Project 1

Four-Color Magazine Ad

Tantamount Studios, one of the largest film production companies in Hollywood, is developing a new movie called "Forefathers." You have been hired to develop ads that will be used to announce the movie in several different trade magazines.

This project incorporates the following skills:

- ❑ Creating a background image that can accommodate multiple trim sizes in a single file
- ❑ Incorporating vector graphics as rasterized layers and smart objects
- ❑ Compositing multiple photographs and scans, using various techniques to silhouette the focal object in each image
- ❑ Scaling and aligning different objects in relation to the page and to each other
- ❑ Managing individual layout elements using layers and layer groups
- ❑ Working with multi-layer and flattened files
- ❑ Saving multiple versions to meet different file requirements

The Project Meeting

Client Comments

Here's a basic synopsis of the movie:

Most American history books teach us that our "forefathers" were esteemed, venerable men who crafted the United States out of lofty and respected ideals. But there's an old saying that history is written by the victors… In other words, who were these men really, and exactly how honorable were they? The movie is about the events during and after the American Revolution — not the war itself, but the personal aspects that drove these individuals to do what they did. It's not a war movie, and it's not a political movie. It's more a study of the human condition… How greed and power can corrupt even the most idealistic of men.

This movie is going to be one of our summer blockbusters, and we're throwing a lot of resources behind it. We'll be putting the same ad in multiple magazines, and they all have slightly different page sizes. We've forwarded the advertising specs for two of them to your art director, since those are the only ones we have right now.

Art Director Comments

The client loved the initial concept sketch that I submitted last week, so we're ready to start building the files. I've had the photographer prepare the images that we need, and the client has provided the studio and rating logo files.

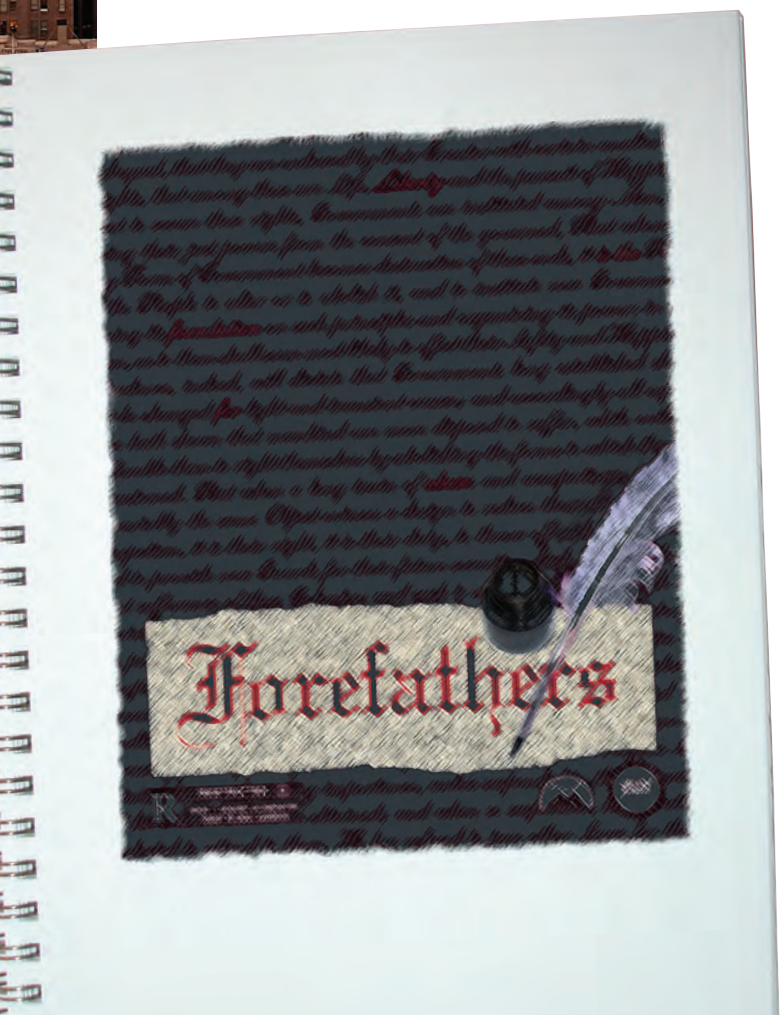
They also sent me the two magazines' specs:

Mag 1

- Files should be submitted as native layout files or layered TIFF. CMYK only.
- Bleed size: 8.75″ × 11.25″
- Trim size: 8.5″ × 11″
- Live area: 8″ × 10.5″

Mag 2

- Files should be submitted as native layout files or flattened TIFF. CMYK only.
- Bleed size: 8.25″ × 10.25″
- Trim size: 8″ × 10″
- Live area: 7.5″ × 9.5″



Project Objectives

To complete this project, you will:

- ❑ Prepare the workspace for easier access to required tools
- ❑ Create a single file that can contain multiple page sizes
- ❑ Composite multiple images into a single background file
- ❑ Incorporate both raster and vector elements into the same design
- ❑ Use selection techniques to isolate images from their backgrounds
- ❑ Transform and arrange individual layers to create a cohesive design
- ❑ Create layer groups and nested groups to easily manage files
- ❑ Save two different types of TIFF files for different ad requirements

Stage 1 Setting up the Workspace

The best way to start any new project is to prepare your workspace — just as any good chef sharpens the knives and locates all of the necessary ingredients before starting to cook. As you learned in the discussion of the user interface, Photoshop allows you to save custom workspaces that can be called whenever you need them — a very useful function if you're working on a shared computer or if you have your own computer but move back and forth from one job to another.

Define the Project Workspace

Since we created these projects, we know exactly which tools you'll be using to complete each one. As you work on other projects, you might not know for sure, so you won't be able to create such clear workspaces at the very beginning. You can, however, start with some baseline (like the default workspace) and add other palettes as you need them.

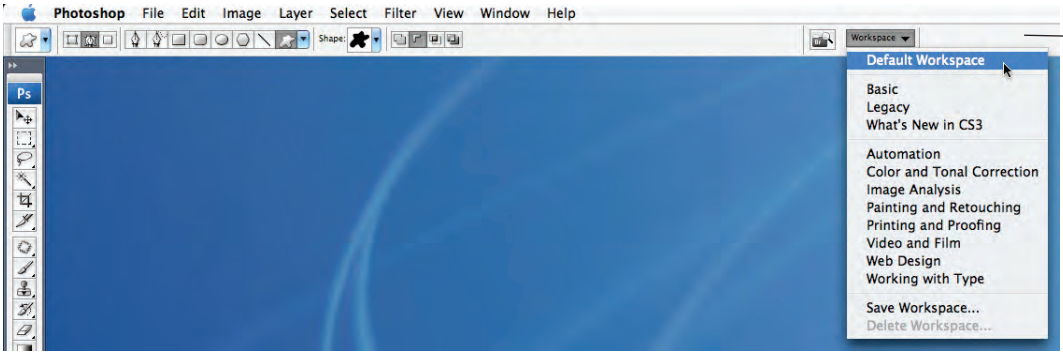
1. **Launch Photoshop.**

2. **Click the Workspace button in the Options bar and choose Default Workspace.**

   This might or might not change anything, depending on what has been done in Photoshop before you started this project. The default workspace is what Adobe has defined to appear when the application is first launched. If you change anything before quitting Photoshop, your changes are remembered even when Photoshop is relaunched.

Note:

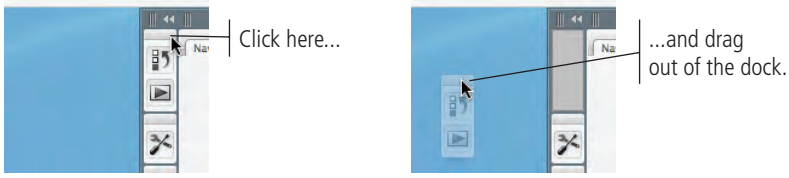
You can also access saved workspaces — including the default workspace — in the Window>Workspace menu.



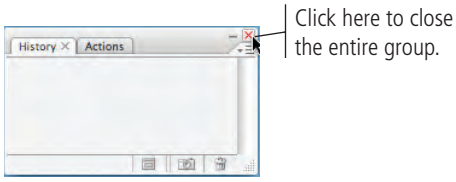
By calling the default workspace, you can start from the same place that we show in our screen shots. On the right side of the screen, three expanded palette groups are included in the palette dock and five iconized groups include eight other palettes.

3. **In the left column of the dock, click the title bar of the top iconized palette group and drag it to the left out of the dock.**

   When you release the mouse button, you'll have a floating palette group that is no longer docked.

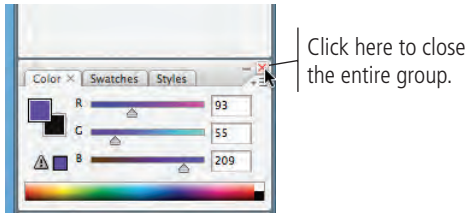


4. **Click the X on the floating palette group tab to close that group.**



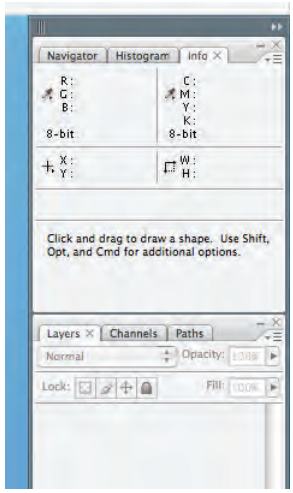
5. **Repeat Steps 3–4 to close all palette groups in the iconized column of the dock.**

6. **In the remaining column of the dock, click the Close button in the top-right corner of the middle palette group (the one that contains the Color palette).**

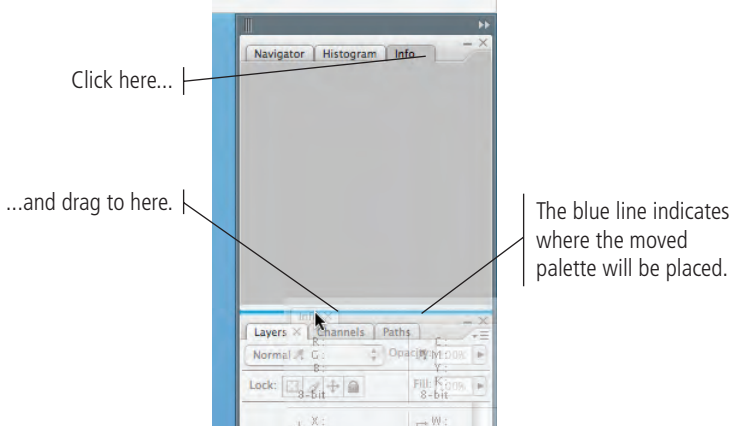


7. **Choose Window>Info.**

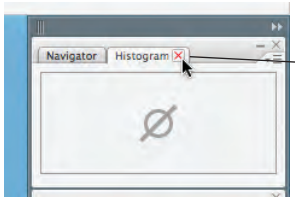
   The Info palette, which is already open as part of the top palette group, becomes the active palette in that group.



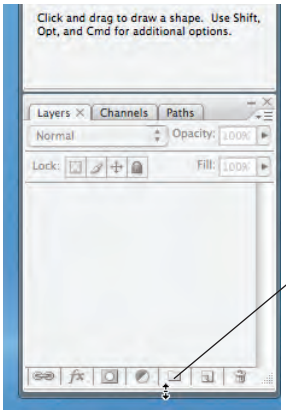
8. **Click the Info palette tab and drag down until a bright blue line appears between the top palette group and the bottom palette group in the dock.**



9. **In the top palette group, click the Close button in the Histogram palette tab.**



10. **Place the mouse cursor over the bottom edge of the Layers palette group.**

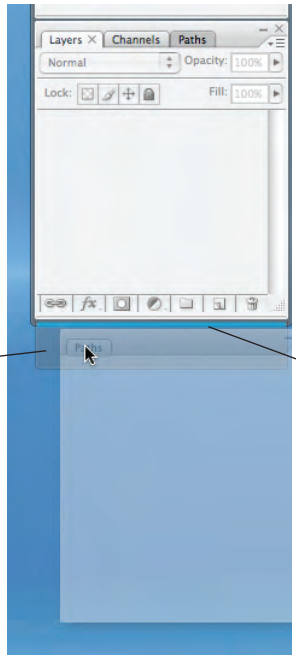


11. **Click the bottom edge of the Layers palette group and drag it up to make the palette group vertically smaller.**

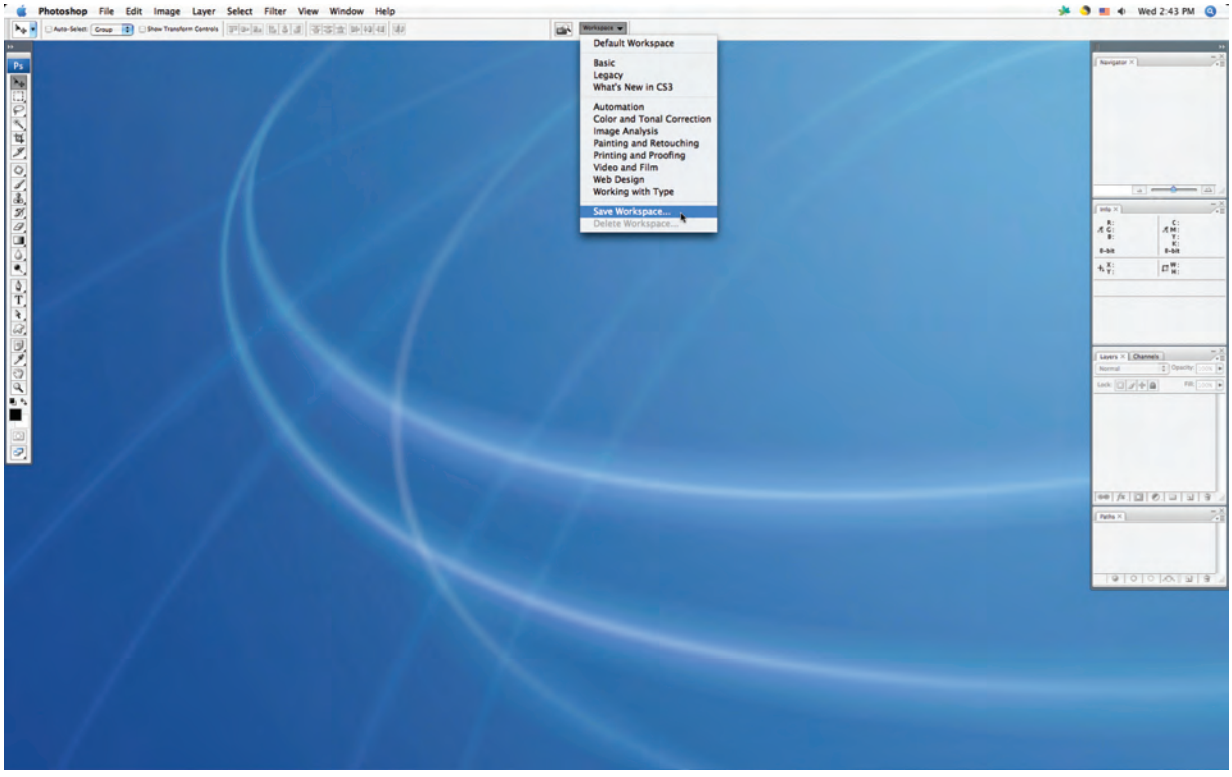
    Depending on the size of your screen, you can make this palette larger or smaller as necessary. We set it to be about one-fourth of the available vertical space.

12. **Click the Paths palette tab and drag the palette below the Layers palette group.**

13. **When you see the dark gray "drawer" appear below the palette group, release the mouse button.**

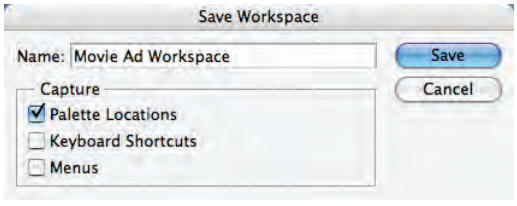


14. **In the Options bar, click the Workspace button and choose Save Workspace.**



15. **In the Save Workspace dialog box, name the workspace "Movie Ad Workspace". Make sure the Palette Locations check box is active and click Save.**

Since you didn't define any custom keyboard shortcuts or menu settings, those two check boxes don't need to be active.



16. **Continue to the next exercise.**

Create the New File

There are two primary types of artwork: vector graphics and raster images. (Line art, sometimes categorized as a third type of image, is actually a type of raster image.) Photoshop is what some people call a "paint" program — it is primarily used to create and manipulate pixel-based or **raster images**.

Vector graphics are composed of mathematical descriptions of a series of lines and geometric shapes. These files are commonly created in illustration ("drawing") applications like Adobe Illustrator or in page-layout applications like Adobe InDesign. Vector graphics are **resolution independent**; they can be freely scaled and are automatically output at the resolution of the output device.

Raster images are made up of a grid of individual **pixels** (rasters or bits) in rows and columns (called a **bitmap**). Raster files are **resolution dependent** — their resolution is determined when you scan, photograph, or create the file.

Why is this important? The ad you're building in this project will be placed in printed magazines, so you have to build the new file with the appropriate settings for commercial printing.

Raster image quality depends directly on the resolution; when you create files in Photoshop, you need to understand the resolution requirements from the very beginning of the process:

- **Pixels per inch (ppi)** is the number of pixels in one horizontal or vertical inch of a digital raster file.
- **Lines per inch (lpi)** is the number of halftone dots produced in a horizontal or vertical linear inch by a high-resolution imagesetter in order to simulate the appearance of continuous-tone color.
- **Dots per inch (dpi)** or **spots per inch (spi)** is the number of dots produced by an output device in a single line of output. Dots per inch is sometimes used interchangeably (although incorrectly) with pixels per inch.

When reproducing a photograph on a printing press, the image must be converted into a set of different-sized dots that fool the eye into believing that it sees continuous tones. The result of this conversion process is a **halftone image**; the dots used to

Understanding Line Art

PHOTOSHOP FOUNDATIONS

Line art is a raster image made up entirely of 100% solid areas. The pixels in a line-art image have only two options: they can be all black or all white. Examples of line art are UPC bar codes or pen drawings.

The rule for line-art reproduction is to scan the image at the same resolution as the output device. Think about it like this: a 600 dpi (dots per inch) printer can create a maximum of 600 × 600 (360,000) dots in one square inch. With line art we want to give the printer the most information available, which in this case would be 600 pixels per inch. If the art is created and printed at only 300 ppi, then the printer would have to skip to every other possible space to put a dot. The result is known as "stair-stepping" or "bitmapping."

Most laser printers today image at 600 to 1200 dpi, but film on an imagesetter is typically produced at a much higher resolution, possibly 2400 dpi or more. Fortunately, the human eye is not sensitive enough to discern bitmapping beyond 1200 dpi, so you can be fairly safe capturing line art at 1200 ppi.

A bitmap or line-art image has only two colors — black and white.

simulate continuous tone are called **halftone dots**. Light tones in a photograph are represented as small halftone dots; dark tones become large halftone dots. Prior to image-editing software, photos were converted to halftones with a large graphic-arts camera and screens. The picture was photographed through the screen to create halftone dots, and different screens produced different numbers of dots in an inch, hence the term dots per inch.

Screen Ruling

The screens used with old graphic-arts cameras had a finite number of available dots in a horizontal or vertical inch. That number was the **screen ruling**, or lines per inch of the halftone. A screen ruling of 133 lpi means that in a square inch there are 133 × 133 (17,689) possible locations for a halftone dot. If the screen ruling is decreased, there are fewer total halftone dots and a grainier image; if the screen ruling is increased, there are more halftone dots and a clearer image.

