning: Paper has jammed in area B or C.

Action: Remove jammed paper from areas B and C. See “Clearing 2500-Sheet Input Unit Jams” on page 89.

214 PAPER JAM / AREA B, TRAY 3

Meaning: Paper has jammed in area B or Tray 3.

Action: Remove jammed paper from area B. Open Tray 3 and remove jammed paper. Make sure the paper is loaded correctly and the paper guides are adjusted for the paper size. Close Tray 3. See “Clearing 2500-Sheet Input Unit Jams” on page 89.

220 PAPER ERROR / SOURCE TRAY, A

Meaning: Paper has jammed in area A.

Action: Open the duplex unit and Cover A. Remove jammed paper from the paper path. Close Cover A and the duplex unit. Check the source tray and make sure the paper is loaded correctly and the paper guides are adjusted for the paper size. Make sure the paper in the tray is the same length as the paper requested by the job. See “Clearing Exit Area Jams” on page 76.

221 PAPER JAM / AREA A, TRAY 1

Meaning: Paper has jammed in area A or in the Tray 1 area.

Action: Open the duplex unit and Cover A. Remove jammed paper from the paper path. Open Tray 1 and remove jammed paper. Make sure the paper is loaded correctly and the paper guides are adjusted for the paper size. Close Tray 1. See “Clearing Paper Tray Area Jams” on page 80.

222 PAPER JAM / AREA B, TRAY 2

Meaning: Paper has jammed in area B or in the Tray 2 area.

Action: Remove jammed paper from area B. Open Tray 2 and remove jammed paper. Make sure the paper is loaded correctly and the paper guides are adjusted for the paper size. Close Tray 2. See “Clearing Paper Tray Area Jams” on page 80.

223 PAPER JAM / AREA A

Meaning: Paper has jammed in area A.

Action: Open the duplex unit and Cover A. Remove jammed paper from the paper path. Close Cover A and the duplex unit. See “Clearing Paper Tray Area Jams” on page 80.

230 PAPER JAM / TONER CART

Meaning: Paper has jammed in area A or the toner cartridge area.

Action: Open the duplex unit and Cover A. Remove jammed paper from the paper path. Close Cover A and the duplex unit. See “Clearing Exit Area Jams” on page 76.

231 PAPER JAM / AREA A, TRAY

Meaning: Paper has jammed in area A or in the Face-Up Output Bin.

Action: Remove jammed paper from the paper path. Open the duplex unit and Cover A. Close Cover A and the duplex unit to reset the printer and clear the error message. See “Clearing Exit Area Jams” on page 76 .

241 PAPER JAM / AREA A

Meaning: Paper has jammed in area A.

Action: Open the duplex unit and Cover A. Remove jammed paper. Close Cover A and the duplex unit. See “Clearing Exit Area Jams” on page 76 .

242 PAPER JAM / AREA A, D

Meaning: Paper has jammed in area A or D.

Action: Open the duplex unit and Cover A. Remove jammed paper from the paper path. Close Cover A and the duplex unit. Remove jammed paper from area D. See “Clearing Exit Area Jams” on page 76.

250 PAPER JAM / AREA A, D

Meaning: Paper has jammed in area A or area D.

Action: Open the duplex unit and Cover A. Remove jammed paper from the paper path. Close Cover A and the duplex unit. Remove jammed paper from area D. See “Clearing Exit Area Jams” on page 76.

251 PAPER JAM / AREA A, TRAY

Meaning: Paper has jammed in area A or in the Face-Up Output Bin.

Action: Remove jammed paper from the paper path. Open the duplex unit and Cover A. Close Cover A and the duplex unit to reset the printer and clear the error message. See “Clearing Exit Area Jams” on page 76 .

253 PAPER JAM / AREA A, D

Meaning: Paper has jammed in area A or D.

Action: Open the duplex unit and Cover A. Remove jammed paper from the paper path. Close Cover A and the duplex unit. Remove jammed paper from area D. See “Clearing Duplex Unit Jams” on page 86 .

254 PAPER JAM / AREA A, D

Meaning: Paper has jammed in area A or D.

Action: Open the duplex unit and Cover A. Remove jammed paper from the paper path. Close Cover A and the duplex unit. Remove jammed paper from area D. See “Clearing Duplex Unit Jams” on page 86 .

255 PAPER JAM / AREA A, D

Meaning: Paper has jammed in area A or D.

Action: Open the duplex unit and Cover A. Remove jammed paper from the paper path. Close Cover A and the duplex unit. Remove jammed paper from area D. See “Clearing Duplex Unit Jams” on page 86 .

256 PAPER JAM / AREA A

Meaning: Paper has jammed in area A.

Action: Open the duplex unit and Cover A. Remove jammed paper from the paper path. Close Cover A and the duplex unit. See “Clearing Duplex Unit Jams” on page 86.

271 PAPER JAM / AREA A

Meaning: Paper has jammed in area A.

Action: Open the duplex unit and Cover A. Remove jammed paper from the paper path. Close Cover A and the duplex unit. See “Clearing Exit Area Jams” on page 76.

272 FUSER JAM / AREA A, D

Meaning: Paper has jammed around the fuser in area A or D.

Action: Open the duplex unit and Cover A. Remove jammed paper from the paper path. Close Cover A and the duplex unit. Remove jammed paper from area D. See “Clearing Exit Area Jams” on page 76.

273 PAPER JAM / AREA A, TRAY

Meaning: Paper has jammed in area A or in the Face-Up Output Bin.

Action: Remove jammed paper from the paper path. Open the duplex unit and Cover A. Close Cover A and the duplex unit to reset the printer and clear the error message. See “Clearing Exit Area Jams” on page 76 .

274 PAPER JAM / AREA A, B

Meaning: Paper has jammed in area A or B.

Action: Open the duplex unit and Cover A. Remove jammed paper from the paper path. Close Cover A and the duplex unit. Remove jammed paper from area B. See “Clearing Paper Tray Area Jams” on page 80 .

