Xerox DocuPrint 96/4635/180/2000 NPS/IPS

Troubleshooting Guide

Changes are periodically made to this document. Changes, technical inaccuracies, and typographic errors will be corrected in subsequent editions.

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Safety

Laser safety

The Xerox DocuPrint printers are certified to comply with the performance standards of the U.S. Department of Health, Education, and Welfare for Class 1 laser products. Class 1 laser products do not emit hazardous radiation. The DocuPrint printers do not emit hazardous radiation because the laser beam is completely enclosed during all modes of customer operation.

The laser danger labels on the system are for Xerox service representatives and are on or near panels or shields that must be removed with a tool.

DO NOT REMOVE LABELED PANELS OR PANELS NEAR LABELS. ONLY XEROX SERVICE REPRESENTATIVES HAVE ACCESS TO THESE PANELS.

> **DANGER**
>
> **LASER RADIATION WHEN OPEN
> AVOID DIRECT EXPOSURE TO BEAM**

Ozone information: U. S. only

This product produces ozone during normal operation. The amount of ozone produced depends on copy volume. Ozone is heavier than air. The environmental parameters specified in the Xerox installation instructions ensure that concentration levels are within safe limits. If you need additional information concerning ozone, call 1-800-828-6571 to request the Xerox publication 600P83222, *OZONE.*

Operation safety: U. S.

Your Xerox equipment and supplies have been designed and tested to meet strict safety requirements. They have been approved by safety agencies, and they comply with environmental standards. Please observe the following precautions to ensure your continued safety.

WARNING

Improper connection of the equipment grounding conductor may result in risk of electrical shock.

- Always connect equipment to a properly grounded electrical outlet. If in doubt, have the outlet checked by a qualified electrician.

- Never use a ground adapter plug to connect equipment to an electrical outlet that lacks a ground connection terminal.

- Always place equipment on a solid support surface with adequate strength for its weight.

- Always use materials and supplies specifically designed for your Xerox equipment. Use of unsuitable materials may result in poor performance and may create a hazardous situation.

- Never move either the printer or the printer controller without first contacting Xerox for approval.

- Never attempt any maintenance that is not specifically described in this documentation.

- Never remove any covers or guards that are fastened with screws. There are no operator-serviceable areas within these covers.

- Never override electrical or mechanical interlocks.

- Never use supplies or cleaning materials for other than their intended purposes. Keep all materials out of the reach of children.

- Never operate the equipment if you notice unusual noises or odors. Disconnect the power cord from the electrical outlet and call service to correct the problem.

If you need any additional safety information concerning the equipment or materials Xerox supplies, call Xerox Product Safety at the following toll-free number in the United States:

1-800-828-6571

For customers outside the United States, contact your local Xerox representative or operating company.

Operation safety: Europe

This Xerox product and supplies are manufactured, tested and certified to strict safety regulations, electromagnetic regulations and established environmental standards.

Any unauthorised alteration, which may include the addition of new functions or connection of external devices, may impact the product certification.

Please contact your Xerox representative for more information.

Warning markings

All warning instructions marked on or supplied with the product should be followed.

This WARNING alerts users to areas of the product where there is the possibility of personal damage.

This WARNING alerts users to areas of the product where there are heated surfaces, which should not be touched.

Electrical supply

This product shall be operated from the type of electrical supply indicated on the product's data plate label. If you are not sure that your electrical supply meets the requirements, please consult your local power company for advice.

WARNING

This product must be connected to a protective earth circuit. This product is supplied with a plug that has a protective earth pin. This plug will fit only into an earthed electrical outlet. This is a safety feature. Always connect equipment to a properly grounded electrical outlet. If in doubt, have the outlet checked by a qualified electrician.

To disconnect all electrical power to the product, the disconnect device is the power cord. Remove the plug from the electrical outlet.

Ventilation

Slots and opening in the enclosure of the product are provided for ventilation. Do not block or cover the ventilation vents, as this could result in the product overheating.

This product should not be placed in a built-in installation unless proper ventilation is provided, please contact your Xerox representative for advice.

Never push objects of any kind into the ventilation vents of the product.

Operator accessible areas

This product has been designed to restrict operator access to safe areas only. Operator access to hazardous areas is restricted with covers or guards, which would require a tool to remove. Never remove these covers or guards.

Maintenance

Any operator product maintenance procedures will be described in the user documentation supplied with the product. Do not carry out any maintenance on the product, which is not described in the customer documentation.

Before cleaning your product

Before cleaning this product, unplug the product from the electrical outlet. Always use materials specifically designated for this product, the use of other materials may result in poor performance and may create a hazardous situation. Do not use aerosol cleaners, they may be flammable under certain circumstances.

CE mark: Europe only

January 1, 1995: Council Directive 73/23/EEC, amended by Council Directive 93/68/EEC, approximation of the laws of the member states related to low voltage equipment.

$C\epsilon$

January 1, 1996: Council Directive 89/336/EEC, approximation of the laws of the member states related to electromagnetic compatibility.

March 9, 1999: Council Directive 99/5/EC, on radio equipment and telecommunications terminal equipment and the mutual recognition of their conformity.

A full declaration of conformity, defining the relevant directives and referenced standards, can be obtained from your Xerox representative.

In order to allow this equipment to operate in proximity to Industrial, Scientific and Medical (ISM) equipment, the external radiation for the ISM equipment may have to be limited or special mitigation measures taken.

This is a Class A product. In a domestic environment this product may cause radio frequency interference, in which case the user may be required to take adequate measures.

Shielded interface cables must be used with this product to maintain compliance with Council Directive 89/36/EEC.

Radio and telecommunications equipment directive (Europe only)

Certification to 1999/5/EC Radio Equipment and Telecommunications Terminal Equipment Directive:

This Xerox product has been self-certified by Xerox for pan-European single terminal connection to the analog public switched telephone network (PSTN) in accordance with Directive 1999/5/EC.

The product has been designed to work with the national PSTNs and compatible PBXs of the following countries:

Austria	Germany	Luxembourg	Sweden
Belgium	Greece	Netherlands	Switzerland
Denmark	Iceland	Norway	United Kingdom
Finland	Ireland	Portugal	
France	Italy	Spain	

In the event of problems, contact your local Xerox representative in the first instance.

This product has been tested to, and is compliant with, TBR21, a specification for terminal equipment for use on analog switched telephone networks in the European Economic area.

The product may be configured to be compatible with other country networks. Please contact your Xerox representative if your product needs to be reconnected to a network in another country. This product has no user-adjustable settings.

NOTE: Although this product can use either loop disconnect (pulse) or DTMF (tone) signaling, it should be set to use DTMF signaling. DTMF signaling provides reliable and faster call setup.

Modification or connection to external control software, or to external control apparatus not authorized by Xerox, invalidates its certification.

For further information

For more information on Environment, Health and Safety in relation to this Xerox product and supplies, please contact the following customer help lines:

Europe:+44 1707 353434

USA:1 800 8286571

Canada:1 800 8286571

Introduction

This guide describes how to solve some specific problems that may occur when you are using the Xerox DocuPrint 96/4635/180/2000 Series NPS/IPS.

NOTE: You may be using the DocuPrint NPS/IPS software extension on a DocuPrint 2000 EPS system. The 2000 Series printer models are the 100, 135, 155, and 180. These printers are comparable in capabilities to the DocuPrint NPS/IPS models 96, 4635, and 180.

About this guide

This guide is designed for Xerox DocuPrint 96/4635/180/2000 Series NPS/IPS operators whose job consists of the routine operation of one of these systems.

Users should have an understanding of printer controller operations.

Before using this guide, become familiar with its contents and conventions.

Contents

This section lists the contents of this guide:

- Chapter 1, "Calling for service," describes the information to have on hand when calling for support service, and provides information on using the Sixth Sense Technology.

- Chapter 2, "Fault masking," describes how the Model 96/4635/180 NPS/IPS masks a problem so that the job will continue to print.

- Chapter 3, "Troubleshooting Xerox Client Software installation," provides solutions to common problems with software installation.

- Chapter 4, "Troubleshooting a Novell implementation," describes some ways to troubleshoot a Novell implementation by viewing log messages.

- Chapter 5, "Clearing paper misfeeds and jams," illustrates how to clear paper misfeeds and jams from various parts of the paper path.

- Chapter 6, "Optimizing print quality," discusses methods of checking and improving print quality.

- Chapter 7, "Resolving printer problems," describes printer-related problems other than paper jams, and suggests corrective actions.

- Chapter 8, "Resolving system problems," describes various system problems and suggests corrective actions.

An index is provided at the back of the guide.

Conventions

This guide uses the following conventions:

- **All caps and angle brackets:** Within procedures, the names of keys are shown in all caps within angle brackets (for example, press <ENTER>).

- **Angle brackets:** Variable information, or the position of a specified argument in the command syntax, appears in angle brackets (for example, List Fonts <Pattern>).

- **Bold:** Within procedures, text and numbers that you enter are shown in bold (for example, enter **privilege operator**).

- **The word "enter" within procedures:** The two-step process of keying in data and pressing <ENTER> (for example, enter **y**).

- **Italics:** Document and library names are shown in italics (for example, the *Xerox DocuPrint NPS/IPS Guide to Managing Print Jobs*).

- **Quotation marks:** Keywords you can enter as arguments appear in quotes (for example, "USLetter").

- **Vertical bars:** Alternatives to specified arguments are separated by vertical bars (for example, Set Time <Time | Remote Host Name | IP Address>).

NOTE: Notes are hints that help you perform a task or understand the text.

CAUTION

Cautions alert you to an action that could damage hardware or software.

WARNING

Warnings alert you to conditions that may affect the safety of people.

Related publications

The Xerox DocuPrint NPS/IPS documentation set includes the documents listed below.

NOTE: For a list of IBM reference manuals for IPDS printing, refer to the Solutions Guide for IPDS Printing.

- *Guide to Configuring and Managing the System*
- *Guide to Managing Print Jobs*
- *Guide to Performing Routine Maintenance*
- *Guide to Submitting Jobs from the Client*
- *Guide to Using Page Description Languages*
- *Installation Planning Guide*
- *System Overview Guide*
- *Troubleshooting Guide*
- *Solutions Guide for IPDS Printing*
- *Decomposition Service and Tools Guide*
- *Glossary*
- *Master Index*
- *Generic MICR Fundamentals Guide*
- *Customer Information Quick Reference Card*
- *Printer Controller Commands Quick Reference Card*
- *Operator Quick Reference Card*
- *Submitting your Jobs from Macintosh Quick Reference Card*

- *Submitting your Jobs from UNIX & DOS Quick Reference Card*

- *Submitting your Jobs from Windows NT 4.0 (QuickPrint) Quick Reference Card*

- *Submitting your Jobs Using Windows NT 4.0 Drivers Quick Reference Card*

The documentation set also includes an electronic version, the DocuPrint NPS/IPS Interactive Customer Documentation CD.

1. Calling for service

Before calling your customer service support center, make sure you have read this chapter and have tried the corrective actions described here. If the problem persists, gather the necessary information and call the customer support center.

Information to have on hand when calling for service

To report hardware or software problems in the United States, call the following number:

1-800-822-2979

For customers outside the United States, call your local service representative.

Before calling, make note of the following:

- Status code numbers and messages that appear on the controller screen and the printer console
- Indicator lights that are lit
- Name of your printer: DocuPrint 96 or 4635 or 180 or 2000 Series NPS/IPS
- Serial number for your printing system (located on the frame behind the narrow door to the far left, at the front of the printer)
- Problems you are having with the system.

Additional information you may wish to note prior to calling includes:

- An explanation of how output differs from what was expected.
- An assessment of whether the symptoms follow a pattern or occur randomly.
- A list of special conditions that may be related to the problems:
  - New applications
  - Changes made to the software

–   Recent service performed

–   Previous conditions under which the application has printed properly.

Give this information to a customer service representative, who will discuss the information and give you an estimated time of arrival or assist you over the phone to resolve the problem.

