



User Guide



Adobe Photoshop™

Macintosh Version

Petitioner Exhibit 1026 Page 1

GEORGE HOLT

Adobe Photoshop™ User Guide

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Printed in the USA.

Part Number: 0199 1710

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Preface

The Adobe Photoshop™ program is photo-retouching, image-editing and color-painting software for the novice and professional alike. This guide describes the Adobe Photoshop program, from its basic functions to its advanced photodesign and color printing features.

The book contains six sections.

Section 1: Getting Started

Section 1 explains how to start using Adobe Photoshop software, including how to create new documents, open and save documents, and work with several documents open at once. The section explains the different image types and formats with which the Adobe Photoshop software works.

Chapter 1, "Managing Documents," describes the steps involved in creating new Adobe Photoshop documents, opening existing documents and documents saved in other file formats, and saving documents in the Adobe Photoshop format and in other file formats. The ability to save in a variety of file formats allows you to use images created or edited in Adobe Photoshop software in other application programs and on other computer platforms.

Chapter 2, "Scanning, Importing, and Exporting Images," discusses how to scan images, and how to import documents and export Adobe Photoshop documents so the documents can be used on other computer platforms and in other applications.

Section 2: Using the Adobe Photoshop Toolbox

Section 2 describes the Adobe Photoshop toolbox and gives a detailed description of how the tools work.

Chapter 3, "Managing the Toolbox," gives a brief overview of all the tools in the toolbox and how they work.

Chapter 4, "Controlling the Artwork and Screen Display," describes how to zoom in and out from an image for a more detailed or greater view, scroll through a window, change the window display, and use rulers to make measurements on an image.

Chapter 5, "Using the Painting Tools," explains how to use the painting tools to alter an image or to create original artwork. The painting tools include the pencil tool, line tool, paint brush, paint bucket, and airbrush tools.

Chapter 6, "Using the Editing Tools," covers how to use the editing tools to retouch or customize an image. The editing tools include the eraser, the smudge tool, the blur tool, and the sharpen tool.

Chapter 7, "Painting and Editing Tool Options," explains additional features common to the painting and editing tools that allow you to choose a brush shape for each tool and specify the opacity (transparency) of the paint used by the tool.

Chapter 8, "Using the Type Tool," explains how to add type to an image to create a poster or special effect, and it covers how to choose a type font, size, and type styles.

Chapter 9, "Making Selections," covers various selection techniques including using selection commands and tools and their options to select part of an image based on the similarity of pixel colors.

Chapter 10, "Using the Fill Tools," describes how to fill part of an image. It also explains how to select colors to paint and fill an image with a solid color.

Chapter 11, "Selecting Colors," includes the various ways to select the foreground and background colors that are used by the Adobe Photoshop program tools, including from an image, and from either the Color Picker or the Color Wheel dialog box.

Section 3: Basic Image Editing

Section 3 covers how to edit an image, including how to cut, copy, paste, resize, and transform images.

Chapter 12, "Cutting and Pasting Selections," shows how to cut, copy, and paste a selection within an image. Pasting instructions include pasting a selection inside and behind another selection, and using paste controls to determine precisely how a selection appears when it is pasted onto an image.

Chapter 13, "Transforming Images" discusses how to transform an image by rotating, skewing, or stretching.

Chapter 14, "Resizing Images" describes how to crop an image to eliminate extraneous portions, and resize and change the resolution of an image.

Section 4: Advanced Image Editing and Color Correction

Section 4 describes how to convert images to different image types, make color corrections, edit an image's color table, and changing the color levels of pixels. It also describes how to use filters to modify images.

Chapter 15, "Converting Images and Working with Channels," describes how to convert images of one type to another in preparation for printing the image, how to edit a document's color table to adjust or correct the colors in an image, and how to manipulate an image's channels, or further alter the image.

Chapter 16, "Making Color Corrections," discusses the procedures for changing the colors in an image by comparing or mapping the colors of pixels in the image to other colors. This chapter also contains information on how you can use the Adobe Photoshop program to adjust the color levels of pixels. Included are the procedures to adjust the brightness, contrast, and gamma in an image.

Chapter 17, "Using Filters to Modify Images," describes the many filters available with Adobe Photoshop software to alter an image, and how to use them. It explains how to use filters to soften, sharpen, offset, outline, and brighten an image, and create such special effects as adding noise. It also describes how to create a custom filter.

Section 5: Printing Images

Section 5 explains the procedures for printing images, including printing halftones and color separations.

Chapter 18, "A Printing Overview," introduces basic concepts of printing and how to prepare an image for printing. It explains how to print a halftone of a gray-scale image, including the ability to print registration and crop marks, calibration bars, borders, and labels on images..

Chapter 19, "Printing Halftones," explains in detail how to print a halftone of a gray-scale image. It shows how to specify the screen frequency and angle, and how to specify the dot shape used for the screen. This chapter also explains how to make calibrations to compensate for different printers and printing presses.

Chapter 20, "Producing a Color Separation," covers the procedures for printing a four-color separation of a color image. The chapter explains how to calibrate the image to be printed using the on-screen display, and how to compensate for density changes on the output device. It also explains how to make the required calibrations of the four separations, and how to compensate for different printers and printing presses.

Chapter 21, "Tips and Troubleshooting," contains tips and techniques as well as solutions to problems you may encounter when making color corrections, printing images, using the Adobe Photoshop program, and using the program in conjunction with the Adobe Illustrator™ program.

Section 6: Reference Material

The Appendix, "Photoshop Color Swatches," contains color swatches for adjusting the color displayed on your monitor. The Glossary defines terms used throughout the user guide.

Before beginning to use the Adobe Photoshop program, you should set up your Macintosh and be familiar with its use. You should know how to use the mouse and standard Macintosh menus. If you need to review these techniques, refer to your Macintosh documentation.

Introduction

Welcome to the Adobe Photoshop program.

A darkroom on the desktop, the Adobe Photoshop program is extraordinary photo-retouching, image-editing, and color painting software for pixel-based images. Whether you are a professional or a novice, with the Adobe Photoshop program you'll quickly be able to enhance, retouch, and compose scanned images, original artwork, and other pixel-based graphics on the Macintosh.

The Adobe Photoshop program is a sophisticated graphics application program designed to allow graphic artists, photographers, desktop publishers, and other people who work with graphic images to create and manipulate digital images. You can use Adobe Photoshop tools and commands to paint new images or retouch existing digital images that were created by a scanner, video capture equipment, or some other means.

The Adobe Photoshop program supports a variety of pixel-based images in more than a dozen formats. As a result, the Adobe Photoshop program is a versatile, powerful tool useful in applications from photo retouching and color separation to animation, and on a variety of platforms, from monochrome to 32-bit color systems.

You'll find that the Adobe Photoshop program excels as an art production tool, whether you are an art director or electronic publisher who needs to merge and edit color images, a photographer who wants to retouch proofs, or a graphic designer who is creating original or composite artwork including collages and photo montages. The software is equally useful to printers and service bureaus that want to generate color separations, to animators who want to colorize images and produce audio-visual materials quickly, and to artists who want to create new artwork using the latest media and tools.

With the Adobe Photoshop program, you work with bitmapped images that are composed of a series of dots or picture elements ("pixels"). When you "paint" in a pixel-oriented program like Adobe Photoshop, you change the colors of pixels. The number of colors that you can work with at a time depends on the amount of color information available for each pixel. On an 8-bit color system, a maximum of 256 different colors can be displayed simultaneously. On a 24- or 32-bit color system, over 16 million different colors can be displayed at one time. The amount of information used for each pixel affects the file sizes of images: a 24-bit RGB image has three times as much information as an 8-bit gray-scale version of the same image, and so takes up three times as much disk space.

You can use the Adobe Photoshop tools to create an original image, while image processing functions allow you to edit scanned and other digitized images. With the painting tools in the Adobe Photoshop program, you can add lines to an image, fill an image with color, and spray-paint on parts of an image as if you were using an airbrush to retouch a photograph.

You can edit images in many ways. You can crop images and perform transformations on images, such as rotating, skewing, and flipping. You can also use the many filters in the Adobe Photoshop program to modify images by sharpening and blurring an image, and creating mosaic and facet effects.

Adobe Photoshop software allows you to perform color correction on images, too. You can adjust the levels of color in an image, as well as the brightness and contrast. You can also use the Adobe Photoshop program to change the resolution at which the image is printed on a printer or film recorder, or output to some other media.

When you are ready to generate a hard copy of an image, the Adobe Photoshop program includes the ability to create and print halftones and color separations. You can automatically convert images that are in the RGB (red, green, and blue) format, which is commonly used to display images on-screen, into the CMYK (cyan, magenta, yellow, and black) format used to print images on a printing press.

Image types that the Adobe Photoshop program supports include bitmapped, gray-scale, indexed color, RGB, CMYK; and hue, saturation and brightness (HSB); hue saturation, and luminance (HSL), and multichannel images. Supported image formats include the default Photoshop and Raw formats; formats suitable for graphics and page layout applications including EPS, MacPaint®, PICT, PixelPaint®, and TIFF formats; those useable by PIXAR workstations, Scitex image-processing, and Commodore Amiga computers; a format for Targa video boards; and a format for ThunderScan.

The Adobe Photoshop program stores images in channels, similar in concept to a plate in a four-color (four-plate) printing process. A bitmapped image and gray-scale image are single-channel images; RGB, HSL, and HSB images have three channels; CMYK images have four channels. In addition, alpha channels can be added to an image to manipulate the image and store masks.

Throughout this user guide, references are made to adjusting color levels. For the sake of consistency, this term applies to all image types, whether color or gray-scale.

What you need

- Macintosh II, IIX, IICX, IICI, SE, or SE/30
- Hard disk
- 2 megabytes random-access memory (RAM)
- Apple system software version 6.0.2 or later

In addition, a gray-scale or color monitor is recommended, and a Macintosh-compatible scanner is optional.

Using this book

This book is divided into six sections. For information about creating new documents, opening, closing, and saving documents, you should read the chapters in Section 1, "Starting Out Using the Adobe Photoshop Program." If you are interested in learning how to use the painting, editing, fill, selection, and other tools to create an original image or edit an existing image, you should read the chapters in Section 2, "Using the Adobe Photoshop Toolbox."

For information about basic image editing, see Section 3, "Basic Image Editing." To learn how to make color corrections in an image and perform advanced image editing, you should read the chapters in Section 4, "Advanced Image Editing and Color Correction." If you want to know how to output an image, you should read the chapters in Section 5, "Printing Images." Section 6, "Reference Material" includes the Photoshop Color Swatches, the Glossary and the Index.

The Adobe Photoshop program package

The Adobe Photoshop program package contains

- The program disk
- The tutorial disk, containing two sample images
- A program disk containing software designed by third-party software developers
- The calibration disk
- *Adobe Photoshop User Guide*
- *Adobe Photoshop Tutorial*
- The Adobe Photoshop Quick Reference Card
- Registration card and envelope

Registration

Adobe Systems wants to keep you informed of the latest changes and improvements made to the Adobe Photoshop program and provide technical support if needed. To do that, we need to know who you are. Please fill out the enclosed registration card and mail it to us.

You must send in your registration card to receive technical support. The card also lists ownership benefits.

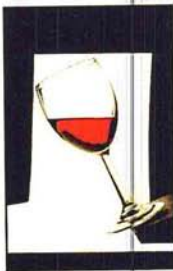
Third-party development

Adobe Systems is interested in working with third-party software developers on the continual enhancement of the Adobe Photoshop program.

If you are interested in writing a plug-in module to support your input or output device, or in adding additional file formats, please contact Adobe Systems.

Section 1: *Getting Started*





Beginning with a scan of grape leaves, the artist selected individual elements to paste into the new design. The Feather command was used to soften the edges of the selections. The Rotate and Paste Into commands were used to position the elements.

The background was created by first converting a copy of the grape leaves image to gray-scale. The gray-scale image was then pasted on top of the original color image of the grape leaves. Paste controls were used to make the gray-scale image slightly transparent, allowing some of the original color to show through.

Chapter 1: *Managing Documents*

Adobe Photoshop software works with original artwork or with existing images that were created by other applications or digitized by a scanner, video camera, or other means. Whether created or imported into the Adobe Photoshop program, images are stored as documents and displayed within windows. To use the Adobe Photoshop images included on your tutorial disk, you simply open the images.

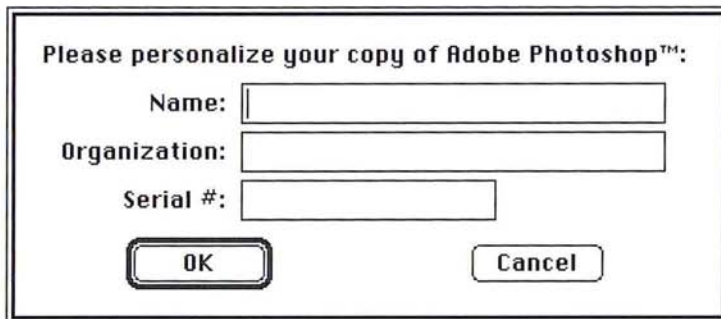
This chapter explains how to begin using the Adobe Photoshop program, and how to open, save, and manage image documents.

To work with an image, you open the document that contains the image. The document displays the image in a window.

Before you start to use the Adobe Photoshop program, turn on your computer and check to make sure that you have everything you need. See "What you need," in the Introduction earlier in this guide for a description of the requirements.

Make a backup copy of the program disk that you can work with. If you need help making a backup copy, see your Macintosh user guide for instructions. Use the backup copy to install the Adobe Photoshop program on your hard disk.

Double-click on the Adobe Photoshop program disk icon on the desktop. The first time you start the program, a dialog box appears asking you to personalize your copy of the program.



Please personalize your copy of Adobe Photoshop™:

Name:

Organization:

Serial #:

Type your name and the name of the organization you work for, if applicable. Enter the serial number listed on your Adobe Photoshop registration card or manuals, and click OK.

When you first start out using the Adobe Photoshop program, you are asked to create a preferences file. The preferences file holds the preference settings you choose in the Adobe Photoshop program. The preference settings include the separation setup information, display options, and options for exporting information to the Clipboard. The settings you save are used in all Adobe Photoshop documents.

You can change the name of the file as well as its location. You should keep the preferences file in a separate folder outside of the System folder. The location of the preferences file governs which hard drive the Adobe Photoshop program uses for virtual memory. If your system does not have enough random-access memory (RAM) to store large documents, Adobe Photoshop uses virtual memory, which accesses the hard disk, to automatically write and read image data to and from your hard disk. Make sure that you locate your preferences file on a disk that has enough space and speed for your needs.

The location of the preferences file also determines where the Adobe Photoshop program looks for plug-in modules. Plug-in modules are third-party developed programs that extend the capabilities of the Adobe Photoshop program to interface with new scanners and non-standard printers, to support additional file formats, and to include advanced, special effects filters.

The first time you use the Adobe Photoshop application, a dialog box appears, asking you to locate the preferences file.

To create a new preferences file:

1. Click New.
The Save As dialog box appears.
2. Use the drive and directory buttons (if necessary) to choose where you want to store the file.
3. As an option, type the desired name for the preferences file. By default, the file is named "PS Prefs."
4. Click Save.

A new preferences (PS Prefs) file is created and stored in the specified location on disk.

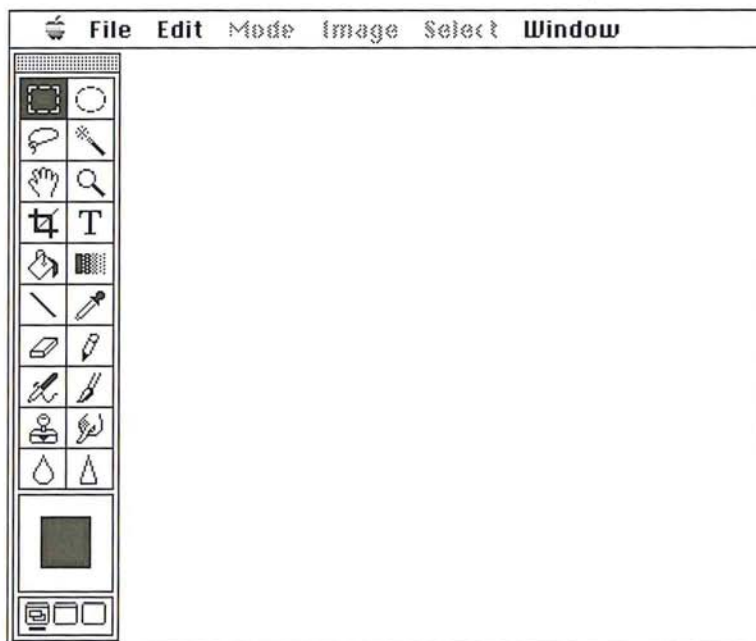
When you start and quit the Adobe Photoshop program, the software looks for the preferences file. If the preferences file has been moved from the last location where the program found it, a dialog box appears, asking you to locate the file.

To locate the preferences file:

1. Use the drive and directory buttons to locate the preferences file.
2. Click the preferences file name.
3. Click OK.

The Adobe Photoshop program will store the location of the preferences file and access the file automatically when you start up the application in the future.

After you have performed these preliminary steps, the Adobe Photoshop program startup screen appears, followed by the program's desktop.



You are ready to open a document and start working.

Opening images

Images that you are not currently working on are stored in documents on disk. When you work on an image in the Adobe Photoshop program, the image is normally displayed inside a window.

The Adobe Photoshop program opens and displays all documents at 72-dpi screen resolution. This may cause a document to appear enlarged on-screen if the resolution of the original image is greater than 72 dpi. For example, a document that you scanned in at 300 dpi will be displayed at 72 dpi and therefore, will appear larger on-screen; however, the document will print at the same size as the original image.

Opening a new document

When you create a new Adobe Photoshop document, you can specify the size of the overall image area, the image's resolution, and whether you want to create a gray-scale or an RGB color image.

Resolution, here, refers to the number of pixels per inch that are used in the image. This "image resolution" determines how much information is used in the image and how much information will be sent to the printer when you print it. The image resolution is measured in pixels per inch, whereas the resolution of output devices (such as printers) is measured in dots per inch (dpi). You can output images at resolutions of more than 2500 dpi on an imagesetter, but you normally won't use an image resolution that high because the printer doesn't require that much information to produce high-quality results. In addition, an image at a resolution of 2500 dpi would result in a document probably several hundred megabytes in size.

The resolution you specify for new documents affects the amount of information used in the document, which in turn affects the quality of the output and the amount of disk and memory space the document requires. By default, the Adobe Photoshop program selects RGB color as the image type, 512-pixels-by-512-pixels for the width and height, and 72 pixels per inch for the resolution. If you cut or copy a selection in an existing image and then create a new document into which you will paste the selection, the dimensions of the selection on the Clipboard are automatically entered in the Width and Height text boxes.

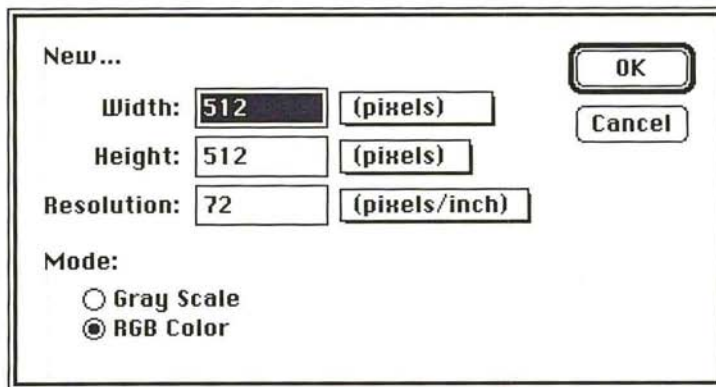
When you specify the size and resolution, you can also specify the units of measure you want to use. For the width and height, you can choose pixels, inches, centimeters, points, picas, or columns as the units. You can choose either pixels per inch (pixels/inch) or pixels per centimeter (pixels/cm) as the units for the resolution.

The current background color displayed in the toolbox becomes the background color for your new image.

To create a new Adobe Photoshop document:

1. Choose New from the File menu.

The New dialog box appears.



New...

Width: 512 (pixels)

Height: 512 (pixels)

Resolution: 72 (pixels/inch)

Mode:

Gray Scale

RGB Color

OK

Cancel

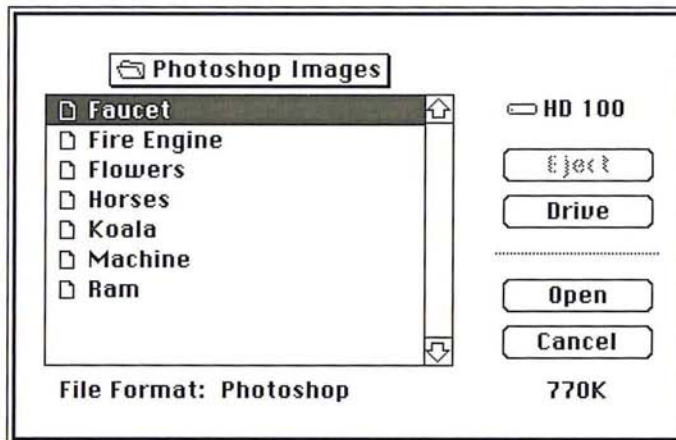
2. To change the default settings, click Gray Scale if you want to create a gray-scale image.
3. To select the units of measure, position the pointer on the box beside the parameter you want. Press down the mouse button.
A pop-up menu appears.
4. Holding down the mouse button, drag to highlight the units you want. Release the mouse button.
5. To enter values for the parameters, type a value for the width in the Width text box, and press the Tab key.
6. Enter a value for the Height in the Height text box, and press the Tab key.
7. Enter a value for the desired resolution in the Resolution text box.
8. When you have finished defining the parameters for the new image, click OK.
A new, untitled document appears.

Opening existing documents

To open existing Adobe Photoshop documents as well as documents saved in other file formats in the Adobe Photoshop format, follow these steps.

1. Choose Open from the File menu.

The Open dialog box appears.



2. Use the drive and directory buttons, if necessary, to locate the folder that contains the document you want to open.
3. Click the document.
4. Click Open.

Resizing a newly opened document

If the image you open appears enlarged, you may want to resize it to print the image at its original size or to view the entire image on-screen.

To display the current dimensions of the image, position the pointer on the size box in the lower-left corner of the image, and Option-click. If the dimensions of your image have changed, you can change the image size using the Size/Ruler option in the Page Setup dialog box in the File menu; the option will cause the image to print at its accurate size, but will not affect how the image appears on-screen. If your image has been enlarged and you would like to see the entire image on-screen, use the zoom tools.

It is recommended that you do not use the Resample command in the Image menu to resize the newly opened image, because you could alter the pixel information in the image and irretrievably lose image information. For more information about the resampling feature, see "Resampling images precisely," in Chapter 14, "Resizing Images."

Working with multiple documents

You may sometimes want to have several Adobe Photoshop documents open at the same time and switch back and forth between them. Alternating between windows can be useful when you want to compare two versions of the same image or use one image to correct the color in another.

Only one document can be the active window at a time. You can work only in the active window, with the exception of when you use the eyedropper tool. The eyedropper tool is unique because it allows you to select colors from an inactive document window without activating the window. To switch between windows, you can click on the window you want to activate, or you can choose the window you want to activate from the Window menu.

To select the active window when working with multiple documents:

1. Select any of the tools in the toolbox except the eyedropper tool.
2. Click the window you want to activate; or choose the desired window from the Window menu.

Saving documents

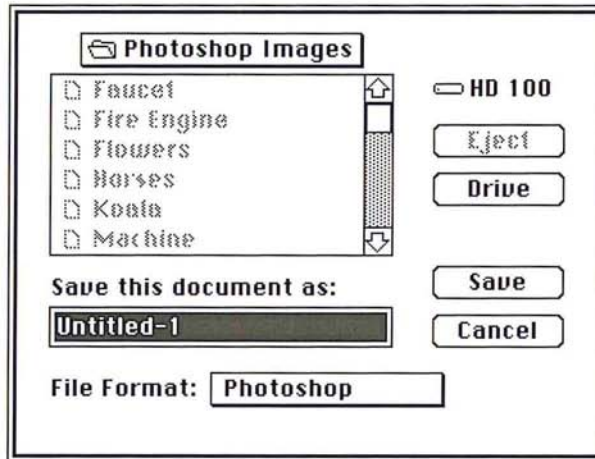
When you save a new document for the first time, you specify the name of the document and where on disk you want to store it. You should save a new document at an early stage to preserve the work you have done on it. You should also save existing documents periodically to protect the changes you made.

By default, all new documents are saved in the Adobe Photoshop file format.

To save a document:

1. Choose Save from the File menu.

If the document has never been saved, the Save As dialog box appears.



2. Type a name for the document.
3. Use the drive and directory buttons (if necessary) to choose where you want to store the document.
4. Click Save.

The document is saved on disk with the specified name and in the specified location.

Saving a copy of a document

You can also automatically create and save copies of a document using the Save As command. The Save As command also allows you to save Adobe Photoshop format documents in other file formats. For information about saving documents in other file formats, see the section, "Exporting images," in Chapter 2, "Scanning, Importing, and Exporting Images."

To save a copy of a document:

1. Choose Save As from the File menu.
The Save As dialog box appears.
2. Type a name for the copy.
3. Use the drive and directory buttons (if necessary) to choose where you want to store the copy.
4. Click Save.

A copy of the active document is saved on disk with the name and in the location you specified.

Closing documents

When you have finished working on a document, you can close it to store it. If you close a document that contains unsaved changes, an alert dialog box will appear to ask if you want to save the changes. Click No to close the document and discard any changes you made since you last saved the document. Click Cancel to resume working on the document. Click Save to save the changes. If the document has never been saved in the Adobe Photoshop file format, the Save dialog box will appear.

To close a document, choose Close from the File menu, or click the close box on the active window.

Quitting the Adobe Photoshop program

When you have finished using the Adobe Photoshop program, choose the Quit command from the File menu. If there are any documents open that contain unsaved changes, the program will prompt you to save the changes.

Chapter 2: *Scanning, Importing, and Exporting Images*

Images can be brought into the Adobe Photoshop program by scanning a photograph, slide, or image, or by importing electronic artwork created with a drawing program. You can import an image document in one format, and export it in another, depending on your needs. As a result, you can easily transfer Adobe Photoshop documents to other applications and computer platforms.

You can save Adobe Photoshop documents as encapsulated PostScript® files or TIFF documents, then place the documents in your page layout program. You can also export Adobe Photoshop documents in formats that can be read by IBM®-compatible and Commodore Amiga® computers, PIXAR® workstations, and Scitex® image-processing systems.