Line screen is a finite number based on a combination of the intended output device and paper. You can't just randomly select a line screen. Ask your printer what line screen will be used before you begin creating your images. If you can't find out ahead of time, or you're unsure, follow these general guidelines:

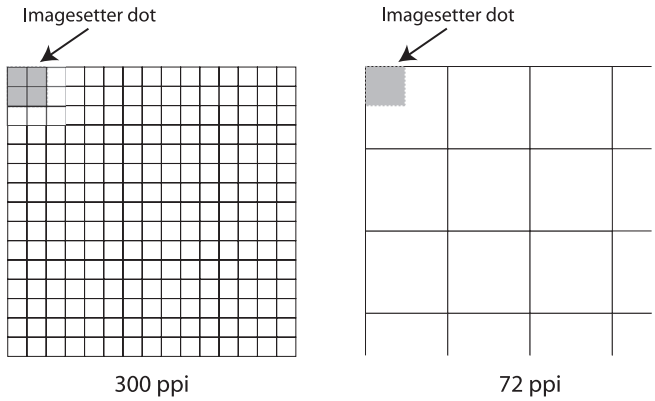
- Newspaper or newsprint: 85–100 lpi
- Magazine or general commercial printing: 133–150 lpi
- Premium-quality-paper jobs (such as art books or annual reports): 150–175 lpi (some specialty jobs might use 200 lpi or more)

Image Resolution

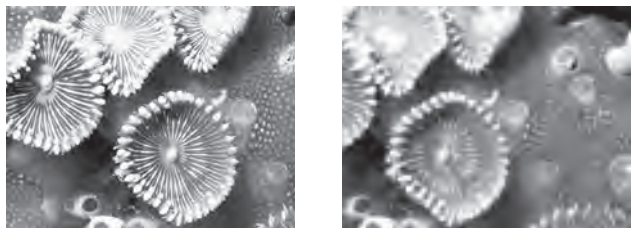
When a printer creates halftone dots, it calculates the average value of a group of pixels and generates a spot of appropriate size. An image's resolution controls the quantity of pixel data that the printer can read. Regardless of their source — camera, scanner, or files you create from scratch in Photoshop — images need to have sufficient resolution for the output device to generate enough halftone dots to create the appearance of continuous tone.

Ideally, the printer has four pixels for each halftone dot created. The relationship between pixels and halftone dots defines the rule of resolution for all raster-based images — the resolution of an image should be two times the screen ruling (lpi) that will be used for printing.

All of this can be confusing. If you're preparing a document to be printed commercially, remember this general rule: most raster images (except line art) should have about twice the pixel resolution as the line screen that will be output.



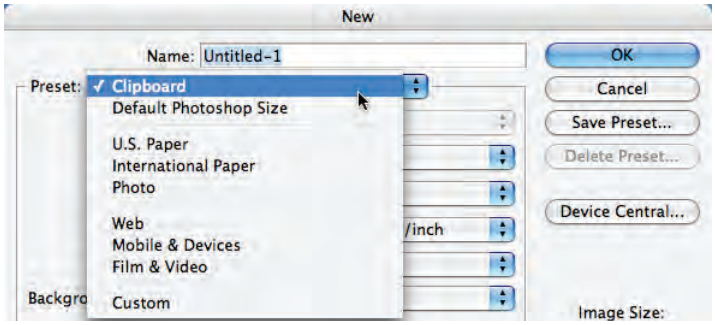
Each white square symbolizes a pixel in a digital image. The gray area shows the pixel information used to generate a halftone dot or spot. If an image only has 72 pixels per inch, the output device has to generate four halftone dots per pixel, resulting in poor printed quality.



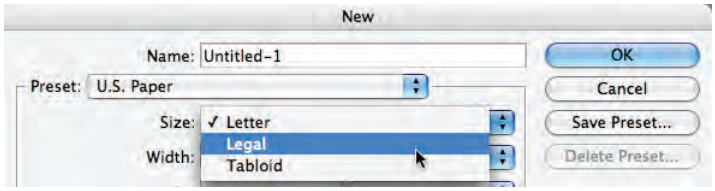
The same raster image is reproduced here at 300 ppi (left) and 72 ppi (right). Notice the obvious degradation in quality when the resolution is set to 72 ppi.

1. **Choose File>New.**

You can create new files based on a number of included presets, including standard paper sizes (U.S. Paper, International Paper, and Photo) and standard sizes for different devices (Web, Mobile & Devices, and Film & Video).



If you choose one of these presets, the Size menu shows secondary options for the selected preset (such as Letter, Legal, or Tabloid for U.S. Paper). Choosing any of these presets automatically changes the values in the other fields of the dialog box.



Of course, not every job will match one of the default presets. Sometimes you simply have to define your own settings.

2. **Highlight the Name field and type "Movie Ad".**

You don't have to name new files at this point, but since the field is there, it saves a step later in the process.

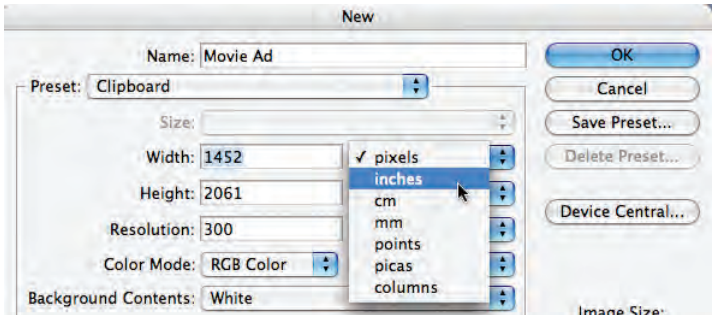
3. **Press Tab to highlight the next field (Width) of the dialog box.**

As in most applications, you can press Tab to move through the fields of a dialog box. Pressing Shift-Tab moves to the previous field in the dialog box.

4. **Click the menu to the right of the Width field and choose inches.**

Your units might be already set to inches if no one has changed the default measurement settings. If so, just proceed to the next step.

When you change one unit of measurement (width) the other (height) changes too.



Note:

Before completing this project, copy the Liberty Ad folder from the WIP folder on your Resource CD to your WIP folder wherever you are saving your work. When you save files for this project, you will save them in your WIP>Liberty Ad folder.

Note:

The New dialog box defaults to the Clipboard preset (if you have anything copied) or to the last-used settings.

If Clipboard is showing in the Preset menu, the new file settings will match the current contents of the system clipboard (whatever you last copied in Photoshop or another application).

Note:

You can change the default unit of measurement in the Preferences>Units & Rulers dialog box.

Note:

Although designers trained in traditional (non-digital) methods are sometimes comfortable talking about picas or ciceros, most people use inches as the standard unit of measurement in the U.S.

5. **While the Width field is highlighted, type "8.75" in the field and press Tab.**

   As soon as you change any field, the Preset menu switches to "Custom" — you are defining a "custom" file size.

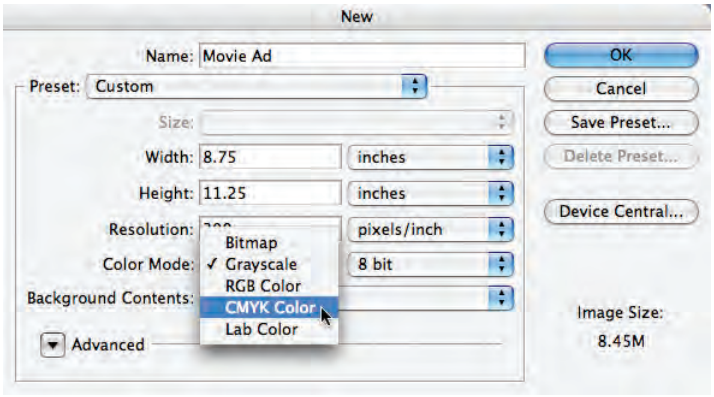
6. **Change the highlighted Height field to 11.25 and press Tab.**

7. **Change the Resolution field to 300; make sure the menu shows pixels/inch.**

   Pixels/cm is primarily used in countries that use the metric system of measurement (just about anywhere other than the U.S.). But if you inadvertently set the field to 300 pixels/cm, you'll be creating a file that is 762 pixels/inch — far more than you need for most applications.

> *Note:*
>
> *Although many magazines are printed at 133 lpi, some are printed at 150 lpi. By setting the resolution to 300, your file will work for any magazine that prints at 133 or 150 lpi.*

8. **Click the Color Mode menu and choose CMYK Color.**



Understanding Color Modes

PHOTOSHOP FOUNDATIONS

The **color mode** (or color space) defines the structure of the colors in your file.

Bitmap color reproduces all pixels in the image as either black or white; there are no shades of gray.

Grayscale color reproduces all tones in the file as shades of gray. This type of image has only one channel.

RGB creates color by combining different intensities of red, green, and blue light (collectively referred to as the "additive primaries"). Computer monitors and television sets display color in RGB, which has a **gamut** or range of more than 16.7 million different colors. An RGB file has three color channels, one for each of the additive primaries.

CMYK ("process") color is based on the absorption and reflection of light. Four process inks — cyan, magenta, yellow, and black (collectively referred to as the "subtractive primaries") — are used in varying combinations and percentages to produce the range of printable colors in most commercial printing. A CMYK file has four color channels, one for each of the four subtractive primaries.

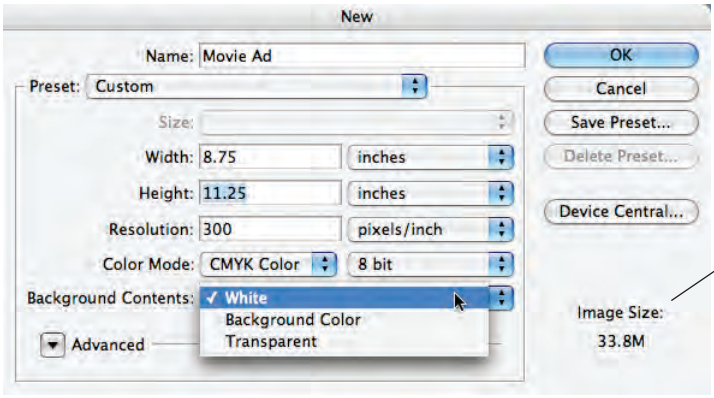
Theoretically, a mixture of equal parts of cyan, magenta, and yellow would produce black. Pigments, however, are not pure, so the result of mixing these colors is a muddy brown (called "hue error"). To obtain vibrant colors (and so elements such as type can be printed cleanly), black ink is added to the three primaries. Black is represented by the letter "K" for "key color."

LAB color is device independent; the colors it describes don't depend upon the characteristics of a particular printer, monitor, or scanner. In theory, LAB bridges the gap between the various color models and devices, and is used as the background when converting images from one color space to another.

The problem with using RGB for print jobs is that the RGB colors eventually need to be converted to CMYK separations for a commercial printing press. Photoshop includes sophisticated tools that let you control this conversion, which you'll learn about in Project 4. Since you're creating this file for print, it's a better idea to create it in the color mode that will ultimately be used — CMYK — to eliminate the need to convert and correct colors later.

9. **Choose White in the Background Contents menu.**

You can set the default background of any new file to White, the current Background Color, or Transparent. You can (and will) change this setting at any time after the file is created.



The Image Size area shows the base file size of the file that you're defining. This number dynamically changes whenever you change an option in this dialog box.

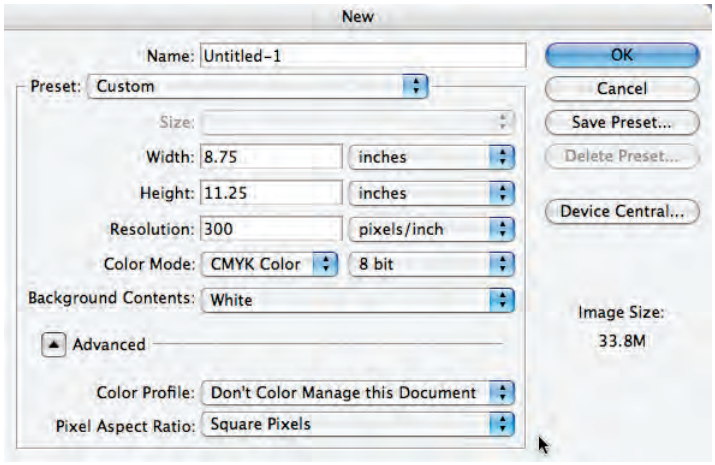
10. **If the Advanced options are collapsed (the arrow button is pointing down), click the arrow button to show the Advanced options.**

11. **Click the Color Profile menu and choose Don't Color Manage this Document.**

Color management is basically a process for controlling color shift from one color space to another. You'll learn about color management in Project 3; for now, we're going to (mostly) ignore it.

12. **Leave the Pixel Aspect Ratio menu set to Square Pixels.**

The options in this menu are primarily used for editing video. Since this is a print project, you don't want to alter the pixel ratio.

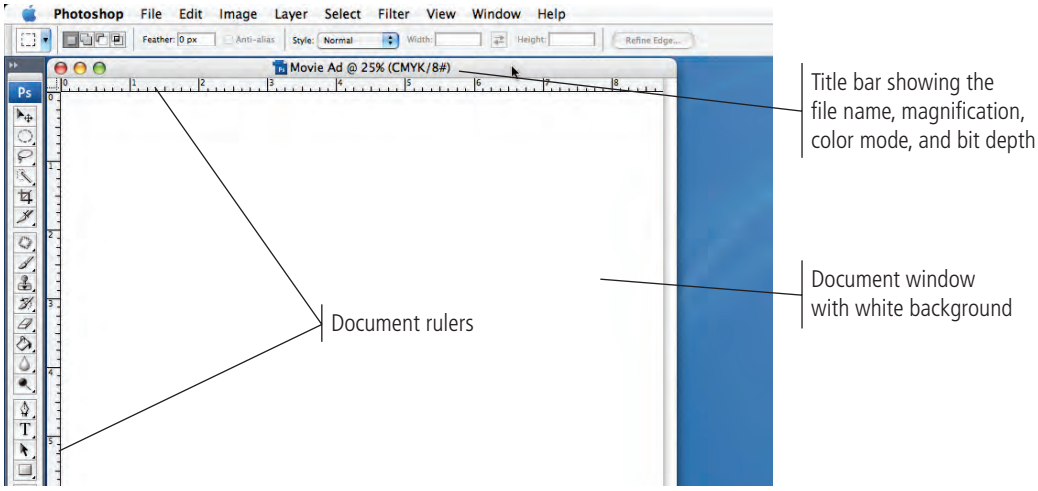


13. **Click OK to create your new file.**

14. **Click the button at the bottom of the Tools palette and make sure you are working in Standard Screen Mode.**

You should see the new document in a system-standard floating window. (You can also choose View>Screen Mode>Standard Screen Mode to do this.)

15. **If you don't see rulers on the top and left edges, choose View>Rulers to toggle them on.**



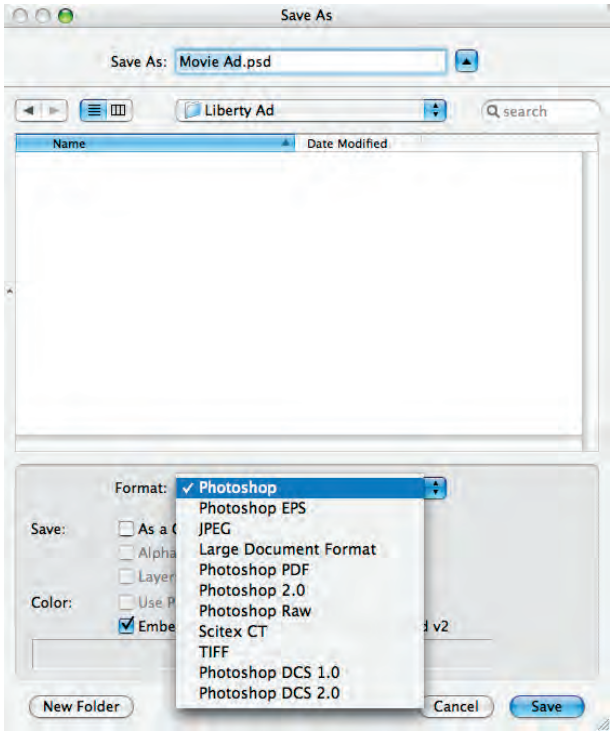
16. **Choose File>Save As.**

17. **Navigate to the WIP>Liberty Ad folder as the location where you will save this file.**

Since you named the file when you created it (in the New dialog box), the Save As field is automatically set to the file name that you already assigned. The appropriate extension is automatically added on both Macintosh and Windows computers.

18. **Choose Photoshop in the Format menu.**

You can save a Photoshop file in a number of different formats, all of which have specific capabilities, limitations, and purposes. While you are still working on a file, it's best to keep it as a basic Photoshop (PSD) file. You'll use the most common formats as you complete the projects in this book.



19. **Leave any remaining options unchecked and click Save.**

Since this is a very basic file with only a white background, most of these options are not available.

20. **Continue to the next exercise.**

Since this is the first time you are seeing the New and Save As dialog boxes, we've had to explain a fairly large number of options. In following projects, the basic file set-up instructions will be considerably shorter. Whenever you create a new file, refer back to this section if you need help.

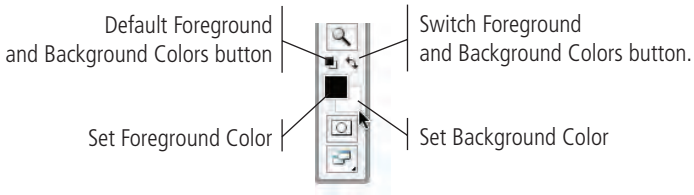
Define the Background

Now that you have the file created, the next step is to add a custom background color. When you defined the file, you had three options — transparent, white, or background color. You could have defined the background color before opening the New dialog box, but it is more common to create the file and then set the background.

1. **With Movie Ad.psd open, choose View>Fit On Screen to fill your monitor space vertically.**

2. **Click the Default Foreground and Background Colors button near the bottom of the Tools palette.**

By clicking this button, you can always return to the basic black/white options.



Note:

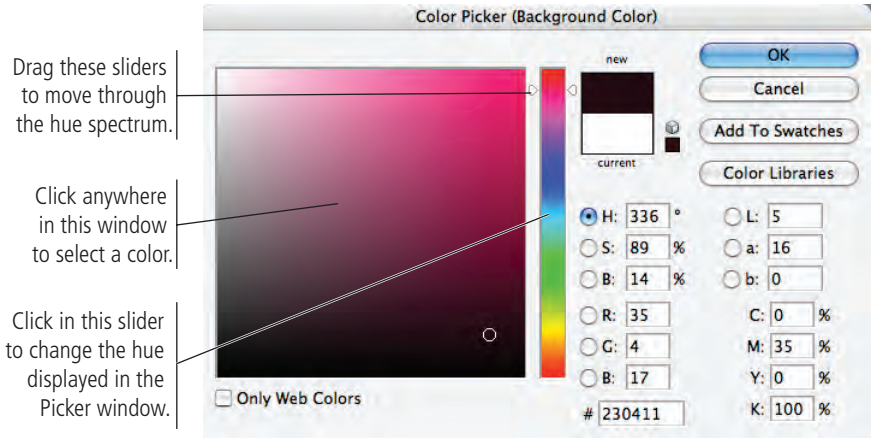
The foreground and background color swatches default to the last-used values; they were not reset when you called the Default Workspace at the very beginning of this project.

3. **Click the Set Background Color button to open the Color Picker.**

You can use the same process to define the foreground color, except you would click the foreground swatch in the Tools palette instead of the background swatch.

4. **In the lower-right corner of the dialog box, change the C (Cyan) field to 0, the M (Magenta) field to 35, the Y (Yellow) field to 0, and the K (Black) field to 100. Click OK.**

Since you're working on a file in CMYK mode, you should define colors as percentages of CMYK.



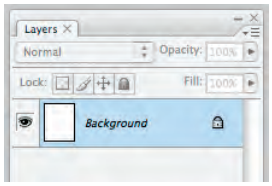
Note:

This type of color — 100% black and some percent of another color — is called rich black or superblack. It might seem like 100% black is black, but when the inks are printed, adding another ink to solid black enhances the richness of the solid black. Adding magenta typically creates a warmer black, while adding cyan typically creates a cooler black.

5. **Look at the Layers palette.**

Every file you create has at least one layer. If you use the Transparent option in the New dialog box, the default layer is called "Layer 1". If you define the file with a white or colored background, the default layer is named "Background".