Enabling and disabling the modem for remote service

Your system may be set up to use Sixth Sense Technology—a remote communication capability. Sixth Sense Technology is a suite of tools that allow service personnel to connect with a system and evaluate its performance. The service representative can troubleshoot problems remotely, transfer, apply, and remove patches remotely, and, if an on-site call is required, arrive with the solution to fix the problem.

An external modem allows your system to be accessed by remote service technicians.

You may be instructed to enable the modem so that the technician can dial into your system. Follow this procedure:

1. Stop all printing and queueing during the remote service session.

2. Follow the instructions of your service representative to enable the modem.

3. When the remote service session is complete, disable the modem.

4. Resume printing and queueing.

Refer to the *Guide to Configuring and Managing the System*, "Using utility commands" chapter, for more information on the commands used for remote service.

If security is a concern, you can turn off the modem, or you can physically disconnect the cable from the system when it is not being used.

CAUTION

Depending on the commands used by the technician, the printer may start up during the remote service session. You should not attempt to operate the system or perform any tasks at the printer while remote service is in process.

2. Fault masking

This chapter describes the behavior of the 96/4635/180 NPS/IPS while printing with fault conditions.

The DocuPrint 96, 4635, and 180 NPS/IPS enable you to continue printing while certain faults or conditions exist in parts of the printer that are not currently in use. Such faults or conditions are said to be masked. An example of a masked fault condition is when feeder tray 1 is in use and feeder tray 2 is jammed, or stacker bin B is full.

When there is a masked fault or condition, the Hint icon (a light yellow circle with an asterisk inside) appears on the printer console and the goes on. A message, preceded by an asterisk, also appears in line 3 of the message area of the printer console. To display the area containing the masked fault, touch the Fault List Icon (shown below) on the printer console. The Fault List Icon appears.

Figure 2-1. Fault List icon
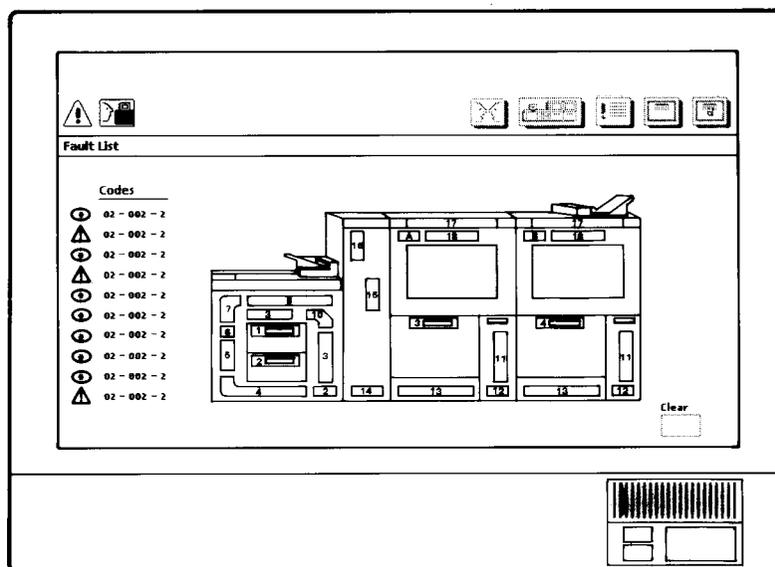
Figure 2-2. Fault List screen

The Fault List screen displays any outstanding fault codes and shows a mimic of the printer; the area containing the masked fault is highlighted in light yellow. For greatest printer productivity, clear any masked faults at your earliest opportunity.

When the printer stops because of a fault, display the Fault List screen after clearing the fault to see if there are any masked faults. Clear these masked faults before continuing with the print job.

When there is a fault that cannot be masked and therefore causes the printer to stop, the Fault icon (a dark yellow triangle with an exclamation point inside) appears on the printer console and the Attention light flashes. The Fault screen appears on the printer console, highlighting (in dark yellow) the area(s) of the printer containing the fault and giving instructions for clearing the fault.

If a fault exists in the system at the time that a masked fault occurs, the printer console displays only the Fault icon. The remaining masked fault condition messages still display in the message area of the printer console.

3. Troubleshooting Xerox Client Software installation

Xerox Client Software is downloaded from the printer controller to a network client workstation to enable a print command. Refer to the *Guide to Submitting Jobs from the Client* for more information.

If you are unable to install the Xerox Client Software, or if you install it and all requests submitted fail, try the following:

• Make sure the Xerox Client print command does not conflict with the local print command on the client system. To verify this, at the prompt (or on a new shell window prompt, for Sun clients), enter print. You should see the usage message for the Xerox Client print command.

If not, make sure that the environment variable path includes the subdirectory /usr/xerox/nps/client/bin and /usr/bin before the subdirectory containing the local print command. Also, resolve any print command aliases that might be set in the.cshrc file.

If you see the message "Server or Directory Unreachable" after executing a print command, perform the following steps:

1. If the printer controller software is newly installed, verify that queuing has started at the printer controller.

2. At the client, verify the host file exists and contains the printer controller name and TCP/IP address.

3. Verify the network connections between the printer controller and the client. Enter **ping <Printer Controller name>;** if that fails, **enter ping <Printer Controller TCP/IP address>**. Verify that the TCP/IP address of the printer controller is the same as the one in the host file on the client.

4. Check for hardware problems.

- Verify that the cconf file (/usr/xerox/nps/client/cconf) contains the default printer controller name that most recently performed the client installation. Try submitting requests to another printer controller by using the server override switch in the print command.

- If you are unable to install the software, make sure the client hard disk meets the minimum requirements. Otherwise, you may run out of disk space during the installation, and you may get misleading error messages.

The following table provides a reference to error messages that may display during installation of Xerox Client Software.

Table 3-1. Xerox Client Software installation error messages

Error message	Description
Installation not complete. Problems may have occurred during the transfer of files. Please verify that all files have been transferred and contact your system administrator for assistance.	Appears if any of the client files are missing at the end of installation.
Usage: <Printer__Controller__Name> or Usage: instsun4 <Printer__Controller__Name> or Usage: instsun3 <Printer__Controller__Name> or Usage: instult <Printer__Controller__Name>	Appears when the Printer Controller Name is not used as the argument to the installation commands. The <Printer__Controller__Name> is the name of the Printer Controller that the installation commands use to install the Client Software.
The attempt to communicate to the <Print__Controller__Name> has failed. Make sure the name <Print__Controller__Name> is correct. Make sure your /etc/hosts file contains correct information. Make sure the machine is operational and is in the network mode.	UNIX clients only. Indicates that the installation script's attempt to communicate with the Printer Controller has failed.
Problems may have occurred in ftp to the Print Server. Verify disk space. If the problem still exists, contact your system administrator for assistance.	UNIX clients only. Indicates problems occurred while using ftp to the Printer Controller to retrieve client files.
Problems may have occurred in setting permissions for the executables. You have to be at the super user level to install. Please contact your system administrator for assistance.	UNIX clients only. Indicates that the installation script's attempt to set permissions for the executables in /usr/xerox/client/nps/bin has failed.
Problems may have occurred in making the commands available. Please contact your system administrator.	UNIX clients only. Indicates that the attempt to copy the executables in /usr/xerox/client/nps/bin to /usr/bin has failed.
Unable to set permission for dir <path>. You have to be at the super user level to install. Contact your system administrator for assistance.	UNIX clients only. Indicates that the attempt to set permission for the client directory structure has failed. Make sure that you are executing the installation script at the super user level.

4. Troubleshooting a Novell implementation

The tables in this chapter describe some ways to troubleshoot a Novell implementation from the log messages that appear in the var/log/DocuPrint.

The following table describes how to troubleshoot PSERVER problems.

Table 4-1. **PSERVER problems**

Problem	Probable Cause	Resolution
Log message says there is a problem locating a NetWare server.	NPS/IPS is not getting SAP packets for the server. • There is a basic connectivity or routing problem. • The framing type has been set incorrectly during installation. • The file server name has been set incorrectly during installation.	If there is an external connectivity problem: • Check Novell file server console screen for messages. • Check that the server is running and connected to the network. If it is an incorrect framing type or server name, your Xerox service representative must change the configuration on the printer controller.
Log message says there is an error in connecting to the file server.	NPS/IPS is getting SAP packets with information about the server, but cannot communicate with it. • There is a basic connectivity or routing problem. • NPS/IPS has an incorrect network number.	If there is an external connectivity problem: • Check Novell file server console screen for messages. • Check that the server is running and connected to the network. If it is an incorrect network number, your Xerox service representative must change the configuration on the printer controller.

Table 4-1. **PSERVER problems (Continued)**

Problem	Probable Cause	Resolution
Log message says there is a failure to log in.	Password problem. • Server does not accept unencrypted logins • NPS/IPS does not have the correct password.	If the server is not properly configured, enter **SET ALLOW UNENCRYPTED PASSWORDS=ON** at the server console. If NPS/IPS has the wrong password, your Xerox service representative must change the password.
Log message indicates failure to login and password settings are correct.	A PSERVER with the printer's PSERVER name is running on the file server or on another machine (this could even be another NPS/IPS configured to use the same PSERVER name). The file server should only have a PSERVER defined with the same name as the printer's PSERVER, there should not be an instance of PSERVER running under that PSERVER definition.	Stop the PSERVER instance.
Log message says "Error finding queue."	Queue not created.	At the file server, create the queue, set up the printer for the PSERVER and be sure it will service the appropriate queue.
Log message says "Netware PServer <name> not found."	The PSERVER has not been defined on the file server.	Define a PSERVER with the correct name on the file server and restart the system.
Log message says that there was an error attaching to the queue.	NPS/IPS does not have access to the queue.	Ensure that there is a printer defined for the PSERVER on the file server and that the printer is defined to service the desired queue.

The following table describes troubleshooting RPRINTER problems.

Table 4-2. **RPRINTER problems**

Problem	Probable Cause	Resolution
Log message says: • "Cannot locate any Netware print server from the net." • "Requested server <name> not responding."	NPS/IPS is not getting SAP packets advertising the print server. • There is a basic connectivity or routing problem. • The incorrect framing type has been set. • The print server is not running. For RPRINTER, there must be a PSERVER running on the file server with the name specified to NPS/IPS at installation time.	If there is an external connectivity problem: PSERVER should work when it is repaired. If it is an incorrect framing type, your Xerox service representative must change the configuration on the printer controller. If print server is not running, start one.

5. Clearing paper misfeeds and jams

This chapter shows the steps for clearing paper misfeeds and jams from various areas of the printer.