280 ENVFEED / RESEAT ENV FEED

Meaning: An envelope has jammed in the envelope feeder area.

Actions:

1. Remove and reload the envelope in the feeder.
2. If the error persists, remove the envelope feeder from the printer and then reinstall the envelope feeder firmly against the printer. See “Removing the Envelope Feeder” on page 199 and “Installing the Envelope Feeder” on page 198.

281 PAPER JAM / AREA A, ENV FEED

Meaning: Paper has jammed in area A or in the envelope feeder area.

Action: Remove jammed paper from the paper path. See “Clearing Envelope Feeder Jams” on page 88.

282 PAPER JAM / RESEAT PAPER

Meaning: Paper has jammed in area A or in the auxiliary tray area.

Action: Remove jammed paper from the paper path. Remove the paper stack from the auxiliary tray, adjust the paper guides and reload the paper stack. Open the duplex unit and Cover A. Close Cover A and the duplex unit to reset the printer and clear the error message. See “Clearing Auxiliary Tray Jams” on page 84.

330 PAPER JAM / AREA B

Meaning: Paper has jammed in area B.

Action: Remove jammed paper from area B. See “Clearing 2500-Sheet Input Unit Jams” on page 89.

333 PAPER JAM / AREA A, B

Meaning: Paper has jammed in area A or B.

Action: Open the duplex unit and Cover A. Remove jammed paper from the paper path. Close Cover A and the duplex unit. Remove jammed paper from area B. See “Clearing 2500-Sheet Input Unit Jams” on page 89.

334 PAPER JAM / AREA C, TRAY 4

Meaning: Paper has jammed in area C or in the Tray 4 area.

Action: Remove jammed paper from area C. Open Tray 4 and remove jammed paper. Make sure the paper is loaded correctly and the paper guides are adjusted for the paper size. Close Tray 4. See “Clearing 2500-Sheet Input Unit Jams” on page 89.

340 PAPER JAM / AREA B, C,

Meaning: Paper has jammed in area B or C.

Action: Remove jammed paper from areas B and C. See “Clearing 2500-Sheet Input Unit Jams” on page 89.

341 PAPER JAM / AREA C

Meaning: Paper has jammed in area C.

Action: Remove jammed paper from area C. See “Clearing 2500-Sheet Input Unit Jams” on page 89.

342 PAPER JAM / AREA C, TRAY 5

Meaning: Paper has jammed in area C or in the Tray 5 area.

Action: Remove jammed paper from area C. Open Tray 5 and remove any jammed paper. Close Tray 5. See “Clearing 2500-Sheet Input Unit Jams” on page 89.

343 PAPER JAM / AREA A, B

Meaning: Paper has jammed in area A or B.

Action: Open the duplex unit and Cover A. Remove jammed paper from the paper path. Close Cover A and the duplex unit. Remove jammed paper from area B. See “Clearing 2500-Sheet Input Unit Jams” on page 89.

350 PAPER JAM / AREA C, TRAY 5

Meaning: Paper has jammed in area C or in the Tray 5 area.

Action: Remove jammed paper from area C. Open Tray 5 and remove jammed paper. Close Tray 5. See “Clearing 2500-Sheet Input Unit Jams” on page 89.

351 PAPER JAM / AREA B, C

Meaning: Paper has jammed in area B or C.

Action: Remove jammed paper from areas B and C. See “Clearing 2500-Sheet Input Unit Jams” on page 89.

352 PAPER JAM / AREA B, C

Meaning: Paper has jammed in area B or C.

Action: Remove jammed paper from areas B and C. See “Clearing 2500-Sheet Input Unit Jams” on page 89.

353 PAPER JAM / AREA A, B

Meaning: Paper has jammed in area A or B.

Action: Open the duplex unit and Cover A. Remove jammed paper from the paper path. Close Cover A and the duplex unit. Remove jammed paper from area B. See “Clearing 2500-Sheet Input Unit Jams” on page 89.

354 PAPER JAM / AREA C, TRAY 5

Meaning: Paper has jammed in area C or the Tray 5 area.

Action: Removed jammed paper from area C. Open Tray 5 and remove jammed paper. Make sure the paper is loaded correctly and the paper guides are adjusted for the paper size. Close Tray 5. See "Clearing 2500-Sheet Input Unit Jams" on page 89.

361 FINISHER JAM / AREA D, E

Meaning: Paper has jammed in area D or E in the 2000-Sheet Finisher.

Action: Remove jammed paper from areas D and E. See "Clearing 2000-Sheet Finisher Jams" on page 91.

362 FINISHER JAM / AREA E

Meaning: Paper has jammed in area E in the 2000-Sheet Finisher.

Action: Remove jammed paper from area E. See "Clearing 2000-Sheet Finisher Jams" on page 91.

410 FINISHER / POWER OFF/ON

Meaning: 2000-Sheet Finisher cannot eject output.

Action: Remove output from bins and switch the printer off, then on again. If this does not correct the problem, call for service.

411 FINISHER / POWER OFF/ON

Meaning: 2000-Sheet Finisher cannot align output stack.

Action: Remove output from bins and switch the printer off, then on again. If this does not correct the problem, call for service.

412 FINISHER / POWER OFF/ON

Meaning: 2000-Sheet Finisher cannot offset output stack.

Action: Remove output from bins and switch the printer off, then on again. If this does not correct the problem, call for service.

413 FINISHER / POWER OFF/ON

Meaning: 2000-Sheet Finisher cannot properly detect output trays.

Action: Remove output from bins and switch the printer off, then on again. If this does not correct the problem, call for service.

414 FINISHER / POWER OFF/ON

Meaning: 2000-Sheet Finisher elevator has reached upper limit of travel.

Action: Switch the printer off, then on again. If this does not correct the problem, call for service.

415 FINISHER / POWER OFF/ON

Meaning: 2000-Sheet Finisher elevator has reached lower limit of travel.

Action: Switch the printer off, then on again. If this does not correct the problem, call for service.

416 FINISHER / POWER OFF/ON

Meaning: Stapler mechanism is in incorrect position.