Scanning images

The Adobe Photoshop program in conjunction with certain brands of scanners allows you to control the process through which a hard copy of an image, such as a photograph or a slide, is converted into a digital image.

Adobe Photoshop software directly interfaces with any scanner that has an Adobe Photoshop-compatible scanner driver. Check with your scanner manufacturer to determine the compatibility of your scanner driver.

To install the desired driver, simply drag it into the same folder that contains your Adobe Photoshop preferences file; this folder should not be the System folder. All plug-in modules are loaded when the Adobe Photoshop program starts. So if the Adobe Photoshop program is running when you install the plug-in module, you must quit the program and restart it.

If the scanner you are using does not have an Adobe Photoshop-compatible scanner driver, you can use the manufacturer's software to scan your images, save them as TIFF or PICT files, and import them into the Adobe Photoshop program.

Importing images

The Adobe Photoshop program allows you to import documents in 14 formats including Photoshop, Raw, EPS, TIFF, PICT File, PICT Resource, Amiga IFF/ILBM, CompuServe GIF, MacPaint, PIXAR, PixelPaint, Scitex CT, TGA (Targa), and ThunderScan. You can also import documents in file formats that the Adobe Photoshop program does not support by using a plug-in module for the format. Plug-in modules are discussed later in this chapter in the section "Using plug-in modules to import and export images."

If the four-character code, called the "file type," is set correctly, you can use the Open command to open the document, and Adobe Photoshop will automatically select the correct file format.

You should use the Open As command if you know that the file type of the document is incorrect and you want to open the document in the correct format, or if you want to open a document in the Raw format. As an example, if you transfer a TIFF document from an MS-DOS® system to the Macintosh, the file type of the document is often TEXT instead of the correct TIFF. In this case, you should use the Open as command to open the file as a TIFF document in the Adobe Photoshop program. If the program is unable to open the document in the format you have specified, an alert box will appear.

The default file format when you use the Open As command is the Raw format. The Raw format is a highly flexible file format designed to accommodate images saved in undocumented formats, such as those created by scientific applications. When you open a document in the Raw file format, a dialog box appears for you to specify the parameters of the image so that the Adobe Photoshop program can open the document correctly. The information includes the width and height of the image (in pixels), the number of channels in the image, and the length of the header (in bytes). The header precedes the actual image information, and could include such information as the name of the application that created the document. Each character in the header (including spaces) represents one byte.

If you are uncertain of some of the document information, you can enter the information you know, then use the Guess button. The Adobe Photoshop program then estimates the other values based on the size of the document, which appears in the top left corner of the dialog box, and the values you have entered. (The size is measured in bytes. Each byte represents 1 pixel per channel in the image.)

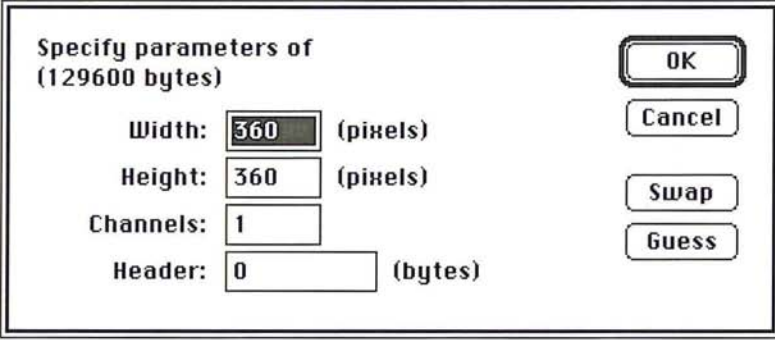
As an example, suppose you know the size of the header in the document, but you don't know the height and width of the image. You can enter the header's size in the Header text box, then click Guess. The Adobe Photoshop program will guess the number of rows and columns that comprise the image based upon the document's size on disk and the size of the header.

You can use the Swap button to change the default orientation assigned the image. The Guess option assumes that the image has a landscape orientation, with the width greater than the height. If you click Swap, the width and height values are automatically reversed.

To import a document in the Raw format:

1. Choose Open As from the File menu.
The Open As dialog box appears.
2. Use the drive and directory buttons, if necessary, to locate the folder that contains the document you want to open.
3. Click the document.
4. Click Open.

The Specify parameters dialog box appears.



Specify parameters of
(129600 bytes)

Width: 360 (pixels)

Height: 360 (pixels)

Channels: 1

Header: 0 (bytes)

OK

Cancel

Swap

Guess

5. Specify the document information by entering the width, height, number of channels, and header (if desired).
6. To estimate the document's size parameters, enter either the correct height and width values to estimate the header size, or enter the correct header size to estimate the height and width. Click Guess.

The Adobe Photoshop program estimates the appropriate value or values and automatically enters the information in the dialog box.

7. To reverse the order of the width and height values, click Swap.
8. When you have finished entering information about the document, click OK.

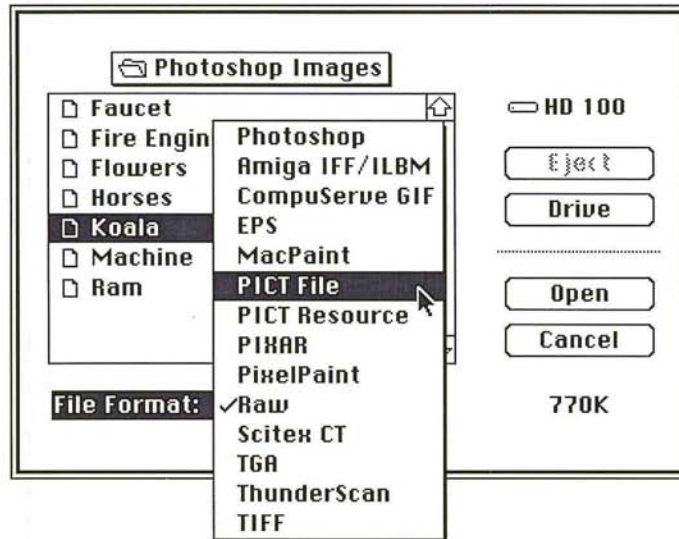
The document is opened.

If you want to open the document into a format other than Raw, follow the steps below.

To import a document in a file format other than Raw:

1. Choose Open As from the File menu.
The Open As dialog box appears.
2. Position the pointer on the box beside File Format.
3. Press down the mouse button.

The pop-up menu listing the file formats supported by the Adobe Photoshop program appears.



4. Holding down the mouse button, drag to highlight the file format in which the document will be opened.
5. Release the mouse button.
The chosen file format appears in the box.
6. Select the document from the directory window and click Open.

Exporting images

The Adobe Photoshop program allows you to export documents in 14 different file formats: Photoshop, Amiga IFF/ILBM, CompuServe GIF, EPS, MacPaint, PICT File, PICT Resource, PIXAR, PixelPaint, Raw, Scitex, TGA, ThunderScan, and TIFF. The ability to export images allows you to use the Adobe Photoshop images in other applications and on other computer platforms.

You can save Adobe Photoshop documents as EPS or TIFF documents, then place these documents in page layout programs that support these file formats. You can also save Adobe Photoshop documents in formats that can be read by Commodore Amiga and IBM-compatible microcomputers, PIXAR workstations, and Scitex image-processing systems.

Certain file formats do not support some of the image types available in the Adobe Photoshop program. For example, you can't save an RGB image in the MacPaint format because the MacPaint format only accepts black-and-white image data. Formats that aren't available are dimmed. The options available for each format are discussed in the section that follows. Where dialog boxes appear with options, they are displayed.

Export formats

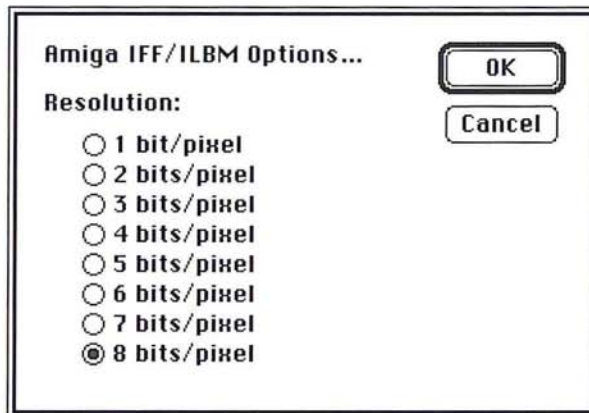
The file formats, and the information that can be specified when exporting an image in the file format, are described below.

Photoshop

Photoshop is the default file format for saving newly created images.

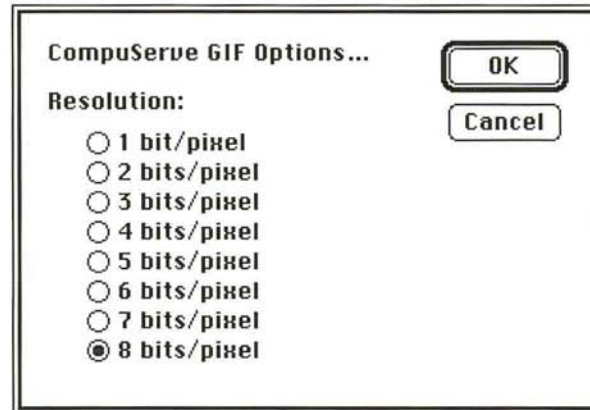
Amiga IFF/ILBM

The Amiga Interchange File Format (IFF)/Interlaced Bitmap (ILBM) format is used to transfer documents to and from Commodore Amiga computers. You can specify the image resolution from 1 bit to 8 bits per pixel.



CompuServe GIF

The CompuServe® Graphics Interchange Format (GIF) is commonly used to upload documents to the CompuServe Information Service, and to pass documents between other types of computers. You can specify the image resolution from 1 bit to 8 bits per pixel.



EPS

The Encapsulated PostScript file (EPS) format is used by graphics applications. You can choose preview PICT and encoding options for documents to be saved in the EPS format. You can also specify if you want the halftone and transfer function information saved with the document.

Some graphics applications, like Adobe Illustrator 88™, let you display or "preview" a PICT representation of a PostScript language image saved in the EPS format. The PICT preview image gives you an idea of what the image will look like when it is printed and allows you to accurately place the image on the page. The Adobe Illustrator 88 program lets you preview a monochrome, 1-bit per pixel PICT image. Other applications let you display a 4-bit or 8-bit per pixel image, which can contain color.

You also have the option of saving a CMYK document as five separate EPS documents. This allows you to save color separations in a format that can be read by certain applications that use this format, like QuarkXPress®. Four of the documents will contain the color information: one document for the cyan information, one for the magenta, and so on. The fifth document will contain a PICT preview of the image and a low-resolution PostScript language version for proofs.

When you save a bitmap-type image in EPS format, you have the option of making the white areas in the document appear transparent.

EPS encoding options

The encoding options control what type of information is saved in the document, either ASCII or binary. The binary option results in a file that is about half the size of an image saved with the ASCII encoding option and takes half as long to transfer to the printer. However, some applications (such as Aldus PageMaker® and FreeHand®) do not support binary EPS documents. For these applications, you should select the ASCII encoding option.

Saving halftone screen and transfer function information in EPS documents

You can choose to include halftone screen information, including the frequencies and angles of the screens, and transfer function information (dot gain calibration) with an EPS document. If you include this information, and place it in another application, such as Adobe Separator™, the PostScript interpreter will use this information and override the application's own settings when the color separations are generated.

EPS Options...

Preview PICT:

None

1 bit/pixel

8 bits/pixel

Encoding:

ASCII

Binary

Include Halftone Screens

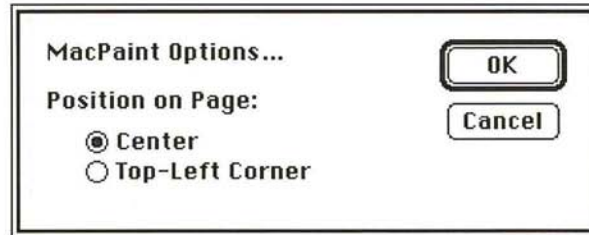
Include Transfer Functions

OK

Cancel

MacPaint

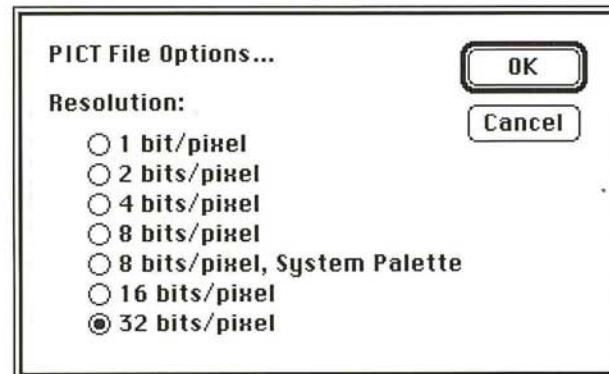
The MacPaint format is commonly used to transfer bitmapped images between Macintosh applications. You can only save Adobe Photoshop images that are in the Bitmap image type in the MacPaint format. You can choose to have the image either centered on the page when it is opened or placed in the upper left corner of the page. To select the placement option you want, click Center or Top-Left Corner, then click OK.



PICT File

The PICT format is widely used among Macintosh graphics and page layout applications as an intermediary file format used to transfer documents between applications.

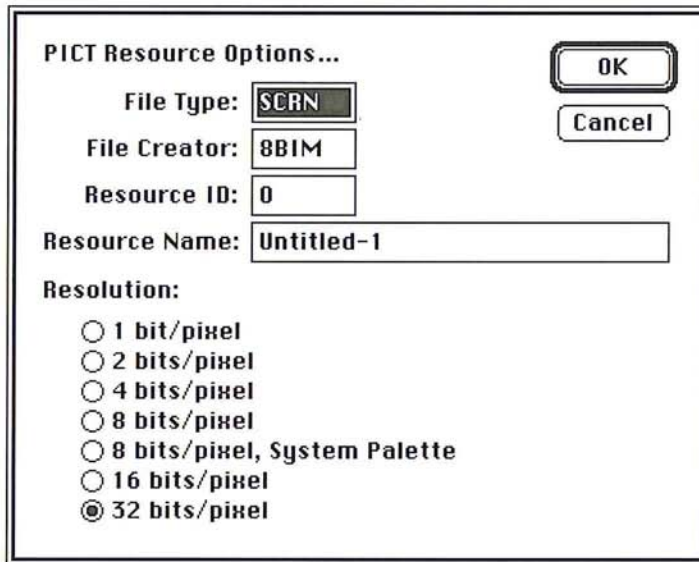
You can specify the resolution of the image, from 1 bit per pixel to 32 bits per pixel. The 8-bits per pixel System Palette option lets you automatically select the system color table as the color table used for the image. This option allows you to make sure the colors in the selection are displayed properly within applications that do not recognize custom color tables used to create an image.



PICT Resource

The PICT resource allows you to export an Adobe Photoshop document as a start-up screen or include the document as a PICT resource in an application program.

You can specify information about the document that determines how the resource will be used. If you want to use the image as a resource in an application program, you must enter the information the application needs to make use of the resource including the file type and file creator IDs, the resource ID, the resource name, and the image's resolution. The default file type is SCRN, the default file creator is 8BIM, the default resource ID is 0, the default resource name is the document's name, and the default resolution is determined by the image type. You can change the resolution or other parameters.



The screenshot shows a dialog box titled "PICT Resource Options...". It contains several input fields and a list of radio buttons. The "File Type" field is set to "SCRN", "File Creator" is "8BIM", and "Resource ID" is "0". The "Resource Name" field contains "Untitled-1". Under the "Resolution:" section, the "32 bits/pixel" option is selected with a radio button. There are "OK" and "Cancel" buttons in the top right corner.

PICT Resource Options...		OK
File Type:	SCRN	Cancel
File Creator:	8BIM	
Resource ID:	0	
Resource Name:	Untitled-1	
Resolution:		
<input type="radio"/>	1 bit/pixel	
<input type="radio"/>	2 bits/pixel	
<input type="radio"/>	4 bits/pixel	
<input type="radio"/>	8 bits/pixel	
<input type="radio"/>	8 bits/pixel, System Palette	
<input type="radio"/>	16 bits/pixel	
<input checked="" type="radio"/>	32 bits/pixel	

PIXAR

PIXAR workstations are designed for high-end graphics applications, such as work involving three-dimensional images and animation.

When you select the PIXAR option, you can specify the file type and file creator information for the document. The default file type is (PXR) and file creator (8BIM). However, you can change these settings. The file type must be set to PXR if you want to use the Open command to open the document in the Adobe Photoshop application.

To edit the file type and file creator settings, double-click in the text box of the parameter you want to change, then type the information. When you are ready to save the document, click OK.

PIXAR Options...

File Type:

File Creator:

OK

Cancel

PixelPaint

The PixelPaint file format allows a document to be opened in the PixelPaint and PixelPaint Professional graphics applications. You can specify the image size (canvas) you want to use and whether you want the image to appear in the center of the canvas or in the top left corner when you open the document.

PixelPaint Options...

Canvas Size:

512 by 512 pixels

576 by 720 pixels

1024 by 768 pixels

1024 by 1024 pixels

Position on Canvas:

Center

Top-Left Corner

OK

Cancel

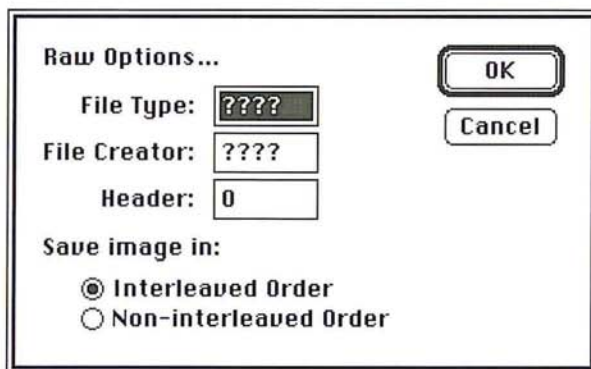
Raw

The Raw format is a flexible file format for transferring documents between different applications and computer platforms.

You can specify the file type, file creator, and header information about the document.

The file type is generally a four-character ID that identifies the file; for example, TEXT identifies the document as an ASCII text document. The file creator is generally a four-character ID. Most Macintosh applications have a unique file creator ID that is registered with the Apple Computer Developer Services group. The header is the number of bytes of information that will appear at the beginning of the document, before the actual image information. The value you enter for this parameter defines the number of zeroes that will be placed at the front of the document. The zeroes act as place holders in the document. After you save the document, you can use a file editing program, like Symantec Utilities for Macintosh (SUM) II®, to replace the zeroes with header information.

You can choose to save the image in an interleaved or non-interleaved format. If you choose the interleaved format, the color bands (red, green, and blue, for example) are stored sequentially. The choice you make depends on the requirements of the application you plan to use to open the document.



Raw Options...

File Type: [????]

File Creator: [????]

Header: [0]

Save image in:

Interleaved Order

Non-interleaved Order

OK

Cancel

Scitex CT

The Scitex Continuous Tone (CT) format is available for CMYK color images and gray-scale images. Scitex computers are used for high-end image processing. Contact Scitex to obtain utilities that will allow you to transfer a document saved in the Scitex CT format to a Scitex system. When you select the Scitex CT option, the active Adobe Photoshop document is converted directly to the Scitex format; no dialog box appears to allow you to select options for the conversion.

TGA

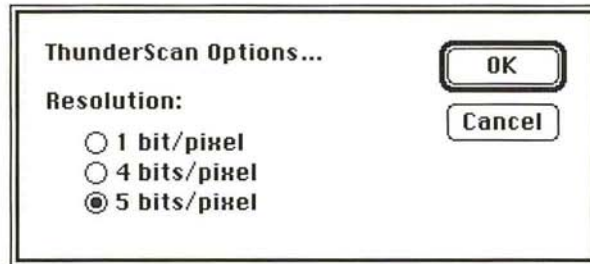
The TGA format is designed for use on systems that use TrueVision® video boards, and is commonly supported by MS-DOS color applications. The format is also known as "Targa," in reference to the TARGA® videographics board manufactured by TrueVision.

You can choose the resolution you want if you are saving an RGB color image.

ThunderScan

ThunderScan® is a hardware and software package used to scan images.

You can specify the number of bits of information per pixel (the resolution) you want to save with the document.



The dialog box is titled "ThunderScan Options...". It contains a "Resolution:" label followed by three radio button options: "1 bit/pixel", "4 bits/pixel", and "5 bits/pixel". The "5 bits/pixel" option is selected. To the right of the options are two buttons: "OK" and "Cancel".

TIFF

The Tagged-Image File Format (TIFF) is used to exchange documents between different applications and different computer platforms. You can choose to save Adobe Photoshop documents in a format that can be read by either Macintosh or IBM PC computers. You can also choose to compress the document to a smaller size automatically by clicking the LZW Compression check box.



The dialog box is titled "TIFF Options...". It contains a "Format:" label followed by two radio button options: "IBM PC" and "Macintosh". The "Macintosh" option is selected. Below these options is a check box labeled "LZW Compression", which is currently unchecked. To the right of the options are two buttons: "OK" and "Cancel".

Saving documents in different file formats

When you save a document in another file format, you use the pop-up menu in the Save As dialog box. The pop-up menu lists the file formats that the Adobe Photoshop program supports. Once you select a file format, in most cases, a dialog box containing options for the format will appear.

To save an Adobe Photoshop document in another file format:

1. Choose Save As from the File menu.
The Save As dialog box appears.
2. Type the name for the document.
3. Use the drive and directory buttons (if necessary) to choose where you want to store the document.
4. Position the pointer on the box next to File Format.
5. Press down the mouse button.

A pop-up menu appears listing the file formats the Adobe Photoshop program supports.



6. Holding down the mouse button, drag to highlight the format in which you want to save the active document. Release the mouse button.
7. Click Save.
The options dialog box for the selected file format appears.
8. Select the options you want by clicking the appropriate check box or radio button.
9. When you are finished selecting the parameters you want, click OK.

When you save an Adobe Photoshop document in a different file format, a unique document icon identifying the selected file format is used for the document.

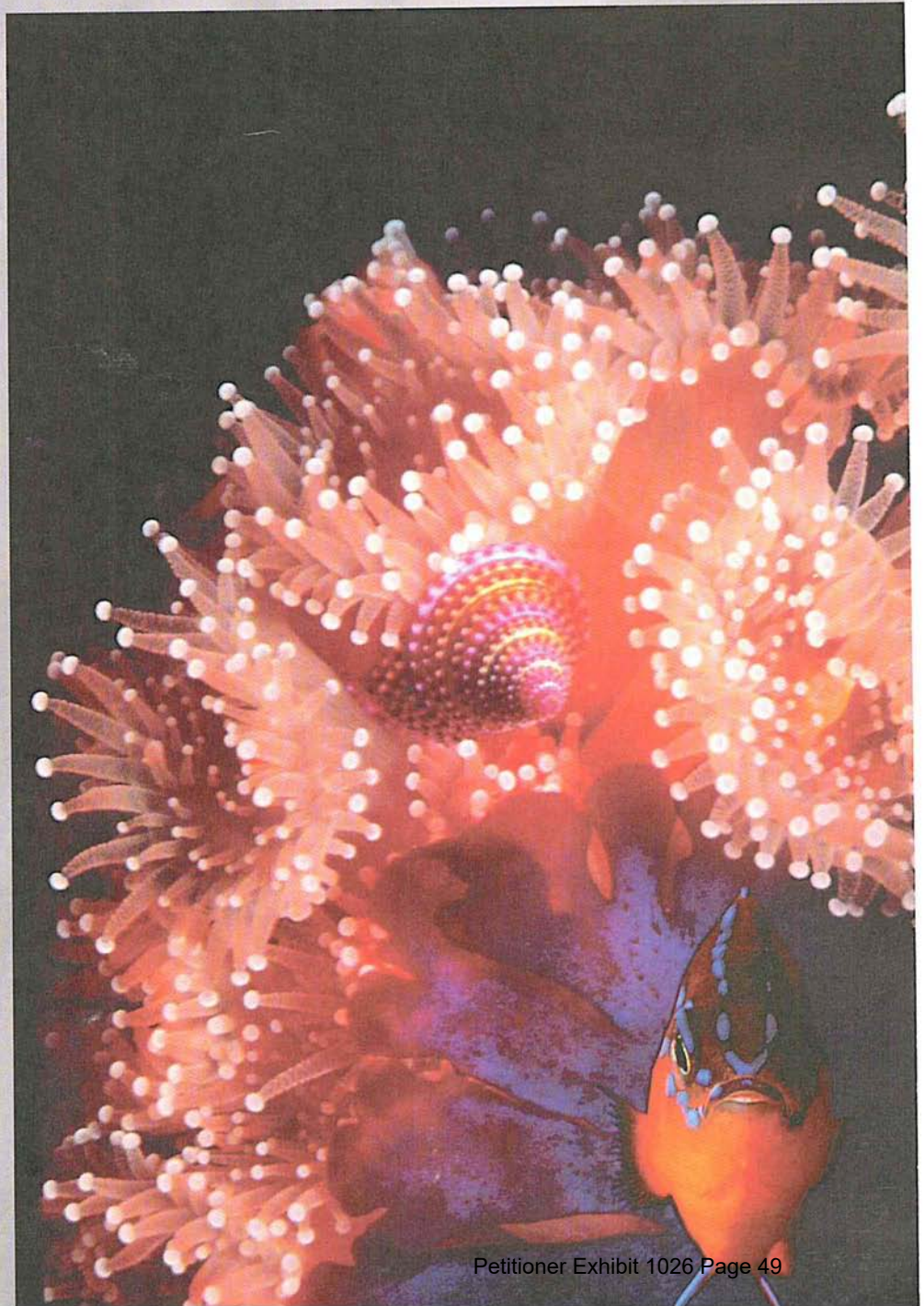
Using plug-in modules to import and export images

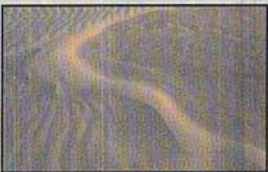
Plug-in modules are software programs developed by third-party vendors in conjunction with Adobe Systems to extend the standard Adobe Photoshop program. The program modules are distributed on floppy disks and are represented as icons, like application and utility programs. The instructions for using the program are shipped with the module.

Modules are available that allow you either to import (acquire) images from devices such as scanners, or export images to devices such as printers that are not supported by the Apple® printer drivers. Acquire modules allow you to control a scanner or video frame capture system, or to decompress a document. Export modules let you save an Adobe Photoshop document in a file format not supported by the standard Adobe Photoshop program, or let you export images to devices such as printers that are unavailable through the Chooser.

