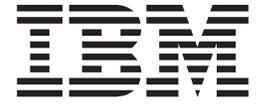


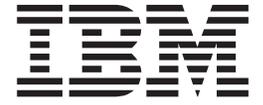
Infoprint Color 1228



# User's Reference

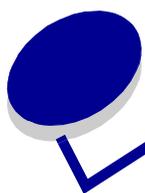


Infoprint Color 1228



# User's Reference





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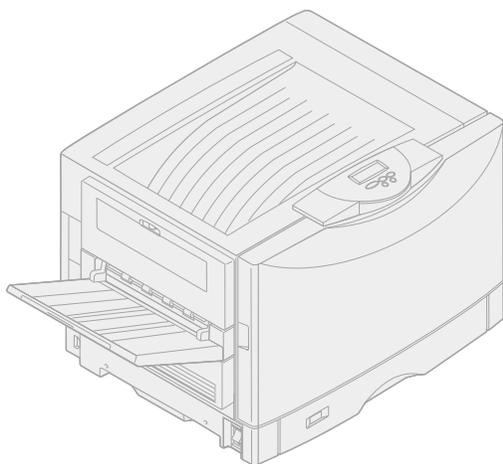
# 1

## Printer overview

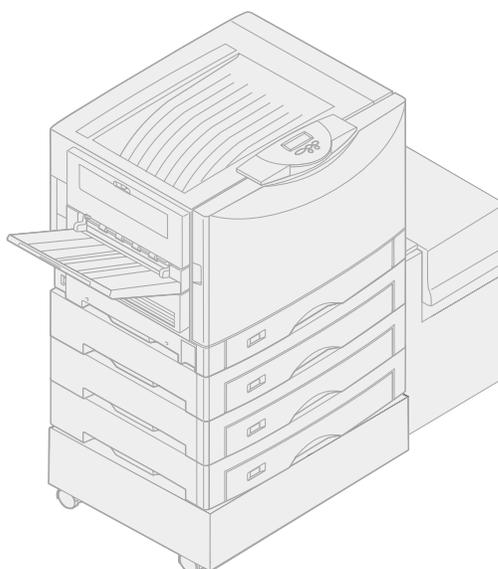
---

The following illustrations show a standard model configuration and a fully configured network printer. If you have attached paper handling options to your printer, it may look more like the fully configured model. For information on other possible configurations, refer to the *Setup Guide*.

**Standard model configuration**



**Fully configured**



This is a network color printer that uses electrophotographic technology to deliver high quality images, presentation graphics, line art, and text. Its fast output, up to 28 pages per minute (ppm) for both four-color and monochrome print jobs-makes it the ideal solution for businesses where performance is critical.

The printer's flexible design allows it to support a variety of printing needs. For example, if you print a mixture of color and mono (black only) jobs, you can choose to maximize print speed or maximize supplies yield. If you need the printer to match the color process used in a particular application, you can select RGB or CMYK color corrections. You can also adjust the printed colors to more closely represent the colors on your computer display.

A variety of connectivity options make the printer an excellent choice for all types of system environments. You can attach up to two internal adapters to support network configurations requiring Ethernet, Token-Ring, LocalTalk, serial, infrared, or additional parallel ports. You can even attach a class 1 fax modem to the optional serial port and receive faxes directly to your printer.

The printer also offers flexible paper handling. It supports a wide variety of paper sizes, from A5 to A3 and 11x17 in., and has a standard multipurpose feeder that makes it easy to print on envelopes, transparencies, labels, card stock, and non-standard size paper. You can add up to three optional drawers to the base printer, which can increase the printer's paper capacity to 2300 sheets. You can also add an optional high capacity feeder making the total paper capacity 5300 sheets.

---

## ***Print speed***

Your printer can print four-color and mono jobs at up to 28 ppm. With all printers, print speed varies depending on specific characteristics of the job, such as the size of the formatted page, the number of fonts, the number and complexity of images and graphics, and so on. Printing a mix of color and mono jobs may also slow printing, depending on the printer settings you have chosen.

---

## ***Memory***

Your printer ships with 64MB of memory for fast, efficient processing of color jobs. (Some models may ship with more memory.)

You can install an optional hard disk for storing downloaded resources and job statistics, and for spooling or collating print jobs. Resources stored in flash memory or on disk are retained in memory even after the printer is turned off and back on.

---

## ***Paper handling***

The printer comes equipped with a 550-sheet paper tray and a multipurpose feeder. (Some models may ship with a second 550-sheet tray.) The multipurpose feeder lets you load a stack of envelopes, transparencies, labels, or card stock for multiple-page jobs. To increase paper feeding capacity, you can attach up to three optional drawers, each with a 550-sheet tray, and one optional 3000-sheet high capacity feeder.



## Avoiding print quality problems

---

To prevent print quality problems, do not touch the roller on the bottom of the toner cartridge, the shiny green tube on the photodeveloper, the film on the transfer belt, or the fuser rollers. Scratches or fingerprints on any of these surfaces can affect print quality.

---

### *Media and supplies*

Always use media that meets the recommended guidelines. Feeding media that is too heavy, too light, damp, damaged, or otherwise unacceptable for this printer may result in damage to the printer, paper jams, or print quality problems.

Some print quality problems may indicate it is time to replace certain printer supplies. Check the operator panel display, the Supplies Menu, or MarkVision for an indication of any supply items that may need to be replaced.

Depending on the type of jobs you print and the media you use, some parts or supplies may wear or become expended faster than anticipated. See [Maintenance](#) for more information about supplies and when to replace them.

---

### *Transparencies*

Handle transparencies carefully because fingerprints may affect the adhesion of toner. Always set the **Paper Type** to Transparency before printing transparencies. This adjusts the fuser temperature and slows the print speed to ensure the best possible transfer of toner.

See [Loading paper and transparencies](#) for more information.



## Canceling a print job

---

To cancel a print job:

- 1 Press **Menu**.

**Job Menu** appears on the first line of the display and **Cancel Job** appears on the second line.

- 2 Press **Select**.

**Canceling Job** briefly appears on the display. The printer finishes printing any page already being printed, and then stops. The printer returns to the Ready state.



## Controlling printed output

---

Your printer driver provides you with the best quality output for various types of printing needs. However, you may want more control over how your printed document will look.

Your printer default is set to give you the best screen frequency setting for high quality business graphics. You can however control the image smoothing, color correction, print mode, and toner darkness settings used during printing. Adjusting any of these settings affects the output of your documents. These setting adjustments can easily be made through your printer driver, operator panel, or MarkVision remote operator panel.

Different printing needs do require different screen frequency settings; for example, offset printing requires a higher setting, whereas newsprint generally requires a lower setting. Your printer default is set to give you the best screen frequency setting for high quality business graphics.

---

### ***Image Smoothing***

You can turn Image Smoothing on from the graphics tab of your printer driver or from the operator panel. This increases the contrast and sharpness of bitmapped images and smooths color transitions. This setting is useful for images downloaded from the World Wide Web at 72 dpi. The setting has no effect on images downloaded at 300 dpi resolution or higher.

---

### ***Color correction***

Color Correction lets you modify the color settings used to print your documents. The Color Correction settings you can choose from are: Auto, Display, CMYK, Off, Vivid, and Manual. Auto is the default setting when the printer is shipped from the factory. It uses different color profiles for the different objects on the page (text, graphics, and images).

For more information refer to the **Color correction** section of the Color Menu.

---

### ***Print mode***

You can select between color or black and white printing. The Black and White setting converts any colors in your document to solid black. This setting produces output just like any standard monochrome printer using various shades of gray. This setting can be especially useful when you have replaced a monochrome printer and want to print occasional color. Cost conscious users benefit most by using this setting as a default and print color only when needed.

---

## Toner darkness

This setting lets you adjust the amount of toner released during printing. Your printer offers five Toner Darkness settings. The values range from 1 (lightest setting) to 5 (darkest setting). The default toner darkness setting is 4.

---

## Printing text

In both PostScript and PCL emulations, 100% black text prints using black toner (K of CMYK). This results in sharp, crisp text characters. The printer applies a unique screening algorithm to small text (less than 24 points in size). This helps ensure that small point size text has smooth, crisp edges.

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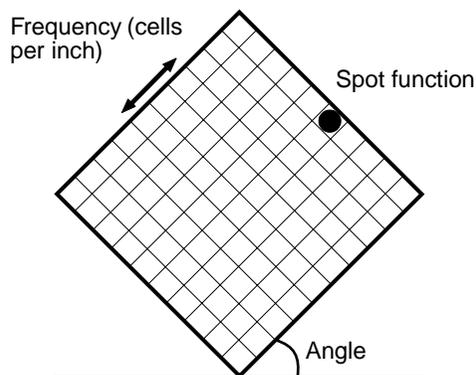
## Halftone screens

The term *halftone screen* refers to the pattern of dots applied to an object on the page (text, graphics, or images). If you look at a black and white photograph in a magazine, it appears to contain many shades of gray. If you place the same picture under a magnifying glass, you see that it is actually composed of a large number of small dots. These dots, also known as pels, may be of varying sizes or varying tones. Without halftoning, it would not be possible to produce quality photographic images on a page printer. This process of representing an image as a series of halftones is known as halftone screening.

### Attributes

Halftone screens have three main attributes: screen frequency, screen angle, and spot function. The halftone screen is further divided into halftone cells. These cells contain the individual pel spaces. The screen frequency and angle attributes determine both the number of halftone cells that make up a halftone screen and the orientation of the cell.

The spot function determines which of the individual pels in the halftone cell is turned on to represent a particular gray level or color tone. The following illustration shows a halftone screen and halftone cells rotated 45 degrees.



## ***Screen frequency***

The screen frequency is the number of halftone cells per inch. A higher screen frequency setting increases the number of halftone cells per inch. Increasing the number of halftone cells per inch does not necessarily give you better quality. The reason for this is the higher settings may make the colors or halftones seem to run together or bleed.

Different printing needs do require different screen frequency settings; for example, offset printing requires a higher setting, whereas newsprint generally requires a lower setting. Your printer default is set to give you the best screen frequency setting for high quality business graphics.

## ***Screen angle***

The default angle of the halftone screen and cells place the dots so they are the least noticeable to the eye. It also ensures the alignment of color through all four color planes. By avoiding the placement of halftone cells at an angle of 90 degrees, the viewer's eyes are focused on the image and not on the dots.

## ***Spot function***

The spot function determines the shape of the dots by controlling the order in which the pels in the halftone cell are turned on. The printer code defines the order by assigning a priority to each individual pel within the halftone cell. By turning on or printing a portion of the pels within the halftone cell and then combining the different halftone screens, your printer is able to print millions of colors.

# 5 Using the operator panel

This section contains information about understanding the operator panel, changing printer settings, and understanding operator panel menus.

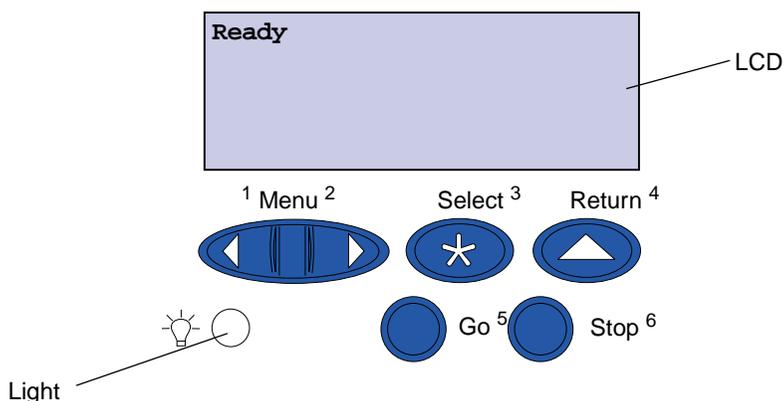
You can change most printer settings from your software application or printer driver. Settings you change from the application or printer driver apply only to the job you are preparing to send to the printer.

Changes made to printer settings from a software application override changes made from the operator panel.

If you cannot change a setting from your application, use the operator panel or the remote operator panel available from MarkVision. Changing a printer setting from the operator panel or from MarkVision makes that setting the user default.

## Understanding the operator panel

The printer operator panel has a 2-line by 16-character liquid crystal display (LCD), five buttons, and one indicator light.



### Indicator light

The indicator light gives information about the status of your printer. If the light is:

- Off, the printer is off
- On, the printer is on, but idle
- Blinking, the printer is on and is busy

---

## Using the operator panel buttons

Use the five operator panel buttons to open a menu, scroll through a list of values, change printer settings, and respond to printer messages.

The numbers 1 through 6 appear beside the operator panel buttons; these numbers are used to enter personal identification numbers (PIN) for *Print and Hold* jobs. For more information, see [Using the Print and Hold function](#).

The following information describes the functions of each button.

**Note:** Buttons act upon the information displayed on the second line of the operator panel.

<b>Go</b>	<p>Press the <b>Go</b> button to:</p> <ul style="list-style-type: none"><li>• Return to the Ready state if the printer is in an offline situation (the <b>Ready</b> message does not display on the operator panel).</li><li>• Exit printer menus and return to the Ready state.</li><li>• Clear operator panel error messages.</li></ul> <p>If you've changed printer settings from the operator panel menus, press <b>Go</b> before sending a job to print. The printer must display <b>Ready</b> for jobs to print.</p>
<b>Menu</b>	<p>Each end of the button has a function. Press <b>Menu</b>:</p> <ul style="list-style-type: none"><li>• When <b>Ready</b> is displayed, to take the printer offline (out of the <b>Ready</b> state) and scroll through the menus.</li><li>• When <b>Busy</b> is displayed, to take the printer to the Job Menu.</li><li>• When the printer is offline, press <b>Menu&gt;</b> to scroll through the menus.<ul style="list-style-type: none"><li>– Press <b>&lt;Menu</b> to go to the previous item in the menus.</li></ul></li></ul> <p>For menu items with numeric values, such as Copies, press and hold <b>Menu</b> to scroll through the values. Release the button when the number you want is displayed.</p>
<b>Select</b>	<p>Press <b>Select</b> to:</p> <ul style="list-style-type: none"><li>• Select the menu displayed on the second line of the operator panel. Depending on the type of menu, this action:<ul style="list-style-type: none"><li>– Opens the menu and displays the first item in the menu.</li><li>– Opens the menu item and displays the default setting.</li></ul></li><li>• Save the displayed menu item as the default setting. The printer displays the <b>saved</b> message and returns to the menu item.</li><li>• Clear certain messages from the operator panel.</li></ul>
<b>Return</b>	<p>Press <b>Return</b> to return to the previous menu level or menu item.</p>
<b>Stop</b>	<p>Press <b>Stop</b> at the <b>Ready</b>, <b>Busy</b>, or <b>Waiting</b> message to temporarily stop all activity and take the printer offline. The operator panel status message changes to <b>Not Ready</b>.</p> <p>Press <b>Go</b> to return the printer to the <b>Ready</b>, <b>Busy</b>, or <b>Waiting</b> state.</p>

---

## Changing printer settings

From the operator panel, you can select menu items and associated values to print your jobs successfully. You can also use the panel to alter the setup and operating environment of the printer. See [Using printer menus](#) for an explanation of all the menu items.

You can modify printer settings by:

- Selecting a setting from a list of values
- Changing an On/Off setting
- Changing a numerical setting

To select a new value as a setting:

- 1** From a **Ready** status message, press **Menu**. The menu names appear.
- 2** Continue to press and release **Menu** until you see the menu you need.
- 3** Press **Select** to select the menu or menu item displayed on the second line of the display.
  - If the selection is a menu, the menu opens and the first printer setting in the menu appears.
  - If the selection is a menu item, the default setting for the menu item appears. (The current user default setting has an asterisk [\*] beside it.)

Each menu item has a list of values for the menu item. A value can be:

- A phrase or word to describe a setting
  - A numerical value that can be changed
  - An On or Off setting
- 4** Press **Menu** to move to the value you need.
  - 5** Press **Select** to select the value on the second line of the operator panel. An asterisk appears beside the value to indicate that it is now the user default setting. The new setting appears for one second, clears, displays the word **saved**, and then displays the previous list of menu items.
  - 6** Press **Return** to go back to previous menus. Make additional menu selections to set new default settings. Press **Go** if this is the last setting to change.

User default settings remain in effect until you save new settings or restore the factory defaults. Settings you choose from your software application can also change or override the user default settings you select from the operator panel.

---

## ***Printing the menu settings page***

Complete the following steps to print a list of the current user default settings and installed printer options:

- 1** Make sure the printer power is on and the **Ready** status message appears.
- 2** Press **Menu** until you see Utilities Menu, and then press **Select**.
- 3** Press **Menu** until you see Print Menus, and then press **Select**.

The message **Printing Menu Settings** appears and remains until the page prints. The printer returns to **Ready** when the page or pages finish printing.

If a message appears, see [Understanding printer messages](#) for more information.

- 4 Verify that the options you installed are correctly listed under “Installed Features.”

If an option you installed is not listed, turn the printer off, unplug the power cord, and reinstall the option.

**Note:** To prevent an electrical overload, plug your printer into a well-grounded outlet on a non-ground fault interrupter (GFI) circuit.

- 5 Verify the amount of memory installed is correctly listed under “Printer Information.”
- 6 Verify that the paper trays are configured for the sizes and types of paper you loaded.

The **diagram** in **Using printer menus** shows the menu items in each menu.

An asterisk (\*) next to a value indicates the factory default setting. Factory defaults may differ for different countries/regions.

*Factory defaults* are the function settings in effect the first time you turn your printer on. These remain in effect until you change them. Factory defaults are restored if you select the Restore value for the Factory Defaults menu item in the Utilities Menu. See **Restoring factory default settings** for more information.

When you select a new setting from the operator panel, the asterisk moves next to the selected setting to identify it as the current user default.

*User defaults* are the settings you select for different printer functions and store in printer memory. Once stored, these settings remain active until new ones are stored or the factory defaults are restored. See **Changing printer settings**.

**Note:** Settings you choose from your software application may override the settings you select from the operator panel.

---

## Menus Disabled

If your printer is configured as a network printer available to a number of users, **Menus Disabled** may appear when you press **Menu** from the **Ready** state. Disabling the menus prevents users from using the operator panel to inadvertently change a printer default that has been set by the person managing the printer. You can still use Print and Hold features, clear messages, and select items from the Job Menu when printing a job, but you cannot change other printer settings. You can, however, use your printer driver to override printer defaults and select settings for individual print jobs.



## Using the Print and Hold function

---

When sending a job to the printer, you can specify in the driver that you want the printer to hold the job in memory. When you are ready to print the job, you must go to the printer and use the operator panel menus to identify which *held* job you want to print.

To learn more about this function, click a topic:

- [Printing and deleting held jobs](#)
- [Accessing held jobs from the operator panel](#)
- [Recognizing when format errors occur](#)
- [Repeating print jobs at a later time](#)
- [Verifying print jobs](#)
- [Printing confidential jobs](#)
- [Reserving print jobs](#)

---

### *Printing and deleting held jobs*

Once held jobs are stored in printer memory, you can use the operator panel to specify what you want to do with one or more of the jobs. You can select either Confidential Job or Held Jobs (Repeat Print, Reserve Print, and Verify Print jobs) from the **Job Menu**. If you select Confidential Job, you must enter the personal identification number (PIN) you specified in the driver when you sent the job. See [Confidential jobs](#) for more information.

From either the Confidential Job or the Held Jobs menu items, you have five choices:

- Print All Jobs
- Print A Job
- Delete All Jobs
- Delete A Job
- Print Copies

---

## Accessing held jobs from the operator panel

- 1 To access held jobs from the operator panel:
  - If the printer is Busy, press **Menu** and the Job Menu appears.
  - If the printer is Ready, continue to step 2.
- 2 Press **Menu** until you see Held Jobs or Confidential Job on the operator panel display, depending on the type of job you want to access.
- 3 Press **Select**.

**Note:** If you are looking for a Confidential Job, you are prompted to enter your PIN. See [Confidential jobs](#) for more information.

- 4 Press **Menu** until the action you want to take appears on the second line of the operator panel (print a job, delete a job, and so on).
- 5 Press **Select**.
  - If you are looking for one particular job, press **Menu** to scroll through the list of jobs available, and press **Select** when the correct job is displayed. An asterisk (\*) appears next to the job name indicating you have chosen to print or delete that job.
  - If you are prompted to enter the number of copies you want to print, use **Menu** to increase or decrease the number on the operator panel, and press **Select**.
- 6 Press **Go** to print or delete specific jobs you have marked.

The printer briefly displays messages indicating what print and hold functions it is performing, and then returns to the Ready state.

---

## Recognizing when format errors occur

If the  symbol appears on the display, it indicates that the printer had trouble formatting one or more of the held jobs. These formatting problems are most commonly the result of insufficient printer memory or invalid data that might cause the printer to flush the job.

When a  symbol appears next to a held job, you can:

- Print the job. Be aware, however, that only part of the job may print.
- Delete the job. You may want to free up additional printer memory by scrolling through the list of held jobs and deleting others you have sent to the printer.

If formatting errors are a recurring problem with held jobs, your printer may require more memory.

---

## ***Repeat Print***

If you send a Repeat Print job, the printer prints all requested copies of the job *and* stores the job in memory so you can print additional copies later. You can print additional copies as long as the job remains stored in memory.

**Note:** Repeat Print jobs are automatically deleted from printer memory when the printer requires extra memory to process additional held jobs.

---

## ***Reserve Print***

If you send a Reserve Print job, the printer does not print the job immediately, but stores the job in memory so you can print the job later. The job is held in memory until you delete it from the Held Jobs menu. Reserve Print jobs may be deleted if the printer requires extra memory to process additional held jobs.

See **Printing and deleting held jobs** for information.

---

## ***Verify Print***

If you send a Verify Print job, the printer prints one copy and holds the remaining copies you requested from the driver in printer memory. Use Verify Print to examine the first copy to see if it is satisfactory before printing the remaining copies.

See **Printing and deleting held jobs** if you need help printing the additional copies stored in memory.

**Note:** Once all copies are printed, the Verify Print job is deleted from printer memory.

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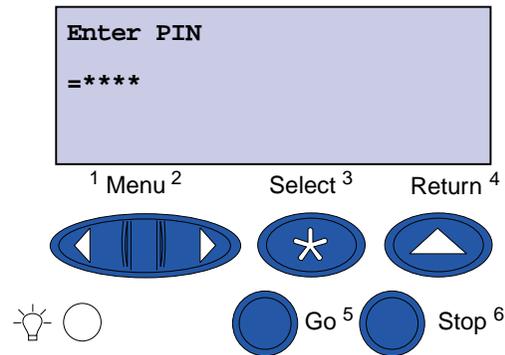
## ***Confidential jobs***

When you send a job to the printer, you can enter a personal identification number (PIN) from the driver. The PIN must be four digits using the numbers 1–6. The job is then held in printer memory until you enter the same four-digit PIN from the operator panel and choose to print or delete the job. This ensures that the job does not print until you are there to retrieve it, and no one else using the printer can print the job.

When you select Confidential Job from the Job Menu and then select your user name, the following prompt is displayed:

**Enter PIN:**  
= \_\_\_\_\_

Use the buttons on the operator panel to enter the four-digit PIN associated with your confidential job. The numbers next to the button names identify which button to press for each digit (1–6). As you enter the PIN, asterisks are displayed on the operator panel to ensure confidentiality.



If you enter an invalid PIN, the message **No Jobs Found. Retry?** appears. Press **Go** to reenter the PIN, or press **Stop** to exit the Confidential Job menu.

When you enter a valid PIN, you have access to all print jobs matching the user name and PIN you entered. The print jobs matching the PIN you entered appear on the display when you enter the Print A Job, Delete A Job, and Print Copies menu items. You can then choose to print or delete jobs matching the PIN you entered. (See [Printing and deleting held jobs](#) for more information.) After printing the job, the printer deletes the confidential job from memory.



## Sending a job to print

To send a job to the printer:

- 1 Open the file you want to print.
- 2 From the File menu, choose **Print**.
- 3 Verify that the correct printer is selected in the dialog box.
- 4 Adjust the printer settings according to your need.

The printer settings available are determined by the application that opens your file.

**Note:** Click **Properties** or **Setup** to adjust printer settings not available from the first screen, and then click **OK**.

- 5 Click **OK** or **Print** to send the job to the selected printer.



## Color correction

---

Color Correction lets you modify the color settings used to print your documents. The Color Correction settings you can choose from are: Auto, Display, CMYK, Off, Vivid, and Manual. Auto is the default setting when the printer is shipped from the factory. It uses different color profiles for the different objects on the page (text, graphics, and images).

You can use these settings to adjust your printed color to better match the colors of other output devices or standard color systems. You can also use these settings to adjust the brightness and saturation of your text and business graphics. You can access and change these settings through your printer driver Color tab or the operator panel Color Menu.

The following is an overview of the Color settings and their applications.

---

### *Auto*

When your Color Correction is set to Auto, the printer applies different color profiles to each object on the printed page. This setting provides high quality output for text, graphics, images, line art, and charts. This setting is most useful for documents that contain a variety of objects.

---

### *Display*

You can use this setting to print color that approximates the colors on your computer screen. This setting uses common color tables to translate the color settings displayed on your monitor into the color values used by the printer CMYK color model.

This setting is generally used when your application does not do its own color correction and defines colors as RGB (Red, Green, Blue), HLS (Hue, Lightness, Saturation), or HSB (Hue, Saturation, Brightness).

**Note:** Due to the difference between additive and subtractive colors, your printer can produce colors that are impossible to duplicate on your monitor and your monitor can display colors that cannot be duplicated on any printer. For more information, see [Color difference](#).

---

## **CMYK**

When you select CMYK as your color correction, the printer expects to receive CMYK color values from your software. Use this setting when attempting to reproduce standard CMYK colors such as Pantone or when printing CMYK images.

If you use this setting without the necessary color management software or your application does not provide the correct information, your printed output may have unexpected results.

---

## **Off**

When you select Off as your color correction, the printer expects to receive the necessary color correction from your software. Use this setting when you have software that manages its own color correction or if you use another color management tool.

If you use this setting without the necessary color management software or your application does not provide the correct information, your printed output may have unexpected results.

---

## **Vivid**

This setting can help you print brighter colors. The Vivid setting adjusts the CMYK components, resulting in more saturated colors. You may want to use this setting when creating overhead transparencies to enhance or sharpen your colors if they seem faded. This setting is especially useful if you like saturated colors and color matching is not a concern. For example, you can saturate your business graphics to be more pleasant or make presentations more dynamic. Since you are saturating your color, flesh tones and other colors may not seem lifelike.

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## **Manual**

When your Color Correction is set to Manual, you can apply customized color correction to each type of object on the page. See **Manual Color** for more information.



## Managing color

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There are many color management systems on the market today. They range from simple swatchbooks to specially designed and designated color servers. A color management system (CMS) helps you match colors across a number of devices, including scanners, monitors, and printers. A CMS ensures what you see at every step of the publishing process matches the printed output. Color management systems compensate for device limitations by taking into account the varying capabilities of different brands of monitors and printers. There are three major elements of a CMS: they are the device profile, color calibration, and translation.

---

### *Device profile*

Each piece of equipment is characterized or profiled. The profile reveals the color capabilities of the equipment. The profile includes details about which colors the device is capable of detecting, displaying, or printing. The device profile is used to convert different color values from one device to another.

---

### *Color calibration*

Even the best equipment ages over time. For example, a monitor capable of displaying very accurate colors when purchased eventually dims as it ages. Calibration ensures consistency by returning colors to their original specifications. You should calibrate your equipment at the interval your CMS specifies. Without calibration, your output may be different than you expect.

---

### *Translation between color models*

Translation is the most complex element of a CMS. Because each device is based on a device-dependent color model, such as RGB or CMYK, the range of colors each device supports is different. It is difficult and sometimes impossible to produce a particular color on different devices when each device uses a different color model.

Translation requires a device-independent color model. Most color management systems are based on the CIE color space model. This color space specification was devised by the Commission Internationale de l'Eclairage (CIE). Rather than translating RGB to CIE and CIE to CMYK, most CMS's translate directly from RGB to CMYK using the CIE color space as a reference.

---

## ***Popular color management systems***

There are many color management systems for you to choose from. The type of CMS you choose impacts the color quality of your printed output. Choose a CMS that best meets your cost and performance needs. Some popular color management systems are described here.

### ***Windows ICM***

Microsoft Windows 95/98/Me, Windows 2000, and Windows NT support Image Color Management (ICM). ICM is an operating system-level CMS based on the CIE independent color model. It helps to translate color values between RGB and CMYK.

### ***ColorSync 3***

ColorSync 3 is an operating system-level CMS developed by Apple. It also uses the CIE independent model to translate between RGB and CMYK values.

### ***Agfa FotoTune***

Agfa FotoTune also uses the CIE independent color model to translate between RGB and CMYK values. It only works with certain applications, however, such as Adobe Photoshop.

# 10

## Understanding color

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Your printer gives you the power to communicate in color. Color attracts attention, commands respect, and adds value to your printed material or information. Using color increases readership and is read more often than the same material printed in black and white. Color can be used to motivate people and speed the analysis of complex data. When you print on-demand color, you save money.

To enhance your use and understanding about color printing, this section provides information about color and how to select, use, and adjust color for your network and desktop printing.

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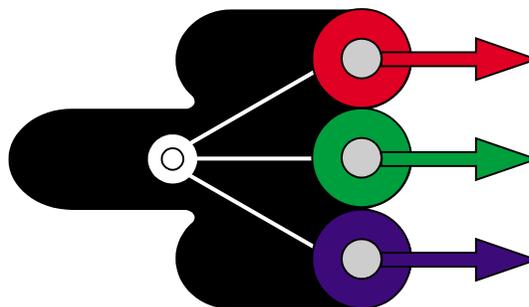
### *Types of color*

To be effective, the use of color needs to be planned. The reason for this is how the eye sees color. When light is used to produce color on your monitor or TV, it uses three primary colors. They are red, green, and blue (also known as RGB color). All printed output such as newspapers, magazines, brochures, and of course your documents use the colors cyan, magenta, yellow, and black (known as CMYK color). Because the colors are presented to the eye differently, what you see on your monitor may look different than what you have printed. By understanding how we see color on the screen and how we see color in printed documents, we can better plan the use of color.

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### *How we see color*

When we see color, we actually see light that is passed through or reflected from an object. What our eyes perceive as visible light are wavelengths. Our eyes are sensitive to three specific wavelength colors: red, green, and blue.

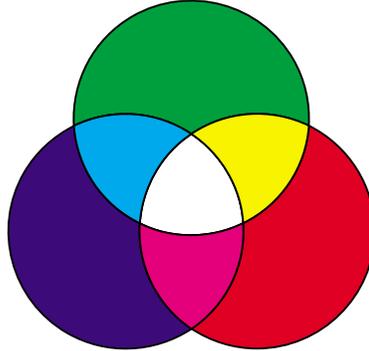


When you look at your monitor, you see red, green, and blue light that is projected into your eyes. This additive color begins with black and adds red, green, and blue to produce the colors you can see. If you add equal amounts of red, green, and blue, you produce white. The images and colors you see on your screen are created using various amounts of red, green, and blue.

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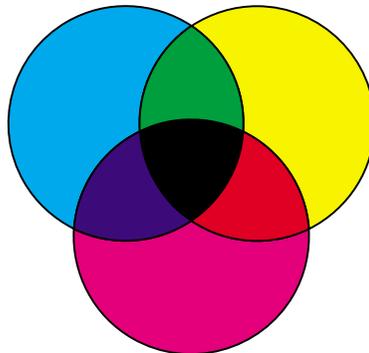
## ***Primary colors***

Notice the three primary additive colors red, green, and blue in the illustration. You can see that when all three colors are combined, you get white. However, look at the area where any two colors overlap. What you see is cyan, magenta, or yellow. Equal amounts of green and blue produce cyan. Equal amounts of blue and red produce magenta, and equal amounts of red and green produce yellow. The toner colors used to place color on your printed material are cyan, magenta, yellow, and black.



The colors in newspapers, magazines, and the documents you print are based on the light being reflected from the printed material and into your eyes. The color you see is subtractive color. Subtractive color begins with white light. Portions of the white light wavelength are then subtracted based on the colors present on the printed page. What this means is the light reaching your document is partially absorbed by the toner placed on the page. For example, when white light encounters cyan, it absorbs the red wavelength in the light and reflects blue and green toward your eyes.

If you add equal amounts of cyan, magenta, and yellow, you create black. When you combine these colors equally in your printed material you create what is known as process black. When printed, process black looks like a very dirty or muddy brown. Because of this, your printer has a black toner cartridge to provide you with true black for all your printing needs.



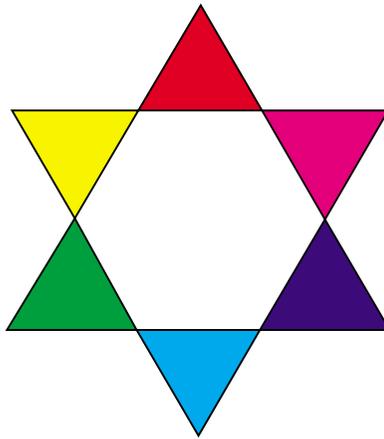
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## Color difference

Most software applications today provide us with a WYSIWYG (What You See Is What You Get) environment. This helps us develop the look of our document. However, the difference between the additive and subtractive colors may sometimes cause a problem between what you see and what you get. This is due to the difference between additive and subtractive colors. The reason for this lies in the color spectrum of the different devices.

Your printer is capable of delivering over 16 million colors. With such a large variety of colors to choose from, you'll probably be able to closely match most of your screen designs. There are, however, colors your printer can produce that are impossible to duplicate on your monitor and there are colors your monitor can display that cannot be duplicated on any printer.

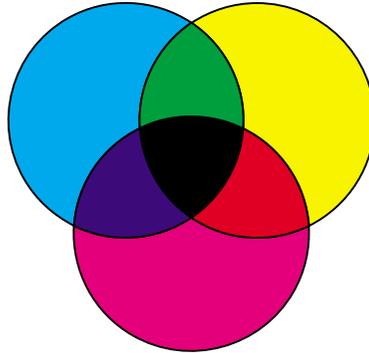
There are many ways you can ensure the color on the screen and the color you print are the same or at least a very close match. When you create a swatch like the one below, you can choose and compare your printed and screen colors.



The easiest way for you to get consistent color from your screen to your printer is to select standard colors. When you produce color on your screen, it is produced using a color model. A color model is a system that defines color according to a set of basic properties. Most software applications can use this color model to closely match the colors you have on your screen.

As stated earlier, one simple method to aid in planning the use of color is to produce a color swatch of the colors you plan to use. Then, you can see how these colors will look when printed.

As your monitor ages, the colors on the screen also change. Changing the toner cartridges, photodeveloper cartridge, and paper in your printer also has a major impact on the color in your printed document. Always print a new swatch of the colors you plan on using before you invest a lot of time creating your screen designs.





# Choosing media

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The print quality and feed reliability of your printer and options can vary with the type and size of print media you use. This section provides guidelines for each type of print media.

Always print samples on the print media you are considering before buying large quantities.

Click a topic for more information:

- [Paper characteristics](#)
- [Recommended paper](#)
- [Unsatisfactory paper](#)
- [Choosing preprinted forms and letterhead](#)
- [Choosing paper](#)
- [Choosing envelopes](#)
- [Choosing labels](#)
- [Choosing card stock](#)
- [Choosing transparencies](#)

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## ***Paper characteristics***

The following paper characteristics affect print quality and reliability. Keep these guidelines in mind when evaluating new paper stock.

### ***Weight***

The printer can feed paper weights from 60 to 163 g/m<sup>2</sup> (16 to 43 lb bond) grain long. Paper lighter than 60 g/m<sup>2</sup> (16 lb) might not be stiff enough to feed properly, causing paper jams. For best performance, use 90 g/m<sup>2</sup> (24 lb) Hammermill Laser Print paper. To use paper narrower than 182 x 257 mm (7.2 x 10.1 in.), we recommend the weight be greater than or equal to 90 g/m<sup>2</sup> (24 lb bond).

### ***Curl***

Curl is the tendency of paper to curve at its edges. Excessive curl can cause paper feeding problems. Curl usually occurs after the paper passes through the printer fuser, where it is exposed to high temperatures. Excessively high toner coverage, humid conditions, and paper types can contribute to paper curling.

## ***Smoothness***

The degree of smoothness of paper directly affects print quality. If the paper is too rough, the toner does not fuse to the paper properly, resulting in poor print quality. If the paper is too smooth, it can cause paper feeding problems.

## ***Moisture content***

The amount of moisture in the paper affects both print quality and the ability of the printer to feed the paper properly. Leave the paper in its original wrapper until you are ready to use it. This limits the exposure of the paper to moisture changes that can degrade its performance.

## ***Fiber content***

Most high-quality xerographic paper is made from 100% chemically pulped wood. This content provides the paper with a high degree of stability resulting in fewer paper feeding problems and better print quality. Paper containing fibers such as cotton possess characteristics that can result in degraded paper handling.

---

## ***Recommended paper***

To ensure the best print quality and feed reliability, use 90 g/m<sup>2</sup> (24 lb) Hammermill Laser Print paper. Business papers designed for general business use may also provide acceptable print quality.

Always print several samples before buying large quantities of any type of paper. When choosing any papers, consider the weight, fiber content, and color of the paper.

The laser printing process heats paper to high temperatures of 165°C (329°F). Use only papers that are able to withstand these temperatures without discoloring, bleeding, or releasing hazardous emissions. Check with the manufacturer or vendor to determine whether the paper you've chosen is acceptable for laser printers.

---

## ***Unsatisfactory paper***

The following papers are not recommended for use with the printer:

- Chemically treated papers used to make copies without carbon paper, also known as carbonless papers, carbonless copy paper (CCP), or no carbon required (NCR) paper
- Coated papers (erasable bond)
- Multiple-part forms or documents
- Preprinted papers that require a *registration* (the precise print location on the page) greater than ±0.09 in., such as optical character recognition (OCR) forms

In some cases, you can adjust registration with your software application to successfully print on these forms.

- Preprinted papers with chemicals that may contaminate the printer
- Preprinted papers that can be affected by the temperature in the printer fuser

- Rough-edged or curled papers
- Synthetic papers
- Thermal papers
- Less than 60 g/m<sup>2</sup> (16 lb) recycled paper
- Recycled papers containing more than 25% post-consumer waste that do not meet DIN 19 309

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## ***Choosing preprinted forms and letterhead***

Use the following guidelines when selecting preprinted forms and letterhead paper:

- Use only forms and letterhead printed using an offset lithographic or engraved printing process.
- Choose papers that absorb ink, but do not bleed.
- Avoid papers with rough or heavily textured surfaces.

Use papers printed with heat-resistant inks designed for use in xerographic copiers. The ink must withstand temperatures of 165°C (329°F) without melting or releasing hazardous emissions. Use inks that are not affected by the resin in the toner. Inks that are oxidation-set or oil-based should meet these requirements. Latex inks might not meet these requirements. If you are in doubt, contact your paper supplier.

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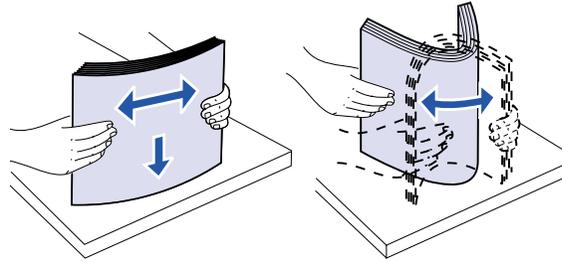
## ***Choosing paper***

Proper paper loading helps prevent paper jams and ensure trouble-free printing.

To help avoid jams or poor print quality:

- *Always* use new, undamaged paper.
- Before loading paper, know the recommended print side of the paper you're using. This information is usually indicated on the paper package.
- *Do not* use paper that you have cut or trimmed yourself.
- *Do not* mix paper sizes, weights, or types in the same paper source; mixing results in jams.
- *Do not* use coated papers.
- *Do not* remove trays while a job is printing or **Busy** is displayed on the operator panel.
- Make sure the Paper Type, Paper Texture, and Paper Weight settings are correct. (See **Paper Menu** for detailed information about these settings.)
- Make sure the paper is properly loaded in the paper source.

- Flex paper back and forth. Do not fold or crease the paper. Straighten the edges on a level surface.




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## Choosing envelopes

When printing on envelopes:

- To achieve the best possible print quality, use only high-quality envelopes that are designed for use in laser printers.
- Use only new, undamaged envelopes.
- Load only one size of envelope at a time in the multipurpose feeder.
- Make sure the glue is not exposed.
- Do not use envelopes that contain moisture or high humidity.

Moist envelopes or envelopes containing high humidity (over 60%) may become sealed from the high fuser temperature.

- Be sure to select MP Feeder as the paper source in the **Paper Menu** and set the correct envelope size.

The laser printing process heats envelopes to a temperature of 165°C (329°F). Use only envelopes that are able to withstand these temperatures without sealing, excessive curling, wrinkling, or releasing hazardous emissions. If you have any doubts about the envelopes you are considering using, check with the envelope supplier.

For best performance, use envelopes made from 75 g/m<sup>2</sup> (20 lb bond) paper. You can use up to 105 g/m<sup>2</sup> (28 lb bond) weight for the multipurpose feeder as long as the cotton content is 25% or less. Envelopes with 100% cotton content must not exceed 90 g/m<sup>2</sup> (24 lb bond) weight.

Do *not* use envelopes that:

- Have excessive curl or twist
- Are stuck together or damaged in any way
- Contain windows, holes, perforations, cutouts, or embossing
- Use metal clasps, string ties, or metal folding bars
- Have an interlocking design
- Have postage stamps attached
- Have any exposed adhesive when the flap is in the sealed or closed position
- Have nicked edges or bent corners
- Have rough, cockle, or laid finishes

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## Choosing labels

The printer can print on many labels designed for use with laser printers. These labels are supplied in letter size and A4 size sheets.

When printing on labels:

- Be sure to select Labels in the Paper Type menu item in the Paper Menu. (See **Paper Type** for detailed information about these settings.)
- *Do not* load labels together with paper or transparencies in the same paper tray; mixing print media can cause feeding problems.
- *Do not* load partial sheets with areas exposed by missing labels; this can cause labels to peel off during printing, jam, and contaminate your printer and your toner cartridge with adhesive.
- Avoid using labels that may release hazardous emissions when heated.

**Note:** Labels are one of the most difficult print media for laser printers. Your printer requires a special fuser cleaner for label applications in order to optimize feed reliability.

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## Choosing card stock

Card stock is single-ply and has a large array of properties. The orientation of paper fibers, moisture content, thickness, and texture can all affect printing on card stock.

When printing on card stock:

- Be sure to select Card Stock in the Paper Type menu item in the Paper Menu. (See **Paper Type** for detailed information about these settings.)
- Be aware that preprinting, perforation, and creasing can significantly affect the print quality and cause paper handling or jamming problems.
- Avoid using card stock that may release hazardous emissions when heated.

---

## ***Choosing transparencies***

The printer can print directly on transparencies designed for use in laser printers. Print quality and durability depend on the transparency used. Always print samples on the transparencies you are considering before buying large quantities.

The Paper Type setting should be set to Transparency to help prevent jams. (See **Paper Type** for detailed information about this setting.) Check with the manufacturer or vendor to determine whether your transparencies are compatible with laser printers that heat transparencies to 212°C (414°F). Use only transparencies that are able to withstand these temperatures without melting, discoloring, offsetting, or releasing hazardous emissions.

**Note:** Transparencies cannot be fed from trays other than the optional heavy media tray and the multipurpose feeder.

Be careful when you handle transparencies. Fingerprints on the surface of the transparency cause poor print quality.



## 12 Loading media

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This section provides information about loading media in the input options. Proper paper loading helps prevent paper jams and ensure trouble-free printing.

Before loading paper, find the recommended print side of the paper you're using. This information is usually indicated on the paper package.

Click below for information on:

- [Loading envelopes](#)
- [Loading the high capacity feeder](#)
- [Loading letterhead](#)
- [Loading the multipurpose feeder](#)
- [Loading a paper tray](#)
- [Loading transparencies](#)

# 13

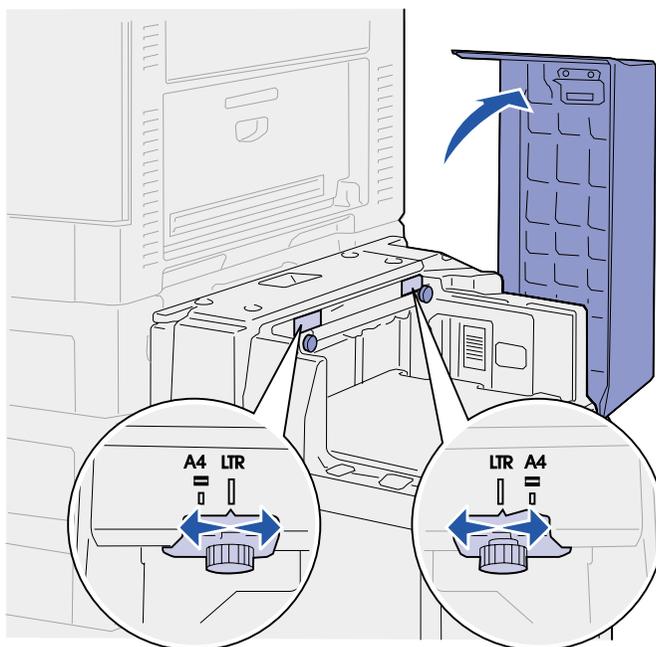
## Loading the high capacity feeder

You can attach an optional high capacity feeder to your printer. This can provide an additional input of 3,000 sheets of paper.

**Note:** Do not load any print media other than paper in the high capacity feeder. The high capacity feeder must be properly adjusted for A4 or Letter size paper. If the paper guides are in the wrong position, you may experience paper feeding problems.

To load the high capacity feeder:

- 1 Open the top cover as shown.



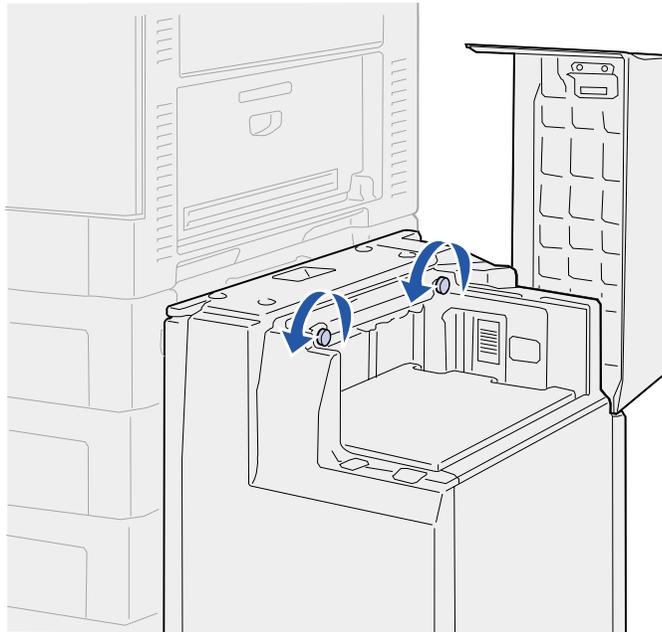
The paper guides are set at the factory and may already be configured for your size paper.

- 2 Inspect the position of the paper guides.

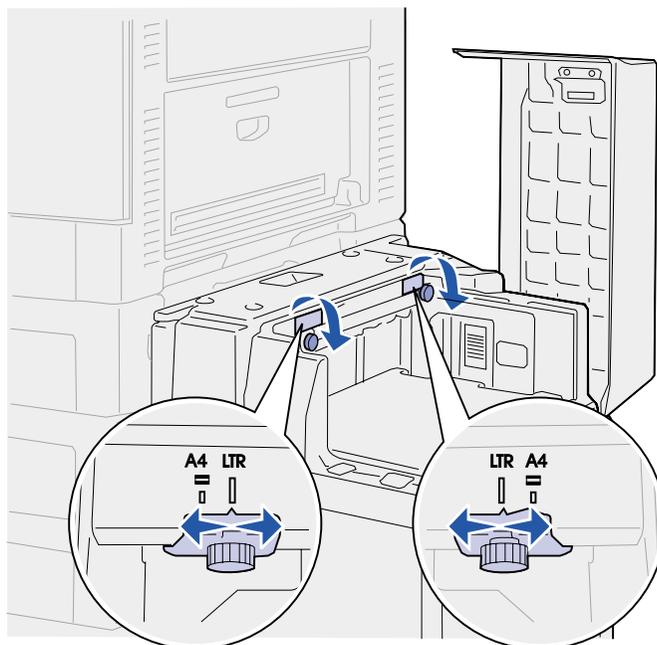
If the paper guides are correctly set for the size paper you are loading, go to **step 6**, if not continue with **step 3**.

**Note:** The high capacity feeder must be properly adjusted for A4 or Letter size paper. If the paper guides are in the wrong position, you may experience paper feeding problems.

- 3** Loosen the left and right paper guide thumbscrews.

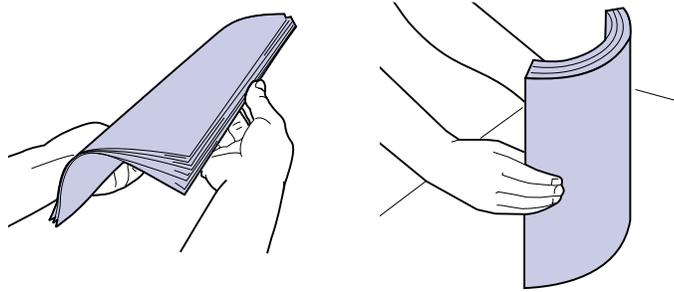


- 4** Slide the guides left or right to the correct position for the size paper you are loading (A4 or Letter).



- 5** Tighten the left and right paper guide thumbscrews.

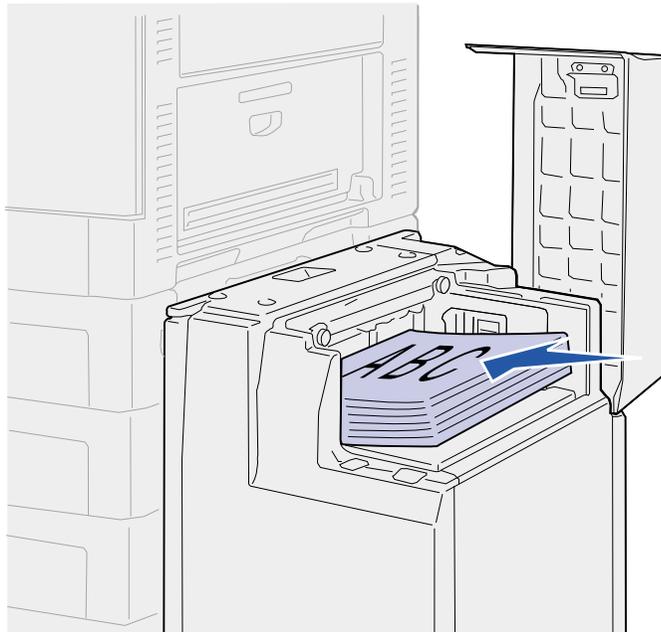
- 6 Flex the sheets back and forth to loosen them, and then fan them.



Do not fold or crease the paper. Straighten the edges of the stack on a level surface.

**Note:** Do not exceed the maximum stack height. Overfilling the tray may cause jams.

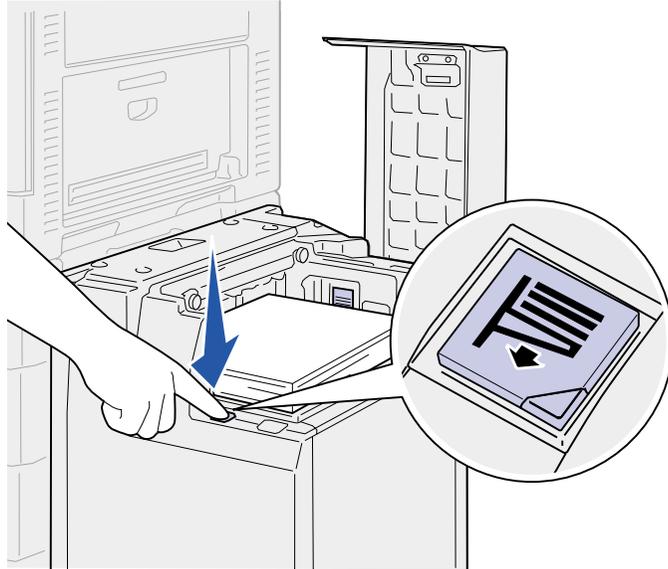
- 7 Place the paper against the paper guides with the print side up.



**8** Press the paper tray button

The paper tray lowers to let you load up another 500 sheets of paper.

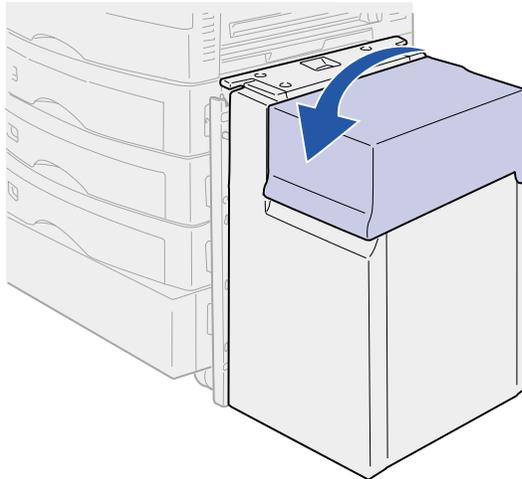
**Note:** If there is only a partial stack of paper in the tray, the paper low sensor will not allow the tray to go down. Add more paper to lower the tray.



**9** Place the paper against the paper guides with the print side up.

**10** Repeat step 8 and step 9 until you have filled the tray or loaded the desired quantity.

**11** Close the top cover.



Make sure the high capacity feeder is pushed completely against the printer.