Action: Switch the printer off. Check to see the stapler head moves freely, then power on the printer. If this does not correct the problem, call for service.

417 FINISHER / STAPLER FAILED

Meaning: Stapler did not initialize properly.

Action: Do the following:

1. Switch the printer off.
2. Open the 2000-Sheet Finisher cover.
3. Locate the stapler head and move it towards the front of the 2000-Sheet Finisher, as far as it will go.
4. Verify that the staple cartridge is inserted properly.
5. Close the 2000-Sheet Finisher cover.
6. Switch the printer on.

If this does not correct the problem, call for service.

418 FINISHER / STAPLER FAILED

Meaning: Stapler failed to position properly.

Action: Do the following:

1. Switch the printer off.
2. Open the 2000-Sheet Finisher cover.
3. Locate the stapler head and move it towards the front of the 2000-Sheet Finisher, as far as it will go.
4. Verify that the staple cartridge is inserted properly.
5. Close the 2000-Sheet Finisher cover.
6. Switch the printer on.

If this does not correct the problem, call for service.

419 FINISHER / STAPLER FAILED

Meaning: Stapler failed to position properly.

Action: Do the following:

1. Switch the printer off.
2. Open the 2000-Sheet Finisher cover.
3. Locate the stapler head and move it towards the front of the 2000-Sheet Finisher, as far as it will go.
4. Verify that the staple cartridge is inserted properly.

5. Close the 2000-Sheet Finisher cover.
6. Switch the printer on.

If this does not correct the problem, call for service.

420 FINISHER / STAPLER FAILED

Meaning: Stapler failed to position properly.

Action: Switch the printer off. Check to see the stapler head moves freely, then switch on the printer power. If this does not correct the problem, call for service.

421 FINISHER / STAPLER FAILED

Meaning: Stapling operation failed.

Action: Switch the printer off, remove the output from the bins, then switch on the printer power. If this does not correct the problem, call for service.

422 FINISHER / STAPLER FAILED

Meaning: Stapling operation failed.

Action: Switch the printer off, remove the output from the bins, then switch on the printer power. If this does not correct the problem, call for service.

430 MAIN MOTOR / POWER OFF/ON

Meaning: The printer has detected a problem with the main motor.

Action: Switch the printer off, then on again. If this does not correct the problem, call for service.

451 FAN FAILED / POWER OFF/ON

Meaning: The printer has detected a problem with the fan.

Action: Switch the printer off, then on again. If this does not correct the problem, call for service.

454 FUSER FAILED / POWER OFF/ON

Meaning: The printer has detected a problem with the fuser.

Action: Switch the printer off, wait 15 minutes, then power on. If this does not correct the problem, call for service.

502 FUSER FAILED / POWER OFF/ON

Meaning: The printer has detected a problem with the fuser.

Action: Switch the printer off, wait 15 minutes, then on again. If this does not correct the problem, call for service.

503 FUSER FAILED / POWER OFF/ON

Meaning: The printer has detected a fuser over-temperature problem.

Action: Switch the printer off, wait 15 minutes, then on again. If this does not correct the problem, call for service.

504 FUSER FAILED / REPLACE FUSER

Meaning: The printer has detected a hardware problem with the fuser.

Action: Replace the fuser. See “Changing the Usage Kit” on page 160.

511 LASER FAILED / POWER OFF/ON

Meaning: The printer has detected a problem with the laser.

Action: Switch the printer off, then on again. If this does not correct the problem, call for service.

512 LASER FAILED / POWER OFF/ON

Meaning: The printer has detected a problem with the laser.

Action: Switch the printer off, then on again. If this does not correct the problem, call for service.

513 LASER FAILED / POWER OFF/ON

Meaning: The printer has detected a problem with the laser.

Action: Switch the printer off, then on again. If this does not correct the problem, call for service.

514 LASER FAILED / POWER OFF/ON

Meaning: The printer has detected a problem with the laser.

Action: Switch the printer off, then on again. If this does not correct the problem, call for service.

520 LASER FAILED / POWER OFF/ON

Meaning: The printer has detected a problem with the laser.

Action: Switch the printer off, then on again. If this does not correct the problem, call for service.

560 MCU FAILED / POWER OFF/ON

Meaning: The printer has detected a problem with the machine control unit.

Action: Switch the printer off, then on again. If this does not correct the problem, call for service.

561 RAM FAILED / POWER OFF/ON

Meaning: The printer has detected a memory error.

Action: Switch the printer off, then on again. If this does not correct the problem, call for service.

620 MEMORY SIMM / RESEAT SIMM

Meaning: A SIMM module is not properly seated in its slot or is in some other way defective.

Action: Switch the printer off. Pull out the controller card. Reseat the SIMM module and power on the printer. See “Installing a SIMM” on page 177 . If the message recurs after you restart the printer, call for service.

621 MEMORY ERROR / CHECK MEMORY

Meaning: Memory overflow. The printer has received more data than can fit into its memory. This can happen when the printer receives too many soft fonts, macros, or complex graphics.

Action: If the AUTOCONTINU item in the Config Menu is set to ON, printing resumes in ten seconds. Otherwise, press the **Continue** key. Check the current page for errors. See “Memory Requirements” on page 8 for information on how much memory various options require.

622 MEMORY ERROR / CHECK CONFIG

Meaning: The printer cannot allocate the memory required to print a job.

Action: If the AUTOCONTINU item in the Config Menu is set to ON, printing resumes in ten seconds. Otherwise, press the **Continue** key. Check the current page for errors.

623 PRT OVERRUN / CHECK CONFIG

Meaning: A page is too complex to print at the current resolution.

Actions:

- If QUALITY is set to REFINE, change it to something else and resubmit the job. Use your printer driver or the Config Menu. The driver setting overrides the menu setting. See “Configuration (Config) Menu” on page 106.
- If you are feeding paper long-edge first, change it to short-edge first.
- Add more memory. See “Memory Requirements” on page 8 for information on how much memory various options require.