This Background layer cannot be moved, as indicated by the Lock icon. It can, however, be painted.

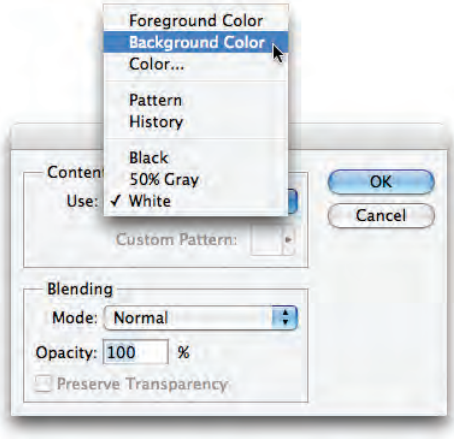


Note:

When the Default layer is "Layer 1" instead of "Background" it is not locked; you can move it within the image window or within the Layers palette.

6. **With nothing selected in the file, choose Edit>Fill.**

7. **Choose Background Color in the Use menu and click OK.**



The file has only one layer, so that layer is selected by default. Because no area of the file is currently selected, the Fill process fills the entire selected layer.

8. **Save the file and continue.**

Place Page Guides

The final step in preparing the workspace is defining the live area of the page. If you were creating an ad for a single magazine, this would be relatively simple. Since the file you're building needs to fit several page sizes, you have to take a few extra steps.

According to your client, the largest magazine trim size is 8.5 × 11 and the smallest magazine size is 8 × 10. (**Trim size** is the actual size of a page once it has been cut out of the press sheet.)

The outside dimensions of your file need to be big enough to fill the largest size. You might have noticed that you created the file 0.25″ larger than the largest file size. That's because the file has to incorporate **bleeds** (elements that print right up to the paper edge) — to make the ad print right up to the edge of the paper, you have to extend the page elements and background beyond the page trim size (called **bleed allowance**). Most applications require at least 1/8″ bleed allowance on any bleed edge.

All of the important elements of the design need to fit inside the smallest page size, so you need to mark those edges as well.

Note:

You should familiarize yourself with the most common fraction-to-decimal equivalents:

1/8 = 0.125

1/4 = 0.25

3/8 = 0.375

1/2 = 0.5

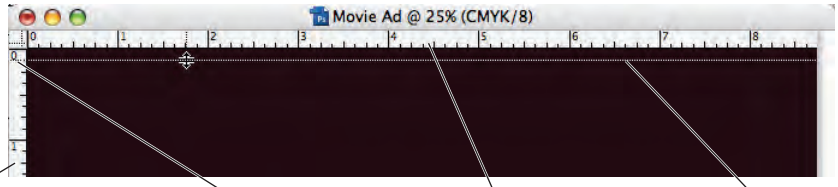
5/8 = 0.625

3/4 = 0.75

7/8 = 0.875

1. **With Movie Ad.psd open, click the horizontal page ruler and drag a guide to the 1/8″ (0.125″) mark.**

   Because the file has a very dark background, it is difficult to see the guide that you're dragging. If you watch the vertical ruler, you can see a marker indicating the position of the cursor. When you see it at the 1/8″ mark, release the mouse button.



2. **Drag another horizontal guide to the 11.125″ mark.**

3. **Click the vertical ruler and drag a guide to 0.125″.**

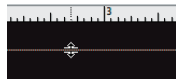
   Watch the marker on the horizontal ruler to judge the guide's position.

4. **Drag a second vertical guide to the 8.625″ mark.**

   When you drag guides onto the page, zooming in can be helpful in placing guides at precise measurements.

Note:

It might be helpful to look at the Info palette while you drag guides to a specific location.



5. **Drag vertical guides 0.375″ from the left and right edges.**

6. **Drag horizontal guides 0.625″ from the top and bottom edges.**

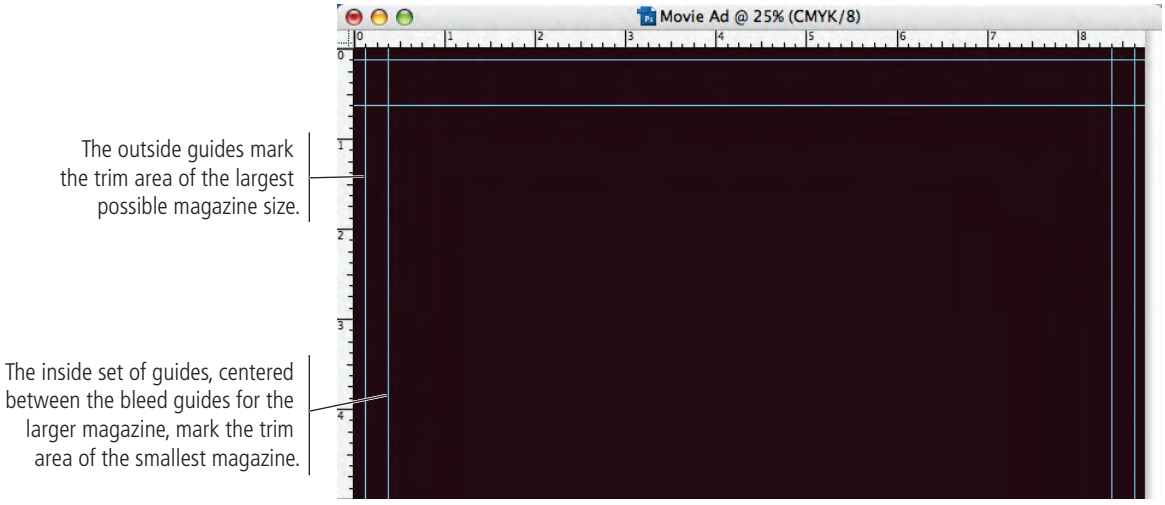
   These guides mark the trim area of the smallest magazine size (8 × 10). The smallest magazine needs to be exactly centered inside the largest magazine area. This is how we determined where to put these guides:

   11.25 – 10 = 1.25 / 2 = 0.625, so each horizontal guide is 0.625 in. from the edge.

   8.75 – 8 = 0.75 / 2 = 0.375, so each vertical guide is 0.375 in. from the edge.

Note:

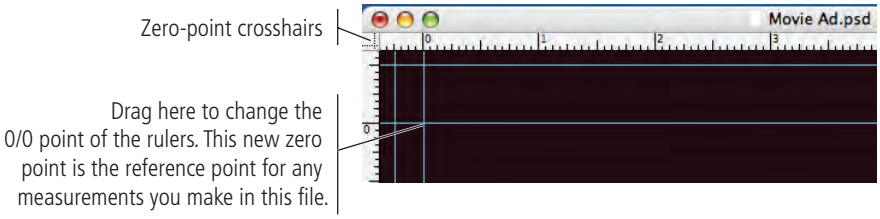
You can reposition placed guides using the Move tool. Remove individual guides by dragging them back onto the ruler.



The last step is to mark the **live area** of the smallest page size, or the area where important pieces should fit. Because there is inherent variation in the mechanical printing and trimming process, most magazines define a live area. All important design elements (especially text) should stay within this live area.

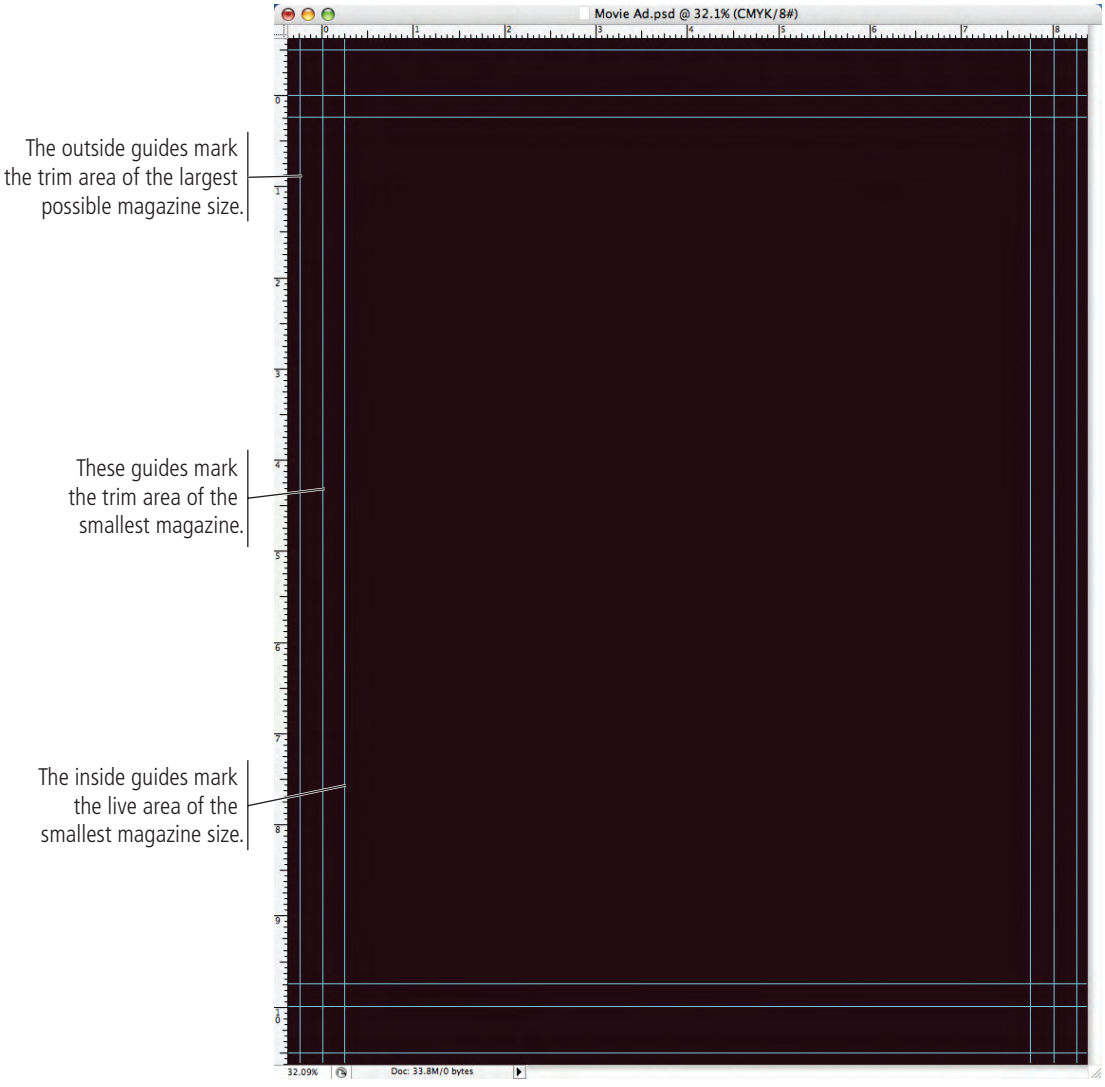
7. **In the top-left corner of the document window, click the zero-point crosshairs and drag to the top-left corner of the smaller page size.**

You can reposition the zero point to the top-left corner by double-clicking the zero-point crosshairs.



8. **Drag guides 0.25″ inside each trim guide for the smallest page size.**

These guides mark the live area of the smallest magazine. All important elements of the ad design must fit inside this space.



9. **Click the View menu and make sure a checkmark appears to the left of Lock Guides. If no checkmark is there, choose Lock Guides to toggle on that option.**

10. **Save the file and continue.**

Stage 2 Compositing Images and Artwork

Many of the projects you complete in Photoshop — including this one — will involve compositing two or more images into the same file. Technically speaking, **compositing** is the process of combining any two or more objects (images, text, illustrations, etc.) into an overall design. When we talk about compositing in Photoshop, we're typically referring to the process of combining multiple images into a single cohesive image. Image compositing might be as simple as placing two images into different areas of a background file, and then adding blurred edges or something similar; or it could be as complex as placing a person into a group photo, carefully clipping out the individual's background, and adjusting the shadows to match the lighting in the group.

The movie ad that you're building requires compositing three individual images — one that has been scanned and two digital photographs. You'll also incorporate title treatment and logo files that were created in Adobe Illustrator by other members of your creative team. The various elements that make up the ad are fairly representative of the type of work you can (and probably will) create in Photoshop as your career progresses.

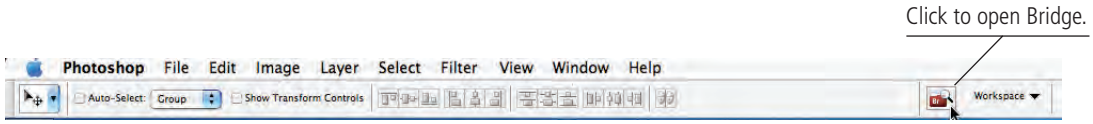
Navigate Files with Adobe Bridge

When you created the background file for this project, you learned that you were creating a raster image — Photoshop files are almost always pixel-based. (We'll talk about vectors in a later exercise.) Digital photographs and scans are also pixel-based, which is why you use Photoshop to edit and manipulate those types of files.

Compositing multiple images in Photoshop is a fairly simple process — or at least, it starts out that way — but there are a number of technical and aesthetic issues that you'll have to work through whenever you combine different images into a single design.

1. **In Photoshop, make sure Movie Ad.psd is open.**

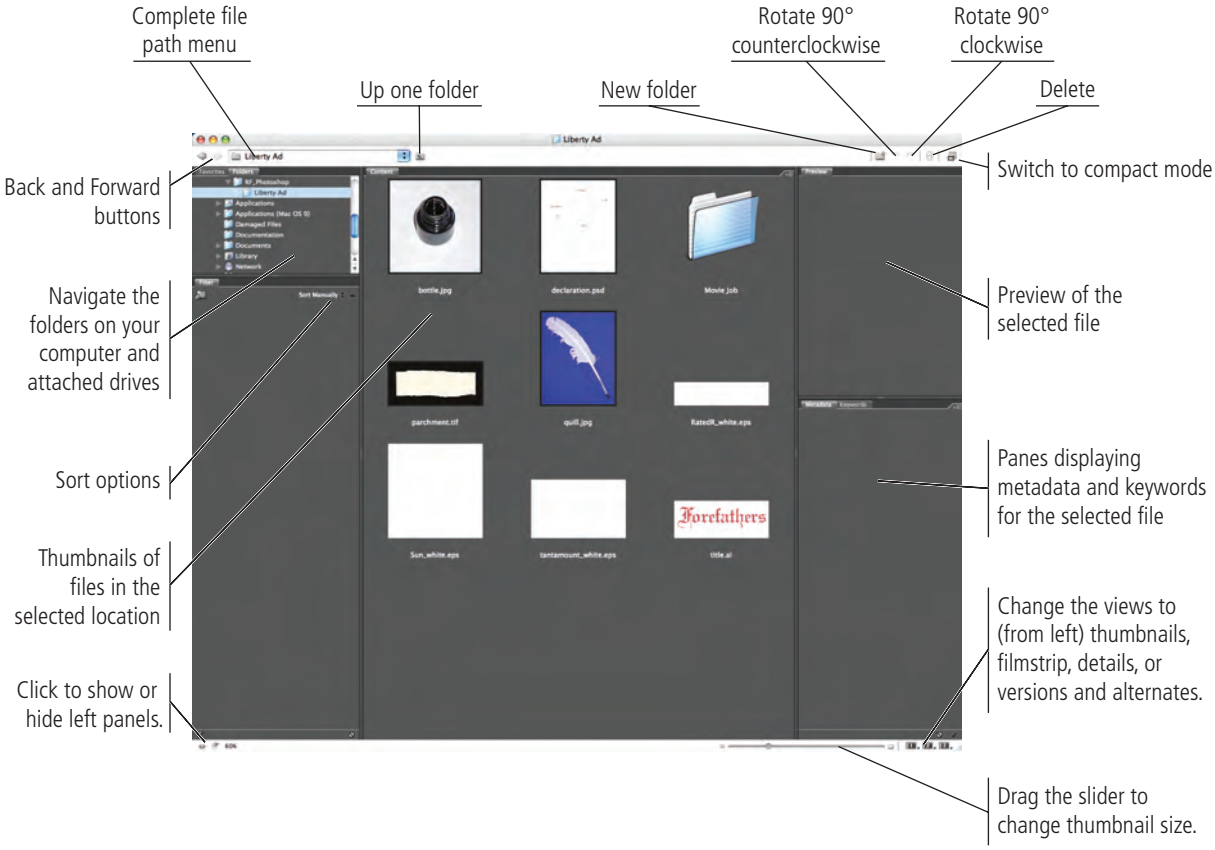
2. **Click the Go to Bridge button on the Options bar.**



3. **If you don't automatically see a navigation window in Bridge, choose File>New Window.**

   Adobe Bridge is a stand-alone application that ships and installs along with Photoshop. It is a type of asset-management tool that lets you navigate, browse, manage, and access files anywhere on your system. If you have the entire Adobe Creative Suite, Bridge can also help smooth the workflow when you're flipping from one application to another to complete a project.

At its most basic, the default Bridge interface is a navigation window. The top-left pane lets you navigate through the different folders and files on your computer and attached drives; the right pane displays thumbnails of the files in the selected folder. A preview pane shows whatever file is selected in the right pane. Other panes display any metadata and keywords that are associated with the selected file.

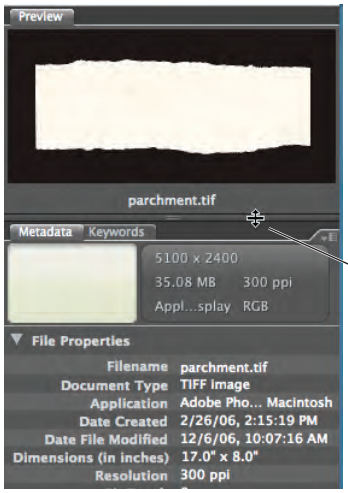


4. **In Bridge, navigate to the RF_Photoshop>Liberty Ad folder.**

5. **Click the parchment.tif thumbnail in the center pane.**

6. **Click the bar above the Metadata/Keywords pane and drag up to show the File Properties information.**

   Depending on the size of your monitor, you might need to also resize the Preview pane so you can see both the preview and the metadata.



Click here and drag up to show the metadata.

Note:

Adobe Bridge is an entire, separate application. However, this is a book about Photoshop, not Bridge. We're simply introducing you to the interface and showing you how to use Bridge to navigate and access files. If you have the time, we encourage you to read the documentation that comes along with Bridge to learn more about all of the various options.

7. **Review the file information.**

   The most important information here is the resolution and color mode. This image is a scan of an actual piece of torn parchment; it was scanned at 300 dpi (appropriate for print) in RGB color mode (most scans are RGB).

8. **Double-click the parchment.tif thumbnail to open it into Photoshop.**

   In this case, Bridge is an alternative to the File>Open method for opening files in Photoshop; we prefer the Bridge method because you can get more information here than you can get in the Open dialog box.

Note:

When the parchment image opens in Photoshop, the Bridge window stays open in the background.

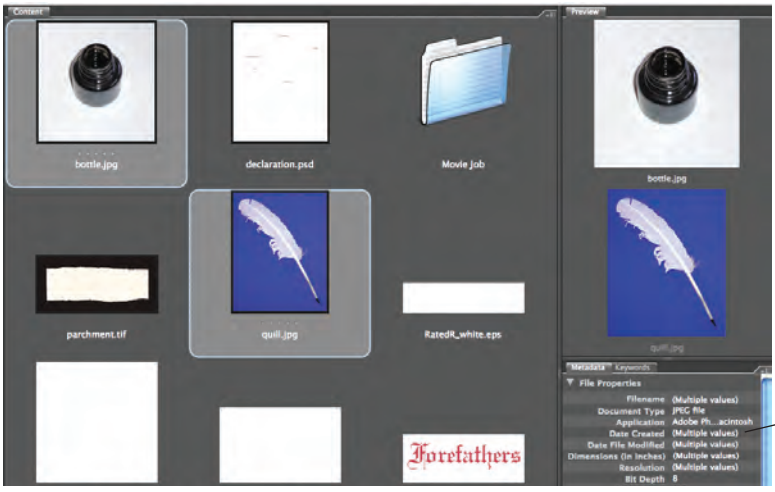
9. **Click the Bridge window to re-activate that application.**

   If you can't see the Bridge window behind Photoshop, use the Dock (Macintosh) or the Task Bar (Windows) to re-activate the Bridge application.

