

Color quality guide

The Color quality guide helps users understand how operations available on the printer can be used to adjust and customize color output.

Quality menu

Menu item	Description	Settings
Print Mode	Specifies whether images are printed in monochrome grayscale or in color Note: Color is the default setting.	Color Black Only
Color Correction	Adjusts the color output on the printed page Notes: <ul style="list-style-type: none"> • Due to the differences in additive and subtractive colors, certain colors that appear on computer monitors are impossible to duplicate on the printed page. • Auto is the default setting. Auto applies different color conversion tables to each object on the printed page. It looks at how the color for each object is defined. • Off turns off color correction. • Manual allows customization of the color tables using the settings available under the Manual Color menu. 	Auto Off Manual
Print Resolution	Specifies the printed output resolution Notes: <ul style="list-style-type: none"> • 4800 CQ is the default setting. • 1200 dpi provides the highest resolution output. This setting increases gloss. 	1200 dpi 4800 CQ
Toner Darkness	Lightens or darkens the printed output Notes: <ul style="list-style-type: none"> • 4 is the default setting. • Selecting a smaller number can help conserve toner. • If Print Mode is set to Black Only, a setting of 5 increases toner density and darkness to all print jobs. • If Print Mode is set to Color, a setting of 5 is the same as a setting of 4. 	1–5

Menu item	Description	Settings
Enhance Fine Lines	<p>Enables a print mode preferable for files such as architectural drawings, maps, electrical circuit diagrams, and flow charts</p> <p>Notes:</p> <ul style="list-style-type: none"> To set Enhance Fine Lines from the software program with a document open (applicable to Windows users), click File → Print, and then click Properties, Preferences, Options, or Setup. To set Enhance Fine Lines using the Embedded Web Server, type the network printer IP address in a browser window. 	On Off
Color Saver	<p>Reduces the amount of toner used for graphics and images. The amount of toner used for text is not reduced.</p> <p>Notes:</p> <ul style="list-style-type: none"> Off is the default setting. On overrides Toner Darkness settings. Color Saver is not supported in PPDS, and only partially supported by the PCL emulation printer software. 	On Off
RGB Brightness	<p>Adjusts brightness in color outputs</p> <p>Notes:</p> <ul style="list-style-type: none"> 0 is the default setting. -6 is the maximum decrease. 6 is the maximum increase. This does not affect files where CMYK color specifications are being used. 	-6 to 6
RGB Contrast	<p>Adjusts contrast in color outputs</p> <p>Notes:</p> <ul style="list-style-type: none"> 0 is the default setting. This does not affect files where CMYK color specifications are being used. 	0 to 5
RGB Saturation	<p>Adjusts saturation in color outputs</p> <p>Notes:</p> <ul style="list-style-type: none"> 0 is the default setting. This does not affect files where CMYK color specifications are being used. 	0 to 5
Color Balance → <ul style="list-style-type: none"> Cyan Magenta Yellow Black Reset Defaults 	<p>Adjusts color in printed output by increasing or decreasing the amount of toner being used for each color</p> <p>Note: 0 is the default setting.</p>	-5 to 5

Menu item	Description	Settings
Color Samples	<p>Prints sample pages for each of the RGB and CMYK color conversion tables used in the printer</p> <p>Notes:</p> <ul style="list-style-type: none"> • Selecting any setting prints the sample. • Color samples consist of a series of colored boxes along with the RGB or CMYK combination that creates the color observed. These pages can be used to help decide which combinations to use to get the desired printed output. • The easiest way to access a complete list of these pages is by using the Embedded Web Server, a series of resident pages located in network printers. Type the IP address of the printer in a browser window to see these pages. 	sRGB Display sRGB Vivid Display—True Black Vivid Off—RGB US CMYK Euro CMYK Vivid CMYK Off—CMYK
Manual Color → <ul style="list-style-type: none"> • RGB Image • RGB Text • RGB Graphics 	<p>Customizes the RGB color conversions</p> <p>Notes:</p> <ul style="list-style-type: none"> • sRGB Display is the default setting. This applies a color conversion table that tries to produce output that matches the colors displayed on a computer monitor. • Vivid applies a color conversion table that produces brighter, more saturated colors. • Display—True Black applies a color conversion table that uses only black toner for neutral gray colors. • sRGB Vivid applies a color table that increases saturation. This is preferred for business graphics and text. • Off turns off color conversion. 	Vivid sRGB Display Display—True Black sRGB Vivid Off
Manual Color → <ul style="list-style-type: none"> • CMYK Image • CMYK Text • CMYK Graphics 	<p>Customizes the CMYK color conversions</p> <p>Notes:</p> <ul style="list-style-type: none"> • US CMYK is the default setting. This applies a color conversion table that tries to produce output that matches SWOP color output. • Euro CMYK applies a color conversion table that tries to produce output that matches EuroScale color output. • Vivid CMYK increases color saturation for the US CMYK color conversion table. • Off turns off color conversion. 	US CMYK Euro CMYK Vivid CMYK Off

Menu item	Description	Settings
Color Adjust	<p>Initiates a recalibration of color conversion tables and allows the printer to make adjustments for color variations in output</p> <p>Notes:</p> <ul style="list-style-type: none"> • Calibrating starts when this menu is selected. Calibrating appears on the display until the process is finished. • Color variations in output sometimes result from changeable conditions such as room temperature and humidity. Color adjustments are made on printer algorithms. Color alignment is also recalibrated in this process. 	None

Frequently Asked Questions (FAQ) about color printing

What is RGB color?

Red, green, and blue light can be added together in various amounts to produce a large range of colors observed in nature. For example, red and green can be combined to create yellow. Televisions and computer monitors create colors in this manner. RGB color is a method of describing colors by indicating the amount of red, green, or blue needed to produce a certain color.

What is CMYK color?

Cyan, magenta, yellow, and black inks or toners can be printed in various amounts to produce a large range of colors observed in nature. For example, cyan and yellow can be combined to create green. Printing presses, inkjet printers, and color laser printers create colors in this manner. CMYK color is a method of describing colors by indicating the amount of cyan, magenta, yellow, and black needed to reproduce a particular color.

How is color specified in a document to be printed?

Software programs typically specify document color using RGB or CMYK color combinations. Additionally, they commonly let users modify the color of each object in a document. For more information, see the software program Help section.

How does the printer know what color to print?

When a user prints a document, information describing the type and color of each object is sent to the printer. The color information is passed through color conversion tables that translate the color into appropriate amounts of cyan, magenta, yellow, and black toner needed to produce the desired color. The object type information lets different color conversion tables be used for different types of objects. For example, it is possible to apply one type of color conversion table to text while applying a different color conversion table to photographic images.

Should I use PostScript or PCL emulation printer software? What settings should I use for the best color?

The PostScript driver is strongly recommended for best color quality. The default settings in the PostScript driver provide preferred color quality for the majority of printouts.

Why doesn't the printed color match the color I see on the computer screen?