To use an acquire or export module, you must install a copy of the module in the folder containing your preferences file. Once installed, the module will be active under the File menu when you select either the Acquire or Export command, depending on the type of module you are using. For detailed instructions on using plug-in modules with the Adobe Photoshop program, refer to the appropriate documentation included with the third-party software disk.

Section 2: *Using the Adobe Photoshop Toolbox*





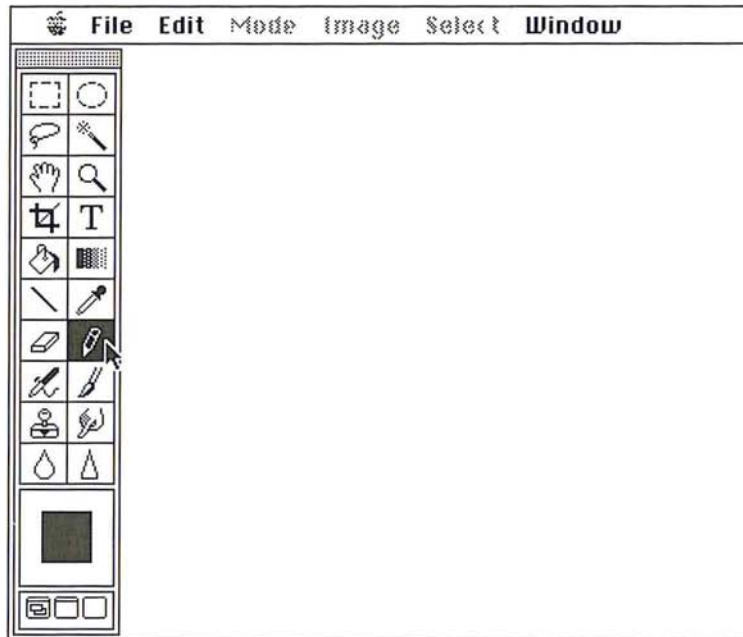
The designer scanned in three photos of sand, a fish, and an anemone as 35mm slides, and combined them in this illustration. She increased overall brightness in the images using the adjust levels controls to bring out as much detail in the shadow areas as possible. She blurred the sand and screened it to create a background texture, then rotated and cropped the plant image to fit within the foreground area. Using a separate file, the designer selected the fish and rotated its position, then copied and pasted the fish into the plant image.

Chapter 3: *Managing the Toolbox*

The Adobe Photoshop tools in the toolbox allow you to paint, select, edit, and change your view of images. All of the tools are represented by icons that reflect the name of the tool and its function. The toolbox is a floating palette. This means that you can move it around the screen and it will float above the image, allowing you to paint beneath it. You can move the toolbox to a more convenient location, or hide it to make more room on the screen.

This chapter gives a brief overview of the tools in the toolbox and tells you how to control the toolbox.

To select the tool you want to use, click the tool in the toolbox.



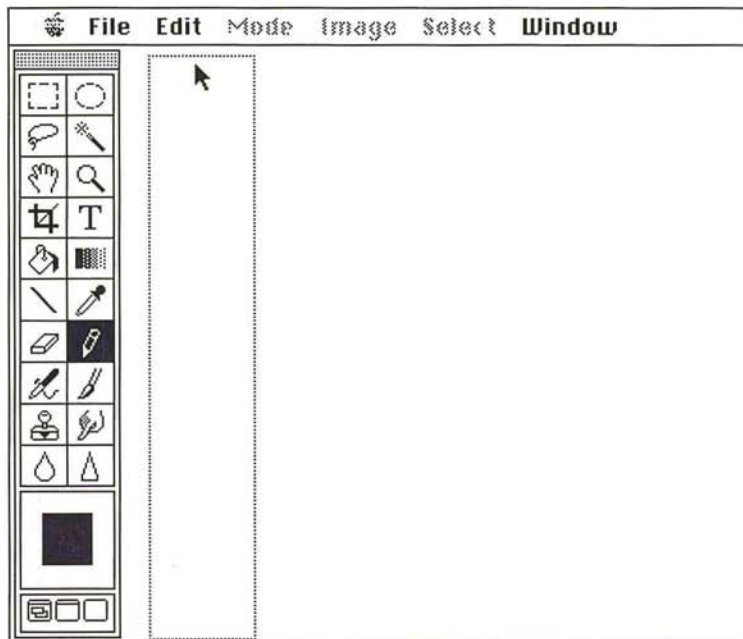
The tool is highlighted. Also, the arrow pointer changes into the pointer (cursor shape) appropriate for the selected tool when you position it in the active window.

To use the tool on the image:

1. Position the tool pointer on the image where you want to use the tool.
2. Press down the mouse button.
3. Drag the pointer across the image.
4. Release the mouse button when you have finished using the tool.

To move the toolbox, position the pointer on the gray bar at the top of the toolbox.

Hold down the mouse button. Drag until the toolbox is where you want it, then release the mouse button.



To hide the toolbox:

1. Press the Tab key to hide the toolbox.
2. Press the Tab key again to redisplay the toolbox.

Tool overview

Below is a brief description of all of the tools in the toolbox. The tools are arranged in the toolbox according to their functions. The categories for tools are selection tools, viewing tools, text tools, fill tools, painting tools, editing tools, and miscellaneous tools. The toolbox also contains color and screen mode controls.

Selection tools



The lasso tool

You can use the lasso tool to define any arbitrary selection area. The lasso tool operates like a freehand tool, and lets you trace the outline of a selection.



The rectangular and elliptical marquee tools

The rectangular marquee makes rectangular and square selections, and the elliptical marquee makes elliptical and round selections. The options available for both tools are very similar. For example, you can specify a certain fixed size, as well as a height-to-width ratio, for each marquee tool.



The magic wand tool

The magic wand is a versatile selection tool that allows you to select images based upon the color similarities of adjacent pixels. You can select part of an image without tracing it, and you can also choose how extensive you want the selection to be. For example, you can choose either to select just the dark hair of a person in an image, or the person's lighter clothing as well.



The eyedropper tool

The eyedropper tool selects the current foreground and background colors from colors in an image. The foreground color is used by the painting tools.

Viewing tools



The grabber tool

The grabber tool lets you scroll through an image that is too large to fit in the active window. You can scroll in any direction without using the scroll bars on the window by temporarily switching from one of the painting tools to the grabber tool.



The zoom tool

The zoom tool allows you to zoom in on an image to perform close, detailed work on an image, or zoom out to get an overall view.



The cross hair pointer

The cross hair pointer works in conjunction with the tools to give greater precision. When used with a painting, editing, or selection tool on an image, the cross hair pointer allows you great accuracy by focusing the “hot spot” of the cross hairs (the dot in the middle of the cross hairs) on the areas where you are using the tool. To use the cross hair pointer, press the Caps Lock key.



Release the Caps Lock key to resume using the tool’s normal pointer.

Text tools



The type tool

The type tool enters pixel-based type on an image. You can select a number of options for the type you enter, including the font and point size for type, and select style options such as underlining and italics.

Fill tools



The paint bucket tool

The paint bucket tool fills areas with the foreground color. The paint bucket tool fills pixels that are similar in color, in a similar way to the magic wand. Using the paint bucket tool, you can fill a discrete part of an image, such as a chair or an animal, simply by clicking on it.



The blend tool

The blend tool creates a gradient fill that displays a gradual transition from the foreground color to the background color.

Painting tools



The pencil tool

The pencil tool creates either freehand or straight, hard-edged lines. The pencil tool includes an auto-erase option that allows you to change pixels that are the foreground color to the background color.



The line tool

The line tool creates straight lines. You can specify the thickness of lines (line weight) you create, and create lines with arrowheads. Lines created using the line tool are anti-aliased. Anti-aliasing smooths out the edges of lines so they do not appear jagged.



The paint brush tool

The paint brush tool paints the foreground color into the image. The marks left by the paint brush tool are more diffused than the pencil tool's marks. The paint brush tool paints marks with soft edges.



The airbrush tool

The airbrush tool lays down a diffused spray of paint on an image. You can control the pressure of the paint and the rate it is sprayed on the image.



The rubber stamp tool

The rubber stamp tool picks up a sample of an entire image, and places an exact copy or a modified version of the selection elsewhere in the same image or in some other image. The rubber stamp options control the way a selected image, pattern, or texture is painted onto the image. The Revert option allows you to restore part of an image to the last version you saved.

Editing tools



The cropping tool

The cropping tool selects part of an image and discards the unselected portion. You define the cropping area by dragging a rectangular selection marquee around the image, or by specifying the size of the selection area you want, and placing the selection marquee around the selection.



The eraser tool

The eraser tool changes pixels to the background color. This has the effect of "erasing" the pixels. You can change just the pixels you drag through or the entire image. You also can use the eraser to restore part of the image to the last version you saved.



The smudge tool

The smudge tool simulates the effect of a finger dragging through wet paint. When you use the smudge tool, the colors of the pixels you drag through are gradually dispersed until the smudge fades out completely.



The blur tool

The blur tool blurs part of an image. The blur tool produces a less focused image by diffusing colors in the pixels to which the tool is applied.



The sharpen tool

The sharpen tool sharpens part of an image. As you drag through part of an image, the sharpen tool increases the contrast between adjacent pixels. This results in a sharper, more focused image.

Color controls

Foreground color indicator

The foreground color indicator on the toolbox displays the current foreground color. Many of the painting tools paint with the foreground color. By clicking the foreground color indicator, you can display the Color Picker dialog box, which you can use to select a new foreground color.

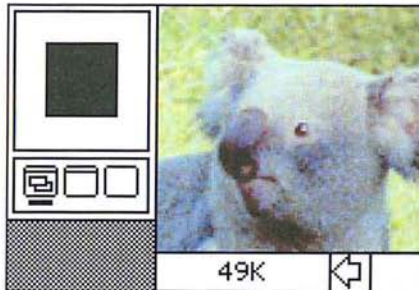
Background color indicator

The background color indicator on the toolbox displays the current background color. The background color is used as the background in new documents and appears in place of parts of the image you cut or delete. By clicking the background color indicator, you can display the Color Picker dialog box, which you can use to select a new background color.

Screen mode controls

The screen mode buttons on the bottom of the toolbox control the window display. The currently selected screen mode option is underlined in the toolbox. These options allow you to display the image inside the document window with the menu bar visible; at full-screen size without the document window and the menu bar visible; or, at full-screen size without either the document window or the menu bar.

To display the image inside the document window with the menu bar (this is the default screen mode), click the left screen mode button on the toolbox.



To display the image at full-screen size without the menu bar, click the right screen mode button on the toolbox.

To display the image at full-screen size with the menu bar, click the center screen mode button on the toolbox.

Chapter 4: *Controlling the Artwork and Screen Display*

The Adobe Photoshop program provides various ways to change the view of an image. In addition to the scroll controls and other window controls, you can use the grabber tool to scroll in two directions simultaneously. You can use the zoom tool and Zoom commands to obtain a magnified or more distant view of an image.

For information about using the standard Macintosh window controls, like the scroll bars, resize, and zoom boxes, see your Macintosh user guide.

Zooming in and out from an image

The zoom tool in the toolbox and the Zoom commands in the Window menu allow you to zoom in on an image for a magnified view, or zoom out for an overall perspective. The 1:1 view displays the image based upon the screen resolution and the image resolution, not the actual height and width dimensions of the image. Because the Adobe Photoshop program displays images at a screen resolution of 72 pixels per inch, images with greater resolution will appear enlarged on-screen. For example, when displayed at a 1:1 view, an image with a resolution of 200 pixels per inch will appear larger than its actual size because the screen can only display 72 pixels per inch. You can edit an image at any magnification.

The zoom tool changes by a factor of two (2x) each time you click the mouse button (2x, 4x, 8x, and 16x). The title bar always displays the current zoom level, for example, 2:1 for a magnification by a factor of two. A plus sign (+) in the zoom pointer indicates that you are ready to zoom in, while a minus sign (-) indicates you are ready to zoom out. The maximum zoom levels for an image is +16x and -16x.

The Zoom In and Zoom Out commands (and their Command-key equivalents) allow you to magnify or shrink a view. In addition, you can use the Zoom Factor command to zoom in or zoom out to a specified zoom level.

To use the zoom tool to zoom in on an image:

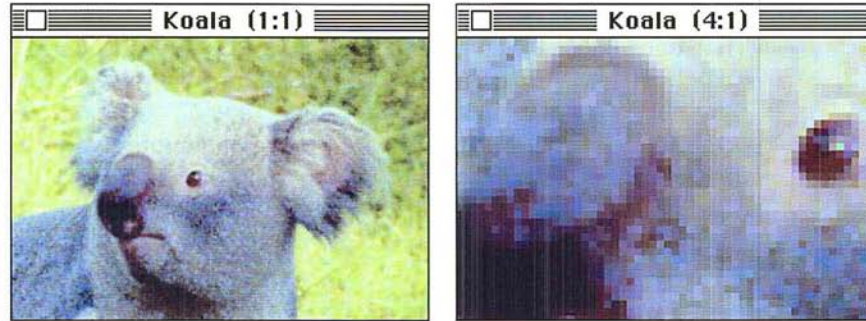
1. Click the zoom tool in the toolbox.
2. Position the zoom pointer on the part of the image you want to magnify.

Notice that a plus sign (+) appears in the zoom pointer.

3. Click the mouse button.

The image is magnified by a factor of two.

4. Continue clicking the mouse button until the view you want is displayed, or until you reach the maximum zoom level.



To zoom out from an image:

1. Click the zoom tool in the toolbox.
2. Position the zoom pointer on the image.
3. Press down the Option key.
4. Holding down the Option key, click the mouse button.
5. Continue clicking the mouse button until the view you want is displayed, or until you reach the minimum zoom level.
6. Release the Option key.

Note: You can quickly return to the 1:1 view of an image by double-clicking the zoom tool. Also, you can activate the zoom tool from the keyboard by holding down the Command key and the spacebar, placing the pointer inside the active window, and clicking the mouse button. This activates the zoom-in mode. To activate the zoom-out mode, hold down the Option key and the space bar.

Using the Zoom commands

The Zoom commands allow you to change your view of an image similar to the zoom tool. The major advantage of using the Zoom In and Zoom Out commands over the zoom tool is that you can implement them directly from the keyboard. The disadvantage to using the Zoom commands is that you can't specify the area you want to magnify as you can with the zoom tool. When you use the Zoom In command, the Adobe Photoshop program magnifies the area in the center of the active window.

The Zoom In command magnifies the view of the image by a factor of 1 (1x, 2x, 3x, and so on) each time you choose it until the maximum zoom level of +16 is attained; the Zoom Out command zooms out by a factor of 1 each time you choose it until the maximum zoom level of -16 is attained.

To use the Zoom In command, choose Zoom In from the Window menu, or type Command + (plus sign).

To use the Zoom Out command, choose Zoom In from the Window menu, or type Command - (minus sign).

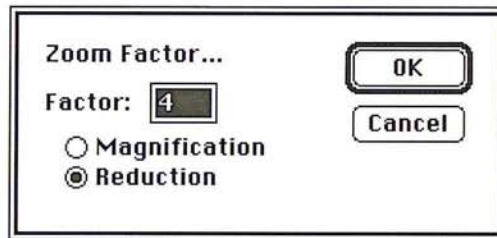
Specifying a zoom factor

You can immediately magnify or reduce your view when you are working on a large, high-resolution image by using the Zoom Factor command. The Zoom Factor command specifies a magnification or reduction factor of a view. When you specify a zoom factor, the Adobe Photoshop program immediately displays the specified zoom level.

To use the Zoom Factor command:

1. Choose Zoom Factor from the Window menu.

The Zoom Factor dialog box appears.



2. Click Magnification to zoom in; click Reduction to zoom out.
3. Type a value from 1 to 16 for the zoom factor you want.
4. Click OK.

The specified zoom level is displayed on-screen.

Scrolling in two directions

When you are working on an image that extends beyond the borders of the document window, you can use the grabber tool to scroll in two directions simultaneously.

To use the grabber tool to scroll across an image:

1. Click the grabber tool in the toolbox.
2. Position the grabber pointer on the image.
3. Press down the mouse button.

4. Holding down the mouse button, drag in the direction opposite the part of the image you want to display. For example, to display the lower-right corner of the image, drag toward the upper-left corner of the image.
5. Release the mouse button when you have displayed the part of the image you want.

Note: Double-click the grabber tool to display the entire image in the largest size possible on your screen.

Using rulers

You can display rulers along the top and left side of the active window to make measurements on an image. The rulers measure sizes in inches, centimeters, points, or picas. You can choose the units of measurement for each ruler separately. The rulers also allow you to specify columns to simulate a page layout.

When you move a pointer inside the window, markers appear on the rulers to show the pointer's position relative to the zero origins of the rulers. The markers reflect the position of the pointer's "hot spot" in the window.

The ruler origin is tied to the document, not the window. As you scroll and zoom around the document, the rulers adjust accordingly.

To display the rulers, choose Show Rulers from the Window menu. To hide the rulers, choose Hide Rulers from the Window menu.

When you choose Show Rulers, a horizontal and vertical ruler appear along the top and left side of the active window.

You can change the rulers' zero origins. This allows you to make measurements from a specific point on an image.

To change the rulers' zero origins:

1. Position the pointer in the upper-left corner of the window, directly beneath the close box.
2. Press down the mouse button.



- Holding down the mouse button, drag onto the image.
A set of crosshairs appears.
- Drag until the center of the cross hairs is on the point you want to use as the zero origin for the rulers.
- Release the mouse button.

Specifying units of measurement

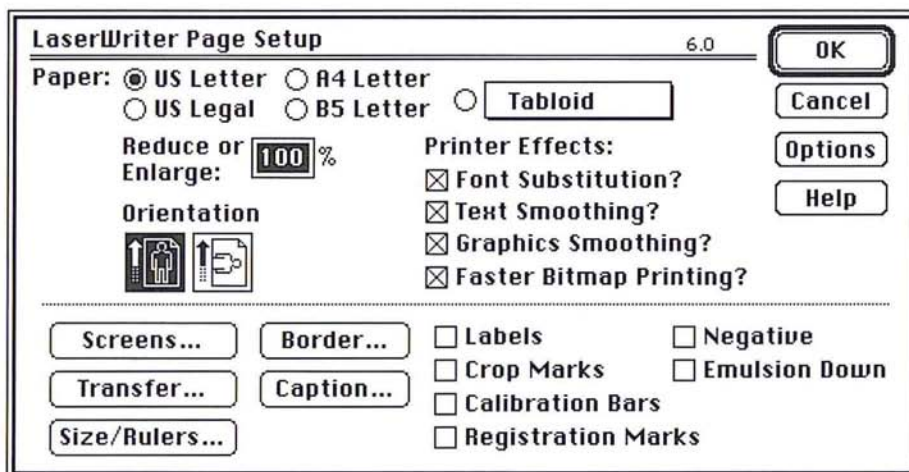
By default, the Adobe Photoshop program uses inches as the units of measure in documents. However, you can use centimeters, points, and picas instead. You can use different units of measurement for each ruler. For example, you could use points for the horizontal ruler and picas for the vertical ruler.

The size units you specify for the rulers are used in dialog boxes that allow you to specify size units. For example, the size unit choices for the horizontal ruler are used in the Resample dialog box in the Image menu for the Width parameter, and the units for the vertical ruler are used for the Height parameter.

To select the units of measurement you want for a ruler:

- Choose Page Setup from the File menu.

The Page Setup dialog box appears.



2. Click Size/Rulers.

The Image Size/Ruler Units dialog box appears.

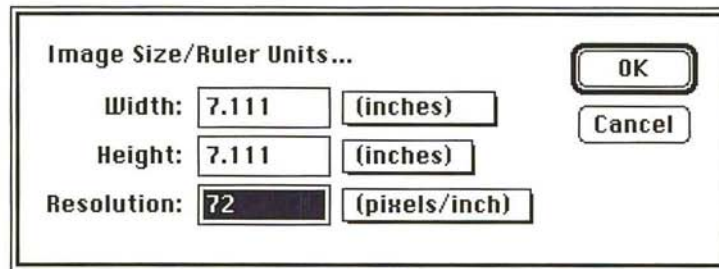


Image Size/Ruler Units...

Width: 7.111 (inches)

Height: 7.111 (inches)

Resolution: 72 (pixels/inch)

OK

Cancel

The two boxes beside the Width and Height text boxes are used to access pop-up menus. You use the Width pop-up menu to choose the units for the horizontal ruler; you use the Height pop-up menu to choose the units for the vertical ruler.

To choose the units of measurement you want for a ruler:

1. Position the pointer on the Width or Height box next to the ruler you want.
2. Press down the mouse button.

A pop-up menu listing the available units of measure appears.

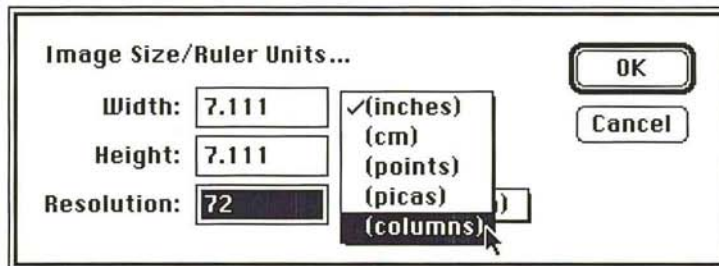


Image Size/Ruler Units...

Width: 7.111 (inches)

Height: 7.111 (inches)

Resolution: 72 (pixels/inch)

OK

Cancel

✓(inches)
(cm)
(points)
(picas)
(columns)

3. Holding down the mouse button, drag to highlight the units you want.
4. When the desired units appear in the box, release the mouse button.
5. Click OK.

Specifying a column size

You can use columns as a way to simulate page layouts in the Adobe Photoshop program. A column can be any size you specify. A column includes a specified width and gutter size. You can specify a particular column and gutter size to match the page layout of the page that will hold the final image. This allows you to make sure that the image will fit in your layout if you use the cropping tool or the Resample command in the Image menu to resize an image, or use the Size/Rulers option in the Page Setup dialog box to print out an image at a certain size. You can only use columns for horizontal measurements.

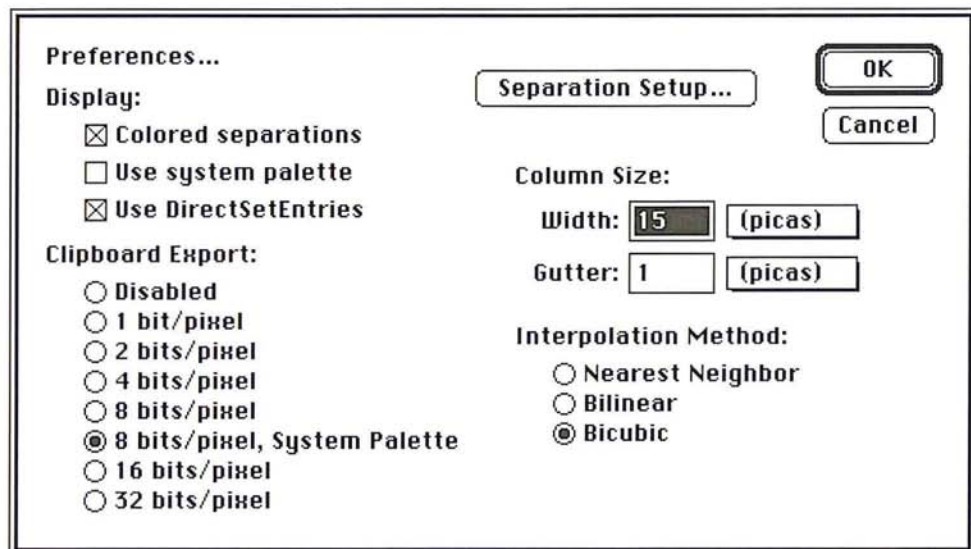
As an example, you can specify a size of 1 inch for columns, and .25 for the gutter, then specify 2 columns for the width parameter in the Cropping Tool Options dialog box and crop an image. The width of the cropped image will be 2.25 inches, which represents a width of 2 columns and 1 gutter size between the columns.

The Preferences dialog box in the Edit menu allows you to specify size units for the column width and gutter. Pop-up menus let you choose the size units, either inches, centimeters (cm), points, or picas.

To specify column dimensions:

1. Choose Preferences from the Edit menu.

The Preferences dialog box appears.



2. Use the Width and Gutter pop-up menus to choose the units of measure you want for the column width and gutter.
3. Enter the width you want for the column.
4. Press the Tab key or double-click the Gutter text box.
5. Enter the size you want for the gutter.
6. Click OK.

Chapter 5: *Using the Painting Tools*

This chapter describes how to use the painting tools. The painting tools in the toolbox allow you to add paint to a selected image or area. Painting changes the colors of pixels in an image. The painting tools include the pencil tool, the line tool, the paint brush tool, the airbrush tool, and the rubber stamp tool.

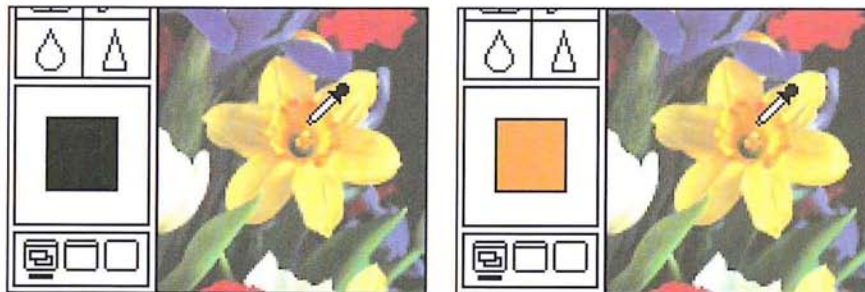
Each tool includes several options, which are accessed via a dialog box that appears when you double-click the tool in the toolbox. Some options common to all of the painting tools include the ability to paint or edit along a straight line, and to use color modes to paint or edit areas that are only lighter or darker than the foreground color. Chapter 7, "Painting and Editing Tool Options," discusses the options common to several tools.

If you are using a painting tool on an image that is larger than the window, you can scroll through the image by switching temporarily to the grabber tool. This allows you to scroll in any direction without using the scroll controls.

Unless otherwise noted, the painting tools by default all paint with the foreground color. The foreground color is displayed in the center square within the rectangle at the bottom of the toolbox. The background color, which is displayed in the rectangle surrounding the square, is used for making blends and erasing. You can change the foreground and background color using the eyedropper tool. "Using the eyedropper tool" in Chapter 11, "Selecting Colors," contains more information about selecting colors using the eyedropper tool.