10. **Click the bottle.jpg thumbnail to select it.**

11. **Press Command/Control and click the quill.jpg thumbnail to select it too.**

    You can open multiple images by simply selecting what you want and double-clicking. If you press Shift, you can select multiple contiguous (adjacent) files. Pressing Command/Control lets you select multiple non-contiguous files.

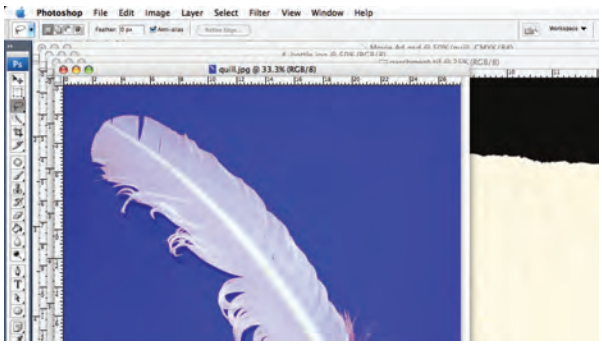


Metadata shows "(Multiple values)" for any information that differs between the selected files.

12. **Double-click either of the selected files to open both in Photoshop.**

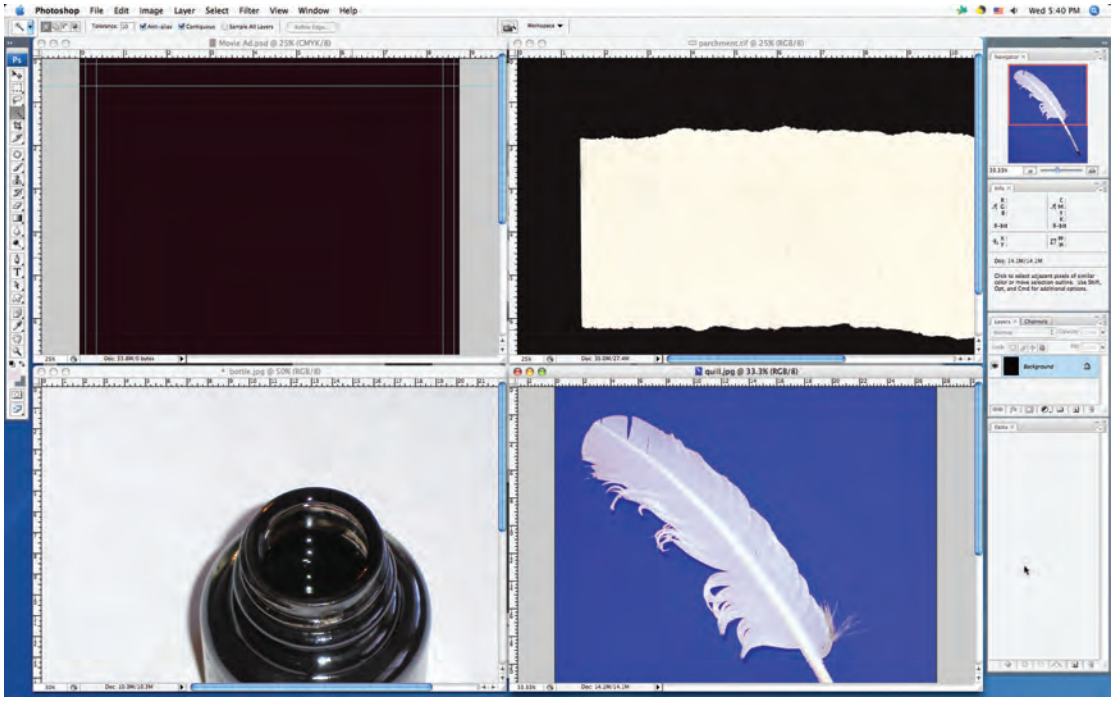
    You should now have four images open in Photoshop — the background file that you created, the parchment scan, and the bottle and quill photographs.

    By default, Photoshop opens multiple images in cascaded windows; the title bars step down and to the right with each successive window. This arrangement isn't particularly useful if you want to work with more than one image at the same time.



13. **Choose Window>Arrange>Tile Horizontally.**

Both Tile options (horizontally or vertically) let you view all open windows at once. Depending on your available screen space, your windows might be smaller or larger than what you see in our screen shot. You probably can't see the entire image for any of the open files, which is not a problem for now.



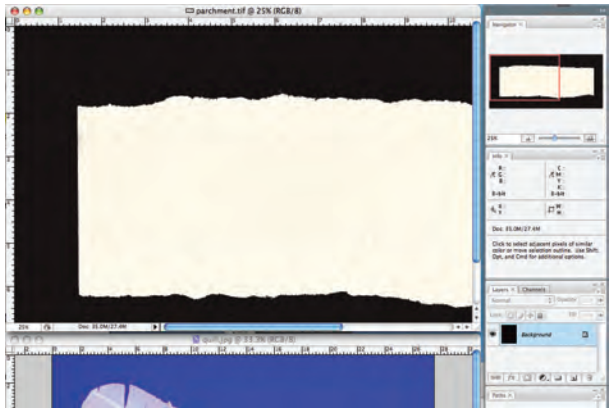
14. **Continue to the next exercise.**

Composite Multiple Images

Now that you have the four files open, you have to get the three images into your background file. This is a fairly simple process of selecting what you want to import, and then copying it into the background.

1. **With all four images open and tiled in Photoshop, click the parchment window to activate that file.**

Like the file you created, this file has only one layer — Background. Every scan and digital photograph will have this same characteristic.



2. **Without selecting anything, click the Move tool at the very top of the Tools palette.**

3. Click in the parchment file window and drag to the Movie Ad.psd file window.

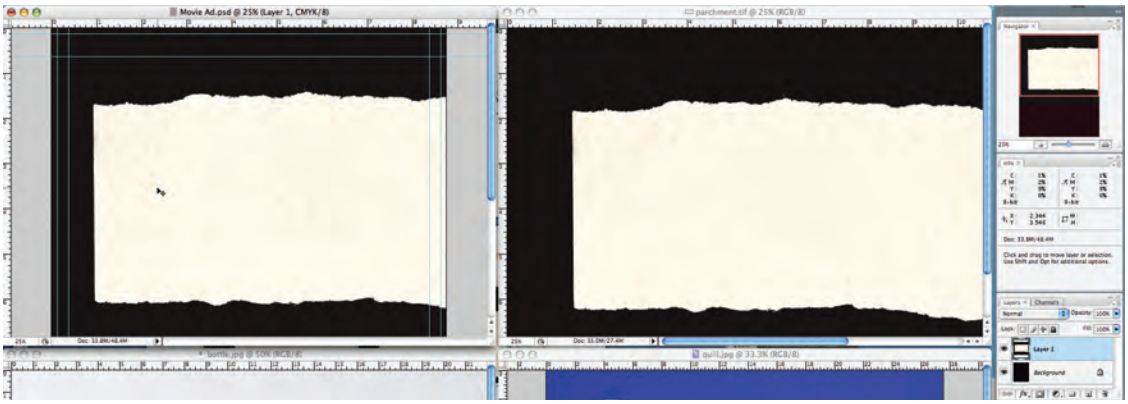
Since you didn't make a specific selection in the parchment file, you can simply drag the entire selected layer (the only one in the file) into another file.

If you remember from the previous exercise, the parchment image was 300 dpi in RGB color mode. Photoshop cannot maintain multiple color modes in a single file. The RGB parchment image is automatically converted to the CMYK color mode you're using in the background file. (If you are using color management, you'll see a warning about this conversion, and later, you will learn how to control the process. For now, you should just know that the conversion happened.)

The Movie Ad.psd file now has two layers: Background (the one you created) and Layer 1 (the parchment image you just copied). When you add a new image into a Photoshop file, it is automatically placed on a new layer with the default "Layer n" name ("n" is a sequential number).

Note:

You might notice that the parchment image doesn't really fit into the background. You'll fix this problem later.



4. Choose the Rectangular Marquee tool in the Tools palette.

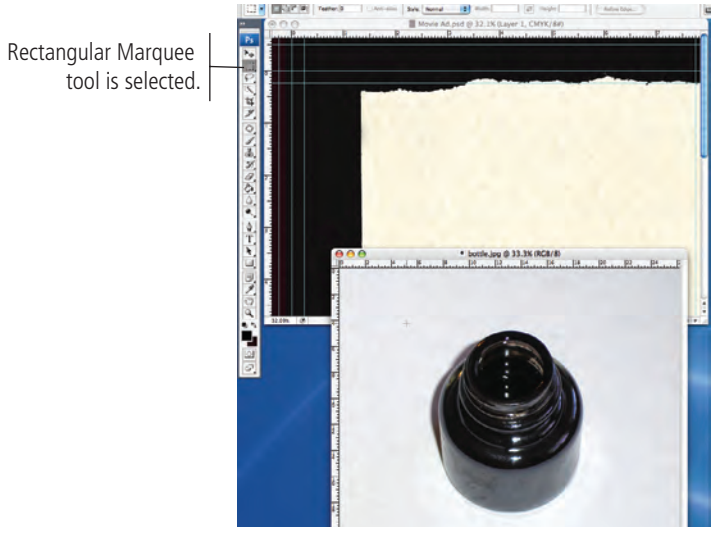
In addition to dragging entire files into other files, you can also composite specific areas of a file using one of the selection tools.

5. Click the bottle window to activate that file.

If you can't see the entire bottle, choose View>Zoom Out until you can see the entire bottle. Changing the zoom percentage will also change the size and position of the document window. That's fine; the important point is that you should be able to see both the bottle window and the background window.

Note:

The marquee tools are used to create simple-shape selections (rectangular, elliptical, single row of pixels, or a single column of pixels).



6. **Using the Rectangular Marquee tool, click in the bottle window and drag around the entire shape of the bottle.**

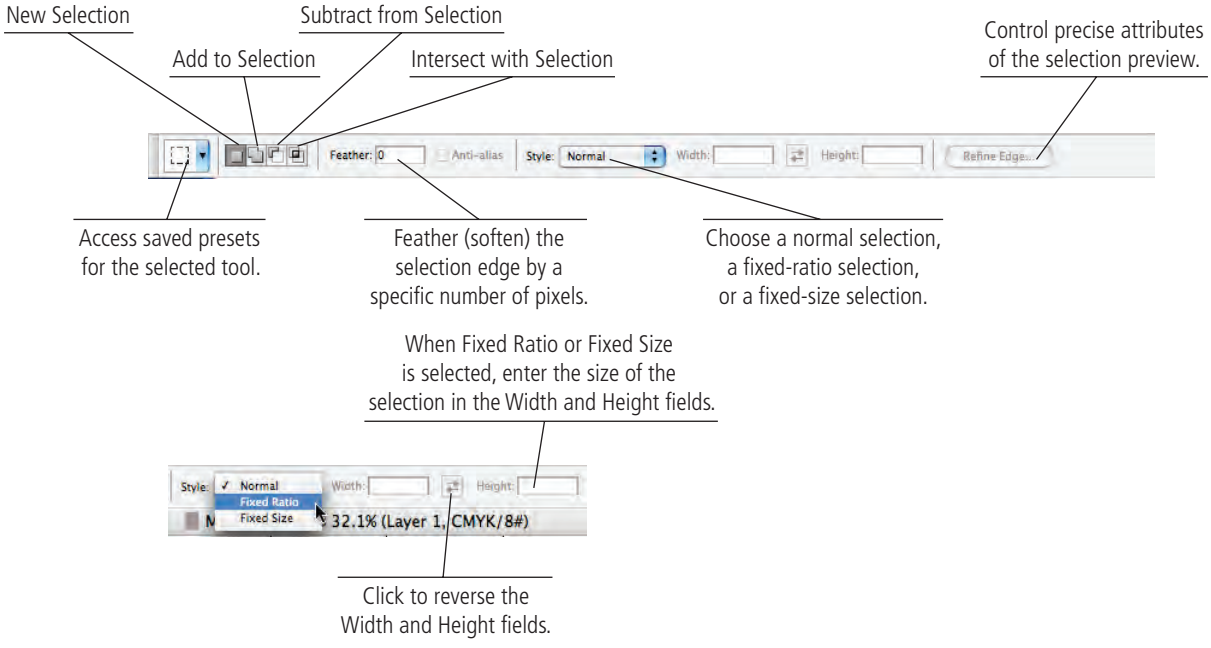
By default, clicking and dragging with the selection tool creates a new selection. You can use the buttons on the left edge of the Options bar to add to the current selection, subtract from the current selection, or intersect with the current selection.

Key Command:

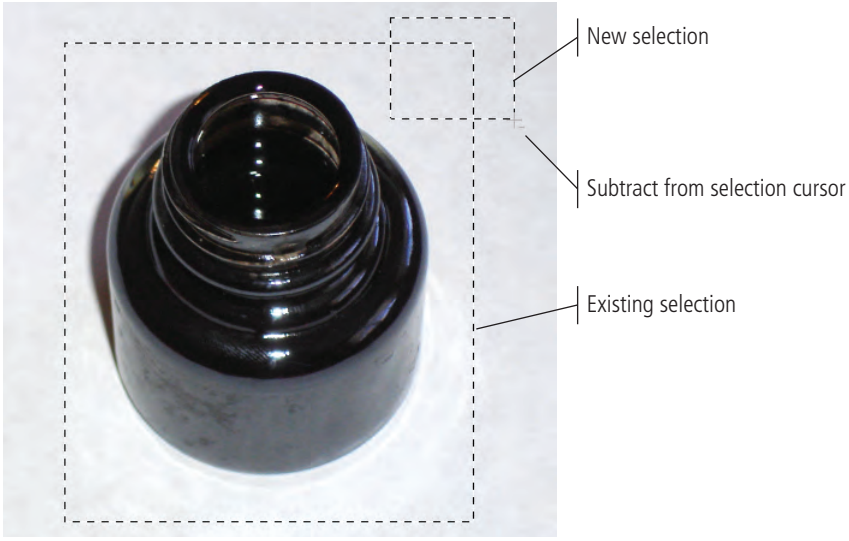
Press Shift while dragging a new marquee to constrain the selection to a perfect square (using the Rectangular Marquee tool) or circle (using the Elliptical Marquee tool).

7. **Click the Subtract from Selection option on the Options bar.**

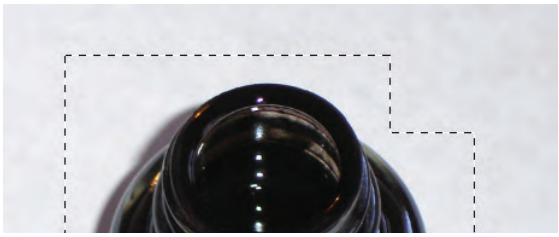
When one of the marquee tools is selected, the Options bar gives you better control over what you are selecting.



8. **Click and drag a new marquee that overlaps the area of the first selection, but doesn't include any part of the bottle.**



When you release the mouse button, the selection is the area of the first marquee, minus the area of the second marquee. (This isn't particularly necessary in this case, but you should know how to add to and subtract from selections.)



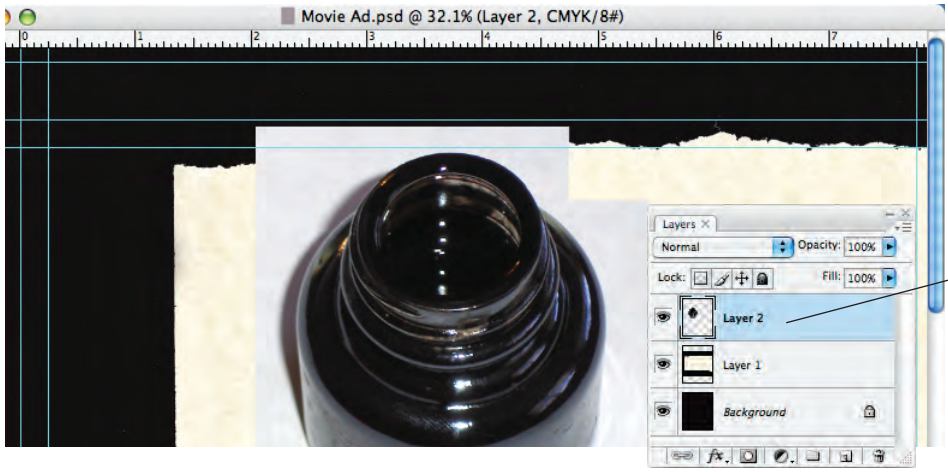
Key Command:

You can also press Shift to add to the current selection or press Option/Alt to subtract from the current selection.

9. **Choose Edit>Copy.**

10. **Click the Movie Ad.psd file window to activate that file and choose Edit>Paste.**

The standard Cut and Paste options are available in Photoshop, just as they are in most applications. Whatever you have selected will be copied to the clipboard, and whatever is in the clipboard will be pasted.



As with the dragged parchment, the pasted bottle image is on its own new layer.

11. **Click the quill window to activate that file, and zoom out so you can see the entire image.**

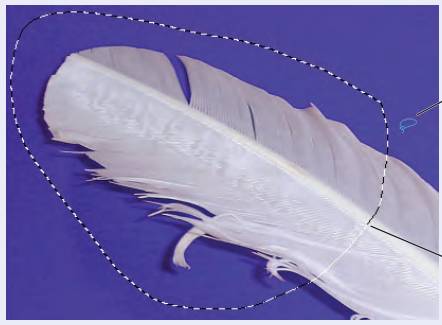
The Lasso Tools

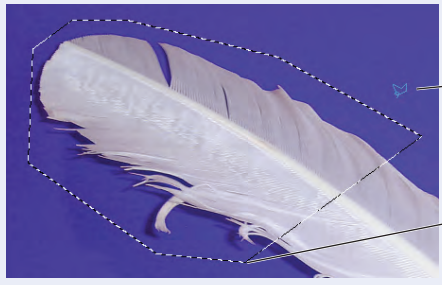
The basic **Lasso tool** works like a pencil, following the path where you drag the mouse.

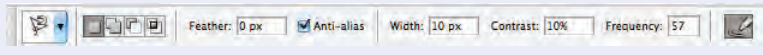
The **Polygonal Lasso tool** creates selections with straight lines, anchoring a line each time you click the mouse. To close the selection area, you must click the first point in the selection.

The **Magnetic Lasso tool** snaps to edges of high contrast in the image.

Using the Magnetic Lasso tool, you can use the Options bar to control the way Photoshop detects the edges of an image. **Width** is the distance away from the edge that you can be and still detect the edge; if you set this value higher, you can move the cursor farther from the edge (such as 20 pixels away). **Contrast** is how different the foreground can be from the background and still be detected; if there is a very sharp distinction between the foreground and the background (as in the case of the white quill against the blue background), you can set this value higher. **Frequency** is the number of points that will be created to make the selection; setting this number higher creates finer selections while setting it lower is better for smoother edges.







12. Select the Lasso tool in the Tools palette.

The lasso tools allow you to make irregular selections — in other words, selections that aren't just rectangular or elliptical.

13. Click and drag a shape around the entire quill.

When you release the mouse button, the end point automatically connects to the beginning point of the selection.

14. **Copy the selection and paste it into the Movie Ad.psd file, just as you did for the bottle image.**

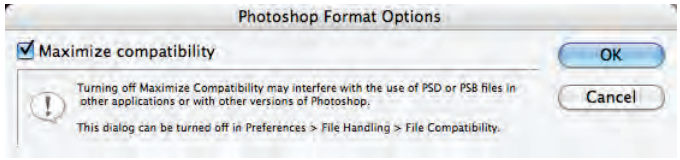
15. **Close the parchment, bottle, and quill files.**

16. **With the Movie Ad.psd file selected, press the F key to view the file in Maximized Screen mode.**

    You now have a file with four layers, but they don't make any sense yet since the composited images just sit on top of each other; you'll fix this problem as you complete the rest of the project. Before you do, however, you have several other elements to bring into this file.