Clearing a feeder tray fault

When paper is misfed from the paper trays, complete the following steps:

1. Go to the paper tray indicated by the message and graphic displays of the printer console.

2. Press the Tray Unlock button on the front left of the paper tray.
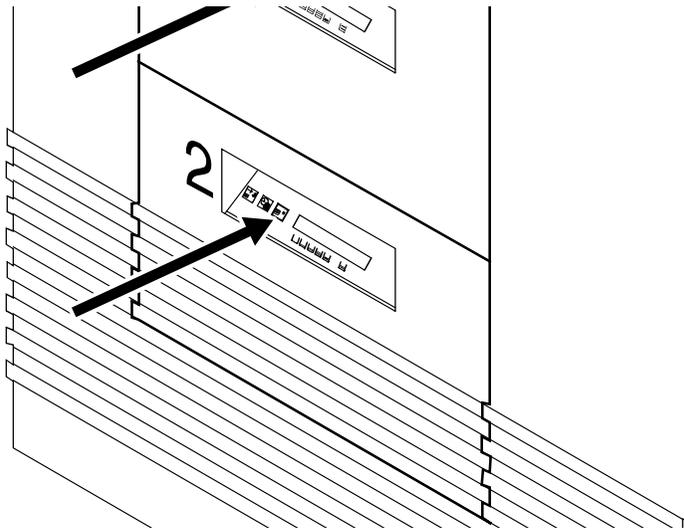
3. When the Ready To Open indicator is lit, pull the bar up and out to open the tray. Pull the tray all the way out for best results.
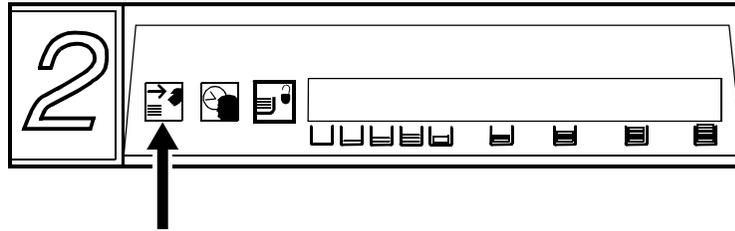
4. Press the green lever to unlatch the paper feeder assembly.
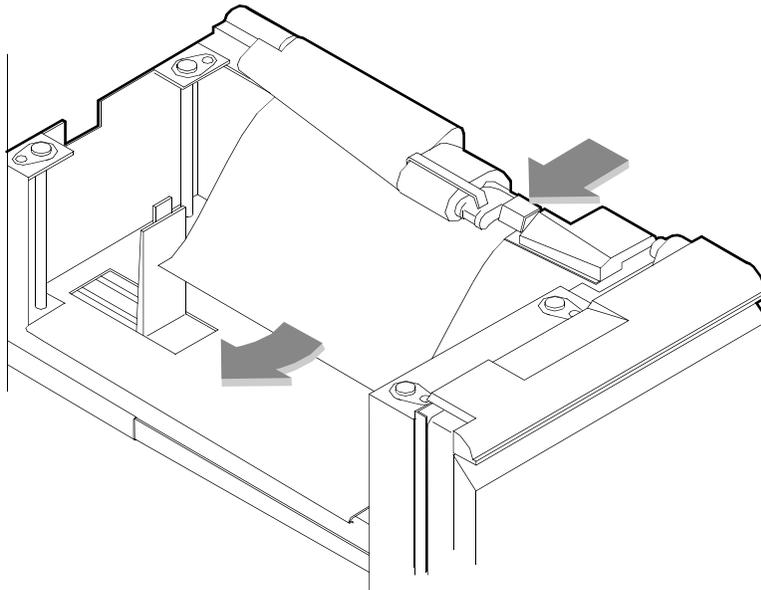
5. Remove and discard any partially fed paper. Make sure that the paper supply is neatly stacked and that the stack is not higher than the MAX line on the length guide.   Make sure that the length guide is firmly touching the back edge of the stack.

6. Latch the paper feeder assembly by pressing the green dot until the assembly clicks into place.
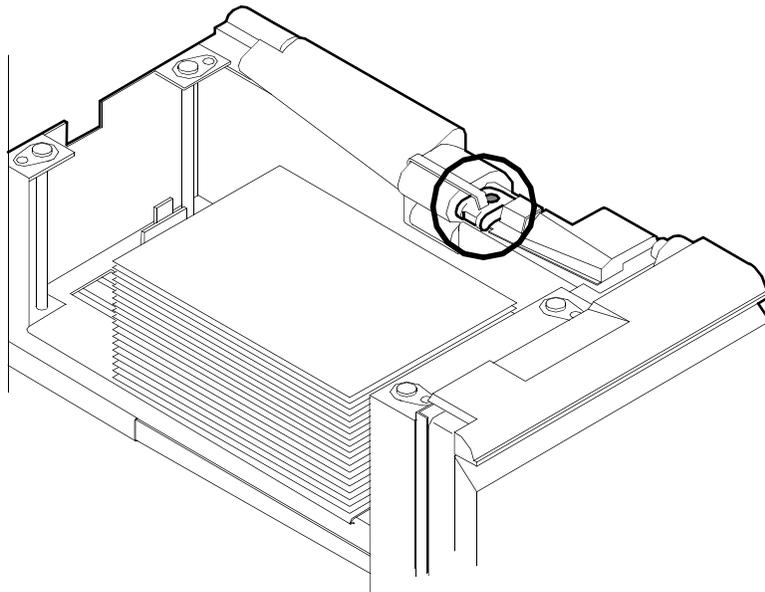
7. Slide the tray back into the printer until the tray latches and press the Continue button to resume printing.

8. Discard any pages sent to the sample tray or unused stacker tray when the paper jam was detected.

NOTE: If the 96/4635/180 NPS/IPS does not continue printing after a paper tray fault or after paper is loaded, open and close the tray. The system should resume printing.

Frequent misfeeds

Frequent misfeeds may be caused by a glazed feed belt. A glazed belt is the most common cause of one tray misfeeding more than another tray when the same kind of paper is used. (Glazing is caused by a buildup of the chemicals found on most papers.)

If you suspect that the belt is glazed, try cleaning it with film remover that is obtained from your service representative.

CAUTION

Clean the feed belt only to correct misfeeds, not as routine maintenance. Because the belt is rubber, frequent cleaning dries it out and makes it fail prematurely.

1. Clear any misfeeds that have occurred, but do not latch the paper feeder assembly. If necessary, unlatch it by pressing down on the bright green lever on the right side of the paper tray.
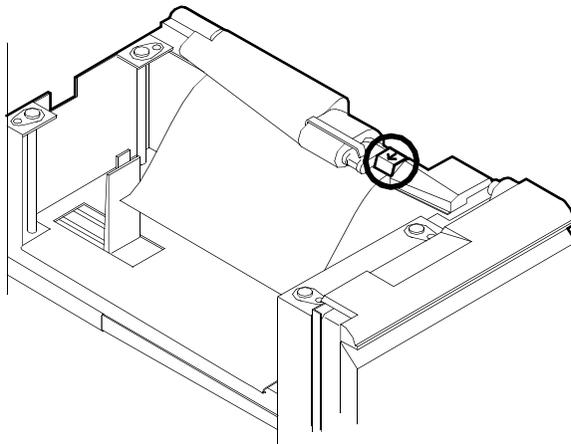
2. Lightly moisten a lint-free towel with film remover and thoroughly wipe the outside surface of the feed belt in the same direction as the ribs on the belt. (Wiping from side to side might pull the belt off its track.) Allow a few seconds for the film remover to evaporate.
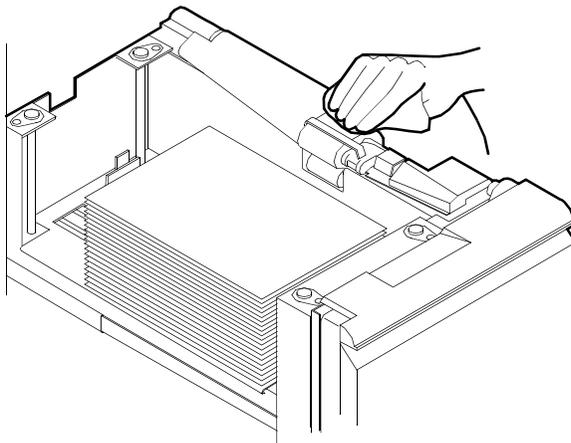
3. Latch the paper feeder assembly by pressing down on the bright green dot. Slide the paper tray completely back into the printer
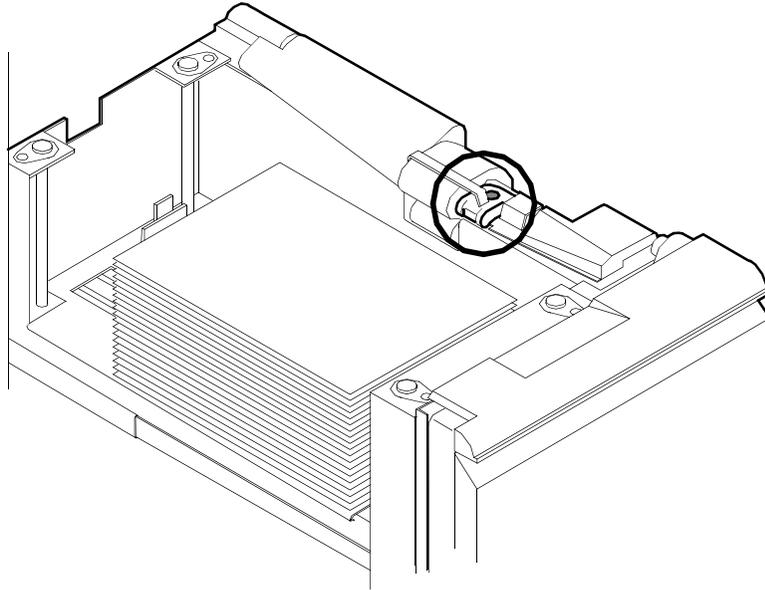
Operate the system as usual. If you still experience misfeeds, place a service call.

Clearing paper jams

Detailed message labels inside of the printer tell you how to clear the jam.

Each handle, lever, or knob that must be moved to clear a jam is bright green and marked with an arrow indicating the direction it moves.

Follow these steps to clear a paper jam:

1. Go to the area of the printer that is indicated by the display on the printer console.
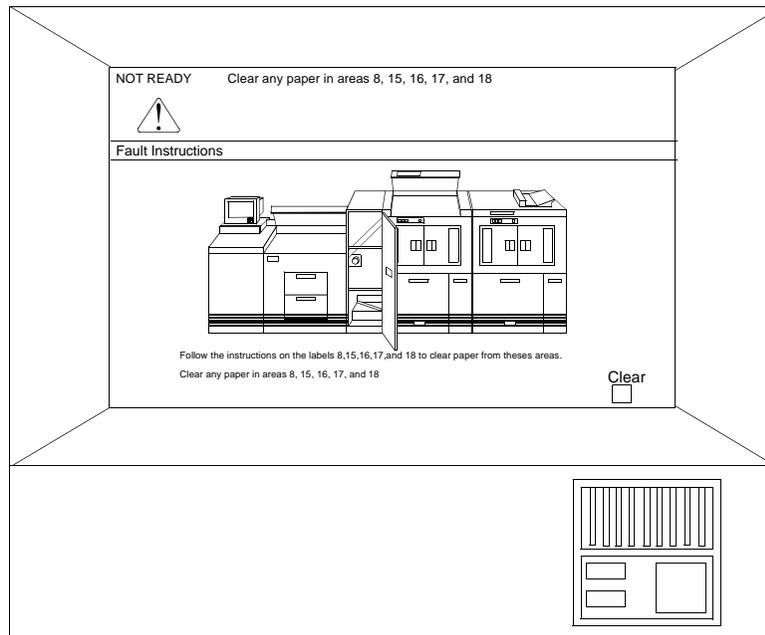
2. Open any printer doors necessary to access the area.

3. To clear the jammed paper from the area, follow the instructions on the message labels inside of the printer and on the printer console. Refer to the section "Printer areas" for more information.

   NOTE: You may find that the printer has already cleared the jam and sent the paper to the sample or purge tray.

4. Close any printer doors that were opened.

5. Press the Continue button to resume printing.

6. Discard any damaged sheets sent to the sample tray or purge tray.

NOTE: You may find that the printer has already cleared the jam and sent the paper to the sample or purge tray.

Checking job integrity following a paper jam

There is a slight possibility of duplicate or missing pages when a paper jam occurs while a job prints. For that reason, you should check for job integrity once the job has been printed.

Follow this procedure:

1. The printer offsets the rest of the job following a paper jam. Locate that section.

2. Check this section and the sheets immediately before the first offset sheet to see if there are any missing or duplicate sheets in the job.

3. Check the output for data missing from the pages.

Printer areas

This section provides illustrations of the various areas of the printer where jams may occur.