The color conversion tables used in Auto Color Correction mode generally approximate the colors of a standard computer monitor. However, because of technology differences that exist between printers and monitors, there are many colors that can also be affected by monitor variations and lighting conditions. For recommendations on how the printer color sample pages may be useful in solving certain color-matching problems, see the question, "How can I match a particular color (such as a color in a corporate logo)?"

The printed page appears tinted. Can I slightly adjust the color?

Sometimes a user may consider printed pages to appear tinted (for example, everything printed seems to be too red). This can be caused by environmental conditions, paper type, lighting conditions, or user preference. In these instances, adjusting the Color Balance setting may be used to create more preferable color. Color Balance provides the user with the ability to make subtle adjustments to the amount of toner being used in each color plane. Selecting positive (or negative) values for cyan, magenta, yellow, and black under the Color Balance menu will slightly increase (or decrease) the amount of toner used for the chosen color. For example, if a user believes the overall printed page to be too red, then decreasing both magenta and yellow could potentially improve color preferences.

For information about adjusting the Color Balance setting, see the *Menus and Messages Guide* on the *Software and Documentation CD*.

My color transparencies seem dark when being projected. Is there anything I can do to improve the color?

This problem most commonly occurs when projecting transparencies with reflective overhead projectors. To obtain the highest projected color quality, transmissive overhead projectors are recommended. If a reflective projector must be used, then adjusting the Toner Darkness setting to 1, 2, or 3 will lighten the transparency. For more information, see the *Menus and Messages Guide* on the *Software and Documentation CD*.

Make sure to print on the recommended type of color transparencies. For more information about the paper and media specifications, see the *User's Guide* on the *Software and Documentation CD*.

What is manual color correction?

The color conversion tables applied to each object when using the default Auto Color Correction setting generate preferred color for the majority of documents. Occasionally, a user may want to apply a different color table mapping. This customization is accomplished using the Manual Color menu and the Manual Color Correction setting.

Manual Color Correction applies to RGB and CMYK color conversion table mappings as defined in the Manual Color menu.

Users may select any of the different color conversion tables for RGB or CMYK:

Color conversion table	Settings
RGB	<ul style="list-style-type: none"> • sRGB Display • Display—True Black • sRGB Vivid • Vivid • Off
CMYK	<ul style="list-style-type: none"> • US CMYK • Euro CMYK • Vivid CMYK • Off

Note: The Manual Color Correction setting is not useful if the software program does not specify colors with RGB or CMYK combinations. It is also not effective in situations where the software program or the computer operating system controls the adjustment of colors.

How can I match a particular color (such as a corporate logo)?

Occasionally, users have a need for the printed color of a particular object to closely match a specific color. For example, a user may need to match the color of a corporate logo. While instances can occur in which the printer cannot exactly reproduce the desired color, users should be able to identify adequate color matches for the majority of cases.

The Color Samples menu item can provide useful information in helping solve this particular type of color-matching problem. The nine Color Samples values correspond to color conversion tables in the printer. Selecting any of the Color Samples values generates a multiple-page printout consisting of hundreds of colored boxes. Either a CMYK or RGB combination is located on each box, depending on the table selected. The observed color of each box is obtained by passing the CMYK or RGB combination labeled on the box through the selected color conversion table.

The user can examine the color samples pages and identify the box whose color is the closest to the desired color. The color combination labeled on the box can then be used for modifying the color of the object in a software program. For instructions, see the software program Help. Manual Color Correction may be necessary to utilize the selected color conversion table for the particular object.

Selecting which Color Samples pages to use for a particular color-matching problem depends on the Color Correction setting being used (Auto, Off, or Manual), the type of object being printed (text, graphics, or images), and how the color of the object is specified in the software program (RGB or CMYK combinations). When the printer Color Correction setting is set to Off, the color is based on the print job information; no color conversion is implemented.

Note: The Color Samples pages are not useful if the software program does not specify colors with RGB or CMYK combinations. Additionally, certain situations exist where the software program or the computer operating system adjusts the RGB or CMYK combinations specified in the program through color management. The resulting printed color may not be an exact match of the Color Samples pages.

The following table can help identify which Color Sample pages to use for color matching.

Color specification and object to be printed	Color Correction setting	Sample pages to use
RGB—Text	Auto	SRGB Vivid
	Manual	Manual Color RGB Text Setting
RGB—Graphic	Auto	SRGB Vivid
	Manual	Manual Color RGB Graphic Setting
RGB—Image	Auto	SRGB Display
	Manual	Manual Color RGB Image Setting
CMYK—Text	Auto	US CMYK or Euro CMYK
	Manual	Manual Color CMYK Text Setting
CMYK—Graphic	Auto	US CMYK
	Manual	Manual Color CMYK Graphic Setting
CMYK—Image	Auto	US CMYK
	Manual	Manual Color CMYK Image Setting

What are Detailed Color Samples and how do I access them?

This topic applies only to network printers. These pages require the use of the Embedded Web Server. The Embedded Web Server is a series of resident pages stored in the network printer firmware. To access these pages, browse to the IP address of the network printer. Click **Configuration Menu**, and then click **Detailed Color Samples**.

For more information about using the Embedded Web Server, see the *User's Guide* on the *Software and Documentation CD*.

Detailed Color Samples are pages similar to the default pages of color samples accessible from the Quality menu using the control panel. The default color samples available using this method have an increment value of 10% for red, green, and blue. If the user finds a value on this page that is close, but would like to scan more colors in a nearby area, the user can use the Detailed Color Samples to select the desired color values and a more specific increment. This provides a way to print multiple pages of colored boxes that surround a specific color of interest.

There are nine conversion tables available with the following three options:

- **Print**—Prints the default pages
- **Detailed**—Lets you enter individual red, green, and blue values and a specific increment of color
- **Reset**—Lets you clear the existing information and enter new values

The process can be duplicated for Cyan (C), Magenta (M), Yellow (Y), and Black (K) color conversion tables, too. Collectively, these values are known as CMYK color. The default increment is 10% for Black and 20% each for Cyan, Magenta, and Yellow.

Print quality guide

Many print quality problems can be solved by replacing a supply or maintenance item that is approaching the end of its intended life. Check the control panel for a message about a printer supply.

Use the following table to find solutions to print quality problems:

Isolating print quality problems

To help isolate print quality problems, print the print quality test pages:

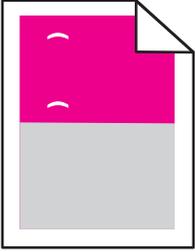
- 1 Turn the printer off.
- 2 From the control panel, press and hold  and  while turning the printer on.
- 3 Release both buttons when **Performing Self Test** appears.
The printer performs its power-on sequence, and then **Config Menu** appears.
- 4 Press  until  **Prt Quality Pgs** appears, and then press .

The pages are formatted. **Printing Quality Test Pages** appears, and then the pages print. The message remains on the control panel until all the pages print.

- 5 After the print quality test pages print, press  until  **Exit Config Menu** appears, and then press .

The information in the following topics may help you solve print quality problems. If these suggestions still do not correct the problem, call for customer service. You may have a printer part that requires adjustment or replacement.