# 14

## Loading the multipurpose feeder

---

The multipurpose feeder can hold several sizes and types of paper, such as transparencies and envelopes. It is useful for single page printing on letterhead, colored paper, or other special paper.

You can use the multipurpose feeder one of two ways:

- **Paper tray**—Load paper or other print media in the feeder with the intention of leaving the media in the feeder.
- **Manual bypass feeder**—Send a print job to the feeder while specifying the type and size of media from your computer. The printer then prompts you to load the appropriate print media before it prints.

Keep in mind the following capacities, paper dimensions, and operating tips when loading the multipurpose feeder.

---

### *Capacity*

The maximum stack height is 10 mm (0.4 in.). The multipurpose feeder can hold approximately:

- 100 sheets of 75 g/m<sup>2</sup> (20 lb) paper
- 50 sheets of glossy paper
- 10 envelopes
- 50 transparencies
- 50 sheets of card stock
- 30 sheets of labels

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### *Paper dimensions*

The multipurpose feeder accepts paper within the following dimensions:

- Width—90 mm (3.54 in.) to 297 mm (11.69 in.)
- Length—148 mm (5.83 in.) to 432 mm (17 in.)

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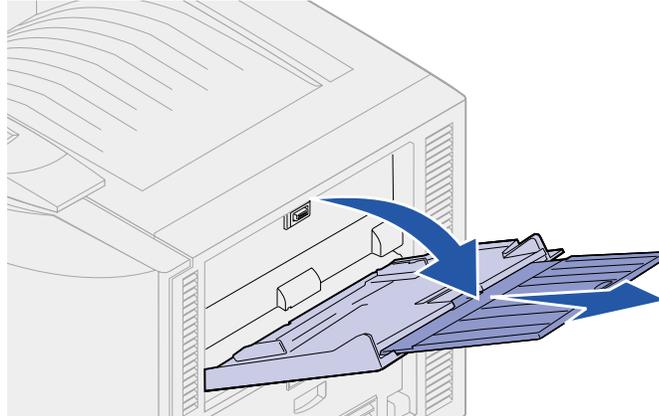
### *Trouble-free printing*

- Load only one size of paper or envelopes at a time in the multipurpose feeder.

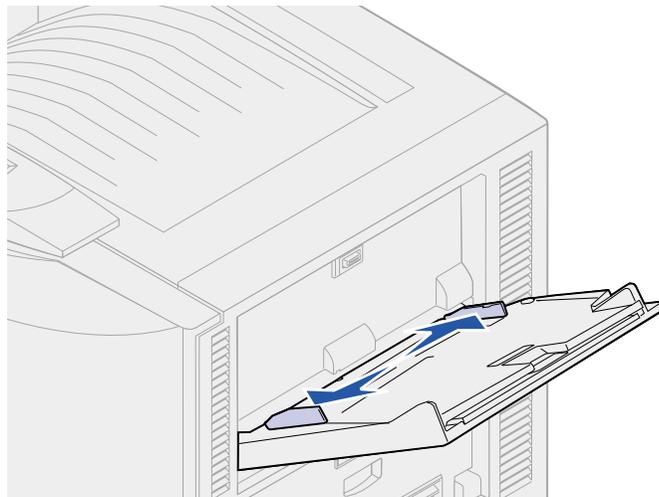
- To achieve the best possible print quality, use only high-quality print media that is designed for use in laser printers. For more guidelines on paper, see **Choosing media**.
- To prevent paper jams, do not add or remove paper when there is still paper in the multipurpose feeder. This applies to other types of print media, too.
- Never add print media to the multipurpose feeder while the printer is printing from the multipurpose feeder. Doing so may cause a jam.
- Load media with the recommended print side up.
- *Do not* place objects on the multipurpose feeder. Also, avoid pressing down or applying excessive force on it.
- *Do not* remove any paper tray while a job is printing from the multipurpose feeder or **Busy** is displayed on the operator panel. Doing so may cause a jam.

To load the multipurpose feeder:

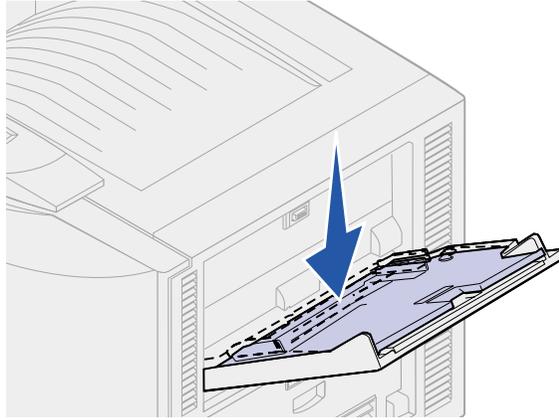
- 1 Open the multipurpose feeder door, and then extend the recessed tray to accommodate the paper you will be using.



- 2 Slide the paper width guides to the correct position for the size paper you are loading.

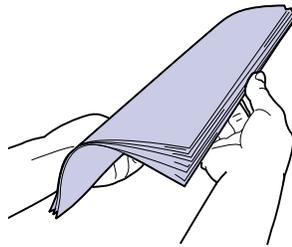


- 3 Push down the bottom plate until it locks into place.

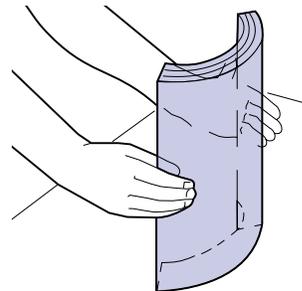
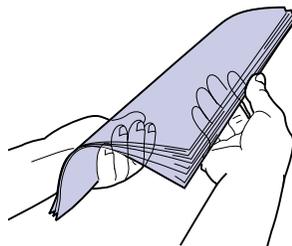


- 4 Prepare the print media for loading.

- Flex paper or fan envelopes back and forth. Do not fold or crease the paper. Straighten the edges on a level surface.



- Hold transparencies by the edges and avoid touching the print side. Fan the stack of transparencies to prevent jams. Be careful not to scratch or leave fingerprints on the transparencies.

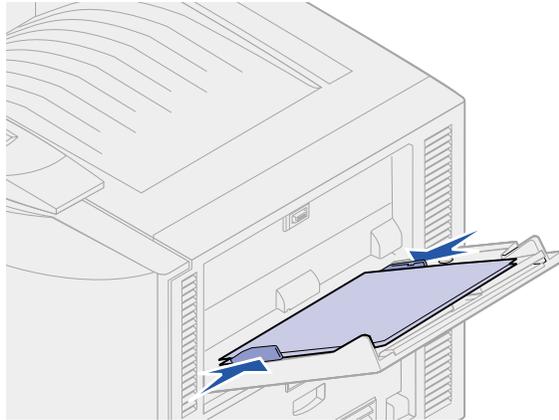


- 5 Load one type of print media in the multipurpose feeder. *Do not* mix types. Click a topic for loading instructions:

- [Loading paper and transparencies](#)
- [Loading envelopes](#)
- [Loading letterhead](#)

## Loading paper and transparencies

- a Load paper or transparencies in the center of the tray with the recommended print side face up.

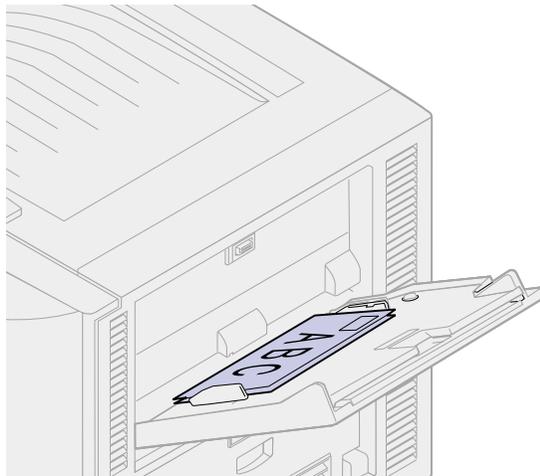


- b Continue with **step 6**.

## Loading envelopes

- a Load envelopes flap side down with the stamp area on the right. The end of the envelope with the return address area enters the multipurpose feeder last.

**WARNING:** Never use envelopes with stamps, clasps, snaps, windows, coated linings, or self-stick adhesives. These envelopes may severely damage the printer.

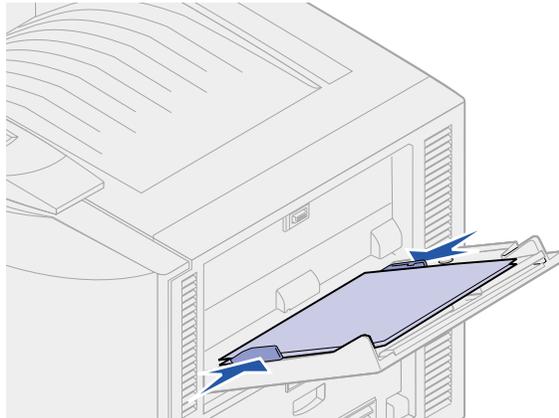


**Note:** If envelopes jam while printing, try reducing the number of envelopes in the multipurpose feeder.

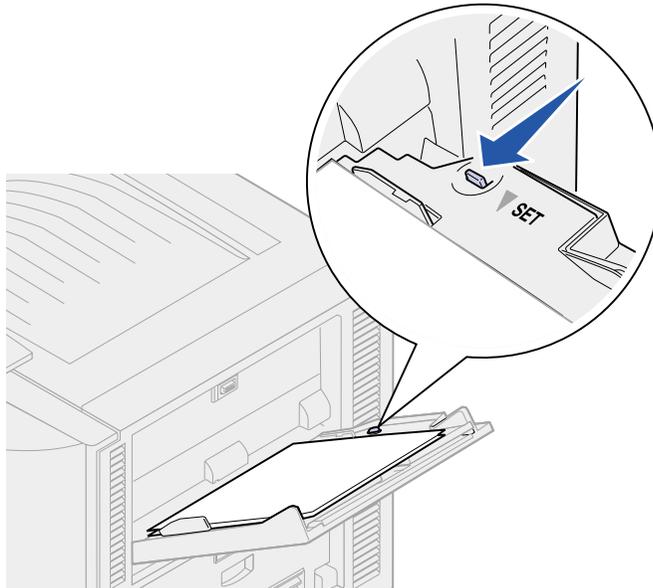
- b Continue with **step 6**.

## Loading letterhead

- a** For both *simplex* (single-sided) and *duplex* printing on letterhead, place the printed side face up.
  - b** Continue with **step 6**.
- 6** Gently slide the print media into the multipurpose feeder.  
  
**Note:** Forcing the print media may cause it to buckle.
- 7** Slide the width guides until they lightly rest against the edges of the print media. *Do not* bend the print media.



- 8** Push the SET button to the left to unlock the bottom plate.



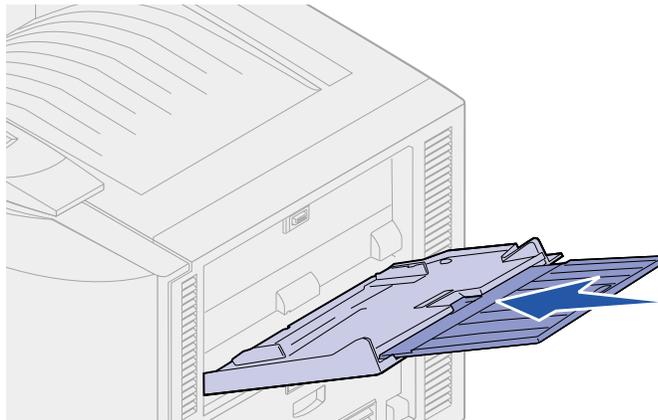
- 9 Select the paper source, size, and type from your software application and select paper size and type from the operator panel.
  - a Make sure the Paper Size and Paper Type for the multipurpose feeder (MP Feeder Size and MP Feeder Type) are set to the correct value for the print media you are loading. (See **Paper Size** and **Paper Type** for detailed information about these settings.)
  - b Press **Go** to return to Ready.

**Note:** Software settings may override operator panel settings.

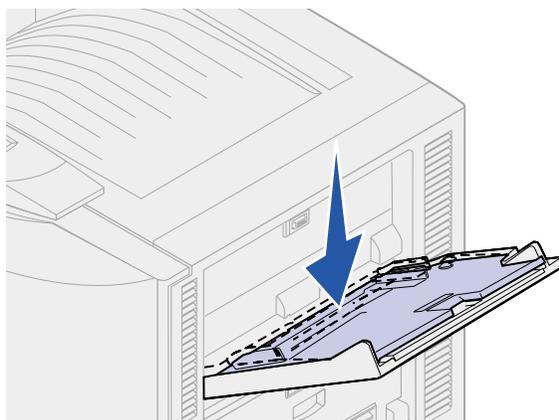
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## ***Closing the multipurpose feeder***

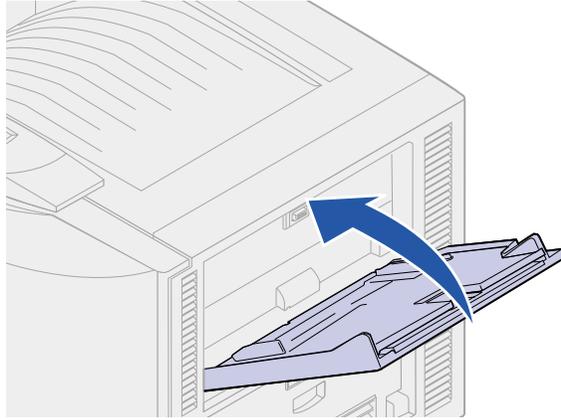
- 1 Remove print media from the multipurpose feeder.
- 2 If necessary, push the extended tray in to collapse the multipurpose feeder to its short-length position.



- 3 Push down the bottom plate until it locks into place.



- 4 Close the multipurpose feeder door.



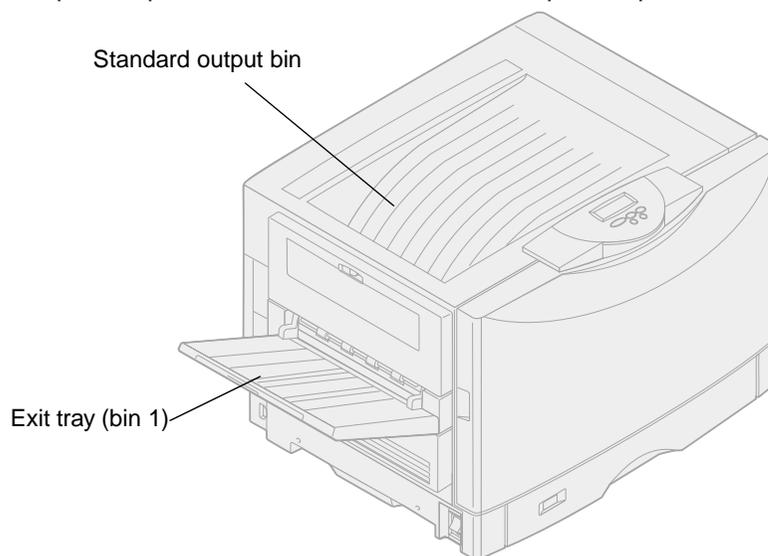
# 15 Output bins

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Your printer has two output bins: the standard output bin on top of the printer and an exit tray (bin 1). Your printer directs all media except transparencies and envelopes to the standard output bin. Transparencies are automatically directed to the exit tray (bin 1) to reduce curling.

**Note:** Make sure the exit tray is down when printing transparencies or envelopes.

If other print media curls, you can divert it from the standard bin to the exit tray (bin 1) through your printer driver, operator panel, or the MarkVision remote operator panel.



# 16

## Loading a paper tray

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The printer lets you know when you need to load paper. If a tray has less than 50 sheets of paper, **Tray x Low** appears on the display, where **x** corresponds to a paper tray. Open the tray and load paper to remove the message.

When you change the paper in the tray, make sure the paper guides are in the correct positions. The position of the left paper guide informs the printer of the size paper loaded in the tray. Feeding paper when the left or front paper guides are not in the correct position may result in misfeeds or paper jams.

If you load a different type of media, change the Paper Type setting in the **Paper Menu**.

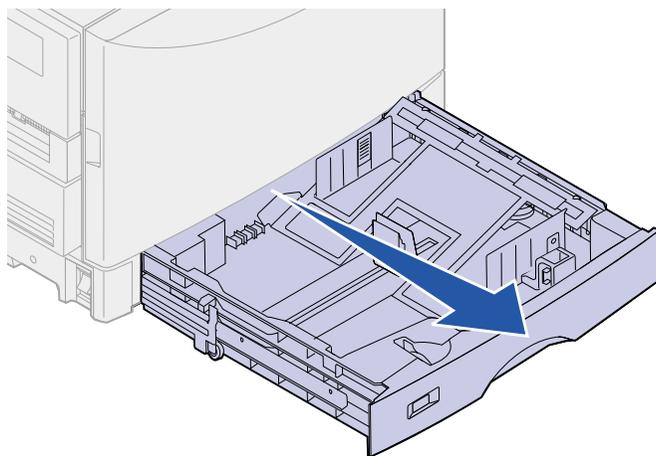
- **Loading paper, card stock, or labels**
- **Loading letterhead**
- **Loading transparencies**

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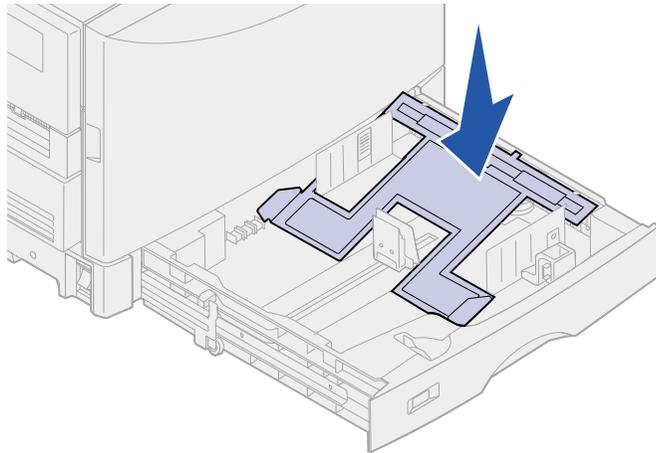
### ***Loading paper, card stock, or labels***

Complete these instructions to load print materials into any of the standard or optional trays.

- 1 Pull the paper tray out until it stops.

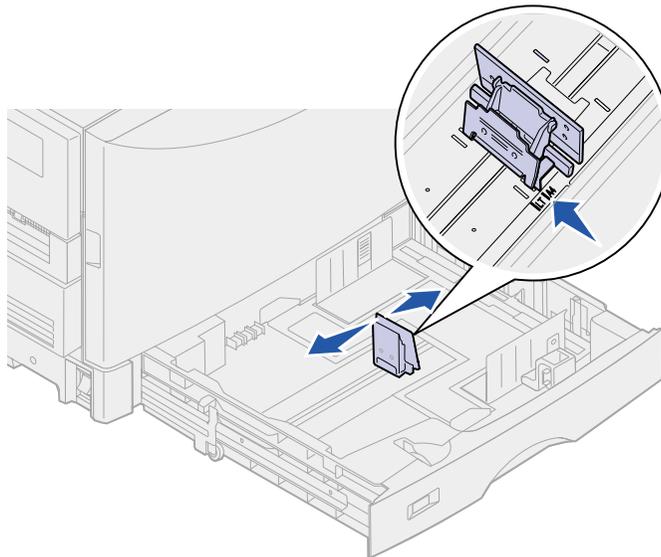


- 2 Press the metal plate down until it locks.

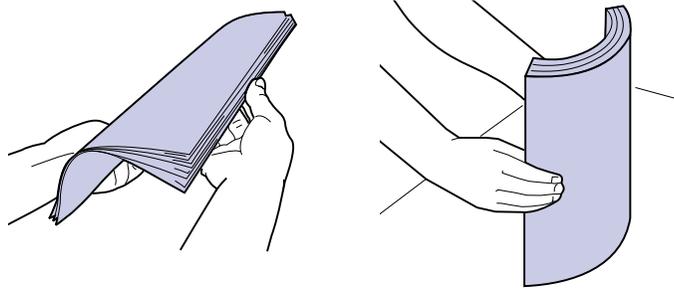


- 3 Squeeze the left guide and slide it to the position for the size paper you are loading.
- 4 Release the paper guide.

**Note:** The position of the left paper guide tells the printer the size of the paper in the tray. If the left paper guide is in the wrong position, you may experience paper feeding problems or incorrect page formatting.



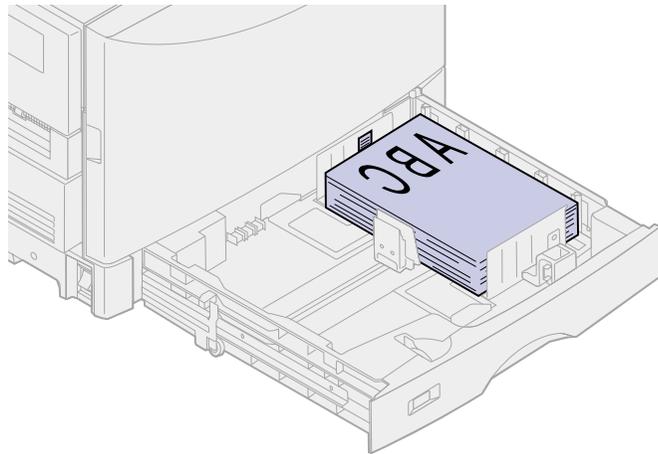
- 5 Flex the sheets back and forth to loosen them, and then fan them.



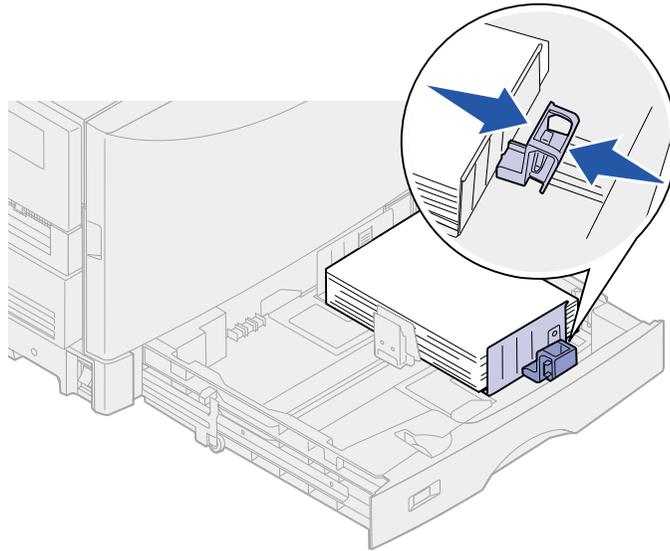
Do not fold or crease the paper. Straighten the edges of the stack on a level surface.

- 6 Place the paper in the tray, print side down.

**Note:** Do not exceed the maximum stack height. Overfilling the tray may cause jams.

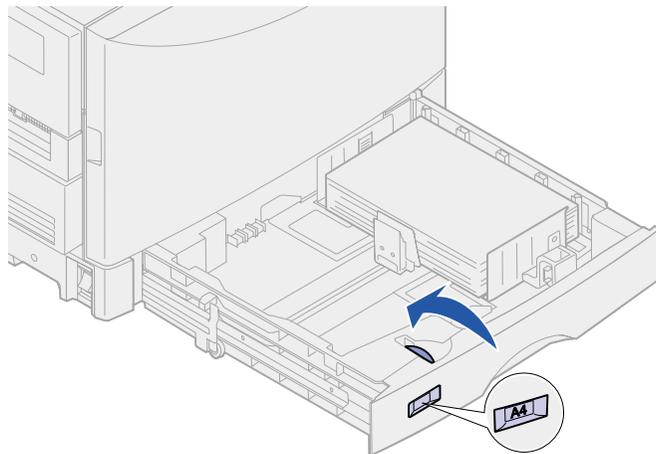


- 7 Squeeze the front paper guide lever and slide the guide until it lightly touches the stack of paper.

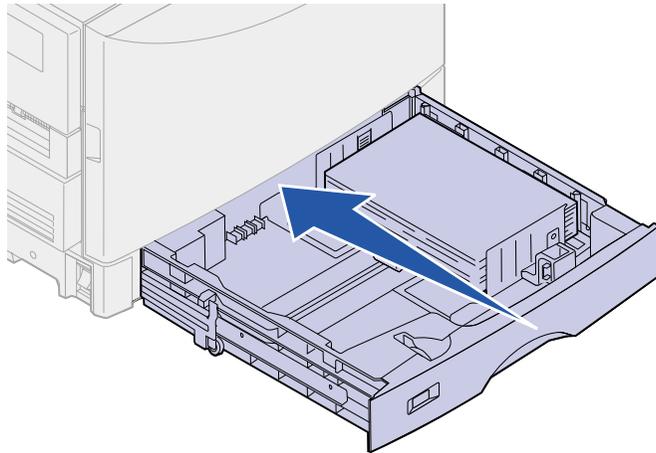


- 8 Rotate the paper size dial until the size of the paper in the tray is indicated.

**Note:** This setting serves as a visual reminder only; it has no effect on the operation of the printer.



- 9 Push the tray in.

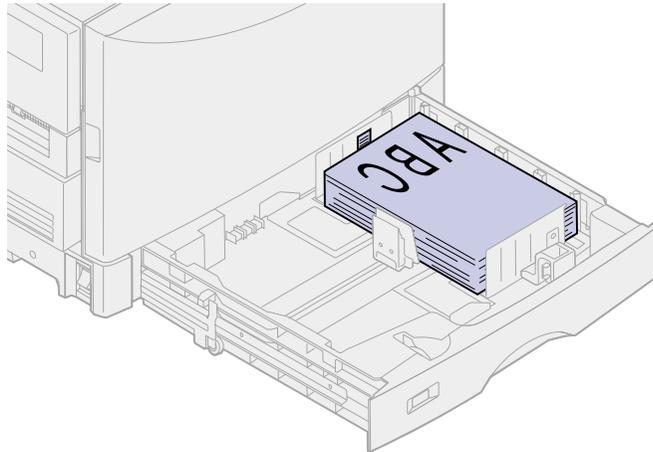


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## ***Loading letterhead***

See **Loading the multipurpose feeder** for instructions on loading letterhead in the multipurpose feeder.

Follow the steps in **Loading paper, card stock, or labels** to load transparencies in the tray.



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## ***Loading transparencies***

See **Loading the multipurpose feeder** for instructions on loading transparencies in the multipurpose feeder.



## Using the heavy media tray

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The optional heavy media tray replaces tray 1. For instructions on removing and installing tray 1, see [Exchanging tray 1](#). The heavy media tray is specially designed for use with heavier plain paper, glossy paper, transparencies, and labels.

**Note:** Using the heavy media tray with light paper such as 16–26 lb plain paper may cause jams.

When the heavy media tray is installed, it turns the auto size sensing off. You must set the operator panel to the size and type of media you have placed in the tray.

---

### *Set the paper size*

- 1 See [Loading a paper tray](#) for instructions on placing print media in the heavy media tray.  
For more information about using the operator panel and changing menu settings, see [Using the operator panel](#).
- 2 Press **Menu** until you see **Paper Menu**, and then press **Select**.
- 3 Press **Menu** until you see **Paper Size**, and then press **Select**.
- 4 Press **Menu** until you see **Tray 1 Size**, and then press **Select**.
- 5 Press **Menu** until the size of paper you placed into the tray appears, and then press **Select**.

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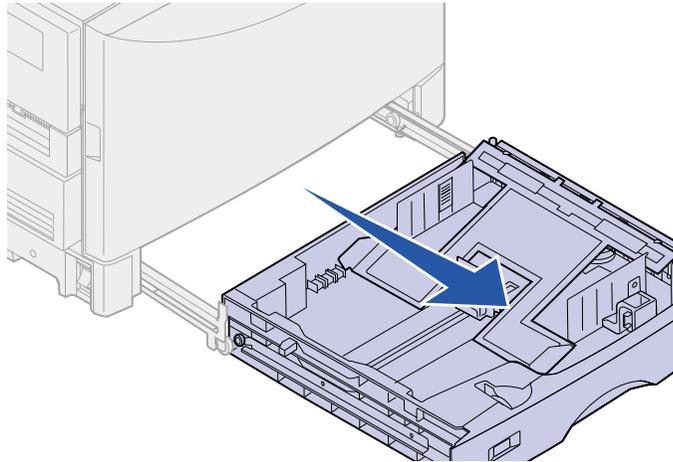
### *Set the paper type*

- 1 Press **Return** once.  
**Paper Menu** appears on the first line and **Paper Size** appears on the second line.
- 2 Press **Menu** until you see **Paper Type**, and then press **Select**.
- 3 Press **Menu** until you see **Tray 1 Type**, and then press **Select**.
- 4 Press **Menu** until you see **Custom Type 1**, and then press **Select**.
- 5 Press **Return** once.  
**Paper Menu** appears on the first line and **Paper Type** appears on the second line.
- 6 Press **Menu** until you see **Custom Types**, and then press **Select**.

- 7 Press **Menu** until you see **Custom Type 1**, and then press **Select**.
  - 8 Press **Menu** until you see the type of media you loaded in the heavy media tray, and then press **Select**.
  - 9 Press **Go**.
- The printer returns to the **Ready** state.

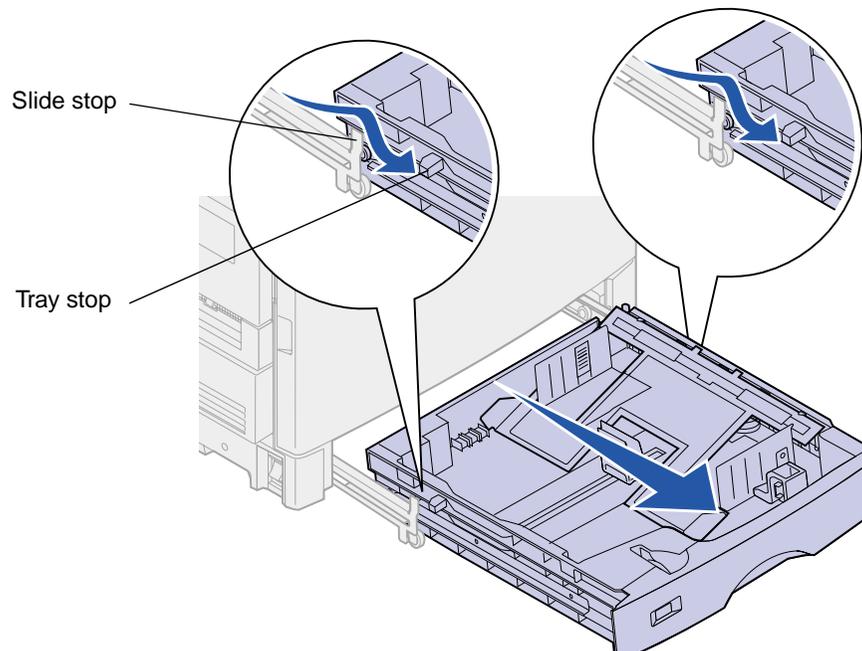
## Exchanging tray 1

- 1 Pull tray 1 out until it stops.

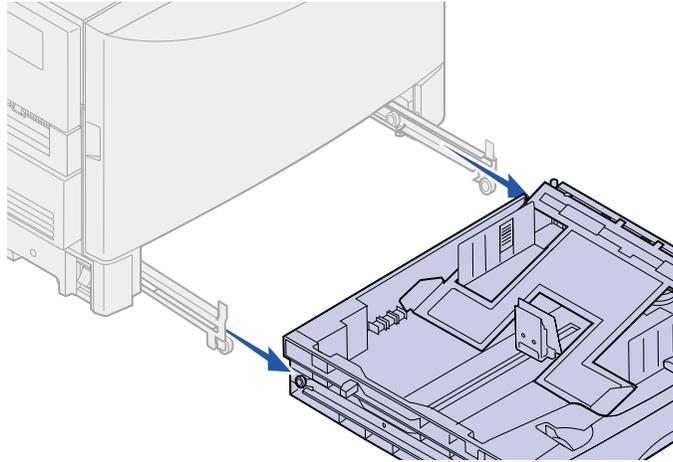


- 2 Lift the front of tray 1 and pull the tray forward.

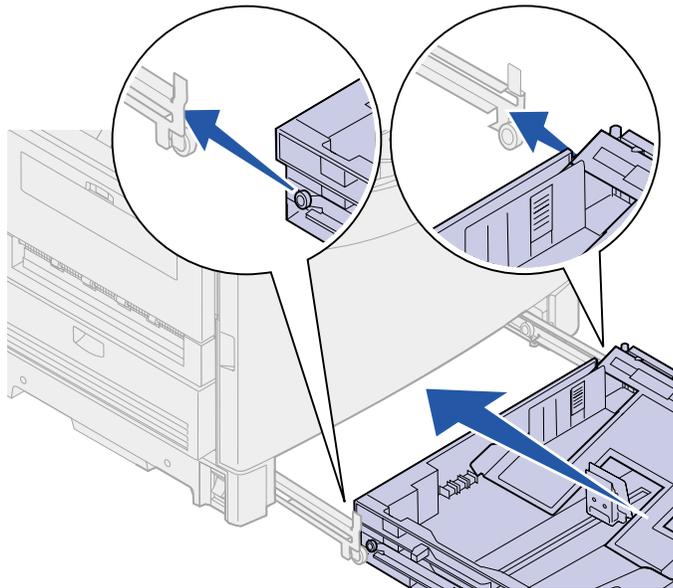
**Note:** You only need to lift the tray high enough for the tray stop to move over the slide stop.



- 3 Lower the front of the tray and pull the tray from the drawer slides.



- 4 Align the rollers on the side of the paper tray with slots on the left and right drawer slides.



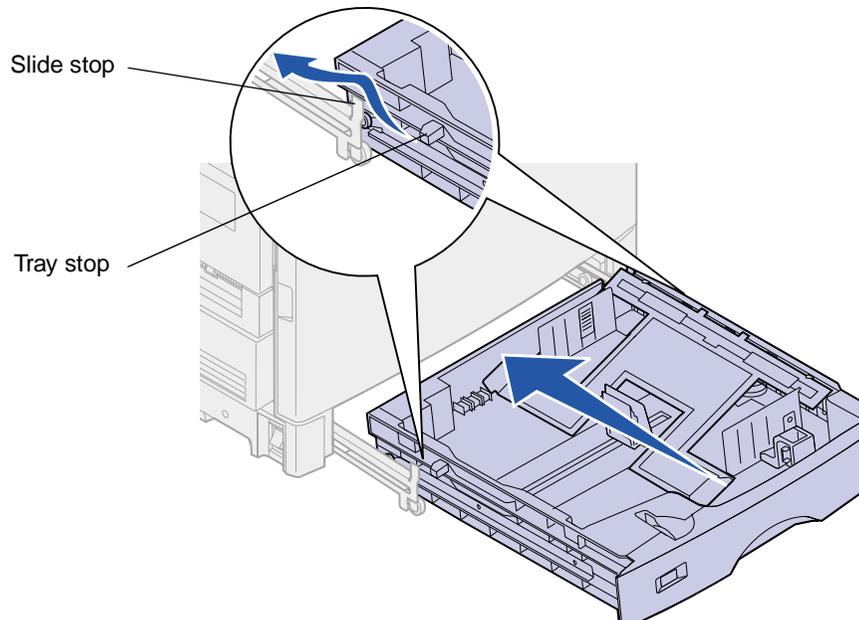
- 5 Place the drawer rollers into the drawer slides and slide the drawer in until it stops.

**Note:** If the slides move when you are installing the tray, you can hold one slide while you insert the drawer, and then pull the other slide out and over the drawer roller until it stops.

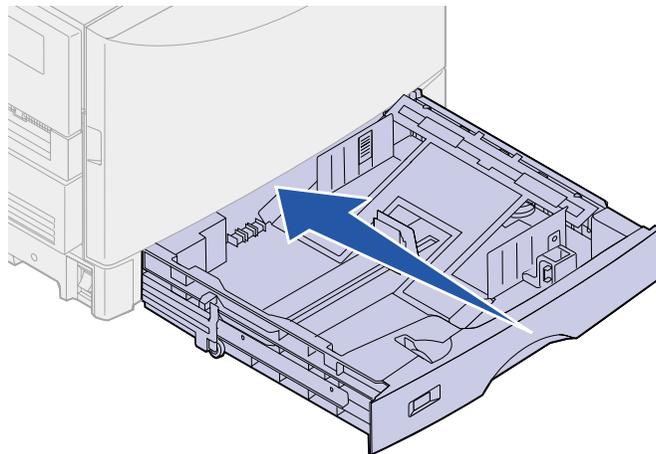
- 6 Lift the front of the tray.

- 7 Slide the tray in until both tray stops pass the slide stops.

**Note:** You only need to lift the tray high enough for the tray stop to move over the slide stop. If the slides move when you are installing the tray, you can hold one slide while you insert the drawer, and then hold the other slide.



- 8 Lower the front of the tray and slide it in.



- 9 Move the tray in and out to make sure it functions properly.

**Note:** If the tray does not function properly, remove the tray and repeat steps 4 through 8.

For instructions on loading the paper tray, See [Loading a paper tray](#).

# 18

## Media guidelines

Use recommended media (paper, transparencies, envelopes, card stock and labels) for your printer to avoid printing problems. Brief guidelines for choosing paper and other media follow.

Sources	Paper sizes supported	Paper types supported	Capacity
Tray 1	Letter, A4, Legal, Tabloid <sup>1</sup> , A3, B4	Paper, transparencies, glossy paper	550 sheets of 20 lb paper 130 sheets of glossy paper
Trays 2-4	Letter, A4, Legal, Tabloid <sup>1</sup> , A3, B4, Universal <sup>2</sup>	Paper	550 sheets of 20 lb paper
Heavy media tray	Letter, A4, Legal, Tabloid <sup>1</sup> , A3, Universal <sup>2</sup>	Paper, glossy paper, transparencies, labels	150 transparencies 250 sheets of labels 330 sheets of glossy paper
Multipurpose feeder	Letter, A4, A5, Legal, Tabloid <sup>1</sup> , A3, Executive, B4, JIS B5, Universal <sup>2</sup>	Paper, glossy paper, transparencies, labels, card stock	100 sheets of 20 lb paper 50 sheets of glossy paper 50 transparencies 30 sheets of labels 50 sheets card stock
	7¼, 9, 10, DL, C4, C5, B5	Envelopes	10 envelopes
High capacity feeder	Letter, A4	Paper	3000 sheets of 20 lb paper

<sup>1</sup> Tabloid paper is 278.8 x 430.8 mm (11 x 17 in.)

<sup>2</sup> Universal setting lets you select the following custom sizes:  
 139.7 x 210 mm to 215.9 x 355.6 mm (5.5 x 8.27 to 8.5 x 14 in.),  
 69.85 x 127 mm to 229 x 355.6 mm (2.75 x 5 to 9.01 x 14 in.)  
 148 x 182 mm to 215.9 x 355.6 mm (5.83 x 7.17 to 8.5 x 14 in.)

Your printer supports a wide variety of paper types, sizes, and weights. The standard tray (tray 1) and optional trays 2, 3, and 4 are marked with stack height letters A, B, C. The optional heavy media tray is marked with stack height letters D, E, and F.

The following table lists recommended media, weights, and the stack height guide to use when loading the paper trays.

Stack height letter	Recommended media
A	Lexmark Glossy Paper*: Letter (P/N 12A5950), A4 (P/N 12A5951)
B	11x17, Legal, B4, A3 (90–105 g/m <sup>2</sup> , 24–28 lb bond)
C	Letter, A4 (60–105 g/m <sup>2</sup> , 16–28 lb bond) 11x17, Legal, B4, A3 (60 - 90 g/m <sup>2</sup> , 16 - 24 lb bond)

Stack height letter	Recommended media
D	Lexmark Transparency <sup>**</sup> : Letter (P/N 12A5940), A4 (P/N 12A5941)
E	Lexmark Glossy Paper <sup>*</sup> : Letter (P/N 12A5950), A4 (P/N 12A5951) Paper Labels: Letter, A4 (up to 180 g/m <sup>2</sup> , 48 lb bond)
F	Letter, A4 (105–128 g/m <sup>2</sup> , 28–34 lb bond)
<sup>*</sup> Lexmark Glossy Paper is 120 g/m <sup>2</sup> , 80 lb. book, 32 lb bond. <sup>**</sup> Lexmark Transparency weight is 120 g/m <sup>2</sup> .	

## Paper

**Note:** Using low quality paper may result in unsatisfactory performance and may degrade print quality.

When printing photographic quality images, use a high-quality laser printer paper. We recommend the following paper for optimum results:

Paper	Weight	Size	Part Number
Hammermill Laser Print	90 g/m <sup>2</sup> (24 lb)		
Glossy Laser Paper	120 g/m <sup>2</sup> (32 lb)	Letter	12A5950
		A4	12A5951

For printing text and typical business graphics, you may find 75 g/m<sup>2</sup> (20 lb) paper designed for laser printers or photocopiers produces acceptable print quality. Always try a sample of any paper before buying large quantities.

Before loading paper, note the recommended print side identified on the paper package. Load paper with the recommended print side *face down* in the paper trays. For paper loading instructions, see [Loading media](#).

The following are not recommended for your printer:

- Paper with a large cotton content
- Paper with a rough or heavily textured surface
- Coated papers, such as erasable bond
- Preprinted papers manufactured with chemicals that may contaminate the printer
- Paper designed for inkjet printers
- Deformed or damaged paper
- Paper that is wet or has absorbed moisture
- Paper that is punched, embossed, or perforated
- Multiple-part forms
- Synthetic papers
- Thermal papers
- Recycled paper having a weight less than 75 g/m<sup>2</sup> (20 lb)

Preprinted papers such as letterhead must be able to withstand temperatures up to 175°C (347°F) without melting or releasing hazardous emissions. Use inks that are not affected by the resin in toner

or the silicone in the fuser. Inks that are oxidation-set or oil-based should meet these requirements. Latex inks may melt.

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## ***Transparencies***

Transparencies must be able to withstand temperatures of 175°C (347°F) without melting, discoloring, offsetting, or releasing hazardous emissions.

For transparency loading instructions, see [Loading transparencies](#).

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## ***Envelopes***

You can load up to 10 envelopes in the multipurpose feeder. Load envelopes flap side down with the stamp area on the right. The end of the envelope with the return address area enters the multipurpose feeder last. Do not load stamped envelopes. Before loading envelopes, fan the stack to prevent them from sticking together. For envelope loading instructions, see [Loading envelopes](#).

To ensure the best print quality, set Paper Type to Envelope and select the correct envelope size before sending the job to print.

When printing on envelopes:

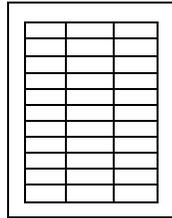
- Try a sample of any envelopes before buying large quantities.
- Use envelopes made from 90 to 105 gm<sup>2</sup> (24 to 28 lb) bond paper. Do *not* use envelopes that:
  - Have excessive curl
  - Are stuck together
  - Are damaged
  - Contain windows, holes, perforations, cutouts, or embossing
  - Use metal clasps or string ties
  - Have postage stamps attached
  - Have any exposed adhesive when the flap is in the sealed or closed position
- Use envelopes that can withstand temperatures of 175°C (347°F) without sealing, excessive curling, wrinkling, or releasing hazardous emissions.
- Adjust the left, and front paper guides to fit the envelope width.

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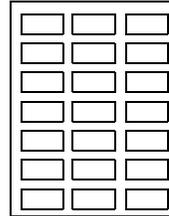
## Labels

Use only labels designed for laser printers. Use only label sheets that have no gaps between the labels, as shown. Try a sample of any labels before purchasing a large quantity.

Acceptable labels



Unacceptable labels



Labels must be able to withstand temperatures of 175°C (347°F) without melting, discoloring, offsetting, or releasing hazardous emissions.

Feed labels only from the multipurpose feeder. When printing on labels:

- Use only paper labels. Do not use vinyl labels.
- Do not print a large number of labels consecutively.
- Do not use labels that have adhesive exposed on the sheets.
- Do not use labels that have coating or sizing applied to make the labels liquid-resistant.
- From the operator panel or from MarkVision, set the Paper Type to Labels.

For label loading instructions, see [Loading paper, card stock, or labels](#).

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## Card stock

Load card stock in the multipurpose feeder only. Using the wrong paper source may cause paper jams or a failure to feed. The properties of the card stock you choose—such as the orientation of the paper fibers, moisture content, thickness, and texture—can affect the print quality.

For optimum results, we recommend using Springhill Index Plus 90 lb card stock.

Card stock must be able to withstand temperatures up to 175°C (347°F) without melting or releasing hazardous emissions.

Always set the Paper Type to Card Stock when printing on heavier paper. The printer then adjusts the fuser temperature and engine speed to ensure the best print quality.

For card stock loading instructions, see [Loading paper, card stock, or labels](#).

# 19 Tray linking

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Tray linking enables the automatic linking feature for trays when you use the same size and type of print media in multiple paper sources (trays).

For example, let's say you have loaded two optional trays with the same size print media and both are set to the same paper type. When one tray becomes empty, the printer automatically selects print media from the other tray since the printer sees the trays as linked.

If you use different print media in the trays, each source with a different print media must have the Paper Type set to a unique value to disable the automatic linking feature. If all the trays do not have the same paper type when they are linked, you could mistakenly print a job on the wrong paper type.

To initiate tray linking:

- 1 Load paper of the same size and type in all the trays you want to link.
- 2 Make sure the paper guide is set to the proper position for the paper size you've loaded.

The position of the paper guide informs the printer of the paper size loaded in the tray.

If you want to link the multipurpose feeder to a tray, select the appropriate MP Feeder Size setting from the Paper Size menu.

- 3 Select the same Paper Type setting for all the sources.

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### *Storing paper*

Properly storing the media helps ensure trouble-free printing. Use the following guidelines:

- For best results, store media in an environment where the temperature is approximately 21°C (70°F) and the relative humidity is 40%.
- Store cartons of paper on a pallet or shelf, rather than directly on the floor.
- If you store individual packages of paper out of the original carton, make sure they rest on a flat surface so the edges do not buckle or curl.
- *Do not* place anything on top of the paper packages.

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### *Avoiding paper jams*

By carefully selecting print media and loading them properly, you should be able to avoid most paper jams. If jams do occur, follow the steps outlined in [Clearing paper jams](#). If jams occur frequently, make sure you follow these tips to avoid jams:

- See [Loading media](#) to load paper properly. Make sure the adjustable guides are positioned correctly.
- *Do not* overload the paper trays. Make sure the paper is under the paper capacity mark on the inside of the tray.
- *Do not* remove trays while print jobs are in process.
- Flex, fan, and straighten the paper before loading it.
- Fan stacks of labels or transparencies before loading them into trays or the multipurpose feeder. If jams do occur using the multipurpose feeder, try feeding one sheet at a time.
- *Do not* load wrinkled, creased, damp, or curled paper.
- *Do not* mix paper types or paper sizes in one tray.
- Use only recommended print media. See [Recommended paper](#).
- Make sure the recommended print side is face up when placed in the multipurpose feeder or high capacity feeder.
- Make sure the recommended print side is face down when loading trays 1 through 4.
- Keep print media stored in an acceptable environment. See [Moisture content](#).



## Determining supply status

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Print the menu settings page to check the status of printer supply items. See [Printing the menu settings page](#) for detailed instructions.

One or two pages print depending on the number of menu settings you have. Look for “Supplies Menu” on the page; each item indicates the percentage of remaining life.

You can also check the status of printer supply items using the operator panel.

- 1 Press **Menu** until you see **Supplies Menu**.
- 2 Press **Select**.
- 3 Press **Menu** until you see **Supplies Life**.
- 4 Press **Select**.
- 5 Press **Menu** to scroll through the printer supply items.

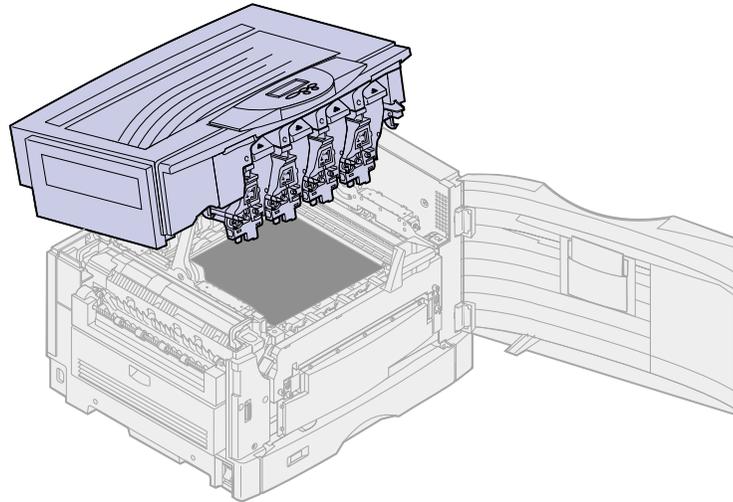
# 22

## Cleaning the LEDs

If you are experiencing print quality problems such as voids, light streaks, or light print, you may need to clean the LEDs inside the top cover.

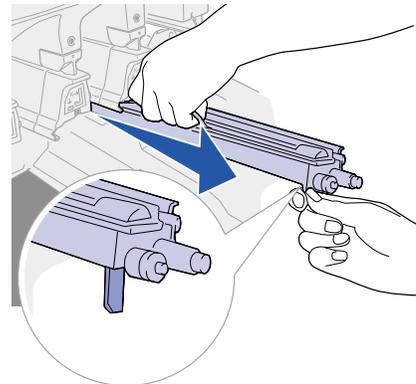
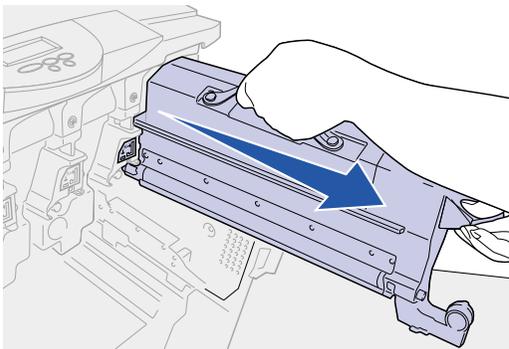
**Note:** For instructions on opening the top cover, see [Opening the top cover](#).

- 1 Complete the steps to open the top cover.



- 2 Remove all toner cartridges. See [Removing a toner cartridge](#) for more information.

**CAUTION:** The photodevelopers are hot! Allow the photodevelopers to cool before touching.

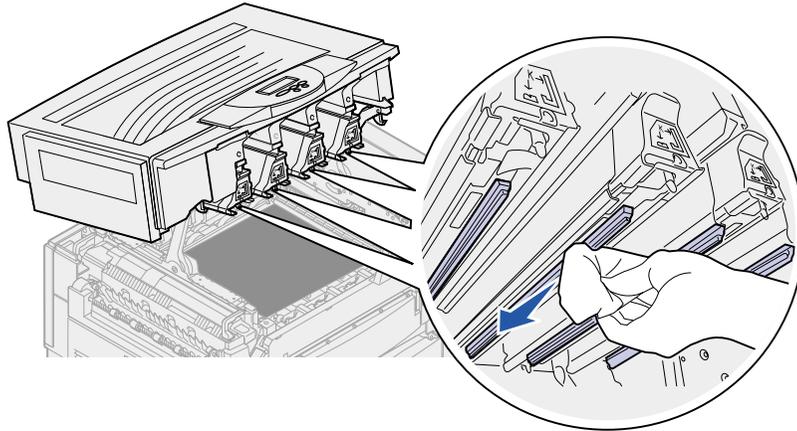


**WARNING:** Exposing the photodeveloper to light for prolonged periods of time can damage it. Do not expose the photodeveloper to light for more than ten minutes. Fingerprints

can affect the performance of the photodeveloper. Avoid touching the photodeveloper anywhere except the handles.

**Note:** The toner inside the toner cartridges can soil clothing. Do not clean clothing soiled with toner in hot water; this permanently adheres the toner to the clothing. Use cold water to remove toner that has soiled clothing.

- 3 Wipe the glass lenses of all four LED heads with a clean, dry cloth or tissue paper.



- 4 Reinstall all toner cartridges. See [Installing a toner cartridge](#) for more information.

**CAUTION:** Before closing the top cover make sure everyone is away from the printer and the area under the cover is free of hands, clothing, and other items.

- 5 Close the top cover and the front door.

**Note:** For instructions on how to close the top cover, see [Closing the top cover](#).

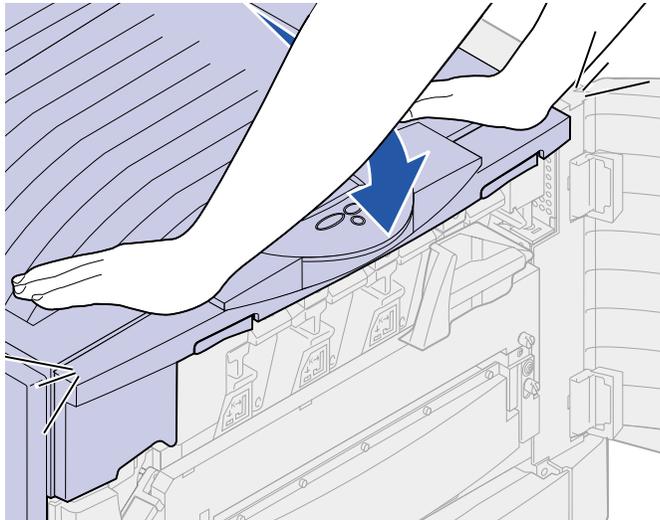
# 23

## Closing the top cover

---

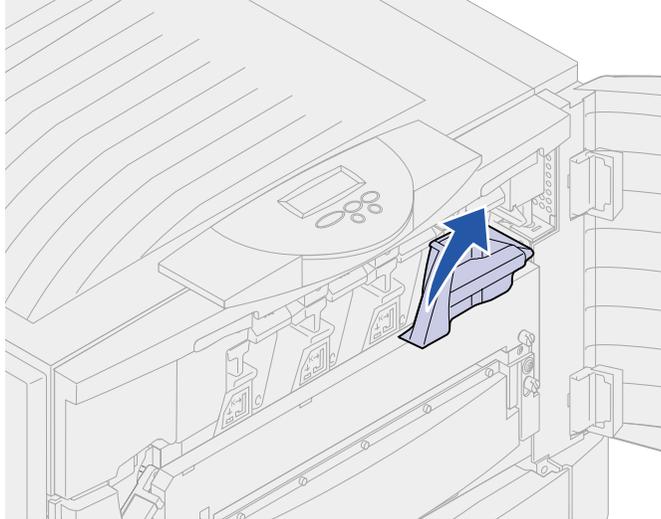
**CAUTION:** Before closing the top cover make sure everyone is away from the printer and the area under the cover is free of hands, clothing, and other items.