The following illustration shows all the jam clearance areas for the 96/4635/180 printer.
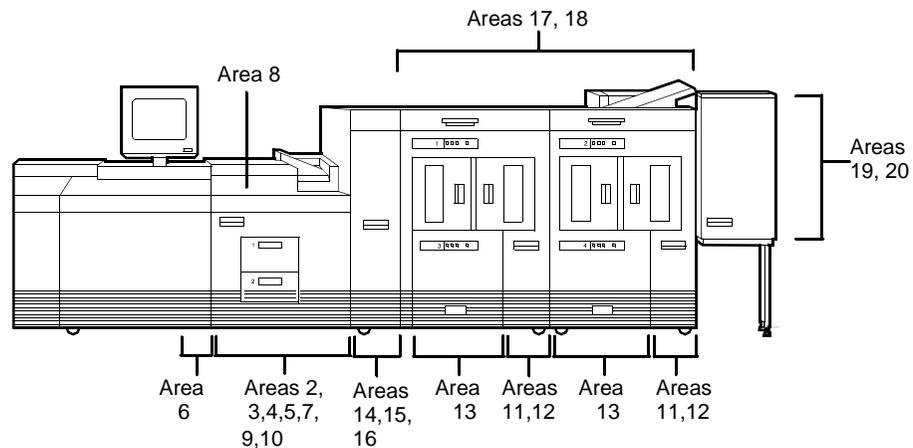
The following illustrations show the individual jam clearance areas of the 96/4635/180 printer.

**Area 2**

Area 2
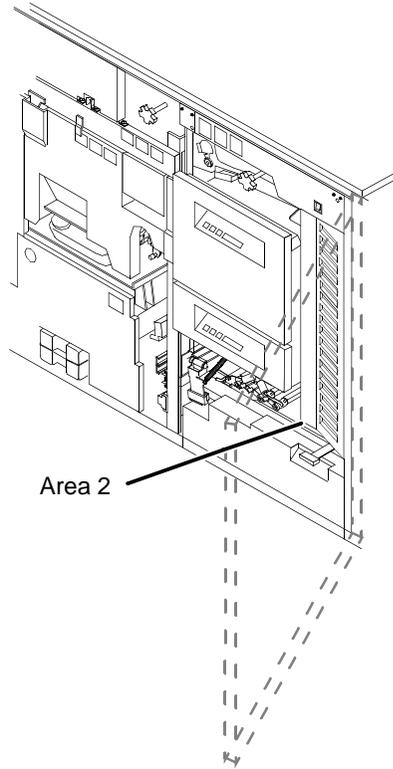
Area 3
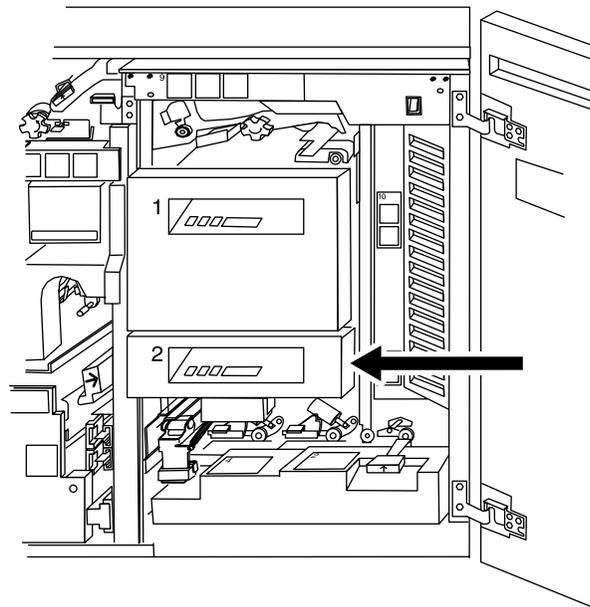
Area 4
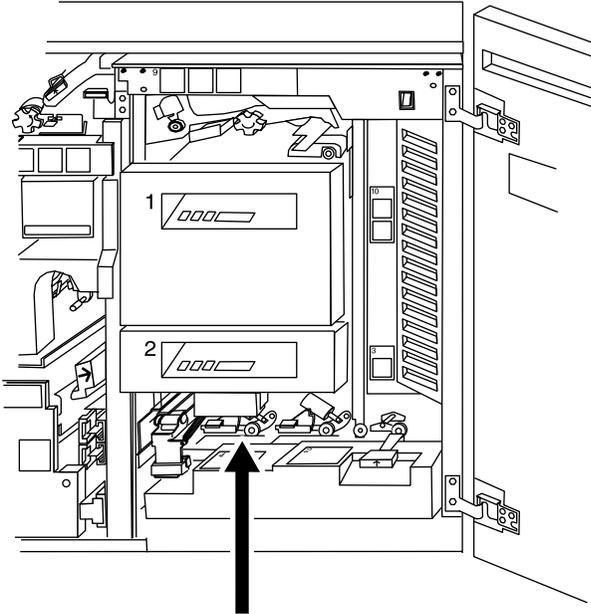

Area 5
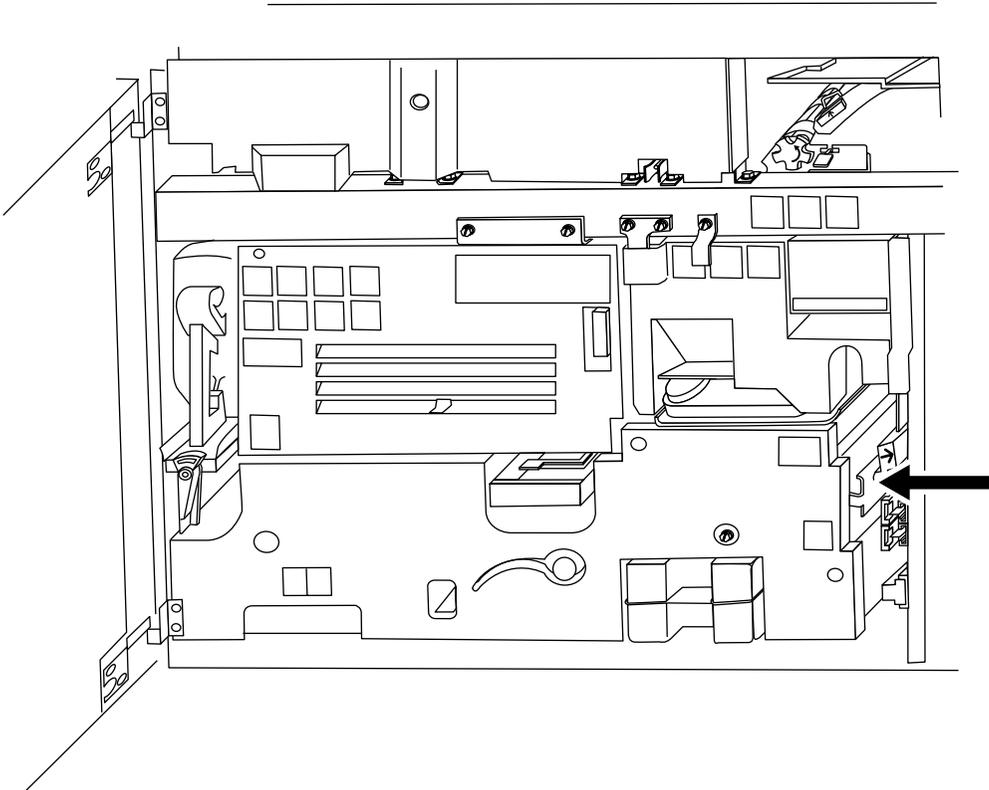
Area 6
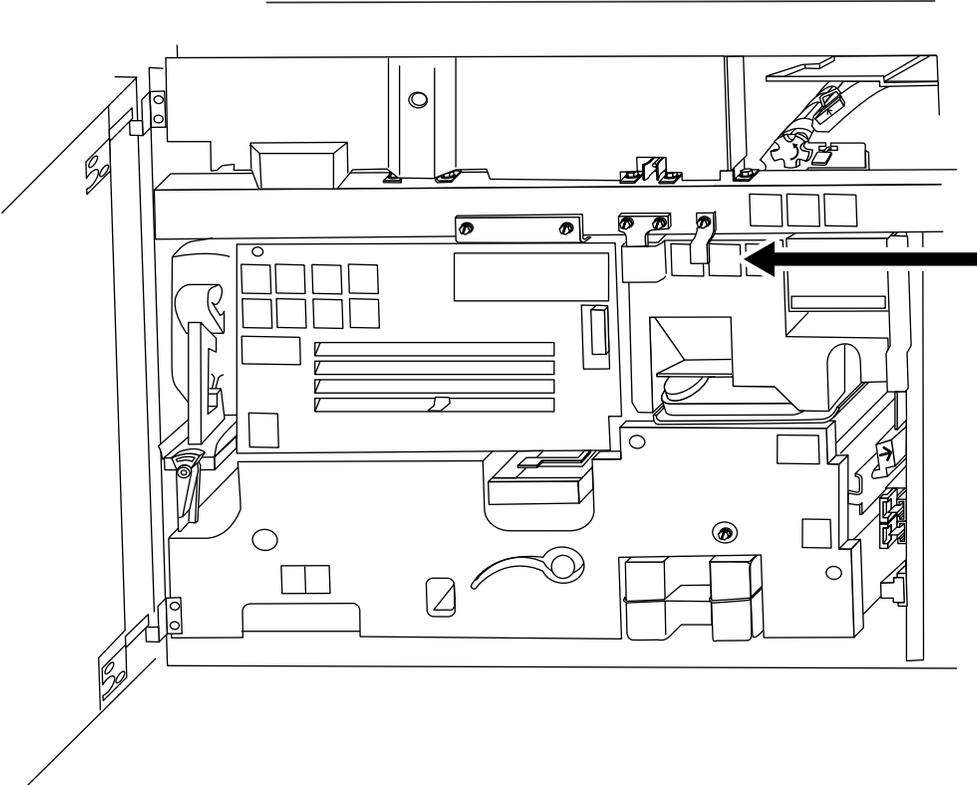
Area 7
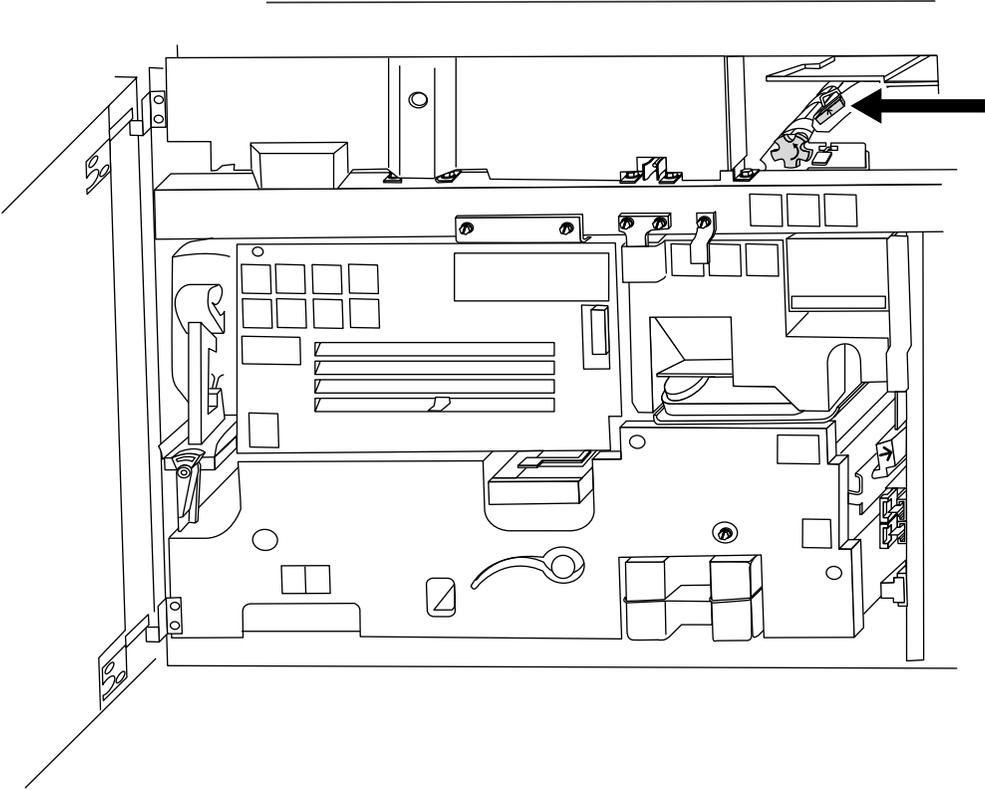
Area 8
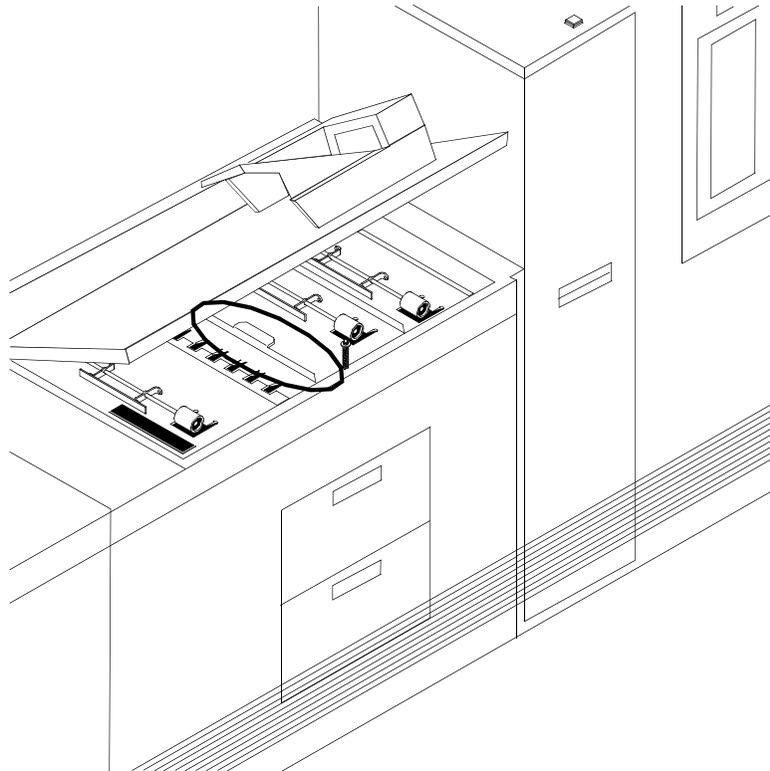
NOTE: If jammed paper rips as you are removing it from area 8, you may need to use the pinch lever in area 9 to remove the paper. Refer to the "Notes" section following the figure illustrating area 9.