630 NVRAM FAILED / POWER OFF/ON

Meaning: The printer has detected a memory error.

Action: Switch the printer off and reseat the controller card. Switch on the printer power. If this does not correct the problem, call for service.

631 NVRAM FAILED / POWER OFF/ON

Meaning: The printer has detected a memory error.

Action: Switch the printer off and reseat the controller card. Switch on the printer power. If the error recurs, call for service.

632 ROM ERROR / POWER OFF/ON

Meaning: The printer has detected an error in the ROM checksum.

Action: Switch the printer off, wait 20 seconds, then switch on the printer power. If the error recurs, call for service.

633 DRAM ERROR / CHECK DRAM SIMM

Meaning: The printer has detected an error in the DRAM.

Action: Switch the printer off, wait 20 seconds, then switch on the printer power. If the error recurs, reinstall all SIMMs. See “Installing a SIMM” on page 177. If the message recurs, call for service.

634 NVRAM ERROR / POWER OFF/ON

Meaning: The printer has detected an error in the NVRAM (EEPROM).

Action: Switch the printer off, wait 20 seconds, then switch on the printer power. If the error recurs, reinstall all SIMMs. See “Installing a SIMM” on page 177. If the message recurs, call for service.

671 DISK ERROR / POWER OFF/ON

Meaning: The printer has detected a problem with the hard drive.

Action: Switch the printer off, wait 20 seconds, then switch on the printer power. If the error recurs, call for service.

672 DISK ERROR / POWER OFF/ON

Meaning: The printer has detected a problem with the hard drive.

Action: Switch the printer off, wait 20 seconds, then switch on the printer power. If the error recurs, call for service.

673 DISK ERROR / POWER OFF/ON

Meaning: The printer has detected a problem with the hard drive.

Action: Switch the printer off, wait 20 seconds, then switch on the printer power. If the error recurs, call for service.

711 COVER OPEN / CLOSE DUPLEX

Meaning: The duplex unit is open.

Action: Close the duplex unit tightly against the printer.

712 PAPER JAM / DUPLEX UNIT

Meaning: Paper has jammed in the duplex unit.

Action: Switch the printer off, open the duplex unit, and remove the jammed paper. Close the duplex unit and switch on the printer power. If this does not correct the problem, call for service.

713 PAPER JAM / DUPLEX UNIT

Meaning: Paper has jammed in the duplex unit.

Action: Switch the printer off, open the duplex unit, and remove the jammed paper. Close the duplex unit and switch on the printer power. If this does not correct the problem, call for service.

714 DUPLEX ERROR / CHECK CABLE

Meaning: The printer has detected a problem with the duplex unit.

Action: Power off the printer, check the cable connecting the duplex unit to the printer, then switch on the printer power.

751 FINISHER JAM / AREA E

Meaning: Paper has jammed in area E in the 2000-Sheet Finisher.

Action: Remove jammed paper from the paper path. See “Clearing 2000-Sheet Finisher Jams” on page 91.

752 FINISHER JAM / AREA E

Meaning: Paper has jammed in area E in the 2000-Sheet Finisher.

Action: Remove jammed paper from the paper path. See “Clearing 2000-Sheet Finisher Jams” on page 91.

753 FINISHER JAM / AREA E, F

Meaning: Paper has jammed in area E or F in the 2000-Sheet Finisher.

Action: Remove jammed paper from the paper path. See “Clearing 2000-Sheet Finisher Jams” on page 91.

754 FINISHER JAM / AREA E

Meaning: Paper has jammed in area E in the 2000-Sheet Finisher.

Action: Remove jammed paper from the paper path. See “Clearing 2000-Sheet Finisher Jams” on page 91.

755 FINISHER JAM / AREA E, F

Meaning: Paper has jammed in area E or F in the 2000-Sheet Finisher.

Action: Remove jammed paper from the paper path. See “Clearing 2000-Sheet Finisher Jams” on page 91.

756 FINISHER JAM / AREA E, F

Meaning: Paper has jammed in area E or F in the 2000-Sheet Finisher.

Action: Remove jammed paper from the paper path. See “Clearing 2000-Sheet Finisher Jams” on page 91.

757 FINISHER JAM / AREA F, G

Meaning: Paper has jammed in area F or G in the 2000-Sheet Finisher.

Action: Remove jammed paper from the paper path. See “Clearing 2000-Sheet Finisher Jams” on page 91.

758 FINISHER JAM / AREA F, G

Meaning: Paper has jammed in area F or G in the 2000-Sheet Finisher.

Action: Remove jammed paper from the paper path. See “Clearing 2000-Sheet Finisher Jams” on page 91.

759 FINISHER JAM / AREA G

Meaning: Paper has jammed in area G in the 2000-Sheet Finisher.

Action: Remove jammed paper from the paper path. See “Clearing 2000-Sheet Finisher Jams” on page 91.

760 FINISHER JAM / AREA G

Meaning: Paper has jammed in area G in the 2000-Sheet Finisher.

Action: Remove jammed paper from the paper path. See “Clearing 2000-Sheet Finisher Jams” on page 91.

761 FINISHER JAM / AREA G

Meaning: Paper has jammed in area G in the 2000-Sheet Finisher.

Action: Remove jammed paper from the paper path. See “Clearing 2000-Sheet Finisher Jams” on page 91.

762 FINISHER / RESEAT FINISHER

Meaning: The 2000-Sheet Finisher is not seated properly against the printer.

Action: Unplug the 2000-Sheet Finisher cable and move the 2000-Sheet Finisher away from the printer. Check the 2000-Sheet Finisher power cord connection. Then firmly reattach the 2000-Sheet Finisher to the printer. Ensure that area F (transport) is seated firmly against Area D (docking station). Plug the 2000-Sheet Finisher cable back into the printer output connector.

763 COVER OPEN / AREA E

Meaning: Cover E is open.

Action: Close the cover.

764 COVER OPEN / AREA H

Meaning: Cover H is open.

Action: Close the cover.

765 COVER OPEN / AREA F

Meaning: Cover F is open.