Repeating defects

Example	Cause	Solution
	If marks occur repeatedly only in one color and multiple times down a page, a toner cartridge or photoconductor may be defective.	Replace the toner cartridge if the defects occur every: <ul style="list-style-type: none"> • 33.5 mm (1.32 in.) • 35.7 mm (1.41 in.) Replace the photoconductor if the defects occur every: <ul style="list-style-type: none"> • 28.3 mm (1.11 in.) • 72.4 mm (2.85 in.)
	If marks occur down the page repeatedly in all colors, the fuser may be defective.	Replace the fuser if the defects occur every 116.2 mm (4.58 in.).

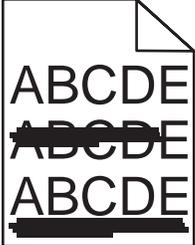
Color misregistration

Example	Cause	Solution
	<p>Color has shifted outside of the appropriate area or has been superimposed over another color area.</p>	<ul style="list-style-type: none"> Adjust the color alignment. For more information, see “Adjusting the color alignment” on page 9. Remove and reinstall the photoconductors. For more information about installing supplies, see the <i>User's Guide</i> on the <i>Software and Documentation</i> CD. <p>Note: If you have not resolved the issue, adjust the color alignment again.</p>

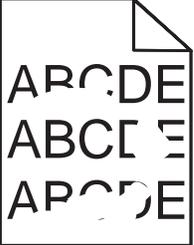
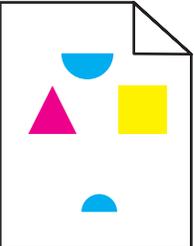
Adjusting the color alignment

- 1 Make sure the printer is turned off.
 - 2 From the control panel, press and hold  and  while turning the printer on.
 - 3 Release both buttons when **Performing Self Test** appears.
The printer performs its power-on sequence, and then **Config Menu** appears.
 - 4 Press  until  **Color Alignment** appears, and then press .
 - 5 Press  again to print the alignment page.
 - 6 Press  until  **Set A** appears, and then press .
 - 7 From the printed sheet, find the straightest of the 20 lines beside the letter A.
 - 8 Press  or  until that number is displayed, and then press .
- Submitting Selection** appears.
- 9 Repeat steps 6 through 8 to align sets A through L.
 - 10 Press .
 - 11 Press  until  **Exit Config Menu** appears, and then press .
- Resetting the Printer** appears briefly, followed by a clock, and then **Ready** appears.

Streaked horizontal lines

Example	Cause	Solution
	A toner cartridge is defective, empty, or worn.	Replace the toner cartridge.
	Fuser is defective or worn.	Replace the fuser.
	Photoconductors may be defective.	Replace the photoconductor units.

Print irregularities

Example	Cause	Solution
	Media has absorbed moisture due to high humidity.	Load media from a fresh package into the paper tray.
	The media being used does not meet the printer specifications.	Make sure the Paper Type and Paper Weight settings match the type of media you are using. Avoid textured media with rough finishes.
	A toner cartridge is low or may be almost empty.	Replace the toner cartridge.
	Fuser is worn or defective.	Replace the fuser.

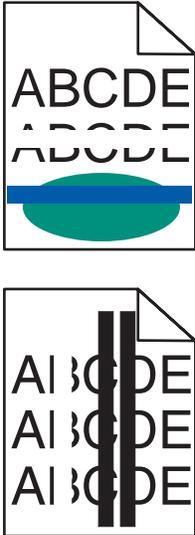
Print is too dark

Cause	Solution
Toner Darkness setting is too dark, RGB Brightness setting is too dark, or RGB Contrast setting is too high.	Select a different Toner Darkness setting, RGB Brightness setting, or RGB Contrast setting from Print Properties before sending the job to print. Note: This solution applies to Windows users only.
Toner cartridge is defective.	Replace the toner cartridge.

Print is too light

Cause	Solution
Toner Darkness setting is too light, RGB Brightness setting is too bright, or RGB Contrast setting is incorrect.	<ul style="list-style-type: none"> Select a different Toner Darkness setting, RGB Brightness setting, or RGB Contrast setting from Print Properties before sending the job to print. <p>Note: This solution applies to Windows users only.</p> <ul style="list-style-type: none"> Adjust the color quality settings in the Quality menu.
The media being used does not meet the printer specifications.	<ul style="list-style-type: none"> Load media from a new package. Avoid textured media with rough finishes. Make sure the media you load in the trays is not damp. Make sure the Paper Type and Paper Weight settings match the type of media you are using.
Color Saver is On.	Turn Color Saver off.
Toner is low.	Replace the toner cartridge.
Toner cartridge is defective or worn.	

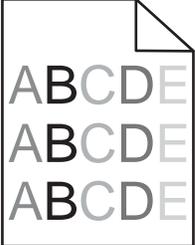
Light colored line, white line, or incorrectly colored line

Example	Cause	Solution
	Toner cartridge is defective.	Replace the color cartridge causing the line.
	Photoconductors are defective.	Replace the photoconductor units.
	Transfer belt is defective.	Replace the transfer belt.
	Printhead lenses are dirty.	Clean the printhead lenses.

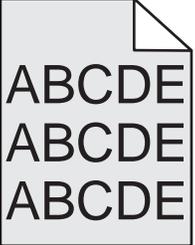
Transparency print quality is poor

Cause	Solution
You are using transparencies that do not meet the printer specifications.	Use only transparencies recommended by the printer manufacturer.
Paper Type setting for the tray you are using is set to something other than Transparency.	Make sure the Paper Type setting is set to Transparency.

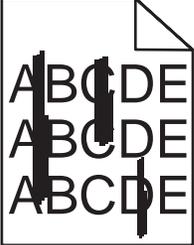
Uneven print density

Example	Cause	Solution
	Toner cartridge is defective.	Replace the toner cartridge.
	Photoconductor is worn or defective.	Replace the photoconductor.

Gray background

Example	Cause	Solution
	Toner darkness setting is too dark.	Select a different toner darkness setting in the Print Properties before sending the job to print.

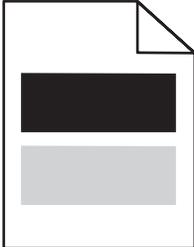
Streaked vertical lines

Example	Cause	Solution
	Toner is smeared before fusing to the media.	If media is stiff, try feeding from another tray.
	Toner cartridge is defective.	Replace the toner cartridge causing the streaks.
	Transfer belt is defective.	Replace the transfer belt.

Toner fog or background shading appears on the page

Cause	Solution
Toner cartridge is worn or defective.	Reinstall or replace the cartridge.
Transfer belt is worn or defective.	Replace the transfer belt.
Photoconductor is worn or defective.	Replace the photoconductor.
Fuser is worn or defective.	Replace the fuser.
Toner is in the paper path.	Call for customer service.

Ghost images

Example	Cause	Solution
	The photoconductors are not functioning properly.	<ul style="list-style-type: none"> • Make sure the Paper Type setting is correct for the media you are using. • Replace the photoconductors.
	Toner is low.	Replace the toner cartridge.