17. **Choose File>Save.**

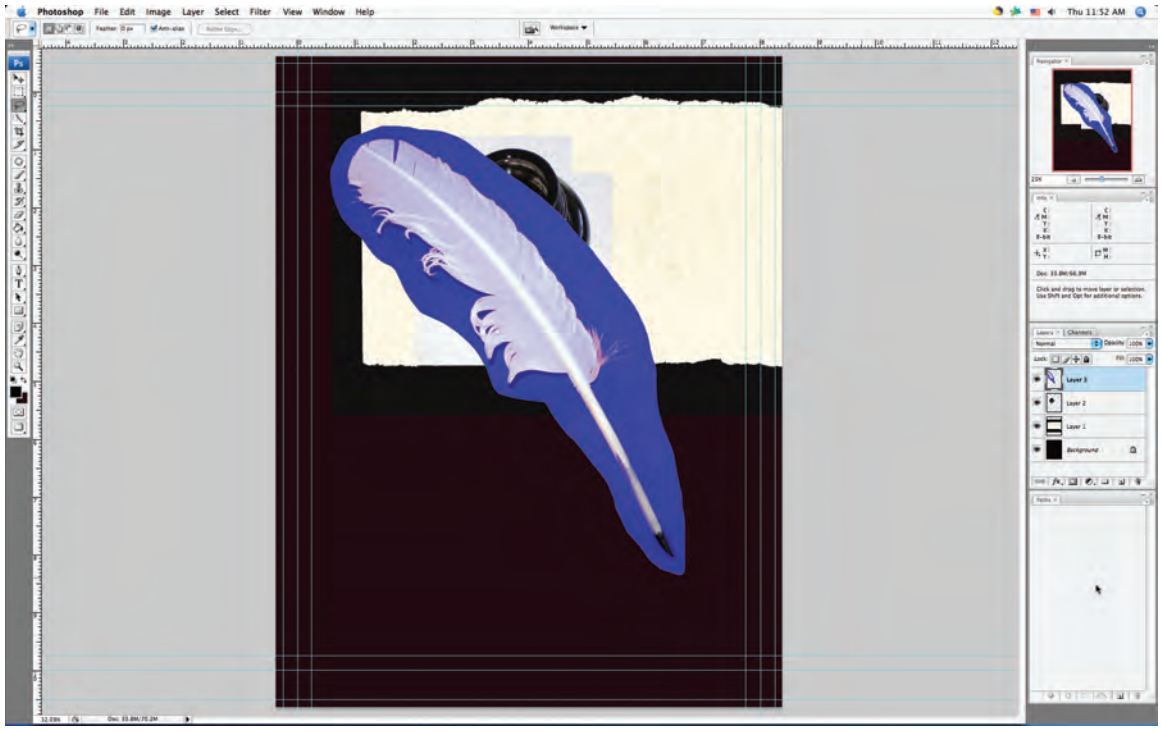
    Because this is the first time you've saved the file after adding new layers, you should see the Photoshop Format Options dialog box, with the Maximize Compatibility check box already activated. It's a good idea to leave this check box always selected so files will be compatible with other CS3 applications and with other versions of Photoshop.



Note:

If you don't see this dialog box, check the File Handling pane of the Preferences dialog box.

18. **Make sure the check box is selected and click OK. Continue to the next exercise.**



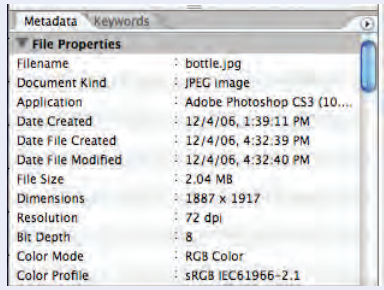
Resizing Raster & Vector Images (Effective Resolution)

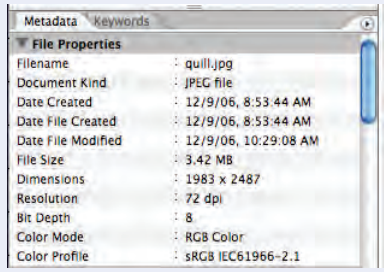
If you're observant, you might have noticed (either in Bridge or from the rulers) that the bottle and quill images were physically very large — both over 26" wide — but they are only 72 dpi.

When you copied these images into the Movie Ad file, however, they were nowhere near 26 inches wide. This is because the copied images adopt the resolution of the file that you paste them into. On the surface this seems simple, but you should understand what is actually happening behind the scenes so you don't accidentally lose image quality.

In the file metadata, you can see that the file dimensions of bottle.jpg are 1887 × 1917 at 72 dpi. The dimensions shown here are measured in pixels; in other words, the bottle image has 1887 pixels in a horizontal row. If you divide 1887 pixels by 72 pixels/inch, you end up with the size in inches: the image is approximately 26.21" wide.

When the image is copied into a 300 dpi file, the bottle has the same 1887 pixels across. But when those 1887 pixels are divided by 300 dpi, the pasted image is about 6.3" wide. This is why the bottle that you pasted into the Movie Ad file was so much smaller than it appeared in its own file window — the same number of pixels take up a much smaller space when more pixels fit into an inch.





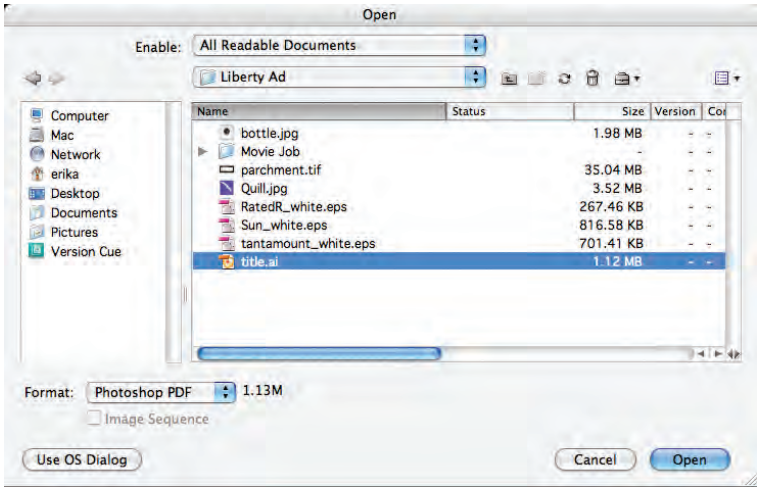
Rasterize a Vector File

As you already know, vector graphics are based on a series of mathematical descriptions that tell the computer processor where to draw lines. Logos and title treatments — such as the ones you'll use in this project — are commonly created as vector graphics. Although Photoshop is typically a "paint" (pixel-based) application, you can also open and work with vector graphics created in illustration programs like Adobe Illustrator.

1. **With Movie Ad.psd open, choose File>Open and navigate to the RF_Photoshop>Liberty Ad folder.**

2. **Select the file title.ai in the list of files.**

   This is an Adobe Illustrator file of the movie title text treatment. The Format menu defaults to Photoshop PDF because Illustrator uses PDF as its underlying file structure.

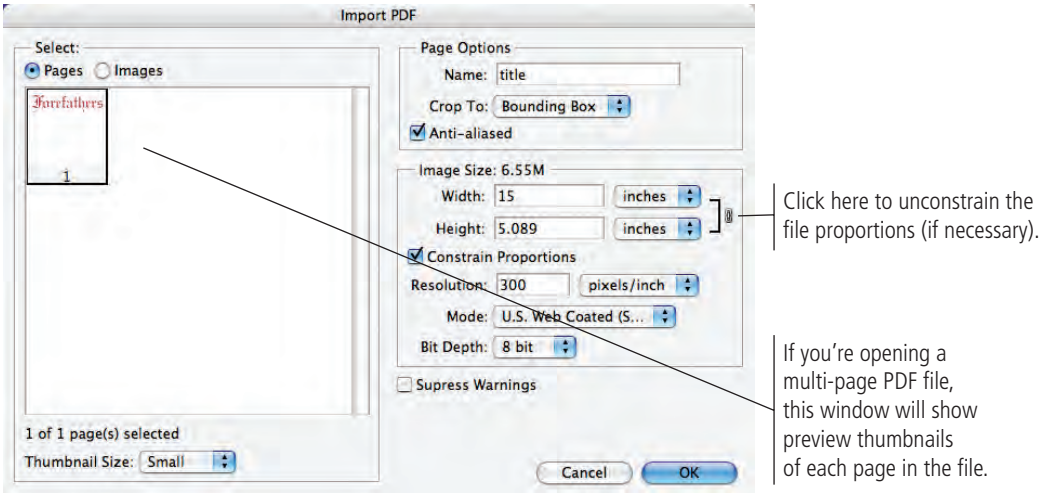


Note:

If you double-clicked this file in Adobe Bridge, it would default to open in Adobe Illustrator (its native application) or the application in which it was created. You could, however, Control/right-click the thumbnail in Bridge and choose Open With>Adobe Photoshop CS3 from the contextual menu.

3. Click Open.

When you open a vector file (Illustrator, EPS, or PDF) in Photoshop, it will be **rasterized** (converted to a raster graphic). The Import PDF dialog box lets you determine exactly how to rasterize the file. The default values in this box are defined by the contents of the file that you're opening.



The Crop To options determine the size of the file you import. Depending on the type of file you're importing and how it was created, some of these values might be the same as others:

- **Bounding Box** is the outermost edges of the artwork in the file.
- **Media Box** is the size of the paper as defined in the file.
- **Crop Box** is the size of the page including printer's marks.
- **Bleed Box** is the trim size plus any defined bleed allowance.
- **Trim Box** is the trim size as defined in the file.
- **Art Box** is the area of the page as defined in the file.

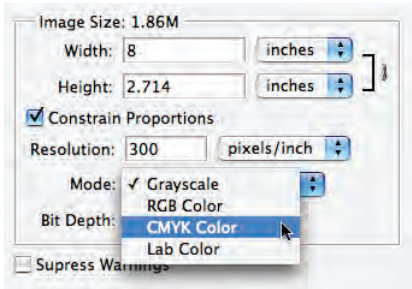
The Image Size fields default to the settings of the bounding box you select. You can change the size, resolution, color mode, and bit depth by entering new values.

4. Highlight the Width field and type "8".

You know the page size of the smallest ad you're building is 8 inches wide, so you can import this file at a size small enough to fit into that space.

Because the Constrain Proportions option is checked by default, the height changes proportionally to match the new width.

5. Make sure the Resolution field is set to 300 pixels/inch, and choose CMYK Color from the Mode menu.



6. **Click OK.**

   The title treatment file opens in Photoshop. The checked area behind the text indicates that the background is transparent. If you look at the Layers palette, you'll see that Layer 1 isn't locked; because it's transparent, it is not considered a background layer.

7. **Choose Window>Arrange>Tile Vertically to view the two open files side by side.**

8. **Using the Move tool, click in the title text window and drag the layer into the main file (the one with the other composited images).**

9. **Close the title text file without saving and return to Maximized Screen mode (F).**

   Because the title text file has a transparent background, the other layers are visible behind the text in the background file.

10. **Save the open file and continue to the next exercise.**

Place Vector Graphics

Vector graphics offer several advantages over raster images, including sharper edges and free scaling without deteriorating image quality. To take advantage of these benefits, you might want to maintain vector files as vector objects instead of rasterizing them. Photoshop CS3 gives you the option to do exactly that — maintaining vector information and raster information in the same file.

1. **With Movie Ad.psd open, choose File>Place.**

   The Place dialog box is virtually the same as the Open dialog box. You can use this function any time you want to place one entire file directly into another without dragging or copying and pasting (as you did in the previous exercises).

2. **Navigate to and select the RatedR_white.eps file and click Place.**

   In the background file, the placed file appears with bounding box handles and crossed diagonal lines. The placement isn't final until you press Return/Enter; if you press Escape, the file will not be placed.

3. **Press Return/Enter to commit (finalize) the placement.**

   After you finalize the placement, the bounding box handles and crossed diagonal lines disappear. In the Layers palette, the placed file has its own layer (just as the copied layers do); this layer, however, is automatically named, based on the name of the file that you placed.

   The layer's thumbnail indicates that this layer is a **Smart Object** — it is linked to the file that you placed. Because you are essentially placing a link to the vector file, it isn't rasterized into the Photoshop file; the vector information is maintained.

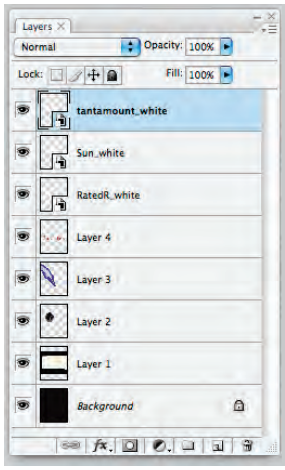
   Double-clicking the thumbnail would open the placed file in its native application — in this case, it would open the EPS file in Adobe Illustrator. If you edit the native file and save your changes (with the same file name in the same location), those changes would automatically update and be reflected in the Photoshop file.

Note:

You can place either raster or vector files as Smart Objects. If you place a raster file as a Smart Object, double-clicking the thumbnail will open the placed raster file in another Photoshop window.

4. **Repeat Steps 1–3 to place the two remaining logo files (Sun_white.eps and tantamount_white.eps) as Smart Objects into the movie ad.**

When you place Smart Objects, they are automatically placed into the center of the file. So right now, you have a fairly incomprehensible mess of four raster images and three vector objects all piled on top of each other. You'll start to clean this up in the next lesson.



Note:

If you have the entire Adobe Creative Suite, Smart Objects provide extremely tight integration between Adobe Photoshop and Adobe Illustrator. You can take advantage of the sophisticated vector-editing features in Adobe Illustrator, and then place those files into Photoshop without losing the ability to edit the vector information.

5. **Save the file and continue to the next stage of the project.**

Stage 3 Creating Silhouettes

At this stage of the project, you have a single file that contains all of the necessary graphic elements, but they are stacked on top of each other, some don't fit into the page area, and some have border edges that don't fit into the overall design (the blue background around the quill, for example). In this stage of the project, you start fixing these problems.

Virtually any project you build in Photoshop involves making some kind of selection. Making selections is so important, in fact, that no less then nine tools are dedicated to this task. In addition, there is a whole Select menu and a few other scattered options for making and refining selections.

In an earlier lesson you learned how to use the marquee and lasso tools to draw selections. In the next series of exercises, you use several other selection methods to isolate the graphics from their backgrounds (called **silhouetting**).

Transform a Layer

Before you start silhouetting the different elements of the ad, it's a good idea to make them fit into the page area. Photoshop makes scaling, rotating, and other transformations fairly easy to implement.

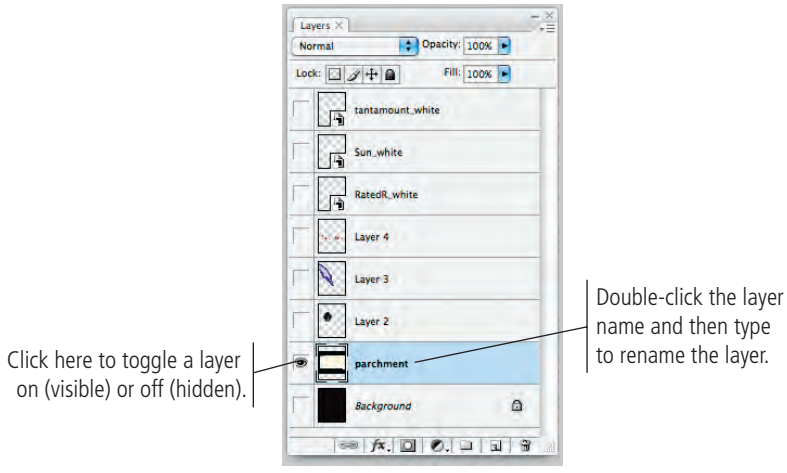
1. **With the file Movie Ad.psd open, look at the Layers palette.**

2. **Click the eye icons to hide all but Layer 1.**

   Toggling layer visibility is an easy way to see only what you want to see at any given stage in the project.

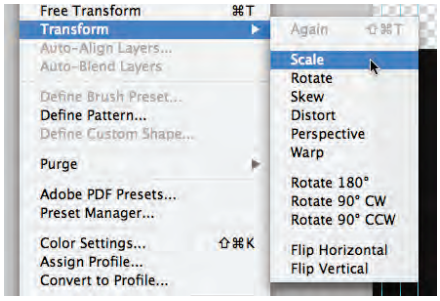
3. **Double-click the Layer 1 layer name and type "parchment".**

   You can rename any layer by simply double-clicking the name and typing. It's always a good idea to name layers because it makes it easier to manage the file — especially when you work with files that include dozens of layers. (Even with only four unnamed layers in this file, it would be tedious to have to toggle each one on to find the one you want.)

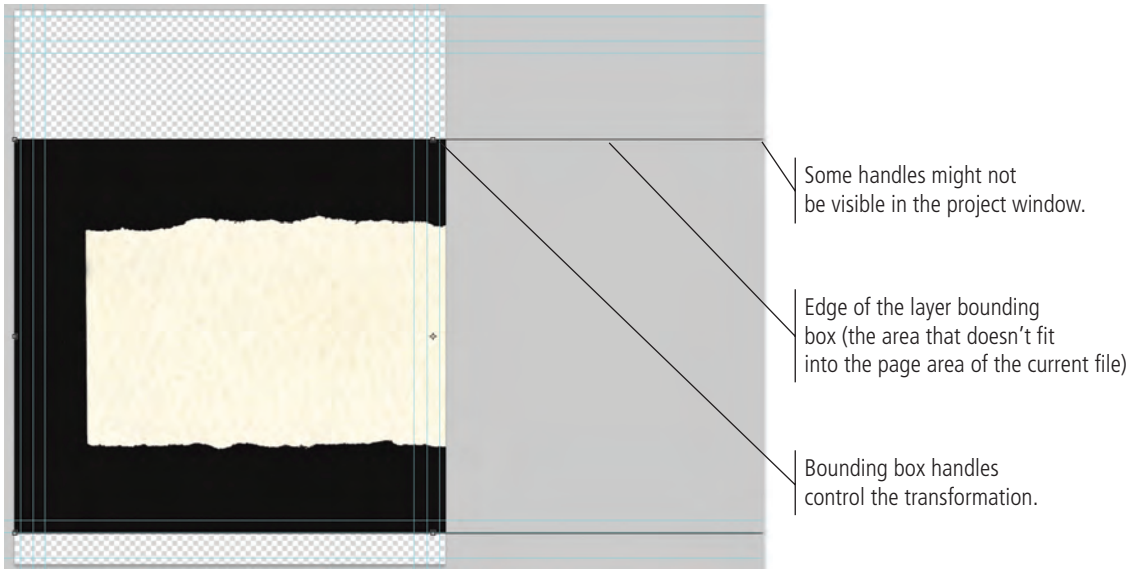


4. Choose Edit>Transform>Scale.

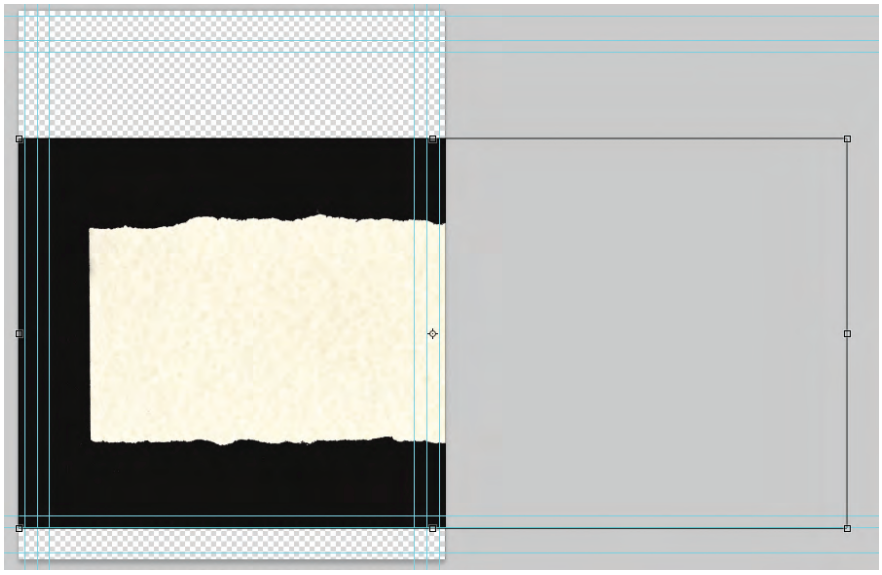
You can use this menu to apply any specific transformation to a layer or selection.