Action: Close the cover.

767 COVER OPEN / AREA G

Meaning: Cover G is open.

Action: Close the cover.

768 COVER OPEN / AREA G

Meaning: Cover G is open.

Action: Close the cover.

769 FINISHER / RESEAT FINISHER

Meaning: The 2000-Sheet Finisher is not positioned correctly against the printer. Interlock in area J is open.

Action: Switch the printer power off and move the 2000-Sheet Finisher away from the printer. Reseat 2000-Sheet Finisher firmly against the printer making sure area F (transport) is seated firmly against area D (docking station). If the problem persists, call for service.

771 ENV FEED / RESEAT ENVFEED

Meaning: The envelope feeder has lost its connection to the printer.

Action: Remove the envelope feeder from the printer. (See “Removing the Envelope Feeder” on page 199.) Reinstall the envelope feeder firmly against the printer. See “Installing the Envelope Feeder” on page 198 .

780 FINISHER / (1)UPPER BIN

Meaning: Hardware failure in upper bin.

Action: Remove output from all 2000-Sheet Finisher bins and switch the printer off, then on again. If this does not correct the problem, call for service.

781 FINISHER / (2)MIDDLE BIN

Meaning: Hardware failure in middle bin.

Action: Remove output from all 2000-Sheet Finisher bins and switch the printer off, then on again. If this does not correct the problem, call for service.

782 FINISHER / (3)LOWER BIN

Meaning: Hardware failure in lower bin.

Action: Remove output from all 2000-Sheet Finisher bins and switch the printer off, then on again. If this does not correct the problem, call for service.

783 FINISHER / (1)UPPER BIN

Meaning: Hardware failure in upper bin.

Action: Remove output from all 2000-Sheet Finisher bins and switch the printer off, then on again. If this does not correct the problem, call for service.

784 FINISHER / (2)MIDDLE BIN

Meaning: Hardware failure in middle bin.

Action: Remove output from all 2000-Sheet Finisher bins and switch the printer off, then on again. If this does not correct the problem, call for service.

785 FINISHER / (3)LOWER BIN

Meaning: Hardware failure in lower bin.

Action: Remove output from all 2000-Sheet Finisher bins and switch the printer off, then on again. If this does not correct the problem, call for service.

786 FINISHER / (1)UPPER BIN

Meaning: Hardware failure in upper bin.

Action: Remove output from all 2000-Sheet Finisher bins and switch the printer off, then on again. If this does not correct the problem, call for service.

787 FINISHER / (2)MIDDLE BIN

Meaning: Hardware failure in middle bin.

Action: Remove output from all 2000-Sheet Finisher bins and switch the printer off, then on again. If this does not correct the problem, call for service.

788 FINISHER / (3)LOWER BIN

Meaning: Hardware failure in lower bin.

Action: Remove output from all 2000-Sheet Finisher bins and switch the printer off, then on again. If this does not correct the problem, call for service.

789 FINISHER / ELEVATOR FAILED

Meaning: 2000-Sheet Finisher bin elevator positioning failure.

Action: Remove output from all 2000-Sheet Finisher bins and switch the printer off, then on again. If this does not correct the problem, call for service.

790 FINISHER / SAFETY SWITCHES

Meaning: Hardware failure in 2000-Sheet Finisher upper bin.

Action: Remove output from all 2000-Sheet Finisher bins and switch the printer off. Look for and remove any obstructions in areas F and G that may impede the motion of the 2000-Sheet Finisher bins. Switch on the printer power. If this does not correct the problem, call for service.

791 FINISHER / NO COMMUNICATION

Meaning: 2000-Sheet Finisher has lost communication with the printer.

Action: Switch the printer off. Reseat the finisher interface cable and switch on the printer power. If this does not correct the problem, call for service.

821 PS OPTION / RESEAT PS SIMM

Meaning: Printer has detected a problem.

Action: Reinstall all SIMMs. See "Installing a SIMM" on page 177. If the message recurs, call for service.

851 IPDS OPTION / RESEAT SIMM

Meaning: The printer has detected a problem with the IPDS SIMM.

Action: Reinstall the IPDS SIMM. See "Installing a SIMM" on page 177 for information about installing SIMMs. If the message recurs, call for service.

852 IPDS OPTION / ADD MEMORY

Meaning: The printer requires more memory before it can process IPDS jobs.

Action: Install more memory. See "Memory Requirements" on page 8 for information about IPDS memory requirements. See "Installing a SIMM" on page 177 for information about installing memory SIMMs.

853 IPDS OPTION / POWER OFF/ON

Meaning: The printer does not have enough memory available to process IPDS jobs.

Action: Switch the printer off, wait 20 seconds and then switch on the printer power to clear the memory. If the error happens again, you may need to install more memory. See "Memory Requirements" on page 8 for information about IPDS memory requirements. See "Installing a SIMM" on page 177 for information about installing memory SIMMs.

861 HOST TIMEOUT / CHECK PRINTER

Meaning: The coax network interface card has sent an Intervention Required message to the host. This error occurs when (a) the printer is OFFLINE for longer than the HLD TMEOUT setting in the Coax Setup Menu, or (b) the printer has been in an intervention required state (such as, out of paper) for longer that the IRQ TMEOUT setting.

Action: Solve the problem that caused the message (for example, press the **Online** key to put the printer online, or add paper). To disable this error message, set the HLD TMEOUT and IRQ TMEOUT values in the Coax Setup Menu to 0.

862 CX SEND STATE

Meaning: Your coax host has placed your printer in "Send State" and is waiting for the printer to return a PA signal.

Action: Press the **Continue** key to clear the message. (You may need to press the key more than once.) Then do the following to send the PA signal.

1. Press the **Online** key to take the printer offline.
2. Press the **Menu** key until you see the Coaxial SCS Menu.
3. Press the **Item** key until you see PA1 or PA2 (whichever signal you want to send).
4. Press the **Enter** key to send the signal.
5. Press the **Online** key to resume printing.