Area 9
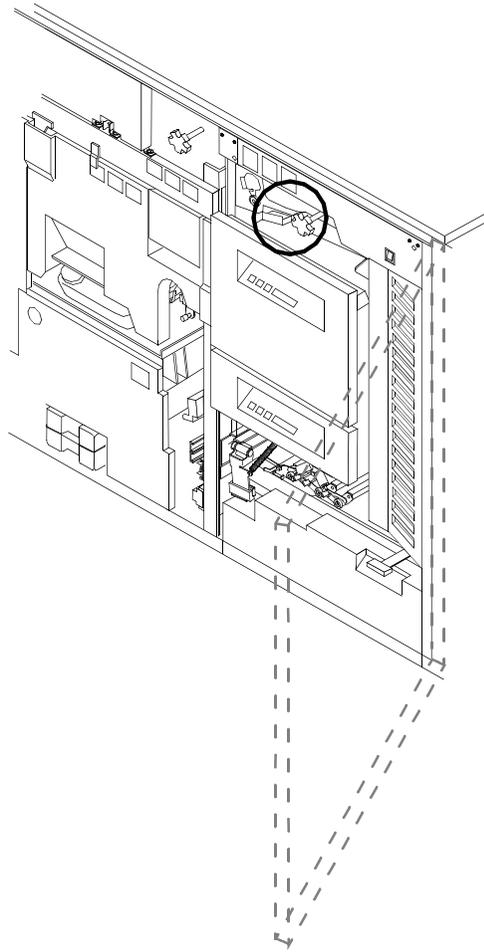
NOTE: Pull the area 9 green lever toward you to unlatch it. Make sure you relatch the lever once you have cleared any paper in this area. You may also want to pull out tray 1 and hold the green lever down in order to remove paper wedged in this area more easily.

Area 9 also has a green knob (located to the right of the lever), which can be turned to help you clear paper.

Using the pinch lever to access area 9: If you have difficulty removing paper from this area, you can use the pinch lever located further inside area 9. Follow this procedure:

1. Locate the green pinch lever directly behind area 9.

2. Carefully reaching your hand into the area, press the edges of the pinch lever and lift it up.

3. Remove any paper caught in this area.

4. Replace the green pinch lever to its original position.

5. Discard any paper you removed.

Area 10
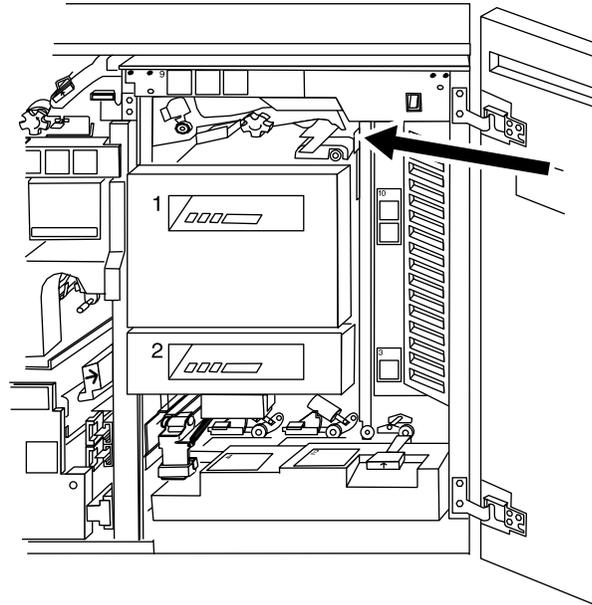
Area 11
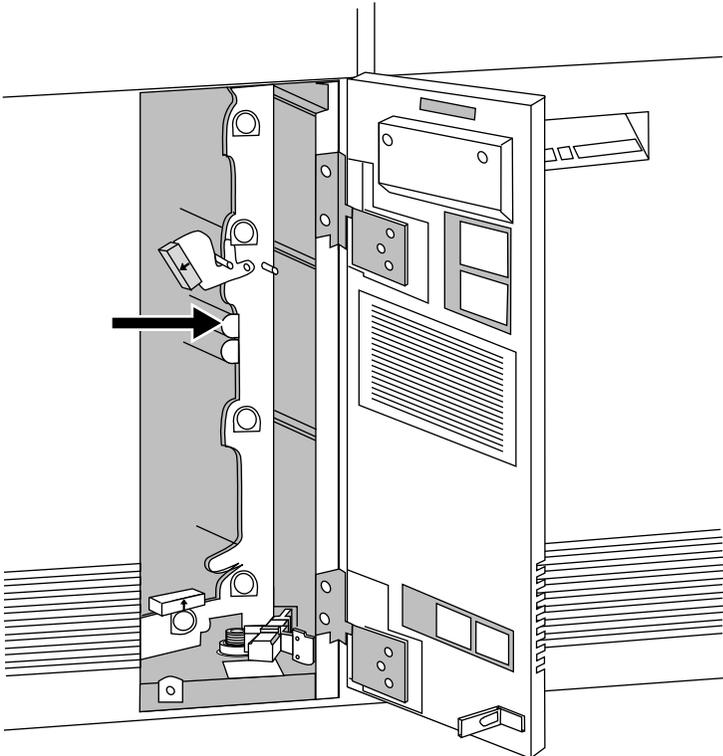
**Area 12**
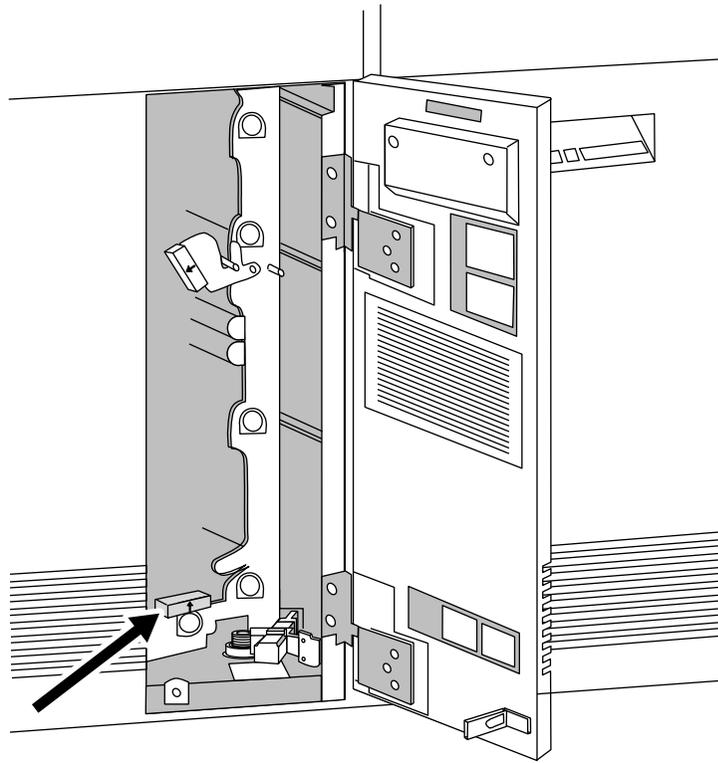
NOTE: For 180 printers, when clearing area 12, you are required to clear areas 12 and 13.

Area 13
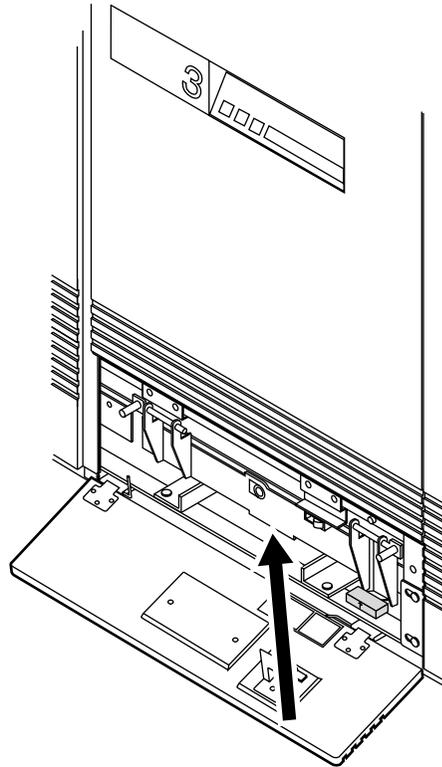
Area 14
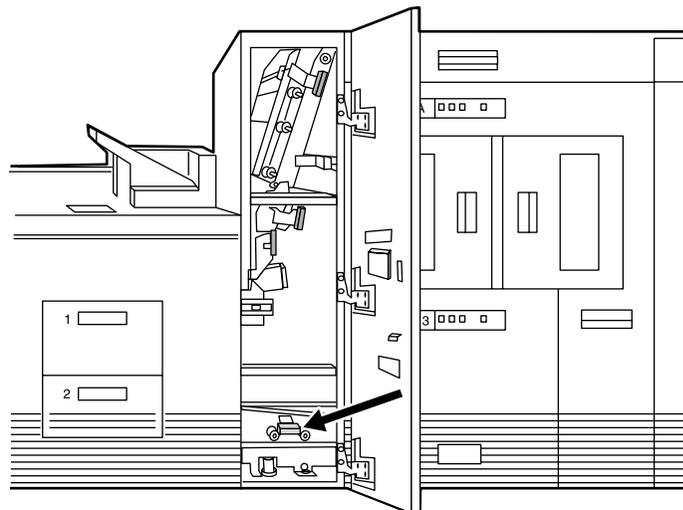
NOTE: You may sometimes find paper lying on top of area 14, even though there is no message that indicates a jam in this area. Discard the paper.