Clipped images

Cause	Solution
Guides in the selected tray are set for a different media size than what is loaded in the tray.	Move the guides in the tray to the proper positions for the size loaded.
There could be an incorrect page size selected in the driver or program.	<ul style="list-style-type: none"> • Specify the correct page size in the driver or program. • Set the Paper Size to match the media in the tray.

Incorrect margins

Cause	Solution
Guides in the selected tray are set for a different paper size than what is loaded in the tray.	Move the guides in the tray to the proper positions for the size loaded.
Auto size sensing is set to Off, but you loaded a different size paper in a tray. For example, you inserted A4-size paper into the selected tray but did not set the Paper Size to A4.	<ul style="list-style-type: none"> • Set the Paper Size to match the media in the tray. • Specify the correct page size in Print Properties or the program.

Skewed print

Cause	Solution
Guides in the selected tray are not in the correct position for the media size loaded in the tray.	Move the guides in the tray to the proper positions for the size loaded.
The media being used does not meet the printer specifications.	Make sure you are using media that meets the printer specifications.

Blank pages

Cause	Solution
Toner is low.	<ul style="list-style-type: none"> Remove the toner cartridge from the printer. Shake the cartridge back and forth several times, and then reinstall it. Install a new toner cartridge.
Toner cartridge is defective or empty.	Replace the toner cartridge.

Solid color pages

Cause	Solution
Photoconductor is installed incorrectly.	Remove and then reinstall the photoconductor.
Photoconductor is defective.	Replace the photoconductor.
Printer requires servicing.	Call for customer service.

Paper curl

Cause	Solution
Paper Type and Paper Weight settings are not appropriate for the type of paper or specialty media you are using.	Change the Paper Type and Paper Weight settings to match the paper or specialty media loaded in the printer.
Paper has been stored in a high humidity environment.	<ul style="list-style-type: none"> Load paper from a fresh package. Store paper in its original wrapper until you use it.

Toner specks

Cause	Solution
Toner cartridges are worn or defective.	Replace the defective or worn toner cartridges.
Toner is in the media path.	Call for customer service.

Toner rubs off

Cause	Solution
Specialty media is being used.	Make sure the correct Media Type is selected.
The Paper Weight setting in the Paper Menu is wrong for the type of media being used.	Change the Paper Weight from Normal to Heavy. If necessary, change Paper Texture from Normal to Rough.
The fuser is worn or defective.	Replace the fuser.

Printing guide

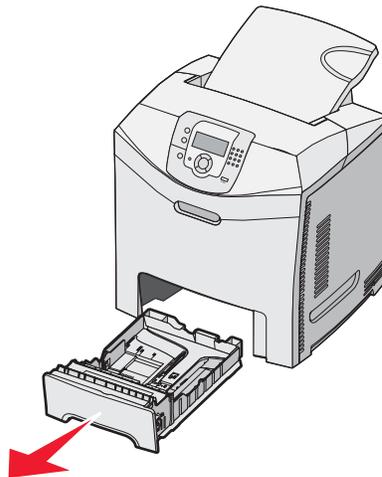
Get the most from the printer by properly loading the trays and setting the types and sizes for media.

Loading the standard tray

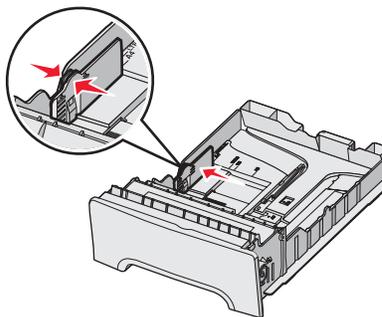
The printer has two trays to select from: the standard tray (Tray 1), also known as the 250-sheet tray, and the optional 550-sheet tray (Tray 2). Load the paper or specialty media used for the majority of print jobs in Tray 1. Proper paper loading prevents jams and facilitates trouble-free printing.

Do not remove trays while a job prints or while **Busy** blinks on the display. Doing so may cause a jam.

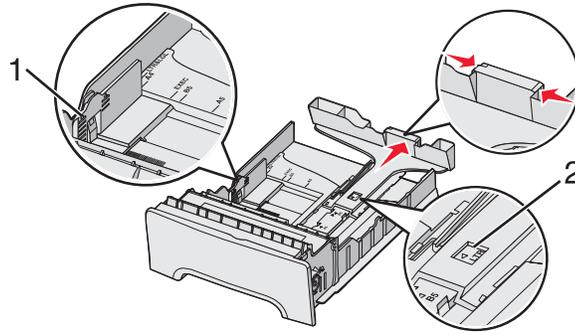
- 1 Grasp the handle and pull the tray out. Remove the tray completely.



- 2 Squeeze the width guide tabs together as shown, and move the width guide to the side of the tray.

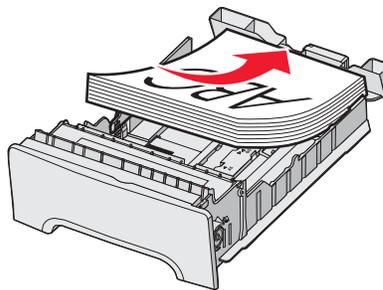


- 3 Squeeze the length guide tabs together as shown, and slide the length guide to the correct position for the size of paper being loaded. Notice the size indicators in the window in the bottom of the tray. Use these indicators to help position the guide. Notice the load lines on the width guide tab: they indicate the maximum height for loading paper.

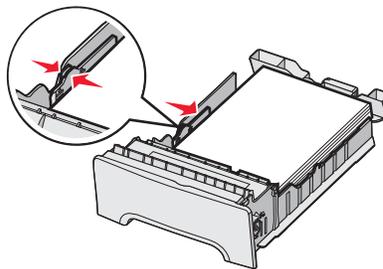


1	Load lines
2	Length indicator

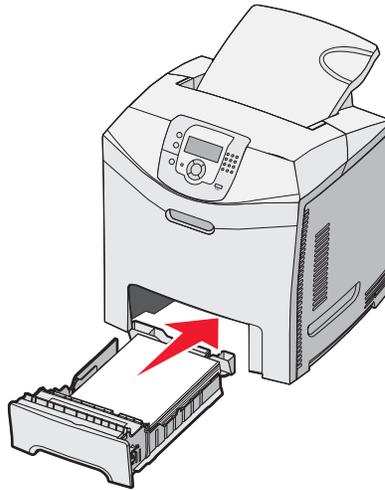
- 4 Flex the sheets back and forth to loosen them, and then fan them. Do not fold or crease the paper. Straighten the edges on a level surface.
- 5 Load the paper stack with the recommended print side faceup. Load the stack toward the back of the tray as shown. When loading preprinted letterhead, place the header toward the front of the tray.



- 6 Squeeze the width guide tabs, and slide the width guide to lightly touch the side of the stack.



- 7 Align the tray, and insert it.



- 8 If a different type of paper was loaded than the type previously loaded in the tray, change the Paper Type setting for the tray from the control panel. For more information, see “Setting the paper size and type” on page 17.