When you use the transform options, bounding box handles surround the selection; although the parchment doesn't fit inside the area of your file, you can still see the edges outside the page area. Since the parchment file is so much wider than the background file you created, some of the handles might not be visible.

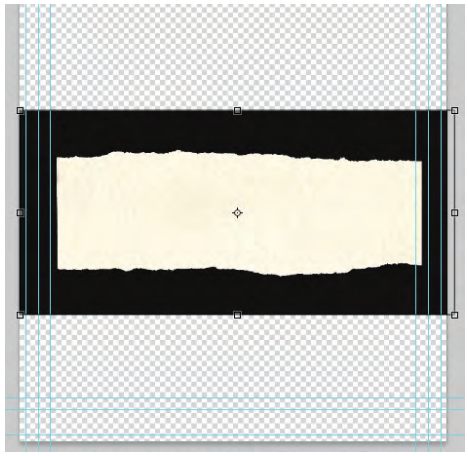


5. Choose View>Zoom Out until you can see all eight bounding box handles.



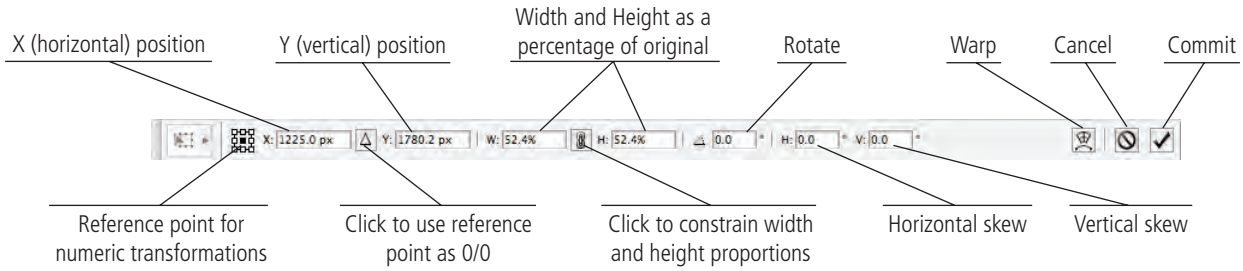
6. **Press Shift, click the bottom-right handle, and then drag up and to the left until the right edge of the bounding box is just past the right edge of the file.**

The image dynamically changes as you scale the layer. Pressing Shift while you drag a handle constrains the image proportions as you resize it. When you release the mouse button, the handles remain in place until you finalize ("commit") the transformation.

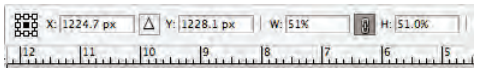


7. **Look at the Options bar.**

While you're manually transforming a layer or selection, the Options bar shows the specifics. You can also type into these fields to apply specific numeric transformations.



8. **Type "51" in the Options bar Width field, and then click the Constrain button.**

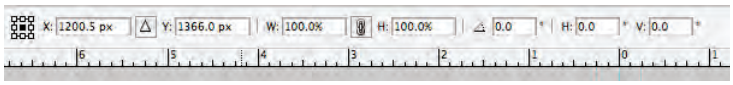


9. **Click the Commit button on the Options bar or press Return/Enter to finalize the transformation.**

10. **Choose the Move tool and drag the selected layer until it is approximately centered in the file area.**

11. **Choose Edit>Transform>Scale again and look at the Options bar.**

Once you commit the transformation, it is final. Looking at the Options bar now, you can see that it shows the layer at 100% instead of the 51% from Step 8.



12. **Click the Cancel button in the Options bar or press Escape.**

13. **Save the file and continue to the next exercise.**

Note:

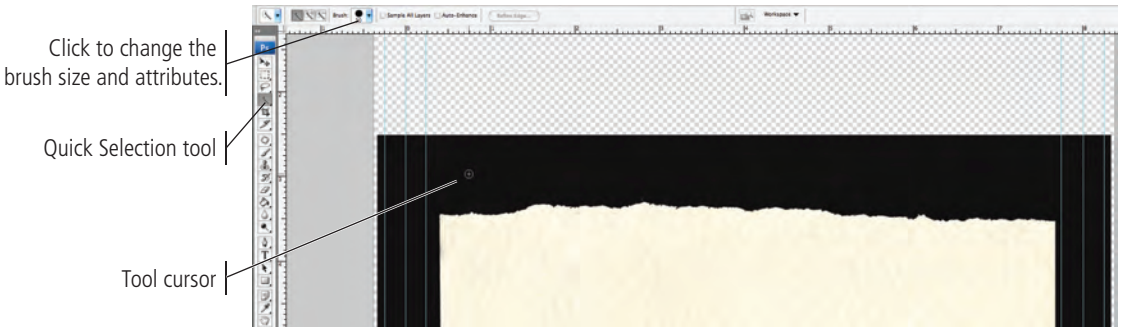
The Options bar includes a "hidden" feature called scrubbing. If you place your cursor over a field name, it turns into a pointing hand with left- and right-facing arrows. While you see this cursor, you can click and drag across the Options bar to increase (drag right) or decrease (drag left) the value in the selected field.

Make and Refine a Quick Selection

Rather than drawing a selection area, you can make selections based on the color in an image. This is especially useful when you want to select large areas of solid color, or in photos with significant contrast between the foreground and the background.

1. **With Movie Ad.psd open, choose the Quick Selection tool (which might be nested under the Magic Wand tool) in the Tools palette.**

   Similar to the other selection tools, the Quick Selection tool can create a new selection, add to the existing selection, or subtract from the existing selection (using the three buttons on the left side of the Options bar).



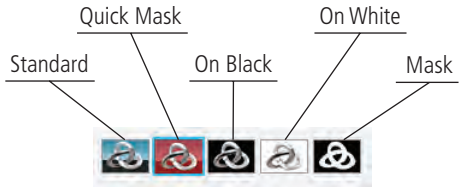
2. **Click at the left edge of the parchment and drag to the right edge of the parchment.**

   The Quick Selection tool essentially lets you paint a selection. As you drag, the selection expands and automatically finds edges in the image. Because the varying shades in the parchment aren't significantly different, the resulting selection should closely — but not exactly — match the parchment edges.

> ***Note:***
>
> *If you stop dragging and then click in a nearby area, the selection will grow to include the new area.*

3. **Click the Refine Edge button on the Options bar.**

   This dialog box lets you fine-tune your selection and preview it in a number of different modes. When the Preview check box is selected, you can preview the selection in one of five different modes.



- **Standard** shows the basic selection (including the marching ants).
- **Quick Mask** shows the selection using the current quick mask settings.
- **On Black** shows the selection in color against a black background.
- **On White** shows the selection in color against a white background.
- **Mask** shows the selection in white and the unselected areas in black.

> ***Note:***
>
> *When working in a dialog box such as Refine Edge, pressing Option/Alt changes the Cancel button to Reset. If you press Option/Alt and click Reset, you restore the default values in the dialog box without closing the dialog box.*

4. **Click the On White button.**

   This preview lets you easily see the black edges that remain around the parchment.

5. **Click the Zoom tool in the Refine Edge dialog box, and then click in the image window (where the parchment is).**

   It might help to work with a closer view when you're refining edges. We're working at 100% magnification in these screen shots.

6. **Experiment with the five adjustment sliders until you are satisfied with the selection edge.**

   - **Radius** is the number of pixels around the edge that are affected. Higher radius values (up to 250 pixels) improve the edge in areas of fine detail.
   - **Contrast** is the degree of variation allowed in the selection edge. Higher Contrast values (up to 100%) mean sharper selection edges.
   - **Smooth** reduces the number of points that make up your selection and, as the name suggests, makes a smoother edge. You can set smoothness from 0 (very detailed selection) to 100 (very smooth selection).
   - **Feather** softens the selection edge, resulting in a transition that does not have a hard edge (in other words, blends into the background). You can feather the selection up to 250 pixels.
   - **Contract/Expand** shrinks or grows the selection edge by the defined percentage (from –100% to 100%).

7. **Click OK to accept your refined selection.**

8. **Fit the view back in the window (View>Fit on Screen).**

   The black border is still there; don't be fooled by the preview you saw while the Refine Edge dialog box was open. Now you have to remove that black edge.

9. **Choose Select>Inverse.**

This basically reverses the selection, so now everything except the parchment is selected.

10. **Press Delete/Backspace to erase anything within the current selection edges.**

11. **Save the file and continue to the next exercise.**

Draw a Vector Path

In some cases, the image content makes it difficult (or at least tedious) to select by color. The bottle image in this ad, for example, has only black colors — the bottle is black, the shadow is a medium black, and the background is a mottled light gray. Selecting by color will almost certainly result in some of the selection intruding into the bottle shape, and some of the background/shadow area being omitted from the selection.

The good news is that Photoshop has other ways for making selections, including several that are designed for selecting areas with hard edges — like this bottle.

Note:

Photoshop clipping paths can be used to make selections in Photoshop; but if you save an image with a clipping path, the path can also be accessed in layout applications like Adobe InDesign.

Understanding Anchor Points and Handles

An anchor point marks the end of a line segment, and the point handles determine the shape of that segment. That's the basic definition of a vector, but there is a bit more to it than that.

Figure 1. Each segment in a path has two anchoring end points and two associated handles. We first clicked to create Point A and dragged (without releasing the mouse button) to create Handle A1. We then clicked and dragged to create Point B and Handle B1; Handle B2 is automatically created as a reflection of B1 (Point B is a **symmetrical point**).

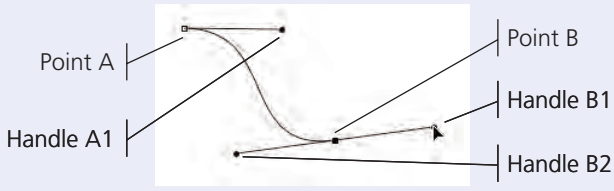


Figure 2. This image shows the result of dragging Handle B1 to the left instead of to the right. Notice the difference in the curve here, compared to the curve above. By dragging the handle, the segment arcs away from the direction of the handle.

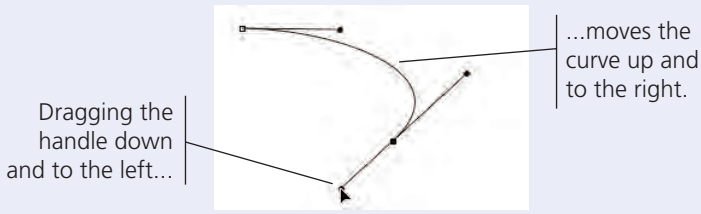


Figure 3. It's important to understand that a segment is connected to two handles. Dragging the handle to the right pulls out the arc of the connected segment. You could change the shape of Segment A by dragging either Handle A1 or A2.

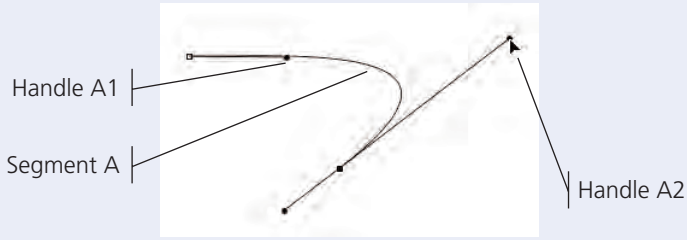


Figure 4. Clicking and dragging a point creates a symmetrical point by default; both handles start out at equal length, directly opposite one another. Dragging one handle changes the position of the other handle of that point; the two handles remain directly opposite. (Dragging Handle B also moves Handle A, which affects the shape of Segment A.) You can, however, change the length of one handle without affecting the length of the other handle.

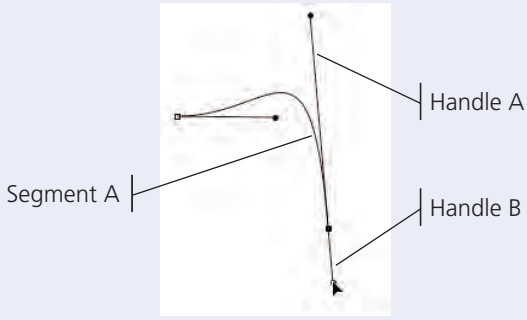


Figure 5. You can create corner points by simply clicking with the Pen tool instead of clicking and dragging. Corner points do not have their own handles; the connected segments are controlled by the handles of the other associated points.

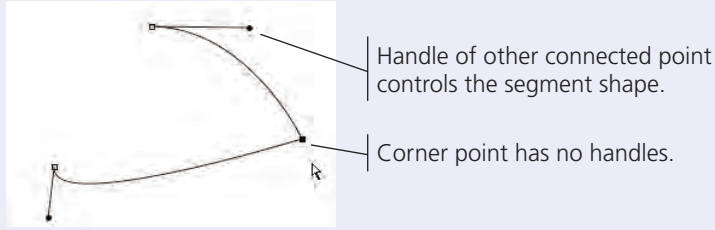
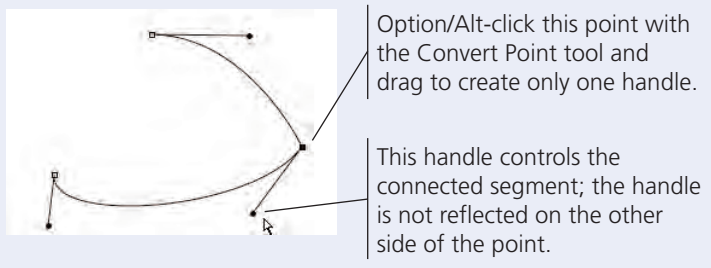


Figure 6. You can convert a smooth point into a corner point by clicking the point with the Convert Point tool [ ] (nested under the Pen tool). You can also add a handle to only one side of an anchor point by Option/Alt clicking a point with the Convert Point tool and dragging.



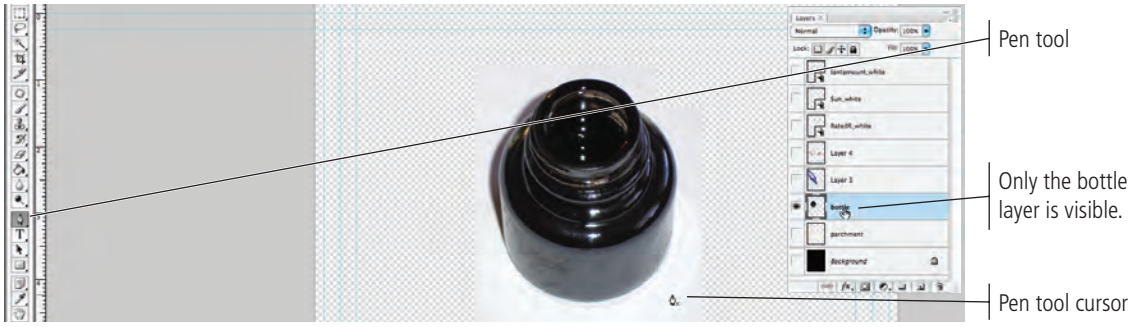
1. **In the file Movie Ad.psd, hide the parchment layer and show Layer 2.**

2. **Choose Select>Deselect to make sure any selection marquees from previous exercises are turned off.**

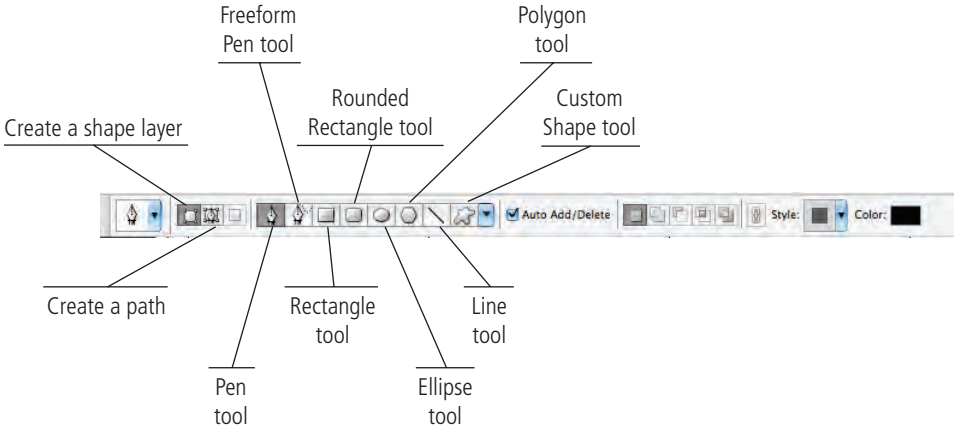
3. **Double-click the Layer 2 name and rename it "bottle".**

4. **Select the Pen tool in the Tools palette.**

The Pen tool can be used to create shape layers or paths. **Shape layers** are vector-based, which means they have mathematically defined edges and can be filled with colors or pixel-based images. Paths are also vector-based, but do not create their own layers and cannot be directly filled; instead, paths (or clipping paths, to use their full name) are most commonly used to isolate certain portions of an image.

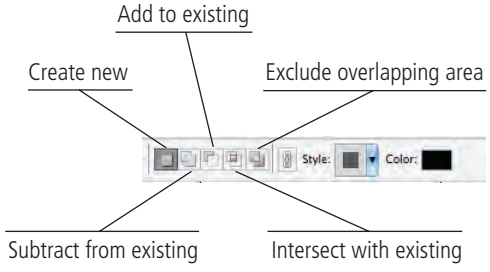


You can use the Options bar to determine what type of path you want to create. The Pen tool defaults to create a shape layer. Regardless of which option is selected, you can select any of the vector drawing tools from the group of eight buttons; you see the same buttons when you select one of the Pen or Shape tools directly from the Tools palette.



The Auto Add/Delete option, active by default, lets you add or remove points on an active path without manually switching to the Add Anchor Point or Delete Anchor Point tool (nested under the Pen tool).

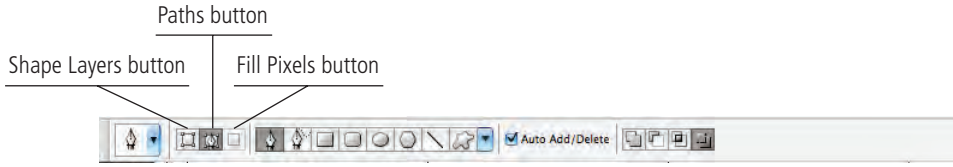
The next set of options is similar to the options available for selection tools. (The New option is available for shape layers but not paths; new paths are created using the Paths palette.)



Note:

The final options for the Pen tool, which are only available when you create shape layers, will be explained in Project 2.