To change the foreground color to another color in an image:

1. Click the eyedropper tool in the toolbox.
2. Position the eyedropper pointer on the color you want to use as the foreground color.
3. Click the mouse button.



To scroll across an image while using a painting tool:

1. Hold down the space bar.
2. Position the pointer on the image.
The pointer changes into the grabber.
3. Press down the mouse button.
4. Drag in the direction you want the image to move. For example, if you want to view the left of the image, drag right to make the image move right.



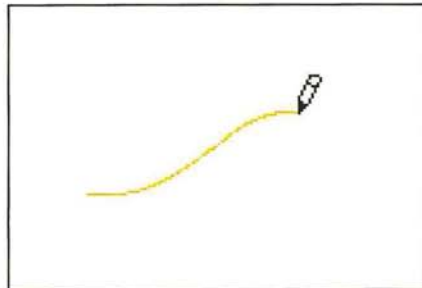
5. Release the mouse button.
6. Release the space bar to resume painting.

Using the pencil tool

The pencil tool creates either freehand or straight lines. The lines are hard-edged. The pencil tool's Auto Erase option changes pixels that display the current foreground color to the background color. When you select the Auto Erase option, position the pointer on a pixel that is the same color as the foreground color, and drag through the image. The pencil tool changes all pixels.

To paint with the pencil tool:

1. Click the pencil tool in the toolbox.
2. Position the pointer where you want to start painting.
3. Holding down the mouse button, drag to paint a line.
4. When you have finished painting, release the mouse button.



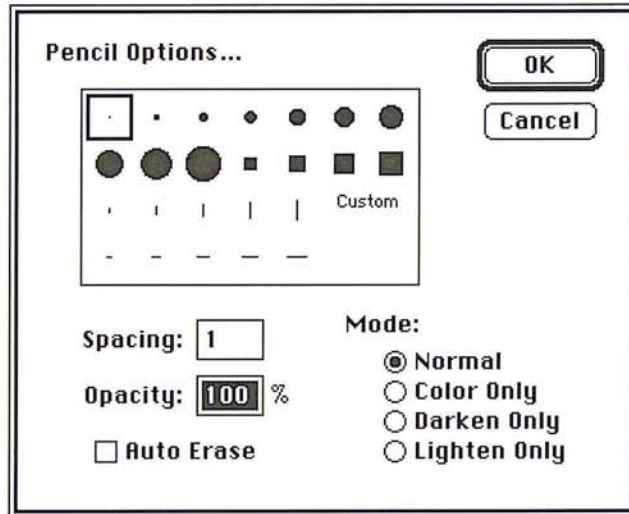
To draw a straight line with the pencil tool:

1. Click the pencil tool in the toolbox.
2. Press the Shift key, and click the mouse button at the beginning and end points of the line you wish to draw.
3. Release the Shift key.

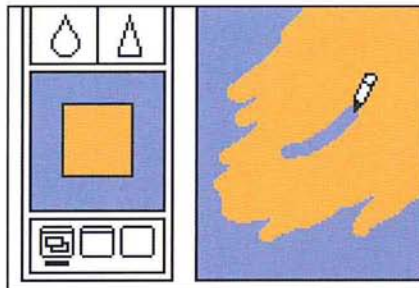
To choose the Auto Erase option for the pencil tool:

1. Double-click or Option-click the pencil tool in the toolbox.

The Pencil Options dialog box appears.



2. Click Auto Erase.
- The Auto Erase box is checked, indicating the Auto Erase option is active.
3. Click OK.
 4. Position the pointer on the area you want to paint.
 5. Holding down the mouse button, drag through the image.
 6. When you have finished painting, release the mouse button.



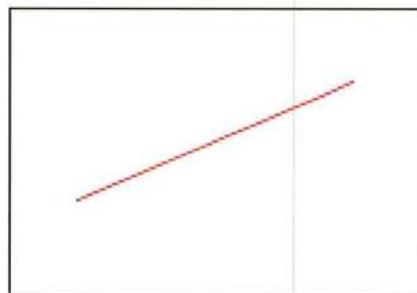
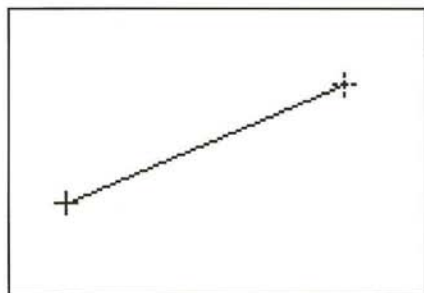
Using the line tool

The line tool creates straight lines on an image. Line tool options allow you to specify the width of lines (in pixels) and create lines with arrowheads. Also, you can constrain the line tool to create horizontal or vertical lines, or lines constrained at 45-degree angles. You can choose to have the arrowheads appear at the start of the line, at the end, or at both ends.

Unlike the marks created using the pencil tool, the lines you create using the line tool are anti-aliased. The smooth, anti-aliased edges of the lines prevent the jagged edges that commonly appear in paint applications.

To create a line using the line tool:

1. Click the line tool in the toolbox.
2. Position the line tool pointer where you want the line to start.
3. Holding down the mouse button, drag in the direction you want to project the line.
4. When the line is the desired length, release the mouse button.



To create a constrained, straight line using the line tool:

1. Click the line tool in the toolbox.
2. Position the line tool pointer where you want the line to start.
3. Hold down the Shift key to constrain the line in 45-degree increments as you drag the mouse.
4. When the line is the length you want, release the mouse button.

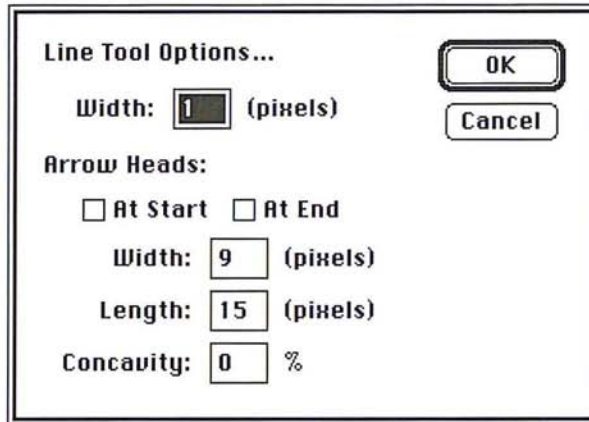
Specifying line weights and arrowheads

Before you create lines, you must choose the line weight and arrowhead options you want.

You can control the shape of the arrowhead by specifying the height and width (in pixels) and the degree of concavity (as a percentage value). The concavity parameter defines the amount of curvature on the widest part of the arrowhead where it meets the line.

To choose options for the line tool:

1. Double-click or Option-click the line tool in the toolbox.
The Line Tool Options dialog box appears.

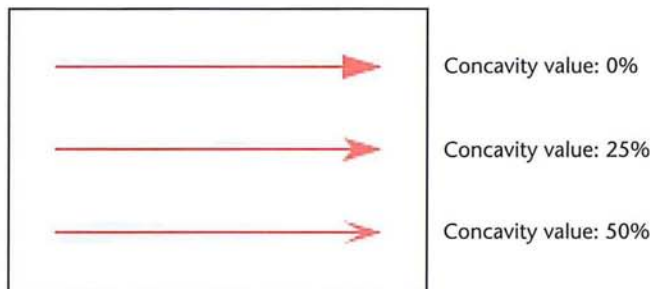


2. Type the width you want for lines (in pixels).
3. Specify where you want arrowheads to appear by clicking the At Start option to create lines with arrowheads at the starting points; the At End option to create lines with arrowheads at the ending points; or both options to create lines with arrowhead on both ends.

When the option is checked, arrowheads will appear on the specified end or ends of lines you create with the line tool.

To specify the attributes for arrowheads with the line tool:

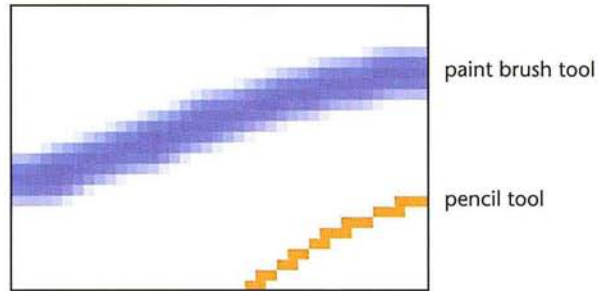
1. Double-click in the Width text box.
2. Enter a value from 5 to 99 for the arrowhead width.
3. Press the Tab key or double-click in the Length text box, and enter a value from 7 to 99 for the arrowhead length.
4. Press the Tab key or double-click in the Concavity text box, enter a value from 0 to 50 for the concavity of the arrowhead.



When you have finished choosing options for the line tool, click OK.

Using the paint brush tool

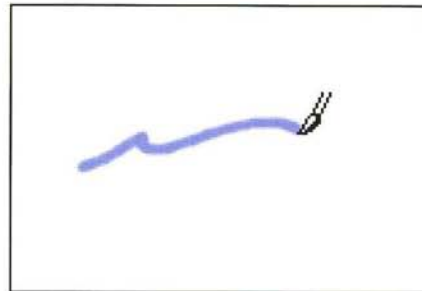
The paint brush tool paints the foreground color into an image. The paint brush tool, unlike the pencil tool, applies the paint with soft edges. The paint brush tool works on all types of images, except bitmapped and indexed color images.



To paint with the paint brush tool:



1. Click the paint brush tool in the toolbox.
2. Position the paint brush pointer where you want to begin painting.
3. Holding down the mouse button, drag to lay down a brush stroke.
4. To end the brush stroke, release the mouse button.

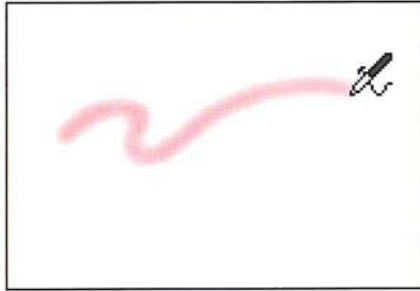


Using the airbrush tool

The airbrush tool lays down a diffused spray of paint on an image. The tool works only on gray-scale and RGB images. You can specify the rate at which the airbrush tool deposits paint on the image. The higher the value you specify, the faster paint is deposited on the image. The Pressure parameter controls the rate of paint flow.

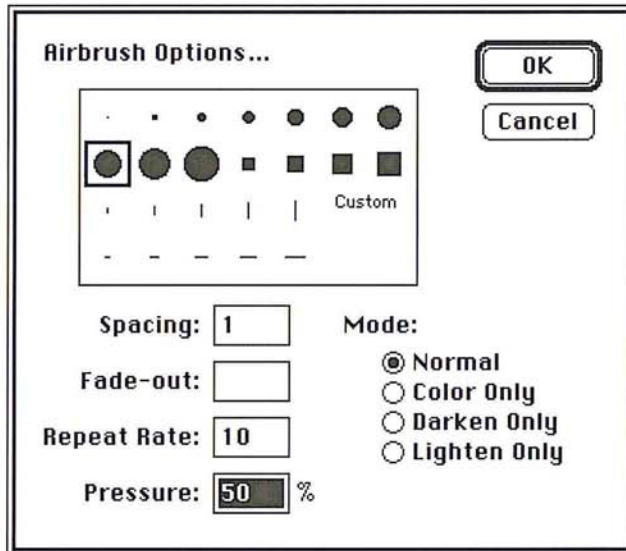
To paint with the airbrush tool:

1. Click the airbrush tool in the toolbox.
2. Position the pointer where you want to begin spraying paint.
3. Holding down the mouse button, drag to spray-paint the image.
4. When you have finished airbrushing, release the mouse button.



To specify the pressure for the airbrush tool:

1. Double-click or Option-click the airbrush tool in the toolbox.
The Airbrush Options dialog box appears.



2. Enter a value from 1 to 100 in the Pressure text box.
3. Click OK.

Using the rubber stamp tool

The rubber stamp tool differs from other painting tools because it allows you to paint more than just a color onto an image. You can use the rubber stamp tool to pick up a sample of an image, pattern, or texture and place an exact copy (called a "clone") or a modified version of what you picked up on the same image or some other image.

The rubber stamp tool includes options that control how you can paint a pattern, texture, or part of an image onto the image. The options include the aligned and non-aligned Clone options, the aligned and non-aligned Pattern options, and the Texture, Impressionist, and Revert options. The default rubber stamp option, which is the aligned Clone option, allows you to pick up an image, and paint in an exact duplicate of that image.

To use the rubber stamp tool with its default options:



1. Click the rubber stamp tool in the toolbox.
2. Position the rubber stamp pointer on the part of the image you want to use.
3. Hold down the Option key.
4. Click the mouse button to take a sample of the image.
5. Release the Option key.

To paint with the rubber stamp tool using the selected image:

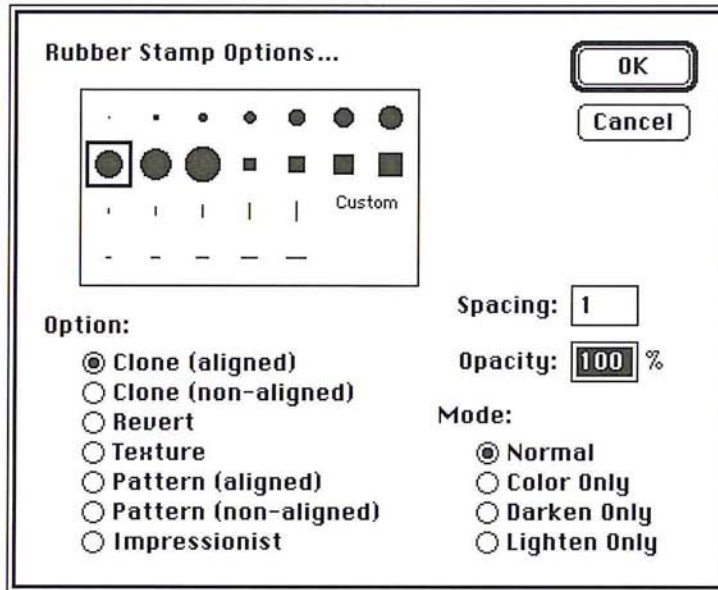
1. Position the rubber stamp pointer where you want to begin painting.
2. Hold down the mouse button.
3. Drag to paint in the selected image.
4. Release the mouse button.

Rubber stamp tool options

The Clone options allow you to choose part of an image and paint an exact copy of it elsewhere. The Revert option allows you to restore part of an image to the way it appeared the last time you saved the image. The Pattern options allow you to paint the current pattern on an image. The Texture option lets you select part of an image and paint a modified version of that part elsewhere. The Impressionist option lets you create an impressionistic effect on an image. The selected option is used throughout your Adobe Photoshop session until you choose another option.

To select the rubber stamp tool option you want to use:

1. Double-click or Option-click the rubber stamp tool in the toolbox.
The Rubber Stamp Options dialog box appears.



2. Click the name of the rubber stamp tool option you want.
The radio button beside the selected option is highlighted.
3. Click OK.

The Clone option

The Clone option for the rubber stamp tool allows you to paint an exact copy of a selected image. The Clone option lets you take a sample of the entire image, then paint the sampled image, starting at the point from which you took the sample. Each stroke of the tool paints more of the image you sampled.

To select the part of the image you want to clone, you select the rubber stamp tool and Option-click. When you position the pointer on the image and drag, a marker mirroring the pointer's movement appears near the point where you Option-clicked. This marker identifies the part of the image you are currently painting.

When you begin painting, what appears first is the part of the image that was under the rubber stamp pointer when you picked up your sample. As you stroke through a wider area, more of the image is reproduced.



Two Clone options, aligned and non-aligned, determine what part of the sampled image appears first when you release the mouse button and start painting elsewhere on the image with the tool. The aligned option paints the sampled image continuously, as if you continued to drag the rubber stamp tool to a new position. The non-aligned option always paints the sampled image from the point where you started taking the sample.

When the non-aligned option is active, each time you start painting in a different area, the sampled image is painted in starting from the point you originally Option-clicked on the image. This option is useful for painting in multiple copies of part of an image (such as a daffodil or tulip) on many different parts of an image.

The aligned Clone option is useful in situations where you want to use different brushes to paint an image. You could select a large brush and paint the majority of the image, then select a small brush to paint the detailed areas. The aligned clone option ensures that the two different brush strokes (one with the large brush, the other with the small brush) create an image that lines up correctly. You could also use this option to paint two halves of an image, with one half on either side of another part of an image.

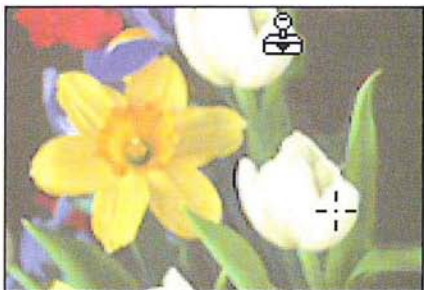
As an example, suppose you are working on an image that contains flowers and you want to paint an image of a tulip behind a leaf. To do this, you select the aligned Clone option from the Rubber Stamp Option dialog box, and Option-click on the image of the tulip. To paint the tulip behind the leaf, you position the tool on the left side of the leaf and paint the left side of the tulip. Then you release the mouse button, position the tool on the right side of the leaf and paint the right side of the leaf. This gives the effect of the tulip appearing behind the leaf.

To use the non-aligned Clone option with the rubber stamp tool:

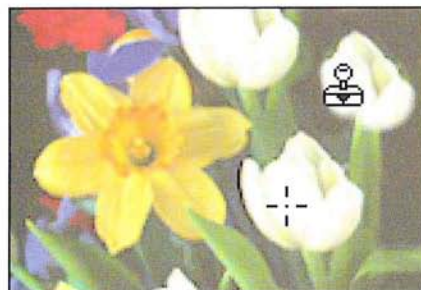
1. Double-click or Option-click the rubber stamp tool in the toolbox.
The Rubber Stamp Options dialog box appears.
2. Select the Clone (non-aligned) option. Click OK.
3. Position the pointer where you want to take a sample from the image, and Option-click.
4. Position the pointer where you want to paint the cloned image.
5. Holding down the mouse button, drag to paint the image.
6. When you have finished painting the cloned image, release the mouse button.
7. To paint in the cloned image starting again from the point you sampled the image, reposition the pointer, hold down the mouse button, and drag to paint the image.



Clone (non-aligned) option selected



First application of paint



Second application of paint

To use the aligned Clone option with the rubber stamp tool:

1. Double-click or Option-click the rubber stamp tool in the toolbox.
The Rubber Stamp Options dialog box appears.
2. Select the Clone (aligned) option. Click OK.
3. Position the pointer where you want to take a sample from the image, and Option-click.
4. Position the pointer where you want to paint the cloned image.
5. Holding down the mouse button, drag to paint the image.
6. When you have finished painting in part of the cloned image, release the mouse button.
7. Position the pointer where you want to paint more of the cloned image.
8. Holding down the mouse button, drag to paint the image.
9. Continue repositioning the pointer and painting in the various parts of the cloned image until you have finished painting, then select a different tool.

In the illustration below of the second application of paint, notice that the marker shows part of the original, sampled image you are currently painting.



Clone (aligned) option selected



First application of paint



Second application of paint

The Revert option

The Revert option for the rubber stamp tool restores an area on the image to the way it appeared the last time you saved the document. This option allows you to experiment freely with an image, then selectively restore a portion of the image. The Revert option is similar to the eraser tool's magic eraser mode, which restores part of an image to its state when you last saved it. The difference is that with the Revert option, you can specify a brush shape for the rubber stamp tool, and the brush is soft-edged rather than hard-edged.

When you use the Revert option, the Adobe Photoshop program reads in the last saved version of the image from disk, and restores the portions of the image through which you drag the rubber stamp tool. When you begin painting using this option, it may take a few moments for the tool to start working while the image is read in from disk.

To use the Revert option with the rubber stamp tool:

1. Double-click or Option-click the rubber stamp tool in the toolbox.
The Rubber Stamp Options dialog box appears.
2. Select the Revert option from the Rubber Stamp Options dialog box. Click OK.
3. Position the rubber stamp pointer where you want to begin restoring the image.
4. Holding down the mouse button, drag until you have restored the desired portion of the image.
5. Release the mouse button.



Modified but unsaved version of image



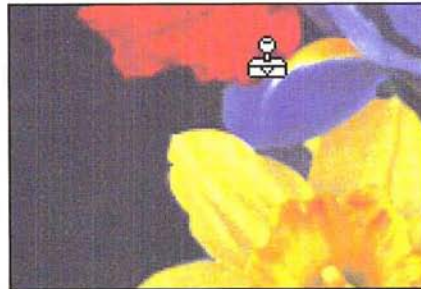
The Revert option restores the last saved version of the area through which you drag

The Texture option

The Texture option for the rubber stamp tool paints a modified version of a selected texture. You select the Texture option, then select a texture on an image. When you paint the image, the pixels in the texture are randomly distributed to prevent a repeating pattern from appearing. If you make several strokes through the same area, the pattern will be different each time.

To use the Texture option with the rubber stamp tool:

1. Double-click or Option-click the rubber stamp tool in the toolbox.
The Rubber Stamp Options dialog box appears.
2. Select the Texture option from the Rubber Stamp Options dialog box. Click OK.
3. Position the pointer on the texture in the image you want, and Option-click.



Texture selected

4. Position the pointer where you want to paint the texture.
5. Holding down the mouse button, drag to paint the modified texture.
6. When you have finished painting, release the mouse button.



Image with texture added

The Pattern options

Two Pattern options allow you to paint a pattern onto your image: the aligned Pattern option and the non-aligned Pattern option. Both Pattern options let you select a pattern, then use the rubber stamp tool to paint using the selected pattern. The aligned option repeats the pattern as contiguous, uniform tiles; even when you stroke several times over the same area, the pattern is repeated. The non-aligned option centers the pattern around the center of the rubber stamp pointer without maintaining the entire pattern for each stroke.

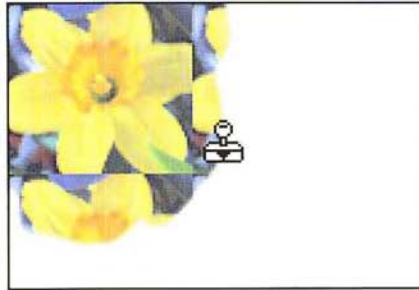
To use the aligned Pattern option with the rubber stamp tool:

1. Click the rectangular marquee tool in the toolbox.
2. While holding down the mouse button, drag until you have selected the pattern you want to use; release the mouse button.

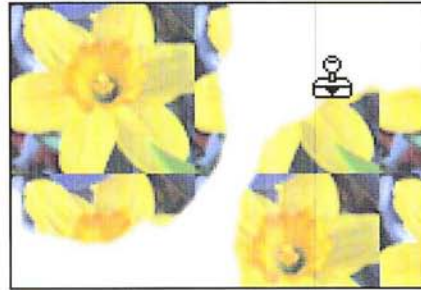


3. Choose Define Pattern from the Edit menu.
4. Double-click or Option-click the rubber stamp tool in the toolbox.
The Rubber Stamp Options dialog box appears.
5. Select the Pattern (aligned) option from the Rubber Stamp Options dialog box.
Click OK.

6. Position the rubber stamp pointer where you want to begin painting.
7. Holding down the mouse button, drag to paint in the pattern
8. When you have finished painting, release the mouse button.



First application of paint



Second application of paint



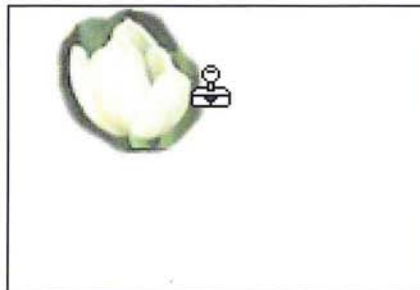
Aligned pattern

To use the non-aligned Pattern option with the rubber stamp tool:

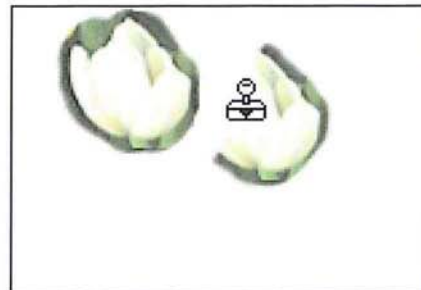
1. Click the rectangular marquee tool in the toolbox.
2. Holding down the mouse button, drag until you have selected the pattern you want to use.
3. When you have selected your pattern, release the mouse button.



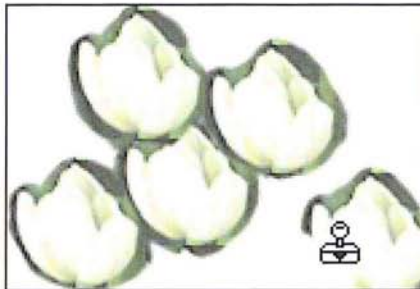
4. Choose Define Pattern from the Edit menu.
5. Double-click or Option-click the rubber stamp tool in the toolbox.
The Rubber Stamp Options dialog box appears.
6. Select the Pattern (non-aligned) option from the Rubber Stamp Options dialog box. Click OK.
7. Position the rubber stamp pointer where you want to begin painting.
8. Holding down the mouse button, drag to paint in the pattern.
9. When you have finished painting, release the mouse button.



First application of paint



Second application of paint



Non-aligned pattern

The Impressionist option

The Impressionist option for the rubber stamp tool creates textured designs based on the last saved version of a document. When you use the Impressionist mode, the Adobe Photoshop program reads in the colors from the last saved version of the area you drag through, and smears together the colors of the pixels beneath the brush to create an “impressionistic” effect. It may take a few moments for the rubber stamp tool to start working while the image is read in from disk.

To use the Impressionist option with the rubber stamp tool:

1. Double-click or Option-click the rubber stamp tool in the toolbox.
The Rubber Stamp Options dialog box appears.
2. Select the Impressionist option from the Rubber Stamp Options dialog box. Click OK.
3. Position the rubber stamp pointer where you want to begin painting.
4. While holding down the mouse button, drag to paint the image.
5. When you have finished painting, release the mouse button.



Chapter 6: *Using the Editing Tools*

The Adobe Photoshop editing tools let you erase, smudge, blur, and sharpen specific parts of an image. The eraser tool changes pixels to the background color. The smudge tool simulates the effect of dragging a finger through wet paint. The blur tool diffuses the colors of pixels you drag the tool through, to create a less-focused image. The sharpen tool increases the contrast between adjacent pixels to sharpen an image.

All of the editing tools include options. With the exception of the eraser tool, you can double-click a given editing tool to display the tool's options. The options include the ability to constrain an editing tool to a straight line, and edit only pixels that are lighter or darker than the foreground color. Chapter 7, "Painting and Editing Tool Options," describes the options common to all the editing tools.