Area 15
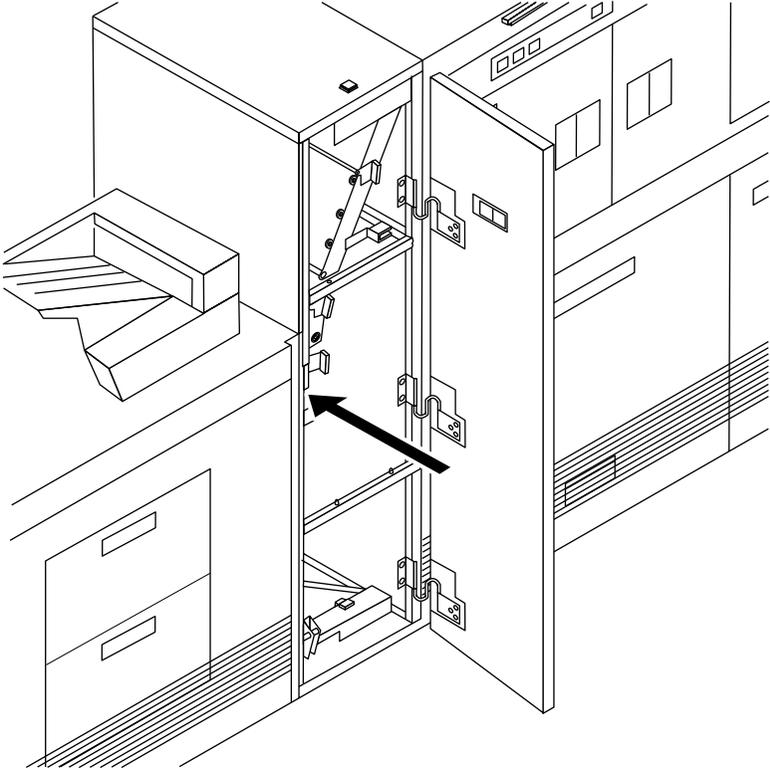
Area 16
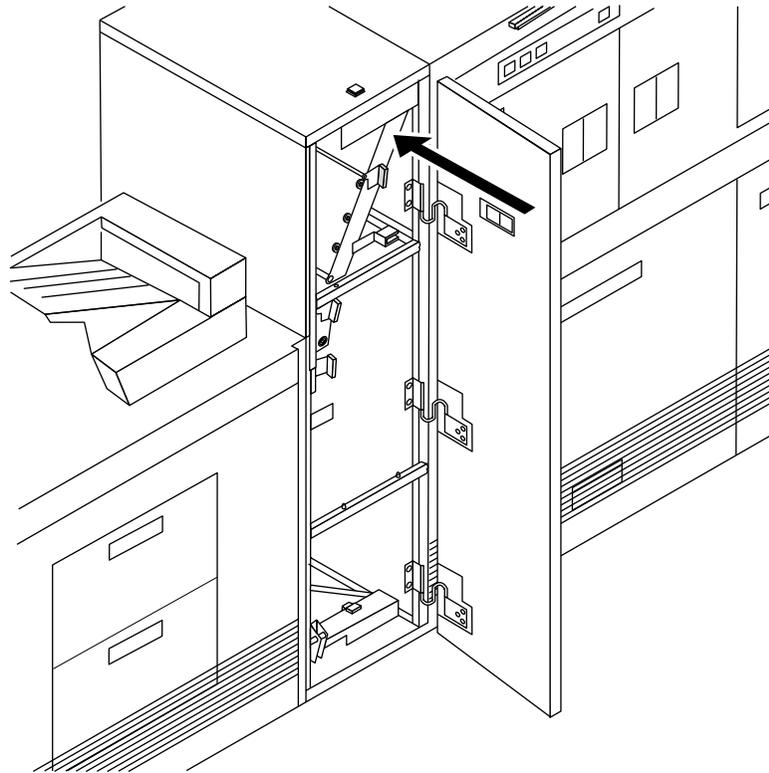
NOTE: For 180 printers, when clearing area 16, you are required to clear areas 16 and 17.

Area 17
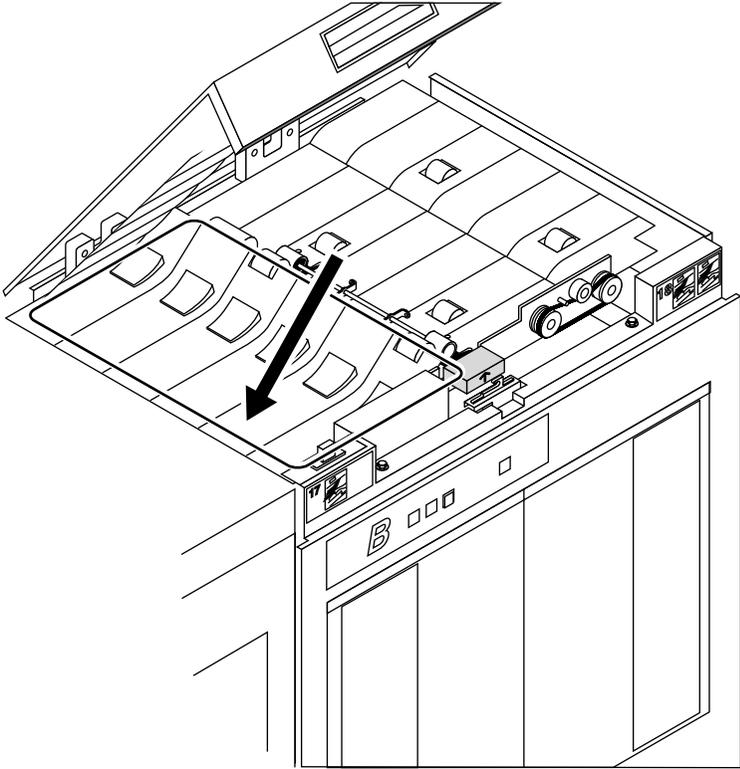
Area 18
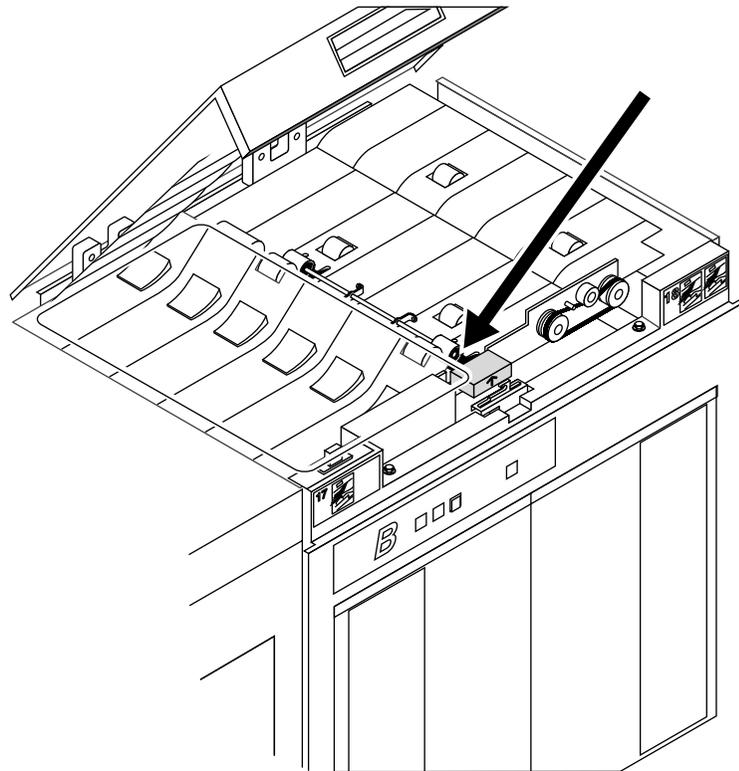
NOTE: Sometimes the messages at the printer console direct you to discard the last sheet from the stack following a jam in area 18. Check for this message when clearing a paper jam in area 18 .

If your printer has frequent jams in this area, you may need to clean the Q1107A sensor. Refer to the "Cleaning the sensors and the reflecting surfaces" section of the Guide to Performing Routine Maintenance.

Clearing bypass transport paper jams

If your printer is configured with a bypass transport module, you should check for paper jams in areas 19 and 20 after clearing a paper jam in area 18.

To clear bypass transport jams:

1. Open the bypass transport module door.

2. Locate area 19 and press the green lever in the direction of the arrow that is printed on the lever.

   Area 19
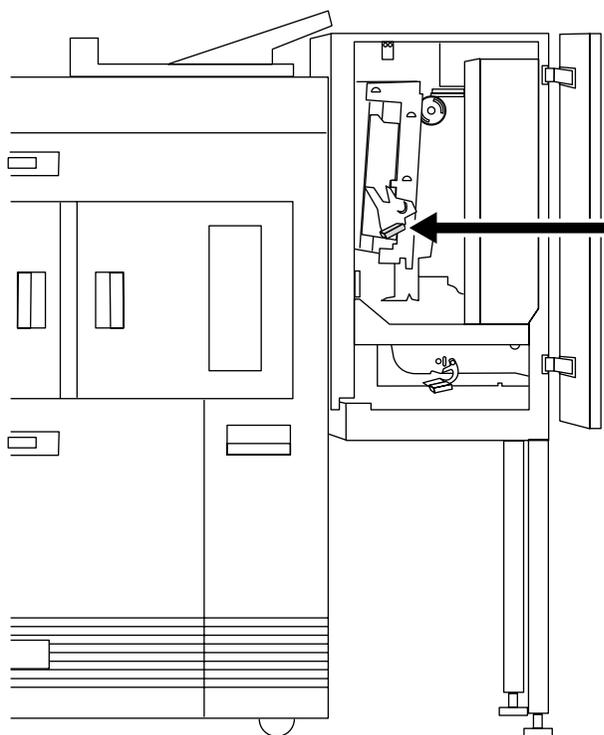
3. Remove any paper in the exposed area.

4. Press the green lever to the left until the latch catches.

5. Locate area 20 and press the green lever in the direction of the arrow that is printed on the lever.

Area 20
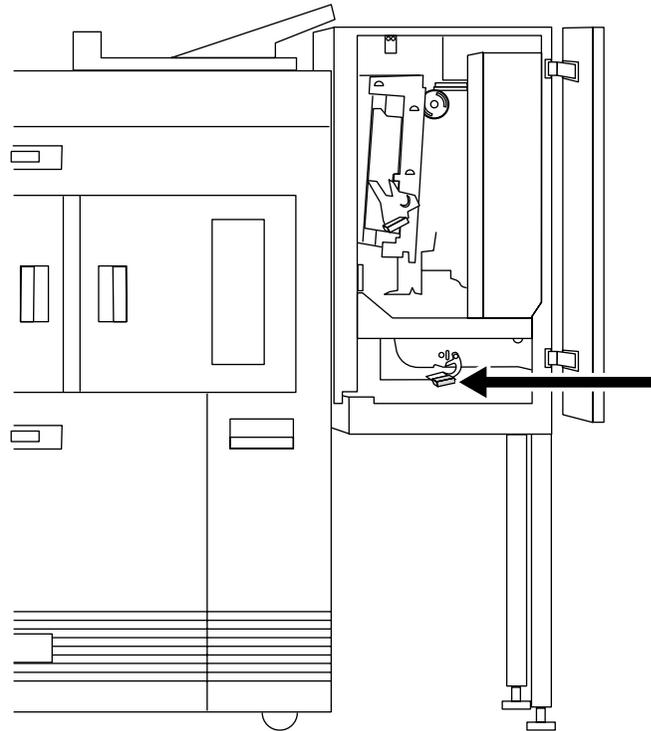
6. Remove any paper in the exposed area.

7. Press the green lever down and to the left until the latch catches.

8. Close the bypass transport

Paper curl and paper jams

Too much curl in the paper stock can cause paper jams. You can adjust the decurler lever to eliminate most of these problems. Refer to the paper curl chart at the end of this chapter to determine the amount of curl in the paper stock.