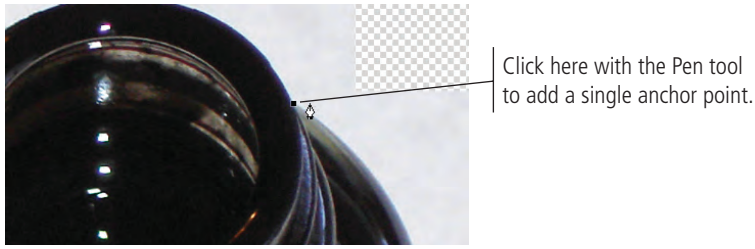
5. **On the Options bar, click the Paths button to draw a path instead of a shape layer.**



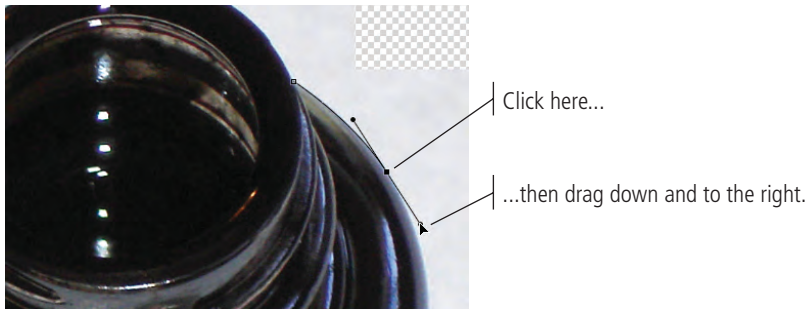
6. **Zoom in on the image window so the bottle fills your screen.**

When drawing paths, it helps to work with high view percentages so you can see the edges more clearly. We're using 75% in our screen shots; you should use whatever works best for you. It isn't necessary to keep the entire image in the image window if you're more comfortable working at higher percentages; you can scroll around the image window while you create paths.

7. **Click in the image where the bottle opening meets the side of the bottle.**

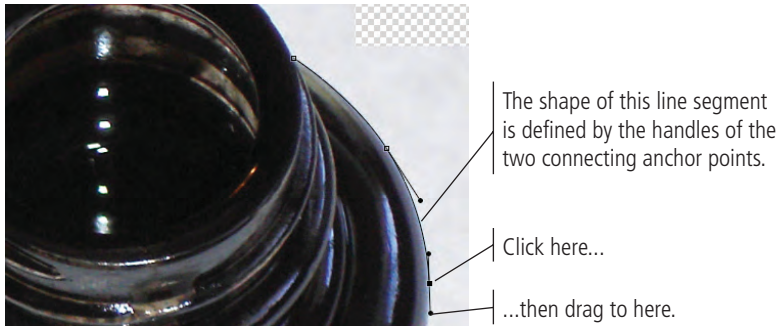


8. **Move your cursor down and to the right along the curved edge of the bottle. Click to add an anchor point and drag down and to the right before releasing the mouse button.**



When you click and drag with the Pen tool, you are defining the handles for the anchor point. Without getting too heavily into detailed explanations of geometry, you should simply understand that the **anchor points** determine the ends of line segments, and the **handles** determine the curve shape of segments that are connected to that point.

9. **Move the cursor down and to the right, then click and drag down to create another anchor point and handles.**

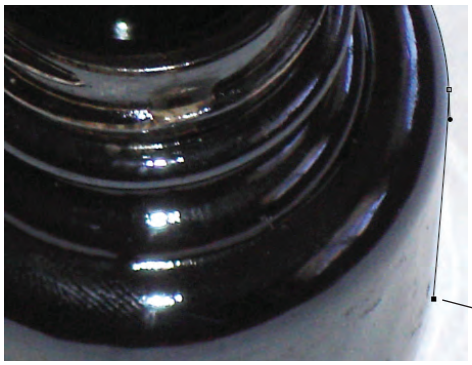


Note:

As you work more with paths, anchor points, and handles, you'll become more comfortable with how changing a handle affects the associated line segments. In this case, the best teacher is practice.

10. **Move the cursor down and click to add another anchor point. For this point, don't drag a handle.**

When you click without dragging, no handles are created for that point. This creates a corner point.



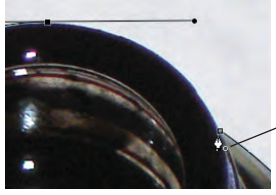
> ***Note:***
>
> *A smooth point allows the path to flow continuously from one segment to another. A corner point creates a sharp angle, allowing you to change directions of the path.*

11. **Move down and to the left, and click and drag to the left to create another smooth anchor point.**

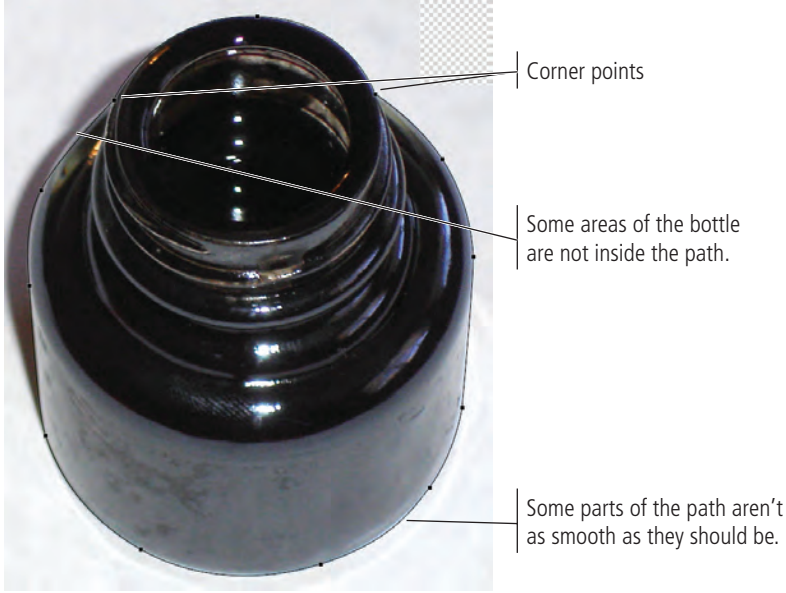
12. **Continue clicking and dragging points until you have outlined the entire bottle. Use a corner point where the left side of the bottle opening meets the left side of the bottle.**

> ***Note:***
>
> *Click a smooth point with the Convert Point tool to change a smooth point to a corner point.*
>
> *Click and drag a corner point with the Convert Point tool to change a corner point to a smooth point.*

13. **When you get to the end, place your cursor over the first point you created and click to close the path.**



Don't worry if your path isn't perfect. You can edit a path at any point, which you will do next.



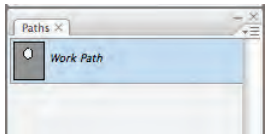
14. **Save the file and continue to the next exercise.**

Edit a Vector Path

In most cases, the first path you draw won't be perfect — you'll probably need to edit at least one or two points or segments, move existing points, or even add or delete points before your path exactly matches the shape you're outlining. As you complete this exercise, we'll show you how to correct the path in our screen shots. You should follow the general directions to correct the path that you drew in the previous exercise.

1. **In the file Movie Ad.psd, click the Paths tab in the Layers palette group to view the Paths palette.**

   When you draw a path with the Pen tool, it automatically appears in the Paths palette as the Work Path (in italics).



2. **Click the empty area in the Paths palette (below the Work Path).**

   This effectively "turns off" the path; it is still in the Paths palette, but the points and handles are no longer visible in the file window.

3. **Click Work Path in the Paths palette to show the current work path in the file window.**

Note:

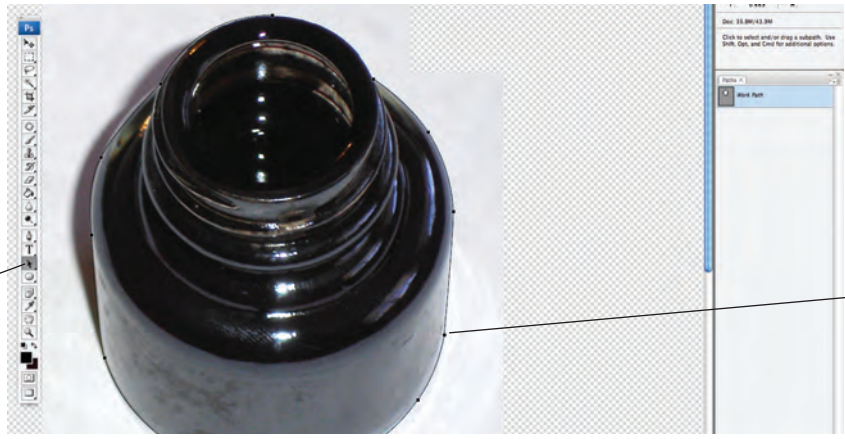
Once you close a path, you can click in other places to create a different (nonconnected) piece of the same path; the Add to Path option is selected by default. If you want to create an entirely new path, you have to click in the palette area below the Work Path to deselect it, and then draw the new path.

Note:

If you deselect the work path and then draw a new one, your first work path will be lost. You have to manually save the work path if you want to access it again later.

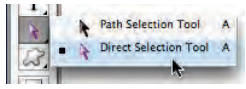
4. **Choose the Path Selection tool in the Tools palette and click the path in the file window.**

The Path Selection tool is used to select the entire path.



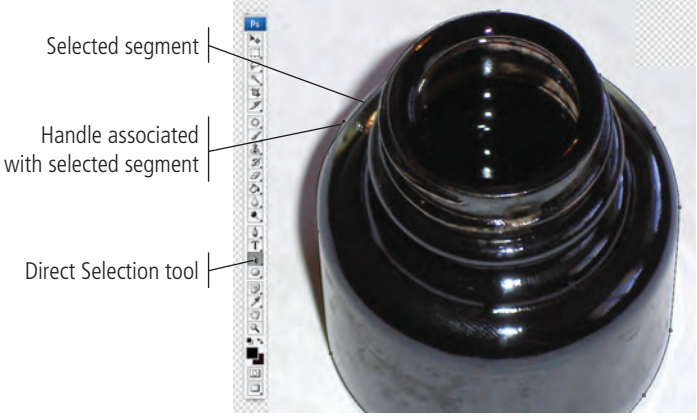
5. **Choose the Direct Selection tool (nested under the Path Selection tool).**

The Direct Selection tool is used to select individual points and segments of a path.



6. **Click one of the segments of your path that needs to be edited.**

When you select a segment with the Direct Selection tool, you can see the handles that are associated with that segment.



Note:

If you click a point with the Direct Selection tool, the point appears solid. Unselected points appear hollow.

7. **Drag the handle and/or point to correct the bad segment.**

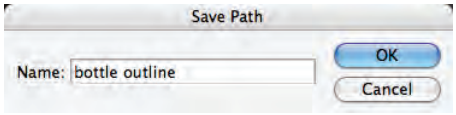
8. **Continue editing the path until you are satisfied. If you need to add or remove points from the path, use the related tools that are nested under the Pen tool.**

9. **When you're satisfied with your path, click the arrow button in the top-right corner of the Paths palette to access the palette options menu.**

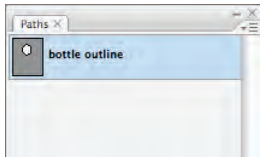
10. **Choose Save Path in the palette options menu.**

11. **In the Save Path dialog box, name the path "bottle outline" and click OK.**

Trust us — when you begin creating very complicated files with multiple paths, you'll thank yourself for using names that indicate the purpose of a layer, path, or other element.



After you save a path, it stays in the Paths palette; if you draw a new path now, you will create a new work path.

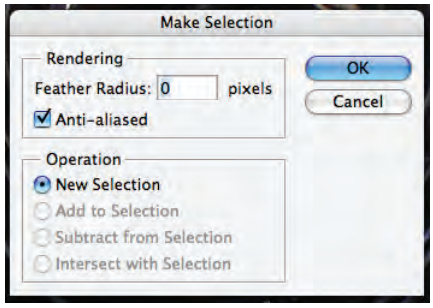


12. **Save the file and continue.**

Create a Layer Mask

You now have a path that outlines the bottle shape, but the bottle background is still in the image. Since you've already done the work of selecting the shape (with the path), you can remove the background using two different methods.

The first option is to make a selection based on the path (Make Selection in the Paths palette options menu) and simply delete the pixels outside the selection. Of course, this is a pixel-based option even though the path is a vector. When you make the selection, the selection will be a rendered version of the original vector path.



Note:

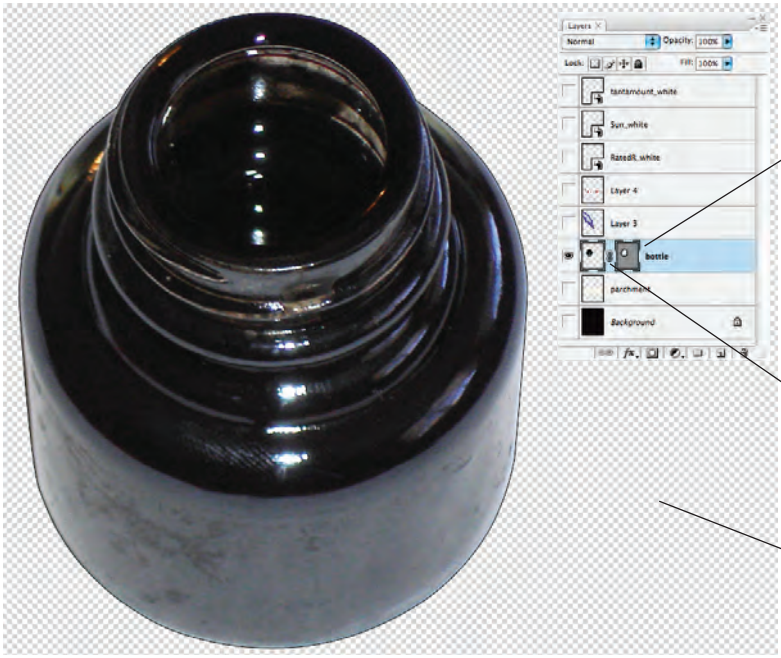
Anti-aliasing is the process of blending shades of pixels to create the illusion of sharp lines in a raster image.

The second option for isolating an object with a path is to create a layer mask. This option maintains the vector data as the outside edge of the image, so the lines can be edited at any time.

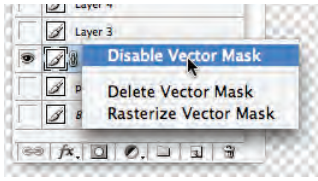
1. **In the file Movie Ad.psd, make sure the bottle outline path is selected in the Paths palette.**

2. **Display the Layers palette and make sure the bottle layer is selected.**

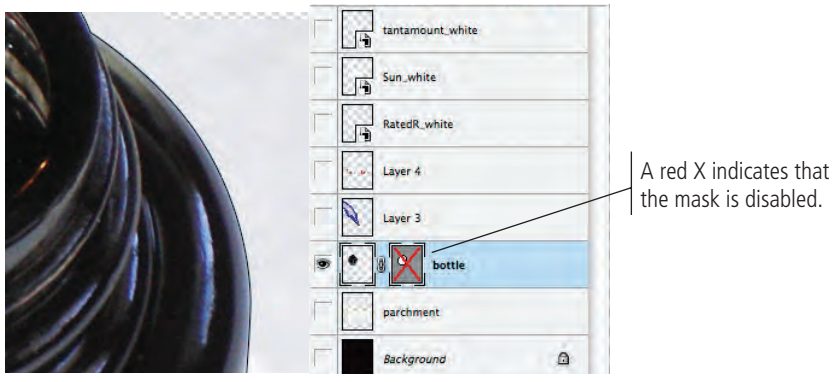
3. **Choose Layer>Vector Mask>Current Path.**



4. **Control/right-click the vector mask icon and choose Disable Vector Mask from the contextual menu.**



When you disable the vector mask, the background pixels are again visible. This is one of the advantages of using masks — the background pixels are not permanently removed, they are just hidden. You can safely edit the vector mask just as you could edit any vector path; moving the vector mask path changes what is visible in the layer.



5. **Control/right-click the vector mask icon and choose Enable Vector Mask from the contextual menu.**

6. **Save the file and continue to the next exercise.**

Select a Color Range

As we said earlier, there is a host of selection options in Photoshop CS3, each with its own advantages and disadvantages. You've already used the marquee tools and lasso tools to select general areas of images. You've used the Quick Selection tool to easily select an entire background, and then refined the edges of that selection. And you've used the Pen tool to select an object with a well-defined edge.

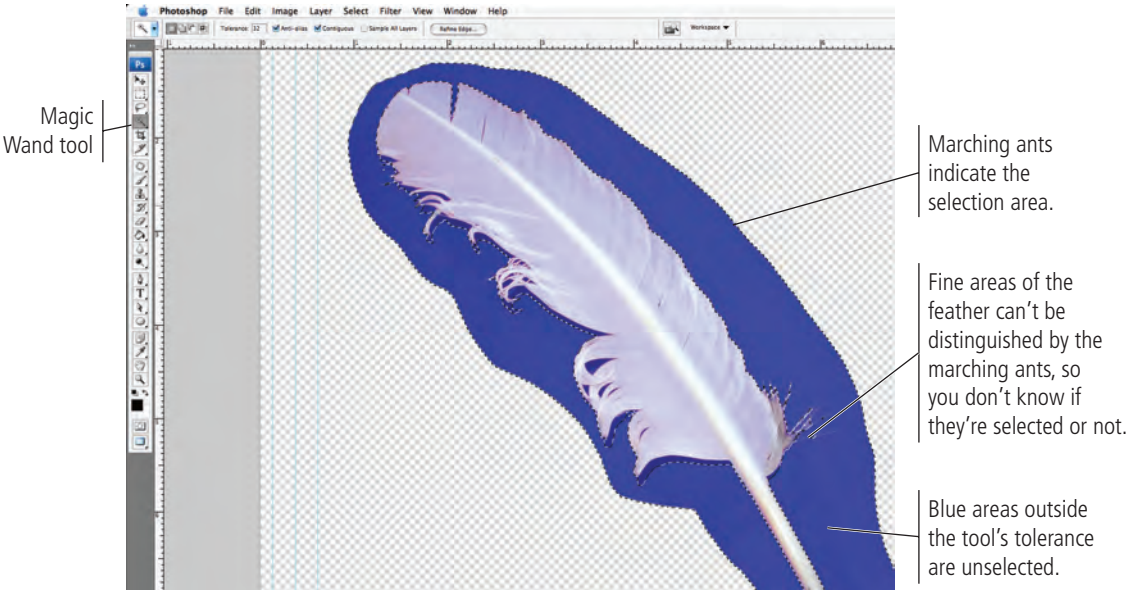
Some images aren't quite as clear-cut as the ones you've silhouetted so far. In fact, many images have both hard and soft edges, and/or very fine detail that needs to be isolated from its background (think of a model's blowing hair overlapping the title on the cover of a magazine). In this type of image, other tools can be used to create a very detailed selection based on the color in the image.

1. **In the file Movie Ad.psd, hide the bottle layer and show Layer 3.**

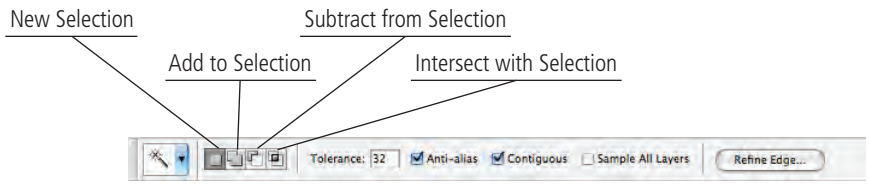
2. **Rename Layer 3 as "quill" and zoom out so you can see the entire feather.**

3. **Choose the Magic Wand tool (under the Quick Selection tool). On the Options bar, set the Tolerance field to 32 and click anywhere in the blue background area.**

   The Magic Wand tool is an easy way to select large areas of solid color.



You can control the tool's behavior using the Options bar. The first four options are the same as those for the Marquee tools (new selection, add to the current selection, subtract from the current selection, or intersect with the current selection).



Tolerance is the degree of variation from the color you click that will be selected; higher tolerance values select a larger range of colors. If you're trying to select a very mottled background, for example, you should increase the tolerance. Be careful, however, because increasing the tolerance might select too large a range of colors if parts of the foreground object fall within the tolerance range.

Key Command:

Using any of the selection tools, press Shift and select again to add to the current selection. Press Option/Alt and select again to subtract from the current selection.

The Anti-alias check box, selected by default, allows edges to blend more smoothly into the background, preventing a jagged, stair-stepped appearance.

When Contiguous is selected, the Magic Wand tool will only select adjacent areas of the color; unchecking this option allows you to select all pixels within the color tolerance, even if some pixels are non-contiguous (for example, inside the shape of the letter Q).

By default, selections only relate to the active layer. You can check Sample All Layers to make a selection of all layers in the file.