- 1 Place both hands on the top cover as shown.
- 2 Press down firmly until the top cover *clicks* into place.

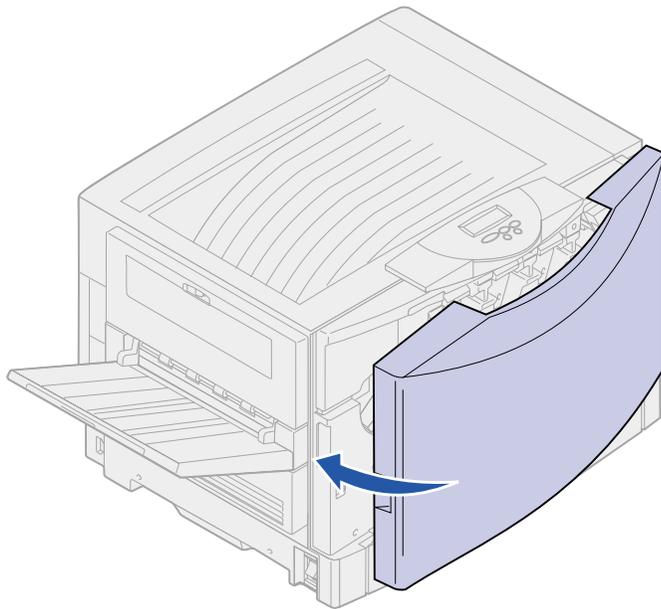


- 3 Rotate the top cover locking lever to the right.

**Note:** If you cannot rotate the locking lever, the cover is not fully closed. Open the top cover and press down firmly until the top cover *clicks* into place.



- 4 Close the front door.



# 24

## Conserving supplies

Several settings in your application software or on the display let you conserve toner and paper:

Supply	Setting	What the setting does	For more information, see...
Toner	Toner Darkness in the Color Menu	Lets you adjust the amount of toner released on a sheet of paper. The values range from 1 (lightest setting) to 4 (darkest setting).	<b>Toner Darkness</b>
Paper and specialty media	Multipage Print in the Finishing Menu	Prints two or more page images on one side of a sheet.  Values for Multipage Print are 2 Up, 3 Up, 4 Up, 6 Up, 9 Up, 12 Up, and 16 Up.  Combined with the duplex setting, Multipage Print lets you print up to 32 pages on one sheet of paper (16 images on the front and 16 on the back).	<b>Multipage Print</b>
	Duplex in the Finishing Menu	Available when you attach an optional duplex unit.	<b>Duplex</b>
Paper and specialty media	Use your software application or printer driver to send a Verify Print job.  Use Held Jobs in the Job Menu to access your Verify Print job.	Lets you examine the first copy of a multiple-copy job to be sure it is satisfactory before you print the other copies. If the job is unsatisfactory, cancel the job.	<b>Verify Print</b> <b>Canceling a print job</b> <b>Using the Print and Hold function</b>

## Replacing a photodeveloper

Your printer monitors the life of your photodevelopers. When a photodeveloper reaches the end of its life, the printer displays **84 Black Photo Dev Exhausted** or **84 Color Photo Devs Exhausted**. This message indicates it is time to replace one or more specified photodevelopers. For best print quality, make sure you replace the fuser when the printer displays **84 Black Photo Dev Life Warning** or **84 Color Photo Dev Life Warning**.

Press **Go** to clear the message. The **Supplies** message appears on the second line of the display to remind you that supplies need attention. You can open the Supplies Menu to see which photodeveloper is nearly exhausted.

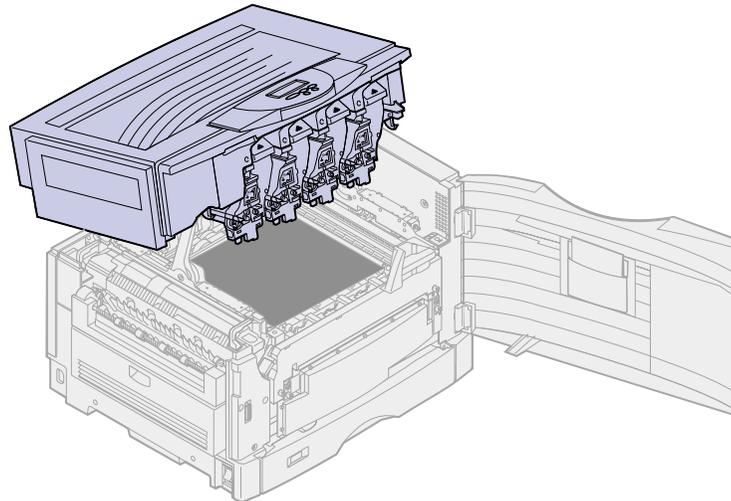
The printer continues to display the **Supplies** message until you replace the photodeveloper or until it is exhausted.

To replace a photodeveloper, use the following steps or the instruction sheet supplied with the photodeveloper.

### **Removing a photodeveloper**

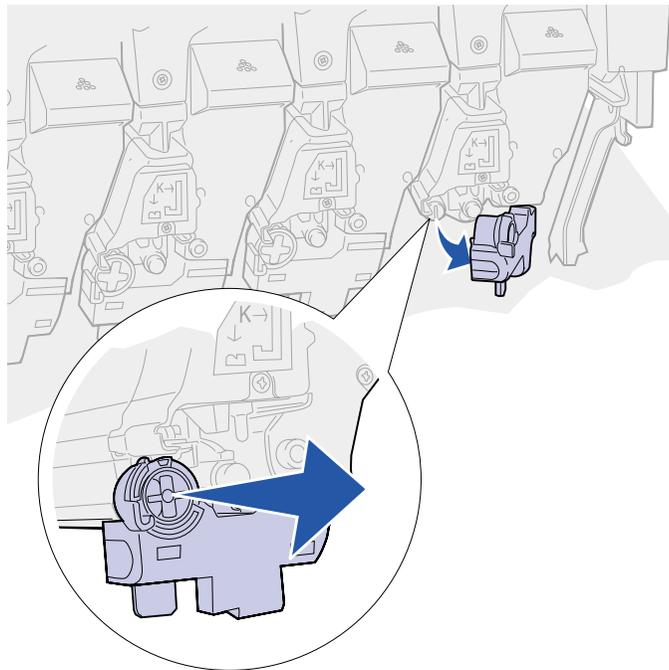
**Note:** If you need instructions on how to open the top cover, see [Opening the top cover](#).

- 1 Complete the steps to open the top cover.

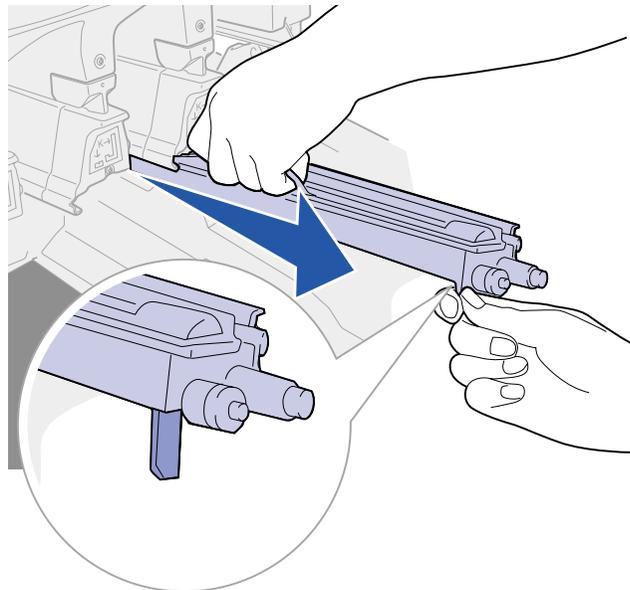


**Note:** The excess toner on the photodevelopers can soil clothing. Do not clean clothing soiled with toner in hot water; this permanently adheres the toner to the clothing. Use cold water to remove toner.

- 2** Pull the waste toner arm away from the photodeveloper.



- 3** Use the tab to pull the photodeveloper approximately halfway out of the printer.  
Some force is initially required to pull the photodeveloper past the locking spring.

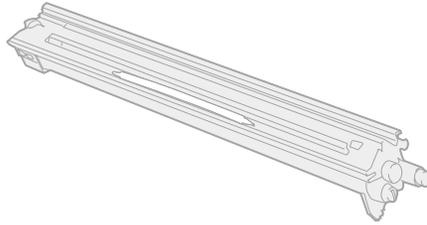


- 4** Grasp the photodeveloper handle and continue to pull the photodeveloper out.

## ***Installing a photodeveloper***

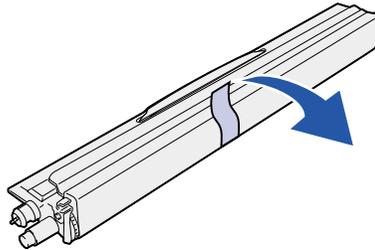
**Note:** Your printer has four color-coded photodevelopers. Each photodeveloper has its own color-coded position.

- 1** Remove the replacement photodeveloper from the packing material.



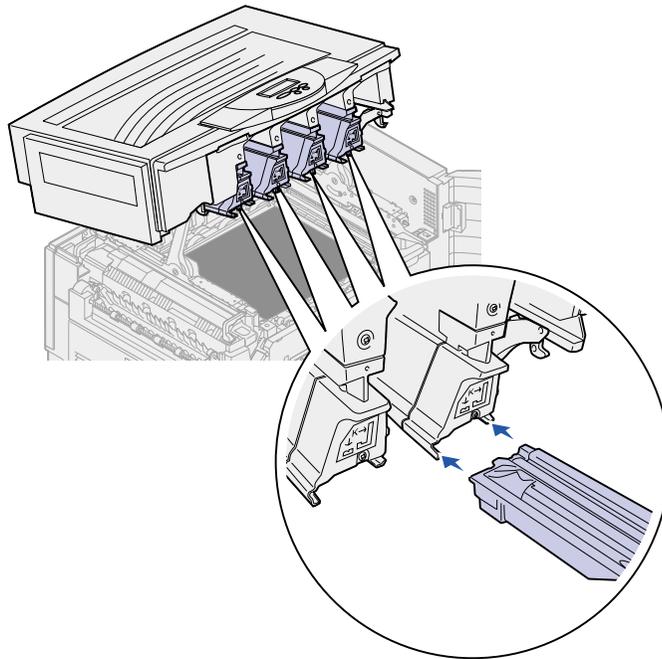
**Note:** The photodeveloper has a cover over the green developer film. Do not remove the cover until you begin installing the photodeveloper.

- 2** Remove the tape from the photodeveloper and photodeveloper cover.



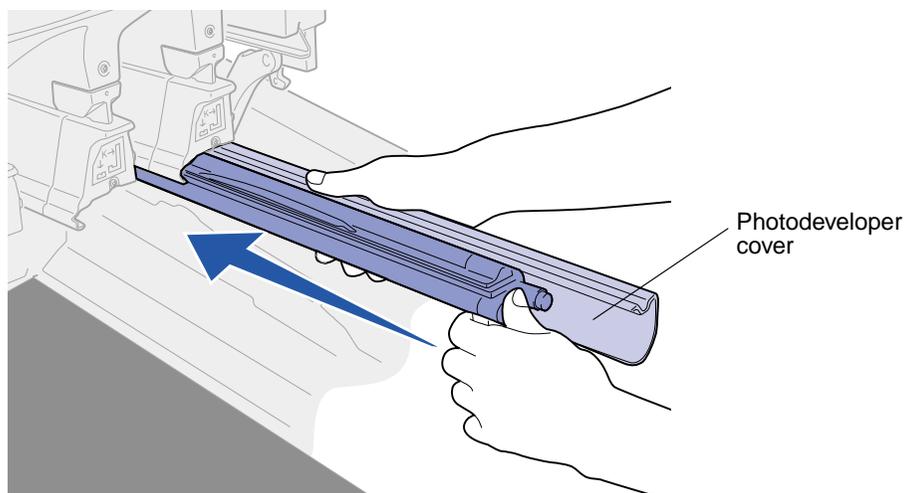
**Note:** The photodevelopers are color matched to a specific toner color and must be placed in a specific location inside the printer.

- 3** Align the photodeveloper with the slot under the matching color label.

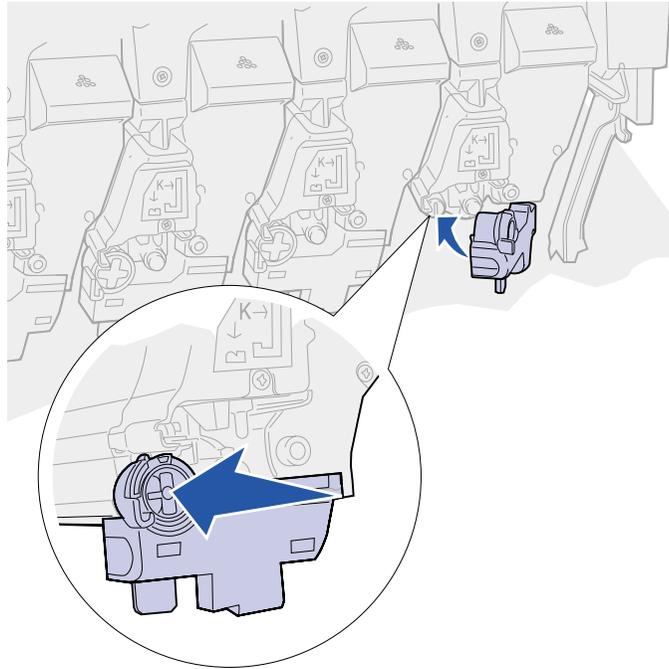


- 4** While holding the photodeveloper with the left hand and the photodeveloper cover with the right hand slide the photodeveloper into the slot until it is fully seated.

As the photodeveloper slides in, slide off the photodeveloper cover.



- 5 Push the waste toner arm until it connects with the photodeveloper and snaps into place.



- 6 Repeat **Removing a photodeveloper** step 2 through **Installing a photodeveloper** step 5 to install additional photodevelopers.

**CAUTION:** Before closing the top cover make sure everyone is away from the printer and the area under the cover is free of hands, clothing, and other items.

- 7 Close the top cover and the front door.

**Note:** If you need instructions on how to close the top cover, see **Closing the top cover**.

For instructions about replacing other supply items, click one of the following headings:

[Replacing a toner cartridge](#)

[Replacing the fuser](#)

[Replacing the transfer belt](#)

[Replacing the oil coating roll](#)

# 26

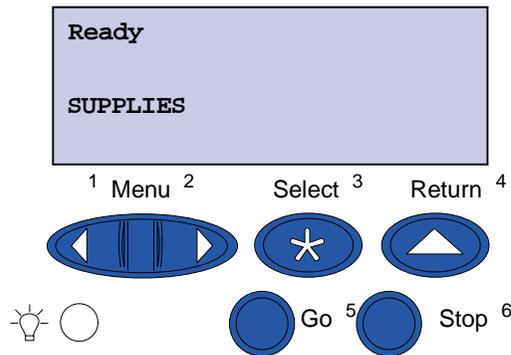
## Replacing supplies

For information about replacing an individual supply item, click the headings below:

- [Replacing a photodeveloper](#)
- [Replacing the fuser](#)
- [Replacing the oil coating roll](#)
- [Replacing the transfer belt](#)
- [Replacing a toner cartridge](#)

The printer calculates and stores information on the number of images that have been printed. When a count for a supply nears the end of the supplies life, the **supplies** status message appears on the second line of the display to remind you there are supplies that need attention.

Open the Supplies Menu to view the supplies that need to be replaced. Replacement of these parts ensures peak printer performance and prevents print quality and paper feed problems resulting from worn parts.



The printer counter keeps track of your toner cartridges, photodevelopers, fuser cleaner, fuser, and transfer belt. It posts a **Low**, **Empty**, **Life Warning**, or an **Exhausted** message on the display when one of these supplies nears or reaches an end of life condition. If you do not have the appropriate supply item, order one when the **Low**, **Empty**, or **Life Warning** message appears.

Press **Go** to clear the message. The **supplies** status message appears on the second line of the display to remind you there are supplies that need attention. Press **Menu** to open the Supplies Menu and quickly determine the supply items that need to be replaced.

The printer continues to display the **Supplies** status message until you replace the required supply items.

After the **Supplies** status message appears, the printer continues to monitor the required supply items until the supply is exhausted. The printer displays **Low**, **Empty**, **Life Warning**, or **Exhausted**.

To prevent damage to your printer or its components, some supply items do not allow the printer to operate when the item is exhausted. When this occurs, *you must install the appropriate new supplies before you can continue printing.*

# 27

## Replacing the fuser

Your printer monitors the life of your fuser. When the fuser reaches the end of its life, the printer displays **80 Fuser Exhausted**. This message indicates it is time for you to replace the fuser. For best print quality, make sure you replace the fuser when the printer displays **80 Fuser Life Warning**.

Press **Go** to clear the message. The **Supplies** message appears on the second line of the display to remind you that supplies need attention. You can open the Supplies Menu to see the **80 Fuser Exhausted** and **80 Fuser Life Warning** messages.

The printer continues to display the **Supplies** message until you replace the fuser. To replace the fuser, use the following steps or the instruction sheet supplied with the fuser.

### Preparing for maintenance

- 1 Turn the printer on.
- 2 Follow the instructions in the table for the message your printer is displaying.

Primary message	Secondary message	What you should do
80 Fuser Life Warning	Select = Replace Go = Continue	Press <b>Select</b> if you want to replace the fuser now. Press <b>Go</b> if you want to wait to replace the fuser.
80 Fuser Exhausted	Select = Replace	Press <b>Select</b> to replace the fuser.
80 Fuser/Belt Life Warning	Select = Replace Go = Continue	Press <b>Select</b> if you want to replace the fuser now. Press <b>Go</b> if you want to wait to replace the fuser.
80 Fuser/Belt Exhausted	Select = Replace	Press <b>Select</b> to replace the fuser.

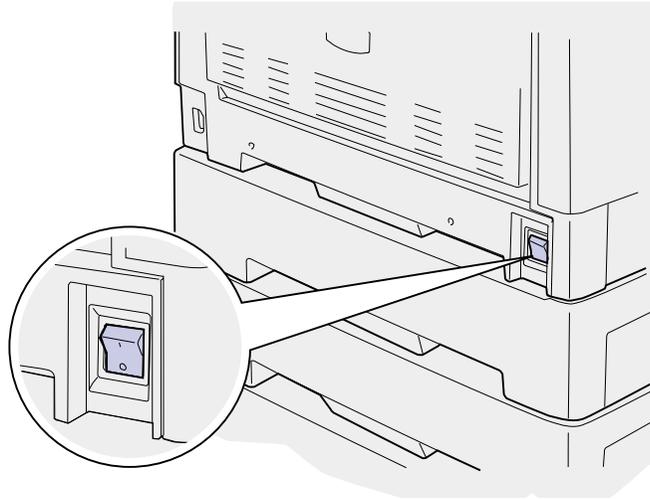
The **Preparing for Maintenance** message appears while the printer moves parts into position. After the parts are in position, the message **Printer Ready for Maintenance** appears, followed by **Power Off to Replace Items**.

- 3 Turn the printer off.

### Removing the fuser

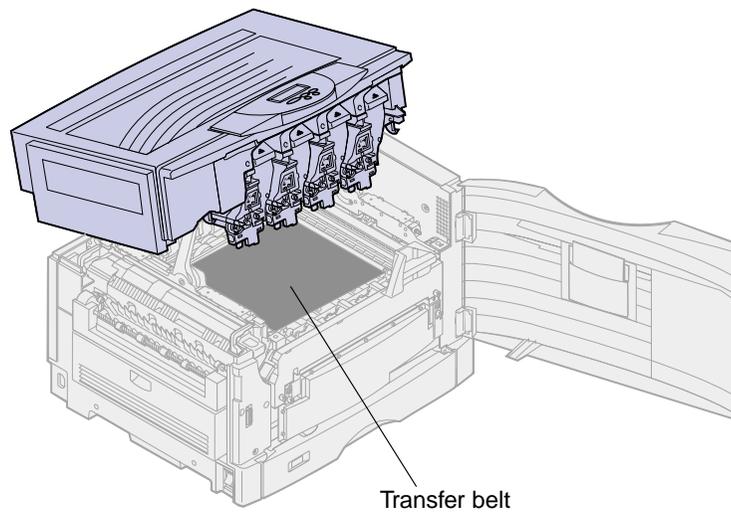
- 1 Complete the steps in **Preparing for maintenance** on page 80.
- 2 Make sure the printer is turned off.

- 3 Turn off or unplug any optional devices connected to the printer.

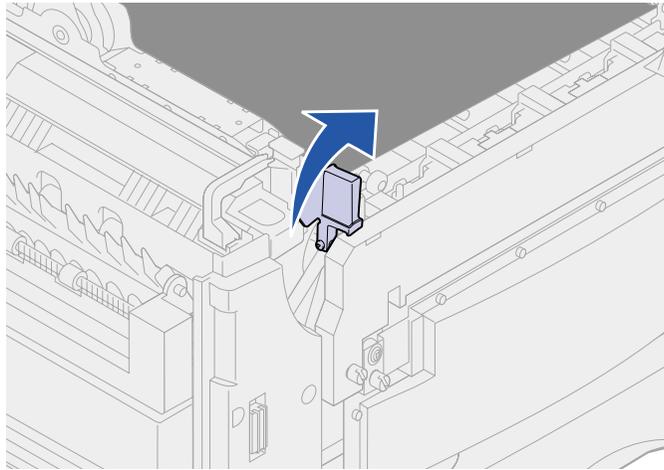


**WARNING:** Do not touch, drop, or place anything on the transfer belt. Touching the surface of the transfer belt or placing items on it may cause damage.

- 4 Complete the steps to open the top cover.



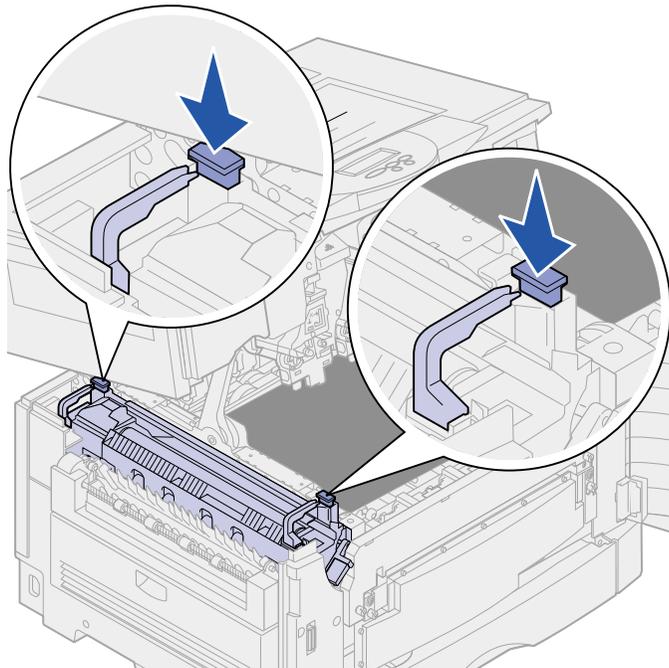
- 5 Lift the fuser pressure release lever up.



**WARNING:** Removing or replacing the fuser while the fuser pressure release lever is in the down position will damage the lever.

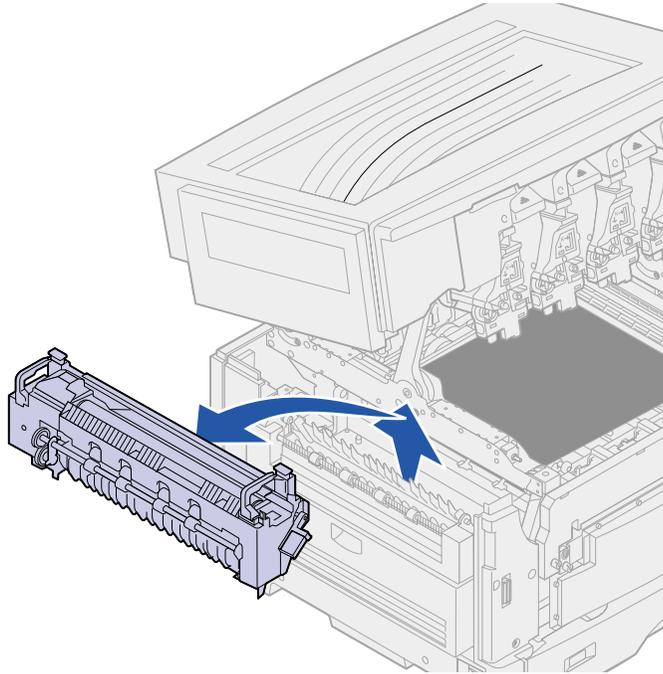
**CAUTION:** The fuser may be hot! Allow the fuser to cool before touching.

- 6 Grasp the fuser handles and press both fuser release buttons.



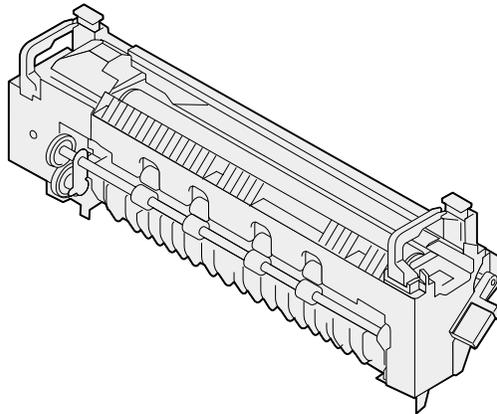
- 7 Lift the fuser up and out.

**Note:** Do not discard the old fuser at this time. The oil coating roll will be installed in the new fuser.

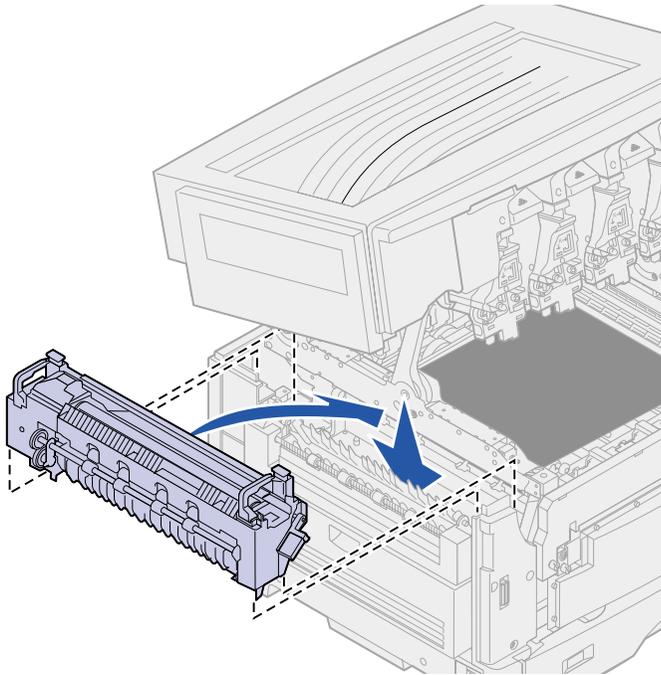


### ***Installing the fuser***

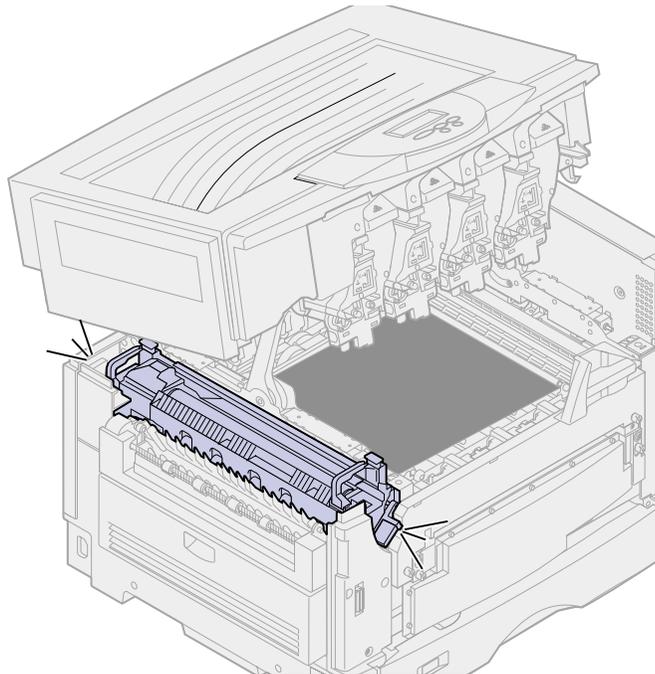
- 1 Remove the replacement fuser from the packing material, and remove any packing material from the fuser.



- 2 Align the new fuser with the opening in the printer.



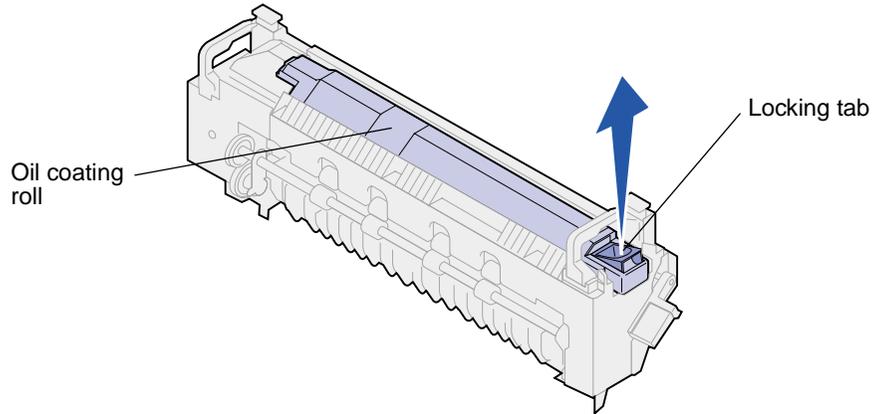
- 3 Lower the fuser until it *snaps* into place.



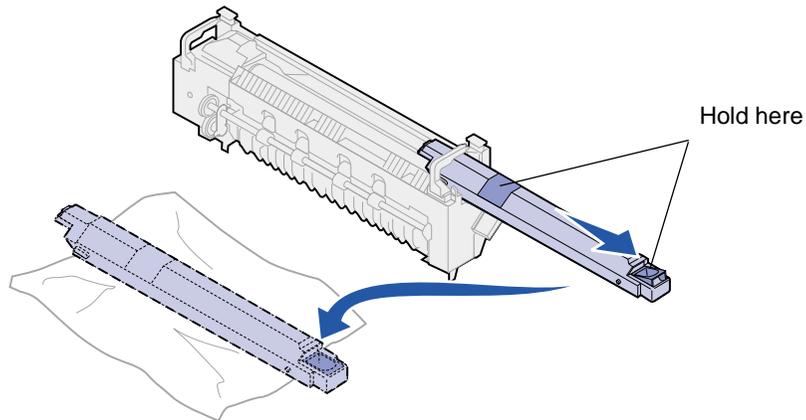
- 4 Remove the oil coating roll from the old fuser.

**CAUTION:** The oil coating roll may be hot! Allow the oil coating roll to cool before touching.

- a** Pull up on the locking tab to unlock the oil coating roll.



- b** Slide out the oil coating roll.

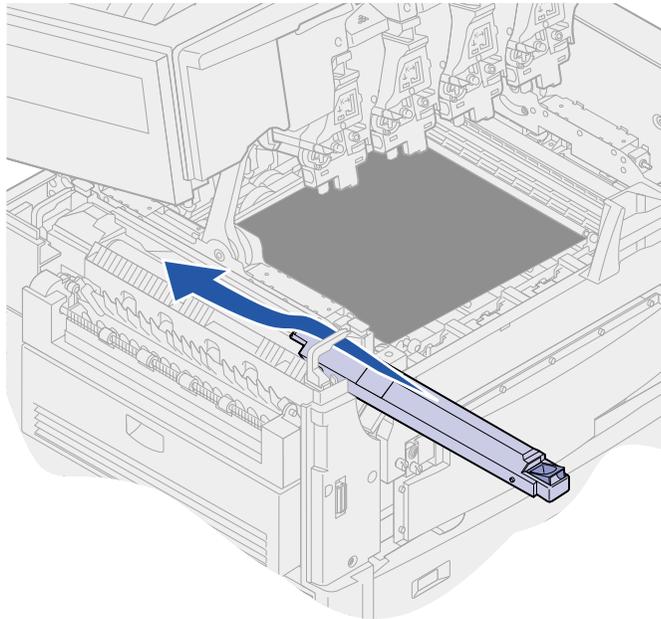


Hold the oil coating roll by the top, as indicated by the dark areas in the illustration.

**Note:** The underside of the oil coating roll may be covered with oil. If you are not ready to slide the coating roll into the fuser immediately, place the coating roll on a sheet of plastic or other protective material to prevent stains.

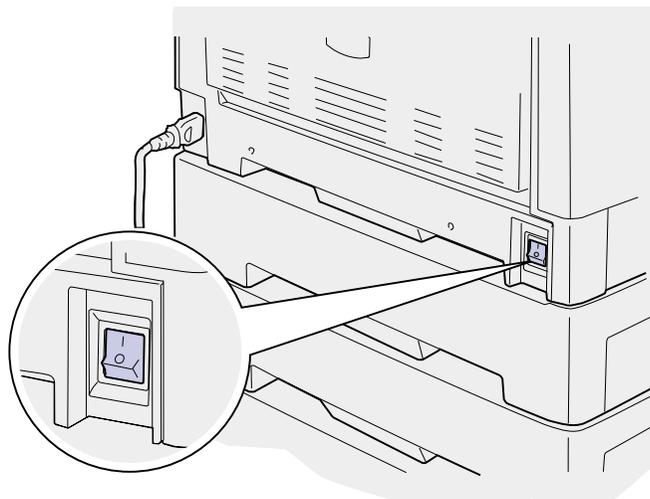
**5** Install the oil coating roll.

Make sure the oil coating roll drops down into position. It should *click* into place with no gap between it and the fuser.



**CAUTION:** Before closing the top cover make sure everyone is away from the printer and the area under the cover is free of hands, clothing, and other items.

- 6** Close the top cover and the front door.
- 7** Reconnect any optional devices to the printer.
- 8** Turn the optional devices on.
- 9** Turn the printer on.



The message **Did you replace Fuser?** appears.

**10** Press **Go** to reset the fuser counter.

**Note:** If you replaced the fuser after receiving the 80 **Fuser/Belt Life Warning** message or the 80 **Fuser/Belt Exhausted** message, see **Replacing the transfer belt** for instructions on replacing the transfer belt.

For instructions about replacing other supply items, click one of the following headings:

**Replacing a photodeveloper**

**Replacing a toner cartridge**

**Replacing the transfer belt**

**Replacing the oil coating roll**

## Replacing the oil coating roll

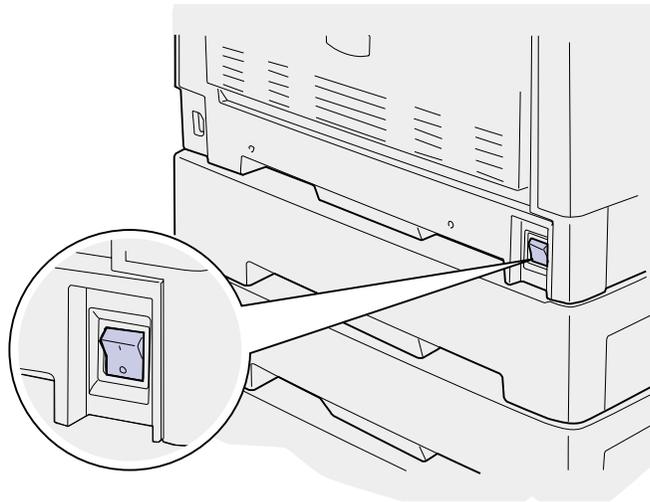
Your printer monitors the life of your oil coating roll. When the oil coating roll reaches the end of its life, the printer displays **85 Coating Roll Exhausted**. This message indicates that you must replace the oil coating roll to continue printing.

For best print quality, make sure you replace the oil coating roll when the printer displays **85 Coating Roll Life Warning**. Press **Go** to clear the message. The printer continues to display the **Supplies** message until you replace the oil coating roll.

To replace the oil coating roll, use the following steps or the instruction sheet supplied with the oil coating roll.

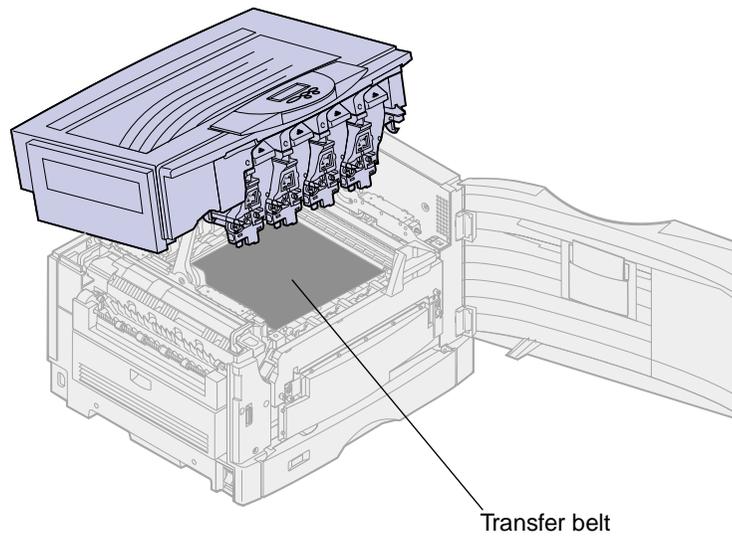
### **Removing the oil coating roll**

- 1 Turn the printer *off*.
- 2 Turn *off* or *unplug* any optional devices connected to the printer.



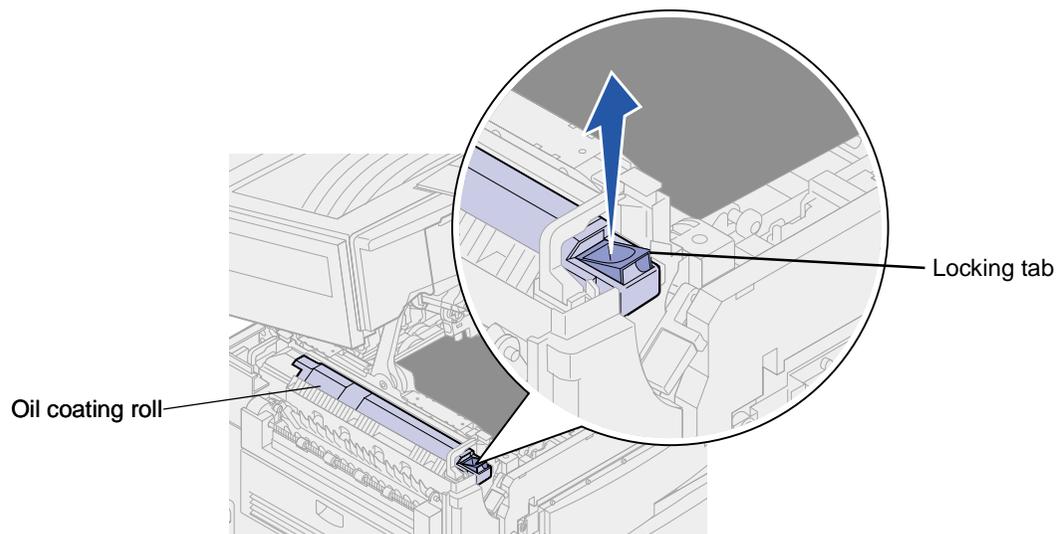
**WARNING:** Do not touch, drop, or place anything on the transfer belt. Touching the surface of the transfer belt or placing items on it may cause damage.

- 3 Complete the steps to open the top cover.

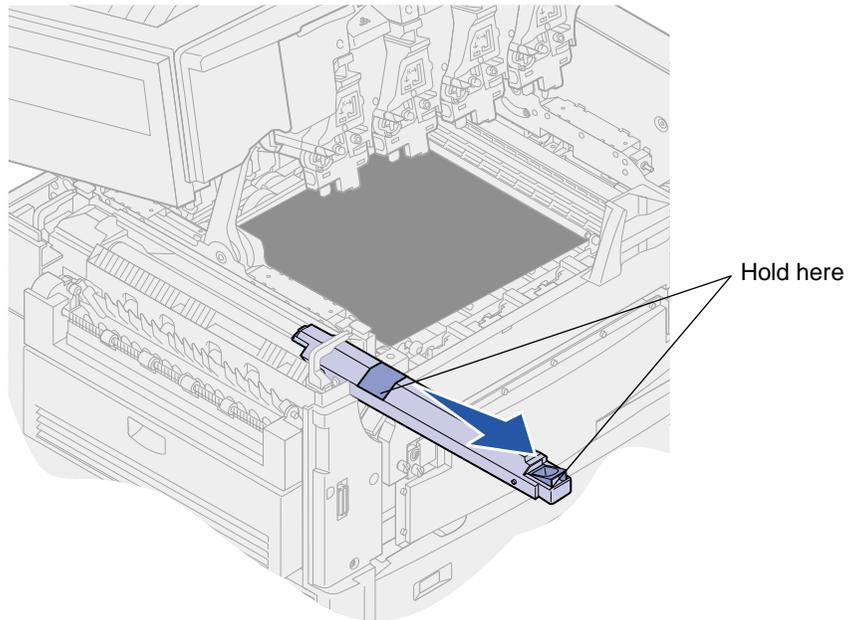


**CAUTION:** The oil coating roll may be hot! Allow the oil coating roll to cool before touching.

- 4 Pull up on the locking tab to unlock the oil coating roll.



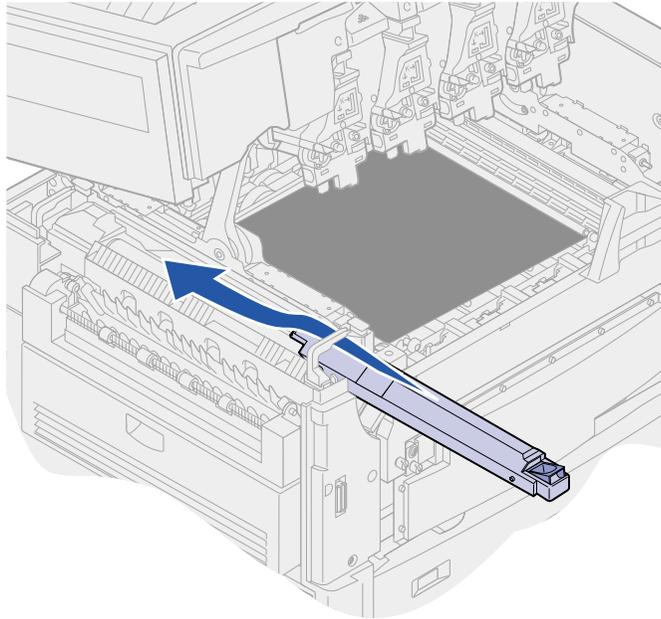
- 5 Slide the oil coating roll out of the fuser.



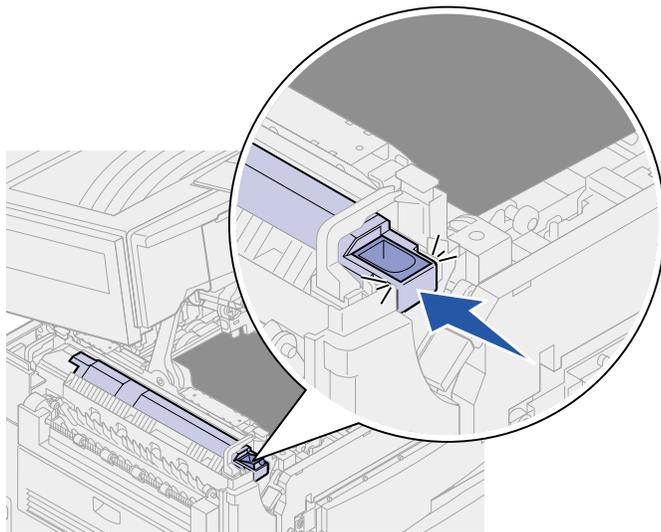
Hold the oil coating roll by the top, as indicated by the dark areas in the illustration.

- 6 Remove packing material from the new oil coating roll.

- 7 Slide the oil coating roll into the fuser.



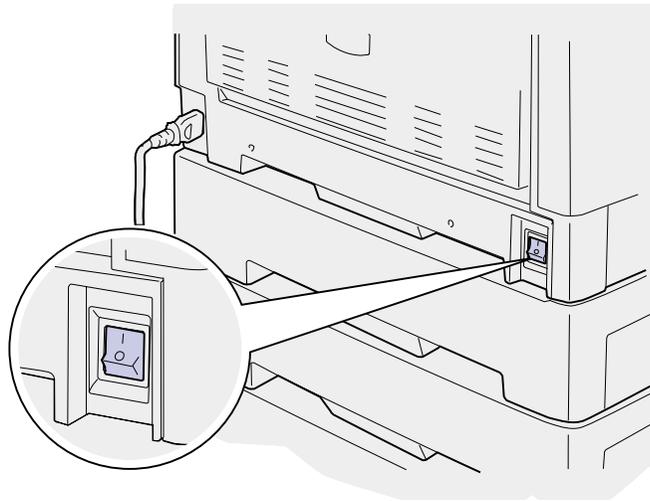
Make sure the oil coating roll drops down into position. It should *click* into place with no gap between it and the fuser.



**CAUTION:** Before closing the top cover make sure everyone is away from the printer and the area under the cover is free of hands, clothing, and other items.

- 8 Close the top cover and the front door.
- 9 Reconnect any optional devices to the printer.
- 10 Turn the optional devices *on*.

**11** Turn the printer *on*.



For instructions about replacing other supply items, click one of the following headings:

[Replacing a toner cartridge](#)

[Replacing the fuser](#)

[Replacing the transfer belt](#)

[Replacing a photodeveloper](#)



## Replacing the transfer belt

Your printer monitors the life of your transfer belt. When the transfer belt reaches the end of its life, the printer displays **80 Belt Exhausted**. This message indicates it is time for you to replace the transfer belt. For best print quality, make sure you replace the transfer belt when the printer displays **80 Belt Life Warning**.

Press **Go** to clear the message. The **Supplies** message appears on the second line of the display to remind you that supplies need attention. You can open the Supplies Menu to see **80 Belt Exhausted** or **80 Belt Life Warning** messages.

The printer continues to display the **Supplies** message until you replace the transfer belt. To replace the transfer belt, use the following steps or the instruction sheet supplied with the transfer belt.

### Preparing for maintenance

- 1 Turn the printer on.
- 2 Follow the instructions in the table for the message your printer is displaying.

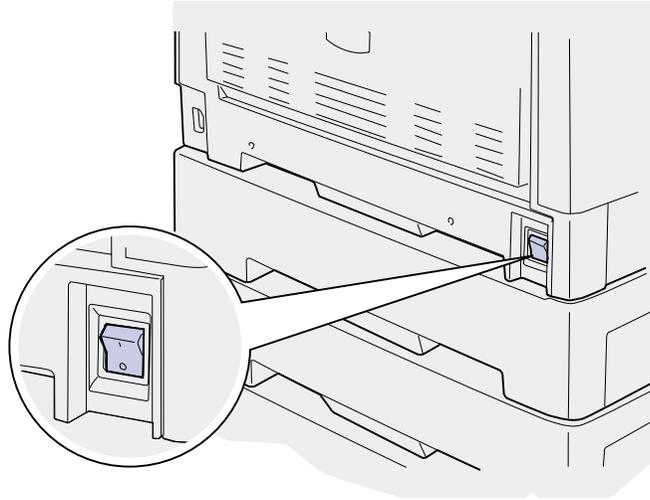
Primary message	Secondary message	What you should do
80 Belt Life Warning	Select = Replace Go = Continue	Press <b>Select</b> if you want to replace the transfer belt now. Press <b>Go</b> if you want to wait to replace the transfer belt.
80 Belt Exhausted	Select = Replace	Press <b>Select</b> to replace the transfer belt.
80 Fuser/Belt Life Warning	Select = Replace Go = Continue	Press <b>Select</b> if you want to replace the transfer belt now. Press <b>Go</b> if you want to wait to replace the transfer belt.
80 Fuser/Belt Exhausted	Select = Replace	Press <b>Select</b> to replace the transfer belt.

The **Preparing for Maintenance** message appears while the printer moves parts into position. After the parts are in position, the message **Printer Ready for Maintenance** appears, followed by **Power Off to Replace Items**.

- 3 Turn the printer off.

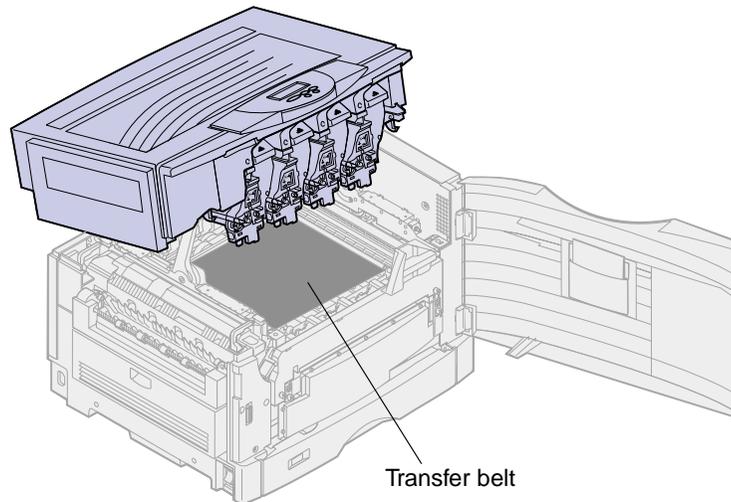
## Removing the transfer belt

- 1 Complete the steps in **Preparing for maintenance** on **page 93**.
- 2 Make sure the printer is turned off.
- 3 Turn off or unplug any optional devices connected to the printer.



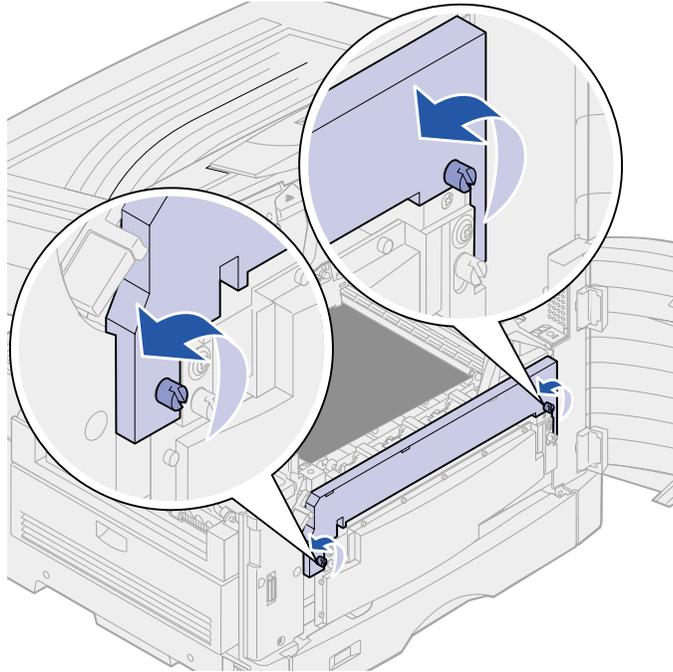
**WARNING:** Do not touch, drop, or place anything on the transfer belt. Touching the surface of the transfer belt or placing items on it may cause damage.

- 4 Complete the steps to open the top cover.

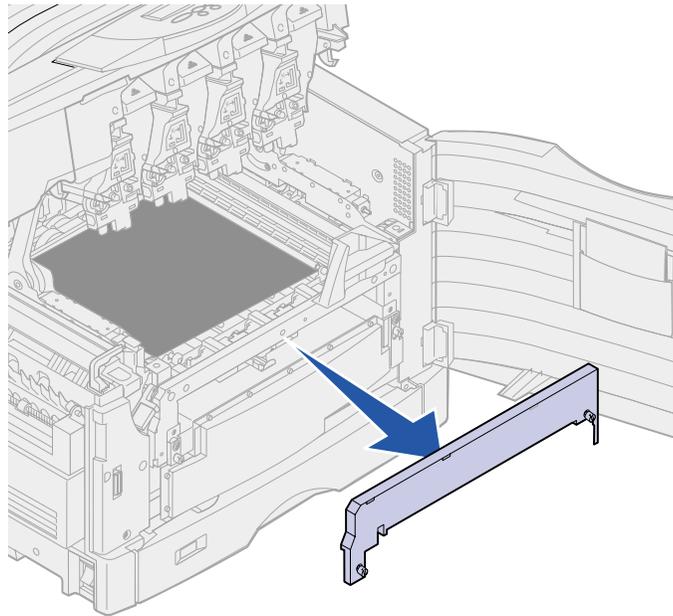


**CAUTION:** The inside of the printer may be hot! Allow the printer to cool before touching.

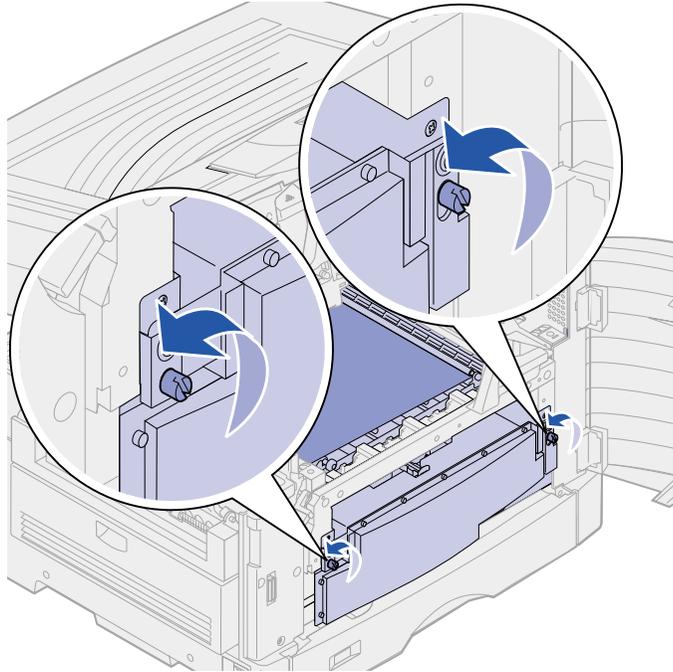
- 5** Loosen the thumbscrews on each side of the transfer belt cover.