871 NETWORK OPT / RESEAT OPTION

Meaning: The printer detected a network interface cart in the top slot, but the card is not communicating.

Action: Make sure the network interface card is properly installed and restart the printer. See “Installing a Network Interface Card” on page 182 . If the message recurs, call for service. Remove the network interface card from the printer if you want to print a printer configuration page or if you want to print from the parallel port.

872 NETWORK OPT / RESEAT OPTION

Meaning: The printer detected a network interface cart in the bottom slot, but the card is not communicating.

Action: Make sure the network interface card is properly installed and restart the printer. See “Installing a Network Interface Card” on page 182 . If the message recurs, call for service. Remove the network interface card from the printer if you want to print a printer configuration page or if you want to print from the parallel port.

876 NETWORK OPT / CHECK CONFIG

Meaning: The printer has detected that two of the same network interface cards have been installed.

Action: Remove one of the cards.

Appendix D. Specifications

This appendix describes environmental and consumable information for purchasing of supplies.

Printer Specifications

Printing system	Electrophotography
Exposure system	Semiconductor laser beam scanning
Resolution	600 dpi
Warm-up time	Within 70 seconds after power on at 68 degrees F (20° C)
Dimensions and Weight	Base Width 762 mm (30 in.) Depth 520 mm (20.5 in.) Height 486 mm (19.1 in.) Weight 48 kg (105 lb.) Base (with 2500-Sheet Input Unit, and 2000-Sheet Finisher: Width 1549 mm (61 in.) Depth 711 mm (28 in.) Height with 2000-Sheet Finisher in lowest position: 1092 mm (43 in.) Height with 2000-Sheet Finisher in highest position: 1651 mm (65 in.) Weight 136 kg (300 lb.)
Power Consumption	Model 001 (120 Volts): Operating: 900 watts maximum Standby: 45 watts maximum
	Model 002 (220 Volts): Operating: 950 watts maximum Standby: 50 watts maximum
	Model 003 (100 Volts): Operating: 900 watts maximum Standby: 45 watts maximum

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Noise level (Declared noise emissions in accordance with ISO 9296.)		**Operating**	**Idling**
	Full System (with 2500-Sheet Input Unit and 2000-Sheet Finisher)		
	Sound power	7.2B	4.2B
	Sound pressure	58dB	28dB
	Engine Only		
	Sound power	6.9B	4.2B
	Sound pressure	55dB	28dB
Environment	Operating: Temperature: 50 to 90 ° F (10 to 32 ° C) Humidity: 15 to 85 percent relative humidity, maximum wet bulb: 81° F. Altitude: 0 to 8,200 feet (2,500 m) Shipping and Storage: Temperature: -4 to 104 ° F (-20 to 40 ° C) Humidity: 5 to 85 percent relative humidity Altitude (storage): 0 to 8,200 feet (2,500 m) Altitude (shipping): 0 to 49,200 feet (15,000 m) **Note:** The shipping and storage humidity can be between 5 to 15% or 85 to 95% for a maximum of 48 hours only.		
Clearance requirements	Front — 460 mm Sides — left = 640 mm, right = 200 mm Back — 200 mm		

Cartridge Specifications

Replacement Part Number	90H3566
Temperature for Storage	0° to 40° C (0° to 104° F)
Humidity for storage	15 to 85% **Note:** The shipping and storage humidity can be between 5 to 15% or 85 to 95% for a maximum of 48 hours only.

Cartridge life	The approximate average yield for the toner cartridge is 23,000 pages (simplex, one side printed). This yield was established with a toner coverage of 5% on letter-size paper, default DENSITY setting and QUALITY=NORMAL (Config Menu) setting. The QUALITY=ECONO setting can increase the life of the toner cartridge by up to 20% to 30%. This yield increase was established with a toner coverage of 5% on letter-size paper, default DENSITY setting, QUALITY=ECONO setting, and an average of 3 to 4 pages per print job. **Notes:** 1. It may be possible to increase the yield of the toner cartridge from the average of approximately 23,000 pages, if you select toner saver print quality mode from your printer driver. (Note that the driver setting will override the menu setting.) 2. The actual page yield is affected by the environment, the type of print media, the percentage of text and graphics, the complexity of the graphics, and other factors, so actual results can vary.

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Energy Star

The Environmental Protection Agency (EPA) ENERGY STAR Computers program is a partnership effort with manufacturers of data processing equipment to promote the introduction of energy-efficient personal computers, monitors, printers, fax machines, and copiers to help reduce air pollution and global warming caused by electricity generation.

IBM Printing Systems Company participates in this program by introducing printers that reduce power consumption when they are not being used. As an Energy Star Partner, IBM Printing Systems Company, has determined that your IBM 4332, models 001 and 003, meets the Energy Star guidelines for energy efficiency.

Appendix F. Glossary

The following terms are defined as they are used in InfoPrint 32 documentation. If you do not find the term you need, refer to the index or to the *IBM Dictionary of Computing* ZC20-1699 or the *IBM Dictionary of Printing*, G544-3973.

A4-size paper. Paper that is 210 by 297 mm

A5-size paper. Paper that is 148.5 by 210 mm

A6-size paper. Postcard stock that is 105 by 148 mm

adhesive label. Special-application material; typically consists of paper labels coated on one side with an adhesive mixture temporarily affixed to backing material.

ASCII. American National Standard Code for Information Interchange. The standard code, using a coded character set consisting of 7-bit coded characters (8 bits including parity check), that is used for information interchange among data processing systems, data communication systems, and associated equipment. The ASCII set consists of control characters and graphic characters.

Auto-continue. A function activated in the Config Menu that determines if the printer should resume printing without waiting for operator responses to certain types of errors. Examples of the types of errors that use this function are insufficient memory to print a complex page or a request to load paper (where printing can continue using a different size of paper than was specified for the job).

B5-JIS size paper. Paper that is 182 mm by 257 mm (7.17 in. by 10.12 in.).