You can also use the Blur and Sharpen commands in the Image menu to blur or sharpen selected parts of an image or the entire image at once. The advantage of using the blur and sharpen tools is that they allow you to concentrate the blur or sharpen effect on a small area.

For more information about the Blur and Sharpen commands, see the sections "Using filters to soften an image" and "Using filters to sharpen an image" in Chapter 17, "Using Filters to Modify Images."

To use an editing tool:

1. Click the desired editing tool in the toolbox.
2. Position the tool pointer where you want to edit the image.
3. Hold down the mouse button.
4. Drag across the image.
5. Release the mouse button when you have finished editing.

Editing with the eraser tool

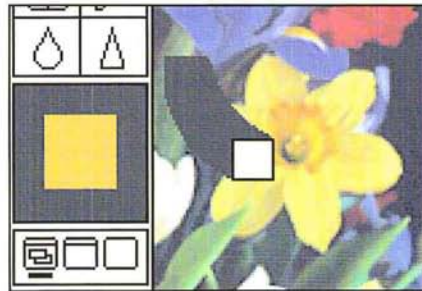
The eraser tool changes pixels to the background color. This has the effect of "erasing" the pixels. You can erase just the pixels you drag through, or you can erase the entire image by double-clicking on the eraser tool in the toolbox. You can also use the eraser tool to restore part of the image to the last version you saved, using the magic eraser mode. You can undo your last erasure by immediately choosing the Undo command from the Edit menu.

You can use the eraser tool in the magic eraser mode to restore part of an image to its state when you last saved the document. Unlike the Revert command in the File menu, which restores the entire image to its previous state, the eraser allows you to define specific parts of the image you want to restore. This operation is similar to using the Revert option for the rubber stamp tool. However, the Revert option for the rubber stamp tool gives you more control over the area that is restored because you can specify the brush size for the tool.

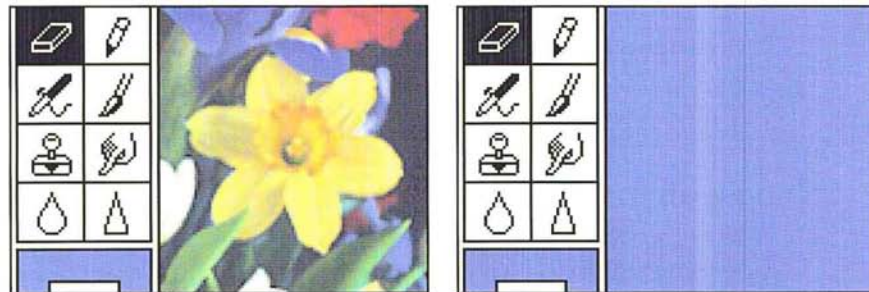
The eraser tool always erases or restores the area beneath the tool pointer. The eraser always appears the same size, regardless of the magnification level. Thus, the size of the erased area depends on the magnification level of your view. For example, at a 1:1 view, the eraser pointer covers a 16-pixel-by-16-pixel area, whereas at a 16:1 magnification, it covers only a 1-pixel-by-1-pixel area.

To erase part of an image by changing pixels to the background color:

1. Click the eraser tool in the toolbox.
2. Position the eraser pointer where you want to start erasing the image.
3. Holding down the mouse button, drag through the part of the image you want to erase.
4. When you have finished erasing the image, release the mouse button.



To erase the entire image at once, double-click or Option-click the eraser tool in the toolbox.



To use the eraser in the magic eraser mode to restore part of an image:

1. Click the eraser tool in the toolbox.
2. Position the eraser pointer where you want to begin restoring the image.
3. Hold down Option key, then the mouse button.

The pointer turns into the magic eraser pointer.

4. Drag over the part of the image you want to restore.

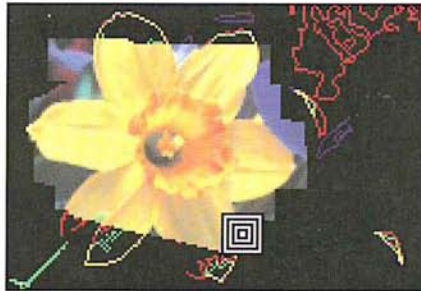
The area you drag through is restored to the way it looked when you last saved the document.



Last saved version of image



Current, unsaved version of image



Magic eraser restoring part of image to last saved version

5. When you have finished restoring the part of the image you want, release the mouse button and the Option key.

Using the smudge tool

The smudge tool allows you to simulate the effect of dragging a finger through wet paint. The smudge tool works on all types of images except bitmapped and indexed color images. When you use the smudge tool, the colors of the pixels you drag through are gradually dispersed until the colors dissipate completely.

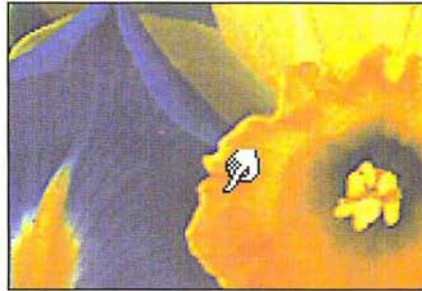
You can define the length of the smudge using the Pressure parameter. To produce a short smudge, specify a low value. To specify a smudge that continues until you stop painting with the smudge tool, specify the maximum value.

To use the smudge tool:

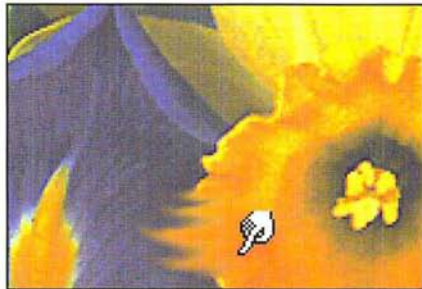


1. Click the smudge tool in the toolbox.

2. Position the smudge pointer on the area you want to smudge.

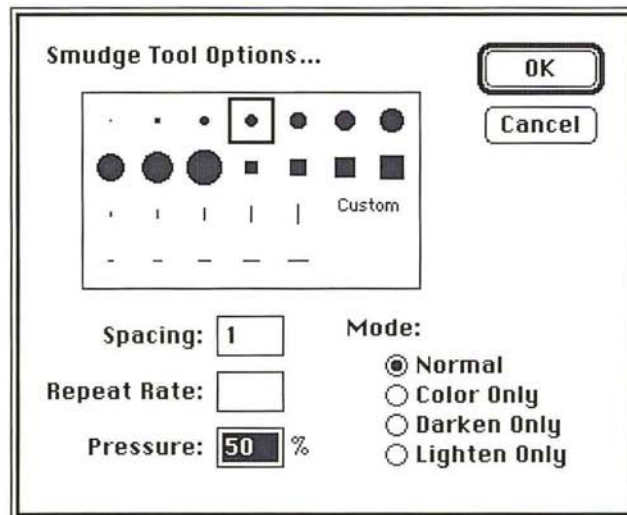


3. Holding down the mouse button, drag to create the smudge.

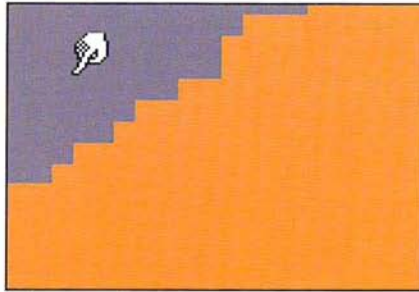


To specify a Pressure value for the smudge tool:

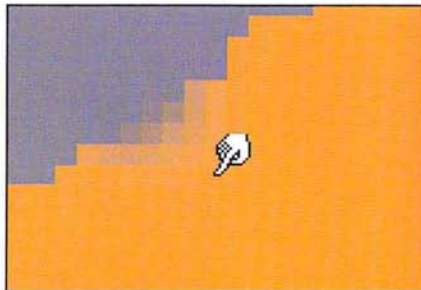
1. Double-click or Option-click the smudge tool in the toolbox.
The Smudge Tool Options dialog box appears.



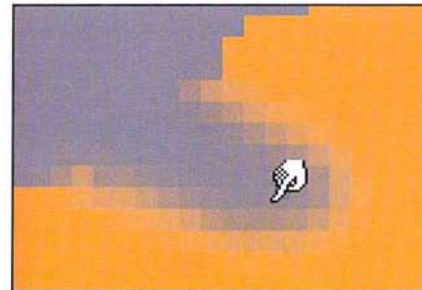
2. Enter a value in the Pressure text box from 1 to 100. For a short smudge, specify a low value; for a smudge that continues until you stop painting, specify the maximum value of 100.
3. Click OK.
4. When you have finished smudging the image, release the mouse button.



Before smudge



Smudge tool: 30% pressure



Smudge tool: 100% pressure

Using the blur tool

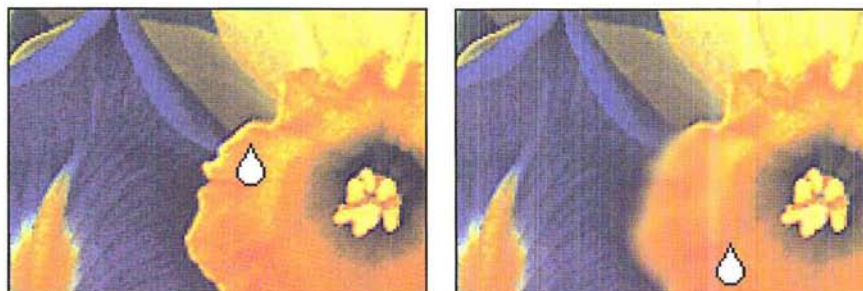
The blur tool makes part of an image less focused by diffusing the colors to which you apply it. The blur tool works on all types of images except bitmapped and indexed color images. You can control the intensity of the blur tool using the Pressure parameter. To apply a strong blur effect to an image, you specify a high Pressure value; to apply a weak blur effect, you specify a low Pressure value.

To use the blur tool:



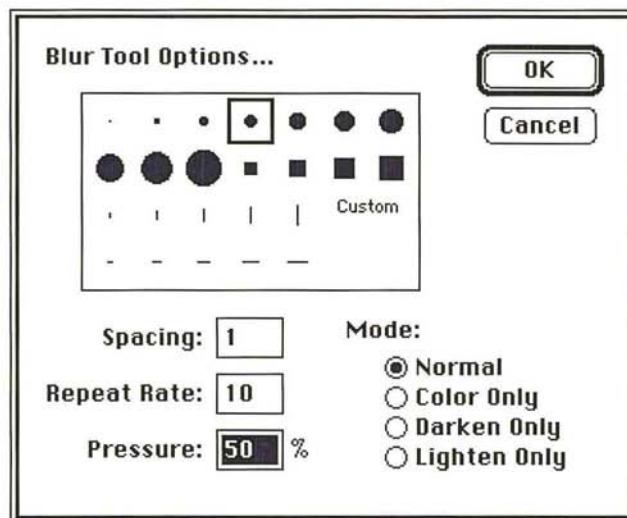
1. Click the blur tool in the tool box.
2. Position the blur pointer on the area you want to blur.
3. Holding down the mouse button, drag to blur the image.

4. When you have finished blurring the image, release the mouse button.

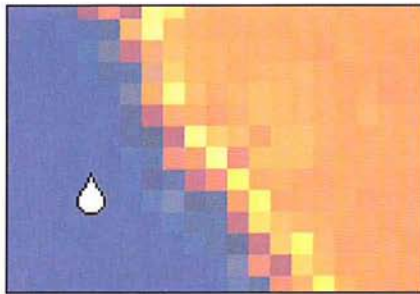


To control the intensity of the blur tool:

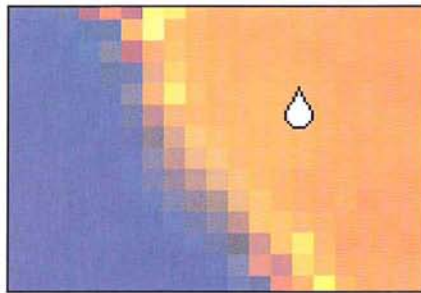
1. Double-click or Option-click the blur tool in the toolbox.
The Blur Tool Options dialog box appears.



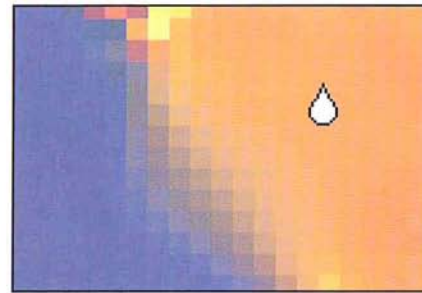
2. Enter a value from 1 to 100 in the Pressure text box. Click OK.



Before blur



Blur tool: 30% pressure



Blur tool: 100% pressure

Using the sharpen tool

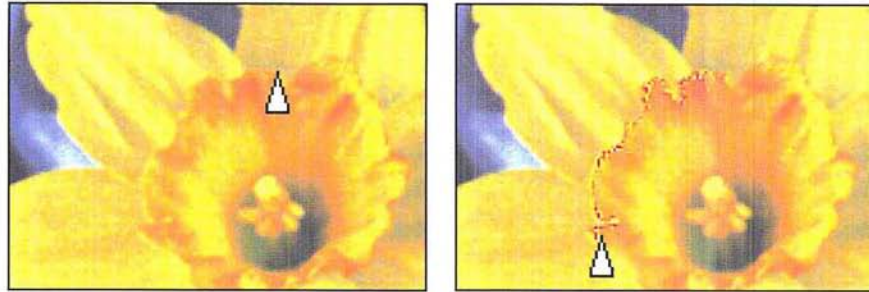
The sharpen tool allows you to make part of an image more focused. The sharpen tool works on all types of images except bitmapped and indexed color images. As you drag through part of an image, the sharpen tool increases the contrast between adjacent pixels. This results in a sharper, more focused image.

You can control the intensity of the sharpen tool using the Pressure parameter. To apply a strong sharpening effect to an image, you specify a high Pressure value; to apply a weak sharpening effect, you specify a low Pressure value.

To use the sharpen tool:

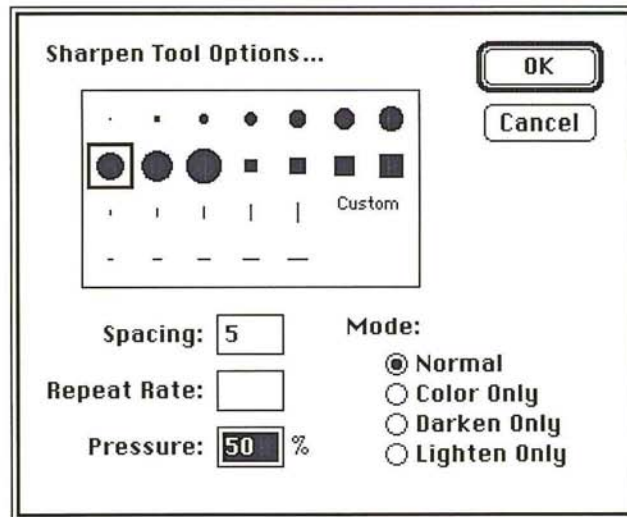
1. Click the sharpen tool in the tool box.
2. Position the sharpen pointer where you want to start sharpening the image.
3. Holding down the mouse button, drag to sharpen the image.
4. When you have finished sharpening the image, release the mouse button.

5. Release the mouse button when you have finished sharpening the image.

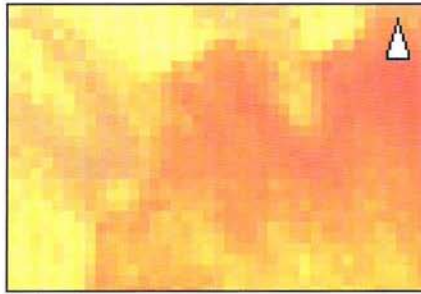


To control the intensity of the sharpen tool:

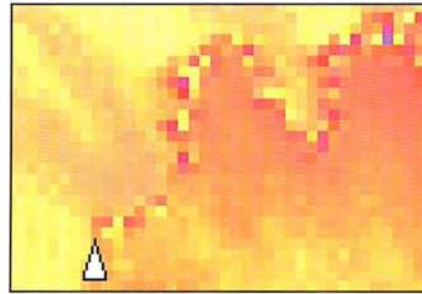
1. Double-click or Option-click the sharpen tool in the toolbox.
The Sharpen Tool Options dialog box appears.
2. Enter a value from 1 to 100 for the Pressure.



3. Click OK.



Before sharpening



Sharpen tool: 100% pressure

Chapter 7: *Painting and Editing Tool Options*

All of the painting and editing tools include a variety of options that allow you to achieve particular effects. For each of the painting tools, you can choose a pre-set brush shape or customize your own. For either the painting or editing tools, you can specify which pixels are affected by the paint. You can also paint or edit with straight lines. For certain tools, you can control the opacity, distribution, repeat rate, and fade-out rate of the paint.

Most of the options function in a similar manner. You can select a separate option for each specific tool, such as a different brush shape. The options you choose for each tool remain in effect during the current Adobe Photoshop session until you choose another option.

Selecting a tool brush shape

Brush shapes for the painting and editing tools include round, square, and linear shapes in different sizes. You can choose a brush shape two ways: using either the tool options dialog box, which appears when you double-click the tool in the toolbox; or using the Show Brushes command in the Window menu, which displays the Brushes window.

The Brushes window allows you to select different brushes easily without having to open a dialog box each time. The Brushes window retains the brush settings for each tool. This allows you to select a different brush for each of the painting and editing tools. The active brush for the current tool is enclosed by a box.

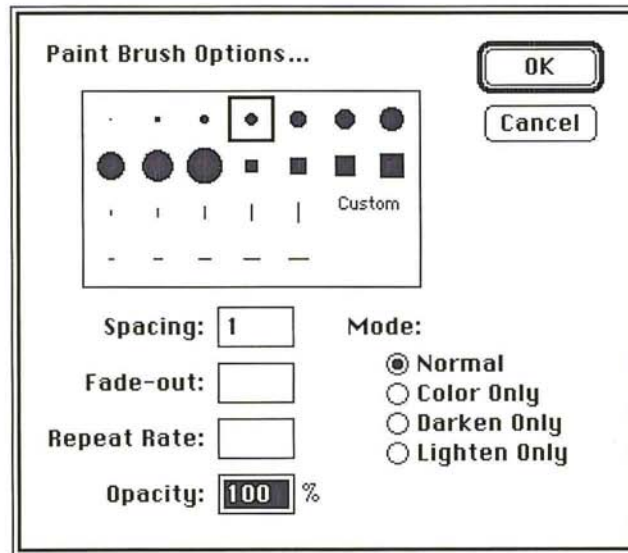
You can move the Brushes window to a convenient location on the screen by positioning the pointer on the gray bar at the top of the window and dragging.

To remove the Brushes window from view, either click the window's close box, or choose Hide Brushes from the Window menu.

To choose the brush shape you want for a particular tool:

1. Double-click or Option-click the painting or editing tool in the toolbox you want.

The options dialog box for that tool appears.

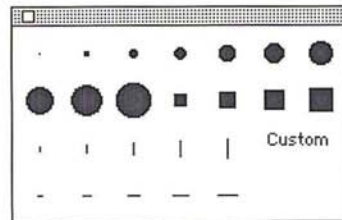


2. Click the brush shape you want to use.
3. Click OK.

To select a brush from the Brushes window:

1. Choose Show Brushes from the Window menu.

The Brushes window appears.



2. Click the painting or editing tool you want in the toolbox.
3. Click the brush you want.

A box appears around the brush to show it is selected.

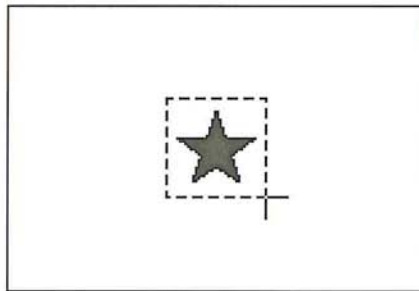
Selecting a custom brush shape

You can define a custom brush shape to suit your needs. The brush shape you define can be no more than 64-pixels-by-64-pixels in size and should appear on a solid white background. The custom brush you define is placed among the brush shape options for all of the painting tools. The brush is labeled “Custom” in the tool dialog boxes and the Brushes window.

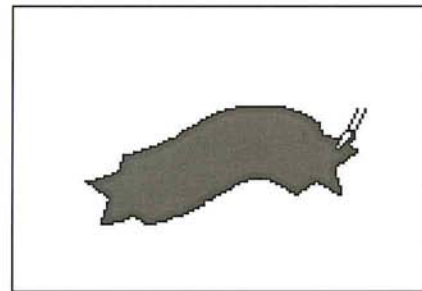
Only one custom brush shape at a time can be active for all the tools. However, you can create a variety of custom brushes, store them in a document, then open that document and select the one you want to use at a particular time. To define brushes with soft edges, you can select brush shapes composed of pixels with gray values other than 0 (black) and 255 (white).

To define a custom brush shape:

1. Click the rectangular marquee tool in the toolbox.
2. Holding down the mouse button, drag the marquee to enclose the part of the image you want to use as a custom brush.



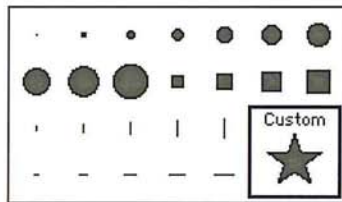
Selecting a custom brush



Painting with a custom brush

3. When the marquee encloses the part of the image you want, release the mouse button.
4. Choose Define Brush from the Edit menu.

The selected custom brush is placed in the Brushes window and in the painting and editing tools dialog boxes.

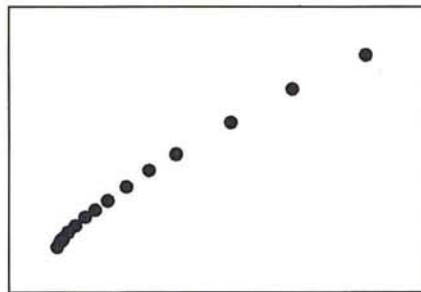


Specifying paint distribution

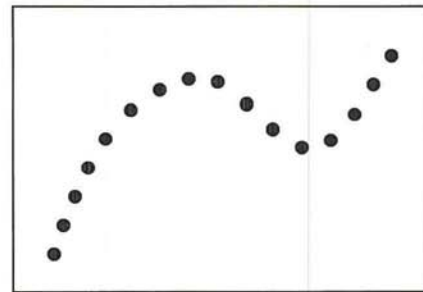
You can specify the distance between the pixels that are affected by each painting and editing tool. For example, if you specify 12 pixels as the spacing value for the pencil, the pencil lays down a mark once every 12 pixels as you drag across the image. If you specify 0, the distribution of paint is based on the speed of the mouse movement. If you drag quickly across an image, gaps probably will appear in the trail of pixels left by the tool. A spacing value other than 1 is useful when you paint with a large, custom brush.

To specify a spacing value for a painting or editing tool:

1. Double-click or Option-click the desired painting or editing tool in the toolbox. The options dialog box for the selected tool appears.
2. Click in the Spacing text box.
3. Enter a value from 1 to 999 for the spacing value you want.
4. Click OK.



Paint brush spacing parameter: 0



Paint brush spacing parameter: 40

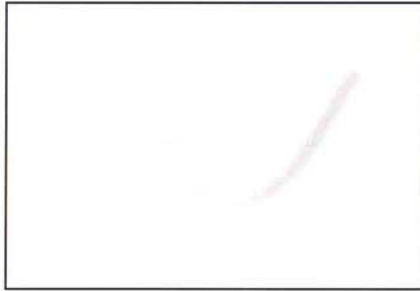
Specifying the paint opacity

You can specify how opaque you want the paint in your image to be using the Opacity option for the painting tools. The Opacity option allows you to use paint that ranges from nearly transparent to opaque. To use transparent paint, you specify a low percentage value; to use opaque paint, you specify a high value.

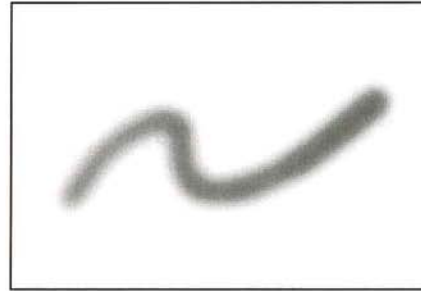
To specify a value for the opacity of the paint:

1. Double-click or Option-click the desired painting tool in the toolbox. The options dialog box for the selected tool appears.
2. Double-click in the Opacity text box.
3. Enter a value from 1 to 100.

4. Click OK.



Paint brush opacity value: 30%



Paint brush opacity value: 80%

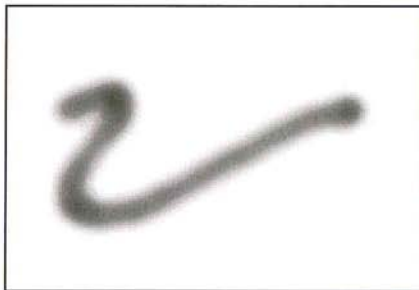
Specifying the paint repeat rate

With the exception of the pencil, line, eraser, and rubber stamp tools, you can specify the rate at which paint is deposited on the image by the painting and editing tools when the mouse is stationary. The higher the Repeat Rate value, the more paint is deposited on the image.

In the case of the editing tools, like the blur tool, the Repeat Rate controls how fast the operation is performed when the mouse is motionless. For example, to blur an image a lot in a short time, you specify a high value for the Repeat Rate, and hold down the blur tool on the area you want to blur.

To specify the repeat rate for a painting or editing tool:

1. Double-click or Option-click the desired painting or editing tool in the toolbox. The options dialog box for the selected tool appears.
2. Click in the Repeat Rate text box.
3. Enter a value from 1 to 60.
4. Click OK.



Airbrush repeat rate: 50



Airbrush repeat rate: 1

Specifying the paint fade-out rate

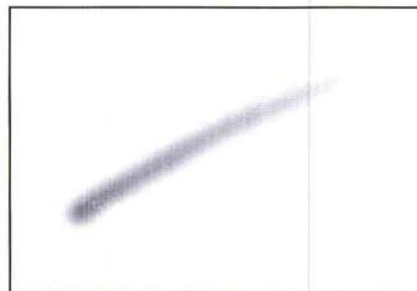
You can specify the rate at which the paint brush and airbrush fade out as you paint with them to simulate an actual brush stroke. The fade-out rate determines how many pixels are colored with each stroke before the paint fades out completely. The higher the fade-out value, the longer the paint will flow before it fades out. You can also specify a negative value to make the paint fade from the foreground color to the background color.