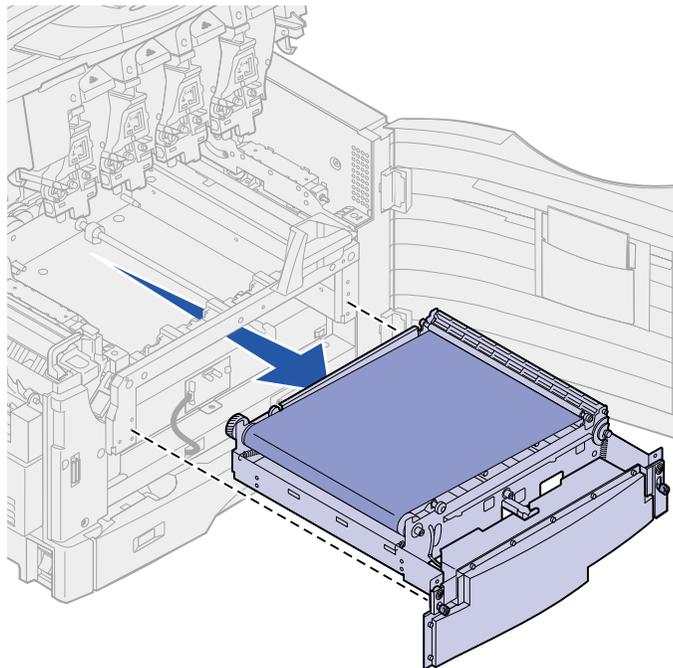
- 6** Lift and remove the transfer belt cover.



- 7** Loosen the thumbscrews on each side of the transfer belt.

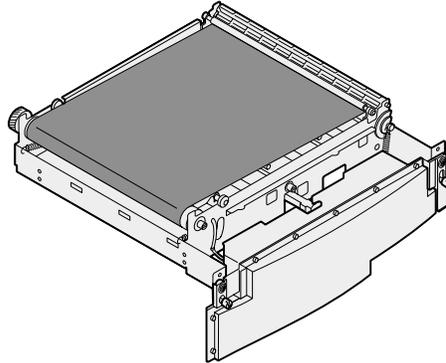


- 8** Pull the transfer belt out.

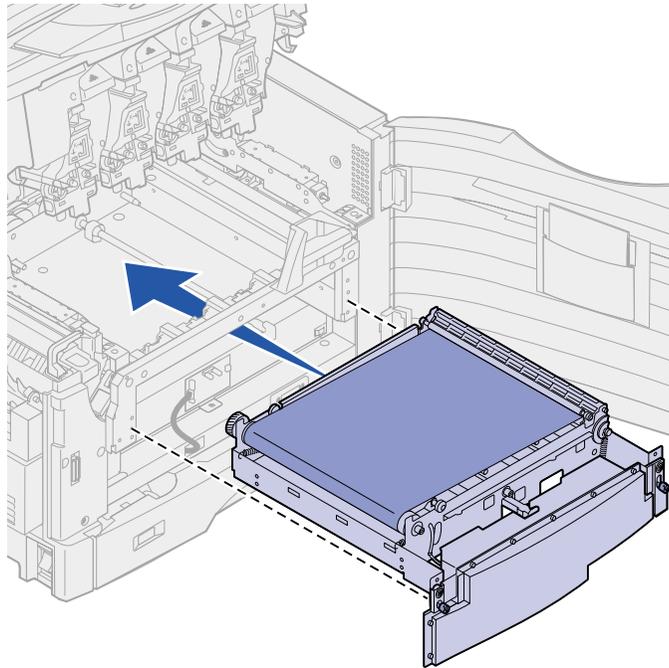


## ***Installing the transfer belt***

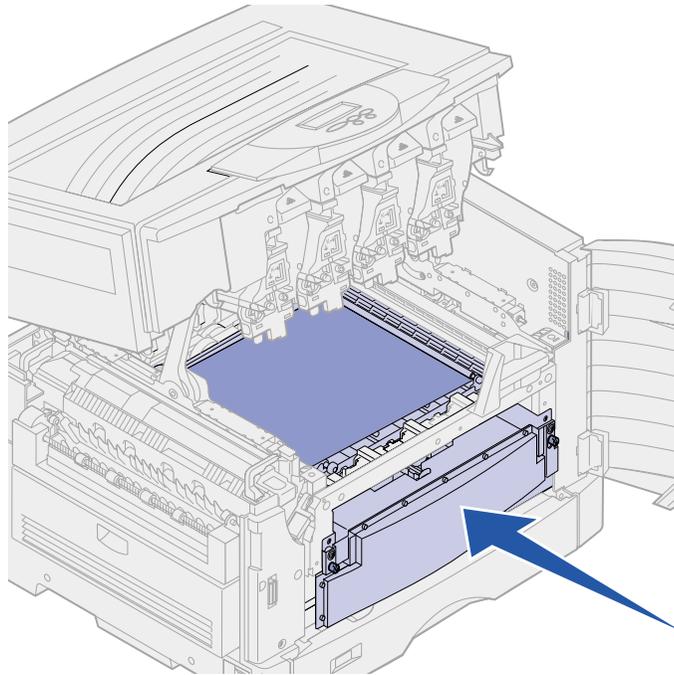
- 1** Remove the replacement transfer belt from the packing material.



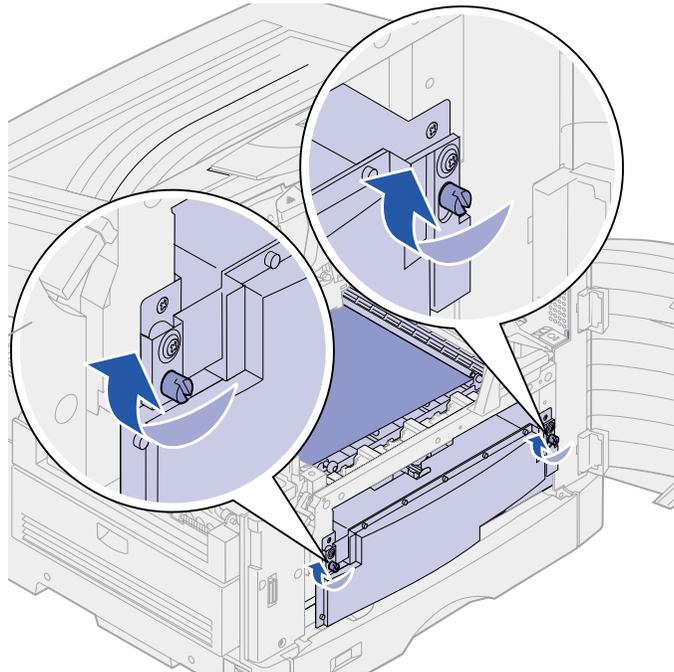
- 2** Align the transfer belt with the opening in the printer.



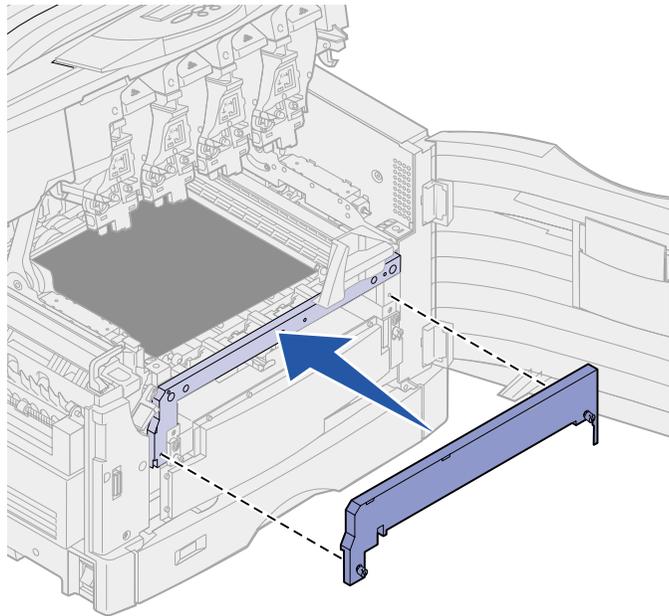
- 3** Slide the transfer belt in until it is fully seated.



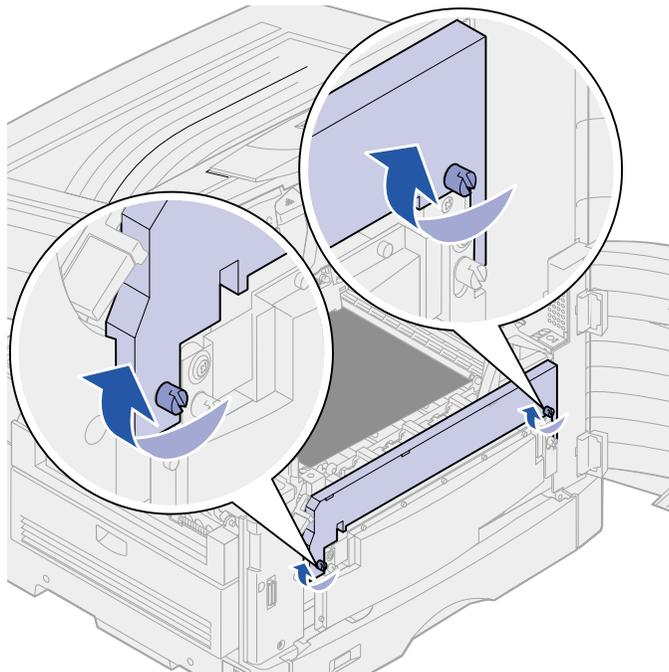
- 4** Tighten the transfer belt thumbscrews.



- 5 Align and place the transfer belt cover as shown.



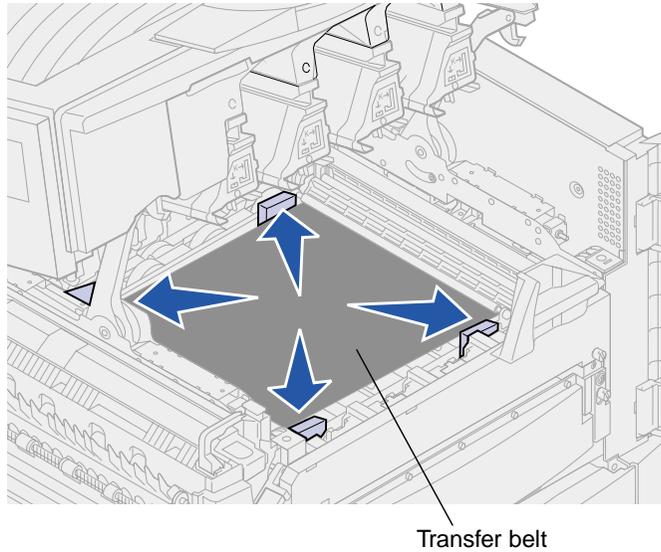
- 6 Tighten the transfer belt cover thumbscrews.



**WARNING:** Do not touch, drop, or place anything on the transfer belt. Touching the surface of the transfer belt or placing items on it may cause damage.

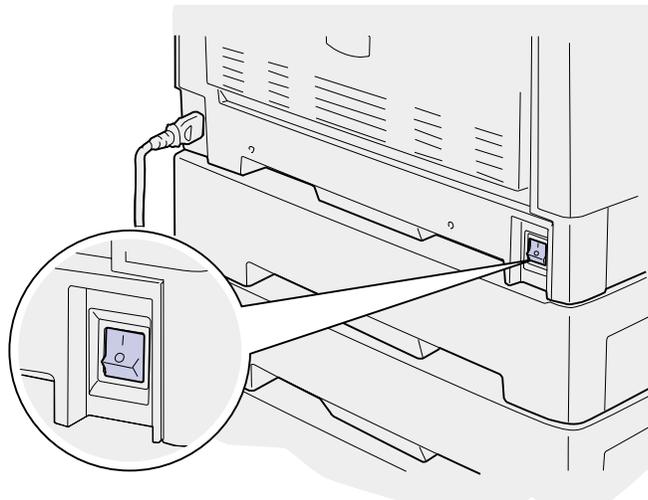
- 7 Lift and remove the four shipping spacers from the transfer belt.

**Note:** If you do not remove the four shipping spacers from the transfer belt, you may not be able to close the top cover.



**CAUTION:** Before closing the top cover make sure everyone is away from the printer and the area under the cover is free of hands, clothing, and other items.

- 8 Close the top cover and the front door.
- 9 Reconnect any optional devices to the printer.
- 10 Turn the optional devices on.
- 11 Turn the printer on.



The message **Did you replace Belt?** appears.

- 12 Press **Go** to reset the transfer belt counter.

Once the counter is reset, the **Printing Alignment Page** message appears and a test page prints. After the test page has printed, you are prompted to enter alignment values for each setting.

- 13 Press **Menu** to choose the alignment value.

- 14 Press **Select** to enter the value and continue to the next value.

After you have entered values for each alignment setting, the transfer belt should be aligned and the printer ready to print.

**Note:** If you replaced the transfer belt after receiving the **80 Fuser/Belt Life Warning** message or the **80 Fuser/Belt Exhausted** message, see [Replacing the fuser](#) for instructions on replacing the fuser.

For instructions about replacing other supply items, click one of the following headings:

[Replacing a photodeveloper](#)

[Replacing a toner cartridge](#)

[Replacing the fuser](#)

[Replacing the oil coating roll](#)

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## Replacing a toner cartridge

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Your printer monitors the toner level of your toner cartridges. When the toner is getting low, the printer displays **88 <color> Toner Low**. This message indicates it is time for you to replace one or more specified toner cartridges. Press **Go** to clear the attendance message.

The **Supplies** status message appears on the second line of the display to remind you there are supplies that need attention. You can open the Supplies Menu to see which toner cartridge is low.

The printer continues to display the **Supplies** message until you replace the toner cartridge or until it is empty.

When the life of the toner cartridge has expired, the printer displays **88 <color> Toner Empty**. You must replace the toner cartridge to continue printing.

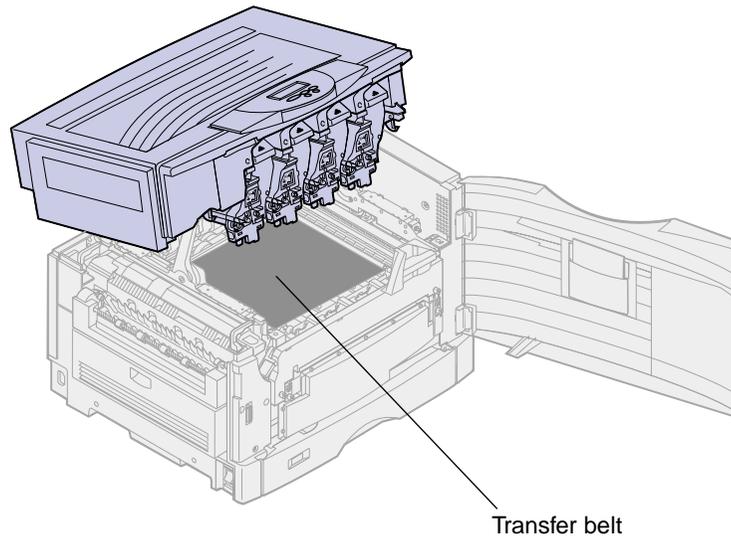
Use the following steps or the instruction sheet supplied with the toner cartridge to replace toner cartridges.

## Removing a toner cartridge

**Note:** If you need instructions on how to open the top cover, see [Opening the top cover](#).

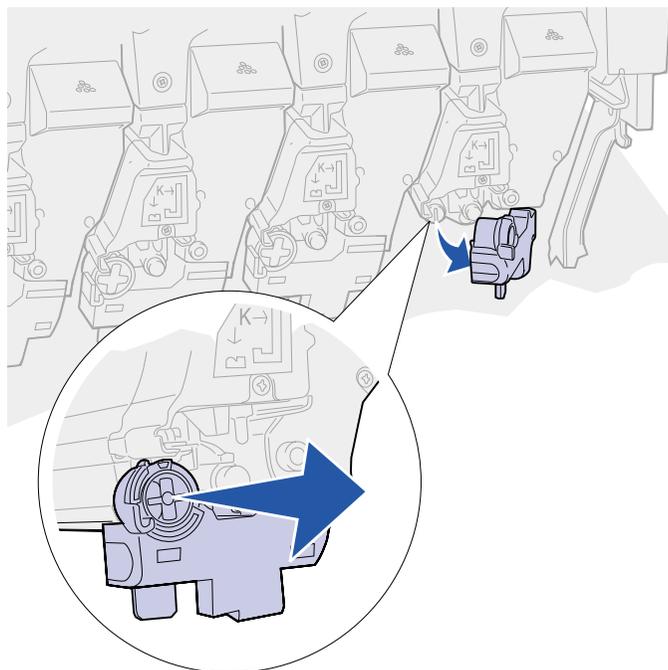
**WARNING:** Do not touch, drop, or place anything on the transfer belt. Touching the surface of the transfer belt or placing items on it may cause damage.

- 1 Complete the steps to open the top cover.

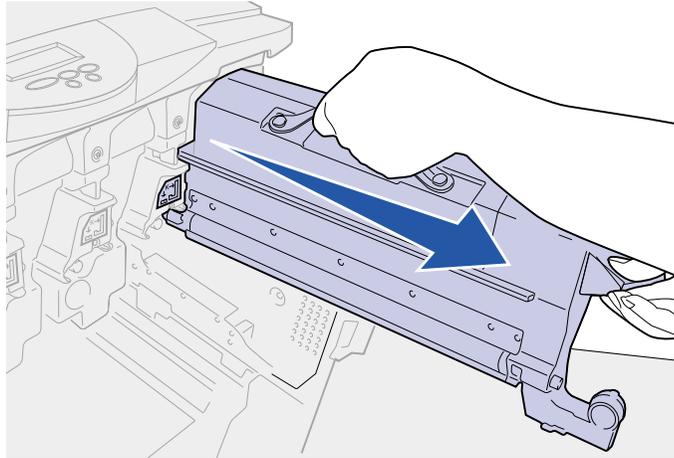


**Note:** The toner can soil clothing. Do not clean clothing soiled with toner in hot water; this permanently adheres the toner to the clothing. Use cold water to remove toner.

- 2 Pull the waste toner arm away from the photodeveloper.

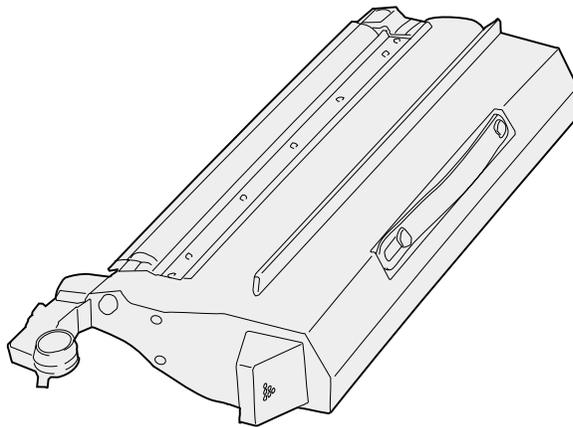


- 3** Pull the toner cartridge approximately halfway out of the printer.
- 4** Grasp the toner cartridge handle and continue to pull the toner cartridge out.

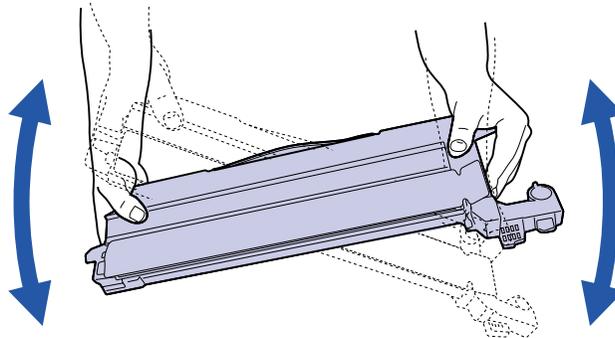


### ***Installing a toner cartridge***

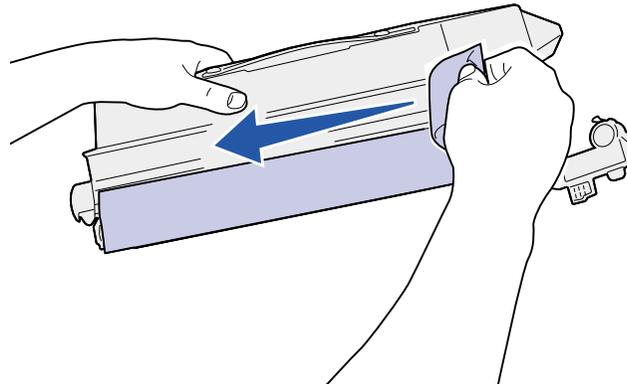
- 1** Remove the replacement toner cartridge from the packing material.



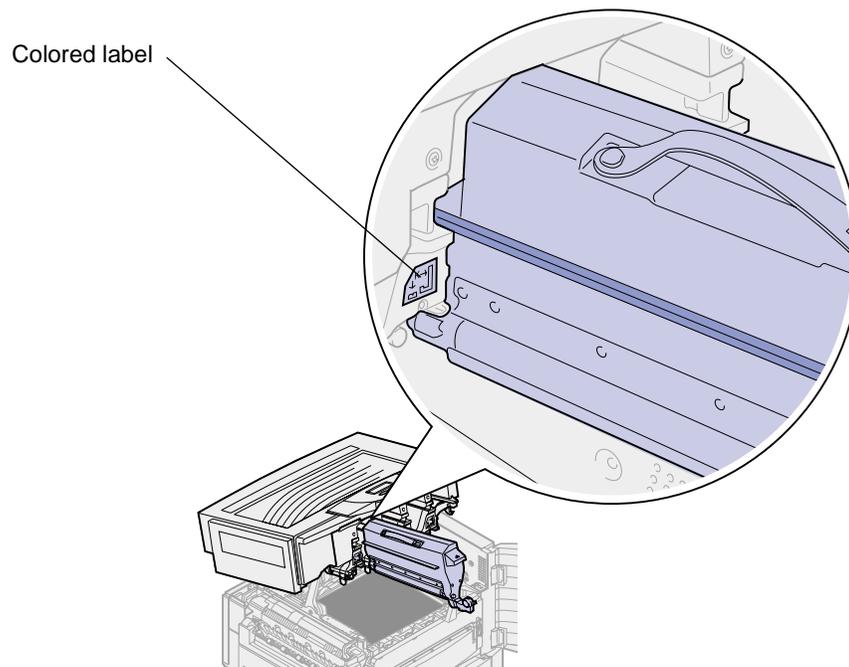
- 2** Gently shake the toner cartridge to distribute the toner evenly.



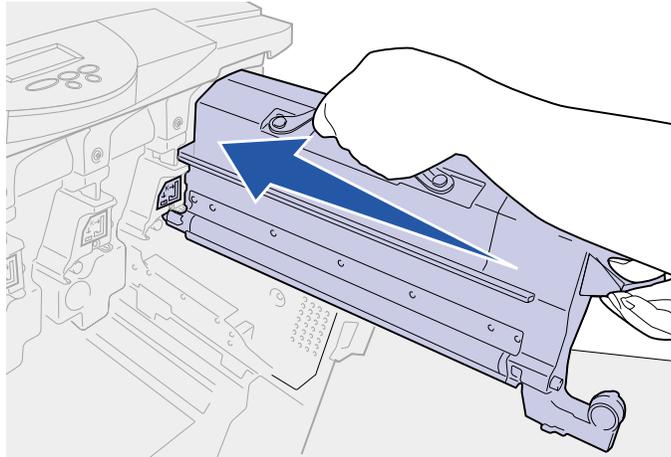
- 3** Remove the shipping tape and any additional packing material.



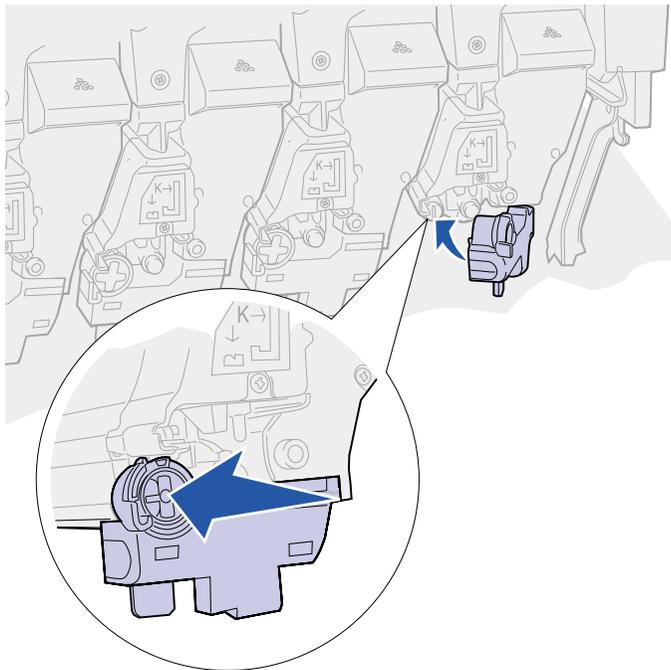
- 4** Align the toner cartridge with its slot in the printer. The toner cartridge is placed to the right of the corresponding colored label.



- 5 Slide the toner cartridge in until the cartridge is fully seated.



- 6 Push the waste toner arm until it *snaps* into place over the photodeveloper.



- 7 Repeat **Removing a toner cartridge** step 2 through **Installing a toner cartridge** step 6 to install additional toner cartridges.

**CAUTION:** Before closing the top cover make sure everyone is away from the printer and the area under the cover is free of hands, clothing, and other items.

- 8 Close the top cover and the front door.

**Note:** If you need instructions on how to close the top cover, see **Closing the top cover**.

For instructions about replacing other supply items, click one of the following headings:

[Replacing a photodeveloper](#)

[Replacing the fuser](#)

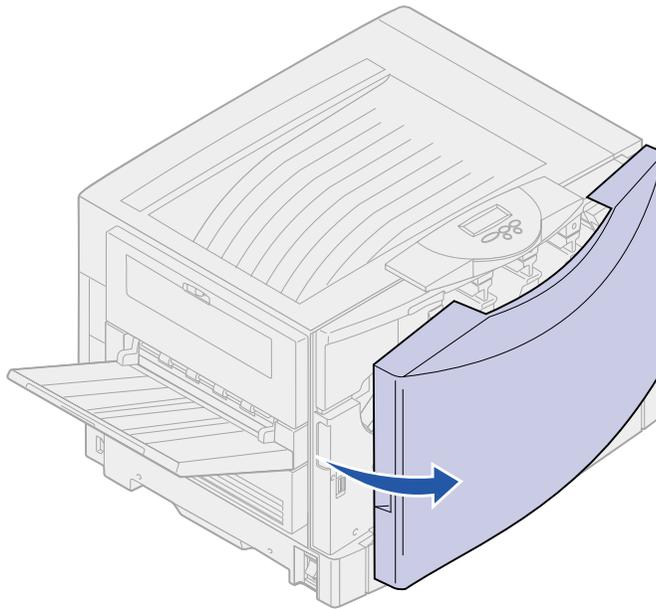
[Replacing the transfer belt](#)

[Replacing the oil coating roll](#)

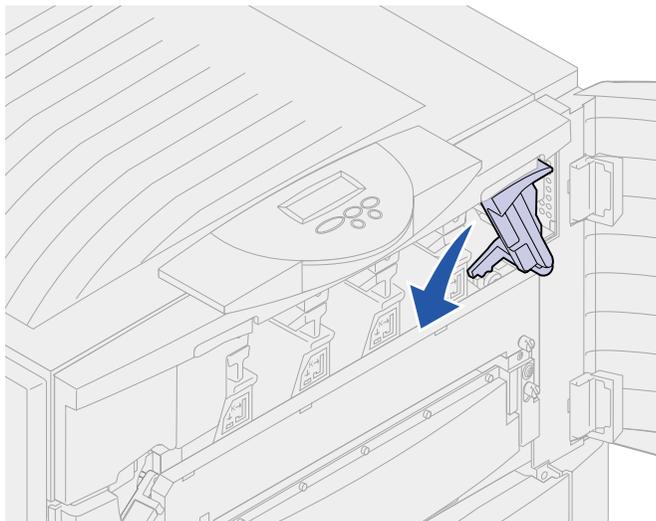
# 31 Opening the top cover

To access the printer supplies and some of the paper jam areas, open the top cover:

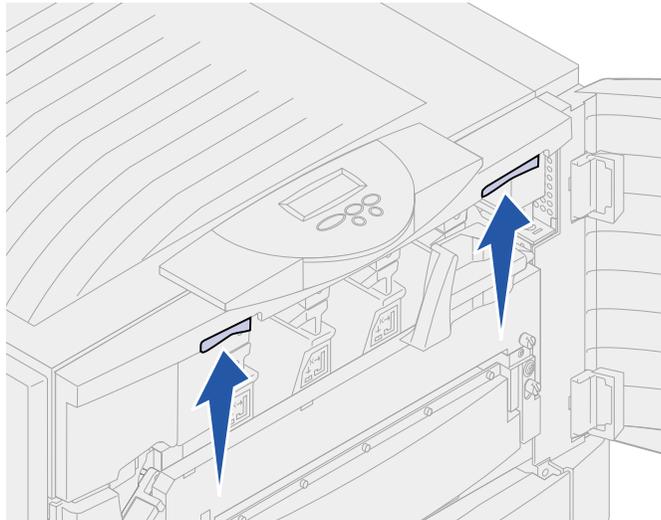
- 1 Open the front door.



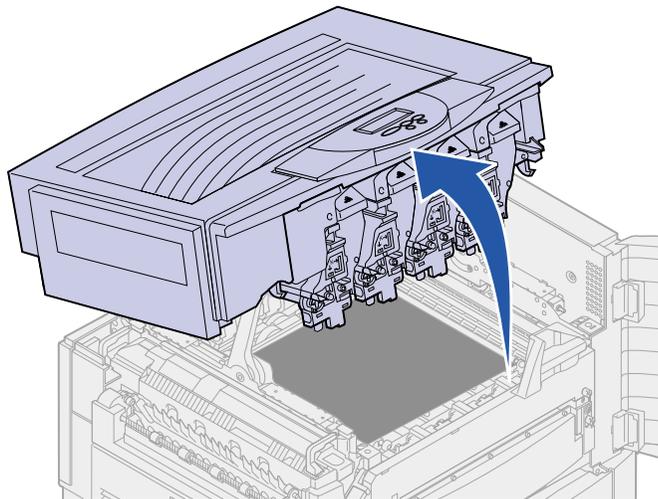
- 2 Rotate the top cover locking lever to the left.



- 3** Push up on the right top cover locking button and lift at the points shown below.



- 4** Lift the top cover until it stops.



For information about replacing an individual supply item or paper jams, click one of the following headings:

- [Replacing a toner cartridge](#)
- [Replacing a photodeveloper](#)
- [Replacing the fuser](#)
- [Clearing paper jams](#)

## 32 Storing supplies

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Store supplies in their original packaging until you are ready to install them.

Do not store supplies in:

- Temperatures greater than 43°C (110°F)
- An environment with extreme changes in humidity or temperature
- Direct sunlight
- Dusty places
- A car for a long period of time
- An environment where corrosive gases are present
- An environment with salty air

# 33

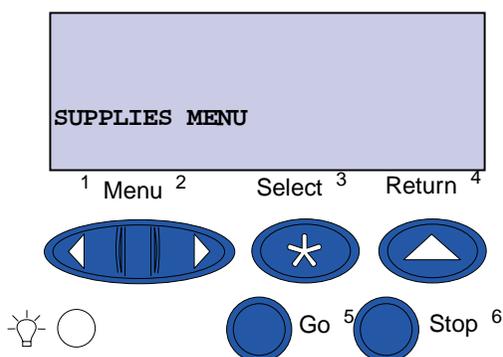
## Resetting the maintenance counter

After replacing the fuser or transfer belt, you must reset the maintenance counter.

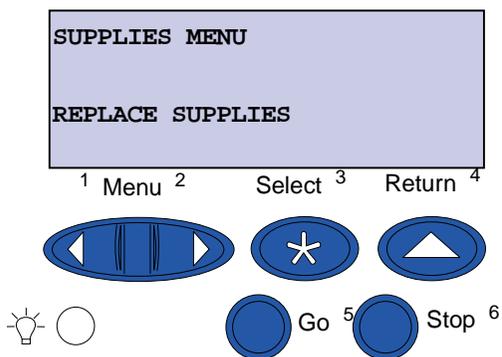
If the message **Did you replace Fuser?** or **Did you replace Belt?** appears, press **Go**. Otherwise, use the following steps to reset the fuser or transfer belt counter.

**Note:** Although the fuser is shown, the same procedure is used to clear the transfer belt.

- 1 Press **Menu** until **Supplies Menu** appears on the second line of the display.

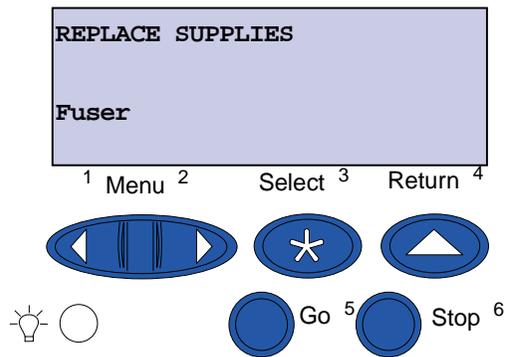


- 2 Press **Select** to open the Supplies Menu.
- 3 Press **Menu** until **Replace Supplies** appears on the second line of the display.



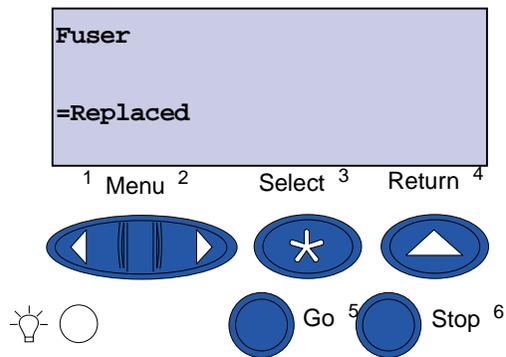
- 4 Press **Select** to open **Replace Supplies**.

- 5 Press **Menu** until **Fuser** appears on the second line of the display.



- 6 Press **Select** to open the **Fuser** menu item.

- 7 Press **Menu** until **=ReplacEd** appears on the second line of the display.



- 8 Press **Select** to reset the fuser counter to zero.

- 9 Press **Go**.

# 34

## Removing memory and network options

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Previously installed memory and interface options can easily be removed by using the procedures on the following pages.

- 1 Turn the printer *off*.
- 2 Unplug the power cord.
- 3 Disconnect the parallel or Ethernet cable from the printer.

If you have any other devices connected to the printer, turn them off as well and unplug any cables going to the printer.

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### ***Removing the system board access cover***

You must remove the system board access cover to install memory cards, a firmware card, a hard disk, or an option card.

**CAUTION:** This printer weighs 69.9 kg (154 lb) and requires four people to lift. Anytime you move or lift the printer make sure you have enough people to help. Use the handholds located on the sides to lift the printer.

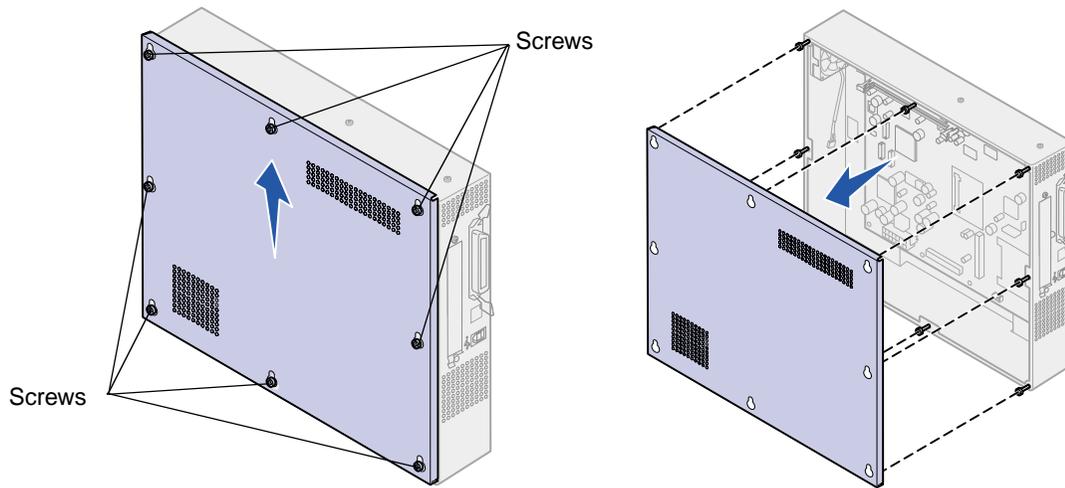
- 1 Move the printer or place it in an area that will be convenient for removing the cover and components.

You need a number 2 Phillips screwdriver to remove the cover and system board.

- 2 Loosen the eight screws on the cover. Do not remove the screws completely.

- 3 Slide the cover up and away from the printer.

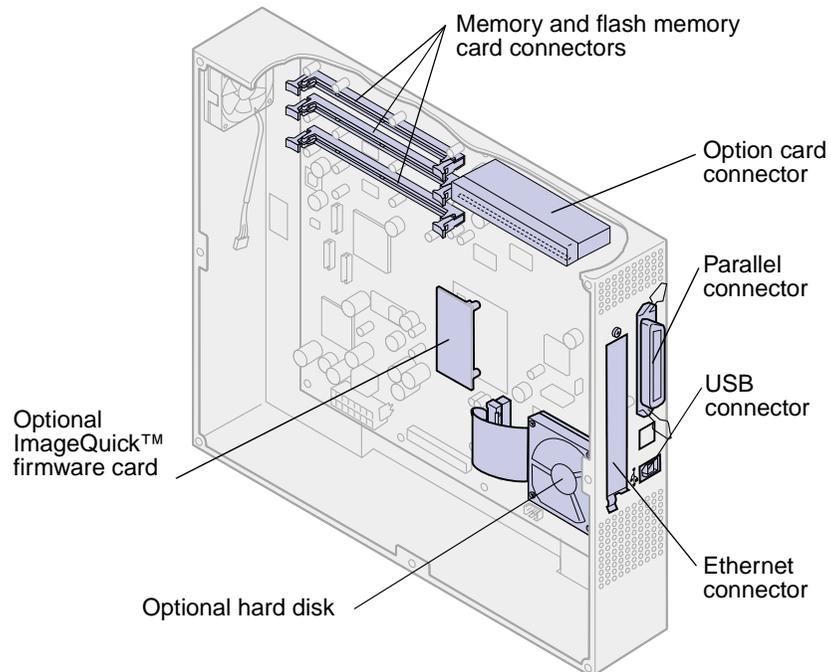
**WARNING:** The system board access cover must be replaced before operating the printer.



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## Locating memory and network options

Use the following illustration to locate the connector for the card you want to remove.



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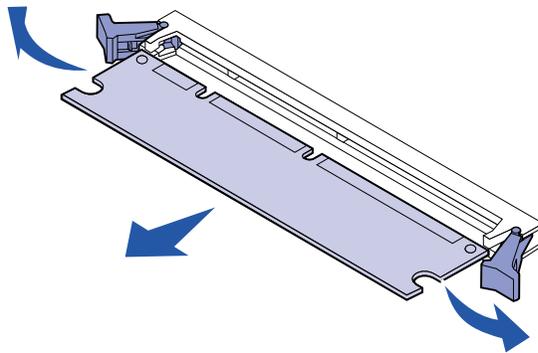
## Removing a memory card

Complete the following steps if you need to remove a memory card. Otherwise, go to [Installing the system board access cover](#).

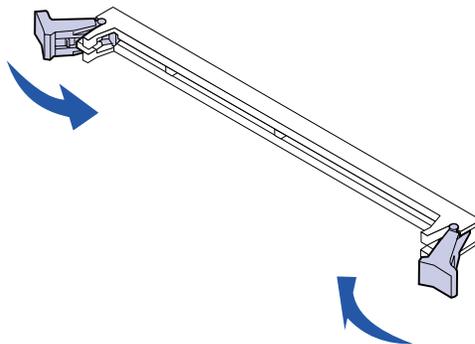
- 1 Make sure the printer is turned off and the power cord is unplugged.
- 2 Follow the steps for [Removing the system board access cover](#) if it is still installed.

**WARNING:** Memory cards are easily damaged by static electricity. Touch something metal such as the printer frame before you touch a memory card.

- 3 Push the latches at each end of the connector away from the card.  
The memory card moves out of the connector as the latches open.



- 4 Gently pull the card out.
- 5 Place the card into the original packaging.  
If you do not have the original packaging, wrap the card in paper and store it in a box.
- 6 Close both latches.



- 7 Repeat steps 3 through 6 to remove additional memory cards.

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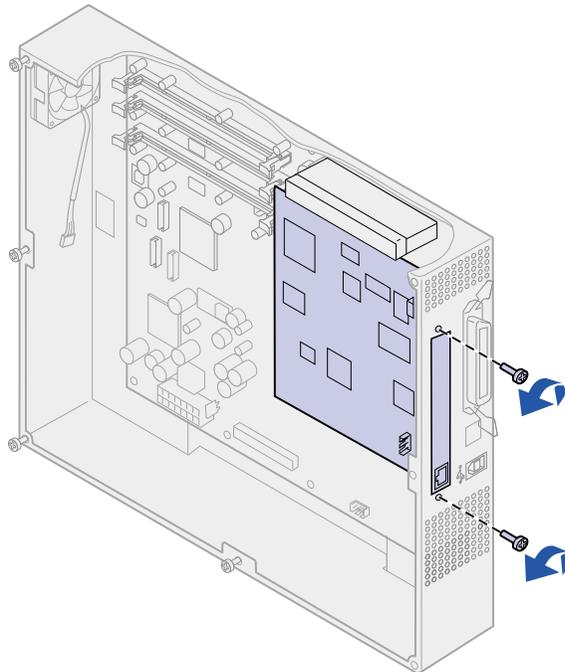
## Removing an option card

You need a number 2 Phillips screwdriver to remove an option card.

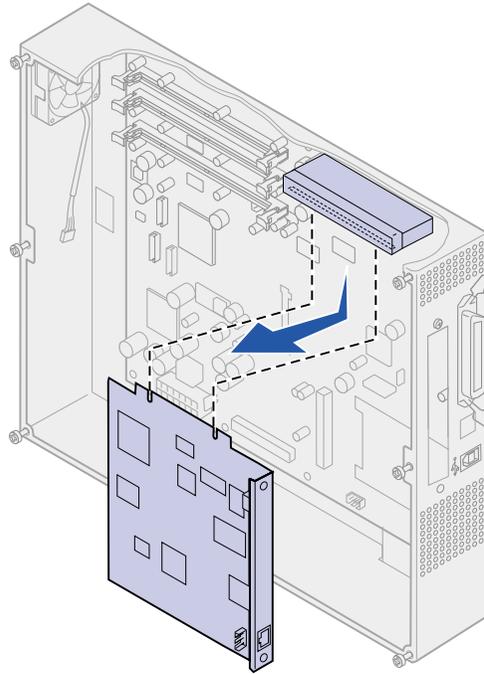
- 1 Make sure the printer is turned off and the power cord is unplugged.
- 2 Complete the steps for **Removing the system board access cover** if it is still installed.

**WARNING:** Option cards are easily damaged by static electricity. Touch something metal such as the printer frame before you touch an option card.

- 3 Remove the screws securing the option card to the cover.



- 4 Gently pull the option card completely out.



- 5 Place the option card in its original packaging.

If you do not have the original packaging, wrap the option card in paper and store it in a box.

- 6 If you are not installing another option card in the connector, cover the opening with a blank internal print server cover.

Cover the opening to ensure proper airflow around the system board.

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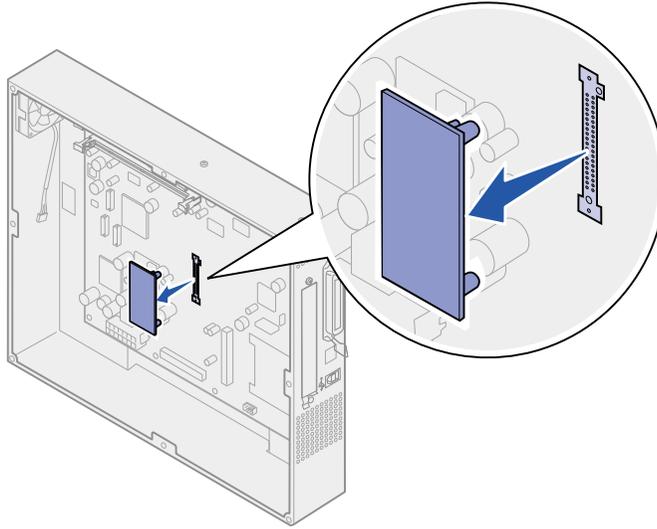
## ***Removing a firmware card***

- 1 Make sure the printer is turned off and the power cord is unplugged.
- 2 Complete the steps for **Removing the system board access cover** if it is still installed.

**WARNING:** Firmware cards are easily damaged by static electricity. Touch something metal such as the printer frame before you touch a firmware card.

If an option card has been installed, you need to remove the option card before removing the firmware card.

- 3 Holding the firmware card by its sides, gently pull the card completely out.  
Avoid touching the metal pins on the bottom of the card.



- 4 Place the firmware card in its original packaging.  
If you do not have the original packaging, wrap the firmware card in paper and store it in a box.
- 5 If you removed an option card to access the firmware card, reinstall the option card.

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## ***Removing a hard disk***

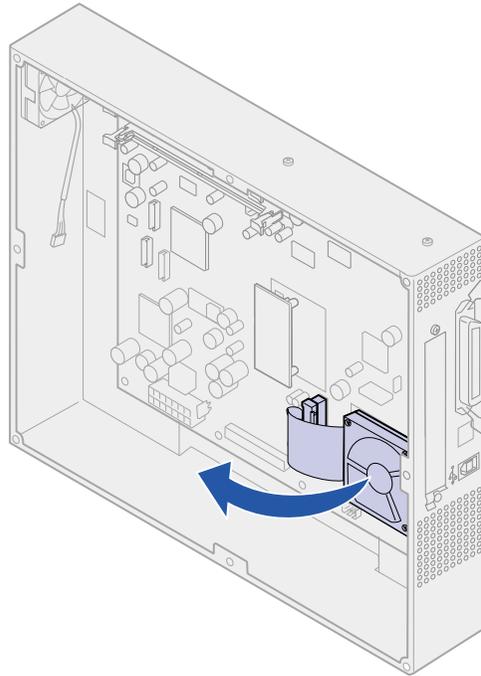
- 1 Make sure the printer is turned off and the power cord is unplugged.
- 2 Complete the steps for **Removing the system board access cover** if it is still installed.

**WARNING:** Hard disks are easily damaged by static electricity. Touch something metal such as the printer frame before you touch a hard disk.

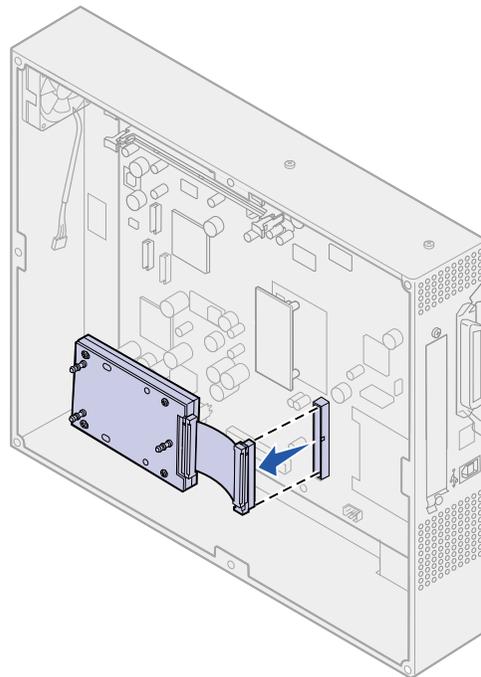
If an option card has been installed, you need to remove the option card before removing the hard disk.

- 3 Pull the hard disk out of the holes on the system board. It is attached by three posts on the mounting plate.

- 4 Flip the hard disk over, and then unplug the ribbon cable connector from the connector on the system board.



- 5 Remove the ribbon cable from the hard disk.



- 6 Place the hard disk in the original packaging.  
If you do not have the original packaging, wrap the parts in paper and store them in a box.

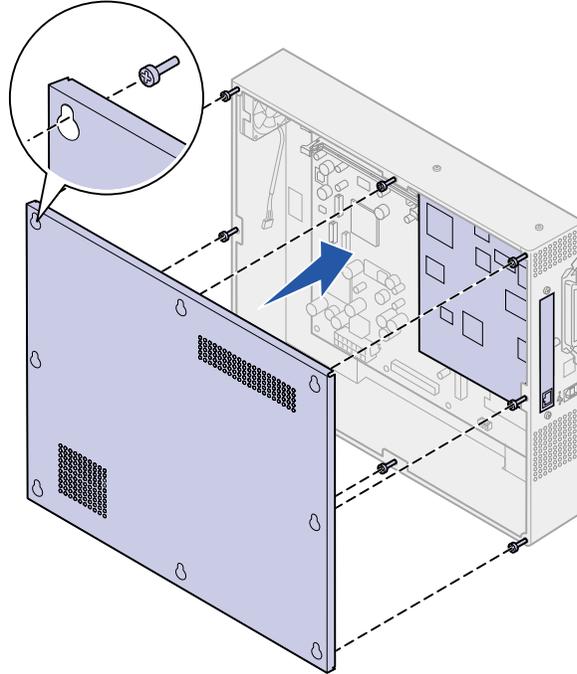
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## ***Installing the system board access cover***

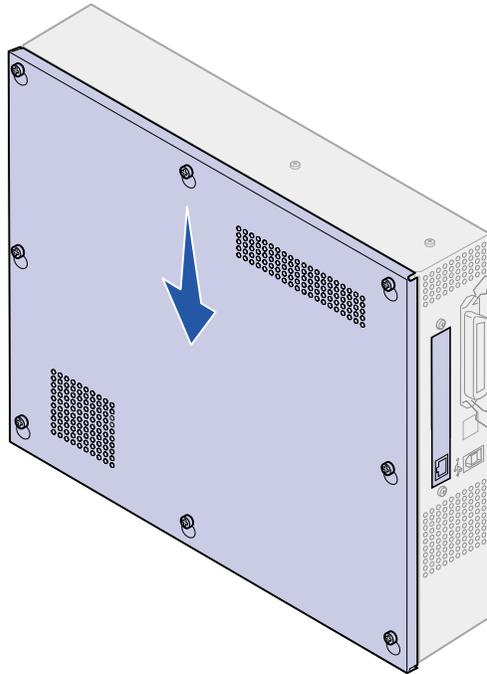
After you have removed the options, complete the following steps to install the cover and system board.

You need a number 2 Phillips screwdriver to install the cover.

- 1** Make sure the printer is off and unplugged.
- 2** Align the holes on the access cover with the screws.



- 3 Place the cover against the printer and slide it down.



- 4 Tighten the eight screws.
- 5 Connect the printer cables and power cord, and turn the printer on.

**Note:** To prevent an electrical overload, plug your printer into a well-grounded outlet on a non-ground fault interrupter (GFI) circuit.

## Removing an optional drawer

- 1 Turn the printer *off*.
- 2 Unplug the power cord.

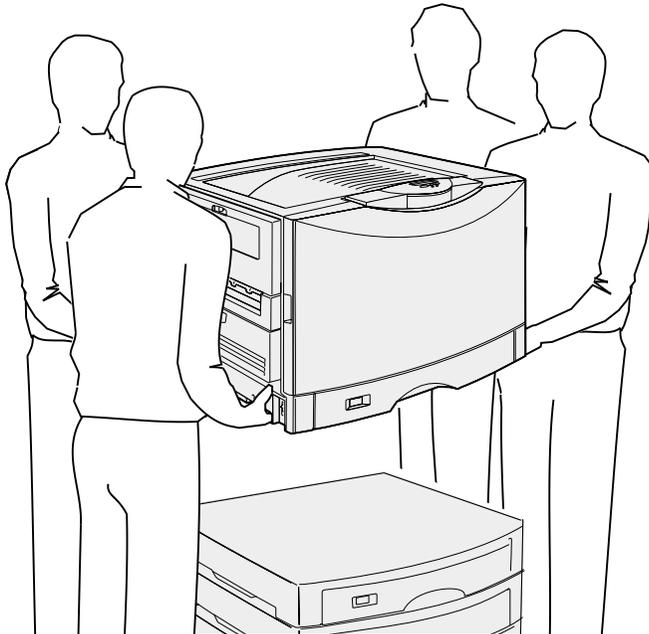
**Note:** To prevent an electrical overload, plug your printer into a well-grounded outlet on a non-ground fault interrupter (GFI) circuit.