B5-ISO size paper. Paper that is 176 mm by 250 mm (6.93 in. by 9.84 in.).

binder holes. A series of holes or slots punched at set intervals that allows the form to be inserted in a loose-leaf or ring binder.

binding. An item in the Paper Menu that specifies, for duplex sheets, which edge should be used for binding. LONG binding assumes the sheets will be bound along the long edge of the paper, SHORT binding assumes the sheets will be bound along the short edge of the paper.

bitmapped font. A font in which each character is defined by a raster bitmap.

bond (paper). Paper formulated with at least 80% wood pulp. Bond-paper forms work best in the InfoPrint 32.

buffer. A routine or storage used to compensate for a difference in rate of flow of data, or time of occurrence of events, when transferring data from one device to another.

character set. (1) A finite set of different characters that is complete for a given purpose; for example, the character set in ISO Standard 646, “7-bit Coded Character Set of Information Processing Interchange.” (2) A group of characters used for a specific reason; for example, the set of characters a printer can print.

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coated paper. Paper that has had a surface coating applied to produce smoothness.

coaxial. A cable consisting of one conductor, usually a small copper tube or wire, within and insulated from another conductor of larger diameter, usually copper tubing or copper braid.

code page. A font library of hexadecimal identifiers to graphic characters.

configuration. (1) The arrangement of a computer system or network as defined by the nature, the number, and the chief characteristics of its functional units. More specifically, the term configuration may refer to a hardware configuration or a software configuration. (2) The devices and programs that make up a system, subsystem, or network.

connector. A means of establishing electrical flow.

cut-sheet paper. Paper that is cut into sheets.

data stream. (1) All data transmitted through a data channel in a single read or write operation. (2) A continuous stream of data elements being transmitted, or intended for transmission, in character or binary-digit form, using a defined format.

default. An alternative value, attribute, or option that is assumed when none has been specified.

diagnostic. Pertaining to the detection and isolation of errors in programs and faults in equipment.

disable. To make non-functional. Contrast with enable.

DRAM. Dynamic random-access memory.

dry ink. The material that forms the image on the paper. Synonymous with toner.

DSC. 3270 Information Display System data-stream compatibility.

DSE. Data switching exchange.

duplex printing. Printing on both sides of a sheet of paper. Synonym for two-sided printing. Contrast with simplex printing.

Ethernet. A 10-megabit baseband local area network that allows multiple stations to access the transmission medium at will without prior coordination, avoids contention by using carrier sense and deference, and resolves contention by using collision detection and transmission. Ethernet uses carrier sense multiple access with collision detection (CSMA/CD).

flash memory. A type of random-access storage that preserves its contents when power is removed from it.

folio. 8.5 x 13 in. paper. Also called Legal 13.

font. (1) A family or assortment of characters of a given size and style; for example, 9-point Bodoni modern. A font has a unique name and may have a registry number. (2) A font is data used to create an image of each graphic character; for example, a raster pattern.

format. (1) The arrangement or layout of data on a data medium. (2) The size, style, type of page, margins, printing requirements, and so on, of a printed page.

forms. The material on which output data is printed, such as paper or adhesive labels. See preprinted form.

forms path. The entire route that forms travel during processing. The forms path usually begins where the forms are loaded and ends at the stacker. Synonym for paper path.

fuse. To use heat and pressure to blend toner onto forms to make a permanent bond.

fuser. The assembly that bonds the toned image to the paper, using heat and pressure.

graphic. A symbol produced by a process such as handwriting, drawing, or printing. See also vector graphics.

graphic character. A character that is normally represented by a graphic, independent of code points or fonts. A graphic character is often in the form of a spatial arrangement of adjacent or connected strokes; for example, a letter or digit.

hard drive. A standalone disk drive that reads and writes data on rigid disks and can be attached to a port on the printer. Synonymous with fixed disk drive, hard disk drive.

Hewlett-Packard Printer Command Language (HP-PCL). A data stream used for printing on Hewlett-Packard laser printers and compatible printers.

host system. (1) The primary or controlling computer in a multiple-computer installation. (2) A computer used to prepare programs for use on another computer or on another data-processing system; for example, a computer used to compile, link edit, or test programs to be used on another system.

image. (1) A string of picture elements organized in scan lines to represent the contrasting portions of a picture. (2) A likeness or imitation of an object. (3) In this printer, an image comprises a string of pels organized in scan lines to represent the contrasting portions of a picture. The image may consist of any data stored as a raster pattern. It is printed on one side of a sheet of paper. The term image is interchangeable with impression. See also impression.

impression. An implied or physical page. Used when calculating the reduction of printer output caused by switching the printer between duplex and simplex modes or upper and lower paper supplies. See also image.

Intelligent Printer Data Stream. An architected host-to-printer data stream that contains both data and controls defining how the data (text, image, graphics, and bar code) is to be presented. IPDS provides a device-independent interface for controlling and managing all-points addressable printers.

interface. A shared boundary. An interface might be a hardware component to link two devices or it might be a portion of storage or registers accessed by two or more computer programs.

IPDS. See Intelligent Printer Data Stream.

intervention. An unexpected condition that requires user intervention to clear it; for example, out of toner.

ISO sizes. Pertaining to a set of paper sizes selected from those standardized by the International Organization for Standardization (ISO) for use in data processing.

jam. In a printer, a condition where forms have become blocked or wedged in the forms path so the printer cannot operate.

JIS. Japanese Industry Standards. Used in reference to paper standards for size.

landscape orientation. Text and images that are printed parallel to the longer side of the forms. Contrast with portrait orientation.

laser (light amplification by stimulated emission of radiation). A device that emits a beam of coherent light.

LEF. Long-edge feed. The print medium is fed into the printer long edge first.

legal-size paper. Paper that is 216 mm x 356 mm (8.5 in. x 14.0 in.).

letter-size paper. Paper that is 216 mm x 279 mm (8.5 in. x 11.0 in.).

logical page. The print on the page, such as composed text, graphics, and fonts within defined margins. See also page. Contrast with physical page.

MRT compression. Memory Reduction Technology algorithms to compress printed pages into smaller memory space.