Measuring the paper curl

To measure the paper curl:

1. Print five one-sided (simplex) 8.5 by 11 inch or A4 sheets.

2. Measure the amount of curl in the prints by holding the five prints in the top center of the short edge.

   Keep the image toward you.
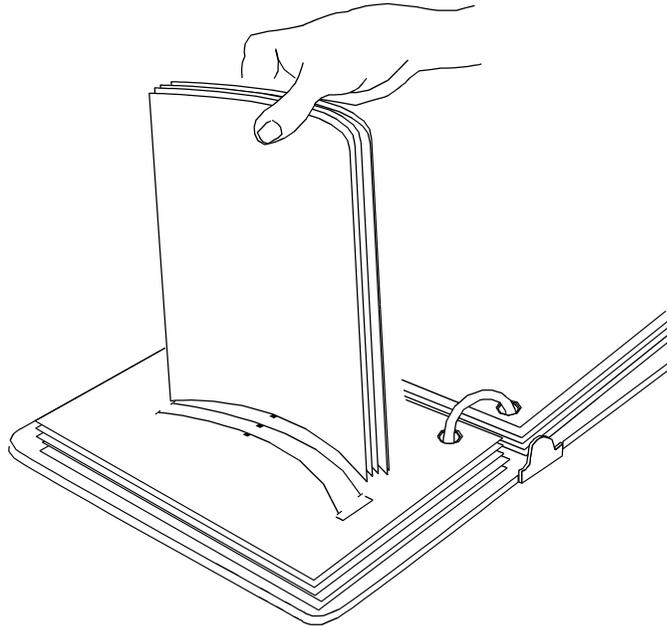
Figure 5-1. Measuring the paper curl

3. Place the bottom edge of the prints over the paper curl measurement chart located at the end of this chapter.

   • If the print curl on the printed paper stock measures between +2 and -2, do not change the decurler setting.

   • If the curl is between +2 and +3, or -3 and -4, use the following procedure to adjust the decurler lever.

Adjusting the decurler lever

To adjust the decurler lever:

1. Open the right door of the printer and locate the decurler lever.
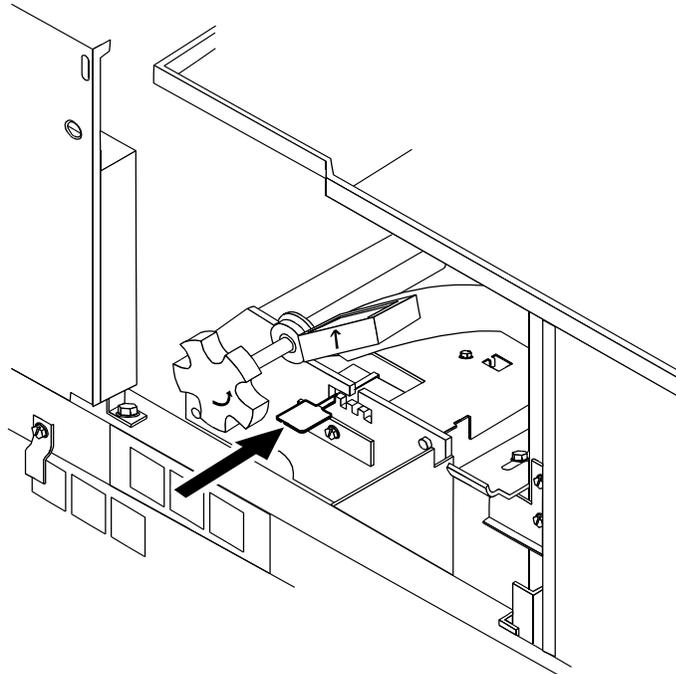
Figure 5-2. Decurler lever

2. If the print curl is +2 or more, move the green decurler lever to the right.

3. If the print is -3 or more, move the green decurler lever to the left.

4. If the decurler adjustment does not eliminate the paper curl problem, turn the paper stack over in the feeder tray.

5. If there is still a paper curl problem, perform steps 1 to 4 again.

6. If all else fails, insert paper from a new ream.
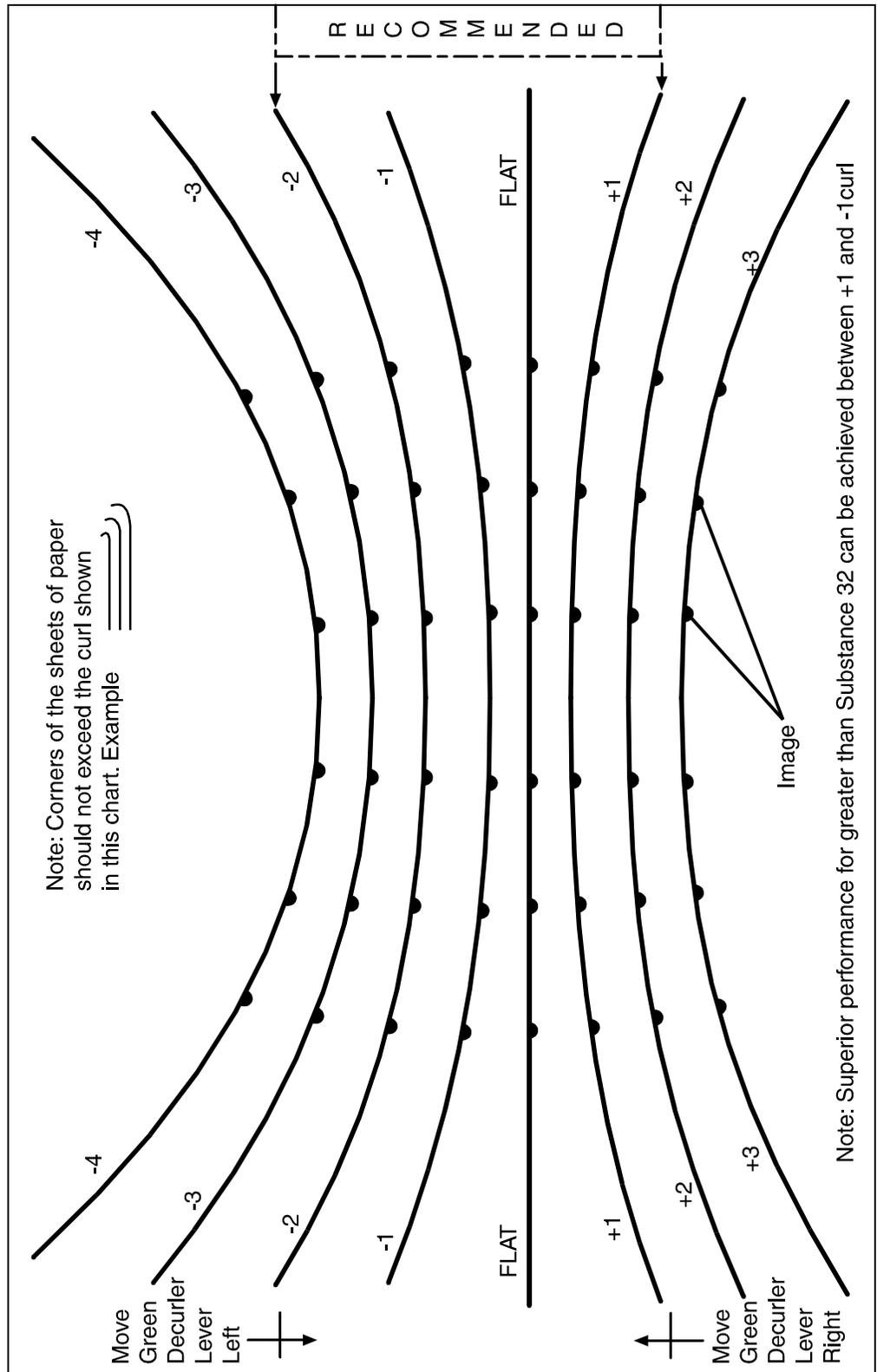
Figure 5-3. Paper curl chart

6. Optimizing print quality

This chapter discusses methods of checking and improving print quality.

NOTE: One way to test print quality is to print a sample document. For information on printing sample documents, refer to the Guide to Configuring and Managing the System.

Installing the custom transfer assist blade

If you use nonstandard paper sizes, you should install the custom transfer assist blade to ensure good print quality.

CAUTION

The custom transfer assist blade comes as a kit with detailed instructions. Be sure to follow the instructions carefully.

To prevent damage to the printer, have your service representative show you how to customize and install a custom transfer assist blade for the first time.

You must use the standard transfer assist blade with standard paper of the following sizes:

- In U.S. markets
  - 11.1—11.4 inches (282—290 mm)
  - 11.8—12.1 inches (300—307 mm)
  - 13—13.5 inches (330—343 mm)
- In non-U.S. markets
  - 11.1—11.4 inches (282—290 mm)
  - 11.8—12.1 inches (300—307 mm)

NOTE: With these paper sizes, transfer efficiency may be reduced.

Correcting skewed printing

If the printed output is repeatedly delivered with the image skewed (crooked on the page), or the pages are damaged when delivered to the output bin, you may need to adjust the registration transport roll (heavy paper) levers. This may occur with heavy weight papers. Follow this procedure to correct this situation:

1. Open the right and left doors of the printer and locate the heavy paper levers, behind areas 2 and 4.

2. Pull the levers forward (toward you) on the silver latch release.

3. Turn both of the levers to the left (counter-clockwise), as illustrated in the following figure.
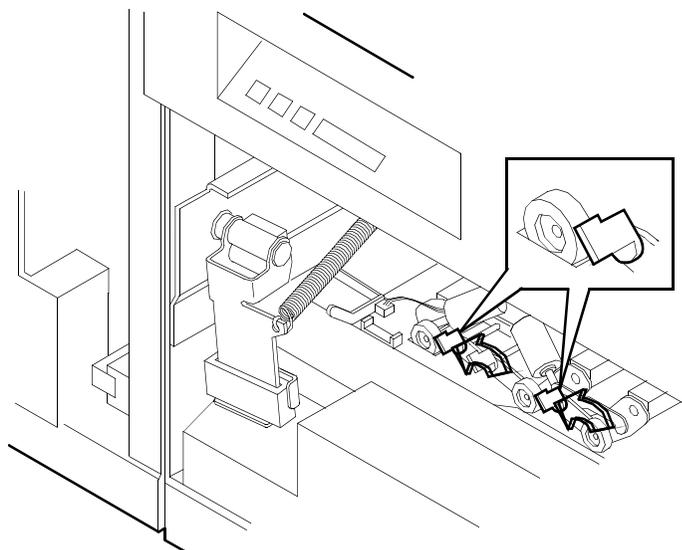

Figure 6-1. Adjusting the registration transport roll levers

NOTE: If your system is equipped with the optional 7 by 10-inch paper enablement kit, it has three levers, as shown in the next illustration. (This kit is not available for the Model 96 NPS/IPS.)

Turn the left-most lever to the left (counter-clockwise) and the other two levers to the right (clockwise).
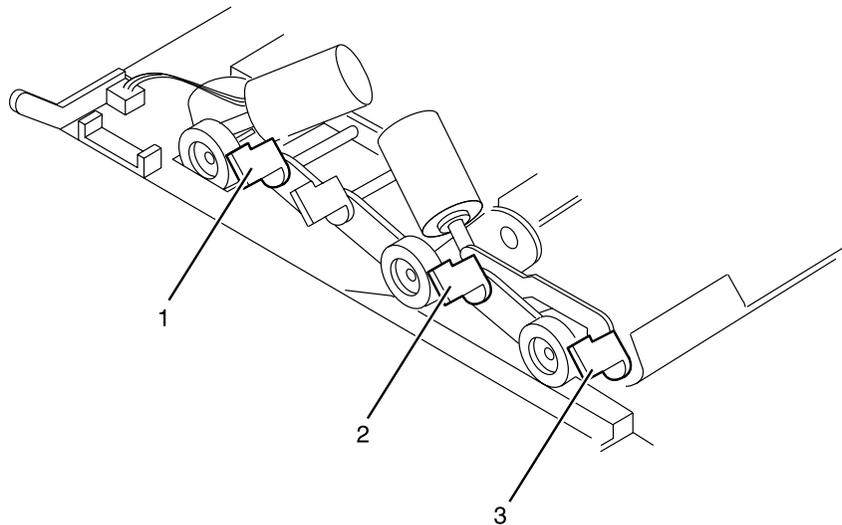
Figure 6-2. Three registration transport roll levers on system with 7 by 10-inch enablement kit

   a. Lever 1: Left - Maximum Pressure setting

   b. Lever 2: Right - Maximum Pressure setting

   c. Lever 3: Right - Maximum Pressure setting

4. When the print job is complete, return the levers to their normal position.

5. Close the doors.

NOTE: Here are a few things for adjusting the registration transport roll lever:

- *Position all levers for the same (either minimum or maximum) pressure setting. Do not intermix the positions of the levers.*

- *Paper greater than 14 inches / 352 mm in any dimension is considered oversized.*

- *Paper heaver than 24 pounds / 90 gsm is considered heavy weight.*

- *The following factors may affect the positioning of the paper levers:*

  - *Machine tolerance*

  - *Paper supplier*

  - *Job type (e.g., duplex).(clockwise).*

Product features that affect PostScript print quality

You can improve the appearance of your documents by being aware of potential problems created through the use of proprietary PostScript extensions and device-dependent operators.