- 3 Disconnect the parallel or Ethernet cable from the printer.

If you have any other devices connected to the printer, turn them off and unplug any cables going to the printer.

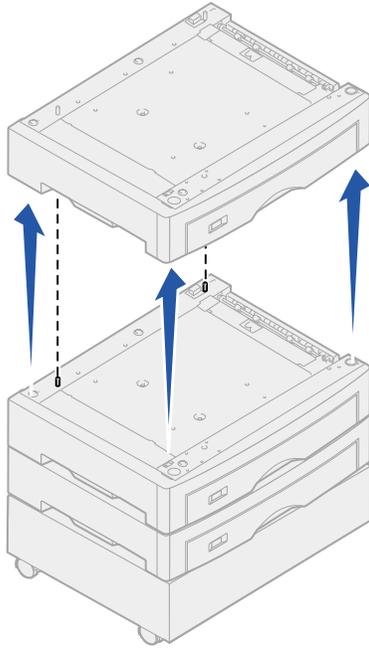
**CAUTION:** This printer weighs 69.9 kg (154 lb) and requires four people to lift. Anytime you move or lift the printer make sure you have enough people to help. Use the handholds located on the sides to lift.

- 4 Lift the printer and move it away from the optional drawer.



**CAUTION:** An optional drawer weighs 18.5 kg (40.8 lb). Have someone help when lifting.

- 5** Lift the optional drawer.

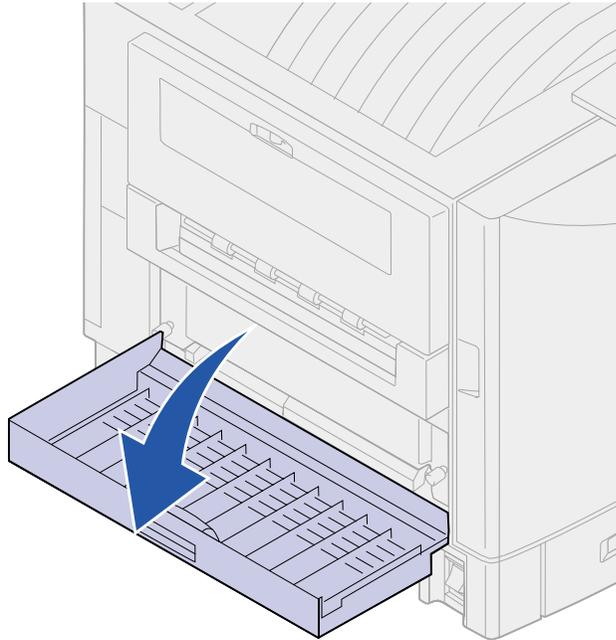


**36**

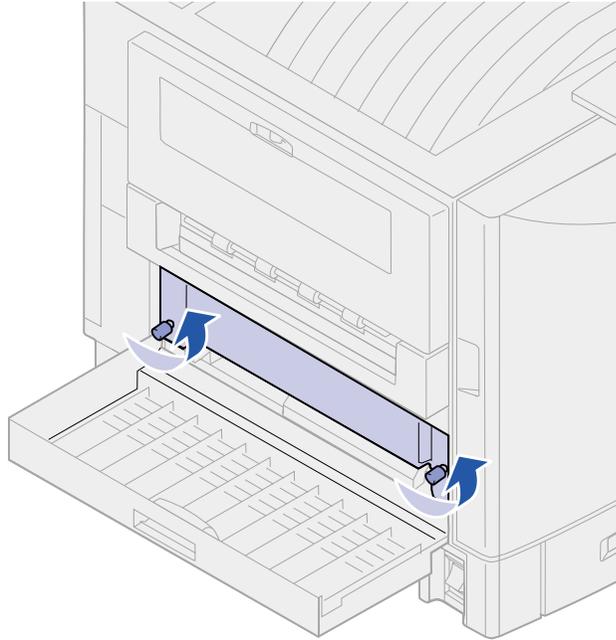
## Removing the duplex unit

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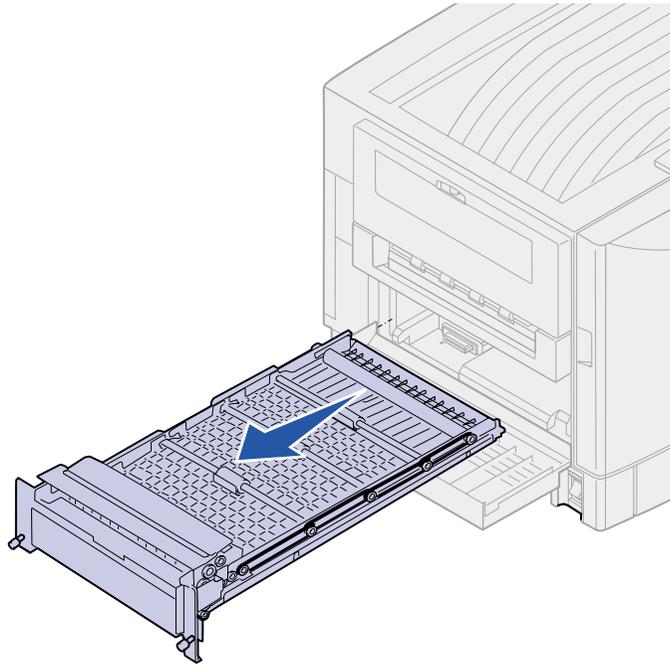
- 1 Turn the printer *off*.
- 2 Open the duplex unit door.



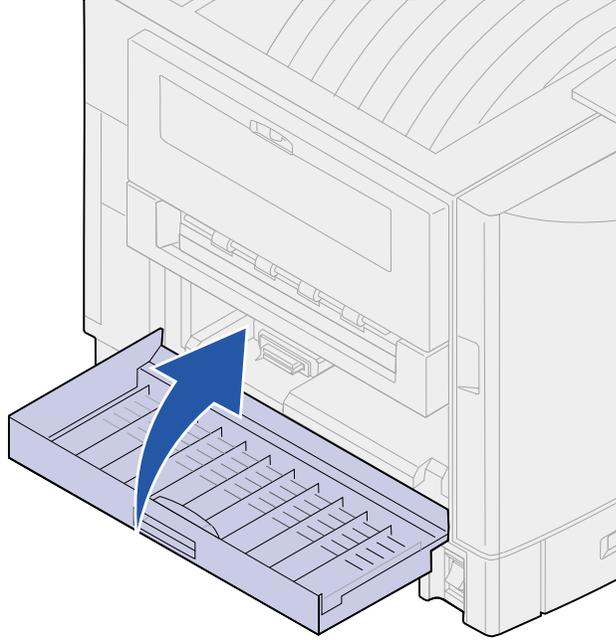
- 3 Loosen the thumbscrews securing the duplex unit.



- 4 Slide the duplex unit out.



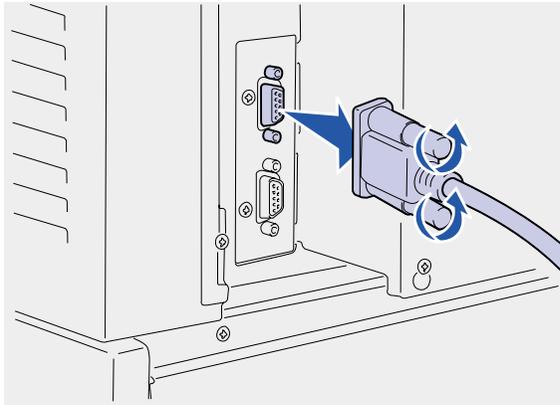
- 5 Close the duplex unit door.



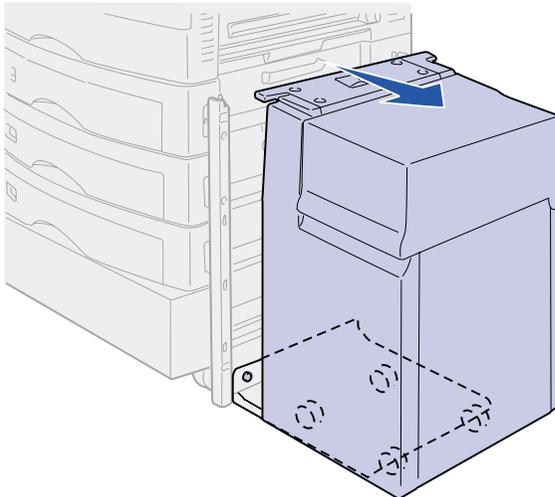
**37**

## Removing the high capacity feeder

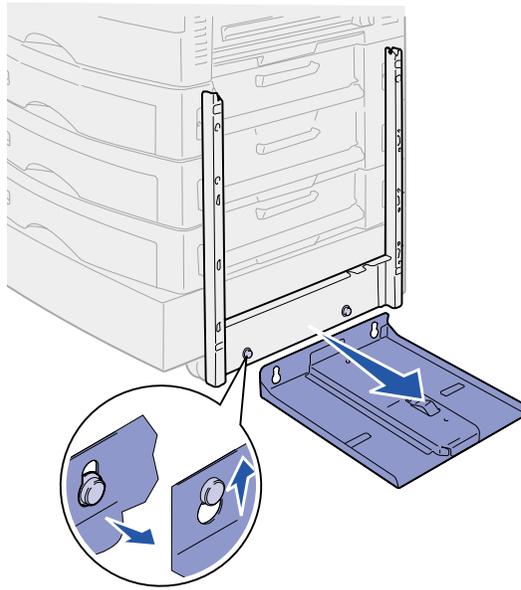
- 1 Turn the printer *off*.
- 2 Unplug the high capacity feeder power cord from the electrical outlet.
- 3 Disconnect the interface cable from the side of the high capacity feeder.



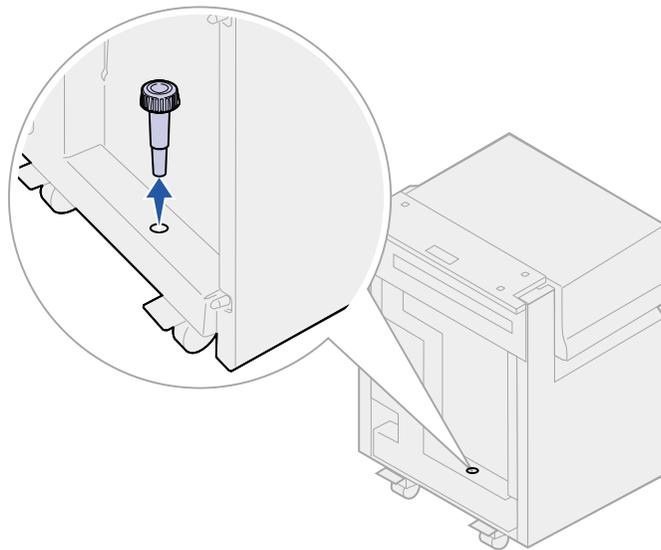
- 4 Roll the high capacity feeder away from the printer.
- 5 Remove the high capacity feeder from the guide rail.



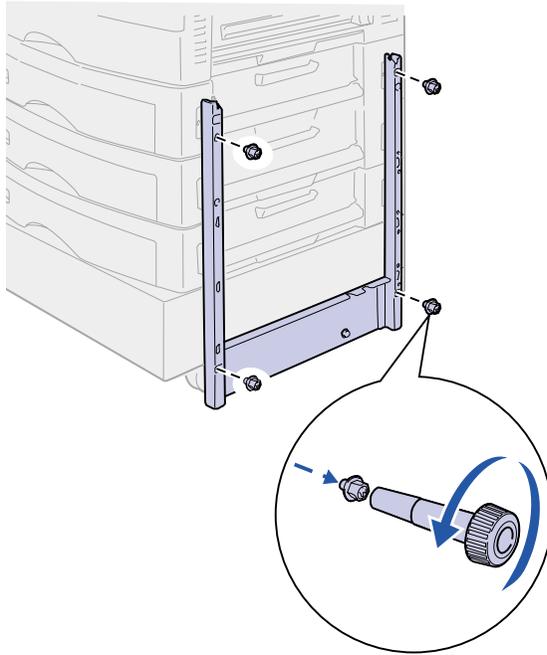
- 6** Raise the guide rail and pull it away from the docking frame.



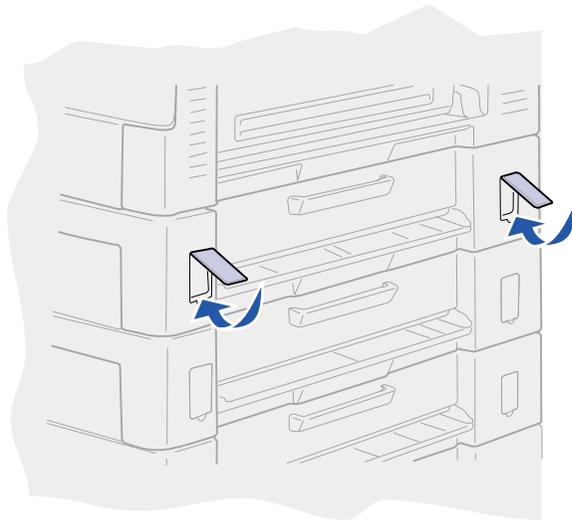
- 7** Remove the wrench from the holder in the high capacity feeder.



- 8** Remove the four screws securing the docking frame.



- 9** Insert the two side covers into the screw holes on the optional drawer until they snap into place.





## Ordering supplies

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Replacing maintenance items as needed helps you maintain top performance, optimize print quality, and avoid printing problems.

### *Ordering a fuser*

When the **80 Fuser Life Warning** message appears on the display, you should order a new fuser. See [Replacing the fuser](#) for more information.

### *Ordering an oil coating roll*

When the **85 Coating Roll Life Warning** message appears on the display, you should order a new oil coating roll. See [Replacing the oil coating roll](#) for more information.

### *Ordering a transfer belt*

When the **80 Belt Life Warning** message appears on the display, you should order a new fuser. See [Replacing the transfer belt](#) for more information.

### *Ordering a toner cartridge*

When the **88 <color> Toner Low** message appears on the display, you should order a new toner cartridge. You can continue to print after the **88 <color> Toner Low** message appears for a few hundred pages until the print fades or no longer prints satisfactorily, or until the **88 <color> Toner Empty** message appears, at which time you must replace the toner cartridge to continue printing. See [Replacing a toner cartridge](#) for more information.



## Calling for service

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When you call for printer service, describe the problem you are experiencing, the message on the display, and the troubleshooting steps you have already taken to find a solution.

You need your printer model type and serial number. Refer to the label on the inside of the front cover for this information.

**Note:** The serial number is also listed on the menu settings page you can print from the Utilities Menu. See [Printing the menu settings page](#) for more information.

Contact your point of purchase for additional information.



## Solving display problems

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If the suggested corrective action does not fix the problem, call your service representative.

Problem	Action
Operator panel displays only diamonds or is blank.	<ul style="list-style-type: none"><li>• Turn the printer off, wait about 10 seconds, and turn the printer on.</li><li>• <b>Performing Self Test</b> appears on the operator panel. When the test is completed, <b>Ready</b> is displayed. If these messages do not appear, turn the printer off and call for service.</li></ul>
Menu settings changed from the operator panel have no effect.	<p>Settings in the software application, the printer driver, or the printer utilities are overriding the settings made from the operator panel.</p> <ul style="list-style-type: none"><li>• Change the menu settings from the printer driver, the printer utilities, or the software application instead of the operator panel.</li><li>• Disable the settings in the printer driver, the printer utilities, or the software application so you can change settings from the operator panel.</li></ul>

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## Solving network printing problems

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If a job did not print or incorrect characters printed, verify that the internal print server or external print server is set up properly and the network cable is connected.

### **For Novell users:**

- Make sure the netware.drv file is dated October 24, 1994, or later.
- Make sure the NT (no tabs) flag is included in the capture statement.

### **For Macintosh users:**

- The printer may need an optional internal print server to allow Macintosh connection.
- Verify that the printer is set up correctly in Chooser.

## Checking an unresponsive printer

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If your printer is not responding, first make sure that:

- The printer cable is securely attached to the printer and the host computer.
- The power cord is plugged into the printer and a properly grounded electrical outlet.
- The printer power switch is on.
- The electrical outlet is not turned off by any switch or breaker.
- The printer top cover is completely closed.
- All printer options are properly installed.
- Your printer driver settings are correct.

Once you've checked each of these, turn the printer off, wait about 10 seconds, and turn the printer back on. This often fixes the problem.

**Note:** If a message appears on the operator panel display, see [Understanding printer messages](#) for more information.

# 43

## Solving printing problems

If the suggested corrective action does not fix the problem, call your service representative.

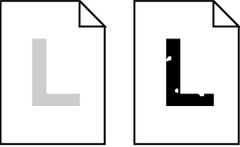
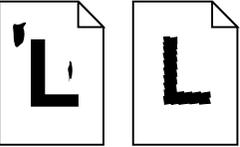
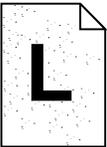
Problem	Action
Job did not print or incorrect characters printed.	Make sure <b>Ready</b> appears on the operator panel before you send a job to print. Press <b>Go</b> to return to <b>Ready</b> .
	Make sure print media is loaded. Press <b>Go</b> to return to <b>Ready</b> .
	Verify the printer is using the correct printer language.
	Verify you are using the correct printer driver.
	Make sure the parallel, serial, ethernet, or USB cable is firmly plugged in at the back of the printer. Make sure you are using the correct cable. Use IEEE 1284-compliant parallel cable. If you use RS-232 Serial, verify that a null modem cable is used.
	If the printer is connected through a switch box, try a direct connection.
	Verify the correct paper size is selected through the operator panel, in the printer driver, or in the software application.
	Make sure PCL SmartSwitch and PS SmartSwitch are set to On.
Job did not print or incorrect characters printed (continued).	If you are using a print spooler, verify the spooler is not stalled.
	If you print across a network or on a Macintosh computer, see <a href="#">Solving network printing problems</a> .
	Check the printer interface from the Setup Menu. Determine which host interface you are using. Print a menu settings page to verify the current interface settings are correct. See <a href="#">Printing the menu settings page</a> . If you are using a serial interface: <ul style="list-style-type: none"> <li>• Make sure Honor DSR is set to Off.</li> <li>• Check the protocol, baud, parity, and data bit settings. The settings on the printer and on the host computer should match.</li> </ul>
Printer seems to print slowly.	Make sure you select the appropriate Paper Type setting before sending a job to print.
	If the Paper Type is set to Transparency, the printer adjusts the fuser temperature and slows printing to improve the print quality. After printing on this media, the printer requires additional time to warm the fuser after you select another Paper Type setting (such as Plain Paper or Letterhead).
	Reduce the complexity of your print job. Eliminating the number and size of fonts, the number and complexity of images, and the number of pages in a job may increase print speed.
	Set Page Protect Off from the Setup Menu. See <a href="#">Page Protect</a> for more information.

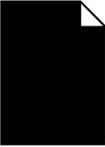
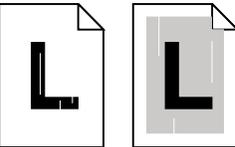
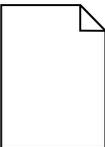
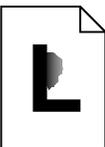
Problem	Action
Unexpected page breaks appear.	Increase the Print Timeout value in the <b>Setup Menu</b> .
Transparencies jam.	If you just turned the printer on or the printer has been idle for a period of time, print on paper before trying to print on transparencies. Disabling Power Saver may also prevent transparencies from jamming after the printer has been idle. See <b>Power Saver</b> for more information.
Paper is jammed in the fuser.	Rotate the fuser pressure release lever down and remove the jammed paper. See <b>Clearing paper jams</b> for more information.
Part of the printed page was clipped or is cut off.	Make sure you have the correct size paper in the paper tray and the paper size is set correctly for the paper in the tray.
Printer is connected to the USB port, but will not print.	Make sure you are using Windows 98, Windows 2000, Windows Me, or another USB-capable operating system supported by the printer.
Paper does not feed properly.	Make sure you're using recommended media. Do not use 16 lb paper or paper greater than 32 lb with the duplex unit.
	Make sure the adjustable guides in the paper tray are adjusted properly for the media you loaded.
	Make sure the stack of media does not exceed the maximum stack height indicated on the tray.
Print media misfeeds or multiple feeds occur.	Make sure the print media you are using meets the specifications for your printer.
	Flex print media before loading it in any of the paper sources.
	Make sure the print media is loaded correctly.
	Make sure the paper width and length guides on the paper sources are adjusted correctly.
	Do not overfill the paper sources.
	Do not force print media into the multipurpose feeder when you load it; otherwise, it may skew or buckle.
	Remove any curled print media from paper sources.
Print media misfeeds or multiple feeds occur (continued).	Load the recommended print side correctly for the type of print media you are using. See <b>Loading media</b> for more information.
	Load less print media in the paper sources.
	Turn the print media over or around and try printing again to see if feeding improves.
	Do not mix print media types.
	Do not mix reams of print media.
	Remove the top and bottom sheets of a ream before loading the print media.
	Load a paper source only when it is empty.
Envelope misfeeds or multiple feeds occur.	Remove the stack of envelopes from the multipurpose feeder. Load one envelope, feed it through the printer, and then reload the stack of envelopes in the multipurpose feeder.
	Push down the bottom plate until it locks into place. See <b>Loading the multipurpose feeder</b> for an illustration.

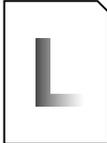
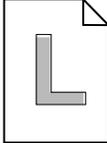
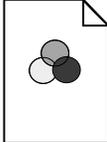
Problem	Action
Job prints from the wrong paper source or on the wrong print media.	Check the <b>Paper Type</b> setting in the Paper Menu from the printer operator panel and in the printer driver.
Printer does not duplex pages.	<ul style="list-style-type: none"><li>• Make sure Duplex is selected in either the Finishing Menu or the application you are printing from.</li><li>• Make sure you have enough printer memory installed.</li></ul>

# 44

## Solving print quality problems

Problem	Action
<p>Print is too light, or printed images or characters have voids or dropouts.</p> 	<p>Make sure you're using recommended paper or other media. Use media from a new package. See <a href="#">Media guidelines</a>.</p> <p>Make sure you have selected the correct <b>Paper Type</b> setting for the media you're using.</p> <p>Set <b>Toner Darkness</b> to 4 in the <b>Color Menu</b>.</p> <p>Clean the LEDs. See <a href="#">Cleaning the LEDs</a>.</p> <p>If you suspect a toner cartridge is low on toner, remove the appropriate cartridge and gently shake it back-and-forth to distribute the toner evenly. Reinsert the cartridge and try printing the job again.</p> <p>Replace the toner cartridge that matches the color on the page that is too light or not present in the void areas. See <a href="#">Replacing a toner cartridge</a>.</p> <p>Replace the photodevelopers. If only black print appears light, you can replace just the black photodeveloper. If one of the colors prints too light, replace all three of the color photodevelopers. See <a href="#">Replacing a photodeveloper</a>.</p>
<p>Colored lines, streaks, or smudges appear on the printed page, or print appears blurred or unclear.</p> 	<p>Clean the LEDs. See <a href="#">Cleaning the LEDs</a>.</p> <p>Remove the affected toner cartridge and gently shake it back-and-forth to distribute the toner evenly. Reinsert the cartridge and try printing the job again. See <a href="#">Replacing a toner cartridge</a>.</p> <p>Replace the toner cartridge that matches the color of the lines, streaks, or smudges on the page. See <a href="#">Replacing a toner cartridge</a>.</p> <p>Replace the photodevelopers. If only black print appears light, you can replace just the black photodeveloper. If one of the colors prints too light, replace all three of the color photodevelopers. See <a href="#">Replacing a photodeveloper</a>.</p>
<p>Toner specks appear on the page.</p> 	<p>Replace the oil coating roll. See <a href="#">Ordering supplies</a>.</p>

Problem	Action
<p>Toner covers the background of the page.</p> 	<p>Make sure the affected toner cartridge is completely installed.</p>
<p>The page has 100% coverage of one color.</p> 	<p>Replace the photodevelopers. If the page is black, you can replace just the black photodeveloper. If the page is another color, replace all three of the color photodevelopers. See <a href="#">Replacing a photodeveloper</a>.</p>
<p>Light lines or streaks appear on the printed page.</p> 	<p>Clean the LEDs. See <a href="#">Cleaning the LEDs</a>.</p> <p>Remove the toner cartridge that matches the color of the lines or streaks and gently shake it back and forth to distribute the toner evenly. Reinsert the toner cartridge and try printing the job again.</p> <p>Replace the photodevelopers. If the problem only occurs when printing black, you can replace just the black photodeveloper. If the problem occurs when printing one of the colors, replace all three of the color photodevelopers. See <a href="#">Replacing a photodeveloper</a>.</p> <p>Replace the toner cartridge that matches the color of the lines or streaks on the page. See <a href="#">Replacing a toner cartridge</a>.</p>
<p>The page is blank or one of the colors is missing.</p> 	<p>Replace the toner cartridge that matches the missing color on the page. See <a href="#">Replacing a toner cartridge</a>.</p>
<p>Toner smears or rubs off the page.</p> 	<p>Make sure you're using recommended paper or other media.</p> <p>Make sure you have selected the correct <a href="#">Paper Type</a> setting for the media you're using.</p> <p>You may need to replace the fuser. See <a href="#">Replacing the fuser</a>.</p>

Problem	Action
<p>Printed materials delivered by the postal service arrive with ghosting or mirror images of the text visible on the page.</p> 	<p>When preparing printed materials for mailing:</p> <ul style="list-style-type: none"> <li>• Use 24 lb (90 g/m<sup>2</sup>) paper.</li> <li>• Avoid rough paper; select paper with a smoothness from 100 to 150 Sheffield points.</li> <li>• Fold sheets with the text facing outward.</li> <li>• Meter envelopes or use precanceled stamps.</li> <li>• Place envelopes in trays and deliver to the post office; do not drop envelopes into mailboxes.</li> </ul>
<p>Quality of printed transparencies is inadequate.</p> 	<p>Make sure you're using recommended transparencies. See <a href="#">Transparencies</a>.</p> <p>Make sure you're loading transparencies properly. See <a href="#">Loading transparencies</a></p> <p>When printing transparencies, always set the Paper Type to Transparency. See <a href="#">Paper Type</a>.</p> <p>Set the Color Correction menu item to Vivid. See <a href="#">Color Correction</a>.</p> <p>Avoid getting fingerprints on transparencies before printing.</p>
<p>Quality of printed images is inadequate.</p> 	<p>Set <a href="#">Toner Darkness</a> to 4 in the <a href="#">Color Menu</a>.</p>
<p>A white gap is noticeable between color fills.</p> 	<p>Turn the printer off and back on. The printer calibrates the photodevelopers and drive gears, which may improve registration. See <a href="#">Print Alignment</a> for more information.</p>
<p>Colors do not print as you expect.</p> 	<p>Make sure you have selected the appropriate Color Correction and Print Mode values for the job you're printing. See <a href="#">Color Menu</a> for more information.</p>

# 45

## Clearing paper jams

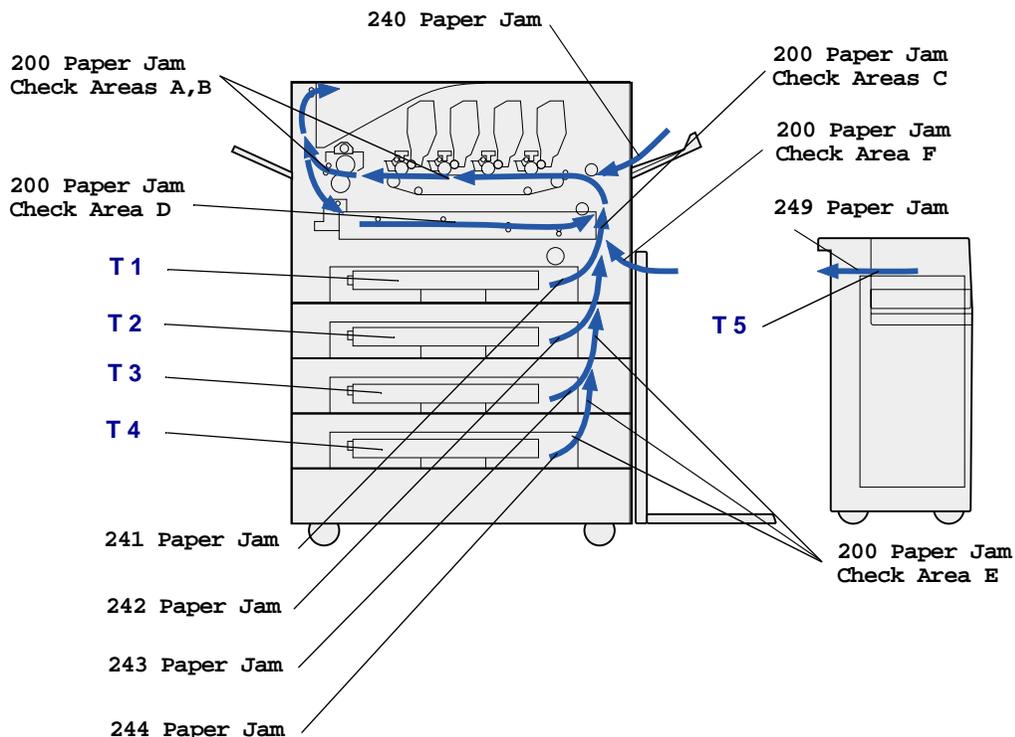
By carefully selecting print media and loading them properly, you should be able to avoid most paper jams. If jams do occur, follow the steps outlined in this section.

To resolve the paper jam messages, you must clear the jammed area and then press **Go** to clear the message and resume printing. The printer prints a new copy of the page that jammed if Jam Recovery is set to On or Auto; however, the Auto setting does not guarantee the page will print.

### Identifying paper jam areas

See the diagram on page 141 for the path the paper travels through the printer and options, and areas where jams may occur. The path varies depending on the paper source and output bin.

Click a message below for more information.



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## 200 Paper Jam

### <x> Pages Jammed (Check Areas A-F, T1-5, MPF)

This message identifies the areas (A–F, MPF, or T1–T5) you need to check to remove the paper or to clear the message. The display will alternate between 200 Paper Jam <x> Pages Jammed and Check Areas A–F, T1–5, MPF:

Jam message	Jam message
Check Areas A,B	Check Area F
Check Area C	Check MPF
Check Area D	Check T1–T4
Check Area E	Check T5

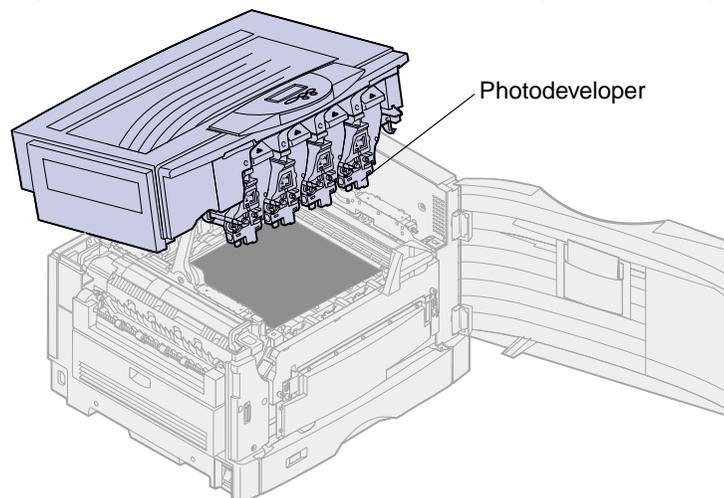
**Note:** If there is a paper jam when you turn the printer on, the second line of the 200 Paper Jam message will be blank. To resolve the message, you must clear all paper from the paper path.

#### Check Areas A,B

This message indicates a paper jam in the transfer belt, fuser, or output roller area. To clear areas A–B:

- 1 Complete the steps to open the top cover.

**Note:** If you need instructions on how to open the top cover, see [Opening the top cover](#).

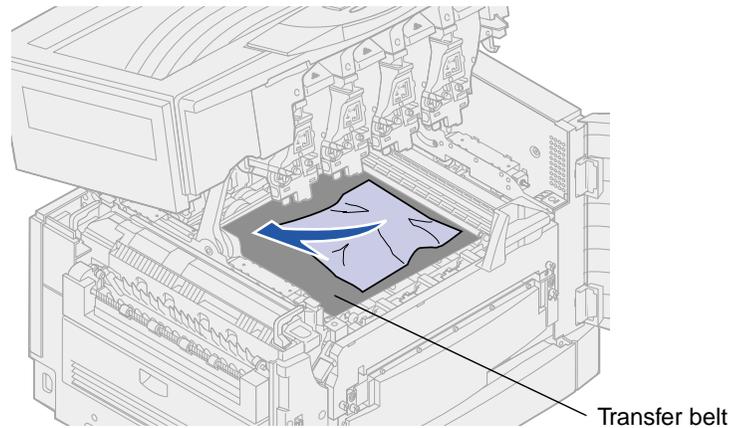


**WARNING:** Never touch the photodeveloper drum on the underside of the toner cartridge.

**Note:** The paper may be covered with unfused toner, which can stain garments.

**2** Remove any paper on the transfer belt.

If the paper source was the multipurpose feeder, check the area between the multipurpose feeder and the transfer belt.



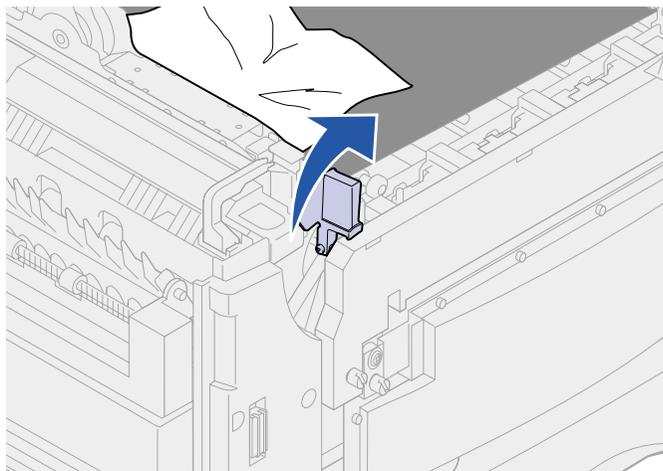
**WARNING:** Do not use any pointed objects to remove the paper. This could cause permanent damage to the transfer belt.

**3** Check the fuser area and top cover for additional jams.

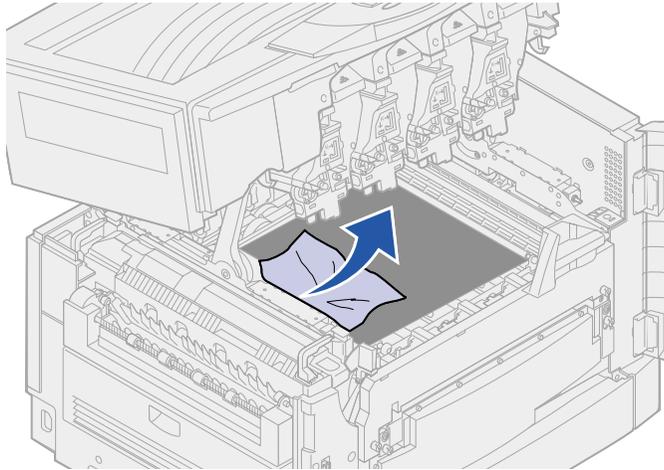
If there is no jam in the fuser area or top cover, close the top cover and front door, and then press **Go**. If a jam is present, continue with **step 4**.

**Note:** If you need instructions on how to close the top cover, see **Closing the top cover**.

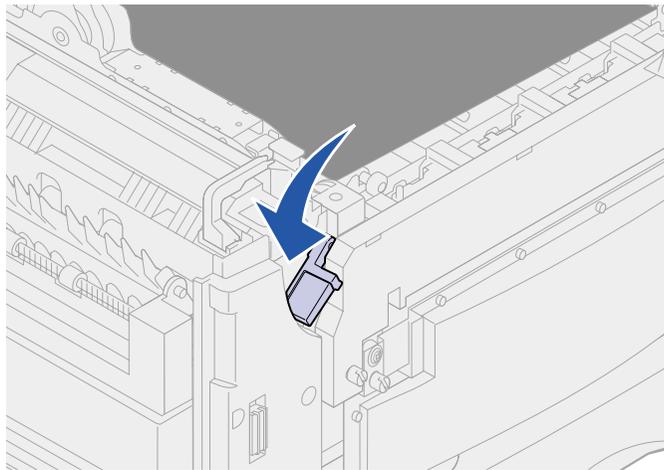
**4** Lift the fuser pressure release lever.



- 5** Slowly pull the paper out of the fuser toward the inside of the printer.



- 6** Rotate the fuser pressure release lever down.



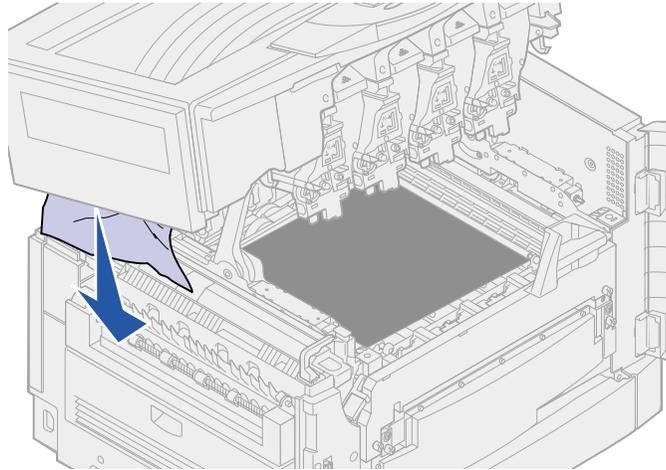
**Note:** The top cover will not close until the lever is in the down position.

- 7** Check the top cover for additional jams.

If there is no jam in the top cover, close the top cover and front door. If a jam is present, continue with **step 8**.

**Note:** If you need instructions on how to close the top cover, see **Closing the top cover**.

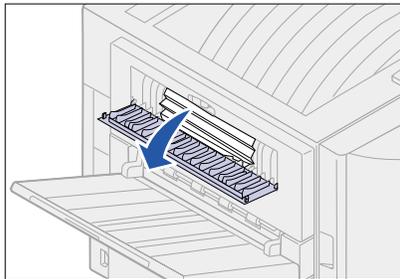
- 8 Remove the jam from the top cover.



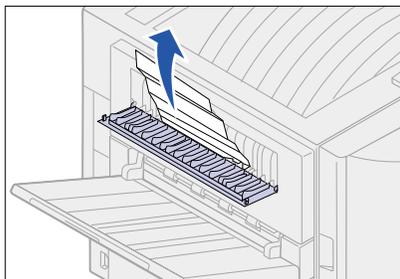
- 9 Close the top cover and the front door.

**Note:** If you need instructions on how to close the top cover, see [Closing the top cover](#).

- 10 Open the jam access door on the left side of the printer.

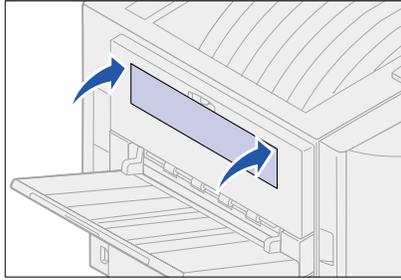


- 11 Remove any paper inside the printer.



- 12 Close the jam access door.

To prevent additional paper jams, make sure both sides of the door are closed.

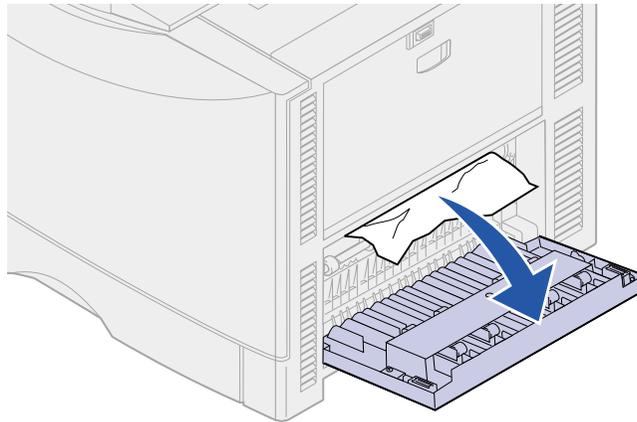


- 13 Press Go.

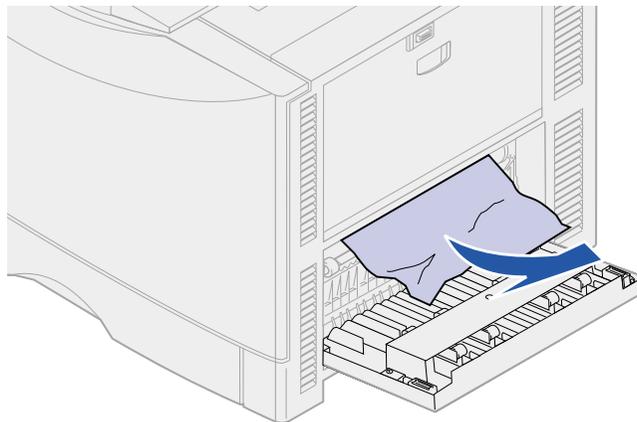
### *Check Area C*

Jams that cause a **Check Area C** message require opening the duplex jam access door. If you are printing on small paper, the following steps may not clear the jam. See [Removing small size paper from the duplex unit](#).

- 1 Open the duplex jam access door on the right side of the printer.



- 2 Remove the jam.



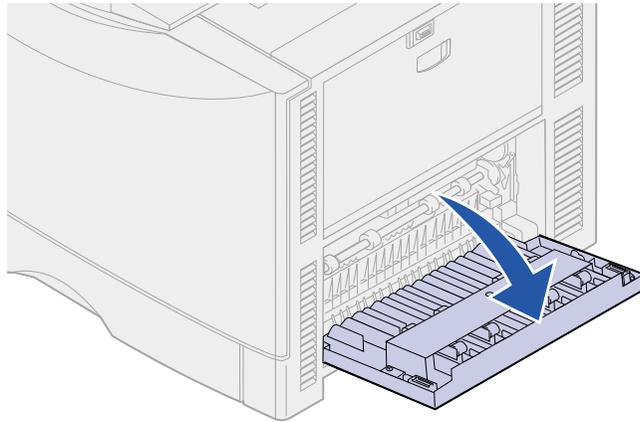
**3** Press **Go**.

If the paper jam message continues, check and clear all paper from the paper path.

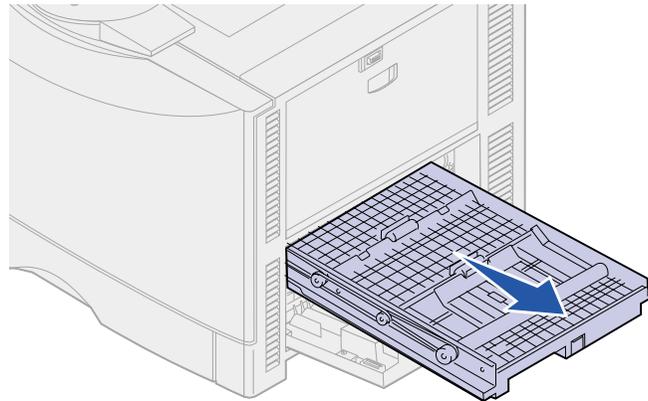
**Check Area D**

This message indicates a paper jam in the duplex unit area. To clear area D:

**1** Open the duplex jam access door on the right side of the printer.

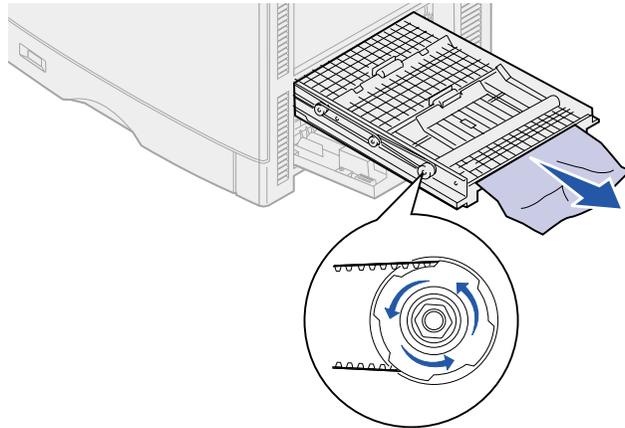


**2** Gently pull out the duplex unit.

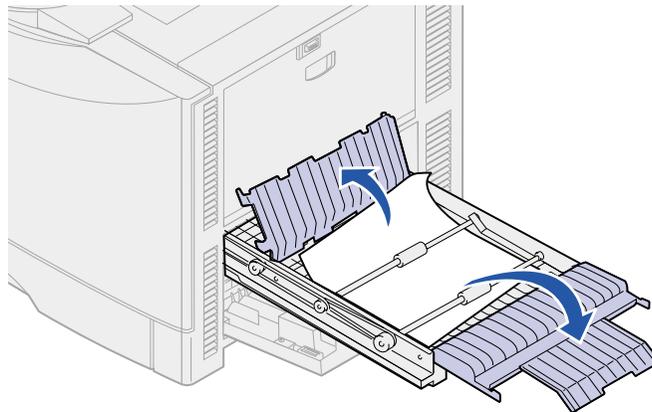


- 3 Turn the paper forwarding dial counterclockwise.

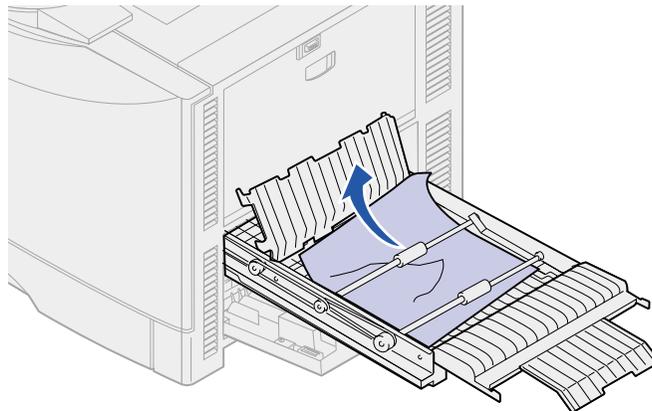
If the paper advances out of the duplex unit, remove the jam and go to **step 7**. If the paper does not advance, go to **step 4**.



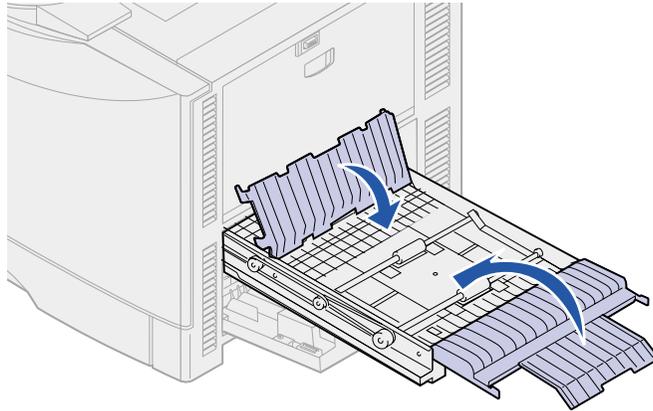
- 4 Open the duplex unit covers.



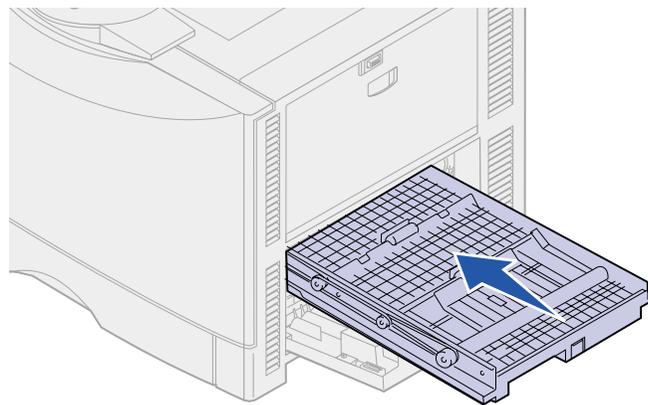
- 5 Remove the jam.



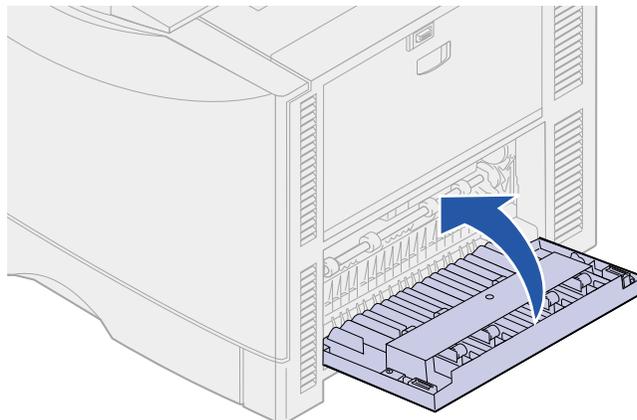
- 6** Close the duplex unit covers.



- 7** Push the duplex unit until it stops.



- 8** Close the access door.



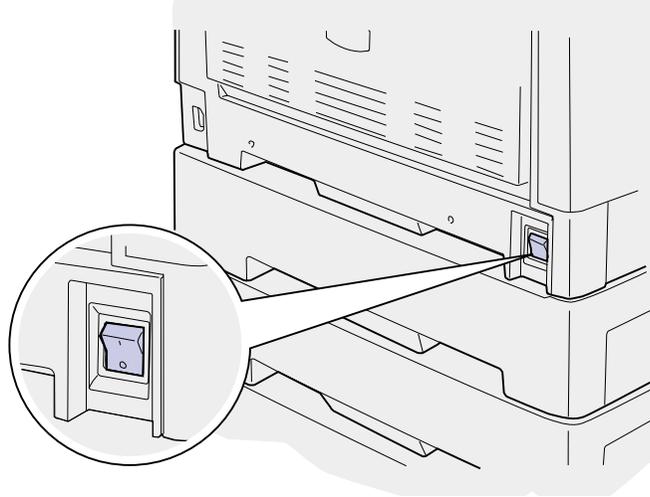
- 9** Press **Go**.

If the paper jam message continues, check and clear all paper from the paper path.

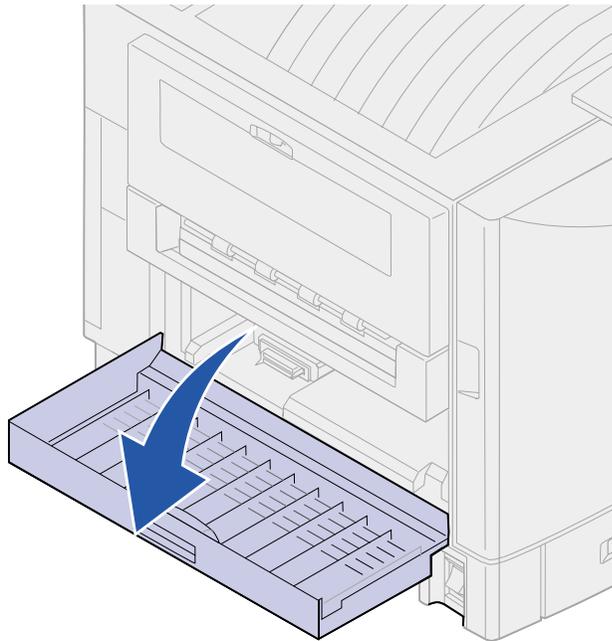
## Removing small size paper from the duplex unit

When printing on both sides of A5 or other small size paper, you may need to partially remove the duplex unit to clear the jam.

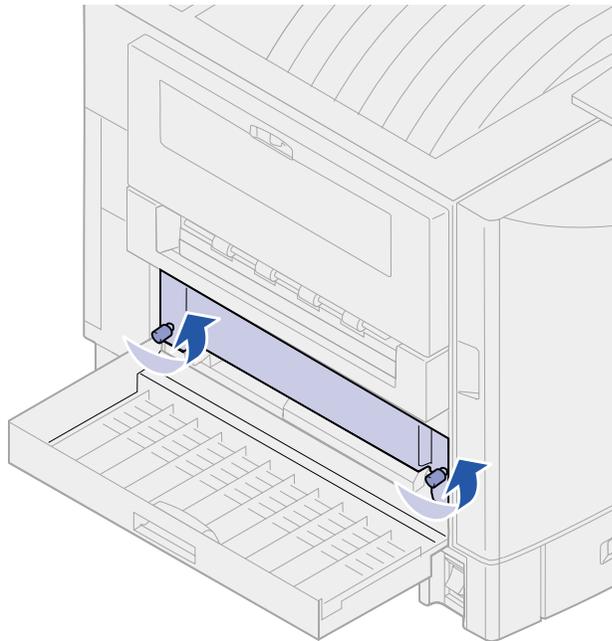
- 1 Turn off the printer.



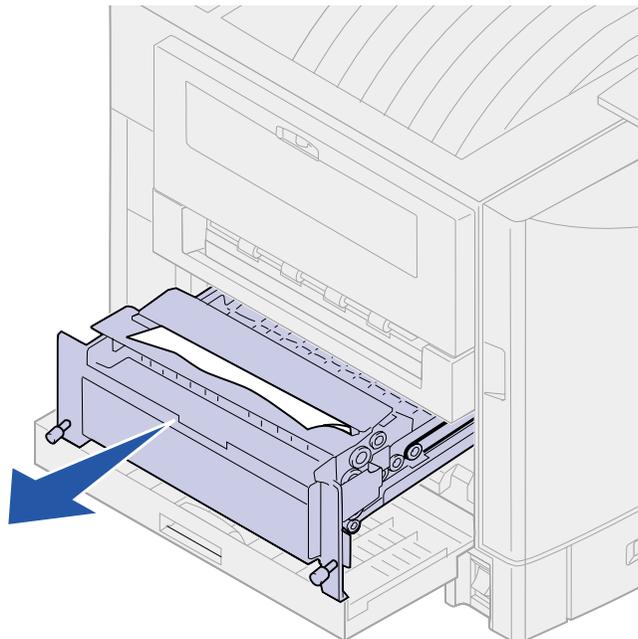
- 2 Open the duplex unit door.