Setting the paper size and type

Note: Trays with matching paper size and paper type settings are automatically linked by the printer. When a linked tray runs out of paper, the printer draws from another tray.

To change the paper size and type settings:

- 1 Make sure the printer is on and **Ready** appears.
- 2 From the control panel, press .
- 3 Press  until  **Paper Menu** appears, and then press .
- 4 Press  until  **Paper Size/Type** appears, and then press .
- 5 Press  until the correct tray appears, and then press .
- 6 Press  until  appears next to the correct size, and then press .
- 7 Press  or  to scroll through the list of possible paper types. Highlight the correct type, and then press .
Submitting Selection appears. The printer returns to the **Paper Menu**.
- 8 Press  twice to return to the **Ready** state.

Supplies guide

When a toner low message appears such as **Cyan Toner Low**, you should order a new toner cartridge.

You may be able to print a limited number of pages when the message first appears, but it is best to have the new cartridge available when the current one runs out.

Note: Shake your new print cartridge gently before installing it into the printer to maximize its yield.

The following table lists the part numbers for ordering supply items.

Part number list

Part name	Part number	For printer(s)
Cyan Extra High Yield Return Program Toner Cartridge	C5340CX	C534
Magenta Extra High Yield Return Program Toner Cartridge	C5340MX	C534
Yellow Extra High Yield Return Program Toner Cartridge	C5340YX	C534
Cyan Extra High Yield Toner Cartridge	C5342CX	C534
Magenta Extra High Yield Toner Cartridge	C5342MX	C534
Yellow Extra High Yield Toner Cartridge	C5342YX	C534
Cyan High Yield Return Program Toner Cartridge	C5240CH	C532, C534
Magenta High Yield Return Program Toner Cartridge	C5240MH	C532, C534
Yellow High Yield Return Program Toner Cartridge	C5240YH	C532, C534
Black High Yield Return Program Toner Cartridge	C5240KH	C534
Cyan High Yield Toner Cartridge	C5242CH	C532, C534
Magenta High Yield Toner Cartridge	C5242MH	C532, C534
Yellow High Yield Toner Cartridge	C5242YH	C532, C534
Black High Yield Toner Cartridge	C5242KH	C534
Cyan Return Program Toner Cartridge	C5220CS	C530, C532, C534
Magenta Return Program Toner Cartridge	C5220MS	C530, C532, C534
Yellow Return Program Toner Cartridge	C5220YS	C530, C532, C534

Part name	Part number	For printer(s)
Black Return Program Toner Cartridge	C5220KS	C530, C532, C534
Cyan Return Program Toner Cartridge	C5200CS	C530
Magenta Return Program Toner Cartridge	C5200MS	C530
Yellow Return Program Toner Cartridge	C5200YS	C530
Black Return Program Toner Cartridge	C5200KS	C530
Cyan Toner Cartridge	C5222CS	C530, C532, C534
Magenta Toner Cartridge	C5222MS	C530, C532, C534
Yellow Toner Cartridge	C5222YS	C530, C532, C534
Black Toner Cartridge	C5222KS	C530, C532, C534
Cyan Toner Cartridge	C5202CS	C530
Magenta Toner Cartridge	C5202MS	C530
Yellow Toner Cartridge	C5202YS	C530
Black Toner Cartridge	C5202KS	C530
Photoconductor Unit	C53030X	C530, C532, C534
Photoconductor Unit, Multi-Pack	C53034X	C530, C532, C534
Fuser (100V/50–60Hz)	40X3571	C530, C532, C534
Fuser (120V/50–60Hz) [low voltage]	40X3569	C530, C532, C534
Fuser (220–240V/50–60Hz) [high voltage]	40X3570	C530, C532, C534
Transfer Belt	40X3572	C530, C532, C534
Waste Toner Box	C52025X	C530, C532, C534

Ordering a fuser or a transfer belt

When **Fuser Life Warning** or **Transfer Belt Life Warning** appears, you need to order a replacement fuser or transfer belt.

When **Replace Fuser** or **Replace Transfer Belt** appears, you need to install the new replacement part. For installation information, see the documentation that came with the fuser or transfer belt.

Part number	Part name
40X3572	Transfer belt
40X3569 (120V/50–60Hz) 40X3570 (220–240V/50–60Hz) 40X3571 (100V/50–60Hz)	Fuser

Ordering photoconductors

When **Black PC Unit Life Warning** or **Cyan PC Unit Life Warning**, **Magenta PC Unit Life Warning**, or **Yellow PC Unit Life Warning** appears, you need to order replacement photoconductor(s).

Part number	Part name
C53030X	Photoconductor Unit
C53034X	Photoconductor Unit, Multi-Pack

Media guide

The printer supports the following paper and other specialty media sizes. Select custom sizes up to the maximum specified for the Universal setting.

Supported paper sizes

✓—supported

X—unsupported

Paper size	Dimensions	Standard 250-sheet tray (Tray 1)	Optional 550-sheet tray (Tray 2)	Multipurpose feeder or manual feeder
Letter	215.9 x 279.4 mm (8.5 x 11 in.)	✓	✓	✓
Legal	215.9 x 355.6 mm (8.5 x 14 in.)	✓	✓	✓
JIS B5	182 x 257 mm (7.17 x 10.1 in.)	✓	✓	✓
A4	210 x 297 mm (8.27 x 11.7 in.)	✓	✓	✓
Executive	184.2 x 266.7 mm (7.25 x 10.5 in.)	✓	✓	✓
A5	148 x 210 mm (5.83 x 8.27 in.)	✓	✓	✓
Folio	216 x 330 mm (8.5 x 13 in.)	✓	✓	✓
Statement	139.7 x 215.9 mm (5.5 x 8.5 in.)	X	X	✓
Universal*	148 x 210 mm to 215.9 x 355.6 mm (5.83 x 8.27 in. to 8.5 x 14 in.)	✓	✓	X
	76.2 x 123.8 mm (3 x 4.88 in.) to 215.9 x 355.6 mm (8.5 x 14 in.)	X	X	✓ (Multipurpose feeder)
	76.2 x 152.4 mm (3 x 6 in.) to 215.9 x 355.6 mm (8.5 x 14 in.)	X	X	✓ (Manual feeder)

*This size setting formats the page or envelope for 215.9 x 355.6 mm (8.5 x 14 in.) for the 250-sheet tray unless the size is specified by the program.

Measurements apply to simplex (one-sided) printing only. For duplex (two-sided) printing, the minimum size is 139.7 x 210 mm (5.50 x 8.27 in.).