Proprietary PostScript extensions

PostScript masters that use proprietary printer features may cause appearance inconsistencies between different PostScript printers. Some PostScript printers contain proprietary PostScript extensions. For example, some versions of the Apple Macintosh PostScript driver download encrypted proprietary image "smoothing" operators to Apple LaserWriters. The downloaded PostScript code uses the product operator to determine if it is being used on a LaserWriter. If not, the proprietary code is bypassed by doing a flushfile. This allows the PostScript master to print on non–LaserWriter products. As a result, PostScript masters generated on a Macintosh with Apple proprietary features may produce output that varies between LaserWriter and non–LaserWriter PostScript printers.

Device-dependent operators

Some PostScript operators result in device-dependent PostScript files. "Device dependence" means that devices having different output characteristics may produce different-looking output even though they use the same software. This section documents the most serious examples of device dependence. The *PostScript Language Reference Manual,* second edition, lists all of the graphics state operators that are considered device-dependent.

Gray shading—setscreen and setcolorscreen

The PostScript operators setscreen and setcolorscreen control the PostScript halftone software that simulates various intensity levels of gray and color inks. Since each PostScript product may have a different default halftone definition, the halftone patterns and gray scale range may differ also. Because setscreen is inherently device dependent (especially when used for pattern fills), PostScript masters look different on almost every different model of PostScript printer.

The operators are also used to perform pattern fills, since PostScript Level 1 does not have a pattern fill operator. (PostScript Level 2 has pattern fill operators.) As stated in the *PostScript Language Reference Manual*, first edition, "Remember that everything pertaining to halftones is, by definition, device-dependent. In general, when an application provides its own halftone specifications, it sacrifices portability. Associated with every device is a default halftone definition that is appropriate for most applications."

In addition to the device-dependent nature of halftoning, a spot function is used by **setscreen** and **setcolorscreen** to determine the order of pixel darkening in the halftone cell. When two pixels have the same spot function value, their ordering values are determined arbitrarily. Duplicate spot function values are very common. In fact, almost all the various default spot functions generate duplicate values. Therefore, different PostScript implementations yield different halftone patterns, resulting in visual differences in the output.

Gray shading—settransfer and transfer function

The PostScript operators settransfer and setcolortransfer are used to change the procedure for mapping perceived color values in the output of the print device into specified color values in the PostScript master. PostScript devices use an internal transfer array or procedure that takes into account the printing characteristics of their marking engines in order to produce levels of color.

Transfer functions are called by the setcmykcolor, setbsbcolor, setrgbcolor, and setgray operator before processing of the desired color level that is specified in the master. The transfer function takes a value from the stack and leaves another value on the stack for each color component (red, green, blue, and gray).

The PostScript language provides a scheme for overwriting the internal transfer function of a printing device by providing the **settransfer** and **setcolortransfer** operators. However, some Xerox PostScript devices do not allow you to overwrite their internal transfer function.

Typically, a master tries to replace the internal transfer function with a null transfer function such as:

{} **settransfer**, or

{} {} {} {} **setcolortransfer**

If either of the above procedures is successful, the transfer functions return the same color levels that are passed to them without modifying or mapping the level. On printers which do not allow the overwriting of the transfer function, the **settransfer** operator does not affect the mapping of gray values between the output of the print device and specified levels of color.

*NOTE: **Settransfer** actually sets the transfer functions for all four color components (red, green, blue, and gray) to the same value. The **setcolortransfer** operator sets the transfer functions individually.*

Smooth curves—setflat

PostScript masters that use the PostScript operator **setflat** produce inconsistent output across different PostScript printers. **setflat** controls curve rendering smoothness. PostScript curve operators use cubic Bezier control points to define the curve shape. These curves can be rendered from straight line segments. Normally the line segments are so short that the curve appears smooth. The **setflat** operator indirectly controls the length of the straight line segments. As stated in the *PostScript Language Reference Manual*, second edition, "If the flatness parameter is large enough to cause visible straight line segments to appear, the result is unpredictable. **Setflat** sets a graphics state parameter whose effect is device-dependent. It should not be used in a page description that is intended to be device-independent."

Invisible strokes—0 setlinewidth

PostScript masters that use the PostScript operator **setlinewidth** are not consistent across different PostScript printers. **setlinewidth** controls the width of a stroked line. When **setlinewidth** is executed with an input of zero, it produces a line that is one pixel wide. On devices whose dot size is small, single-pixel-width lines may be invisible.

Scan conversion—fill, eofill, and stroke

Scan conversion algorithms are implementation-dependent, so different PostScript printers paint ("turn on") different dots, resulting in output differences. For filled circles, PostScript printers differ in the dots they paint at the edge of the circle; thus, some printers produce slightly larger circles than others. For large circles this is not noticeable, but for small circles, it is.

Sections 2.2 and 6.5 of the *PostScript Language Reference Manual*, second edition, discuss scan conversion. Section 6.5 states that scan conversion details are not part of the PostScript standard.

Troubleshooting Guide

7.   Resolving printer problems

This chapter describes various system problems and suggests corrective actions.

Symptom	Probable cause	Action
Papers are thrown around the stacker.	Someone unloaded paper by opening the top cover of the stacker bin.	Unload the bin following the normal procedure. See "Unloading Stacker bin" in *Guide to Performing Routine Maintenance).*
Paper stack falls over or slides around the bin	Excessive paper curl	Try adjusting for paper curl (See "Paper curl and paper jams" in *Guide to Performing Routine Maintenance*
Printing stops and the printer console displays a message indicating that an incorrect paper size is loaded in a feeder tray.	Incorrect paper size, a misfeed in feeder trays 3 or 4, or a damaged sheet.	1. Check the paper in the indicated tray. 2. Check trays 3 and 4, and remove any miisfed sheets. 3. If the paper is not the correct size, load the correct size paper. If the paper size is correct, press the Continue button to resume printing.

8. Resolving system problems

This chapter describes various system problems and suggests corrective actions.

NOTE: The syntax for the actions listed is for CLI users. If using the GUI, refer to the online help for equivalent procedures.

Symptom	Probable cause	Action
Blank display: pressing a key fails to restore image. *NOTE: If you have a SunBlade 1000, the monitor takes one minute to display following restart. Do not restart the system while waiting for the monitor to display.*	Monitor is powered off; brightness and contrast controls are misadjusted; or there's a more serious problem.	1. Make sure that the monitor is powered on. 2. Make sure that the brightness and contrast controls (if available) are turned far enough to the left to brighten the screen. 3. If the monitor is powered on and controls are turned to the left, call the service representative.
The first job to print after a reboot or a diagnostics session takes 30 to 60 seconds longer than usual.	This is normal operation.	No action is needed. Subsequent jobs should print without a delay.
User says a job is not printing.	The jobs is ineligible due to unavailable resource.	• Enter **List Documents Ineligible**. • Load the appropriate resource.
	Queueing is stopped.	• Enter **Show Status**. • Enter the **Start Queueing** command.
	The virtual printer is stopped.	• Enter **List Virtual Printers**. • Enter **Start Virtual Printer** <printer_name>.
	The jobs are held.	• Enter **List Documents Held**. • Release the job if appropriate.
	The job never arrived.	• Enter **List Documents All**. • Ask the user to resend. If the job still does not arrive, consult with the network or workstation administrator.

Symptom	Probable cause	Action
No jobs appear to be printing.	Queueing or printing may be stopped.	• Enter **Show Status**. • Enter **Start Queueing or Printing**.
	Scheduling policy may be First Come First Served (FCFS) and the next job may be ineligible.	• Enter **Show Scheduling Policy** to determine current setting. • If scheduling policy is FCFS and the next job is ineligible, no jobs will print. Either load the media the job is waiting for, or **Set Scheduling Policy** to ResourceMatch so the next eligible job prints.
	Possible system problem	• Enter **Print Sample Document** to see if jobs can print from the controller to the printer. • If the sample document does not print, there may be a system problem.
	Printer controller is not communicating with the network. (Does not apply to channel-attached host.)	• **Ping** the printer controller; check the cabling/connections. • Reconnect the network cable. Use the network diagnostics to check the network devices.
	Printer controller is off or needs to be restarted.	• Check the printer controller operation. • Restart the printer controller.
User cannot send a job from a workstation.	The workstation is not communicating with the network.	• **Ping** the printer controller or another workstation. Look at the workstation network cable. • Reconnect the network cable.
	For TCP/IP: Printer controller host name and address are not in the workstation hosts file.	• View the workstation hosts file. • Add the printer controller name and address to the hosts file.

Symptom	Probable cause	Action
Job prints on the wrong paper, or is otherwise not as expected.	Paper in the tray and tray settings do not match.	• Check the trays and Enter **Show Status**. • Change paper in the tray or set the correct paper type using **Set Tray**.
	Job has a job ticket and specified virtual printer has SkipJTPreScan set to True. (Does not apply to IPDS.)	• Enter **List Virtual Printers**. • Send to another virtual printer with SkipJTPreScan set to False.
	Job has attributes from some other source (DSC, embedded from job ticket, etc.)	• Enter **Show Document Attributes**. • Resend if necessary. Enter **Change Document Attributes** to specify desired attributes. • Ensure that "Fit to Paper" or an equivalent selection is not selected in user print driver.
	User error in entering print options from the client workstation.	• Enter **Show Document Attributes**. • Resend if necessary using correct options, or enter **Change Document Attributes** to specify the desired attributes.
Job prints correctly on the right media, but an error message on the trailer page indicates a media error.	There are PostScript setpagedevice operators in the job that specify the media to use, and the job submission method or virtual printer specified other media.	• Enter **Show Document Attributes** to view the requested media and compare with output. Then check the PostScript code of the file. You can enter **Examine Document**, but it may be easier to do this from a user workstation. • If the job has printed as desired, do nothing. If you want the job to print using the media set by the setpagedevice operators, do not use a job submission method that creates a job ticket, or use a virtual printer with SkipJTPreScan set to True, and no media attributes.

Symptom	Probable cause	Action
The IPDS host receives a Not Ready message from the DocuPrint NPS/IPS.	If a virtual printer is specified for a job, and the virtual printer properties are changed, then the virtual printer stops and sends a not ready message to the host.	1. Enter **Show Status** to ensure there is no other problem. If you have a stoppage due to the status shown, correct the problem status. 2. Enter **List Virtual Printer** or **Show IPDS Virtual Printer** to see if the virtual printer is stopped. 3. Enter **Start Virtual Printer <vpname>**.
	Queueing has stopped. The job pool manager cannot accept any jobs when queuing has stopped.	1. Enter **Show Status** to determine if printing is stopped. 2. Enter **Start Queueing**.
	The IPDS job is not selected for printing because printing has stopped.	1. Enter **Show Status** to determine if printing is stopped. 2. Enter **Show IPDS Status** to determine if IPDS printing is stopped. 3. Enter **Start Printing** or **Start IPDS Printing**.
	Out of paper condition	1. Enter **Show Status**. 2. Reload the paper tray.

Restarting the system after an error condition when printing an IPDS job

To restart the system after you have cleared an error condition:

1. Drain the printer at the host. (Follow procedures for your host system.)

2. In an MVS environment, cancel the FSS (Functional Subsystem), which automatically drains the printer.

3. Restart the Printer Controller.

4. Restart the printer at the host.

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