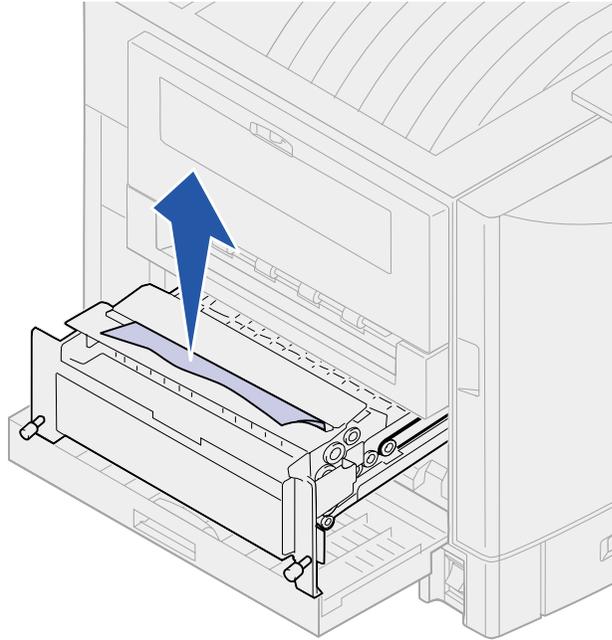
- 3** Loosen the two screws shown.



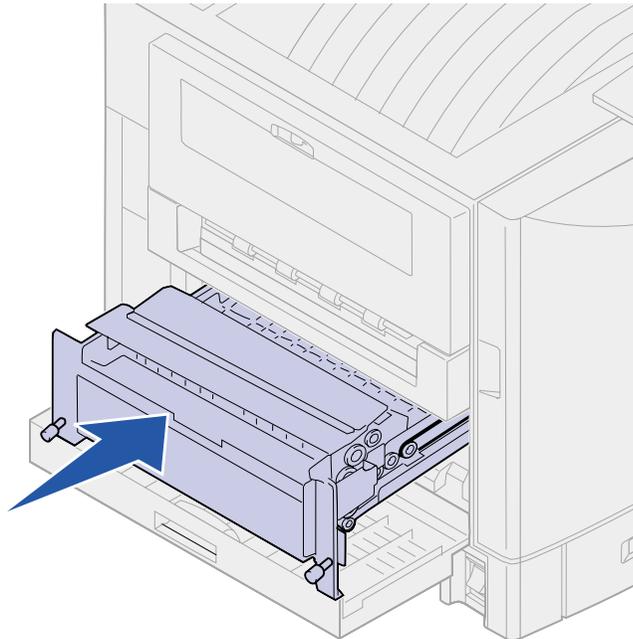
- 4** Pull out the duplex unit far enough to see the duplex unit inlet.



- 5 Remove jam from the duplex unit inlet.

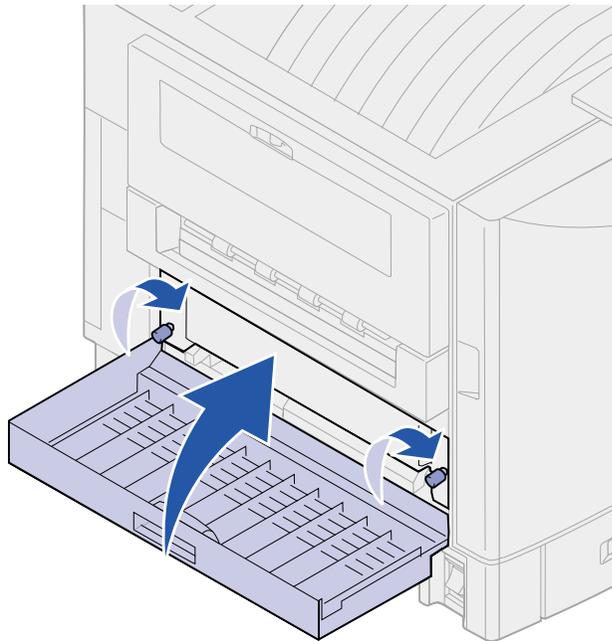


- 6 Slide the duplex unit in.



- 7 Align the thumbscrews on the duplex unit with the holes in the printer.
- 8 Tighten the thumbscrews to secure the duplex unit.

- 9 Close the duplex unit door.

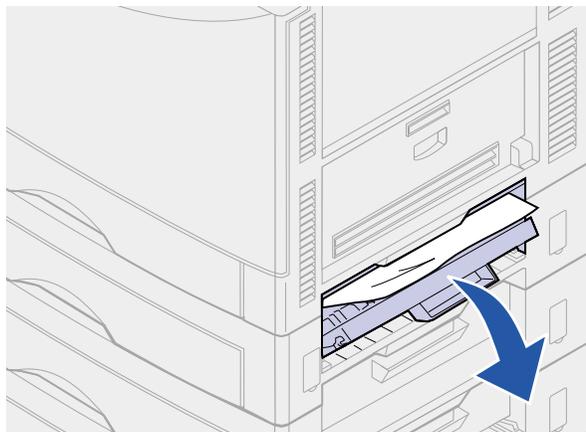


### *Check Area E*

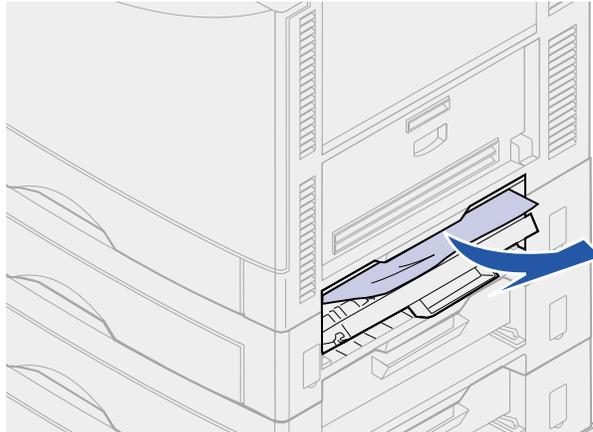
This message indicates a jam in the top, middle, or bottom optional drawer paper path area.

**Note:** If you have a high capacity feeder, pull the feeder away from the printer.

- 1 Open the jam access door on the top optional drawer.

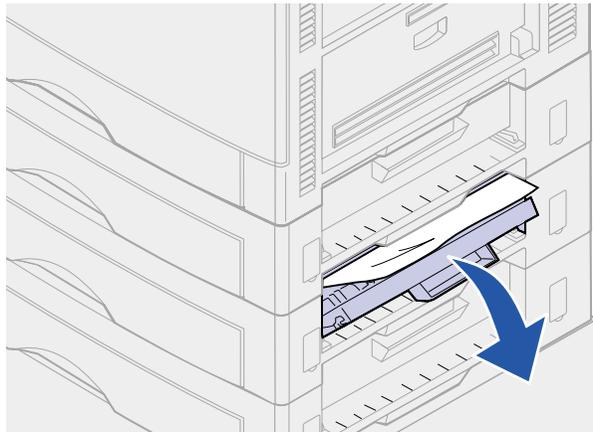


- 2** Remove the jam.

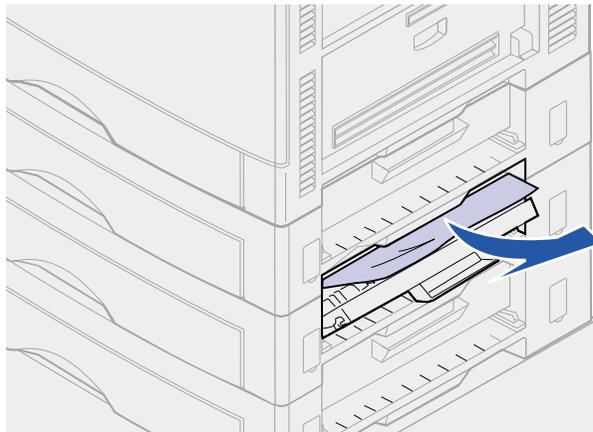


- 3** Close the jam access door.

- 4** Open the jam access door on the middle optional drawer.

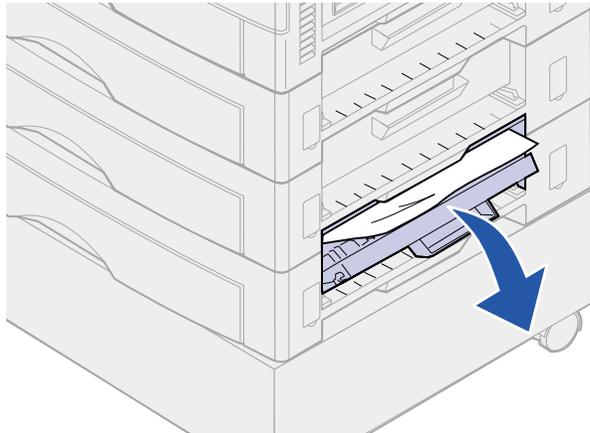


- 5** Remove the jam.

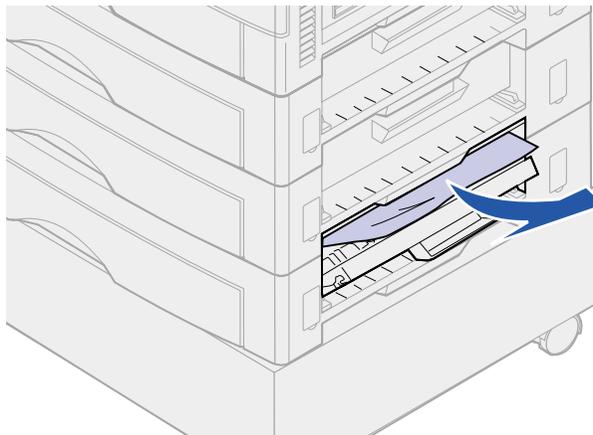


- 6** Close the jam access door.

- 7 Open the jam access door on the bottom optional drawer.



- 8 Remove the jam.



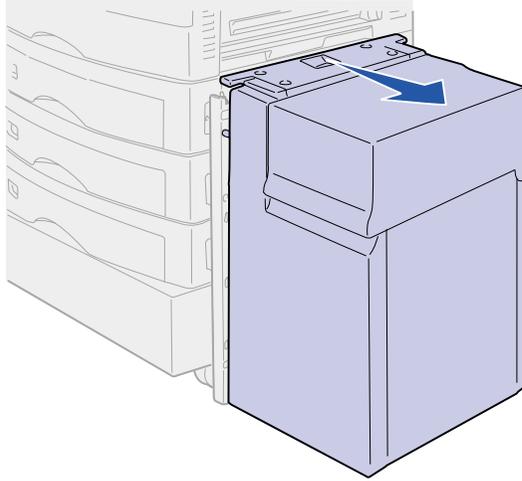
- 9 Close the jam access door.

- 10 Press **Go**.

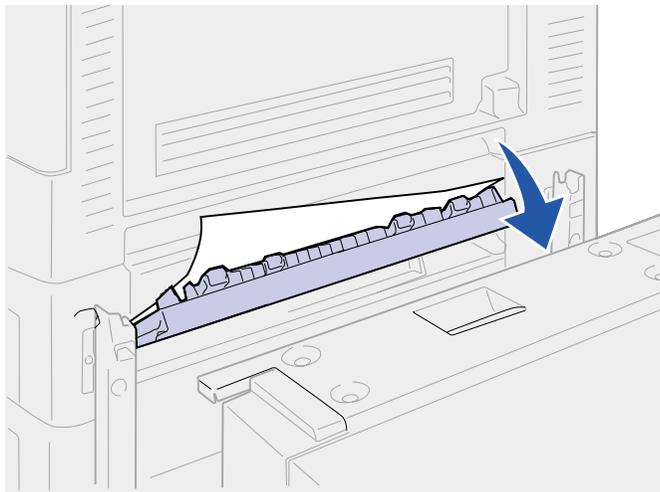
If the paper jam message continues, check and clear all paper from the paper path.

**Check Area F**

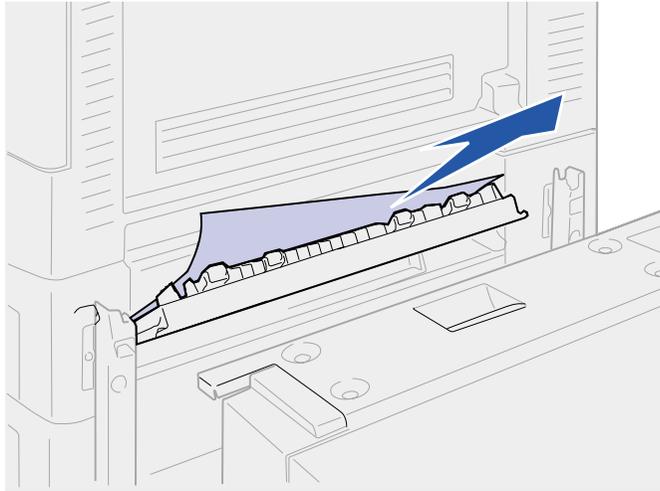
- 1** Pull the high capacity feeder away from the printer.



- 2** Open the jam access door on the top optional drawer.



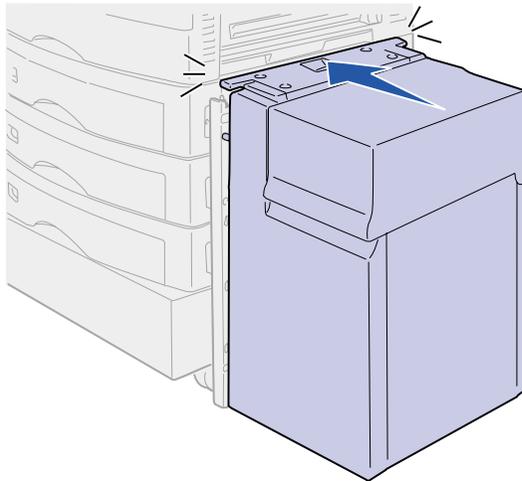
- 3 Remove any jams.



- 4 Close the jam access door.

- 5 Slide the high capacity feeder until the feeder locks to the docking frame.

When the feeder is in the correct position, you hear a *click*.



- 6 Press **Go**.

If the paper jam message continues, check and clear all paper from the paper path.

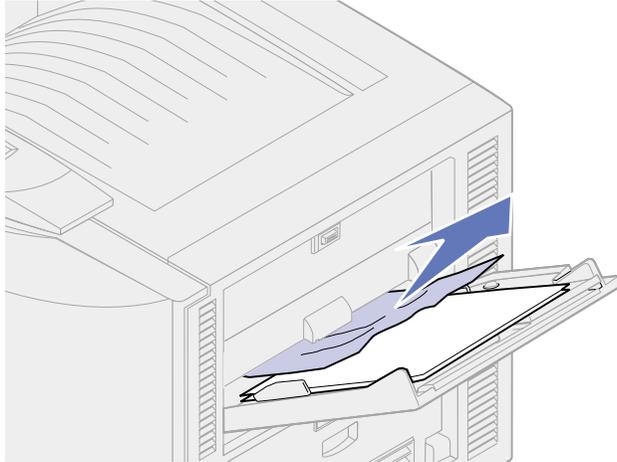
---

## 240 Paper Jam

### Check MP Feeder

- 1 Slowly pull the jam straight out of the multipurpose feeder.

If the paper will not come out, proceed with step 2.

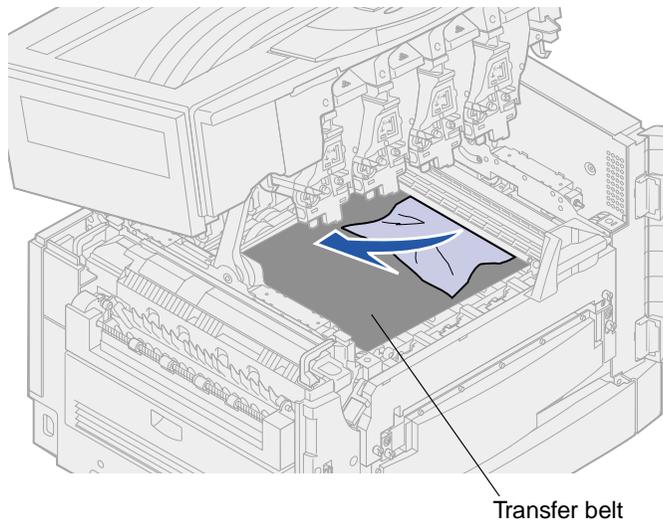


- 2 Open the top cover.

**Note:** If you need instructions on how to open the top cover, see [Opening the top cover](#).

- 3 Remove the paper on the transfer belt.

**WARNING:** Do not touch, drop, or place anything on the transfer belt. Touching the surface of the transfer belt or placing items on it may cause damage.



- 4 Close the top cover.

**Note:** If you need instructions on how to close the top cover, see [Closing the top cover](#).

- 5 Press Go.

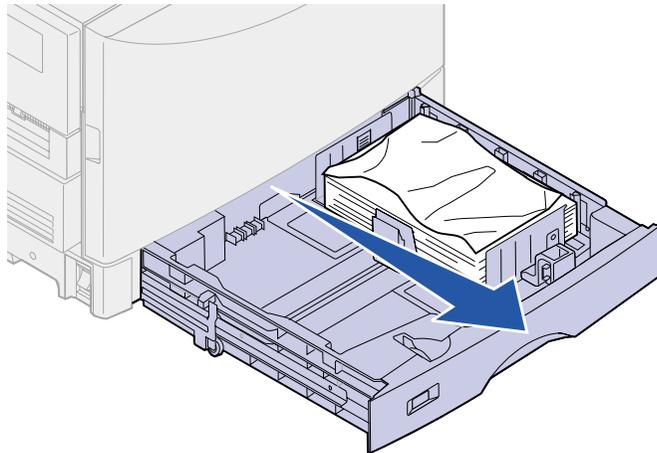
---

## ***24<x> Paper Jam*** ***Check Tray <x>***

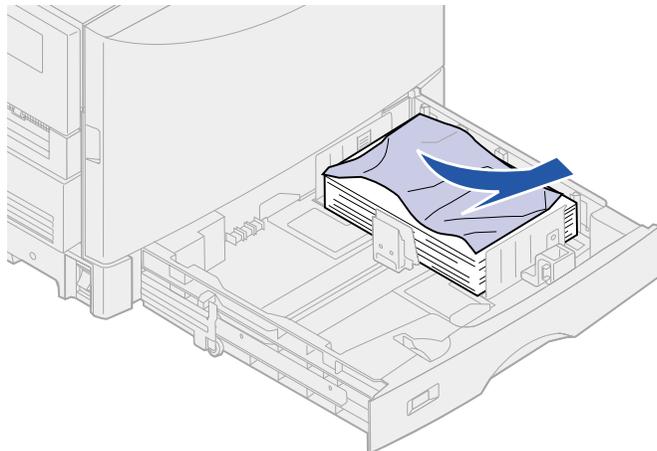
Jams in five areas result in a **24<x> Paper Jam** message, where **x** represents the tray number where the jam has occurred. Paper jam messages **241–244** indicate a jam has occurred in one of the paper trays. A **249 Paper Jam Check Tray <x>** message indicates a jam has occurred in the high capacity feeder. See [Identifying paper jam areas](#) for tray numbering.

### ***241–244 Paper Jam***

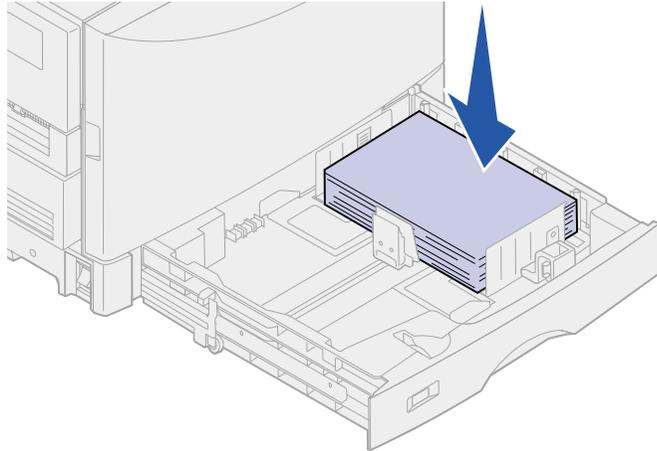
- 1 Pull out the tray indicated on the display.



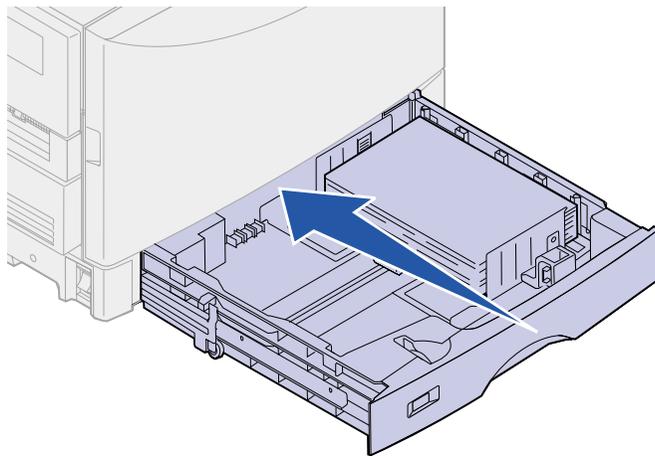
- 2 Remove any wrinkled or creased paper.



- 3 Push down on the remaining paper in the tray until the bottom plate *clicks* into place.



- 4 Close the tray.



- 5 Press **Go**.

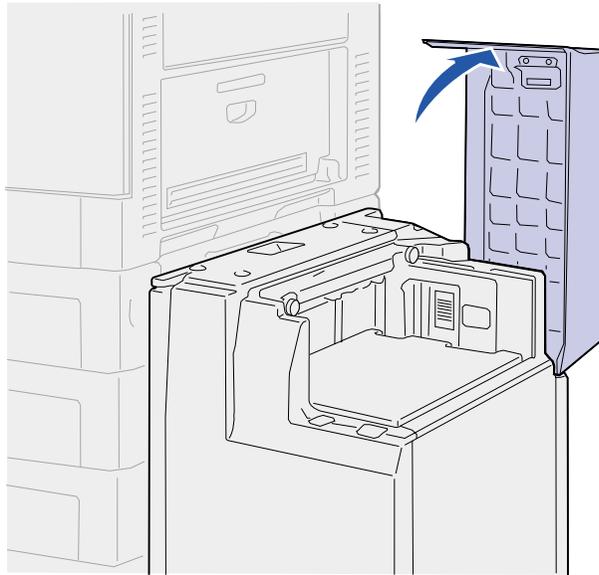
If the paper jam message continues, check and clear all paper from the paper path.

## 249 Paper Jam Check Tray <x>

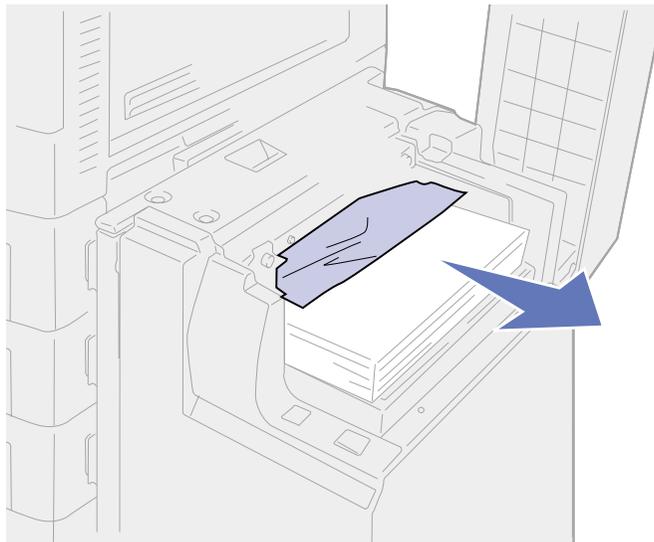
A 249 Paper Jam Check Tray <x> message indicates a jam has occurred in the high capacity feeder.

**Note:** If you have an optional printer cabinet, the high capacity feeder will be identified as tray 3.

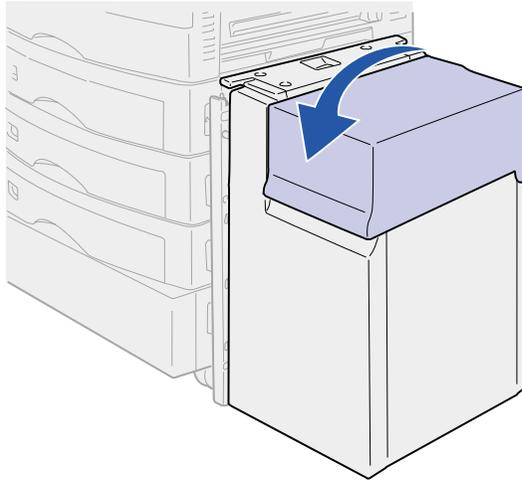
- 1 Open the top cover.



- 2 Remove the jam.



**3** Close the top cover.



**4** Press **Go**.

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## Resolving other problems and questions

Problem	Action
Need to attach a serial cable to the printer.	If your printer is configured with a serial port, or you have installed an optional interface card, refer to the <i>Setup Guide</i> .
Cannot print color.	Make sure the Print Mode menu item is not set to Black and White.
	Make sure you're using a color printer driver.
	Make sure color printing is selected from the printer driver.
	If you are printing on a network, make sure your network settings allow you to print in color.
Cannot print the menu settings page.	Make sure the selected paper source holds A4, letter, or legal size paper. Make sure the Paper Type setting for the selected source is Plain Paper.
Cannot print using the infrared port.	Make sure neither the Infrared Port nor Infrared Buffer is set to Disabled in the Infrared Menu. Also check the Window Size and Transmit Delay settings. See <b>Infrared Menu</b> .
	Make sure the distance between the two infrared ports is 3 m (10 ft) or less. If necessary, move the ports closer together.
	Make sure no objects are between the two ports.
	Make sure the computer is on a level surface.
	Bright light, such as direct sunshine or nearby artificial lights, may interfere with communication. If necessary, turn off lights or close window shades or blinds.
Cannot print using the LocalTalk port.	Make sure neither LocalTalk Port nor LocalTalk Buffer is set to Disabled in the LocalTalk Menu.
	Verify the printer is set up correctly in the Macintosh Chooser.
Cannot receive faxes.	Make sure neither Fax Port nor Fax Buffer is set to Disabled in the Fax Menu.
	Make sure the fax machine you have connected is a class 1 fax modem.
	If power to the modem has been interrupted, complete the following steps in the order listed: <ol style="list-style-type: none"> <li>1 Turn the printer power off.</li> <li>2 Turn the modem power on.</li> <li>3 Turn the printer power on.</li> </ol>

Problem	Action
Large jobs will not collate.	Reduce the complexity of your print job. Eliminate the number and size of fonts, the number and complexity of images, and the number of pages.
	Add more printer memory. See <a href="#">Adding memory</a> , or refer to the <i>Setup Guide</i> for more information.
	Install an optional hard disk. See <a href="#">Hard disk</a> , or refer to the <i>Setup Guide</i> for more information.
Transparencies curl excessively.	Make sure you're using recommended transparencies. See <a href="#">Transparencies</a> for more information.
	Make sure exit tray is fully open.
Paper jam message does not clear.	To clear the paper jam messages, you must press <b>Go</b> . If the paper jam message continues, remove all paper from the paper path. Check both inside the printer as well as the paper source you were using. Close all doors and press <b>Go</b> . See <a href="#">Clearing paper jams</a> for more information.
Page that jammed does not reprint after you clear the jam.	Set Jam Recovery to Auto or to On in the Setup Menu. See <a href="#">Auto Continue</a> for more information.
Cannot insert a toner cartridge into the printer.	Make sure the cartridge is aligned properly and is being installed in the correct location. See <a href="#">Replacing a toner cartridge</a> for more information.
Toner accumulates inside the printer.	Replace the toner cartridge that matches the color of the toner that has accumulated inside the printer. See <a href="#">Replacing a toner cartridge</a> .

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## Configuring printer alerts

You can configure the printer several ways to let you know when it requires attention.

### Using the Setup Menu

Menu item	Function	Value	Result
Alarm Control	Lets you establish whether the printer sounds an alarm when the printer requires operator intervention.	Off	The alarm does not sound, but printing stops until the interventions are cleared.*
		Single	The printer stops printing, displays a message, and activates the selected alarm type.
		Continuous	
*If multiple attendance conditions are pending, the alarm only sounds when the first message is displayed. No additional alarms sound as subsequent attendance conditions arise.			

Selecting **Auto Continue** may affect how the printer alerts execute. This setting defines how long the printer waits after displaying a message before it resumes printing.

### Using MarkVision Professional

MarkVision™ Professional, the network printer management utility, indicates when it is time to replace supplies and points out actual or potential problems. When a printer needs attention, it alerts the network administrator with a detailed graphic of the printer showing the cause for the alert (for example, an empty paper tray).

### Using MarkVision Messenger

MarkVision Messenger lets you create Actions that execute specific commands whenever messages like **Tray <x> Missing** or **88 <color> Toner Low** appear on the display. For example, you can create an Action that sends an e-mail to the administrator when the printer runs out of paper.

**Note:** Actions can be set up to occur automatically, as well as conditionally or repeatedly.

## Disabling operator panel menus

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To disable the operator panel menus so that changes cannot be made to the printer default settings:

- 1 Turn the printer off.

**Note:** Disabling the operator panel menus does not prevent access to the Job Menu or to the Print and Hold function.

- 2 Press and hold **Select** and **Return** and turn the printer on.

- 3 Release the buttons when you see **Performing Self Test**.

**Config Menu** appears on the first line of the display.

- 4 Press **Menu** until you see **Panel Menus**, and then press **Select**.

**Disable** appears on the second line of the display.

- 5 Press **Select**.

**Locking Menus** appears briefly.

- 6 Press **Menu** until you see **Exit Config Menus**, and then press **Select**.

The menus are disabled. If you press **Menu**, the message **Menus Disabled** appears.

### *Enabling operator panel menus*

- 1 Repeat steps 1 through 4.
- 2 Press **Menu** until you see **Enable**.
- 3 Continue with steps 5 and 6.



# Understanding fonts

## ***Resident fonts***

Your printer is equipped with resident fonts stored permanently in printer memory. Different fonts are available in PCL 6 and PostScript 3 emulations. Some of the most popular typefaces, like Courier and Times New Roman, are available for all printer languages.

The fonts in the PCL emulation are compatible with the fonts in the HP4500 and include four additional fonts and many extra symbol sets to support extra languages and applications. The fonts in the PostScript emulation are compatible with Adobe PostScript 3 and include 20 additional fonts.

The following tables list all the fonts resident in your printer. See **Printing sample fonts** for instructions on how to print samples of the fonts. You can select the resident fonts from your software application, or from the operator panel if you are using PCL 6 emulation.

<b>PCL 6 emulation</b>	<b>PostScript 3 emulation</b>
Albertus Medium	AlbertusMT
	AlbertusMT-Italic
	AlbertusMT-Light
Albertus Extra Bold	
Antique Olive	AntiqueOlive-Roman
Antique Olive Italic	AntiqueOlive-Italic
Antique Olive Bold	AntiqueOlive-Bold
	AntiqueOlive-Compact
Arial	ArialMT
Arial Italic	Arial-ItalicMT
Arial Bold	Arial-BoldMT
Arial Bold Italic	Arial-BoldItalicMT
ITC Avant Garde Book	AvantGarde-Book
ITC Avant Garde Book Oblique	AvantGarde-BookOblique
ITC Avant Garde Demi	AvantGarde-Demi
ITC Avant Garde Demi Oblique	AvantGarde-DemiOblique
ITC Bookman Light	Bookman-Light
ITC Bookman Light Italic	Bookman-LightItalic
ITC Bookman Demi	Bookman-Demi

PCL 6 emulation	PostScript 3 emulation
ITC Bookman Demi Italic	Bookman-Demiltalic
Clarendon Condensed Bold	
Coronet	Coronet-Regular
CourierPS	Courier
CourierPS Oblique	Courier-Oblique
CourierPS Bold	Courier-Bold
CourierPS Bold Oblique	Courier-BoldOblique
CG Omega	
CG Omega Bold	
CG Omega Italic	
CG Omega Bold Italic	
Garamond Antiqua	Garamond-Antiqua
Garamond Halbfett	Garamond-Halbfett
Garamond Kursiv	Garamond-Kursiv
Garamond Kursiv Halbfett	Garamond-KursivHalbfett
Helvetica Light	Helvetica-Light
Helvetica Light Oblique	Helvetica-LightOblique
Helvetica Black	Helvetica-Black
Helvetica Black Oblique	Helvetica-BlackOblique
Helvetica	Helvetica
Helvetica Italic	Helvetica-Oblique
Helvetica Bold	Helvetica-Bold
Helvetica Bold Italic	Helvetica-BoldOblique
Helvetica Narrow	Helvetica-Narrow
Helvetica Narrow Italic	Helvetica-Narrow-Oblique
Helvetica Narrow Bold	Helvetica-Narrow-Bold
Helvetica Narrow Bold Italic	Helvetica-Narrow-BoldOblique
CG Times	Intl-CG-Times
CG Times Italic	Intl-CG-Times-Italic
CG Times Bold	Intl-CG-Times-Bold
CG Times Bold Italic	Intl-CG-Times-BoldItalic
Univers Medium	Intl-Univers-Medium
Univers Medium Italic	Intl-Univers-MediumItalic
Univers Bold	Intl-Univers-Bold
Univers Bold Italic	Intl-Univers-BoldItalic
Courier	Intl-Courier
Courier Italic	Intl-Courier-Oblique

<b>PCL 6 emulation</b>	<b>PostScript 3 emulation</b>
Courier Bold	Intl-Courier-Bold
Courier Bold Italic	Intl-Courier-BoldOblique
Letter Gothic	LetterGothic
Letter Gothic Italic	LetterGothic-Slanted
Letter Gothic Bold	LetterGothic-Bold
	LetterGothic-BoldSlanted
Marigold	Marigold
Century Schoolbook Roman	NewCenturySchlbk-Roman
Century Schoolbook Italic	NewCenturySchlbk-Italic
Century Schoolbook Bold	NewCenturySchlbk-Bold
Century Schoolbook Bold Italic	NewCenturySchlbk-BoldItalic
	Optima
	Optima-Bold
	Optima-BoldItalic
	Optima-Italic
Palatino Roman	Palatino-Roman
Palatino Italic	Palatino-Italic
Palatino Bold	Palatino-Bold
Palatino Bold Italic	Palatino-BoldItalic
SymbolPS	Symbol
Symbol	
Times Roman	Times-Roman
Times Italic	Times-Italic
Times Bold	Times-Bold
Times Bold Italic	Times-BoldItalic
Times New Roman	TimesNewRomanPSMT
Times New Roman Italic	TimesNewRomanPS-ItalicMT
Times New Roman Bold	TimesNewRomanPS-BoldMT
Times New Roman Bold Italic	TimesNewRomanPS-BoldItalicMT
	Univers
	Univers-Oblique
	Univers-Bold
	Univers-BoldOblique
Univers Condensed Medium	Univers-Condensed
Univers Condensed Medium Italic	Univers-CondensedOblique
Univers Condensed Bold	Univers-CondensedBold
Univers Condensed Bold Italic	Univers-CondensedBoldOblique

PCL 6 emulation	PostScript 3 emulation
Wingdings	Wingdings-Regular
ITC Zapf Chancery Medium Italic	ZapfChancery-MediumItalic
ITC Zapf Dingbats	ZapfDingbats
	Univers-Extended
	Univers-ExtendedObl
	Univers-BoldExt
	Univers-BoldExtObl
	Univers-Light
	Univers-LightOblique
	Clarendon
	Clarendon-Light
	Clarendon-Bold
	Helvetica-Condensed
	Helvetica-Condensed-Bold
	Helvetica-Condensed-BoldObl
	Helvetica-Condensed-Oblique
	StempelGaramond-Bold
	StempelGaramond-BoldItalic
	StempelGaramond-Italic
	StempelGaramond-Roman
	Apple-Chancery
	Chicago
	Geneva
	Monaco
	NewYork
	Oxford
	Taffy
	MonaLisa-Recut
	Candid
	Bodoni
	Bodoni-Italic
	Bodoni-Bold
	Bodoni-BoldItalic
	Bodoni-Poster
	Bodoni-PosterCompressed
	CooperBlack
	CooperBlack-Italic

PCL 6 emulation	PostScript 3 emulation
	Copperplate-ThirtyTwoBC
	Copperplate-ThirtyThreeBC
	Eurostile
	Eurostile-Bold
	Eurostile-ExtendedTwo
	Eurostile-BoldExtendedTwo
	GillSans
	GillSans-Italic
	GillSans-Bold
	GillSans-BoldItalic
	GillSans-Condensed
	GillSans-BoldCondensed
	GillSans-Light
	GillSans-LightItalic
	GillSans-ExtraBold
	Goudy
	Goudy-Italic
	Goudy-Bold
	Goudy-BoldItalic
	Goudy-ExtraBold
	HoeflerText-Regular
	HoeflerText-Italic
	HoeflerText-Black
	HoeflerText-BlackItalic
	HoeflerText-Ornaments
	JoannaMT
	JoannaMT-Italic
	JoannaMT-Bold
	JoannaMT-BoldItalic
	LubalinGraph-Book
	LubalinGraph-BookOblique
	LubalinGraph-Demi
	LubalinGraph-DemiOblique

## Resident bitmapped fonts

PCL 6 emulation	PostScript 3 emulation
Line Printer 16	
POSTNET Bar code	

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## Symbol sets

A *symbol set* is an encoded collection of alphabetic and numeric characters, punctuation, and special characters available in the font you select. Symbol sets support the requirements for different languages or specific applications, such as math symbols used for scientific text.

The symbol set encoding also defines which character will print for each key on the keyboard (or more specifically, for each *code point*). Some applications require different characters at some code points. To support multiple applications and languages, your printer has 83 symbol sets for the resident PCL 6 emulation fonts.

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## Downloadable fonts

ABICOMP Brazil/Portugal	Wingdings	ISO 25: French
ABICOMP International	POSTNET Bar code	ISO 57: Chinese
DeskTop	ISO : German	ISO 60: Norwegian version 1
Legal	ISO : Spanish	ISO 61: Norwegian version 2
MC Text	ISO 2: IRV (Int'l Ref Version)	ISO 69: French
Microsoft Publishing	ISO 4: United Kingdom	ISO 84: Portuguese
Russian-GOST	ISO 6: ASCII	ISO 85: Spanish
Ukrainian	ISO 10: Swedish	ISO 8859-1 Latin 1 (ECMA-94)
PCL ITC Zapf Dingbats	ISO 11: Swedish for Names	ISO 8859-2 Latin 2
PS ITC Zapf Dingbats	ISO 14: JIS ASCII	ISO 8859-5 Latin/Cyrillic
PS Math	ISO 15: Italian	ISO 8859-7 Latin/Greek
PS Text	ISO 16: Portuguese	ISO 8859-9 Latin 5
Pi Font	ISO 17: Spanish	ISO 8859-10 Latin 6
Symbol	ISO 21: German	ISO 8859-15 Latin 9
PC-8 Bulgarian	PC-857 Latin 5 (Turkish)	Roman-9
PC-8 Danish/Norwegian (437N)	PC-858 Multilingual Euro	Roman Extension
PC-8 Greek Alternate (437G)	PC-860 Portugal	Ventura ITC Zapf Dingbats
PC-8 Turkish (437T)	PC-861 Iceland	Ventura International
PC-8 Latin/Greek	PC-863 Canadian French	Ventura Math
PC-8 PC Nova	PC-865 Nordic	Ventura US

PC-8 Polish Mazovia	PC-866 Cyrillic	Windows 3.0 Latin 1
PC-8 Code Page 437	PC-869 Greece	Windows 98 Cyrillic
PC-775 Baltic (PC-8 Latin 6)	PC-911 Katakana	Windows 98 Greek
PC-850 Multilingual	PC-1004 OS/2	Windows 98 Latin 1
PC-851 Greece	Math-8	Windows 98 Latin 2
PC-852 Latin 2	Greek-8	Windows 98 Latin 5
PC-853 Latin 3 (Turkish)	Turkish-8	Windows 98 Latin 6 (Baltic)
PC-855 Cyrillic	Roman-8	

You can download scalable fonts in PostScript 3 emulation and either scalable or bitmapped fonts in PCL 6 emulation. Fonts can be downloaded to printer memory, or to a flash memory option or hard disk option. Fonts downloaded to flash memory or hard disk remain in memory even after the printer language changes, the printer resets, or the printer is turned off.

### ***Euro support***

Support for the euro currency character is included in all applicable fonts for both the PostScript and PCL emulations. Twelve of the PCL symbol sets support the euro character, including all seven Windows symbol sets.

### ***Hebrew and Arabic fonts***

A variety of downloadable fonts for Hebrew and Arabic are included on the CD that shipped with the printer.



## Managing memory

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### *Printer memory*

Your printer ships with at least 64MB of memory. To determine the amount of memory currently installed in your printer, select Print Menus from the Utilities Menu. The total installed memory appears on the printout. For more information about printing the menu settings page, see [Printing the menu settings page](#).

The memory shipped in your printer and the memory options available use SDRAM DIMM memory technology. Unpredictable results may occur if you attempt to operate your printer with memory other than SDRAM DIMM memory installed.

When purchasing memory for your printer, make sure you use SDRAM DIMM memory cards that meet the following criteria:

- 100MHz or greater
- 100 pin
- 4KB refresh rate
- Unbuffered, non ECC
- x32
- 3.3 V

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### *Adding memory*

Your printer has three memory slots. The maximum amount of usable memory is 512MB. You may add SDRAM DIMM memory cards in any memory combination to suit your needs; however, the maximum amount of memory your printer can use is 512MB.

**Note:** Memory options designed for other laser printers may not work with your printer.

There are three memory options for your printer: 64MB, 128MB and 256MB. For memory installation instructions, refer to the *Setup Guide*.

Additional memory lets the printer print complex jobs, collate large jobs, and operate more efficiently. You can also download fonts and macros to printer memory. However, this type of memory is temporary storage. Anything stored in printer memory is lost when the printer power is turned off.

## Solving memory problems

If your printer encounters a memory shortage when trying to print a job, it may post an error message (**37 Insufficient Collation Area**, **37 Insufficient Defrag Memory**, **38 Memory Full**, or **39 Complex Page**), depending on the task it is trying to complete. See [Understanding printer messages](#) for more information about these and other messages.

If these messages appear frequently, you probably want to install additional printer memory. If they only occur rarely, try reducing the following:

- The number of pages in the job
- The number of fonts or graphics on each page
- The size of scalable fonts used in the document
- The number of fonts or macros downloaded to printer memory
- Deleting Held Jobs

You may also try adjusting the following settings:

- Print resolution to 600 dpi
- Page Protect On from the Setup Menu
- Resource Save Off from the Setup Menu

## Allocating memory

A portion of printer memory is reserved for input buffers that hold print jobs sent from your software application. Your printer has an input buffer for each interface (parallel, serial, network, LocalTalk, or infrared). You can change the amount of memory allocated to each buffer, depending on your system requirements. For more information about using printer menus to allocate memory for each interface, see [Using printer menus](#) and select the interface menu you want information about.

The size of the input buffers varies with the amount of memory installed in the printer. The following table lists the default size of the input buffers for each interface. If your printer is not using a particular interface, the allocated memory is reserved for job processing.

Installed memory	Default input buffer size					
	Each parallel port	Each serial port	Each network port	LocalTalk port	Infrared port	USB port
64MB 128MB	2MB	300KB	2MB	1MB	300KB	300KB
<b>1MB allocated to standard parallel port if no optional adapter is installed.</b>						

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## Flash memory

You can add optional flash memory to your printer. If you frequently download fonts, macros, forms, or symbol sets to your printer, you may want to use flash memory storage rather than RAM. Resources stored in flash memory are not lost when the printer power is turned off.

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## **Hard disk**

If you have a large number of permanent resources you'd like to download to your printer, you may want to install an optional hard disk. The hard disk works much like flash memory, but has a larger storage capacity for downloaded resources. You can also use the hard disk for job buffering, collating large jobs, and gathering job statistics.

For instructions on installing a hard disk, refer to the *Setup Guide*.

### **Job buffering**

You can partition a portion of the hard disk for job buffering. In some cases, spooling jobs to a disk may decrease the time required for the printer to accept the print job data from the application. The job also remains stored on the disk until the entire job prints. Since disk memory acts as permanent storage, your jobs remain secure in the event of a power failure.

You can enable or disable job buffering for each of the available printer ports (parallel, serial, fax, network, infrared, and LocalTalk) by doing the following:

- 1** Using the printer operator panel or MarkVision, select **Job Buffer Size** under the Setup Menu.
- 2** Set the percentage of the disk you want to use for job buffering.
- 3** Press **Go** to return the printer to Ready status.

### **Collating jobs**

If you are collating a large job and printer memory is not sufficient, the printer automatically uses storage area available on an installed hard disk to finish collating the job. See **Collation** for more information.

### **Storing job statistics**

You can also use an installed hard disk to gather statistics about a specified number of the most recent print jobs. The statistics include whether the job printed with or without errors, the time required to print the job, the size (in bytes) of the job, the requested paper size and paper type, the color settings used, the total number of printed pages, and the number of copies requested.

See **Job Accounting** for more information about setting up your printer to gather job statistics and printing the accumulated data. Or, if you're using the MarkVision utility, refer to the MarkVision online Help.

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## ***Managing resources downloaded to flash or disk***

Use the MarkVision utility to manage the resources you store on flash memory or hard disk. MarkVision offers tools for;

- Setting the download target, formatting the storage devices
- Downloading resources
- Deleting files
- Moving files from one storage device to the other on the same printer or from one printer to another printer
- Printing a directory listing the resources stored on a device
- Read/write and write passwords to protect resources stored on flash memory or hard disk, or to protect individual files

For more information about the specific resource management tools that MarkVision offers, refer to the MarkVision online Help.



## Printer specifications

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### *Dimensions*

Dimension	Base model	Network model	Duplex/network model
Height	497 mm (19.6 in.)	626 mm (24.6 in.)	626 mm (24.6 in.)
Width	695 mm (27.4 in.)	695 mm (27.4 in.)	695 mm (27.4 in.)
Depth	655 mm (25.8 in.)	655 mm (25.8 in.)	655 mm (25.8 in.)
Weight <sup>1</sup>	80.5 kg (177.1 lb)	99.0 kg (217.8 lb)	104.9 kg (230.8 lb)
<sup>1</sup> Includes cartridges			

## Restoring factory default settings

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- 1 Make sure the printer is on and the **Ready** message appears.
- 2 Press **Menu** until you see Utilities Menu, and then press **Select**.
- 3 Press **Menu** until you see **Factory Defaults**, and then press **Select**.
- 4 When Restore appears, press **Select**. The message **Restoring Factory Defaults** appears followed by the **Ready** message.

When you select Restore:

- No other button actions are available on the operator panel while **Restoring Factory Defaults** appears.
- All downloaded resources (fonts, macros, and symbol sets) in printer memory (RAM) are deleted. (Resources residing in flash memory or on the optional hard disk are unaffected.)
- All menu settings are returned to the factory default values, except the settings in the Parallel Menu, Serial Menu, Network Menu, Infrared Menu, LocalTalk Menu, USB Menu, and the operator panel Display Language setting in the Setup Menu.

If you need more information about changing menu settings or selecting new user default settings, see [Changing printer settings](#).

Your printer has resident fonts stored permanently in its memory. Different fonts may be available in PCL and PostScript emulations.

To print samples of all the fonts currently available for your printer:

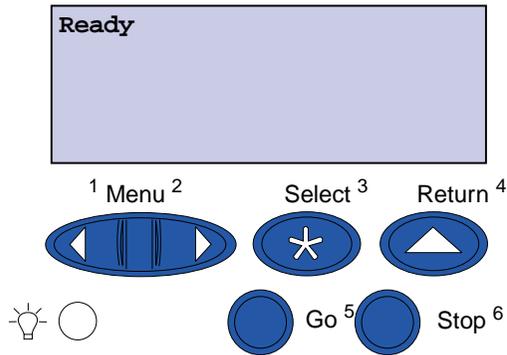
- 1 Make sure the printer is on and **Ready** appears on the display.
- 2 Press **Menu** until you see Utilities Menu, and then press **Select**.
- 3 Press **Menu** until you see Print Fonts, and then press **Select**.
- 4 Press **Menu** to display either PCL Fonts or PS Fonts.
  - Select PCL Fonts to print a listing of the fonts available in PCL emulation.
  - Select PS Fonts to print a listing of the fonts available in PostScript 3 emulation.
- 5 Press **Select**.

The message **Printing Font List** remains on the display until all pages print. The printer returns to the **Ready** message after the font sample list prints.

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## Understanding printer messages

The operator panel displays messages describing the current state of the printer and indicates possible printer problems you must resolve. This topic provides a list of all printer messages, explains what they mean, and tells you how to clear the messages.



Click a letter or number at the bottom of the page to locate information about a message beginning with that character.

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52 Flash Full

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54 Network <x> Software Error

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80 Fuser/Belt Life Warning

80 Fuser Exhausted

80 Fuser Life Warning

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86 Abnormal Coating Roll

84 <color> Photo Dev Abnormal

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84 Color Photo Dev Life Warning

88 <color> Toner Empty

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**9**

900–999 Service <message>

---

## Activating Menu Changes

### What this message means:

The printer is activating changes made to the printer settings.

### What you can do:

Wait for the message to clear.

### See also:

[Disabling operator panel menus](#)

---

## Bin <x> Full

### What this message means:

The specified bin is full.

### What you can do:

Remove the stack of paper from the bin to clear the message. If you assigned the bin a name, the bin name is displayed instead of the bin number.

---

## Busy

### What this message means:

The printer is busy receiving, processing, or printing data.

### What you can do:

- Wait for the message to clear.
- Press **Menu** to open the Job Menu and cancel the current job.

---

## Canceling Fax

### What this message means:

The printer is processing a request to cancel a fax job.

### What you can do:

Wait for the message to clear.

---

## Canceling Job

### What this message means:

The printer is processing a request to cancel the current print job.

### What you can do:

Wait for the message to clear.

### See also:

[Canceling a print job](#)

---

## Change <x>

### What this message means:

The printer is requesting that a different type of paper be loaded in one of the input sources.

### What you can do:

Change the paper type in the specified source.

### See also:

[Loading a paper tray](#); *Setup Guide*

---

## Check <device> Connection

### What this message means:

The specified device is either not fully connected to the printer or is experiencing a hardware failure.

### What you can do:

- Reestablish communication by removing the specified device and reattaching it to the printer.
- Press **Go** to clear the message and continue printing.
- If a hardware failure, turn the printer off and back on. If the error recurs, turn the printer off, remove the specified device, and call for service.

---

## **Clearing Job Accounting Stat**

### **What this message means:**

The printer is deleting all job statistics stored on the hard disk.

### **What you can do:**

Wait for the message to clear.

---

## **Close Front Door**

### **What this message means:**

The printer front door is open.

### **What you can do:**

Close the printer front door to clear the message.

---

## **Close Side Door**

### **What this message means:**

The printer side door is open.

### **What you can do:**

Close the printer side door to clear the message.

---

## **Close Top Door**

### **What this message means:**

The printer top door is open.

### **What you can do:**

Close the printer top door to clear the message.

### **See also:**

[Closing the top cover](#)

---

## Close Tray <x> Top Cover

### What this message means:

The high capacity feeder door is open.

**Note:** The high capacity feeder can only be installed as Tray 3 or Tray 5.

### What you can do:

Close the top cover to clear the message.

---

## Copying

### What this message means:

The printer is processing a copy job originating from a scanner.

### What you can do:

Wait for the message to clear.

---

## Defragmenting

### What this message means:

The printer is defragmenting the flash memory to reclaim storage space occupied by deleted resources.

### What you can do:

Wait for the message to clear.

**WARNING:** Do not turn the printer off while this message is displayed.

---

## Delete All Jobs

### What this message means:

The printer is requesting confirmation to delete all held jobs.

### What you can do:

- Press **Go** to continue. The printer deletes all held jobs.
- Press **Stop** to cancel the operation.

---

## Deleting Jobs

### What this message means:

The printer is deleting one or more held jobs.

### What you can do:

Wait for the message to clear.

---

## Did You Replace Belt?

### What this message means:

You have turned on the printer while the transfer belt is in the warning state and needs to be replaced.

### What you can do:

- Press **Select** to reset the transfer belt maintenance counter.
- Press **Stop** to continue. The message will continue to appear each time you turn the printer on while the transfer belt is in the warning state.

---

## Did You Replace Fuser?

### What this message means:

You have turned on the printer while the fuser is in the warning state and needs to be replaced.

### What you can do:

- Press **Select** to reset the fuser maintenance counter.
- Press **Stop** to continue. The message will continue to appear each time you turn the printer on while the fuser is in the warning state.

---

## Disabling Menus

### What this message means:

The printer is responding to a request to disable the menus.

### What you can do:

Wait for the message to clear.

**Note:** While the menus are disabled, you cannot change the printer settings from the operator panel.

### See also:

[Disabling operator panel menus](#)

---

## Disk Corrupted. Reformat?

### What this message means:

The printer has attempted a disk recovery process and cannot repair the disk.

### What you can do:

- Press **Go** to reformat the disk and delete all files currently stored on the disk.
- Press **Stop** to clear the message without reformatting the disk. The printer may display **Disk Recovery** and attempt to recover the disk.