Paper size	Dimensions	Standard 250-sheet tray (Tray 1)	Optional 550-sheet tray (Tray 2)	Multipurpose feeder or manual feeder
7 3/4 Envelope (Monarch)	98.4 x 190.5 mm (3.875 x 7.5 in.)	X	X	✓
Commercial 9 Envelope	98.4 x 225.4 mm (3.875 x 8.9 in.)	X	X	✓
Commercial 10 Envelope	104.8 x 241.3 mm (4.12 x 9.5 in.)	X	X	✓
International DL Envelope	110 x 220 mm (4.33 x 8.66 in.)	X	X	✓
International C5 Envelope	162 x 229 mm (6.38 x 9.01 in.)	X	X	✓
International B5 Envelope	176 x 250 mm (6.93 x 9.84 in.)	X	X	✓
Other Envelope*	104.8 x 210 mm to 215.9 x 355.6 mm (4.125 x 8.27 in. to 8.5 x 14 in.)	X	X	✓

*This size setting formats the page or envelope for 215.9 x 355.6 mm (8.5 x 14 in.) for the 250-sheet tray unless the size is specified by the program.

Measurements apply to simplex (one-sided) printing only. For duplex (two-sided) printing, the minimum size is 139.7 x 210 mm (5.50 x 8.27 in.).

Storing media

Use these media storage guidelines to help avoid jams and uneven print quality:

- For best results, store media where the temperature is 21°C (70°F) and the relative humidity is 40%.
- Store media in cartons when possible, on a pallet or shelf, rather than on the floor.
- Store individual packages of media on a flat surface.
- Do not store anything on top of individual media packages.

Avoiding jams

The following hints can help you avoid jams:

- Use only recommended media.

For more information, see the *Card Stock & Label Guide* available on the Lexmark Web site at www.lexmark.com/publications.

- For detailed information about purchasing large quantities of customized media, see the *Card Stock & Label Guide*.
- Do not load too much media. Make sure the stack height does not exceed the indicated maximum height.
- Do not load wrinkled, creased, damp, or curled media.
- Flex, fan, and straighten media before loading it.
- Do not use media that has been cut or trimmed by hand.
- Do not mix media sizes, weights, or types in the same stack.
- Store the media in an appropriate environment.

- Do not remove trays while the printer is printing. Wait for **Load tray <x>** or **Ready** to appear before removing a tray.
- Do not load the manual feeder while the printer is printing. Wait for **Load manual feeder with <x>** to appear.
- Push all trays in firmly after loading media.
- Make sure the guides in the trays are properly positioned and are not pressing too tightly against the paper.
- Make sure all media sizes and media types are set correctly in the control panel menu.
- Make sure all printer cables are attached correctly. For more information, see the setup documentation.

Note: If a jam occurs, clear the entire media path. For information on the media path, see the *User's Guide*.

Print defects guide

Repeating defects measurements

Match a set of repeating defects on a print job to the marks on one of the vertical lines. The line that best matches the defects on the print job indicates which particular part is causing the defect.

Change the photoconductor unit for the color that shows this defect.

72.4 mm
(2.85 inches)



28.3 mm
(1.11 inches)



Change the toner cartridge for the color that shows this defect.

35.7 mm
(1.41 inches)



33.5 mm
(1.32 inches)



Change the fuser.

116.2 mm
(4.58 inches)



Menu map

Menus list

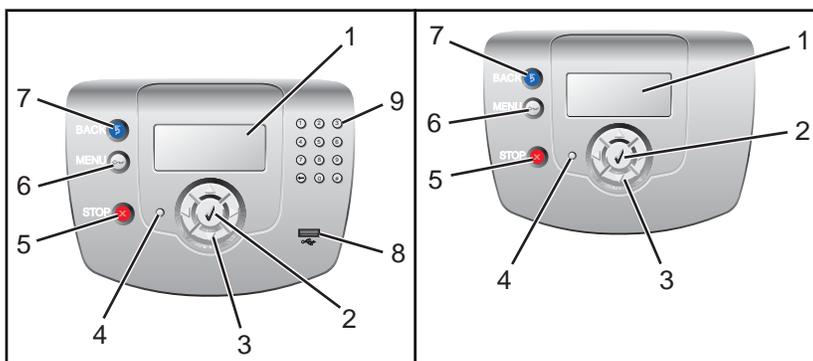
A number of menus are available to make it easy for you to change printer settings. This diagram shows the items available under each menu.

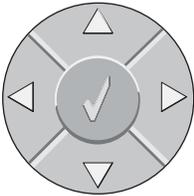
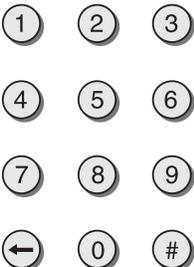
Note: Some menu items may not be available based on the printer model or the options installed.

Supplies Menu	Paper Menu	Reports	Settings
Replace Supply	Default Source	Menu Settings Page	Setup Menu
Cyan Cartridge	Paper Size/Type	Device Statistics	Finishing Menu
Magenta Cartridge	Configure MP	Network Setup Page	Quality Menu
Yellow Cartridge	Substitute Size	Network <x> Setup Page	Utilities Menu
Black Cartridge	Paper Texture	Wireless <x> Setup Page	PDF Menu
Cyan PC Unit	Paper Weight	Profiles List	PostScript Menu
Magenta PC Unit	Paper Loading	NetWare Setup Page	PCL Emul Menu
Yellow PC Unit	Custom Types	Print Fonts	HTML Menu
Black PC Unit	Universal Setup	Print Directory	Image Menu
Fuser			
Transfer Belt			

Security	Network/Ports	Help
Max Invalid PIN	TCP/IP	Color Quality
Job Expiration	IPv6	Print Quality
	Wireless	Printing Guide
	Standard Network	Supplies Guide
	Network <x>	Media Guide
	Standard USB	Print Defects
	USB <x>	Menu Map
	NetWare	Information Guide
	AppleTalk	Connection Guide
	LexLink	Moving Guide
	USB Direct	

Understanding the control panel



Control panel item		Description
1	Display	The display shows messages and pictures that communicate the status of the printer.
2	Select 	Pressing  initiates action on a menu item.
3	Navigation buttons 	Press  or  to scroll through menu lists. Press  or  to scroll through values or text that rolls to another screen.
4	Indicator light	Indicates the printer status: <ul style="list-style-type: none"> • Off—The power is off. • Blinking green—The printer is warming up, processing data, or printing. • Solid green—The printer is on, but idle. • Solid red—Operator intervention is needed.
5	Stop 	Stops all printer activity A list of options is offered once Stopped appears on the display.
6	Menu 	Opens the menu index Note: These menus are only available when the printer is in the Ready state.
7	Back 	Returns the display to the previous screen
8	USB direct port	Insert a USB flash drive to send data to the printer.
9	Numeric keypad 	Consists of the numbers 0–9, a backspace button, and a pound button

Information guide

Help pages

Help pages are a series of PDFs stored in the printer. They contain helpful information about using the printer and performing printing tasks.

English, French, German, and Spanish translations are stored in the printer. Other translations are available on the *Software and Documentation CD*.

Menu item	Description
Color quality guide	Provides information about adjusting and customizing color printing
Print quality guide	Provides information about solving print quality issues
Printing guide	Provides information about loading paper and other speciality media
Supplies guide	Provides part numbers for ordering supplies
Media guide	Provides a list of the paper sizes supported in trays, drawers, and feeders
Print defects guide	Provides help in determining the printer part causing a repetitive defect
Menu map	Provides a list of the control panel menus and settings
Information guide	Provides help in locating additional information
Connection guide	Provides information about connecting the printer locally (USB) or to a network
Moving guide	Provides instructions for safely moving the printer

Setup sheet

The *Setup* sheet packaged with the printer provides information about setting up the printer.