To specify the fade-out rate for the paint brush and airbrush tools:

1. Double-click or Option-click the paint brush or airbrush tool in the toolbox.
The options dialog box for the selected tool appears.
2. Click in the Fade Out text box.
3. Enter a value from -999 to 999.
4. Click OK.



Airbrush fade-out rate: 60



Airbrush fade-out rate: 120

Selecting a painting mode

You can control which pixels are affected by paint according to the painting mode you choose for a painting or editing tool. The modes include Normal, Darken Only, Lighten Only, and Color Only. In the default Normal mode, all the pixels you apply paint to are changed to the foreground color. But you can also choose to work in a mode in which only pixels lighter or darker than the foreground color are changed. Or, you can choose a mode that changes only the hue and saturation of a pixel.

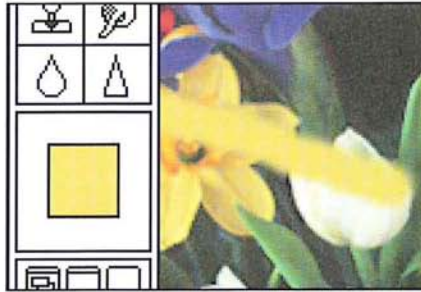
To choose the painting mode you want for a painting or editing tool:

1. Double-click or Option-click the desired painting or editing tool in the toolbox.
The options dialog box for the selected tool appears.
2. Click the mode you want.
3. Click OK.

Following are descriptions of how the modes work.

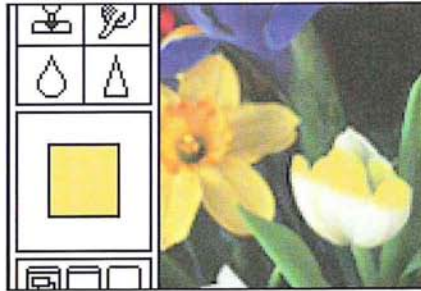
Normal

When the Normal mode is active, each pixel you apply paint to is changed to the foreground color. This is the default option, and how the painting and editing tools normally operate.



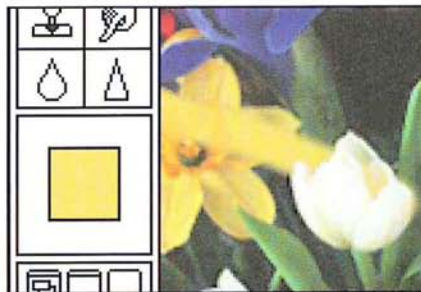
Darken Only

When the Darken Only mode is active, only the pixels that are lighter than the foreground color are changed to the foreground color. Lightness is measured by the pixel's brightness value. The pixels that are darker than the foreground color are not changed.



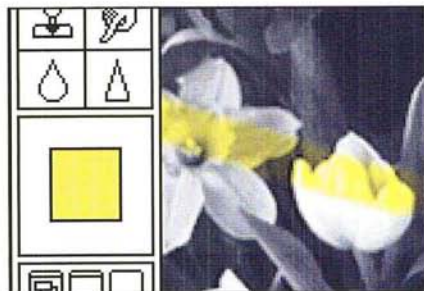
Lighten Only

When the Lighten Only mode is active, only the pixels that are darker than the foreground color are changed to the foreground color. The pixels that are lighter than the foreground color are not changed.



Color Only

When the Color Only mode is active, all of the pixels you apply paint to are changed to the foreground color, but their luminosity values are not changed. This preserves the texture in the image. This mode is useful for coloring monochrome images or for tinting color images.



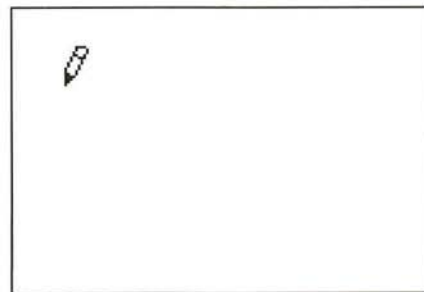
NOTE: *Luminosity is a color parameter that measures the brightness of a color. Luminosity is expressed as a value. The value is computed as the weighted average of the pixel's RGB values, expressed as a percentage. The expression is: Luminosity = (.30 x Red) + (.59 x Green) + (.11 x Blue).*

Painting and editing with straight brush strokes

Using the Shift key, you can paint straight brush strokes with the pencil, paint brush, airbrush, and rubber stamp painting tools, and you can edit straight paths with the editing tools.

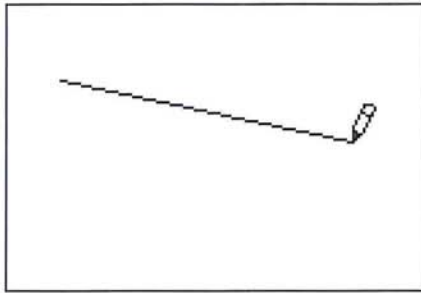
To paint straight brush strokes or edit straight paths:

1. Select the desired painting or editing tool from the toolbox.
2. Click the image where you want the straight brush stroke or path to start.

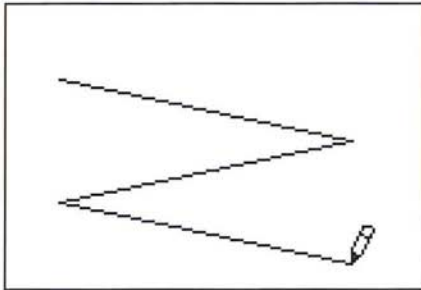


3. Hold down the Shift key.
4. Position the pointer where you want the straight brush stroke or path to end.

5. Click the mouse button.

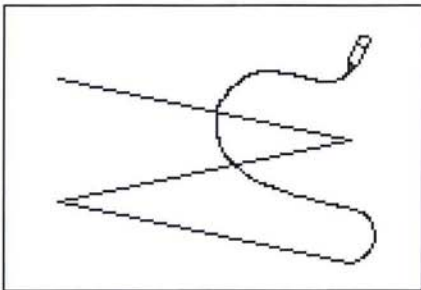


6. Continue moving the pointer and clicking the mouse button until you have defined all of the straight brush strokes or paths you want.



To resume defining freehand lines:

7. Release the Shift key.
8. Drag to define a freehand line or an irregular path.



Chapter 8: *Using the Type Tool*

The Adobe Photoshop program allows you to enter bitmapped type on an image using the type tool. This chapter describes how to use the type tool to enter type on an image. It covers how to select type options, including typeface, size, leading, and styles; and how to add, edit, move, and align type.

Bitmapped type is different from the outline type that is generated in object-oriented applications. Bitmapped type is rendered at the resolution of the image. For example, if the resolution of the image is 100 pixels per inch, the resolution of the type in the image is also 100 pixels per inch.

Outline type is rendered at the resolution of the output device. If the output device's resolution is 2500 dpi, then the outline type is rendered at 2500 dpi. Also, you can edit (delete and change the font, size, and style of characters) outline type, but you cannot edit bitmapped type in the Adobe Photoshop program after you have placed it on the image.

Normally, large bitmapped type appears jagged on the screen. But if you use Adobe Type Manager™ (ATM™) software, the type appears as smooth and as well-defined as outline type.

You have a number of options to control the type you enter. You can specify the typeface and point size, and select style options like underlining and italics. The options you select remain in effect until you change them or quit the Adobe Photoshop program.

Using type in an image

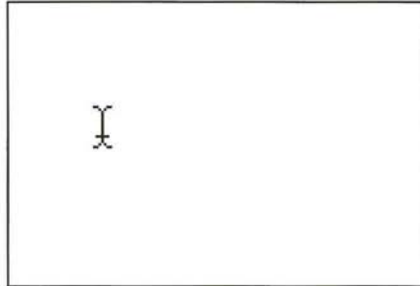
To use type in an image, you select the type tool, click on the image where you want the type to appear, then enter the type you want into the Type dialog box. The same dialog box lets you select type options. When you close the Type dialog box, the type appears selected on the image.

While the type is selected, you can move the entire text block or just individual characters. This allows you to kern, or adjust the letterspacing, in the type.

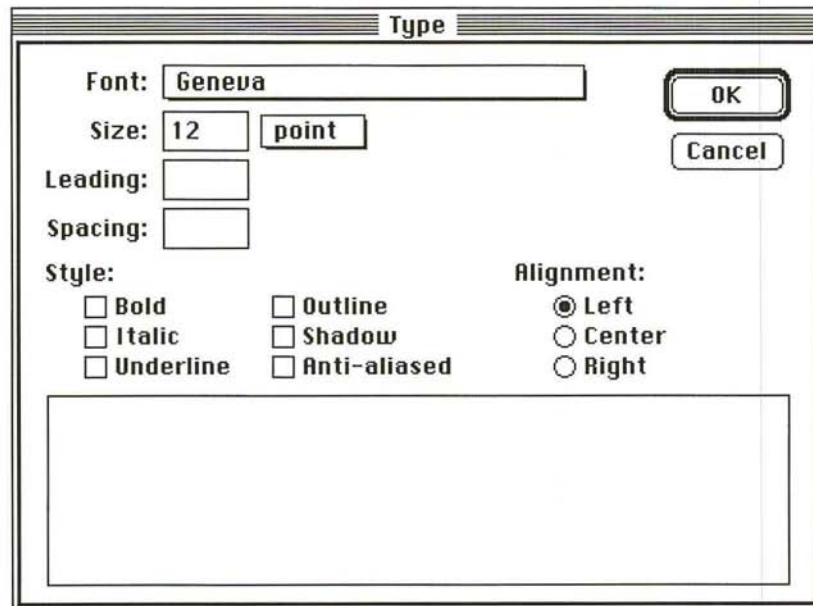
To adjust the letterspacing, you can choose to either deselect certain characters in a text block and move the remaining selected characters, or select the characters you want to move and deselect the other characters in the text block. Once you deselect the type, it becomes part of the image, and you can only change the type by editing the pixels that comprise the characters.

To enter type in an image:

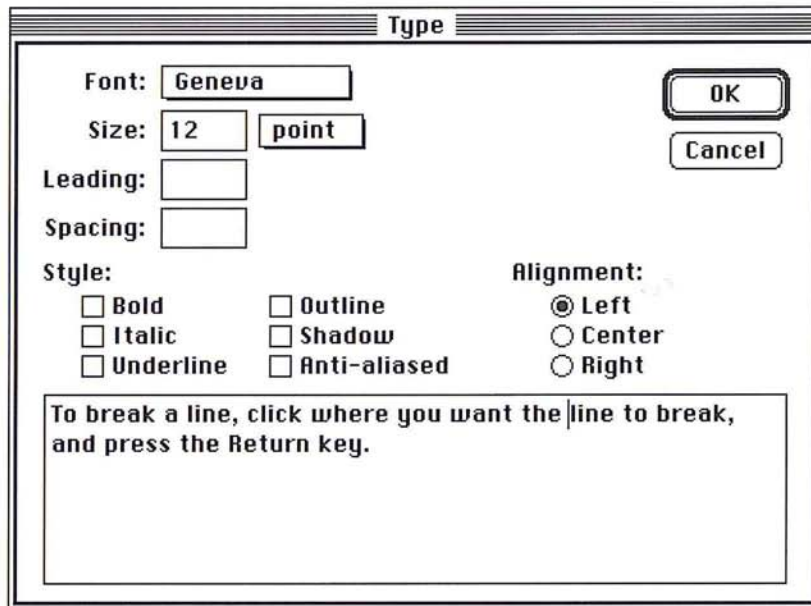
- T**
1. Click the type tool in the toolbox.
 2. Position the pointer where you want the type to appear on the image.
The pointer changes to the I-beam pointer.



3. Click the mouse button.
The Type dialog box appears.



4. Enter the type you want in the text box, up to 255 characters at a time. The type automatically wraps at the right margin of the box, but appears as one continuous string on the image. To specify a line break, press the Return key; or click where you want the line to break, and press the Return key.



If you reach the bottom of the box while entering type, the type automatically scrolls up.

5. Click OK.

Scrolling the type

To scroll the type up or down:

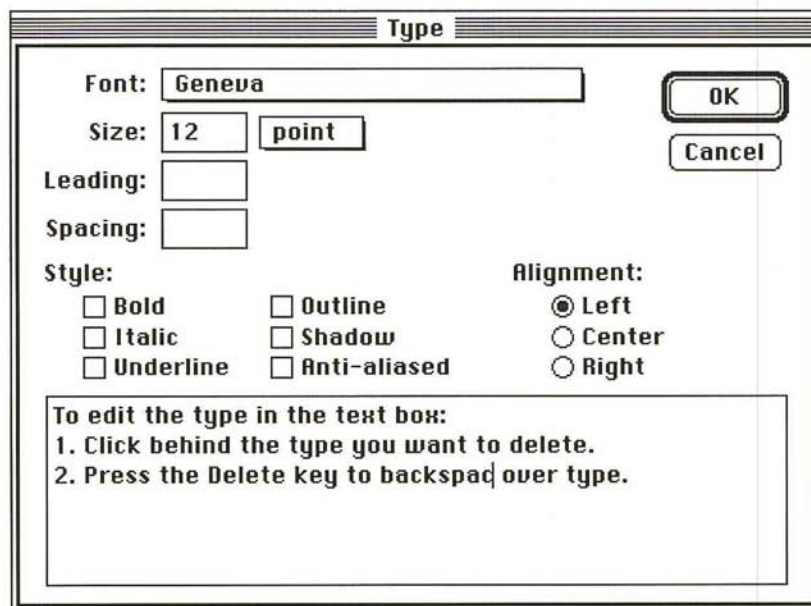
1. Click in the text box.
2. Holding down the mouse button, drag in the direction you want to scroll.
The type scrolls in the direction you drag.
3. When the type you want is displayed, release the mouse button.

Editing type

You can edit type in the Type dialog box using standard Macintosh text-editing procedures. There are two ways to select the type in the text box that you want to edit, described below. Once the text is placed on the image and deselected, you can no longer edit it.

To delete type in the text box:

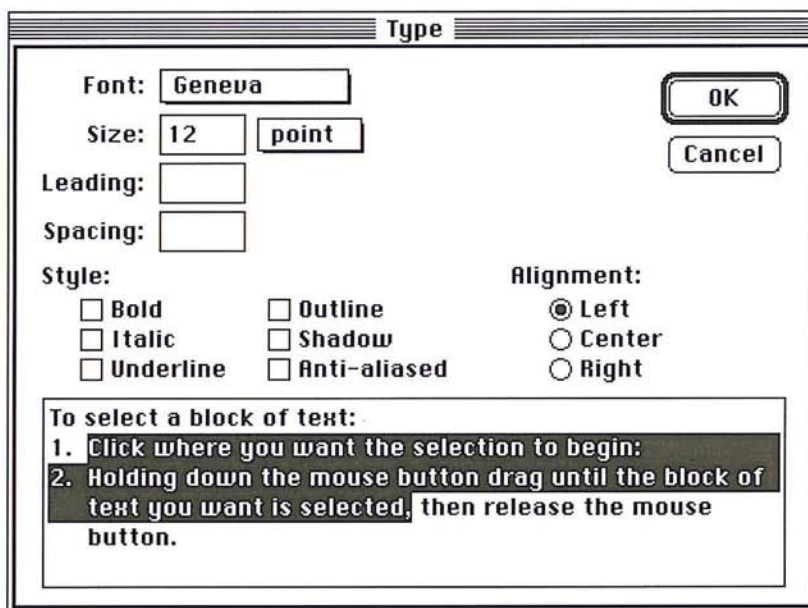
1. In the text box in the Type dialog box, click to the right of the type you want to delete.
2. Press the Delete key to backspace over type.



To select a single word, double-click the word.

To select a block of text, method 1:

1. In the text box in the Type dialog box, click where you want the selection to begin.
2. Holding down the mouse button, drag until the block of text you want is selected, then release the mouse button.



To select a block of text, method 2:

1. Click where you want the selection to begin.
2. Without pressing down the mouse button, position the pointer to the right of the text you want to select.
3. Hold down the Shift key, and click the mouse button.

The block is selected from the starting point to the end point you specified.

The steps below describe how to choose attributes for type, including font, size, leading, and style.

Choosing a font

To choose the font you want to use:

1. In the Type dialog box, position the pointer on the box next to Font.
2. Hold down the mouse button.

A pop-up menu listing the fonts available in your system appears.



3. Drag until the font you want is highlighted, and release the mouse button.
The name of the font you chose appears in the box.

Choosing a font size

You can choose to specify the size for the type in either points or pixels, from 4 to 1000. The size range may be less if points are the unit of measure and resolution is not 72 dpi.

To specify the unit of measure you want to use for the type:

1. In the Size text box in the Type dialog box, position the pointer on the box labeled either "point" or "pixel."
2. Hold down the mouse button.
A pop-up menu appears.
3. Drag to highlight the unit of measure, and release the mouse button.



The chosen unit of measure appears on the box.

To specify the size of the type:

1. Double-click in the Size text box.
2. Enter a value from 4 to 1000.

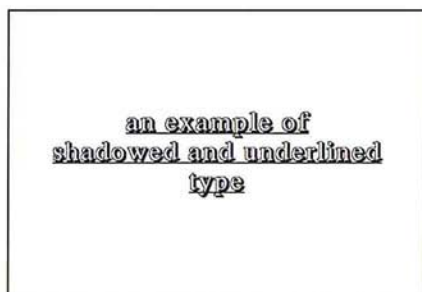
Selecting style options for type

You can apply Style options to type so that it appears underlined, in italics, shadowed, outlined, and bold.

The Style options have a cumulative effect on type. For example, if you select Shadow and Underline, the type appears both shadowed and underlined on the image.

To select the Style options you want, click the desired style options in the Type dialog box.

As you select an option, the box beside it is checked. To revert to plain type, uncheck all of the Style options.



Entering anti-aliased type

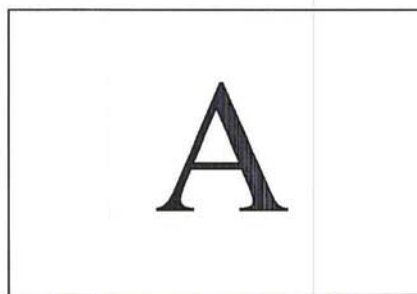
The anti-aliased Style option lets you enter type with edges that appear smooth. The smooth edges allow the type to blend into the background. You will probably want to use anti-aliased type in an image, except when you enter type in small point sizes.

The anti-aliased Style option requires that you use a font that has a bitmapped screen font that is two, three, or four times the size of the type you are entering, unless you are using ATM software and the desired font is installed in your system. For example, if you apply the anti-aliased option to 12-point Times, you must have installed on your system a 24-point, 36-point, or 48-point size Times screen font.

To apply the anti-aliased type option to your type, click the Anti-aliased Style option.



Type with anti-aliasing



Type without anti-aliasing

Choosing the character spacing

You can control the spacing between characters, called kerning, in a text block using the type tool's spacing parameter. The spacing parameter uses the same unit of measure that you specified for the font size. Enter positive values to increase the spacing; enter negative values to decrease the spacing. Spacing increments can be as small as tenths of a point or pixel.

To specify a value for character spacing:

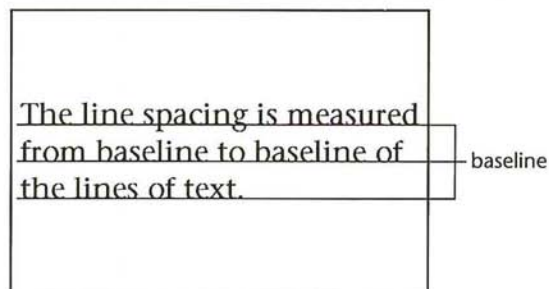
1. In the Type dialog box, click the Spacing text box.
2. Enter a value from -99.9 to 999.9.

Choosing the line spacing

You can choose the line spacing, called leading, you want for type. The line spacing is measured from baseline to baseline of the lines of text. By default, the leading built into the font is used. The leading uses the same unit of measure you specify for the font size, either points or pixels.

To specify the amount of line spacing you want to use:

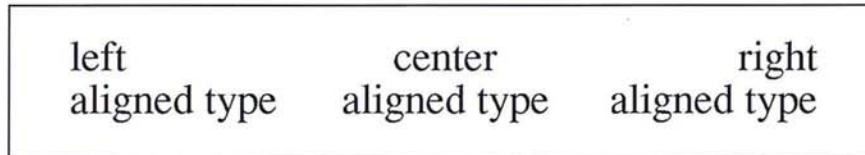
1. Click in the Leading text box in the Type dialog box.
2. Enter a value from 1 to 1000 to specify the spacing between lines of text.



Aligning type

You can choose how to align type according to the point you clicked on with the type tool pointer. If you want to align the type so that it is centered on the image, choose the type tool, click on the center of the image, then choose Center alignment in the Type dialog box.

To choose the type alignment option you want, click the Left, Center, or Right button.



Completing the type selection

When you have selected the type options you want to use and you have finished entering the type, click OK.

The type appears selected on the image and is filled with the current foreground color. While the type is selected, you can modify it as you can any other selection. That is, you can fill it, rotate it, transform it, and so on.



Once you deselect the type, it becomes part of the image. You can select the pixels in the type as you would other pixels in the image, then modify the pixels. However, you cannot change the type attributes of type once it is placed on the image.

Moving type on the image

You can move the text block, as long as it is still selected, to where you want it to appear on the image.

To move the type:

1. Position the pointer on one of the characters in the text block until the arrow pointer appears.
2. Holding down the mouse button, drag the text block to where you want the text to appear.
3. When you have positioned the type as desired, release the mouse button.



Special type selection options

While a text block is selected on an image and the type tool is active, you can deselect individual characters and words in the text block, and move the characters that are still selected. This allows you to move characters closer to adjust the letterspacing, or kerning, or simply move certain characters to another position on the image.

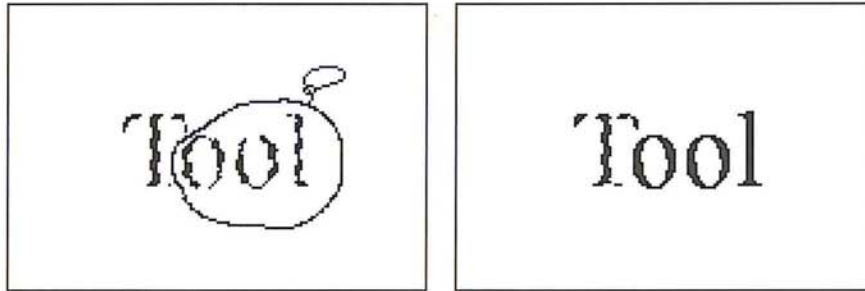
The type tool allows you to select the parts of an image you want to modify. While the type is still selected, the type tool is active, and when you press down the Command key and mouse button, the Type tool pointer changes to the lasso tool. The lasso tool then works in a special way to allow you to deselect characters in a text block.

To deselect characters in a text block:

1. Make sure that the type tool is selected.
2. Hold down the Command key.
The pointer turns into the lasso.
3. Holding down the mouse button, drag the lasso around the character or characters you do not want to adjust.

4. When the characters are enclosed by the lasso, release the mouse button and the Command key.

The characters you encircled with the lasso are deselected.



You can now move or modify the other characters in the text block without affecting the characters you deselected.

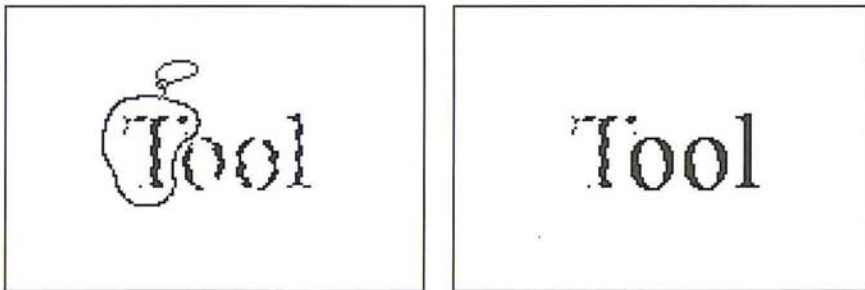
If you want, you can use a similar procedure to select the characters you want to move and deselect the other characters.

To select the characters you want to move:

1. Hold down the Shift and Command keys.
2. Holding down the mouse button, drag the lasso tool around the characters you want to remain selected.

The characters you encircled with the lasso tool remain selected, and the other characters are deselected. You can now move the selected characters closer to the deselected characters to kern the type.

3. When the characters you want are enclosed by the lasso tool, release the mouse button and the Shift and Command keys.



NOTE: Make sure that you encircle the entire character you want to select; any portion of a character outside the lasso tool will not be selected.

To adjust the letterspacing:

1. Position the pointer on one of the selected characters.
2. Hold down the mouse button.
3. When the arrow pointer appears, drag the characters until you are satisfied with how the type looks. To constrain the movement to a straight line, hold down the Shift key.
4. If you constrained the movement, release the mouse button and the Shift key.
5. Deselect the type.

NOTE: *You can use the arrow keys to move the selected characters in 1-pixel increments. Simply press the arrow key that points in the direction you want to move the type.*

Chapter 9: *Making Selections*

This chapter describes how to use the Adobe Photoshop program selection tools and commands to select parts of an image. The Adobe Photoshop program selection tools allow you to select images in a variety of ways and with a range of precision. The chapter also describes alpha channels and how to modify, edit, and store selections. An alpha channel is an 8-bit, gray-scale representation of an image.

In addition to the standard lasso and marquee selection tools, you can also use the magic wand tool to automatically select images. This tool lets you select parts of an image based on the similarity of colors. This way, you can easily select a specific part of an image without having to laboriously trace its outline. You can also add to and subtract from a selection.

The selection remains in effect until you deselect it. Once you select a portion of an image, you can modify it without affecting the rest of the image. For example, if you drag the eraser through a selection and continue through a part of the image that isn't selected, the non-selected portion of the image remains unchanged. You can flip, rotate, and freely move selections, as well as adjust their color characteristics.

Using the selection tools

The selection tools include the lasso tool, the rectangular and elliptical marquees, and the magic wand. These tools and their commands are described in the following section.