NetBIOS. Local area network basic input/output system.

network interface cards. Optional features that allow the printer to attach to computer networks. The printer can have up to two network interface cards installed, allowing it to communicate with two networks.

offline. Not connected to an installed and enabled attachment. Contrast with online.

offset stacking. The jogged stacking of output media in the output stacker so that jobs protrude from the balance of the stack to give physical identification.

online. Connected to an installed and enabled attachment. Contrast with offline.

orientation. The number of degrees an object is rotated relative to a reference; for example, the orientation of an overlay relative to the page point of origin. See also text orientation.

output bin. The part of the InfoPrint 32 where the printed sheets are collected.

outline font. A font whose graphic character shapes are defined by mathematical equations rather than by raster patterns. Contrast with raster font.

overrun condition. Loss of data because a receiving device is unable to accept data at the rate it is transmitted.

page. A collection of information bound by the beginning page control and its associated end control. A page of printing is one side of a sheet of paper or form. See also logical page and physical page.

paper path. The entire route that forms travel while they are being processed. The paper path usually begins where the forms are loaded and ends at the stacker.

parallel port. An access point through which a computer transmits or receives data that consists of several bits sent simultaneously on separate wires.

PCL5e. Hewlett-Packard's Printer Command Language, a data stream used for printing.

pel (picture element). (1) An element of a raster pattern; a point where a toned area on the photoconductor may appear. (2) On an all-points-addressable output medium, each pel is an addressable unit. On a row-column addressable output medium, the only pel addressable is the beginning of a character cell.

physical page. The form on which the printer is printing, such as an 8-1/2 x 11-inch sheet of paper. See also page. Contrast with logical page.

pitch. A unit of measurement for the width of a printed character. It identifies the number of graphic characters per inch; for example, 10-pitch has ten graphic characters per inch. Uniformly spaced fonts are measured in pitches. Contrast with point.

point. A unit of measurement for describing type sizes. There are 12 points to a pica, about 72 points to an inch.

point of origin. The location of the first print position on a logical page. The point of origin is usually stated in terms of X and Y coordinates. The point of origin used by a printer can be affected by factors such as printable area and forms orientation.

portrait orientation. Pertaining to a display or hard copy with greater height than width. Contrast with landscape orientation.

PostScript. (1) A page description language with interactive graphics capabilities that was developed by Adobe Systems, Inc. (2) An interpretive programming language that describes the appearance of text, graphical shapes, and sampled images on a printed page by defining a print file format that is the interface between document composition applications and raster printing devices.

preprinted form. A sheet of forms containing a preprinted design of constant data with which variable data can be combined. See also forms.

Print-Error Marker (PEM). Small, black, rectangular marks that indicate incorrectly placed data in the valid printable area.

print position. The physical positions of the characters constituting a print line relative to the form.

print quality. The quality of printed output relative to existing standards and in comparison with jobs printed earlier.

print surface. The side of a form that receives the printed image.

raster. (1) In computer graphics, a predetermined pattern of lines that provides uniform coverage of a display space. (2) The coordinate grid that divides the display area of a display device. (3) In the InfoPrint 32, an on/off pattern of electrostatic images produced by the laser print head under control of the character generator.

raster font. A font in which each character is defined by a raster bitmap.

raster pattern. A series of picture elements (pels) arranged in scan lines to form an image.

raster scan. A technique of generating or recording the elements of an image by a line-by-line sweep across the entire output medium.

resident font. Those font data sets that are resident within the printer. They usually reside on the printer disk media (diskette or hard disk). These font sets are usually commonly used fonts. Having them resident reduces font load time. These fonts may also be used during offline testing of the printer.

scalable font. A font whose graphic characters are represented by mathematical equations and can be sized to different heights.

SCS. See SNA character string.

SEF. Short-edge feed. The print medium is fed into the printer short edge first.

SIMM. Single inline memory module.

simplex printing. Printing on one side of a sheet of paper. Contrast with duplex printing.

SNA character string. In SNA, a character string composed of EBCDIC controls, optionally intermixed with end-user data, that is carried within a request/response unit.

skew. Refers to the paper going through the paper path at a slight angle. This will cause the printing lines to not be aligned properly.

stacker. A device used to hold paper or forms that have been printed; the output device of a printer.

storage. (1) The retention of data in a storage device. (2) In word processing, a unit into which recorded text can be entered, in which it can be retained and processed, and from which it can be retrieved. (3) A device, or part of a device, that can retain data.

symbol set. In PCL5e, a particular assignment of hexadecimal identifiers to graphic characters.

text orientation. The position of text as a combination of print direction and baseline direction. See also orientation.

throughput. A measure of the amount of work performed by the printer over a period of time, for example, number of jobs per day.

token ring. A network with a ring topology that passes tokens from one attaching device to another; for example, the IBM Token-Ring Network.

toner. (1) In a document-printing machine, image-forming material used in electrostatic processes. (2) A supply item for the printer. The black powder used for printing images. Synonymous with dry ink.

toner density. The amount of toner dispersed over a specified area. Higher toner density yields darker print; lower toner density produces lighter print.

trailing edge. The trailing edge of the paper is the edge of the paper that proceeds into the printer last as it is fed from one of the paper supplies.

twinax attachment. A twinaxial attachment to the AS/400.

twinaxial. A cable consisting of two conductors, usually small copper tubes or wires insulated from each other, within and insulated from another conductor of larger diameter, usually copper tubing or copper braid. This type of cable is often used to attach printers to an AS/400 system.

two-sided printing. Printing on both sides of a sheet of paper. Synonymous with duplex printing. Contrast with simplex printing.

valid printable area. The area represented by the intersection of the physical page and the current logical page. You can use the VPA CHK item on the IPDS Menu to specify if attempts to print outside this area cause errors to be reported to the host.

vector graphics. Computer graphics in which display images are generated from display commands and coordinate data. See also graphic. Contrast with raster pattern.

xerographic paper. A paper that is manufactured specifically for the xerographic process, in which key paper qualities are carefully controlled.

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