### See also:

[Disk Recovery x/5 yyy%](#)

---

## Disk Recovery x/5 yyy%

### What this message means:

The printer is attempting to recover the hard disk. Disk recovery takes place in five phases; the second line on the operator panel display shows the percent complete of the current phase.

### What you can do:

Wait for the message to clear.

**WARNING:** Do not turn the printer off while this message is displayed.

---

## Enabling Menus

### What this message means:

The printer is responding to a request to make the menus available to all users.

### What you can do:

Wait for the message to clear, and then press **Menu** to view the menus from the operator panel.

### See also:

[Enabling operator panel menus](#)

---

## Engine Warming

### What this message means:

The printer is warming the fuser assembly to prepare for printing.

### What you can do:

Wait for the message to clear.

---

## Enter PIN:

=\_\_\_\_\_

### What this message means:

The printer is waiting for you to enter your four-digit personal identification number (PIN).

### What you can do:

Use the operator panel buttons to enter the PIN you identified in the driver when you sent the confidential job to the printer.

### See also:

[Using the Print and Hold function](#)

---

**Fax <x>****What this message means:**

The printer is processing an incoming fax.

**What you can do:**

Wait for the message to clear.

---

**Flushing Buffer****What this message means:**

The printer is flushing corrupted print data and discarding the current print job.

**What you can do:**

Wait for the message to clear.

---

**Formatting Disk****yyy%****What this message means:**

The printer is formatting the hard disk. When formatting takes longer than usual, the second line of the display shows the percent complete.

**What you can do:**

Wait for the message to clear.

**WARNING:** Do not turn the printer off while this message is displayed.

---

**Formatting Flash****What this message means:**

The printer is formatting the flash memory.

**What you can do:**

Wait for the message to clear.

**WARNING:** Do not turn the printer off while this message is displayed.

---

## Fuser Maintenance

### What this message means:

The counter that tracks wear on the fuser has reached its limit.

### What you can do:

- Press **Go** to continue printing.
- If print quality is unacceptable, replace the fuser.

### See also:

[Replacing the fuser](#)

---

## Held Jobs may be lost

### What this message means:

The printer memory is too full to continue processing print jobs.

### What you can do:

- Press **Go** to clear the message and continue printing. The printer frees memory by deleting the oldest held job and continues deleting held jobs until there is enough printer memory to process the job.
- Press **Stop** to clear the message without deleting any held jobs. The current job may not print correctly.
- Press **Menu** to open the Job Menu and cancel the current job.
- To avoid this error in the future:
  - Delete fonts, macros, and other data stored in printer memory.
  - Install more printer memory.

**Note:** The messages 37 **Insufficient Memory** and **Held Jobs may be lost** alternate on the display.

### See also:

[Using the Print and Hold function; 37 Insufficient Memory](#)

---

## Held Jobs May Not Be Restored

### What this message means:

The printer memory cannot restore Print and Hold jobs from the printer hard disk.

### What you can do:

Press **Go** to clear the message. Some of the Print and Hold jobs stored on the disk will not be restored.

---

## Infrared <x>

### What this message means:

An infrared interface is the active communication link.

---

## Insert Tray <x>

### What this message means:

The specified tray is either missing or not fully inserted.

### What you can do:

Insert the specified tray completely.

### See also:

[Loading a paper tray](#)

---

## Install <device> or Cancel Job

### What this message means:

The printer is requesting that a specified device be installed so it can print a job.

### What you can do:

- Turn the printer off, install the specified device, and restart the printer.
- Press **Menu** to open the Job Menu and cancel the current job.

---

## Invalid Engine Code

### What this message means:

The printer engine code has not been programmed or is not valid.

### What you can do:

Call for service.

### See also:

[Calling for service](#)

---

## Invalid Network <x> Code

---

## Invalid Standard Network Code

### What this message means:

The code in an internal print server is not valid. The printer cannot receive and process jobs until valid code is programmed into the internal print server.

### What you can do:

Download valid code to the printer internal print server.

**Note:** You can download network code while this message is displayed.

---

## Load <x>

### What this message means:

The printer is trying to feed paper from a source it detects is empty.

### What you can do:

- Load paper of the size and type requested in the second line of the display in the specified tray. The printer automatically clears the message and continues printing the job.
- Press **Menu** to open the Job Menu and cancel the current job.

### See also:

[Loading a paper tray](#)

---

## Load Manual

### What this message means:

A request for a manual feed job has been sent to the printer. The printer is ready for insertion of a single sheet into the manual feed slot.

### What you can do:

- Load a sheet of the paper specified in the second line of the display in the manual feed tray or multipurpose feeder.
- Press **Select** or **Go** to ignore the manual feed request and print on the paper already in one of the input sources. If the printer finds a tray that has paper of the correct type and size, it feeds paper from that tray. If the printer cannot find a tray with the correct paper type and size, it prints on the paper installed in the default input source.
- Press **Menu** to open the Job Menu and cancel the current job.

### See also:

[Loading the multipurpose feeder](#)

---

## LocalTalk <x>

### What this message means:

A LocalTalk interface is the active communication link.

---

## Menus Disabled

### What this message means:

The printer menus are disabled. You cannot change the printer settings from the operator panel.

### What you can do:

You can still open the Job Menu to cancel a job that is printing or to select a confidential job or a held job that you want to print. If you need access to the printer menus, contact your network administrator.

### See also:

[Disabling operator panel menus](#)

---

**Network Card  
Busy****What this message means:**

An internal print server (also called an internal network adapter or INA) is being reset.

**What you can do:**

Wait for the message to clear.

---

**Network <x>****What this message means:**

A network interface is the active communication link.

---

**Network <x>, <y>****What this message means:**

A network interface is the active communication link, where <x> represents the active communication link and <y> represents the channel.

---

**No DRAM  
Installed****What this message means:**

No DRAM is installed.

**What you can do:**

Turn the printer off, install DRAM, and turn the printer back on.

**See also:**

*Setup Guide*

---

## **No Jobs Found. Retry?**

### **What this message means:**

The four-digit personal identification number (PIN) you entered is not associated with any confidential print job.

### **What you can do:**

- Press **Go** to enter another PIN.
- Press **Stop** to clear the PIN entry prompt.

### **See also:**

[Using the Print and Hold function](#)

---

## **Not Ready**

### **What this message means:**

The printer is not ready to receive or process data. Someone pressed **Stop** to take the printer offline.

### **What you can do:**

Press **Go** to make the printer ready to receive jobs.

---

## **Parallel <x>**

### **What this message means:**

A parallel interface is the active communication link.

---

## **Performing Self Test**

### **What this message means:**

The printer is running the series of start-up tests it performs after it is turned on.

### **What you can do:**

Wait for the message to clear.

---

## Power Saver

### What this message means:

The printer is ready to receive and process data. It is reducing its electricity consumption while idle. If the printer remains inactive for the period of time specified in the Power Saver menu item (20 minutes is the factory default), the **Power Saver** message replaces the **Ready** message.

### What you can do:

- Send a job to print.
- Press **Go** to quickly warm the printer to normal operating temperature and display the **Ready** message.

---

## Print Jobs on Disk

### What this message means:

Jobs that were spooled to the hard disk before the printer was last turned off have not yet printed.

### What you can do:

- Press **Go** to print the jobs.
- Press **Return** or **Stop** to delete the jobs from the hard disk without printing them.

---

## Printer Calibrating

### What this message means:

The printer is adjusting the color tables to correct variations caused by environmental conditions.

### What you can do:

Wait for the message to clear.

### See also:

[Color Menu](#)

---

## Printing Alignment Page

### What this message means:

The printer is processing or printing a test page that shows alignment values.

### What you can do:

Wait until the page has completed printing.

### See also:

[Replacing the transfer belt; Print Alignment](#)

---

## Printing Directory List

### What this message means:

The printer is processing or printing a directory of all files stored in flash memory or on a hard disk.

### What you can do:

Wait for the message to clear.

### See also:

[Print Directory](#)

---

## Printing Font List

### What this message means:

The printer is processing or printing a list of all available fonts for the specified printer language.

### What you can do:

Wait for the message to clear.

### See also:

[Print Fonts](#)

---

## Printing Job Accounting Stat

### What this message means:

The printer is processing or printing all job accounting statistics stored on the hard disk.

### What you can do:

Wait for the message to clear.

### See also:

[Job Acct Stat](#)

---

## Printing Menu Settings

### What this message means:

The printer is processing or printing the menu settings page.

### What you can do:

Wait for the message to clear.

### See also:

[Print Menus; Printing the menu settings page](#)

---

## Prog Engine Code

### What this message means:

The printer is programming new code into the flash memory.

### What you can do:

Wait for the message to clear.

**WARNING:** Do not turn the printer off while this message is displayed.

---

## Prog System Code

### What this message means:

The printer is programming new system code.

### What you can do:

Wait for the message to clear and the printer to reset.

**WARNING:** Do not turn the printer off while this message is displayed.

---

## Program Flash

### What this message means:

The printer is storing resources, such as fonts or macros, in flash memory.

### What you can do:

Wait for the message to clear.

**WARNING:** Do not turn the printer off while this message is displayed.

---

## Programming Disk

### What this message means:

The printer is storing resources, such as fonts or macros, on the hard disk.

### What you can do:

Wait for the message to clear.

**WARNING:** Do not turn the printer off while this message is displayed.

---

## Programming Error P<x>

### What this message means:

An error occurred while the printer was programming code into memory.

### What you can do:

Correct the problem specified on the second line of the display:

<b>P105</b>	A network file was used to program a non-network printer, or a non-network file was used to program a network printer.
<b>P109</b>	An update file was used to program the printer, but the information did not fit within the space allocated in the Master Boot Record.
<b>P112</b>	An upddle.fls file was used to update the DLE code on a printer with a firmware card installed, but the DLE was not found on the firmware card.
<b>P200</b>	No firmware card is installed.

---

## Queuing and Deleting Jobs

### What this message means:

The printer is deleting one or more held jobs and sending one or more jobs to print.

### What you can do:

Wait for the message to clear.

### See also:

[Using the Print and Hold function](#)

---

## Queuing Jobs

### What this message means:

The printer is sending one or more held jobs to print.

### What you can do:

Wait for the message to clear.

### See also:

[Using the Print and Hold function](#)

---

## Ready

### What this message means:

The printer is ready to receive and process print jobs.

### What you can do:

Send a job to print.

---

## Ready Hex

### What this message means:

The printer is in Hex Trace mode and is ready to receive and process print jobs.

### What you can do:

- Send a job to print. All data sent to the printer is printed in hexadecimal and character representation. Control strings are printed, not executed.
- Turn the printer off and then on to exit Hex Trace mode and return to Ready status.

---

## Remove Paper <specified bin>

### What this message means:

The specified output bin, or bins, is full.

### What you can do:

Remove the stack of paper from the specified bin(s) to clear the message.

---

## Resetting Maint Cnt Value

### What this message means:

The printer is resetting the counter that tracks wear on the fuser.

### What you can do:

Wait for the message to clear.

---

## Resetting the Printer

### What this message means:

The printer is resetting to the current default settings. Any active print jobs are canceled.

### What you can do:

Wait for the message to clear.

### See also:

[Changing printer settings](#)

---

## Restore Held Jobs. Go/Stop?

### What this message means:

Someone reset the printer or turned it on, and the printer detects Print and Hold jobs stored on the hard disk.

### What you can do:

- Press **Go**. All Print and Hold jobs on the hard disk are restored to printer memory.
- Press **Return** or **Stop**. No Print and Hold jobs are restored to printer memory. The printer returns to the Ready state.

### See also:

[Using the Print and Hold function](#)

---

## Restoring Factory Defaults

### What this message means:

The printer is restoring the factory default printer settings. When factory default settings are restored:

- All downloaded resources (fonts, macros, symbol sets) in the printer memory are deleted.
- All menu settings return to the factory default setting *except* the Display Language setting in the Setup Menu, and all settings in the Parallel Menu, Serial Menu, Network Menu, Infrared Menu, LocalTalk Menu, USB Menu, and Fax Menu.

### What you can do:

Wait for the message to clear.

### See also:

[Restoring factory default settings](#)

---

## Restoring Held Job xxx/yyy

### What this message means:

The printer is restoring held jobs from the hard disk.

**Note:** *xxx* represents the number of the job being restored.  
*yyy* represents the total number of jobs to be restored.

### What you can do:

- Wait for the message to clear.
- Select the Abort Restore menu item in the Job Menu.

---

## Restoring Held Jobs

### What this message means:

The printer is restoring held jobs from the hard disk.

### What you can do:

Wait for the message to clear.

### See also:

[Using the Print and Hold function](#)

---

## Serial <x>

### What this message means:

A serial interface is the active communication link.

---

## Std Bin Full

### What this message means:

The standard bin is full.

### What you can do:

Remove the stack of paper in the bin to clear the message.

---

## Supplies

### What this message means:

At least one of the printer supplies requires attention. For example, you may have a toner cartridge that is low on toner.

### What you can do:

Press **Menu** to open the Supplies Menu and identify which supply item needs replacing. Replace the appropriate printer supplies.

---

**Tray <x> Empty****What this message means:**

The specified tray is out of paper.

**What you can do:**

Load paper in the tray to clear the message.

**See also:**

[Loading a paper tray](#)

---

**Tray <x> Low****What this message means:**

The specified tray is low on paper.

**What you can do:**

Add paper to the tray to clear the message.

**See also:**

[Loading a paper tray](#)

---

**Tray <x> Missing****What this message means:**

The specified tray is either missing or not fully inserted.

**What you can do:**

Insert the tray completely.

**See also:**

[Loading a paper tray](#)

---

## Unsupported Disk

### What this message means:

The printer detects an unsupported disk.

### What you can do:

- Press **Go** to clear the message.
- Format the disk.

**Note:** Disk operations are not allowed until the disk is formatted.

---

## USB <x>

### What this message means:

The printer is processing data through the specified USB port.

---

## Waiting

### What this message means:

The printer has received a page of data to print but is waiting for an End of Job command, a Form Feed command, or additional data.

### What you can do:

- Press **Go** to print the contents of the buffer.
- Press **Menu** to open the Job Menu and cancel the current job.

### See also:

[Canceling a print job](#)

---

## 1565 Emul Error Load Emul Option

### What this message means:

The download emulator version on the firmware card does not match the printer code version.

This error can occur if you update printer firmware or move a firmware card from one printer to another.

### What you can do:

The printer automatically clears the message in 30 seconds, and then disables the download emulator on the firmware card.

Obtain the correct download emulator version.

---

## 2<xx> Paper Jam

### What this message means:

The printer detects a paper jam.

### What you can do:

Clear the paper path.

### See also:

[Clearing paper jams](#)

---

## 30 Coating Roll Missing

### What this message means:

The oil coating roll is either missing or incorrectly installed.

### What you can do:

Correctly install the oil coating roll to clear the message and continue printing.

### See also:

[Replacing the oil coating roll](#)

---

### 30 <color> Print Unit Missing

#### What this message means:

One or more of the color print units is either missing or incorrectly installed.

#### What you can do:

Correctly install the color print units to clear the message and continue printing.

#### See also:

[Replacing a toner cartridge](#); [Replacing a photodeveloper](#)

---

### 32 Unsupported <color> Cartridge

#### What this message means:

The printer detects an unsupported toner cartridge.

#### What you can do:

- Replace the unsupported toner cartridge.

---

### 33 Tray <x> Config Error

#### What this message means:

The optional Heavy Media tray is inserted into any tray location except Tray 1.

#### What you can do:

Remove the Heavy Media Tray from the invalid location to clear the message.

---

## 34 Short Paper

### What this message means:

The printer has determined that the length of the paper in the source specified on the second line of the display is too short to print the formatted data.

### What you can do:

- Press **Go** to clear the message and continue printing. The printer does not automatically reprint the page that prompted the message.
- Make sure the Paper Size setting in the Paper Menu is correct for the size paper you are using. If MP Feeder Size is set to Universal, make sure your paper is large enough for the formatted data.
- Press **Menu** to open the Job Menu and cancel the current job.

---

## 34 Incorrect Media

### What this message means:

The printer detects the wrong type of media in the listed source.

### What you can do:

Place the requested media in the listed source and press **Go**.

---

## 35 Res Save Off Deficient Memory

### What this message means:

The printer lacks the memory needed to enable Resource Save. This message usually indicates too much memory is allocated for one or more of the printer link buffers.

### What you can do:

- Press **Go** to disable Resource Save and continue printing.
- To enable Resource Save after you get this message:
  - Make sure the link buffers are set to Auto, and exit the menus to activate the link buffer changes.
  - When **Ready** is displayed, enable Resource Save from the Setup Menu.
- Install additional memory.

---

## 37 Insufficient Collation Area

### What this message means:

The printer memory (or hard disk, if installed) does not have the free space necessary to collate the print job.

### What you can do:

- Press **Go** to print the portion of the job already stored and begin collating the rest of the job.
- Press **Menu** to open the Job Menu and cancel the current job.

### See also:

[Canceling a print job](#)

---

## 37 Insufficient Defrag Memory

### What this message means:

The printer cannot defragment flash memory, because the printer memory used to store undeleted flash resources is full.

### What you can do:

- Delete fonts, macros, and other data in printer memory.
- Install additional printer memory.

---

## 37 Insufficient Memory

### What this message means:

The printer memory is full and cannot continue processing current print jobs.

### What you can do:

- Press **Go** to clear the message and continue the current print job. The printer frees memory by deleting the oldest held job and continues deleting held jobs until there is enough printer memory to process the job.
- Press **Stop** to clear the message without deleting any held jobs. The current job may not print correctly.
- Press **Menu** to open the Job Menu and cancel the current job.
- To avoid this error in the future:
  - Delete fonts, macros, and other data in printer memory.
  - Install additional printer memory.

**Note:** The messages 37 **Insufficient Memory** and **Held Jobs may be lost** alternate on the display.

### See also:

[Using the Print and Hold function; Held Jobs may be lost](#)

---

## 38 Memory Full

### What this message means:

The printer is processing data, but the memory used to store pages is full.

### What you can do:

- Press **Go** to clear the message and continue printing the job. The job may not print correctly.
- Press **Menu** to open the Job Menu and cancel the current job.
- To avoid this error in the future:
  - Simplify the print job by reducing the amount of text or graphics on a page and deleting unnecessary downloaded fonts or macros.
  - Install additional printer memory.

### See also:

[Canceling a print job](#)

---

## 39 Complex Page

### What this message means:

The page may not print correctly because the print information on the page is too complex.

### What you can do:

- Press **Go** to clear the message and continue printing the job. The job may not print correctly.
- Press **Menu** to open the Job Menu and cancel the current job.
- To avoid this error in the future:
  - Reduce the complexity of the page by reducing the amount of text or graphics on the page and deleting unnecessary downloaded fonts or macros.
  - Set Page Protect to On in the Setup Menu.
  - Install additional printer memory.

### See also:

[Setup Menu](#)

---

## 4<x> Unsupported Firmware Card

### What this message means:

The printer detects an unsupported version of firmware on the installed firmware card.

### What you can do:

- Turn the printer off, and then press and hold **Go** while turning it on. The printer reads the code on the system card and bypasses the code on the firmware card.
- Remove the firmware card.

### See also:

*Setup Guide*

---

## 40 Tray <x> Size Sense Error

### What this message means:

The high capacity feeder detects an error in the size sensing mechanism.

### What you can do:

- Turn off printer and make sure that all the high capacity feeder connectors are installed correctly.
- Have the high capacity feeder size sensor checked by a service technician.

---

## 41 Open Bin 1 Exit Tray

### What this message means:

The printer wants to send paper to the Bin 1 output tray, but the tray is closed.

### What you can do:

- Open Bin 1 to clear the message and continue printing.
- Press **Go** to clear the message and continue printing. The paper will be diverted to the Standard bin.

---

## 51 Defective Flash

### What this message means:

The printer detects defective flash memory.

### What you can do:

Press **Go** to clear the message and continue printing. You must install different flash memory before you can download any resources to flash.

---

## 52 Flash Full

### What this message means:

There is not enough free space in the flash memory to store the data you are trying to download.

### What you can do:

- Press **Go** to clear the message and continue printing. Downloaded fonts and macros not previously stored in flash memory are deleted.
- Delete fonts, macros, and other data stored on the flash memory.
- Install flash memory with more storage capacity.

---

## 53 Unformatted Flash

### What this message means:

The printer detects unformatted flash memory.

### What you can do:

- Press **Go** to clear the message and continue printing. You must format the flash memory before you can store any resources on it.
- If the error message remains, the flash memory may be defective and require replacing.

---

## 54 Serial Option <x> Error

### What this message means:

The printer has detected a serial interface error on a serial port.

### What you can do:

- Make sure the serial link is set up correctly and you are using the appropriate cable.
- Press **Go** to clear the message and continue printing. The job may not print correctly.
- Press **Menu** to open the Job Menu and reset the printer.

---

**54 Network <x>  
Software Error**

---

**54 Std Network  
Software Error**

**What these messages mean:**

The printer cannot establish communications with an installed network port.

**What you can do:**

- Press **Go** to clear the message and continue printing. The job may not print correctly.
- Program new firmware for the network interface by way of the parallel port.
- Press **Menu** to open the Job Menu and reset the printer.

---

**54 Std Par ENA  
Connection Lost**

---

**54 Par <x> ENA  
Connection Lost**

**What this message means:**

The printer has lost the connection to an external print server (also called an external network adapter or ENA).

**What you can do:**

- Make sure the cable connecting the ENA and the printer is securely attached. Turn the printer off and then on to reset the printer.
- Press **Go** to clear the message. The printer erases any reference to the ENA and then resets.

---

**56 Serial  
Port <x> Disabled**

**What this message means:**

Data has been sent to the printer through a serial port, but the serial port is disabled.

**What you can do:**

- Press **Go** to clear the message. The printer discards any data received through the serial port.
- Make sure the Serial Buffer menu item in the Serial Menu is not set to Disabled.

**See also:**

[Serial Buffer](#)

---

**56 Parallel  
Port <x> Disabled**

---

**56 Std Parallel  
Port Disabled**

**What this message means:**

Data has been sent to the printer through a parallel port, but the parallel port is disabled.

**What you can do:**

- Press **Go** to clear the message. The printer discards any data received through the parallel port.
- Make sure the Parallel Buffer menu item in the Parallel Menu is not set to Disabled.

**See also:**

[Parallel Buffer](#)

---

**56 USB Port <x>  
Disabled**

---

**56 Standard USB  
Port Disabled**

**What this message means:**

Data has been sent to the printer through a USB port, but the USB port is disabled.

**What you can do:**

- Press **Go** to clear the message. The printer discards any data received through the USB port.
- Make sure the USB Buffer menu item in the USB Menu is not set to Disabled.

**See also:**

[USB Buffer](#)

---

**57 Configuration  
Change**

**What this message means:**

The printer cannot restore jobs from the disk because the printer trays or drawers have been changed.

**What you can do:**

Press **Go** to clear the message. Some of the Print and Hold jobs stored on the disk will not be restored.

---

## 58 Input Config Error

### What this message means:

Too many drawers with matching trays are installed on the printer.

### What you can do:

Turn off and unplug the printer. Remove the additional drawers. Plug in the printer and turn it on.

**Note:** To prevent an electrical overload, plug your printer into a well-grounded outlet on a non-ground fault interrupter (GFI) circuit.

### See also:

*Setup Guide*

---

## 58 Too Many Bins Attached

### What this message means:

- Too many output bins are installed.
- An unsupported configuration of output bins is installed.

### What you can do:

Turn off and unplug the printer. Remove or reconfigure the output bins. Plug in the printer and turn it on.

**Note:** To prevent an electrical overload, plug your printer into a well-grounded outlet on a non-ground fault interrupter (GFI) circuit.

---

## 58 Too Many Disks Installed

### What this message means:

Too many hard disks are installed. The printer only supports one hard disk at a time.

### What you can do:

Turn off and unplug the printer. Remove the excess hard disks. Plug in the printer and turn it on.

**Note:** To prevent an electrical overload, plug your printer into a well-grounded outlet on a non-ground fault interrupter (GFI) circuit.

### See also:

[Removing memory and network options](#)

---

## 58 Too Many Flash Options

### What this message means:

Too many flash memory options are installed.

### What you can do:

Turn off and unplug the printer. Remove the excess flash memory. Plug in the printer and turn it on.

**Note:** To prevent an electrical overload, plug your printer into a well-grounded outlet on a non-ground fault interrupter (GFI) circuit.

### See also:

[Removing memory and network options](#)

---

## 58 Too Many Trays Attached

### What this message means:

Too many drawers with matching trays are installed.

### What you can do:

Turn off and unplug the printer. Remove the additional drawers. Plug in the printer and turn it on.

**Note:** To prevent an electrical overload, plug your printer into a well-grounded outlet on a non-ground fault interrupter (GFI) circuit.

### See also:

*Setup Guide*

---

## 61 Defective Disk

### What this message means:

The printer detects a defective hard disk.

### What you can do:

- Press **Go** to clear the message and continue printing.
- Install a different hard disk before you perform any operations that require one.

### See also:

*Setup Guide*

---

## 62 Disk Full

### What this message means:

There is not enough memory on the hard disk to store the data sent to the printer.

### What you can do:

- Press **Go** to clear the message and continue processing. Any information not previously stored on the hard disk is deleted.
- Delete fonts, macros, and other data stored on the hard disk.

---

## 63 Unformatted Disk

### What this message means:

The printer detects an unformatted hard disk.

### What you can do:

- Press **Go** to clear the message and continue printing.
- Format the disk before performing any disk operations. To format the disk, select Format Disk from the Utilities Menu.
- If the error message remains, the hard disk may be defective and require replacing. Install a new hard disk and format it.

### See also:

[Format Disk](#)

---

## 64 Unsupported Disk Format

### What this message means:

The printer detects an unsupported disk format.

### What you can do:

- Press **Go** to clear the message.
- Format the disk.

**Note:** Disk operations are not allowed until the disk is formatted.

---

## 80 Belt Exhausted

### What this message means:

The transfer belt has reached its end of life.

### What you can do:

- Replace the transfer belt.

### See also:

[Replacing the transfer belt](#)

---

## **80 Belt Life Warning**

### **What this message means:**

The transfer belt is nearing its end of life. If you do not have a transfer belt on hand, order one now. You can print approximately 500 pages before the **80 Belt Exhausted** message appears.

### **What you can do:**

Press **Go** to clear the message and continue printing. The **supplies** message is displayed until you replace the transfer belt.

### **See also:**

[Replacing the transfer belt](#)

---

## **80 Fuser/Belt Exhausted**

### **What this message means:**

The transfer belt and fuser have reached their end of life.

### **What you can do:**

- Replace the transfer belt and fuser.

### **See also:**

[Replacing the transfer belt](#); [Replacing the fuser](#)

---

## 80 Fuser/Belt Life Warning

### What this message means:

The transfer belt and fuser are nearing their end of life. If you do not have a transfer belt and fuser on hand, order them now. You can print approximately 500 pages before the **80 Belt/Fuser Exhausted** message appears.

### What you can do:

Press **Go** to clear the message and continue printing. The **supplies** message is displayed until you replace the transfer belt and fuser.

### See also:

[Replacing the transfer belt; Replacing the fuser](#)

---

## 80 Fuser Exhausted

### What this message means:

The fuser has reached its end of life.

### What you can do:

- Replace the fuser.

### See also:

[Replacing the fuser](#)

---

## 80 Fuser Life Warning

### What this message means:

The fuser is nearing its end of life. If you do not have a fuser on hand, order one now. You can print approximately 500 pages before the **80 Fuser Exhausted** message appears.

### What you can do:

Press **Go** to clear the message and continue printing. The **supplies** message is displayed until you replace the fuser.

### See also:

[Replacing the fuser](#)

---

## 81 Engine Code CRC Failure

### What this message means:

Microcode in the engine flash code module has failed a system check.

### What you can do:

Press **Go** to clear the message and discard the code. Retransmit the microcode data from the host computer.

---

## 84 All Photo Devs Exhausted

### What this message means:

All of the photodevelopers have reached their end of life.

### What you can do:

- Replace all of the photodevelopers. Make sure you also install the new fuser coating roll that is included in each photodeveloper kit.
- If the print quality is still acceptable and you do not want to replace the photodevelopers yet, press **Go** to clear the message and continue printing.

### See also:

[Replacing a photodeveloper](#)

---

## 84 Black Photo Dev Exhausted

### What this message means:

The black photodeveloper has reached its end of life.

### What you can do:

- Replace the black photodeveloper. Make sure you also install the new fuser coating roll that is included in the black photodeveloper kit.
- If the print quality is still acceptable and you do not want to replace the photodeveloper yet, press **Go** to clear the message and continue printing.

### See also:

[Replacing a photodeveloper](#)

---

## 84 Black Photo Dev Life Warning

### What this message means:

The black photodeveloper is nearing its end of life. If you do not have a black photodeveloper kit on hand, order one now. You can print approximately 100 pages before the **84 Black Photo Dev Exhausted** message appears.

### What you can do:

Press **Go** to clear the message and continue printing. The **supplies** message is displayed until you replace the photodeveloper.

### See also:

[Replacing a photodeveloper](#)

---

## 84 <color> Photo Dev Abnormal

### What this message means:

The printer has detected an abnormal photodeveloper.

### What you can do:

Install a new photodeveloper to clear the message and continue printing.

### See also:

[Replacing a photodeveloper](#)

---

## 84 Color Photo Devs Exhausted

### What this message means:

The color photodevelopers have reached the end of their lives.

### What you can do:

- Replace the color photodevelopers. Make sure you replace all three (Cyan, Magenta, and Yellow) at the same time.
- If the print quality is still acceptable and you do not want to replace the photodevelopers yet, press **Go** to clear the message and continue printing.

### See also:

[Replacing a photodeveloper](#)

---

## 84 Color Photo Dev Life Warning

### What this message means:

The color photodevelopers are nearing the end of their lives. If you do not have a new color photodeveloper kit, order one now. You can print approximately 100 pages before the **84 Color Photo Devs Exhausted** message appears.

### What you can do:

Press **Go** to clear the message and continue printing. The **Supplies** message is displayed until you replace the photodevelopers.

**Note:** The Cyan, Magenta, and Yellow photodevelopers are packaged together. You cannot order them separately.

### See also:

[Replacing a photodeveloper](#)

---

## 85 Coating Roll Exhausted

### What this message means:

The oil coating roll has reached its end of life.

### What you can do:

- Replace the oil coating roll.
- If the print quality is still acceptable and you do not want to replace the oil coating roll yet, press **Go** to clear the message and continue printing.

### See also:

[Replacing the oil coating roll](#)

---

## 85 Coating Roll Life Warning

### What this message means:

The oil coating roll is nearing its end of life. If you do not have an oil coating roll on hand, order one now. You can print approximately 500 pages before the **85 Coating Roll Exhausted** message appears.

### What you can do:

Press **Go** to clear the message and continue printing. The **Supplies** message is displayed until you replace the oil coating roll.

### See also:

[Replacing the oil coating roll](#)

---

## 86 Abnormal Coating Roll

### What this message means:

The printer has detected an abnormal coating roll.

### What you can do:

Install a normal coating roll to clear the message and continue printing.

### See also:

[Replacing the oil coating roll](#)

---

## 88 <color> Toner Empty

### What this message means:

The printer has ceased operating because the specified toner cartridge is empty. You cannot print until you replace the specified toner cartridge.

### What you can do:

Install a new toner cartridge.

### See also:

[Replacing a toner cartridge](#)

---

**88 <color> Toner  
Low**

**What this message means:**

The printer has detected that the toner supply in the specified cartridge is low. If you do not have the specified toner cartridge, order one now. You can print approximately 250 more pages before the cartridge becomes empty.

**What you can do:**

- Replace the specified toner cartridge.
- Press **Go** to clear the message and continue printing. The **supplies** message is displayed until you replace the specified toner cartridge.

**See also:**

[Replacing a toner cartridge](#)

---

**900–999 Service <message>**

**What these messages mean:**

Messages 900–999 relate to printer problems that may require service.

**What you can do:**

Turn the printer off and check all cable connections. Turn the printer back on. If the service message recurs, call for service and report the message number and description of the problem.

**See also:**

[Calling for service](#)



# Using printer menus

Select a menu from the following list for more information. Or, click a letter in the index at the bottom of the page to find a specific menu item that starts with that letter.

[Click here](#) for a one-page overview of all the menus and their menu items.

- **Color Menu**
- **Finishing Menu**
- **Infrared Menu**
- **Job Menu**
- **LocalTalk Menu**
- **Network Menu**
- **Paper Menu**
- **Parallel Menu**
- **PCL Emul Menu**
- **PostScript Menu**
- **Serial Menu**
- **Setup Menu**
- **Supplies Menu**
- **USB Menu**
- **Utilities Menu**

Select a menu or menu item for more details.

<b>Finishing Menu</b> <a href="#">Duplex</a> <a href="#">Duplex Bind</a> <a href="#">Copies</a> <a href="#">Blank Pages</a> <a href="#">Collation</a> <a href="#">Separator Sheets</a> <a href="#">Separator Source</a> <a href="#">Multipage Print</a> <a href="#">Multipage Order</a> <a href="#">Multipage View</a> <a href="#">Multipage Border</a>	<b>Job Menu</b> <a href="#">Reset Printer</a> <a href="#">Cancel Fax</a> <a href="#">Confidential Job</a> <a href="#">Held Jobs</a>	<b>Paper Menu</b> <a href="#">Paper Source</a> <a href="#">Paper Size</a> <a href="#">Paper Type</a> <a href="#">Custom Types</a> <a href="#">Configure Bins</a> <a href="#">Assign Type/Bin</a> <a href="#">Substitute Size</a> <a href="#">Configure MP</a> <a href="#">Paper Weight</a> <a href="#">Paper Loading</a> <a href="#">Universal Setup</a>	<b>PCL Emul Menu</b> <a href="#">Font Source</a> <a href="#">Font Name</a> <a href="#">Point Size</a> <a href="#">Pitch</a> <a href="#">Symbol Set</a> <a href="#">Orientation</a> <a href="#">Lines per Page</a> <a href="#">A4 Width</a> <a href="#">Auto CR after LF</a> <a href="#">Auto LF after CR</a> <a href="#">Tray Renummer</a>	<b>Serial Menu</b> <a href="#">PCL SmartSwitch</a> <a href="#">PS SmartSwitch</a> <a href="#">NPA Mode</a> <a href="#">Serial Buffer</a> <a href="#">Job Buffering</a> <a href="#">RS-232/RS-422</a> <a href="#">RS-422 Polarity</a> <a href="#">Serial Protocol</a> <a href="#">Robust XON</a> <a href="#">Baud</a> <a href="#">Data Bits</a> <a href="#">Parity</a> <a href="#">Honor DSR</a>	<b>Supplies Menu</b> <a href="#">Belt</a> <a href="#">Black Photo Dev</a> <a href="#">Coating Roll</a> <a href="#">Color Photo Dev</a> <a href="#">&lt;color&gt; Toner</a> <a href="#">Fuser</a> <a href="#">Replace Supplies</a> <a href="#">Supplies Life</a>
<b>Network Menu</b> <a href="#">PCL SmartSwitch</a> <a href="#">PS SmartSwitch</a> <a href="#">MAC Binary PS</a> <a href="#">NPA Mode</a> <a href="#">Network Buffer</a> <a href="#">Job Buffering</a> <a href="#">Network &lt;x&gt; Setup</a> <a href="#">Std Net Setup</a>	<b>LocalTalk Menu</b> <a href="#">LocalTalk Port</a> <a href="#">PCL SmartSwitch</a> <a href="#">PS SmartSwitch</a> <a href="#">NPA Mode</a> <a href="#">LocalTalk Buffer</a> <a href="#">Job Buffering</a> <a href="#">NPA Hosts</a> <a href="#">LocalTalk Name</a> <a href="#">LocalTalk Addr</a> <a href="#">LocalTalk Zone</a>	<b>Parallel Menu</b> <a href="#">PCL SmartSwitch</a> <a href="#">PS SmartSwitch</a> <a href="#">MAC Binary PS</a> <a href="#">NPA Mode</a> <a href="#">Parallel Buffer</a> <a href="#">Job Buffering</a> <a href="#">Advanced Status</a> <a href="#">Protocol</a> <a href="#">Honor Init</a> <a href="#">Parallel Mode 1</a> <a href="#">Parallel Mode 2</a>	<b>Setup Menu</b> <a href="#">Printer Language</a> <a href="#">Printer Usage</a> <a href="#">Power Saver</a> <a href="#">Resource Save</a> <a href="#">Download Target</a> <a href="#">Print Timeout</a> <a href="#">Auto Continue</a> <a href="#">Wait Timeout</a> <a href="#">Jam Recovery</a> <a href="#">Page Protect</a> <a href="#">Display Language</a> <a href="#">Alarm Control</a> <a href="#">Job Accounting</a> <a href="#">Job Acct Limit</a>	<b>PostScript Menu</b> <a href="#">Print PS Error</a> <a href="#">Font Priority</a> <a href="#">Image Smoothing</a>	<b>USB Menu</b> <a href="#">PCL SmartSwitch</a> <a href="#">PS SmartSwitch</a> <a href="#">MAC Binary PS</a> <a href="#">NPA Mode</a> <a href="#">USB Buffer</a> <a href="#">Job Buffering</a>
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## Color Menu

---

Use the Color Menu to adjust print quality and customize color printing.

Select a menu item for more details:

- **Color Correction**
- **Print Mode**
- **Manual Color**
- **Toner Darkness**

**Note:** Values marked by an asterisk (\*) are the factory default settings.

---

### Color Correction

#### **Purpose:**

To adjust the printed color to better match the colors of other output devices or standard color systems.

#### **Values:**

<b>Auto*</b>	Applies different color correction to each object on the printed page depending upon the type of object and how the color for each object is specified.
<b>Vivid</b>	Applies a color correction algorithm that produces brighter, more saturated colors.
<b>Off</b>	No color correction is implemented.
<b>CMYK</b>	Applies color correction to approximate SWOP color output.
<b>Manual</b>	Similar to Auto. Lets users customize color correction output for each type of object on the page. See “Manual Color” on page 236 for details.
<b>Display</b>	Applies color correction to approximate the colors on a computer display.

**Note:** Due to the differences between additive and subtractive colors, certain colors that appear on your monitor are impossible to duplicate on your printer.

---

## Manual Color

### Purpose:

To let users customize color correction output from the operator panel.

### Values:

<b>RGB Image</b>	<b>Vivid:</b> Applies a color correction algorithm that produces brighter, more saturated colors. May be selected for all incoming color formats. <b>sRGB Display*:</b> Applies color correction to produce output that approximates the colors displayed on a computer monitor. <b>sRGB Vivid:</b> Increases color saturation for the sRGB Display color correction. <b>Off:</b> No color correction is implemented.
<b>RGB Text</b>	<b>Vivid</b> <b>sRGB Display</b> <b>sRGB Vivid*</b> <b>Off</b>
<b>RGB Graphics</b>	<b>Vivid</b> <b>sRGB Display</b> <b>sRGB Vivid*</b> <b>Off</b>
<b>CMYK Image</b>	<b>US CMYK:</b> Applies color correction to approximate SWOP color output. <b>Euro CMYK*:</b> Applies color correction to approximate EuroScale color output. <b>Vivid:</b> Applies a color correction algorithm that produces brighter, more saturated colors. May be selected for all incoming color formats. <b>Vivid CMYK:</b> Increases color saturation for the US CMYK color correction. <b>Off:</b> No color correction is implemented.
<b>CMYK Text</b>	<b>US CMYK</b> <b>Euro CMYK*</b> <b>Vivid</b> <b>Vivid CMYK</b> <b>Off</b>
<b>CMYK Graphics</b>	<b>US CMYK</b> <b>Euro CMYK*</b> <b>Vivid</b> <b>Vivid CMYK</b> <b>Off</b>

---

## Print Mode

### Purpose:

To determine whether images are printed in a monochrome grayscale or in color.

### Values:

Color\*

Black & White

---

## Toner Darkness

### Purpose:

To lighten or darken text images, or conserve toner.

### Values:

1–4 (4\*)

1 is lightest; 4 is darkest.

Select a lower value for lighter grayscale images. Select a higher value for darker grayscale images.  
Select a value of less than 4 to conserve toner.



## Finishing Menu

Use the Finishing Menu to define how the printer delivers the printed output.

Select a menu item for more details:

- **Blank Pages**
- **Collation**
- **Copies**
- **Duplex**
- **Duplex Bind**
- **Multipage Border**
- **Multipage Order**
- **Multipage Print**
- **Multipage View**
- **Separator Sheets**
- **Separator Source**

**Note:** Values marked by an asterisk (\*) are the factory default settings.

---

### Blank Pages

**Purpose:**

To specify whether to include application-generated blank pages as part of your printed output.

**Values:**

<b>Do Not Print*</b>	Does not print application-generated blank pages as part of your job.
<b>Print</b>	Prints application-generated blank pages as part of your job.

---

## Collation

### Purpose:

To keep the pages of a print job stacked in sequence, particularly when printing multiple copies of the job.

### Values:

- Off\*** Prints each page of a job the number of times specified by the Copies menu item. For example, if you set Copies to 2 and send three pages to print, the printer prints page 1, page 1, page 2, page 2, page 3, page 3.
- On** Prints entire job the number of times specified by the Copies menu item. For example, if you set Copies to 2 and send three pages to print, the printer prints page 1, page 2, page 3, page 1, page 2, page 3.

---

## Copies

### Purpose:

To set the number of copies you want for the printer default value. (Set the number of copies required for a specific job from the printer driver. Values selected from the printer driver always override values selected from the operator panel.)

### Values:

1...999 (1\*)

### See also:

[Collation](#)

---

## Duplex

### Purpose:

To set duplexing as the default for all print jobs. (Select Duplex from the printer driver to duplex only specific jobs.)

### Values:

- Off\*** Prints on one side of the paper.
- On** Prints on both sides of the paper.

### See also:

[Duplex Bind](#)

---

## Duplex Bind

### Purpose:

To define the way to bind duplexed pages, and how the printing on the back of the sheet (even-numbered pages) is oriented in relation to the printing on the front (odd-numbered pages).

### Values:

<b>Long Edge*</b>	Assumes binding along the long end of the page (left edge for portrait orientation and top edge for landscape orientation).
<b>Short Edge</b>	Assumes binding along the short edge of the page (top edge for portrait orientation and left edge for landscape orientation).

### See also:

[Duplex](#)

---

## Multipage Border

### Purpose:

To print a border around each page image when using Multipage Print.

### Values:

<b>None*</b>	Does not print a border around each page image.
<b>Solid</b>	Prints a solid line border around each page image.

### See also:

[Multipage Print](#)

---

## Multipage Order

### Purpose:

To determine the positioning of multiple page images when using Multipage Print. The positioning depends on the number of images and whether the images are portrait or landscape in orientation.

For example, if you select 4-Up multipage printing and portrait orientation, the results differ depending on the Multipage Order value you select:

Horizontal Order	Vertical Order	Reverse Horizontal Order	Reverse Vertical Order																
<table border="1"><tr><td>page 1</td><td>page 2</td></tr><tr><td>page 3</td><td>page 4</td></tr></table>	page 1	page 2	page 3	page 4	<table border="1"><tr><td>page 1</td><td>page 3</td></tr><tr><td>page 2</td><td>page 4</td></tr></table>	page 1	page 3	page 2	page 4	<table border="1"><tr><td>page 2</td><td>page 1</td></tr><tr><td>page 4</td><td>page 3</td></tr></table>	page 2	page 1	page 4	page 3	<table border="1"><tr><td>page 3</td><td>page 1</td></tr><tr><td>page 4</td><td>page 2</td></tr></table>	page 3	page 1	page 4	page 2
page 1	page 2																		
page 3	page 4																		
page 1	page 3																		
page 2	page 4																		
page 2	page 1																		
page 4	page 3																		
page 3	page 1																		
page 4	page 2																		

### Values:

Horizontal\*

Vertical

Rev Horizontal

Rev Vertical

### See also:

[Multipage Print](#)

---

## Multipage Print

### Purpose:

To print multiple page images on one side of a sheet of paper. Also called *n-up* or *Paper Saver*.

### Values:

<b>Off*</b>	Prints 1 page image per side.	<b>6 Up</b>	Prints 6 page images per side.
<b>2 Up</b>	Prints 2 page images per side.	<b>9 Up</b>	Prints 9 page images per side.
<b>3 Up</b>	Prints 3 page images per side.	<b>12 Up</b>	Prints 12 page images per side.
<b>4 Up</b>	Prints 4 page images per side.	<b>16 Up</b>	Prints 16 page images per side.

### See also:

[Multipage Border](#); [Multipage Order](#); [Multipage View](#)

---

## Multipage View

### Purpose:

To determine the orientation of a multipage sheet.

### Values:

<b>Auto*</b>	Lets the printer choose between portrait and landscape orientation.
<b>Long Edge</b>	Sets the long edge of the paper as the top of the page (landscape).
<b>Short Edge</b>	Sets the short edge of the paper as the top of the page (portrait).

### See also:

[Multipage Print](#)

---

## Separator Sheets

### Purpose:

To insert blank separator sheets between jobs, between multiple copies of a job, or between each page of a job.

### Values:

<b>None*</b>	Does not insert separator sheets.
<b>Between Copies</b>	Inserts a blank sheet between each copy of a job. If Collation is Off, a blank page is inserted between each set of printed pages (all page 1's, all page 2's, and so on). If Collation is On, a blank page is inserted between each collated copy of the job.
<b>Between Jobs</b>	Inserts a blank sheet between jobs.
<b>Between Pages</b>	Inserts a blank sheet between each page of a job. This is useful if you are printing transparencies or want to insert blank pages in a document for notes.

### See also:

[Separator Source](#); [Collation](#)

---

## Separator Source

### Purpose:

To specify the paper source that holds separator sheets.

### Values:

<b>Tray &lt;x&gt; (Tray 1*)</b>	Selects separator sheets from the specified tray.
<b>MP Feeder</b>	Selects separator sheets from the multipurpose feeder. (You must also set Configure MP to Cassette.)

### See also:

[Separator Sheets](#); [Configure MP](#)



## Infrared Menu

---

Use the Infrared Menu to change printer settings affecting jobs sent to the printer through an infrared port.

Select a menu item for more details:

- **Infrared Buffer**
- **Infrared Port**
- **Job Buffering**
- **Max Baud Rate**
- **NPA Mode**
- **PCL SmartSwitch**
- **PS SmartSwitch**
- **Transmit Delay**
- **Window Size**

**Note:** Values marked by an asterisk (\*) are the factory default settings.

---

## Infrared Buffer

### Purpose:

To configure the size of the infrared input buffer.

### Values:

<b>Disabled</b>	Disables job buffering. Any jobs already buffered on the disk are printed before normal processing of incoming jobs resumes.
<b>Auto*</b>	Printer automatically calculates the Infrared Buffer size (recommended setting).
<b>36K to maximum size allowed</b>	User specifies the Infrared Buffer size. The maximum size setting depends on the amount of memory in your printer, the size of the other link buffers, and whether Resource Save is set to On or Off. To maximize the range for the Infrared Buffer size, disable or reduce the size of the parallel, serial, network, LocalTalk, and USB buffers.

**Note:** Changing the Infrared Buffer menu item automatically resets the printer.

### See also:

[Resource Save](#)

---

## Infrared Port

### Purpose:

To activate the infrared port.

### Values:

<b>Disabled*</b>	Disables the infrared port and all other menu items in the Infrared Menu.
<b>IR Option &lt;x&gt;</b>	Activates the specified infrared port.

---

## Job Buffering

### Purpose:

To temporarily store jobs on the printer hard disk before printing.

### Values:

<b>Off*</b>	Does not buffer print jobs to the hard disk.
<b>On</b>	Buffers print jobs to the hard disk.
<b>Auto</b>	Buffers print jobs only if the printer is busy processing data from another input port.

**Note:** Changing the Job Buffering menu item automatically resets the printer.

---

## Max Baud Rate

### Purpose:

To specify the rate at which data can be received through the infrared port.

### Values:

<b>2400</b>	<b>115200</b>
<b>9600</b>	<b>576000</b>
<b>19200</b>	<b>1152000*</b>
<b>38400</b>	<b>4000000</b>
<b>57600</b>	

The maximum baud possible for both the printer and the infrared adapter is automatically set during a power on reset. However, if your printer is situated in a bright or highly reflective environment, you may experience intermittent communication problems. If you do, select a lower baud for the infrared connection.

---

## NPA Mode

### Purpose:

To specify whether the printer performs the special processing required for bidirectional communication, following the conventions defined in the Network Printing Alliance (NPA) Protocol.

### Values:

<b>Off</b>	Printer does not perform NPA processing.
<b>Auto*</b>	Printer examines the data to determine the format and then processes it appropriately.

Changing this menu item automatically resets the printer.

---

## PCL SmartSwitch

### Purpose:

To configure the printer so it automatically switches to PCL emulation when a print job received through the infrared port requires it, regardless of the default printer language.

### Values:

- On\*** Printer examines the data on the infrared interface and selects PCL emulation if the data indicates that is the required printer language.
- Off** Printer does not examine the incoming data. The printer uses PostScript emulation to process the job if PS SmartSwitch is On, or uses the default printer language specified in the Setup Menu if PS SmartSwitch is Off.

### See also:

[PS SmartSwitch](#); [Printer Language](#)

---

## PS SmartSwitch

### Purpose:

To configure the printer so it automatically switches to PostScript emulation when a print job received through the infrared port requires it, regardless of the default printer language.

### Values:

- On\*** Printer examines data on the infrared interface and selects PostScript emulation if the data indicates that is the required printer language.
- Off** Printer does not examine the incoming data. The printer uses PCL emulation to process the job if PCL SmartSwitch is On, or uses the default printer language specified in the Setup Menu if PCL SmartSwitch is Off.

### See also:

[PCL SmartSwitch](#); [Printer Language](#)

---

## Transmit Delay

### Purpose:

To define the amount of time, in seconds, the printer must wait before transmitting meaningful infrared data to the host computer, as well as the amount of time the printer requests that the host computer wait before transmitting infrared data.

### Values:

- Auto\*** Printer sets the Transmit Delay value during a power-on reset to maximize link performance (recommended).
- None** No delay is imposed by the printer. However, not all host computers can communicate without some transmission delays.
- 1...15** User selects a Transmit Delay value between 1 and 15 seconds. If you have trouble printing using the infrared port, selecting a high Transmit Delay value, such as 15, may resolve the problem.

---

## Window Size

### Purpose:

To specify the maximum number of infrared frames the printer can receive before sending an acknowledgment to the host computer.

### Values:

- Auto\*** Printer sets the Window Size value during a power-on reset to maximize link performance (recommended).
- 1** User sets the Window Size to one frame (1). If you have trouble printing using the infrared port, changing the Window Size menu item to 1 may resolve the problem.



## Job Menu

---

The Job Menu is only available when the printer is busy processing or printing a job, when a printer message is displayed, or when the printer is in Hex Trace mode. Press **Menu** to open the Job Menu.

Select a menu item for more details:

- **Cancel Fax**
- **Held Jobs**
- **Confidential Job**
- **Reset Printer**

---

### Cancel Fax

#### Purpose:

To cancel outgoing faxes before they are transmitted or to cancel incoming faxes before they finish printing.

#### Values:

- R** Cancels an incoming fax. When the fax number for the sending machine is displayed, press **Select** to cancel the incoming fax.
- D** Cancels an outgoing fax. When the fax number for the receiving machine is displayed, press **Select** to cancel the fax job. If the telephone number of the fax you want to cancel is not displayed, use the **Menu** button to scroll through the list. The printer can display up to five outgoing fax numbers in the outgoing fax queue. When more than five faxes are in the queue, the next fax job appears on the display as an outgoing fax is transmitted or canceled.

---

## Confidential Job

### Purpose:

To print confidential jobs stored in printer memory. (When the Confidential Job prints, it is automatically deleted from printer memory.)

*First enter the Personal Identification Number (PIN) associated with your Confidential Job:*

<b>Enter PIN</b>	Use the operator panel buttons to enter the PIN associated with your Confidential Job.
------------------	--

*Then select a value:*

<b>Print All Jobs</b>	Prints all jobs associated with your PIN.
<b>Print A Job</b>	Prints the specified Confidential Job. Press <b>Menu</b> to scroll through the list of confidential jobs associated with your PIN. Press <b>Select</b> to print a specific job.
<b>Delete All Jobs</b>	Deletes all jobs associated with your PIN.
<b>Delete A Job</b>	Deletes the specified Confidential Job. Press <b>Menu</b> to scroll through the list of Confidential Jobs associated with your PIN. Press <b>Select</b> to delete a specific job.
<b>Copies</b>	Determines the number of copies printed for each Confidential Job. Press <b>Menu</b> to scroll through the list of Confidential Jobs associated with your PIN. Press <b>Select</b> to specify the job you want to print. Press <b>Menu</b> to increase or decrease the number of copies, and then press <b>Select</b> .

---

## Held Jobs

### Purpose:

To print Reserve Print, Repeat Print, or Verify Print jobs stored in printer memory.

### Values:

<b>Print All Jobs</b>	Prints all held jobs.
<b>Print A Job</b>	Prints the specified held job. Press <b>Menu</b> to scroll through the list of held jobs. Press <b>Select</b> to print the specific job.
<b>Delete All Jobs</b>	Deletes all held jobs.
<b>Delete A Job</b>	Deletes the designated held job. Press <b>Menu</b> to scroll through the list of held jobs. Press <b>Select</b> to delete the job.
<b>Copies</b>	Determines the number of copies for each held job. Press <b>Menu</b> to scroll through the list of held jobs. Press <b>Select</b> to specify the job you want to print. Press <b>Menu</b> to increase or decrease the number of copies, and then press <b>Select</b> .

---

## Reset Printer

### **Purpose:**

To reset the printer to the user default value for each menu item, delete all downloaded resources (fonts, macros, and symbol sets) stored in printer memory (RAM), and delete all data in the interface link buffer.