Using the lasso tool

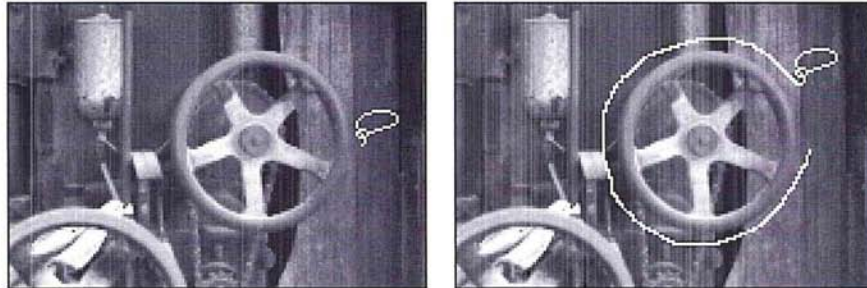
The Adobe Photoshop program lets you isolate areas of an image using several selection tools, including the marquee and lasso tools. The lasso tool is a freehand tool that lets you define any arbitrary selection area. You can use the lasso tool to trace the outline of a selection. Once you make a selection, you can add to it or subtract from it. You can also use the lasso tool to select straight line segments, or a combination of straight and freehand lines. The pixels in the selection will be affected by the changes you specify.

To use the lasso tool:

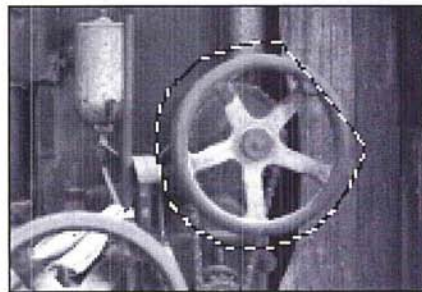


1. Click the lasso tool in the toolbox.
2. Position the lasso pointer where you want the selection to begin.
3. Holding down the mouse button, drag to trace the outline of the selection area.

4. To close the selection border, release the mouse button.



You can either drag to the starting point of the selection and release the mouse button to complete the selection, or release the mouse button when you have enclosed most of the selection. When you release the mouse button before the selection is completed, a straight line is projected to the beginning of the selection to complete the selection for you automatically.



Adding to and subtracting from a selection

If you have not selected the area you wanted, you may alter the selection by adding to it or subtracting from it.

To add to a selected area:

1. Holding down the Shift key, then press the mouse button, drag to trace the outline of your selection to add it to the original lassoed selection.

NOTE: *If you click the mouse button without first pressing the Shift key, you will lose the first selection.*

2. When you have finished making your selection, release the Shift key and the mouse button.

A new lasso appears around the two selections.

To subtract from a selected area:

1. Hold down the Command key, and press the mouse button.
2. Trace the outline of the selection. Make sure that you completely surround the first lasso border. If you do not connect the end points of the new lasso that is selecting the area to be removed, you will bisect the lasso into two, separate lassos.
3. Release the Command key and the mouse button. The new, reduced lasso appears around the selection.

Selecting a combination of straight and freehand lines with the lasso tool

While you use the lasso tool, you can use the Option key to define straight line segments. This feature is useful for selecting parts of an image that contain rectangular shapes, such as a window, a door, or a box.

You can use a combination of straight line segments and freehand drawing with the lasso tool. This is useful on objects that combine straight lines and curves. As you select a combination of straight and freehand lines, you must continue holding down the Option key. Click to define starting and end points of straight line segments; to draw freehand lines, hold down the mouse button and drag.

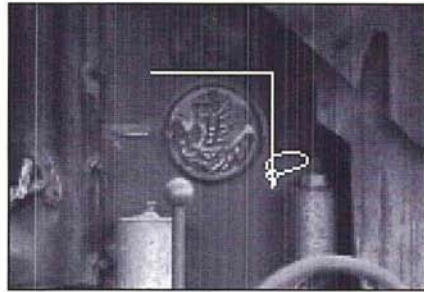
To select a combination of straight and freehand lines using the lasso tool:

1. Press down the mouse button.
2. To define the selection area, hold down the Option key.
3. Release the mouse button where you want the straight line to start.
4. Position the pointer where you want the line to end, and click the mouse button.

A selection line is attached to the pointer.

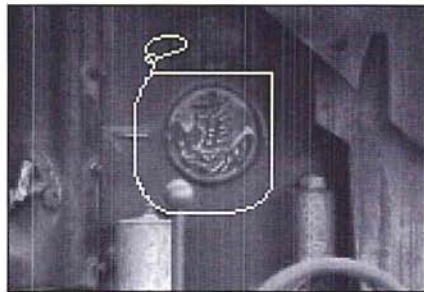


To define additional straight line segments, continue repositioning the pointer and clicking the mouse button.



NOTE: You must continue to hold the Option key or a straight line will automatically be drawn between the two ends of the lasso.

5. To resume defining freehand parts of the selection, press down the mouse button and drag instead of moving the pointer and clicking.



6. When you have finished making your selection, release the mouse button and the Option key.

NOTE: You can move a lassoed selection. To do so, position the lasso pointer inside the selection, press the mouse button, and drag the selection to the desired location. Release the mouse button. To undo the move, choose Undo from the Edit menu.

Using the marquee tools

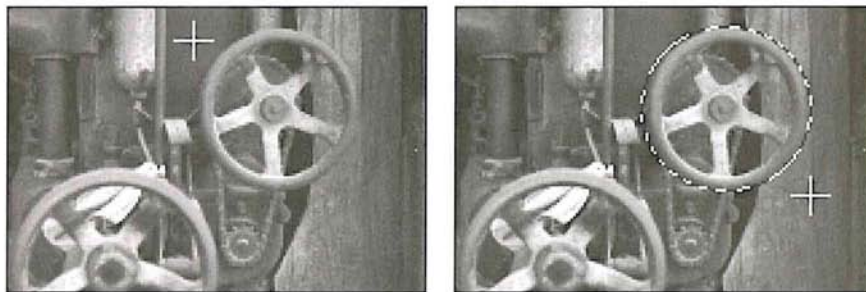
The Adobe Photoshop program includes a rectangular marquee to make rectangular-shaped selections and an elliptical marquee to make elliptical-shaped selections. The options available for both tools are very similar. You can specify a fixed size in pixels, as well as a height-to-width ratio, when using these tools. Both tools include the option of specifying the horizontal and vertical dimensions of the selection marquee.

The rectangular marquee tool also lets you select a single row or column of pixels on the image. The options you select for the tools remain in effect throughout your Adobe Photoshop session or until you change the options.

To use the rectangular or elliptical marquee tool:

1. Click the desired marquee tool in the toolbox.
2. Position the marquee pointer where you want to begin the selection.
3. Hold down the mouse button, and drag in a diagonal direction to enclose the selection with the selection border.

The selection border appears around the selection.




4. When you have enclosed the selection with the border, release the mouse button.

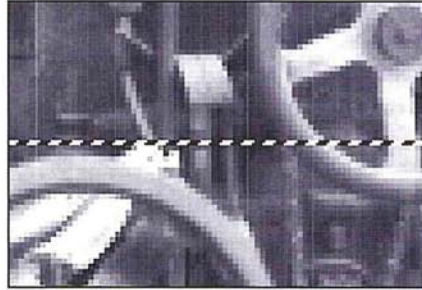
Selecting a single row or column of pixels

You can use the rectangular marquee tool to select either a single row or a column, one-pixel wide, on the image. You can cut, copy, and otherwise modify the one-pixel line as you would any other selection.

To select a row or column of pixels on the image using the rectangular marquee:

1.  Double-click the rectangular marquee tool in the toolbox.
2. Click Single Row to select a single horizontal row of pixels or click Single Column to select a single vertical column of pixels.
3. Click OK.
4. Position the marquee pointer near the row or column you want to select.
5. Hold down the mouse button.
6. Drag to position the selection border on the row or column you want to select, then release the mouse button.

A single selection line appears on the drawing.



Creating selections from a corner or from the center

You can define a selection from either a corner or from the center of the rectangular or elliptical marquee. By default, when you define a marquee selection, you define it from a corner. You use the Option key to define the selection from the center.


To create a marquee selection from the center:

1. Click either the rectangular or elliptical marquee tool in the toolbox.
2. Position the pointer where you want the center of the selection to appear.
3. Hold down the Option key and mouse button, and drag to define the selection marquee.
4. When you have defined your selection, release the mouse button.

Defining a fixed size for the marquee tools

You can define a fixed size for each of the selection marquees. Instead of defining the size of the selection border by dragging with the mouse, you can use this option to specify values for the height and width of the selection marquee. This option is useful when you want to select an area of a specific size.

To specify a fixed size for a marquee tool:

1.  Double-click or Option-click either the rectangular or elliptical marquee tool in the toolbox.

The dialog box for the selected marquee tool appears.

Rectangular Marquee Options...

Normal

Constrained Aspect Ratio:

Width:

Height:

Fixed Size:

Width: (pixels)

Height: (pixels)

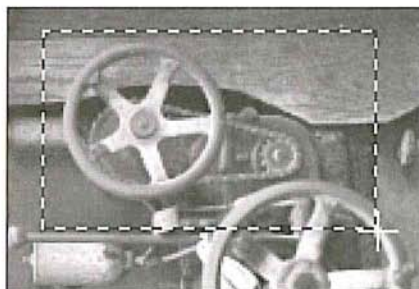
Single Row

Single Column

2. Click Fixed Size.
3. Enter the value you want for the width (in pixels).
4. Press the Tab key or double-click in the Height text box.
5. Enter the value you want for the height (in pixels).
6. Click OK.

To define a marquee with the dimensions entered above:

1. Position the marquee pointer in the lower-right corner of the area you want to select.
2. Holding down the mouse button, drag to position the marquee where you want it.



Fixed size of 125 by 75 pixel marquee

3. Release the mouse button.

Defining a size ratio option for the marquee tools

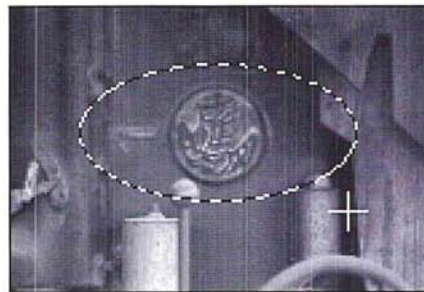
The Adobe Photoshop program lets you specify a height-to-width ratio, called the "aspect ratio," for each type of marquee. To define a square-shaped marquee or a round marquee, you enter the same values for the height and width. If you want to use a marquee that is twice as wide as its height, you would enter 2 for the width and 1 for the height. You can use decimal values (2.5, for example) for the width and height.

To specify the aspect ratio for either marquee tool:

1. Double-click or Option-click the desired marquee tool in the toolbox.
The options dialog box for the selected marquee tool appears.
2. Click Constrained Aspect Ratio.
3. Double-click in the Width text box, and enter the value for the width.
4. Press the Tab key or double-click in the Height text box, and enter the value for the height.
5. Click OK.

To define a selection marquee with the ratio entered above:

1. Position the marquee pointer where you want the selection to begin.
2. Holding down the mouse button, drag the marquee to the desired position.
3. When you have defined your selection, release the mouse button.



Constrained aspect ratio of 2 by 1

A selection marquee with the specified aspect ratio appears on the image.

Defining a feather edge using the lasso and marquee tools

You can apply a feather edge to a selection. A feather edge is an area around the border of a selection to which a change is partially applied. Both the lasso and marquee tools allow you to create a feather edge. If you fill a selection that has a feather edge, the color in the fill gradually blends in with the colors surrounding the selection and the colors within the feather edge radius inside the selection.

A feather edge can range in width from 1 to 64 pixels. The value you specify for the feather edge indicates how far inside and outside the selection border you want the change to extend until it blends into the surrounding pixels. The value you enter for the feather edge must be less than the width of the selection. The lasso tool will not make the selection if the feather edge is larger than the selection area.

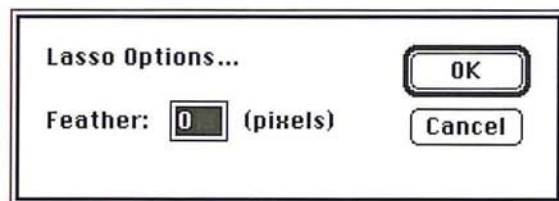
You can use the feather edge feature on a selection on which you are adjusting the contrast or color balance. In this case, the feather edge will soften the transition between the selection and the surrounding pixels. You can also use the Feather command in the Select menu to feather a selection.

The feather edge feature works on all image types except bitmapped and indexed color images. To use the feather edge feature on an indexed color image, first convert the image to an RGB image, make your selection and modifications, and then convert the image back to the indexed color format.

To define the feather edge for the lasso tool:

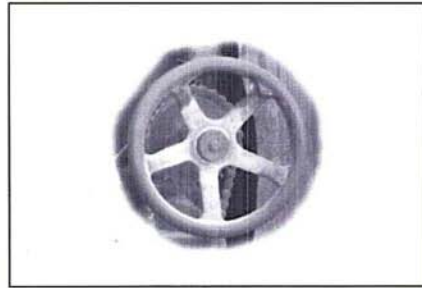
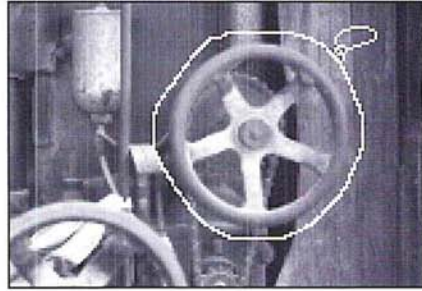
1. Double-click or Option-click the lasso tool.

The Lasso Options dialog box appears.

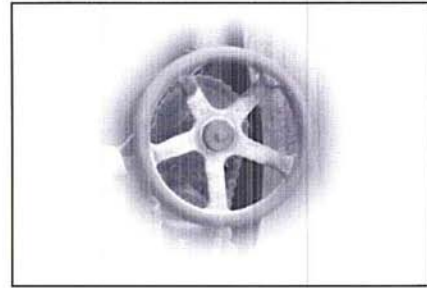


2. Enter the range (in pixels) around the selection border that you want to be affected by changes.

3. Click OK.



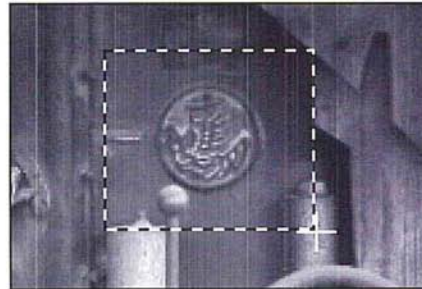
Feather value: 5



Feather value: 25

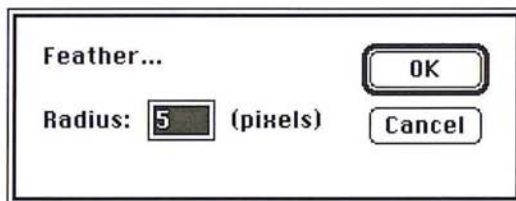
To specify the range (in pixels) of the feather edge for the marquee tools:

1. Click either the rectangular or elliptical marquee tool in the toolbox.
2. Select the part of the image to be modified.



3. Choose Feather from the Select menu.

The Feather dialog box appears.



4. Enter a value from 1 to 64 (pixels) for the feather edge.

The illustration below shows how a change is applied to the feathered edge of a selection.



Feather value: 5



Feather value: 15

Using the magic wand

The magic wand tool is a versatile selection tool that allows you to select portions of images by simply clicking on them. The Adobe Photoshop program compares the color values of adjacent pixels to determine if they are within the color range (or "tolerance") specified for the magic wand. The pixels within that color tolerance are selected. In addition, the magic wand tool allows you to control the amount of feathering, or anti-aliasing, applied to a selection with the Fuzziness parameter.

Because the pixels that form a specific part of an image may have similar color values, the magic wand tool allows you to select part of an image simply by clicking on it. In addition, specifying the tolerance value for the color comparison enables you to choose how extensive you want the selection to be. For example, you can choose either to select just the dark hair of a person in an image, or the person's lighter clothing as well.

The color comparison is based on three values: the color value of the pixel you click with the magic wand pointer, the tolerance value, and the adjacent pixels. If you specify a tolerance value of 25 and click a pixel with a color value of 100, the adjacent pixels with color values in the range 75 to 125 will be selected. Tolerance ranges from 0 to 255.

To make a selection using the magic wand tool:

1. Click the magic wand tool in the toolbox.
2. Position the magic wand pointer on the part of the image you want to select.
3. Click the mouse button.

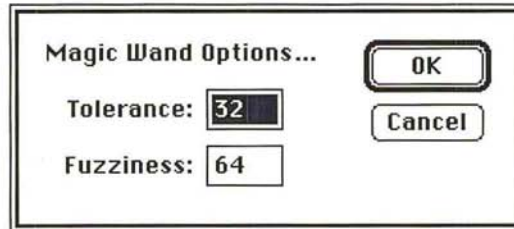
Specifying the color tolerance

The Tolerance parameter for the magic wand tool specifies the color range of the pixels you will select using the wand. Enter a value close to 0 to select pixels with very similar colors; enter a value close to 255 to select pixels with dissimilar colors.

To specify the color tolerance parameter:

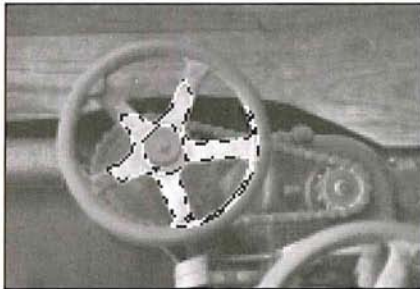


1. Double-click or Option-click the magic wand tool in the toolbox.
The Magic Wand Options dialog box appears.

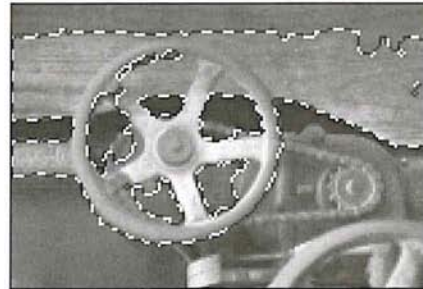


2. Enter a value from 0 to 255 for the tolerance level.

3. Click OK.



Tolerance value: 45



Tolerance value: 100

Controlling the amount of anti-aliasing in a selection

The Fuzziness parameter controls the amount of anti-aliasing that is applied when you make a selection with the magic wand tool or fill in an image with the paint bucket tool. Whereas the Tolerance parameter controls how similar the colors in pixels have to be for the pixels to be selected, the Fuzziness parameter controls the amount of anti-aliasing that is applied to the edge of the selection. The amount of anti-aliasing is determined by the extent to which the pixels just beyond the selected pixels are partially selected. Fuzziness ranges from 0 to 255.

You can experiment with different fuzziness values on your image, or you can determine a precise amount of fuzziness to apply, as described below.

Normally, when you apply a change to an image, such as filling an image with a color or changing the colors in a selection, all of the change is applied to the selected pixels. When a pixel is partially selected, on the other hand, the changes you apply only partially affect that pixel.

If the fuzziness value is 0, the pixels surrounding the selected pixels, called the edge pixels, are not selected at all, and the edges around the selection are jagged. As you increase the fuzziness value, the edges become progressively less jagged, up to a certain point; after that point, the edges become jagged again because the edge pixels become selected to the point where all their color becomes visible and they form a new jagged edge.

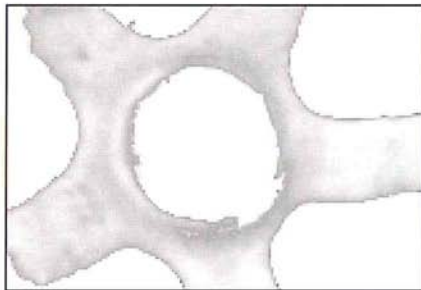
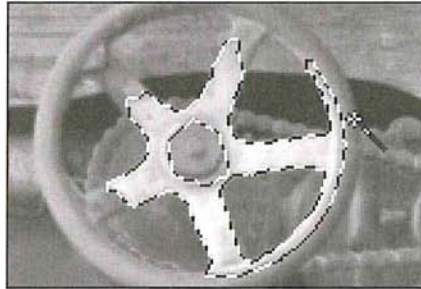
Several factors affect the fuzziness including the color value of the pixel you click, the color value of the edge pixels, and the fuzziness value itself. The extent to which the edge pixels are selected is determined using the following formula: $(\text{fuzziness value} - \text{out of tolerance band value}) / \text{fuzziness value} = \text{the extent to which an edge pixel is selected}$.

The tolerance band is the range from the highest value to the lowest value of the pixels that are selected. For example, if the highest color value of the pixels in the selection is 100 and the lowest color value in the selected pixels is 50, the tolerance band is from 100 to 50. The pixels outside the tolerance band but within the fuzziness range are partially selected.

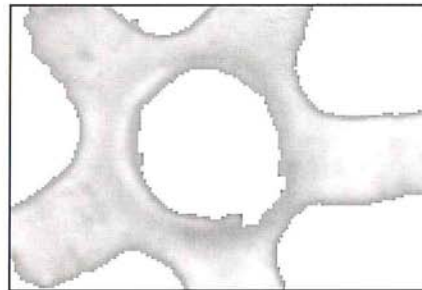
When using the magic wand, you should specify a value for the fuzziness parameter that produces a smooth edge along the selection. In most cases, the default fuzziness value (64) should produce acceptable results. Selections that contrast sharply with the background require higher fuzziness settings than selections that only contrast slightly with the background. If the selection is too jagged, you can experiment by entering higher or lower color values for the fuzziness.

To specify the amount of fuzziness to be applied to a selection:

1. Double-click or Option-click the magic wand tool in the toolbox.
The Magic Wand Options dialog box appears.
2. Press the Tab key or double-click in the Fuzziness text box.
3. Enter a value from 0 to 255.
4. Click OK.



Fuzziness value: 10



Fuzziness value: 150

Deselecting all selections

You can deselect all current selections by using the None command in the Select menu, or by clicking on the image with any of the selection tools except the magic wand tool.

To deselect everything in the image:

1. Choose None from the Select menu, or click one of the selection tools in the toolbox (except the magic wand tool).
2. Click the image.

All of the selections are deselected.

Editing selection borders

A selection border is a border that defines a selected area. The selection tools allow you to edit a selection border. You can move the selection border, hide or show it, delete part of the selection border or add to it, or select intersecting borders to expand a selection.

In addition, you can define the width of the border around a selection using the Fringe command in the Select menu.

Selecting a border around a selection

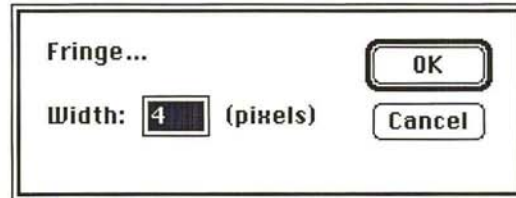
Once you make a selection, you can define the width of the border surrounding the selection. The Fringe command in the Select menu allows you to select a fringe area around the current selection. The fringe area is an area of a specified width around the selection border.

The Fringe command works only on part of an image. If you select all of an image, the option will be dimmed.

To specify the width of the selection border:

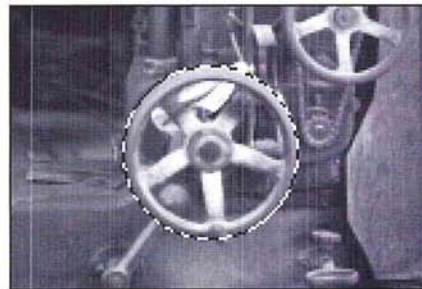
1. Choose Fringe from the Select menu.

The Fringe dialog box appears.

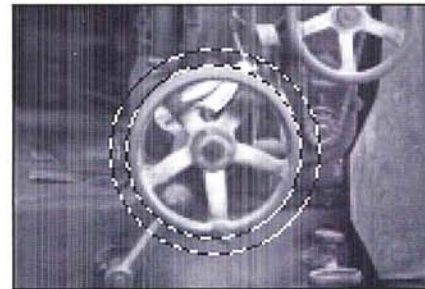


2. Enter the width for the fringe border in pixels.
3. Click OK.

The selection border with the specified width appears around the selection. The area inside the selection border is not selected.



Selection without fringe border



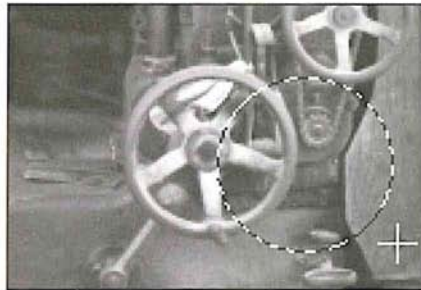
Fringe value: 5

Moving a selection border

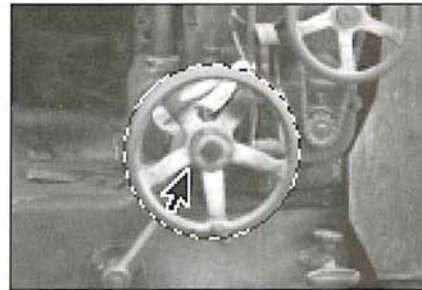
Once you define a selection on an image, you can move the selection border around the image without moving the pixels inside the selection border. If you create a selection border that is the size you want, but you want to position it around another part of an image, this feature allows you to place the selection border where you want it, without having to define it again.

To move a selection border:

1. Click one of the selection tools in the toolbox.
2. Position the pointer within the selection border.
The pointer changes to the arrow pointer.
3. Hold down the Command and Option keys and the mouse button, and drag the selection to the position you want it.
4. Release the mouse button.



Original selection



Selection border moved to new position

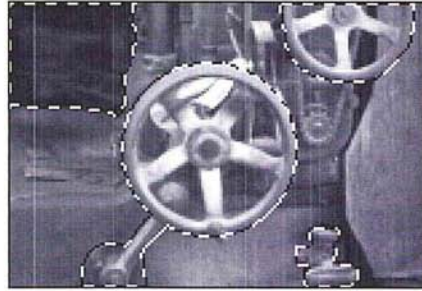
5. As an option, to move the selection border in 1-pixel increments, hold down the Command and Option keys and press the arrow key pointing in the direction you want to move the selection border.

Hiding and showing the selection border

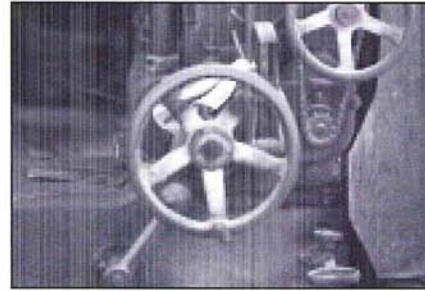
If you find the flashing black-and-white selection border distracting, or if it obscures changes that affect the edges of selections, you can use the Hide Edges command in the Select menu to temporarily hide the selection border. Any changes you specify, such as fills or color adjustments, are still applied to the current selection.

The Hide Edges command only affects the current selection. The selection border reappears when you make another selection, and new selection borders appear around any additional selections you make. As with making any selection, once you hide a selection border, you must hold the Shift key before making a second selection. Otherwise, your first selection will be deselected. When you select the Hide Edges command and then make a second selection, both selections will be displayed.