Software and Documentation CD

The *Software and Documentation CD* packaged with the printer includes a *User's Guide* and a *Menus and Messages Guide*.

The *User's Guide* provides information about loading paper, ordering supplies, troubleshooting, and clearing jams.

The *Menus and Messages Guide* provides information about changing the printer settings for each available menu item. It also includes a list of printer status and error messages.

Additional language support

The *User's Guide*, *Setup* sheet, *Menus and Messages Guide*, and Help pages are also available in other languages on the *Software and Documentation CD*.

Connectivity guide

Windows instructions for a locally attached printer

Note: When installing a locally attached printer, if the operating system is not supported by the *Software and Documentation* CD, the Add Printer Wizard must be used.

Updates for the printer software may be available on the Lexmark Web site at www.lexmark.com.

What is local printing?

Local printing is printing to a locally attached printer (a printer that is connected directly to your computer with a USB cable). When setting up this type of printer, you should install the printer software *before* connecting the USB cable. For more information, see the setup documentation packaged with the printer.

The *Software and Documentation* CD can be used to install the necessary printer software on most Windows operating systems.

Installing software using the CD

Using the *Software and Documentation* CD, you can install printer software for the following operating systems:

- Windows Server 2003 and Windows Server 2003 x64
- Windows XP and Windows XP x64 bit Edition
- Windows 2000
- Windows NT 4.0
- Windows Me
- Windows 98 Second Edition

1 Insert the *Software and Documentation* CD.

If the install screen does not appear, click **Start → Run**, and then type **D:\setup.exe**, where D is the letter of your CD-ROM drive.

2 Select **Install Printer and Software**.

3 Select **Suggested**, and then click **Next**.

4 Select **Local Attach**, and then click **Next**. The printer software is copied to your computer.

5 Connect the USB or parallel cable, and then turn on the printer.

The Plug and Play screen appears and a printer object is created in the Printers folder.

Installing software using the Add Printer Wizard

You can install printer software for the following operating systems:

- Windows 95 (USB not supported)
- Windows 98 First Edition

1 Insert the *Software and Documentation* CD.

If the CD automatically starts, click **Exit**.

2 Click **Start → Settings → Printers**, and then click **Add Printer** to start the Add Printer Wizard.

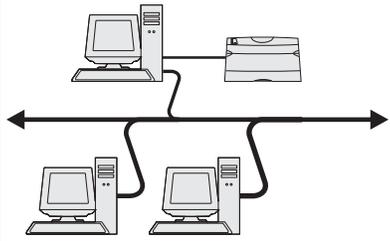
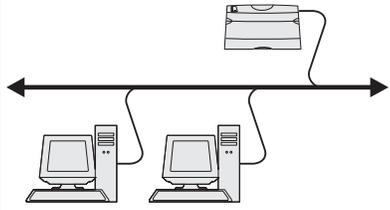
3 When prompted, select to install a local printer, and then click **Have Disk**.

- 4 Specify the location of the printer software. The path should be similar to **D:\Drivers\Print\Win_9xMe**, where D is the letter of your CD-ROM drive.
- 5 Click **OK**.

Windows instructions for network attached printers

What is network printing?

In Windows environments, network printers can be configured for direct printing or shared printing. Both network printing methods require the installation of printer software and the creation of a network port.

Printing method	Example
<p>IP printing</p> <ul style="list-style-type: none"> • Printer is connected directly to the network using a network cable, such as an Ethernet cable. • Printer software is typically installed on each network computer. 	
<p>Shared printing</p> <ul style="list-style-type: none"> • Printer is connected to one of the computers on the network using a local cable, such as a USB or parallel cable. • Printer software is installed on the computer attached to the printer. • During software installation, the printer is set up to be “shared” so that other network computers can print to it. 	

Installing software for direct IP printing

- 1 Insert the *Software and Documentation* CD.

If the install screen does not appear, click **Start → Run**, and then type **D:\setup.exe**, where D is the letter of your CD-ROM drive.
- 2 Select **Install Printer and Software**.
- 3 Select **Suggested**, and then click **Next**.

Note: Select **Custom** instead of **Suggested** to select the components you want to install.
- 4 Select **Network Attach**, and then click **Next**. The printer software is copied to your computer.
- 5 Select the printer model you are installing.

The printer is automatically discovered on the network, an IP address is automatically assigned, and a network printer object is created in the Printers folder.
- 6 From the list of discovered printers, select the one you want to print to.

Note: If the printer does not appear in the list, click **Add Port**, and then follow the instructions on the screen.
- 7 Click **Finish** to complete the installation.
- 8 Click **Done** to exit the installer.

Installing software for shared printing

Setting up shared printing requires several steps and should be done in the following order:

- 1 Install the printer software on the computer attached to the printer.
 - a Insert the *Software and Documentation CD*.

If the install screen does not appear, click **Start → Run**, and then type **D:\setup.exe**, where D is the letter of your CD-ROM drive.
 - b Select **Install Printer and Software**.
 - c Select **Suggested**, and then click **Next**.
 - d Select **Local Attach**, and then click **Next**. The printer software is copied to your computer.
 - e Connect the USB or parallel cable, and then turn on the printer. The Plug and Play screen appears, and a printer object is created in the Printers folder.
- 2 Share the printer on the network.
 - a Open the printers folder of your operating system.
 - b Select the printer object.
 - c From Print Properties, click the option to share the printer. This requires assigning a shared name to the printer.
 - d Click **OK**. If files are missing, you may be prompted for your operating system CD.
 - e Check the following to make sure the printer was successfully shared:
 - The printer object in the Printers folder now has a shared indicator. For example, a hand may appear under the printer object.
 - Search Network Neighborhood or My Network Places. Find the name of the host computer, and look for the shared name assigned to the printer.
- 3 Connect other network computers to the printers.
 - **Using the peer-to-peer method**
 - a Open the printers folder for your operating system.
 - b Click **Add Printer** to start the Add Printer Wizard.
 - c Select to install a network printer.
 - d Enter the printer name or URL if you are on the Internet or an intranet, and then click **Next**. If the printer name or URL is unknown, leave the text box empty, and then click **Next**.
 - e From the Shared printers list, select the network printer. If the printer is not listed, enter the path of the printer in the text box. The path looks similar to the following: \\[server host name][shared printer name]. The server host name is the name of the server computer that identifies it to the network. The shared printer name is the name assigned during the installation process.
 - f Click **OK**.
 - g When the installation is complete, print a test page.
 - h Repeat steps a through g on every network computer you want to enable to print to the shared printer.
 - **Using the point-and-print method**

Note: For more information, see the Lexmark Web site at www.lexmark.com. Look for a Knowledgebase article about 64-bit support.