**Note:** Before selecting Reset Printer, exit the software application you are using.



## LocalTalk Menu

---

Use the LocalTalk Menu to change printer settings affecting jobs sent to the printer through a LocalTalk port.

Select a menu item for more details:

- **Job Buffering**
- **LocalTalk Addr**
- **LocalTalk Buffer**
- **LocalTalk Name**
- **LocalTalk Port**
- **LocalTalk Zone**
- **NPA Hosts**
- **NPA Mode**
- **PCL SmartSwitch**
- **PS SmartSwitch**

**Note:** Values marked by an asterisk (\*) are the factory default settings.

---

### Job Buffering

#### **Purpose:**

To temporarily store jobs on the printer hard disk before printing.

#### **Values:**

- |             |   |
|-------------|---|
| <b>Off*</b> | Does not buffer the print job to the hard disk.   |
| <b>On</b>   | Buffers print jobs to the hard disk.  |
| <b>Auto</b> | Buffers print jobs only if the printer is busy processing data from another input port. |

**Note:** Changing the Job Buffering menu item automatically resets the printer.

---

## LocalTalk Addr

### Purpose:

To identify the LocalTalk Node number assigned to the printer. This menu item cannot be modified through the operator panel.

---

## LocalTalk Buffer

### Purpose:

To configure the size of the LocalTalk input buffer.

### Values:

<b>Disabled</b>	Disables job buffering. Any jobs already buffered on the disk are printed before normal processing of incoming jobs resumes.
<b>Auto*</b>	Printer automatically calculates LocalTalk Buffer size (recommended).
<b>6K to maximum size allowed</b>	User specifies the LocalTalk Buffer size. The maximum size depends on the amount of memory in your printer, the size of the other link buffers, and whether Resource Save is set to On or Off. To maximize the range for the LocalTalk Buffer size, disable or reduce the size of the parallel, serial, network, infrared, and USB buffers.

**Note:** Changing the LocalTalk Buffer menu item automatically resets the printer.

### See also:

[Resource Save](#)

---

## LocalTalk Name

### Purpose:

To identify the printer model name stored in printer memory. This menu item cannot be modified through the operator panel.

---

## LocalTalk Port

### Purpose:

To activate the LocalTalk port.

### Values:

<b>Disabled*</b>	Disables the LocalTalk port and all other menu items in the LocalTalk Menu.
<b>LTalk Option &lt;x&gt;</b>	Activates the specified LocalTalk port.

---

## LocalTalk Zone

### Purpose:

To identify the LocalTalk Zone provided by the LocalTalk network. This menu item cannot be modified through the operator panel.

---

## NPA Hosts

### Purpose:

To specify the maximum number of NPA hosts that can register for NPA alerts.

### Values:

1...10 (2\*)

---

## NPA Mode

### Purpose:

To specify whether the printer performs the special processing required for bidirectional communication, following the conventions defined in the Network Printing Alliance (NPA) Protocol.

### Values:

- |              |  |
|--------------|--|
| <b>Off</b>   | Printer does not perform NPA processing.   |
| <b>Auto*</b> | Printer examines the data to determine the format and then processes it appropriately. |

**Note:** Changing this menu item automatically resets the printer.

---

## PCL SmartSwitch

### Purpose:

To configure the printer so it automatically switches to PCL emulation when a print job received through the LocalTalk port requires it, regardless of the default printer language.

### Values:

- On\*** Printer examines data on the LocalTalk interface and selects PCL emulation if the data indicates that is the required printer language.
- Off** Printer does not examine the incoming data. The printer uses PostScript emulation to process the job if PS SmartSwitch is On, or uses the default printer language specified in the Setup Menu if PS SmartSwitch is Off.

### See also:

[PS SmartSwitch](#); [Printer Language](#)

---

## PS SmartSwitch

### Purpose:

To configure the printer so it automatically switches to PostScript emulation when a print job received through the LocalTalk port requires it, regardless of the default printer language.

### Values:

- On\*** Printer examines data on the LocalTalk interface and selects PostScript emulation if the data indicates that is the required printer language.
- Off** Printer does not examine the incoming data. The printer uses PCL emulation to process the job if PCL SmartSwitch is On, or uses the default printer language specified in the Setup Menu if PCL SmartSwitch is Off.

### See also:

[PCL SmartSwitch](#); [Printer Language](#)



## Network Menu

---

Use the Network Menu to change printer settings affecting jobs sent to the printer through a network port (either Standard Network or Network Opt <x>).

Select a menu item for more details:

- **Job Buffering**
- **MAC Binary PS**
- **Network Buffer**
- **Network <x> Setup**
- **NPA Mode**
- **PCL SmartSwitch**
- **PS SmartSwitch**
- **Std Net Setup**

**Note:** Values marked by an asterisk (\*) are the factory default settings.

---

### Job Buffering

#### **Purpose:**

To temporarily store jobs on the printer hard disk before printing.

#### **Values:**

- |             |   |
|-------------|---|
| <b>Off*</b> | Does not buffer jobs to the hard disk.  |
| <b>On</b>   | Buffers print jobs to the hard disk.  |
| <b>Auto</b> | Buffers print jobs only if the printer is busy processing data from another input port. |

**Note:** Changing the Job Buffering menu item automatically resets the printer.

---

## MAC Binary PS

### Purpose:

To configure the printer to process Macintosh binary PostScript print jobs.

### Values:

- |              |   |
|--------------|---|
| <b>On</b>    | Printer processes raw binary PostScript print jobs from computers using the Macintosh operating system.<br><b>Note:</b> This setting often causes Windows print jobs to fail. |
| <b>Off</b>   | Printer filters PostScript print jobs using standard protocol.  |
| <b>Auto*</b> | Printer processes print jobs from computers using either Windows or Macintosh operating systems.  |

---

## Network Buffer

### Purpose:

To configure the size of the network input buffer.

### Values:

- |                                   |   |
|-----------------------------------|---|
| <b>Auto*</b>                      | Printer automatically calculates the Network Buffer size (recommended setting).   |
| <b>3K to maximum size allowed</b> | User specifies the Network Buffer size. The maximum size depends on the amount of memory in your printer, the size of the other link buffers, and whether Resource Save is set to On or Off. To maximize the range for the Network Buffer size, disable or reduce the size of the parallel, serial, infrared, LocalTalk, and USB buffers. |

**Note:** Changing the Network Buffer menu item automatically resets the printer.

### See also:

[Resource Save](#)

---

## Network <x> Setup

### Purpose:

To configure an internal print server.

### Values:

Values for this menu item are supplied by the specific print server. Select the menu item to see the available values.

---

## NPA Mode

### Purpose:

To specify whether the printer performs the special processing required for bidirectional communication, following the conventions defined in the Network Printing Alliance (NPA) Protocol.

### Values:

- Off** Printer does not perform NPA processing.
- Auto\*** Printer examines the data to determine the format and then processes it appropriately.

**Note:** Changing this menu item automatically resets the printer.

---

## PCL SmartSwitch

### Purpose:

To configure the printer so it automatically switches to PCL emulation when a print job received through the network port requires it, regardless of the default printer language.

### Values:

- On\*** Printer examines data on the network interface and selects PCL emulation if the data indicates that is the required printer language.
- Off** Printer does not examine the incoming data. The printer uses PostScript emulation to process the job if PS SmartSwitch is On, or uses the default printer language specified in the Setup Menu if PS SmartSwitch is Off.

### See also:

[PS SmartSwitch](#); [Printer Language](#)

---

## PS SmartSwitch

### Purpose:

To configure the printer so it automatically switches to PostScript emulation when a print job received through the network port requires it, regardless of the default printer language.

### Values:

- On\*** Printer examines data on the network interface connection and selects PostScript emulation if the data indicates that is the required printer language.
- Off** Printer does not examine the incoming data. The printer uses PCL emulation to process the job if PCL SmartSwitch is On, or uses the default printer language specified in the Setup Menu if PCL SmartSwitch is Off.

### See also:

[PCL SmartSwitch](#); [Printer Language](#)

---

## Std Net Setup

### Purpose:

To configure an internal print server.

### Values:

Values for this menu item are supplied by the specific print server. Select the menu item to see the available values.



## Paper Menu

---

Use the Paper Menu to define the paper loaded in each paper tray and the default paper source and output bin.

Select a menu item for more details:

- **Assign Type/Bin**
- **Configure Bins**
- **Configure MP**
- **Custom Types**
- **Paper Loading**
- **Paper Size**
- **Paper Source**
- **Paper Type**
- **Paper Weight**
- **Substitute Size**
- **Universal Setup**

**Note:** Values marked by an asterisk (\*) are the factory default settings.

---

## Assign Type/Bin

### Purpose:

To send print jobs to a specific output bin based on the requested paper type.

### Values (for Standard Bin\* and Bin 1):

Plain Paper Bin	Envelope Bin
Card Stock Bin	Letterhead Bin
Bond Bin	Preprinted Bin
Glossy Paper Bin	Colored Bin
Labels Bin	Transparency Bin
Custom <x> Bin (where <x> represents 1 through 6)	

**Note:** If a user-defined name is available, it is displayed instead of Custom <x> Bin. The name is truncated to 14 characters. If two or more bins share the same name, the name only appears once in the Assign Type/Bin value list.

---

## Configure Bins

### Purpose:

To determine which output bin(s) the printer uses for a particular job.

### Values:

Mailbox*	Sends print jobs to the output bin designated for that user.
Mail Overflow	Sends print jobs to the output bin designated for that user until it is full, and then sends jobs to the designated overflow bin.
Type Assignment	Sends each job to the output bin specified for that paper type.

---

## Configure MP

### Purpose:

To determine when the printer selects paper loaded in the multipurpose feeder.

### Values:

Cassette*	Printer treats the multipurpose feeder like any other paper tray. If a print job requests a paper size or type that is only loaded in the multipurpose feeder, the printer pulls paper from the multipurpose feeder for the job.
Manual	Printer treats the multipurpose feeder like a manual feed tray, and displays <b>Load Manual</b> when you need to insert a single sheet of paper in the feeder.
First	Printer pulls paper from the multipurpose feeder until it is empty, regardless of the paper source or paper size requested for the job.

---

## Custom Types

### Purpose:

To specify the kind of paper associated with each of the Custom Types available in the Paper Type menu item.

### Values (for Custom Type <x>, where <x> represents 1 through 6):

<b>Paper*</b>	<b>Glossy Paper</b>
<b>Card Stock</b>	<b>Labels</b>
<b>Transparency</b>	<b>Envelope</b>

**Note:** If a user-defined name is available, it is displayed instead of Custom Type <x>. The user-defined name is truncated to 14 characters. If two or more custom types share the same name, the name only appears once in the Custom Types value list.

---

## Paper Loading

### Purpose:

To properly handle preprinted paper loaded in a tray, whether the job is a duplexed job or a single-sided job.

### Values:

*First select a paper type:*

<b>Bond Loading</b>	<b>Colored Loading</b>	<b>Ltrhead Loading</b>
<b>Glossy Loading</b>	<b>Custom &lt;x&gt; Loading</b>	<b>Preprint Loading</b>

*Then select a value:*

<b>Duplex</b>	Notifies the printer that the specified paper type is loaded properly for duplex printing. If the printer receives a single-sided job using that paper type, the printer inserts blank pages as necessary to print the job properly on preprinted forms. This setting may slow single-sided printing.
<b>Off*</b>	Printer assumes preprinted material is loaded for single-sided printing. Duplexed jobs may not print properly.

**Note:** If a user-defined name is available, it is displayed instead of Custom <x> Loading. The name is truncated to 14 characters.

---

## Paper Size

### Purpose:

To identify the default paper size for each paper source.

### Values:

*First select a paper source:*

<b>Tray &lt;x&gt; Size</b>	<b>MP Feeder Size</b>
<b>Manual Pap Size</b>	<b>Manual Env Size</b>

*Then select a value (\*denotes country/region-specific factory default values):*

<b>Letter*</b>	<b>A4*</b>	<b>A3</b>	<b>7 3/4 Envelope</b>	<b>11 x 17</b>
<b>Legal</b>	<b>A5</b>	<b>9 Envelope</b>	<b>DL Envelope*</b>	<b>Folio</b>
<b>Executive</b>	<b>JIS B4</b>	<b>Other Envelope</b>	<b>C5 Envelope</b>	
<b>Statement</b>	<b>JIS B5</b>	<b>10 Envelope*</b>	<b>B5 Envelope</b>	
<b>Universal</b>	Select Universal when you load paper that does not match any of the other available sizes. The printer automatically formats the page for the maximum possible size. You can then set the actual page size from your application software.			

---

## Paper Source

### Purpose:

To identify the default paper source.

### Values:

<b>Tray &lt;x&gt; (Tray 1*)</b>
<b>MP Feeder</b>
<b>Manual Paper</b>
<b>Manual Env</b>

If you loaded the same size and type of paper in two paper sources (and the Paper Size and Paper Type menu items are correctly set), the trays are automatically linked. When one paper source is empty, paper automatically feeds from the next linked source.

---

## Paper Type

### Purpose:

To identify the type of paper installed in each paper source.

### Values:

*First select a paper source:*

<b>Tray &lt;x&gt; Type</b>	<b>MP Feeder Type</b>
<b>Manual Pap Type</b>	<b>Manual Env Type</b>

*Then select a value:*

<b>Plain Paper</b>	<b>Labels</b>	<b>Preprinted</b>	<b>Envelope</b>
<b>Card Stock</b>	<b>Bond</b>	<b>Custom Type &lt;x&gt;</b>	<b>Colored Paper</b>
<b>Transparency</b>	<b>Letterhead</b>	<b>Glossy Paper</b>	

The Paper Type default for each envelope source is Envelope. The Paper Type default for each paper tray is as follows:

<b>Tray 1</b> –Plain Paper	<b>Tray 4</b> –Custom Type 4
<b>Tray 2</b> –Custom Type 2	<b>Tray 5</b> –Custom Type 5
<b>Tray 3</b> –Custom Type 3	<b>Manual Pap Type</b> –Plain Paper

**Note:** If a user-defined name is available, it is displayed instead of Custom Type <x>. The user-defined name is truncated to 14 characters. If two or more custom types share the same name, the name only appears once in the Paper Type value list.

Use this menu item to:

- Optimize print quality for the specified paper.
- Select paper sources through your software application by selecting type and size.
- Automatically link paper sources. Any sources containing the same type and size of paper are automatically linked by the printer, if you have set the Paper Size and the Paper Type to the correct values.

### See also:

[Output bins](#)

---

## Paper Weight

### Purpose:

To identify the relative weight of the paper loaded in a specific source and ensure that the toner adheres properly to the printed page.

### Values:

*First select a paper type:*

<b>Plain Weight</b>	<b>Preprint Weight</b>	<b>Ltrhead Weight</b>
<b>Labels Weight</b>	<b>Bond Weight</b>	<b>Envelope Weight</b>
<b>Glossy Weight</b>	<b>Card Stock Weight</b>	<b>Trnsprncy Weight</b>
<b>Colored Weight</b>	<b>Custom &lt;x&gt; Weight</b>	

*Then select a value:*

<b>Light</b>	16–20 lb
<b>Normal*</b>	20–24 lb
<b>Heavy</b>	24–28 lb

**Note:** If a user-defined name is available, it is displayed instead of Custom <x> Weight. The name is truncated to 14 characters.

---

## Substitute Size

### Purpose:

To have the printer substitute the specified paper size if the requested size is not loaded.

### Values:

<b>Off</b>	Printer prompts the user to load the requested paper size.
<b>Statement/A5</b>	Prints A5 size jobs on statement size paper if only statement size paper is loaded, and prints statement size jobs on A5 paper if only A5 paper is loaded.
<b>11x17/A3</b>	Prints A3 size jobs on 11x17 size paper if only 11x17 size paper is loaded, and prints 11x17 size jobs on A3 size paper if only A3 size paper is loaded.
<b>Letter/A4</b>	Prints A4 size jobs on letter size paper if only letter size paper is loaded, and prints letter size jobs on A4 size paper if only A4 size paper is loaded.
<b>All Listed*</b>	Substitutes Letter/A4.

---

## Universal Setup

### Purpose:

To determine the default size when the Paper Size setting for a tray or feeder is Universal.

### Values:

*First select a unit of measure (\* denotes a country/region-specific factory default value):*

**Inches\***

**Millimeters\***

*Then select the values:*

<b>Portrait Width</b>	=3.00–17.00 in. (11.69 in.*)	=76–432 mm (297 mm*)
<b>Portrait Height</b>	=3.00–17.00 in. (17.00 in.*)	=76–432 mm (432 mm*)
<b>Feed Direction</b>	=Short Edge* =Long Edge	



## Parallel Menu

---

Use the Parallel Menu to change printer settings affecting jobs sent to the printer through a parallel port (either Std Parallel or Parallel Opt <x>).

Select a menu item for more details:

- **Advanced Status**
- **Honor Init**
- **Job Buffering**
- **MAC Binary PS**
- **NPA Mode**
- **Parallel Buffer**
- **Parallel Mode 1**
- **Parallel Mode 2**
- **PCL SmartSwitch**
- **PS SmartSwitch**
- **Protocol**

**Note:** Values marked by an asterisk (\*) are the factory default settings.

---

### Advanced Status

**Purpose:**

To enable bidirectional communication through the parallel port.

**Values:**

- |            |   |
|------------|---|
| <b>Off</b> | Disables parallel port negotiation.                                 |
| <b>On*</b> | Enables bidirectional communication through the parallel interface. |

---

## Honor Init

### Purpose:

To determine whether the printer honors hardware initialization requests from the computer. The computer requests initialization by activating the INIT signal on the parallel interface. Many personal computers activate the INIT signal each time the computer is turned on and off.

### Values:

- Off\*** Printer does not honor hardware initialization requests from the computer.
- On** Printer honors hardware initialization requests from the computer.

---

## Job Buffering

### Purpose:

To temporarily store jobs on the printer hard disk before printing.

### Values:

- Off\*** Does not buffer print jobs to the hard disk.
- On** Buffers print jobs to the hard disk.
- Auto** Buffers print jobs only if the printer is busy processing data from another input port.

**Note:** Changing the Job Buffering menu item automatically resets the printer.

---

## MAC Binary PS

### Purpose:

To configure the printer to process Macintosh binary PostScript print jobs.

### Values:

- On** Printer processes raw binary PostScript print jobs from computers using the Macintosh operating system.  
**Note:** This setting often causes Windows print jobs to fail.
- Off** Printer filters PostScript print jobs using standard protocol.
- Auto\*** Printer processes print jobs from computers using either Windows or Macintosh operating systems.

---

## NPA Mode

### Purpose:

To specify whether the printer performs the special processing required for bidirectional communication, following the conventions defined in the Network Printing Alliance (NPA) Protocol.

### Values:

- |              |  |
|--------------|--|
| <b>On</b>    | Printer performs NPA processing. If data is not in NPA format, it is rejected as bad data. |
| <b>Off</b>   | Printer does not perform NPA processing.   |
| <b>Auto*</b> | Printer examines data and determines the format and then processes it appropriately.       |

**Note:** Changing this menu item automatically resets the printer.

---

## Parallel Buffer

### Purpose:

To configure the size of the parallel input buffer.

### Values:

- |                                   |   |
|-----------------------------------|---|
| <b>Disabled</b>                   | Disables job buffering. Any jobs already buffered on the disk are printed before normal processing of incoming jobs resumes.  |
| <b>Auto*</b>                      | Printer automatically calculates the Parallel Buffer size (recommended setting).  |
| <b>3K to maximum size allowed</b> | User specifies the Parallel Buffer size. The maximum size depends on the amount of memory in your printer, the size of the other link buffers, and whether Resource Save is set to On or Off. To maximize the range for the Parallel Buffer size, disable or reduce the size of the serial, infrared, LocalTalk, and USB buffers. |

**Note:** Changing the Parallel Buffer menu item automatically resets the printer.

### See also:

[Resource Save](#)

---

## Parallel Mode 1

### Purpose:

To control the pull-up resistors on the parallel port signals. This menu item is useful for personal computers that have open collector outputs on the parallel port signals.

### Values:

- On** Disables the resistors.
- Off\*** Enables the resistors.

---

## Parallel Mode 2

### Purpose:

To determine whether the parallel port data is sampled on the leading or trailing edge of strobe.

### Values:

- On\*** Samples parallel port data on the leading edge of strobe.
- Off** Samples parallel port data on the trailing edge of strobe.

---

## PCL SmartSwitch

### Purpose:

To configure the printer so it automatically switches to PCL emulation when a print job received through the parallel port requires it, regardless of the default printer language.

### Values:

- On\*** Printer examines data on the parallel interface and selects PCL emulation if the data indicates that is the required printer language.
- Off** Printer does not examine the incoming data. The printer uses PostScript emulation to process the job if PS SmartSwitch is On, or uses the default printer language specified in the Setup Menu if PS SmartSwitch is Off.

### See also:

[Printer Language](#); [PS SmartSwitch](#)

---

## PS SmartSwitch

### Purpose:

To configure the printer so it automatically switches to PostScript emulation when a print job received through the parallel port requires it, regardless of the default printer language.

### Values:

- On\*** Printer examines data on the parallel interface and selects PostScript emulation if the data indicates that is the required printer language.
- Off** Printer does not examine the incoming data. The printer uses PCL emulation to process the job if PCL SmartSwitch is On, or uses the default printer language specified in the Setup Menu if PCL SmartSwitch is Off.

### See also:

[PCL SmartSwitch](#); [Printer Language](#)

---

## Protocol

### Purpose:

To specify the parallel interface protocol.

### Values:

- Standard** May resolve some parallel interface problems.
- Fastbytes\*** Provides compatibility with most existing parallel interface implementations (recommended setting).



## PCL Emul Menu

---

Use the PCL Emul Menu to change printer settings that only affect jobs using the PCL emulation printer language.

Select a menu item for more details:

- **A4 Width**
- **Auto CR after LF**
- **Auto LF after CR**
- **Font Name**
- **Font Source**
- **Lines per Page**
- **Orientation**
- **Pitch**
- **Point Size**
- **Symbol Set**
- **Tray Renumber**

**Note:** Values marked by an asterisk (\*) are the factory default settings.

---

### A4 Width

**Purpose:**

To select the width of the logical page for A4 size paper.

**Values:**

- |                |  |
|----------------|--|
| <b>198 mm*</b> | Makes the logical page compatible with the Hewlett-Packard LaserJet 5 Printer. |
| <b>203 mm</b>  | Makes the logical page wide enough to print eighty 10-pitch characters.        |

---

## Auto CR after LF

### Purpose:

To specify whether the printer automatically performs a carriage return after a line feed control command.

### Values:

- Off\*** Printer does not perform a carriage return after a line feed control command.
- On** Printer performs a carriage return after a line feed control command.

---

## Auto LF after CR

### Purpose:

To specify whether the printer automatically performs a line feed after a carriage return control command.

### Values:

- Off\*** Printer does not perform a line feed after a carriage return control command.
- On** Printer performs a line feed after a carriage return control command.

---

## Font Name

### Purpose:

To choose a specific font from the specified font source.

### Values:

**R0 Courier 10\***

The font name and font ID for all fonts in the selected font source are displayed. The font source abbreviation is R for resident, F for flash, K for disk, and D for download.

### See also:

[Font Source](#)

---

## Font Source

### Purpose:

To determine the set of fonts displayed in the Font Name menu item.

### Values:

<b>Resident*</b>	Displays all fonts resident in printer RAM when the printer ships from the factory.
<b>Download</b>	Displays all fonts downloaded to printer RAM.
<b>Flash</b>	Displays all fonts stored in flash memory.
<b>Disk</b>	Displays all fonts stored on the printer hard disk.
<b>All</b>	Displays all fonts available to the printer from all sources.

### See also:

[Font Name](#)

---

## Lines per Page

### Purpose:

To determine the number of lines that print on each page.

### Values:

- 1...255
- 60\* (country/region-specific factory default values)
- 64\* (country/region-specific factory default values)

The printer sets the amount of space between each line (vertical line spacing) based on the Lines per Page, Paper Size, and Orientation menu items. Select the correct Paper Size and Orientation before changing Lines per Page.

### See also:

[Orientation](#); [Paper Size](#)

---

## Orientation

### Purpose:

To determine how text and graphics are oriented on the page.

### Values:

<b>Portrait*</b>	Prints text and graphics parallel to the short edge of the paper.
<b>Landscape</b>	Prints text and graphics parallel to the long edge of the paper.

---

## Pitch

### Purpose:

To specify the font pitch for scalable monospaced fonts.

### Values:

**0.08...100 (in increments of 0.01 cpi)**

10\*

Pitch refers to the number of fixed-space characters in a horizontal inch of type. You can select a pitch from 0.08 to 100 characters per inch (cpi) in increments of 0.01 cpi. For nonscalable monospaced fonts, the pitch is displayed, but cannot be changed.

**Note:** Pitch is only displayed for fixed, or monospaced, fonts.

---

## Point Size

### Purpose:

To change the point size for scalable typographic fonts.

### Values:

**1...1008 (in increments of 0.25 points)**

12\*

Point size refers to the height of the characters in the font. One point equals approximately 1/72 of an inch. You can select point sizes from 1 to 1008 in increments of 0.25 points.

**Note:** Point Size is only displayed for typographic fonts.

---

## Symbol Set

### Purpose:

To choose a symbol set for a specified font name.

### Values:

**PC-8\*** (country/region-specific factory default values)

**PC-850\*** (country/region-specific factory default values)

A symbol set is a set of alphabetic and numeric characters, punctuation, and special symbols used when printing with a selected font. Symbol sets support the different requirements for languages or specific applications, such as math symbols for scientific text. Only the symbol sets supported for the selected font name are displayed.

### See also:

[Font Name](#)

---

## Tray Renumber

### Purpose:

To configure your printer to work with printer drivers or applications that use different source assignments for the paper trays.

*First select a paper source:*

<b>Assign Tray &lt;x&gt;</b>	<b>Assign Man Env</b>
<b>Assign MP Feeder</b>	<b>Assign Man Paper</b>

*Then select a value:*

<b>Off*</b>	Printer uses factory default paper source assignments.
<b>0...199</b>	Select a numeric value to assign a custom value to a paper source.
<b>None</b>	Paper source ignores the Select Paper Feed command.

*Other Tray Renumber selections:*

<b>View Factory Def</b>	Press <b>Menu</b> to display the factory default value assigned to each paper source.
<b>Restore Defaults</b>	Select <b>Yes</b> to return all tray assignments to factory default values.



# PostScript Menu

---

Use the PostScript Menu to change printer settings that only affect jobs using the PostScript emulation printer language.

Select a menu item for more details:

- **Font Priority**
- **Image Smoothing**
- **Print PS Error**

**Note:** Values marked by an asterisk (\*) are the factory default settings.

---

## Font Priority

### **Purpose:**

To establish the font search order.

### **Values:**

<b>Resident*</b>	Printer searches printer memory for the requested font before searching flash memory or hard disk.
<b>Flash/Disk</b>	Printer searches the hard disk and flash memory for the requested font before searching printer memory.

**Note:** Font Priority is only displayed when a formatted flash or hard disk is installed, is neither defective nor Read/Write or Write protected, and Job Buffer Size is not set to 100%.

---

## Image Smoothing

### Purpose:

To enhance the contrast and sharpness of low resolution bitmapped images (such as images downloaded from the World Wide Web) and smooth their color transitions.

### Values:

- Off\*** Uses default resolution when printing all images.
- On** Enhances low resolution images, such as graphics with a resolution of 72 dpi.

**Note:** Image Smoothing has no effect on images that are 300 dpi or higher resolution.

---

## Print PS Error

### Purpose:

To print a page defining the PostScript emulation error when an error occurs.

### Values:

- Off\*** Discards the print job without printing an error message.
- On** Prints an error message before it discards the job.



## Serial Menu

---

Use the Serial Menu to change printer settings affecting jobs sent to the printer through a serial port (either Standard Serial or Serial Opt <x>).

Select a menu item for more details:

- **Baud**
- **Data Bits**
- **Honor DSR**
- **Job Buffering**
- **NPA Mode**
- **Parity**
- **PCL SmartSwitch**
- **PS SmartSwitch**
- **Robust XON**
- **RS-232/RS-422**
- **RS-422 Polarity**
- **Serial Buffer**
- **Serial Protocol**

**Note:** Values marked with an asterisk (\*) are the factory default settings.

---

### Baud

#### Purpose:

To specify the rate at which data can be received through the serial port.

#### Values:

1200	57600
2400	115200
4800	138200
9600*	172800
19200	230400
38400	345600

---

## Data Bits

### Purpose:

To specify the number of data bits that are sent in each transmission frame.

### Values:

7

8\*

---

## Honor DSR

### Purpose:

To determine whether the printer uses the Data Set Ready (DSR) signal. DSR is one of the handshaking signals for most serial interface cables.

### Values:

**Off\*** All data received by the serial port is treated as valid data.

**On** Only data received while the DSR signal is high is treated as valid.

The serial interface uses DSR to distinguish data sent by the computer from data created by electrical noise in the serial cable. This electrical noise can cause stray characters to print. Select On to prevent stray characters from printing.

---

## Job Buffering

### Purpose:

To temporarily store jobs on the printer hard disk before printing.

### Values:

**Off\*** Does not buffer print jobs to the hard disk.

**On** Buffers print jobs to the hard disk.

**Auto** Buffers print jobs only if the printer is busy processing data from another input port.

**Note:** Changing the Job Buffering menu item automatically resets the printer.

---

## NPA Mode

### Purpose:

To specify whether the printer performs the special processing required for bidirectional communication, following the conventions defined in the Network Printing Alliance (NPA) Protocol.

### Values:

- On** Printer performs NPA processing. If data is not in NPA format, it is rejected as bad data.
- Off** Printer does not perform NPA processing.
- Auto\*** Printer examines the data to determine the format and then processes it appropriately.

**Note:** Changing this menu item automatically resets the printer.

---

## Parity

### Purpose:

To select the parity for serial input and output data frames.

### Values:

- Even**
- Odd**
- None\***
- Ignore**

---

## PCL SmartSwitch

### Purpose:

To configure the printer so it automatically switches to PCL emulation when a print job received through the serial port requires it, regardless of the default printer language.

### Values:

- On\*** Printer examines data on the serial interface and selects PCL emulation if the data indicates that is the required printer language.
- Off** Printer does not examine the incoming data. The printer uses PostScript emulation to process the job if PS SmartSwitch is On, or uses the default printer language specified in the Setup Menu if PS SmartSwitch is Off.

### See also:

[PS SmartSwitch](#); [Printer Language](#)

---

## PS SmartSwitch

### Purpose:

To configure the printer so it automatically switches to PostScript emulation when a print job received through the serial port requires it, regardless of the default printer language.

### Values:

- On\*** Printer examines data on the serial interface and selects PostScript emulation if the data indicates that is the required printer language.
- Off** Printer does not examine the incoming data. The printer uses PCL emulation to process the job if PCL SmartSwitch is On, or uses the default printer language specified in the Setup Menu if PCL SmartSwitch is Off.

### See also:

[PCL SmartSwitch](#); [Printer Language](#)

---

## Robust XON

### Purpose:

To determine whether the printer communicates availability to the computer.

### Values:

- Off\*** Printer waits to receive data from the computer.
- On** Printer sends a continuous stream of XONs to the host computer to indicate that the serial port is ready to receive more data.

This menu item only applies to the serial port if Serial Protocol is set to XON/XOFF.

---

## RS-232/RS-422

### Purpose:

To specify the type of serial communication.

### Values:

- RS-232\*
- RS-422

**Note:** Selecting RS-422 automatically sets Serial Protocol to XON/XOFF.

---

## RS-422 Polarity

### Purpose:

To establish the behavior of the positive and negative signals when using RS-422 serial communication.

### Values:

<b>Normal*</b>	Uses default definition of one and zero.
<b>Reverse</b>	Reverses the definition of one and zero, thereby allowing a positive connection to a host computer's negative terminal without changing the physical cable.

---

## Serial Buffer

### Purpose:

To configure the size of the serial input buffer.

### Values:

<b>Disabled</b>	Disables job buffering. Any jobs already buffered on the disk are printed before normal processing of incoming jobs resumes.
<b>Auto*</b>	Printer automatically calculates the Serial Buffer size (recommended setting).
<b>3K to maximum size allowed</b>	User specifies the Serial Buffer size. The maximum size depends on the amount of memory in your printer, the size of the other link buffers, and whether Resource Save is set to On or Off. To maximize the range for the Serial Buffer size, disable or reduce the size of the parallel, infrared, LocalTalk, and USB buffers.

**Note:** Changing the Serial Buffer menu item automatically resets the printer.

### See also:

[Resource Save](#)

---

## Serial Protocol

### Purpose:

To select the hardware and software handshaking values for the serial interface.

### Values:

<b>DTR*</b>	Hardware handshaking.
<b>DTR/DSR</b>	Hardware handshaking.
<b>XON/XOFF</b>	Software handshaking.
<b>XON/XOFF/DTR</b>	Combined hardware and software handshaking.
<b>XONXOFF/DTRDSR</b>	Combined hardware and software handshaking.



## Setup Menu

---

Use the Setup Menu to configure a variety of printer features.

Select a menu item for more details:

- **Alarm Control**
- **Auto Continue**
- **Display Language**
- **Download Target**
- **Jam Recovery**
- **Job Accounting**
- **Job Acct Limit**
- **Page Protect**
- **Power Saver**
- **Print Timeout**
- **Printer Language**
- **Printer Usage**
- **Resource Save**
- **Wait Timeout**

**Note:** Values marked by an asterisk (\*) are the factory default settings.

---

### Alarm Control

#### **Purpose:**

To establish whether the printer sounds an alarm when the printer requires operator intervention.

#### **Values:**

<b>Off</b>	Printer does not sound an alarm.
<b>Single*</b>	Printer sounds three quick beeps.
<b>Continuous</b>	Printer repeats three beeps every 10 seconds.

---

## Auto Continue

### Purpose:

To define the amount of time (in seconds) the printer waits after displaying an operator intervention error message before it resumes printing.

### Values:

<b>Disabled*</b>	Printer does not resume printing until someone clears the error message.
<b>5...255</b>	Printer waits the specified amount of time, and then automatically resumes printing. This timeout value also applies if the menus are displayed (and the printer is offline) for the specified period of time.

---

## Display Language

### Purpose:

To determine the language of the text on the operator panel display.

### Values:

<b>English</b>	<b>Norsk</b>	<b>Russian</b>
<b>Français</b>	<b>Nederlands</b>	<b>Polski</b>
<b>Deutsch</b>	<b>Svenska</b>	<b>Hungarian</b>
<b>Italiano</b>	<b>Português</b>	<b>Turkish</b>
<b>Español</b>	<b>Suomi</b>	<b>Czech</b>
<b>Dansk</b>	<b>Japanese</b>	

**Note:** All values may not be available.

---

## Download Target

### Purpose:

To specify the storage location for downloaded resources.

### Values:

<b>RAM*</b>	All downloaded resources are automatically stored in printer memory (RAM).
<b>Flash</b>	All downloaded resources are automatically stored in flash memory.
<b>Disk</b>	All downloaded resources are automatically stored on the hard disk.

Storing downloaded resources in flash memory or on a hard disk is permanent storage rather than the temporary storage that RAM provides. The resources remain in the flash memory or on the hard disk even when the printer is turned off. Use MarkVision to download resources to the printer.

---

## Jam Recovery

### Purpose:

To establish whether the printer reprints jammed pages.

### Values:

- On** Printer reprints jammed pages.
- Off** Printer does not reprint jammed pages.
- Auto\*** Printer reprints a jammed page unless the memory required to hold the page is needed for other printer tasks.

---

## Job Accounting

### Purpose:

To store statistical information about your most recent print jobs on the hard disk. The statistics include whether the job printed with or without errors, the print time, the job size (in bytes), the requested paper size and paper type, the total number of printed pages, and the number of copies requested.

### Values:

- Off\*** Printer does not store job statistics on disk.
- On** Printer stores job statistics for the most recent print jobs.

**Note:** Job Accounting is only displayed when a hard disk is installed, is neither defective nor Read/Write or Write protected, and Job Buffer Size is not set to 100%.

### See also:

[Job Acct Limit](#); [Job Acct Stat](#)

---

## Job Acct Limit

### Purpose:

To specify the number of print jobs for which statistics are maintained on your printer hard disk.

### Values:

<b>Disabled</b>	Stores statistics for each print job until the hard disk is full.
<b>10...1000 (1000*)</b>	Stores statistics for the specified number of print jobs.

If you set Job Acct Limit to 10, the statistics from the 10 most recent print jobs are stored on the hard disk. When the limit is reached, statistics for the oldest print job are discarded and replaced with the statistics from the current print job. If you change the Job Accounting Limit, all job statistics currently stored on the hard disk are deleted.

**Note:** Job Acct Limit is only displayed when a hard disk is installed, is neither defective nor Read/Write or Write protected, Job Buffer Size is not set to 100%, and Job Accounting is set to On.

### See also:

[Job Accounting](#), [Job Acct Stat](#)

---

## Page Protect

### Purpose:

To successfully print a page that may otherwise generate **Complex Page** errors.

### Values:

<b>Off*</b>	Prints a partial page of data if memory is insufficient to process the entire page.
<b>On</b>	Ensures that an entire page is processed before it prints.

If, after selecting On, you still cannot print the page, you may also have to reduce the size and number of fonts on the page, or increase the installed printer memory.

For most print jobs, you do not need to select On. When On is selected, printing may be slower.

---

## Power Saver

### Purpose:

To specify the amount of time (in minutes) the printer waits after a job is printed before it goes into a reduced power state.

### Values:

Disabled	Disables Power Saver.
1...240	Specifies the amount of time after a print job before the printer goes into Power Saver mode. (Your printer may not support the entire range of values.)

The factory default Power Saver setting depends on your printer model. Print the menu settings page to determine the current Power Saver setting. When the printer is in Power Saver mode, it is still ready to receive print jobs.

Select 1 to put the printer in Power Saver mode one minute after it finishes a print job. This uses much less energy, but requires more warm-up time for the printer. Select 1 if your printer shares an electrical circuit with room lighting and you notice lights flickering.

Select a high value if your printer is in constant use. Under most circumstances, this keeps the printer ready to print with minimum warm-up time. Select a value between 1 and 240 minutes if you want a balance between energy consumption and a shorter warm-up period.

---

## Print Timeout

### Purpose:

To specify the amount of time (in seconds) the printer waits before printing the last page of a print job that does not end with a command to print the page. The print timeout counter does not start until **waiting** is displayed.

### Values:

Disabled	The printer does not print the last page of a print job until one of the following occurs: <ul style="list-style-type: none"><li>• The printer receives enough information to fill the page.</li><li>• The printer receives a Form Feed command.</li><li>• You select Print Buffer from the Job Menu.</li></ul>
1...255 (90*)	The printer prints the last page after the specified time. (Your printer may not support the entire range of values.)

---

## Printer Language

### Purpose:

To establish the default printer language used to communicate data from the computer to the printer.

### Values:

<b>PCL Emulation</b>	PCL emulation, compatible with Hewlett-Packard printers.
<b>PS Emulation*</b>	PostScript emulation, compatible with Adobe PostScript language.

**Note:** Setting a printer language as the default does not prevent a software application from sending print jobs that use the other language.

---

## Printer Usage

### Purpose:

To determine the behavior of the transfer belt during printing.

### Values:

<b>Max Speed*</b>	The transfer belt is engaged throughout the print job. This gives your printer greater printing speed.
<b>Max Yield</b>	The transfer belt position is engaged based on page content. This may help you get more life out of your printer supplies.

---

## Resource Save

### Purpose:

To determine what the printer does with downloaded resources, such as fonts and macros stored in RAM, if the printer receives a job that requires more memory than is available.

### Values:

<b>Off*</b>	Printer retains downloaded resources only until memory is needed. It then deletes those resources associated with the inactive printer language.
<b>On</b>	Printer retains all downloaded resources for all printer languages during language changes and printer resets. If the printer runs out of memory, <b>38 Memory Full</b> is displayed.

---

## Wait Timeout

### Purpose:

To specify the amount of time (in seconds) the printer waits to receive additional bytes of data from the computer. When this timeout expires, the print job is canceled.

### Values:

<b>Disabled</b>	Disables Wait Timeout.
<b>15...65535 (40*)</b>	Specifies the amount of time the printer waits for additional data before it cancels the job.

**Note:** Wait Timeout is only available when you use PostScript emulation. This menu item has no effect on PCL emulation print jobs.



# Supplies Menu

---

The Supplies Menu provides information about printer supplies that require attention. It is only available when a supply is low or needs replacement.

Select a menu item for more details:

- **Belt**
- **Black Photo Dev**
- **Coating Roll**
- **Color Photo Dev**
- **<color> Toner**
- **Fuser**
- **Replace Supplies**
- **Supplies Life**

---

## Belt

### Purpose:

To view the status of the transfer belt.

### Values:

<b>80 Belt Life Warning</b>	It's time to order a new transfer belt.
<b>80 Belt Exhausted</b>	It's time to replace the transfer belt.
<b>80 Belt/Fuser Life Warning</b>	It's time to order a new fuser and transfer belt.
<b>80 Belt/Fuser Exhausted</b>	It's time to replace the fuser and the transfer belt.

**Note:** Continued use of the transfer belt after the warning appears on the display may result in print quality problems and paper jams.

### See also:

[Replacing the transfer belt](#)

---

## Black Photo Dev

### Purpose:

To view the status of the black photodeveloper.

### Values:

Life Warning  
Exhausted

### See also:

[Replacing a photodeveloper](#)

---

## Coating Roll

### Purpose:

To view the status of the oil coating roll.

### Values:

<b>85 Coating Roll Life Warning</b>	It's time to order a new oil coating roll.
<b>85 Coating Roll Exhausted</b>	It's time to replace the oil coating roll.

**Note:** Continued use of the oil coating roll after the warning appears on the display may result in poor toner adhesion to print media, other print quality problems, and paper jams.

### See also:

[Replacing the oil coating roll](#)

---

## Color Photo Dev

### Purpose:

To view the status of the color photodeveloper.

### Values:

Life Warning  
Exhausted

### See also:

[Replacing a photodeveloper](#)

---

## <color> Toner

### Purpose:

To view the status of the color toner cartridges.

### Values:

Low  
Empty

### See also:

[Replacing a toner cartridge](#)

---

## Fuser

### Purpose:

To view the status of the fuser.

### Values:

<b>80 Fuser Life Warning</b>	It's time to order a new fuser.
<b>80 Fuser Exhausted</b>	It's time to replace the fuser.
<b>80 Belt/Fuser Life Warning</b>	It's time to order a new fuser and transfer belt.
<b>80 Belt/Fuser Exhausted</b>	It's time to replace the fuser and the transfer belt.

### See also:

[Replacing the fuser](#)

---

## Replace Supplies

### Purpose:

To view the status of printer supplies.

### Values:

**Fuser**                   =Not Replaced  
                              =Replaced  
                              =Replace Now

**Belt**                     =Not Replaced  
                              =Replaced  
                              =Replace Now

---

## Supplies Life

### Purpose:

To view the status of printer supplies.

### Values:

**<color> Toner**           =Low  
                              =Empty  
                              =xxx%

**Black Photo Dev**       =Life Warning  
                              =Exhausted  
                              =xxx%

**Color Photo Dev**       =Life Warning  
                              =Exhausted  
                              =xxx%

**Belt**                     =Life Warning  
                              =Exhausted  
                              =xxx%

**Fuser**                   =Life Warning  
                              =Exhausted  
                              =xxx%



## USB Menu

---

Use the USB Menu to change printer settings affecting a Universal Serial Bus (USB) port (USB Option <x>).

Select a menu item for more details:

- **Job Buffering**
- **MAC Binary PS**
- **NPA Mode**
- **PCL SmartSwitch**
- **PS SmartSwitch**
- **USB Buffer**

**Note:** Values marked by an asterisk (\*) are the factory default settings.

---

### Job Buffering

#### **Purpose:**

To temporarily store jobs on the printer hard disk before printing.

#### **Values:**

- Off\*** Does not buffer print jobs to the hard disk.
- On** Buffers print jobs to the hard disk.
- Auto** Buffers print jobs only if the printer is busy processing data from another input port.

**Note:** Changing the Job Buffering menu item automatically resets the printer.

---

## MAC Binary PS

### Purpose:

To configure the printer to process Macintosh binary PostScript print jobs.

### Values:

- On** Printer processes raw binary PostScript print jobs from computers using the Macintosh operating system.  
**Note:** This setting often causes Windows print jobs to fail.
- Off** Printer filters PostScript print jobs using standard protocol.
- Auto\*** Printer processes print jobs from computers using either Windows or Macintosh operating systems.

---

## NPA Mode

### Purpose:

To specify whether the printer performs the special processing required for bidirectional communication, following the conventions defined in the Network Printing Alliance (NPA) Protocol.

### Values:

- On** Printer performs NPA processing. If data is not in NPA format, it is rejected as bad data.
- Off** Printer does not perform NPA processing.
- Auto\*** Printer examines the data to determine the format and then processes it appropriately.

**Note:** Changing this menu item automatically resets the printer.

---

## PCL SmartSwitch

### Purpose:

To configure the printer so it automatically switches to PCL emulation when a print job received through the USB port requires it, regardless of the default printer language.

### Values:

- On\*** Printer examines the data on the USB interface and selects PCL emulation if the data indicates that is the required printer language.
- Off** Printer does not examine the incoming data. The printer uses PostScript emulation to process the job if PS SmartSwitch is On, or uses the default printer language specified in the Setup Menu if PS SmartSwitch is Off.

### See also:

[PS SmartSwitch](#); [Printer Language](#)

---

## PS SmartSwitch

### Purpose:

To configure the printer so it automatically switches to PostScript emulation when a print job received through the USB port requires it, regardless of the default printer language.

### Values:

- |            |   |
|------------|---|
| <b>On*</b> | Printer examines data on the USB interface and selects PostScript emulation if the data indicates that is the required printer language.  |
| <b>Off</b> | Printer does not examine the incoming data. The printer uses PCL emulation to process the job if PCL SmartSwitch is On, or uses the default printer language specified in the Setup Menu if PCL SmartSwitch is Off. |

### See also:

[PCL SmartSwitch; Printer Language](#)

---

## USB Buffer

### Purpose:

To configure the size of the USB input buffer.

### Values:

- |                                   |   |
|-----------------------------------|---|
| <b>Disabled</b>                   | Job buffering is disabled. Any jobs already buffered on the disk are printed before normal processing of incoming jobs resumes.   |
| <b>Auto*</b>                      | Printer automatically calculates the USB Buffer size (recommended setting).   |
| <b>3K to maximum size allowed</b> | User specifies the USB Buffer size. The maximum size depends on the amount of memory in your printer, the size of the other link buffers, and whether Resource Save is set to On or Off. To maximize the range for the USB Buffer size, disable or reduce the size of the parallel, serial, network, infrared, and LocalTalk buffers. |

**Note:** Changing the USB Buffer menu item automatically resets the printer.

### See also:

[Resource Save](#)



## Utilities Menu

---

Use the Utilities Menu to print a variety of listings relating to available printer resources, printer settings, and print jobs. Other menu items let you set up printer hardware and troubleshoot printer problems.

Select a menu item for more details:

- **Color Samples**
- **Defragment Flash**
- **Factory Defaults**
- **Format Disk**
- **Format Flash**
- **Hex Trace**
- **Job Acct Stat**
- **Print Alignment**
- **Print Directory**
- **Print Fonts**
- **Print Menus**
- **Print Net <x> Setup**

---

### Color Samples

**Purpose:**

To assist in selecting colors used by certain applications.

---

## Defragment Flash

### Purpose:

To retrieve storage area lost when resources are deleted from flash memory.

### Values:

- |            |  |
|------------|--|
| <b>Yes</b> | Printer transfers all resources stored in flash memory to printer memory and then reformats the flash memory option. When the format operation is complete, the resources are loaded back into flash memory. |
| <b>No</b>  | Printer cancels the request to defragment the flash memory.  |

**WARNING:** Do not turn off the printer while the flash is defragmenting.

---

## Factory Defaults

### Purpose:

To return your printer settings to the factory default values.

### Values:

- |                       |   |
|-----------------------|---|
| <b>Restore</b>        | <ul style="list-style-type: none"><li>• All menu items are returned to the factory default values except:<ul style="list-style-type: none"><li>– Display Language.</li><li>– All settings in the Parallel Menu, Serial Menu, Network Menu, Infrared Menu, LocalTalk Menu, and USB Menu.</li></ul></li><li>• All downloaded resources (fonts, macros, and symbol sets) in printer memory (RAM) are deleted. (Resources residing in flash memory or on the hard disk are unaffected.)</li></ul> |
| <b>Do Not Restore</b> | User-defined settings remain.   |

### See also:

[Restoring factory default settings](#)

---

## Format Disk

### Purpose:

To format the printer hard disk.

### Values:

- |            |  |
|------------|--|
| <b>Yes</b> | Deletes any data stored on the hard disk and prepares the device to receive new resources.   |
| <b>No</b>  | Cancels the request to format the hard disk and leaves current resources stored on the disk. |

**WARNING:** Do not turn off the printer while the hard disk is formatting.

---

## Format Flash

### Purpose:

To format the flash memory.

### Values:

- |            |   |
|------------|---|
| <b>Yes</b> | Deletes any data stored in flash memory and prepares the flash memory to receive new resources.     |
| <b>No</b>  | Cancels the request to format the flash memory and leaves current resources stored in flash memory. |

**WARNING:** Do not turn off the printer while the flash is formatting.

---

## Hex Trace

### Purpose:

To help isolate the source of a print job problem. With Hex Trace selected, all data sent to the printer is printed in hexadecimal and character representation. Control codes are not executed.

To exit Hex Trace, turn the printer off or reset the printer from the Job Menu.

---

## Job Acct Stat

### Purpose:

To print a listing of all job statistics stored on the hard disk, or to clear all statistics on the disk.

### Values:

- |              |   |
|--------------|---|
| <b>Print</b> | Prints all statistics available for the most recent print jobs. |
| <b>Clear</b> | Deletes all accumulated job statistics from the hard disk.      |

### See also:

[Job Accounting](#), [Job Acct Limit](#)

---

## Print Alignment

### Purpose:

To perform a transfer belt alignment procedure by entering a series of alignment values.

### Values:

A-L

### See also:

[Replacing the transfer belt; Printing Alignment Page](#)

---

## Print Directory

### Purpose:

To print a list of all the resources stored in flash memory or on the hard disk.

**Note:** Print Directory is available only when either a nondefective flash or disk is installed and formatted, and Job Buffer Size is not set to 100%.

---

## Print Fonts

### Purpose:

To print a sample of all the fonts available for the selected printer language.

### Values:

<b>PCL Fonts</b>	Prints a sample of all printer fonts available for PCL emulation.
<b>PS Fonts</b>	Prints a sample of all printer fonts available for PostScript emulation.

---

## Print Menus

### Purpose:

To print a listing of the current user default values, the installed options, the amount of installed printer memory, and the status of printer supplies.

---

## **Print Net <x> Setup**

### **Purpose:**

To print information relating to the internal print server and the network settings defined by the Network <x> Setup menu item in the Network Menu.



## Notices

---

- **Edition notice**
- **Trademarks**
- **Licensing notice**
- **Safety information**
- **Cautions and warnings**
- **Electronic emission notices**
- **Noise emission levels**

---

### ***Edition notice***

**October 2001**

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---

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- If your product is NOT marked with this symbol , it MUST be connected to an electrical outlet that is properly grounded.
- The power cord must be connected to an electrical outlet that is near the product and easily accessible.
- Refer service or repairs, other than those described in the operating instructions, to a professional service person.
- This product is designed, tested, and approved to meet strict global safety standards with the use of specific Lexmark components. The safety features of some parts may not always be obvious. Lexmark is not responsible for the use of other replacement parts.

**CAUTION:** Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

- Your product uses a printing process that heats the print media, and the heat may cause the media to release emissions. You must understand the section in your operating instructions that discusses the guidelines for selecting print media to avoid the possibility of harmful emissions.

---

## ***Cautions and warnings***

**CAUTION:** A caution identifies something that might cause you harm.

**WARNING:** A warning identifies something that might damage your printer hardware or software.

---

## ***Electronic emission notices***

### **Federal Communications Commission (FCC) compliance information statement**

This printer has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

The FCC Class A limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

The manufacturer is not responsible for any radio or television interference caused by using other than recommended cables or by unauthorized changes or modifications to this equipment. Unauthorized changes or modifications could void the user's authority to operate this equipment.

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### **Industry Canada compliance statement**

This Class A digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

### **Avis de conformité aux normes d'Industrie Canada**

Cet appareil numérique de la classe A respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

## European Community (EC) directives conformity

This product is in conformity with the protection requirements of EC Council directives 89/336/EEC and 73/23/EEC on the approximation and harmonization of the laws of the Member States relating to electromagnetic compatibility and safety of electrical equipment designed for use within certain voltage limits.

A declaration of conformity with the requirements of the directives has been signed by the Director of Manufacturing and Technical Support, Lexmark International, S.A., Boigny, France.

This product satisfies the Class A limits of EN 55022 and safety requirements of EN 60950.

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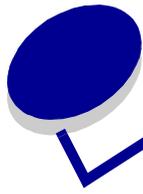
This apparatus is approved under the approval number NS/G/1234/J/100003 for the indirect connections to the public telecommunications systems in the United Kingdom.

---

## Noise emission levels

The following measurements were made in accordance with ISO 7779 and reported in conformance with ISO 9296.

1-meter average sound pressure, dBA	
Printing	56 dBA
Idling	39 dBA



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# Readers' Comments — We'd Like to Hear from You

Infoprint Color 1228  
User's Reference

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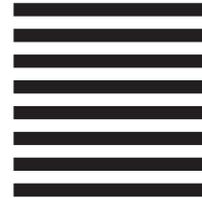
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