To hide the selection border around the current selection, choose Hide Edges from the Select menu; the selection border is hidden from view.



Selection borders visible



Selection borders hidden

To redisplay the selection border around the current selection, choose Show Edges from the Select menu.

Editing a selection border

If you have not selected the exact area you want, you can alter the selection by adding to the border using the magic wand tool, or subtracting from it using the magic wand, lasso tool, or type tool. You can use these tools to edit a selection border created with any of the selection tools.

The magic wand tool also allows you to both add to or subtract from a selection border. You use the magic wand tool to add to a selection border, whether the original selection was made with the magic wand tool or another selection tool. The magic wand tool works differently than the lasso or type tool in subtracting from a selection. When you use the magic wand tool to subtract from a selection, the pixels that are subtracted are within the color tolerance value specified for the magic wand tool.

The lasso and the type tool only subtract from a selection border. When you use the lasso tool to delete part of a selection, the pixels you enclose with the lasso tool are deselected, regardless of their color values. You use the lasso tool to delete part of a selection border from a non-floating selection.

If a selection is floating, you use the type tool to subtract a portion of it. A floating selection is a selection you moved or pasted into an image. If you're working with a floating selection and use the lasso tool to deselect a portion of it, you'll actually delete the selection, not deselect it. Once you select the type tool and hold down the Command key and drag, the lasso pointer appears automatically.

To add to a selection using the magic wand tool:

1. Double-click or Option-click the magic wand tool in the toolbox.
The Magic Wand Options dialog box appears.
2. Enter a value from 0 to 255 for the tolerance value. Click OK.
3. Position the magic wand pointer on the part of the selection you want to expand.
4. Holding down the Shift key, click the mouse button.

The selection border is expanded for the pixels that have color values within the tolerance range.

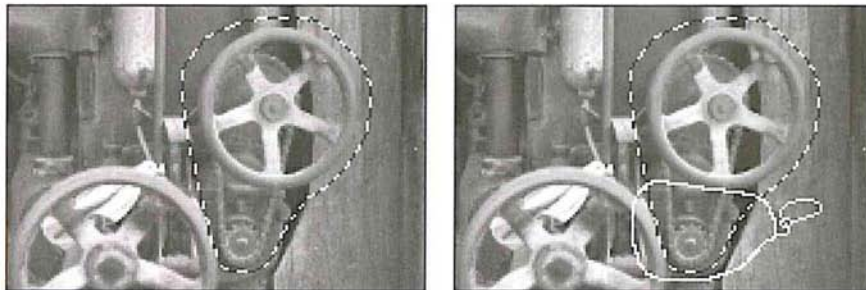
To subtract from a selection using the magic wand tool:

1. Double-click or Option-click the magic wand tool in the toolbox.
The Magic Wand Options dialog box appears.
2. Enter a value from 0 to 255 for the tolerance value. Click OK.
3. Position the magic wand pointer on the part of the selection you want to deselect.
4. Holding down the Command key, click the mouse button.

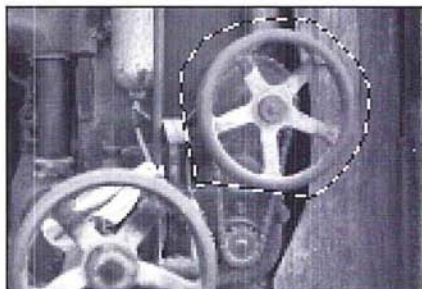
The selection border is removed from the pixels that fall within the tolerance range specified for the magic wand tool.

To subtract from a border around a non-floating selection using the lasso tool:

1. Click the lasso tool in the toolbox.
2. Position the lasso pointer where you want to start subtracting from the selection border.
3. Holding down the Command key and the mouse button, drag to define the part of the selection border you want to deselect.
4. When you have finished making your selection, release the mouse button and the Command key.



The area you defined is subtracted from the selection border.



To subtract from a border around a floating selection using the type tool:

1. Click the type tool in the toolbox.
2. Position the I-beam pointer where you want a selection to begin.
3. Hold down the Command key and the mouse button.
The type tool turns into the lasso pointer.
4. Drag to define the part of the selection border you want to deselect.
5. When you have finished making your selection, release the mouse button and the Command key.

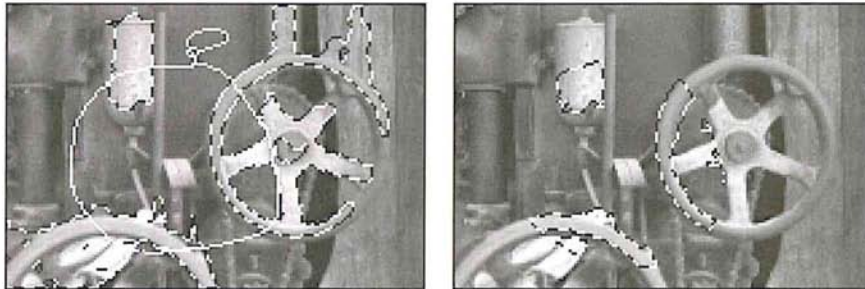
Selecting the intersection of selections

The Adobe Photoshop program allows you to use any selection tool to select the intersection of two or more selections. (You make multiple selections by holding down the Shift key and clicking the areas you want to select, then releasing the Shift key.) If you have two or more selections on an image, you can use this feature to select an area that is common to the current selections. You can use the magic wand to select the intersection of selections. However, when you use the magic wand, you click on the image to define the area of intersection, instead of dragging on the image.

To select common areas using a selection tool:

1. Click one of the selection tools (except the magic wand tool) in the toolbox.
2. Position the pointer where you want the selection to begin.
3. Hold down the Command and Shift keys and the mouse button.
4. Drag to define the area of intersection that you want to select.
5. When you have finished making your selection, release the mouse button and the Command and Shift keys.

The areas in the selections that are within the selection border are selected, as illustrated below.



Extending selections

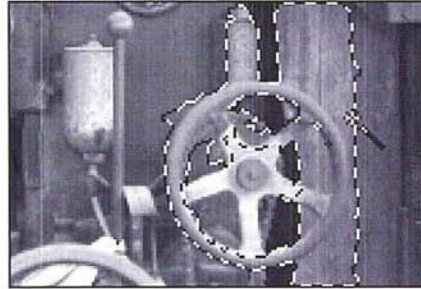
The Adobe Photoshop program provides many different ways to select several parts of an image at the same time. This extended selection feature lets you add to the current selection. You can use the lasso and marquee tools to select parts of an image that are widely separated and have no color similarities, or the magic wand tool to select parts that are similar in color. You can also use the selection commands to select all of an image at once, to select parts of the image that are similar in color to the current selection, or to select only the border around an image.

You can use the selection tools with the Shift key to select different parts of the image that have nothing in common with the current selection.

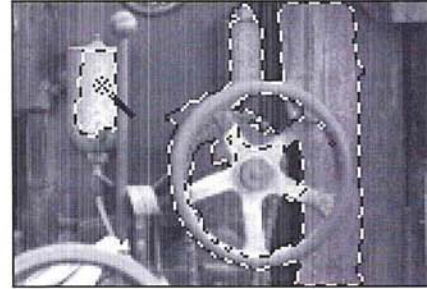
To extend a selection:

1. Click one of the selection tools in the toolbox.
2. Hold down the Shift key and the mouse button.
3. Use the selection tool to select the other part of the image.

The selection border appears around the second selection.



Original selection



Extended selection

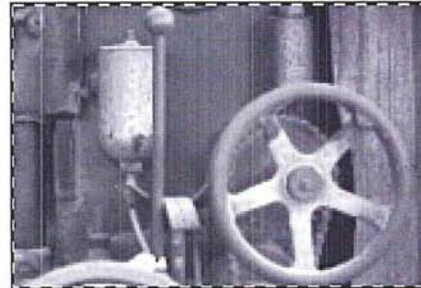
4. When you have finished making your selections, release the mouse button and the Shift key.

Selecting an entire image

When you want to cut, copy, fill, or otherwise edit an entire image, you can use the All command in the Select menu.

To select all of the image at once, choose All from the Select menu.

The selection border surrounds the entire image.



Selecting similar colors

The Grow and Similar commands in the Select menu allow you to expand a selection to include parts of the image that are similar in color to the current selection. The color comparisons are based upon the Tolerance and Fuzziness settings in the Magic Wand Options dialog box.

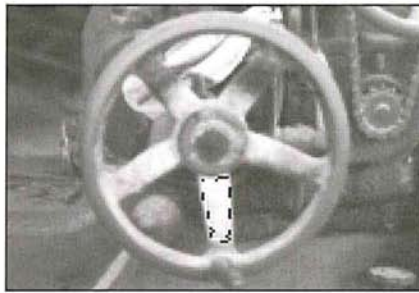
The Grow and Similar commands compare the colors of pixels based on the range of color values of the pixels within the current selection.

The Grow command extends the selection to include pixels adjacent to the selection that fall within the specified Tolerance and Fuzziness range, as illustrated below. The Similar command selects pixels throughout the image, not just the ones next to the selection, that fall within the specified range. If the Similar command does not select all the areas you want, you can select a part of the image that contains colors that are representative of the colors you want to select, and then choose the Similar command again.

The Similar and Grow commands do not work on bitmap-type images.

To extend the selection to include adjacent pixels within the color range specified for the magic wand in the Magic Wand Options dialog box, choose Grow from the Select menu.

The selection border appears around the adjacent pixels within the color range.



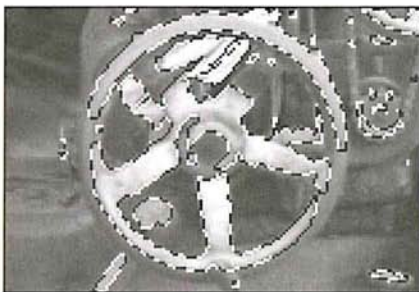
Original selection



Grow command applied

To extend the selection to pixels anywhere on the image that fall within the specified color range, choose Similar from the Select menu.

The selection border appears around all of the pixels throughout the image that fall within the color range.

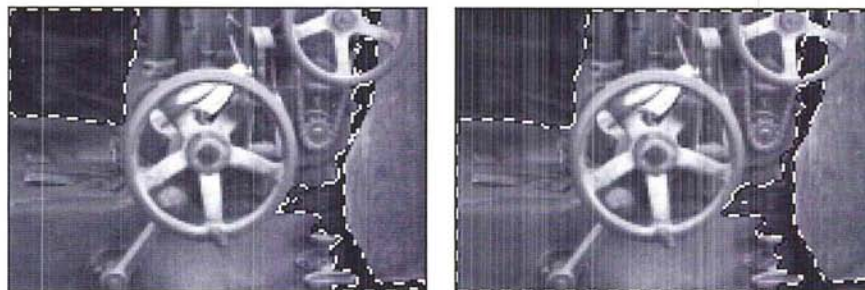


Similar command applied

Selecting the non-selected parts of an image

At times, it might be more convenient to select large parts of an image by first selecting the parts you don't want to modify, and then automatically selecting the larger portions of the image. The Inverse command in the Select menu allows you to do this.

To select the part of the image that is not currently selected, choose Inverse from the Select menu. The remaining, unselected portion of the image is selected. The originally selected part of the image is deselected.



Removing "fringe" around a selection

When you make a selection, some of the surrounding pixels normally are included. Once you copy the selection and paste it elsewhere, some of the surrounding pixels are copied and pasted along with the selection, which is now called a floating selection. At times, you may want to eliminate the excess pixels, called "fringe," around a floating selection. (A floating selection is a selection that was moved or pasted on in image. It floats above the pixels in the underlying image until you deselect it.)

For example, if you select part of an image and paste it onto a white background, you may want to trim the fringe or excess pixels around the selection. The fringe pixels contain a mixture of the colors in the selection and background colors around the selection.

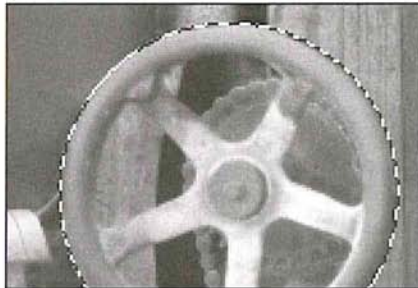
The Defringe command in the Select menu allows you to remove the fringe around a floating selection. The Defringe command replaces the color of the fringe pixels with the colors of nearby pixels that contain the pure colors in the selection. The pixels with pure colors are the pixels that do not contain any of the background colors.

You can specify how far within the selection you want the Adobe Photoshop program to look for the pixel colors that will be extended outward to replace the fringe pixels. In most cases, a distance of one or two pixels is sufficient to locate pixels that will effectively remove a fringe.

To use the Defringe command:

1. Move the selection that contains the fringe you want to remove to make it a floating selection.
2. Choose Defringe from the Select menu.
3. Enter a value for the distance used to locate fringe pixels.
4. Click OK.

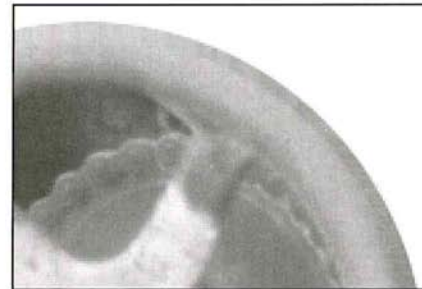
The colors of the fringe pixels are replaced by the color of the pixels within the selection.



Original selection



Before Defringe



Defringe value: 5

Moving a selection

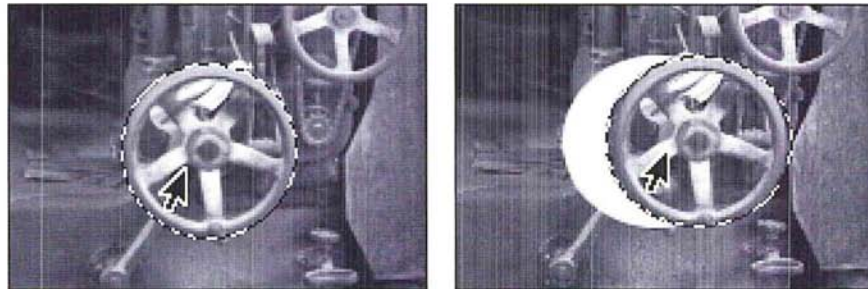
You can move a selection around an image by dragging the selection. When you drag a selection, its outline remains visible to provide a reference for placing it. You can use the Shift key to constrain a selection to 45-degree increments as you move it. You can also automatically create a duplicate of a selection and move a selection in 1-pixel increments using the keyboard. See the next section "Moving a selection in 1-pixel increments."

Once you move a selection, it covers up the part of the image beneath it. The current background color fills the area left by the moved selection. The default background color is white; if white is the current background color, the area appears to be blank.

You can use the paste controls to control the effect of the pixels in the floating selection on the underlying image when you deselect the floating selection. See Chapter 12, "Cutting and Pasting Selections" for information about using paste controls.

To move a selection:

1. Click one of the selection tools in the toolbox.
2. Position the selection pointer on the selection.
The selection pointer turns into the arrow pointer.
3. Holding down the mouse button, drag the selection into the position you want it.
4. When you have moved the selection to the desired position, release the mouse button.



If you drag one selection while there are multiple selections, all of the selections follow the movement of the mouse.

NOTE: *If you are using one of the painting or editing tools or the eyedropper tool, you can temporarily activate the arrow pointer to move a selection by pressing down the Command key and positioning the tool pointer on the selection.*

Moving a selection in 1-pixel increments

The arrow keys allow you to move a selection in 1-pixel increments. To move a selection using the arrow keys, press down the arrow key pointing in the direction you want to move the selection. The selection moves in the direction of the arrow key you press.

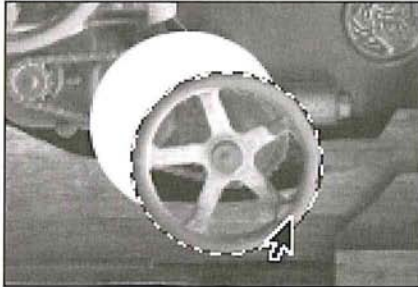
Constraining the movement of a selection

You can constrain the movement of a selection to a 45-degree angle by pressing the Shift key.

To constrain the movement of a selection to a 45-degree angle:

1. Click one of the selection tools in the toolbox.
2. Position the selection pointer on the selection you want to move.
The selection pointer turns into the arrow pointer.
3. Holding down the mouse button, begin dragging in the direction you want to move the selection.
4. Hold down the Shift key.

The selection moves along a straight line in the direction you drag.



Selection moved at a 45° angle

5. Release the mouse button and the Shift key when the selection is in the position you want it.

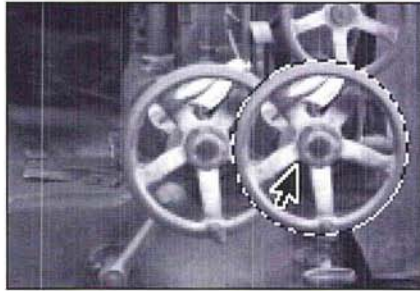
Duplicating a selection

You can use the Option key to automatically make a copy of a selection as you drag it. You can either drag the selection to duplicate it, or press an arrow key.

To make a duplicate of a selection:

1. Click one of the selection tools in the toolbox.
2. Position the selection pointer on the selection you want to duplicate as you move it.
The selection pointer turns into the arrow pointer.
3. Press and hold first the Option key, then the mouse button. Drag the duplicate to the position you want it.

4. When you have positioned the duplicate as desired, release the mouse button and then the Option key.



To create multiple duplicates of a selection using the arrow keys:

1. Hold down the Option key.
2. Press the arrow key pointing in the direction you want to project the duplicates from the selection.

Each time you press the arrow key, a duplicate of the selection is created and offset by 1-pixel from the last duplicate.

3. When you have finished making duplicates, release the Option key.

Using alpha channels to alter selections

At times you may want to adjust part of an image while you are working on it. In the previous image of a pump in a barn, you might want to edit the wheel on the pump or the wooden boards in the barn. To alter the image, you can use the Adobe Photoshop program selection tools to select a component of your image, and copy it into an individual alpha channel. You create an alpha channel using the Selection->Alpha command in the Select menu.

An alpha channel is a “scratch channel”—essentially a separate, 8-bit gray-scale image within a document, used for isolating, modifying, and storing masks. The alpha channels and masks you create are saved automatically with a document unless you delete them, so you can create and reuse masks for all the components of the image you want to edit. For example, you can create a separate mask for the wheel and the wooden boards. But note that alpha channels substantially increase the disk space required by an image. If you have a shortage of disk space, you may want to delete alpha channels before saving your document.

An alpha channel is one of many types of channels that can comprise an image. The Adobe Photoshop program treats images as a series of channels. Bitmapped, gray-scale, and indexed color images are single-channel images. RGB, HSL, and HSB images have three channels, and CMYK images have four channels.

The Adobe Photoshop program lets you view the individual channels of an image so that you can work on each channel separately. You can work on just an individual channel. You can also create an alpha channel to work on a selected part of an image.

An image can have up to 16 channels per document. The red, green, and blue channels are the first three channels of an RGB image; you, therefore, can create 13 alpha channels. The first alpha channel in an RGB image is labeled 4 at the top of the screen because it is the fourth channel. If you create additional alpha channels, they will be numbered 5, 6, and so on.

The section "About channels and image types" in Chapter 15, "Converting Images and Working With Channels," discusses channels in greater detail.

Working on a selection in an alpha channel has several advantages. You can easily see a selection independently of the surrounding image, edit the selection, and store the selection so that you don't have to reselect it. You can alter a selection in an alpha channel using any of the painting and editing tools. You can paint on a selection, change its borders, use filters, and so on.

By placing a selection in an alpha channel, you create a mask that covers the precise area you want to edit; you can then transfer the mask in the alpha channel back into the originally selected part of the image to edit the exact area you want. In this way, you can easily select and apply changes to specific parts of an image without affecting the rest of the image.

A mask is similar to a rubyolith used to mask a mechanical. The mask floats above the underlying image. What you have selected appears transparent over the underlying image; the remainder of the mask is opaque. As long as a selection is active, it is called a selection mask; once stored in an alpha channel, it is called a mask.

The alpha channel displays a mask as a gray-scale representation. When you view the selection mask superimposed on any image, you see only the flickering black-and-white edges of the mask. When you transfer the selection to an alpha channel using the Selection->Alpha command, however, you see the selection in white, and the rest of the image in black. If the selection is feathered, the feather edge will appear as a gray area.

The black area is masked off from the selection, and is impervious to painting and filtering. The gray areas are partially affected by any image manipulations. (The partially selected pixels are the pixels with color values that fall within the fuzziness range specified for the magic wand tool, or the pixels that fall within the feather radius specified for the selection tool you used.) Only the white selection is affected by editing, painting, and filtering.

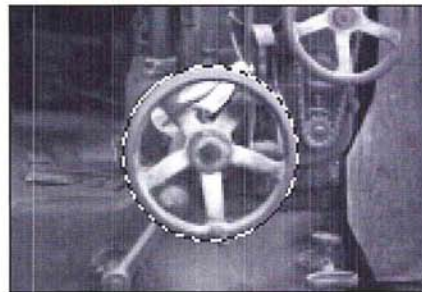
You can think of the black areas as the mask that protects the areas you want to remain unaffected by the changes you make. You can use the painting tools to apply black paint in the areas you want to include in the mask. The masked areas are excluded from the selection and will not be affected by changes you make.

If you use gray paint in the alpha channel, the areas covered with gray paint will be partially transparent to painting or filtering. The degree of transparency depends on the gray paint's color level.

If you want to select all the pixels inside the selection border, you can use the eraser tool to convert the non-selected and partially selected pixels to white to include these pixels in the selection. The partially selected pixels are partially affected by changes you make. How much the pixels are changed depends on the extent to which they are selected. The extent to which a pixel is selected is indicated by its gray level value. A pixel that is one-half selected has a gray level value of 128; this pixel will be affected 50 percent by changes you make.

To create a mask and place it in an alpha channel:

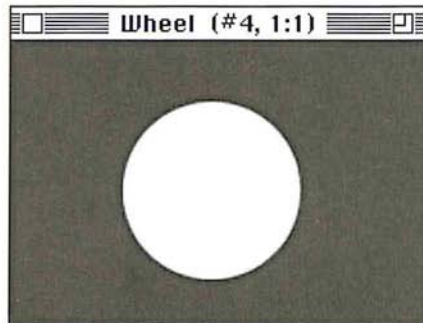
1. Select the part of the image for which you want to create the mask, using one of the selection tools.



NOTE: *The magic wand tool is especially useful in selecting areas for selection masks because it is designed to allow you to select discrete parts of an image.*

2. Choose Selection->Alpha from the Select menu.

The selected area appears in an alpha channel. The alpha channel is assigned a number as its name, which appears in the title bar.



Mask of selected area

To define the masked areas:

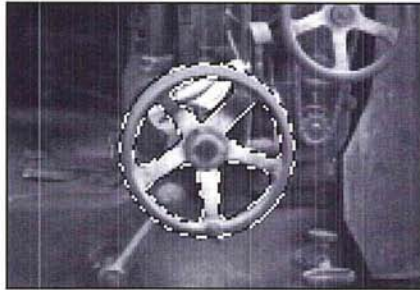
1. While still in the alpha channel, select black as the foreground color by clicking the foreground color square in either the toolbox or color palette.
2. Select one of the painting tools in the toolbox.
3. Position the pointer on the image where you want to start painting.
4. Hold down the mouse button.
5. Paint in the white area you want to protect from change.

Only the white area is affected by the paint, and pixels within the white area will be selected. The black area is impervious to paint.



6. When you have finished painting, release the mouse button.
7. To copy the mask back to the selection in the image, choose Alpha->Selection from the Select menu.

The selection border appears on the image. The changes you now make to the image are applied only to the specific areas inside the selection border.



Chapter 10: *Using the Fill Tools*

This chapter describes how to use the fill tools, including the paint bucket and blend tools, and the Fill command to fill selected parts of an image with the current foreground color or with a selected pattern. The paint bucket tool lets you fill a selection with the foreground color. The blend tool lets you create gradient fills that show a transition from the foreground color to the background color. The default foreground color is black, and the default background color is white.

You can also use the Fill command to fill a selection with a color or pattern, and to fill the borders of a selected area.

Using the paint bucket tool

Like the magic wand tool, the paint bucket tool includes options for specifying how similar the colors of pixels must be to be filled (tolerance), and how much anti-aliasing (fuzziness) is applied when a selection is filled. Anti-aliasing prevents jagged edges from appearing in a filled selection. You can use the default tolerance and fuzziness values in most cases. If you want to change these values, you must do so before you use the tool to fill a selection.

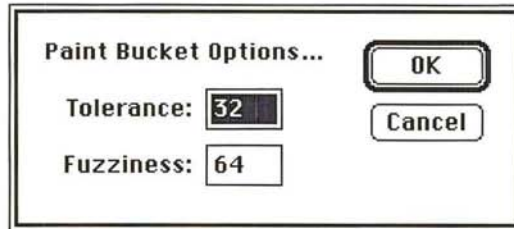
Because you can specify the tolerance value, you can choose the extent to which you want the image filled. For example, you can choose either to fill just the dark trim of a building, or to fill the building's light-colored walls, as well.

Specifying the color range (tolerance) for selections

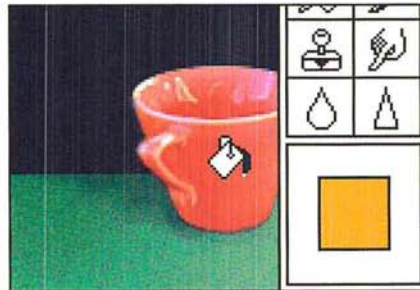
The paint bucket tool fills pixels that display similar colors. The Tolerance parameter determines how similar pixels have to be in order to be filled. Specify a low value to fill only pixels with very similar colors; specify a high value to fill pixels that are dissimilar in color.

To specify the color range for the paint bucket using the Tolerance parameter:

1. Double-click or Option-click the paint bucket tool in the toolbox.
The Paint Bucket Options dialog box appears.



2. Enter a value from 0 to 255 for the tolerance level.
3. Click OK.



Tolerance value: 15; Fuzziness value: 64



Tolerance value: 150; Fuzziness value: 64

Specifying the amount of anti-aliasing for the paint bucket

The Fuzziness parameter controls the amount of smoothing, or anti-aliasing, that is applied when you make a selection with the magic wand tool or fill an image with the paint bucket tool. You specify the fuzziness for the magic wand tool and the paint bucket tool separately.