This method may be the best use of system resources. The computer attached to the printer handles processing for all print jobs, including those routed from other network computers. This lets other network

computers return to applications much faster. With this method, only a subset of printer software is installed on each network computer.

- a From the network computer you want to enable to print to the shared printer, double-click **Network Neighborhood** or **My Network Places** on the desktop.
- b Locate the host name of the computer attached to the printer, and double-click the host name.
- c Right-click the shared printer name, and select the option to install the printer on the network computer. Wait a few minutes for the process to complete. The amount of time it takes varies based on network traffic and other factors.
- d Close Network Neighborhood or My Network Places.
- e Print a test page.
- f Repeat steps a through e on every network computer you want to enable to print to the shared printer.

Mac instructions for a locally-attached printer

Before installing printer software

A locally-attached printer is a printer connected to a computer using a USB cable. When setting up this type of printer, install the printer software *before* connecting the USB cable. For more information, see the setup documentation.

The *Software and Documentation* CD can be used to install the necessary printer software.

Note: A PPD for the printer is also available in a downloadable software package on the Lexmark Web site at www.lexmark.com.

Creating a queue in the Print Center or Printer Setup Utility

For local printing, you need to create a print queue:

- 1 Install a PostScript Printer Description (PPD) file on the computer. A PPD file provides detailed information to the Mac computer about the capabilities of the printer.
 - a Insert the *Software and Documentation* CD.
 - b Double-click the installer package for the printer.
 - c From the Welcome screen, click **Continue**, and then click **Continue** again after viewing the Readme file.
 - d Click **Continue** after viewing the license agreement, and then click **Agree** to accept the terms of the agreement.
 - e Select a Destination, and then click **Continue**.
 - f From the Easy Install screen, click **Install**.
 - g Enter the user password, and then click **Okay**. All the necessary software is installed on the computer.
 - h Click **Close** when installation is complete.
- 2 Open the Finder, click **Applications**, and then click **Utilities**.
- 3 Double-click **Print Center** or **Printer Setup Utility**.
- 4 Verify the print queue was created:
 - If the USB-attached printer appears in the Printer list, quit the Print Center or Printer Setup Utility.
 - If the USB-attached printer does not appear in the Printer list, make sure the USB cable is properly connected and the printer is turned on. After the printer appears in the Printer list, quit the Print Center or Printer Setup Utility.

Mac instructions for network-attached printers

Installing software for network printing

To print to a network printer, each Macintosh user must install a custom PostScript Printer Description (PPD) file and create a print queue in the Print Center or Printer Setup Utility.

- 1 Install a PPD file on the computer.
 - a Insert the *Software and Documentation* CD.
 - b Double-click the installer package for the printer.
 - c From the Welcome screen, click **Continue**, and then click **Continue** again after viewing the Readme file.
 - d Click **Continue** after viewing the license agreement, and then click **Agree** to accept the terms of the agreement.
 - e Select a Destination, and then click **Continue**.
 - f From the Easy Install screen, click **Install**.
 - g Enter the user password, and then click **OK**. All the necessary software is installed on the computer.
 - h Click **Close** when installation is complete.
- 2 Create a print queue in the Print Center or Printer Setup Utility.
 - **Using AppleTalk printing**
 - a Open the Finder, click **Applications**, and then click **Utilities**.
 - b Double-click **Print Center** or **Print Setup Utility**.
 - c From the Printer Menu, choose **Add Printer**.
 - d From the pop-up menu, choose **AppleTalk**.
 - e From the list, select the AppleTalk zone.

For information about which zone or printer to select, see the network setup page under the AppleTalk heading. For information about printing a network setup page, see the *User's Guide*.
 - f From the list, select the new printer, and then click **Add**.
 - **Using IP printing**
 - a Open the Finder, click **Applications**, and then click **Utilities**.
 - b Double-click **Print Center** or **Print Setup Utility**.
 - c From the Printer Menu, choose **Add Printer**.
 - d From the pop-up menu, choose **IP Printing**.
 - e Enter the IP address or the printer DNS name in the Printer Address box.

The TCP/IP address can be found on the network setup page. For information about printing a network setup page, see the *User's Guide*.
 - f From the printer model pop-up menu, choose your printer.
 - g From the list, select the new printer, and then click **Add**.

Installing other software for Macintosh

The following Macintosh utilities can be found on the Mac partition of the *Software and Documentation* CD:

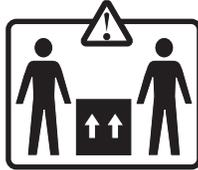
- Printer File Loader
- Printer Status
- Auto Updater
- Printer Settings

The *Software and Utilities* documentation is copied to the Macintosh hard disk during the printer installation process.

Moving the printer

Before moving the printer

CAUTION: The printer weighs 25.40 kg (56 lb); therefore, it requires at least two people to lift it safely. Use the handholds on the sides of the printer to lift it, and make sure your fingers are not under the printer when you set it down.



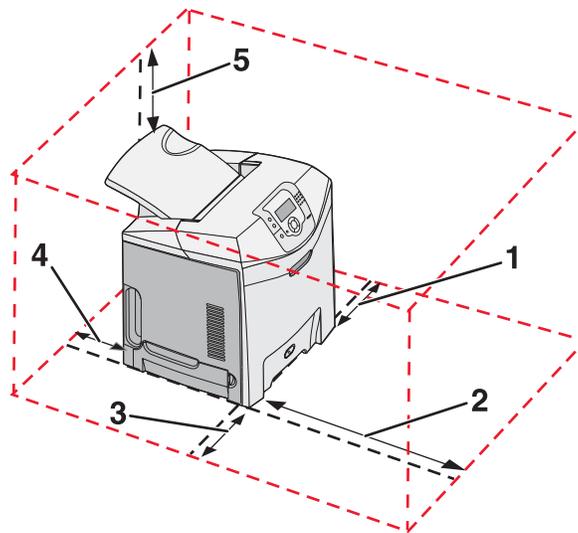
Follow these guidelines to avoid personal injury or printer damage:

- Always use at least two people to lift the printer.
- Always turn off the printer using the power switch before moving it.
- Disconnect all cords and cables from the printer before moving it.
- Remove all printer options before moving the printer.

Warning: Damage to the printer caused by improper moving is not covered by the printer warranty.

Setting the printer up in a new location

When the printer is set up, allow clearance around it as shown.



- 1** 101.6 mm
(4.0 in.)
- 2** 609.6 mm
(24.0 in.)
- 3** 101.6 mm
(4.0 in.)

- 4 152.4 mm
(6.0 in.)
- 5 304.8 mm
(12.0 in.)

Moving the printer to another location

The printer and options can be safely moved to another location by following these precautions:

- Remove all printer options before moving the printer.
- Any cart used to move the printer must have a surface able to support the full footprint of the printer. Any cart used to move the options must have a surface able to support the dimensions of the options.
- Keep the printer in an upright position.
- Avoid severe jarring movements.

Shipping the printer

When shipping the printer, use the original packaging or call the place of purchase for a relocation kit.