The Refine Edge button opens the same dialog box that you used when you isolated the parchment image with the Quick Selection tool.

4. **Choose Select>Deselect to turn off the current selection.**

Although you could keep adding to the selection with the Magic Wand tool, the marching ants can't really show the fine detail, and they don't show shades of gray. There's a better way to isolate the feather from its blue background.

Key Command:

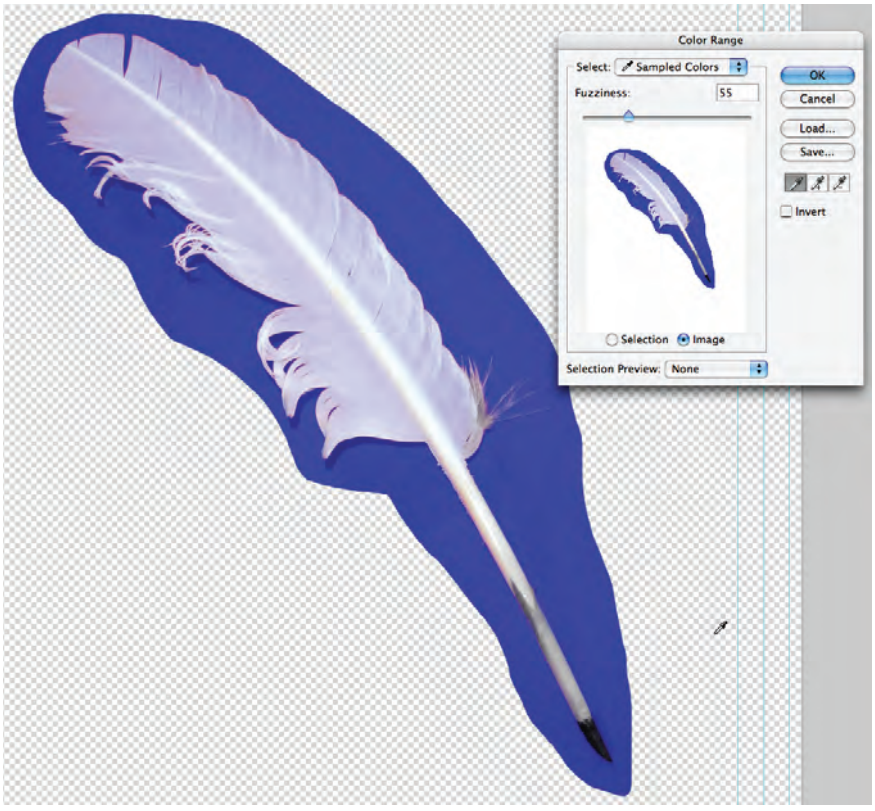
Press Command/Control-D to turn off the current selection.

5. **Choose Select>Color Range.**

6. **Set the Fuzziness slider to 55 and click anywhere in the blue area around the feather.**

Fuzziness is similar to the tolerance setting for the Magic Wand tool. Higher fuzziness numbers allow you to select more variation from the color you click.

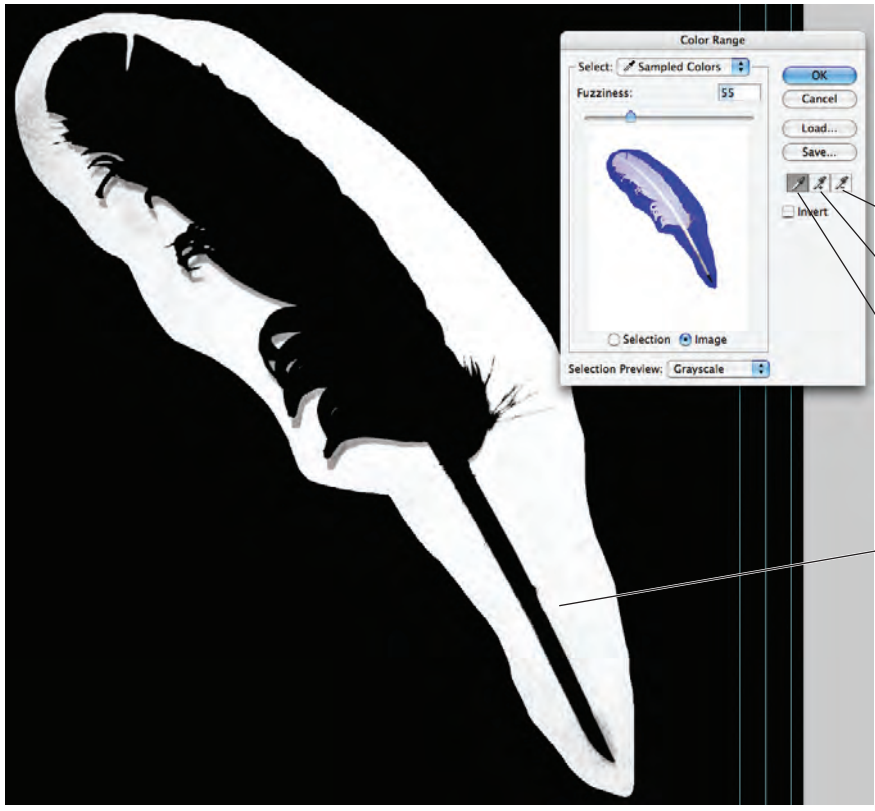
Changing the Fuzziness slider (or field) will expand (higher numbers) or contract (lower numbers) your selection. Be careful, however, since higher fuzziness values also eliminate very fine lines and details.



7. Choose Grayscale in the Selection Preview menu.

You can view the preview in the Color Range dialog box based on the selection or based on the image. Since this preview is so small, however, we prefer to rely on the preview in the image window, which is controlled in the Selection Preview menu at the bottom of the dialog box.

You can preview color-range selections in the image window as grayscale (areas outside the selection are shown in shades of gray), against a black matte (unselected areas are shown in black), against a white matte (unselected areas are shown in white), or using the default quick mask settings. If you choose None in the Selection Preview menu, the document window displays the normal image.

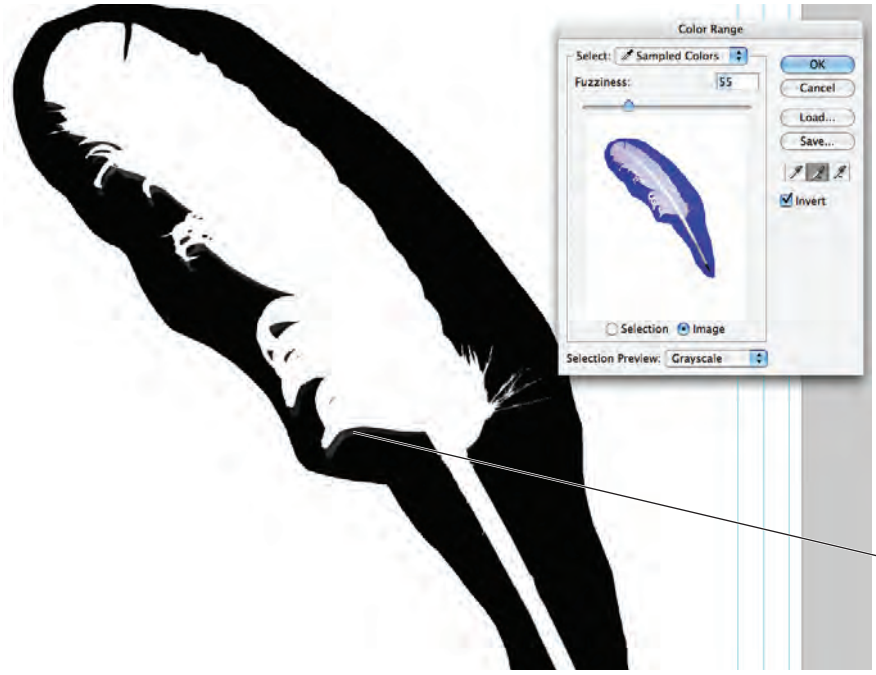


Depending on where you clicked, your selection might not exactly match what you see in our screen shot. The important point for now is to know that the white areas indicate the selection, solid black or shades of gray indicate all areas outside the current selection.

8. Click the Add to Sample eyedropper and click again where parts of the background blue are still showing in grayscale.

9. **Check the Invert box in the Color Range dialog box.**

Since your goal is to isolate the feather and not the background, it helps to look at what you want to keep instead of what you're removing. Now you need to focus on and select any lighter gray areas that remain in the blue background.



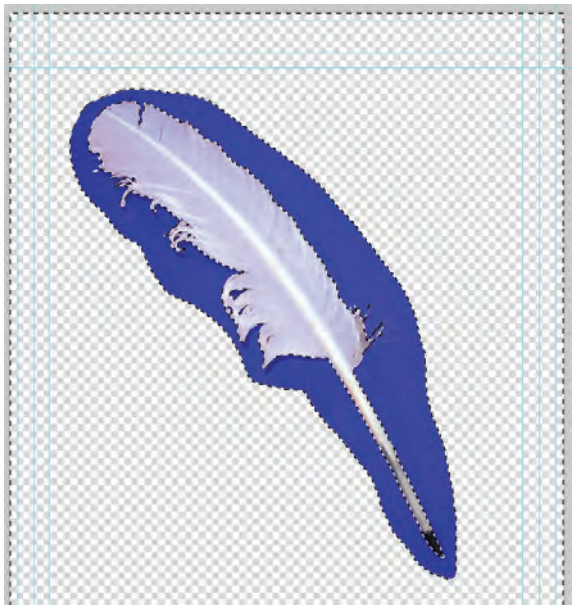
The lighter gray areas of the background (where the feather casts a shadow in the original photograph) still need to be selected.

10. **Continue adding to (or subtracting from, if necessary) your selection until you are satisfied that all the blue background is gone.**

11. **Click OK when you are finished.**

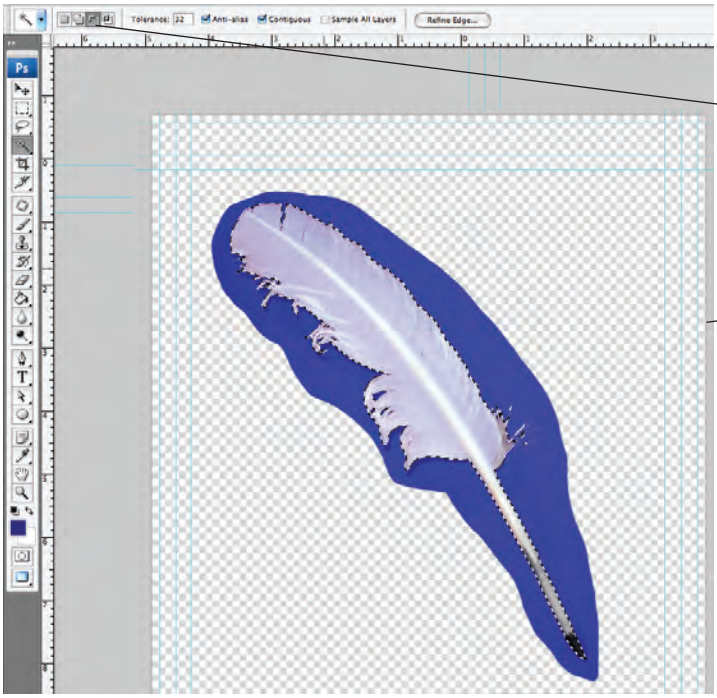
When you return to the image window, the marching ants indicate the current selection. In the Color Range dialog box, you selected the blue and inverted the selection (Step 9) — in other words, your selection is everything that isn't blue.

If you zoom out to see the entire file, you'll see the marching ants surround the file as well as the blue background. Since the transparent area is not blue, it is included in the selection.



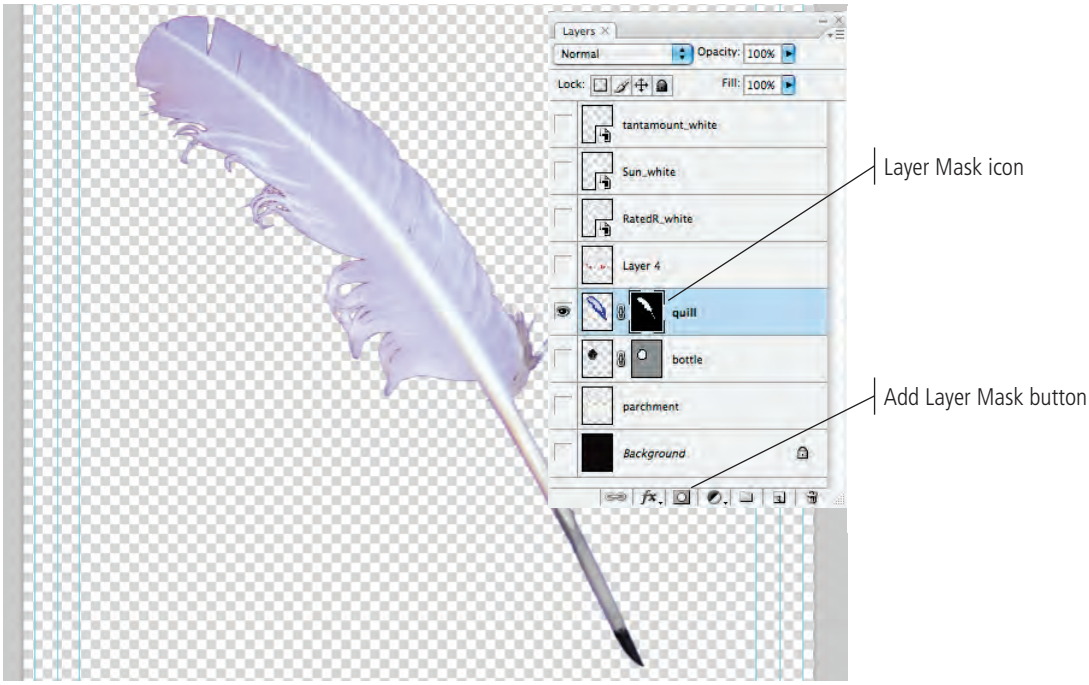
12. **Choose the Magic Wand tool in the Tools palette and choose the Subtract from Selection option on the Options bar.**

13. **Click anywhere in the transparent area (the gray and white checkerboard) to remove that area from the selection.**



14. **In the Layers palette, click the Add Layer Mask button.**

Similar to the vector mask you created in the previous exercise, this layer mask shows a new icon linked to the layer icon. A layer mask works on the same principle as the vector mask, except that the layer mask is raster-based instead of vector-based. You can disable the layer mask in the same way that you disabled the vector mask.



15. **Save the file and continue to the next stage of the project.**

Stage 4 Managing Multiple Layers

Your ad file now has most of the necessary pieces, but if you show all of the layers you'll still see a bunch of stacked images — it's not yet an actual design, just a pile of different images. When you composite images into a cohesive design, you almost certainly have to do some layer manipulation and transformation to make all the pieces work together.

Photoshop includes a number of tools for managing layers, from resizing the layer (as you did for the parchment), to rotating and flipping layers, to aligning different layers in relation to each other, to grouping individual layers so you can work on multiple images at once without flattening them.

Manipulate and Arrange Layers

1. **With the file Movie Ad.psd open, hide the quill layer and show the Background, Layer 4, and parchment layers.**

2. **Rename Layer 4 as "title".**

   Right now the title is too large to fit into the parchment, so you need to resize it.

3. **Choose the Move tool in the Tools palette and select the title layer in the Layers palette.**

4. **Choose Edit>Transform>Scale.**

5. **Click one of the corner handles, press Shift, and drag until the Options bar shows the layer at approximately 85%. Press Return/Enter to commit (finalize) the rescaling.**

   Because you pressed Shift, the layer automatically rescales proportionally.

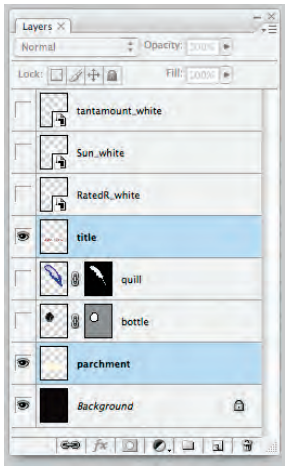
Key Command:

Press Command/Control-T to display the transform handles.

Once you've resized the title to fit into the parchment, you need to reposition the title in the center of the parchment. You could do this manually, but Photoshop includes tools that make this task much easier.

6. **In the Layers palette, press Command/Control and click the parchment layer.**

Since the title layer was already selected, the parchment layer should now be a second selected (highlighted) layer.

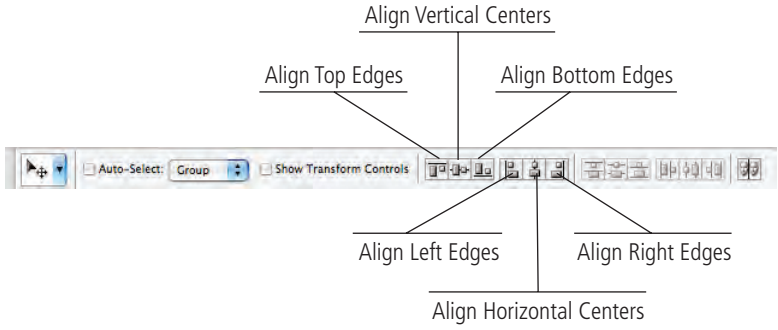


Key Command:

You can select non-contiguous layers by pressing Command/Control. You can select contiguous layers by pressing Shift while you click.

7. **On the Options bar, click the Align Vertical Centers button.**

When more than one layer is selected, the align buttons become available. This method is far more precise than simply dragging by eye, and far easier than manually calculating positions by the numbers.



8. **Click the Align Horizontal Centers button while the two layers are still selected.**

The title should be centered horizontally and vertically within the parchment.

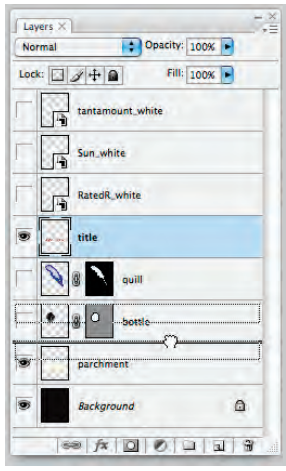
Since these two layers function as a single element in the overall design, it's a good idea to combine them at this point so they can function as a single unit. You could merge the two layers, but that would require flattening the pixels in the two layers into a single layer. Once flattened, you wouldn't be able to edit the individual layers anymore.

9. **Choose Select>Deselect Layers.**

You can also deselect layers by clicking in the empty area at the bottom of the Layers palette.

10. **Click the title layer and drag down. When a heavy black bar appears between the bottle and parchment layers, release the mouse button.**

You can move layers to any position in the **stacking order** (the top-to-bottom position of a layer) by simply dragging them to a new position in the Layers palette.



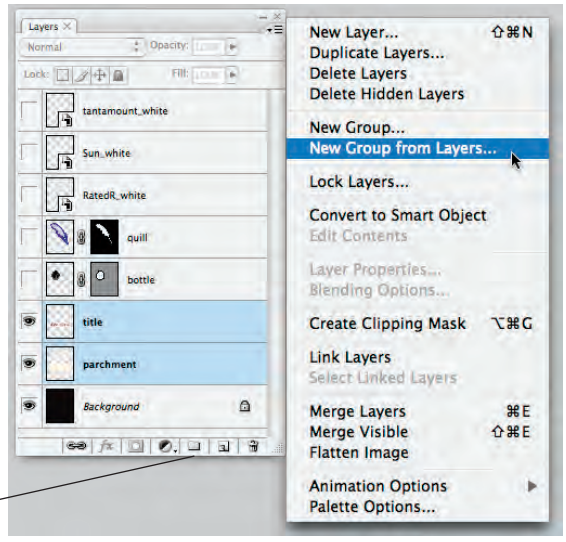
Note:

Step 10 isn't strictly necessary; you can group selected layers even if they aren't contiguous. But we wanted to make sure you know how to reposition layers in a file.

11. **With the title layer selected, press Shift and click the parchment layer to select it as well.**

12. **Click the button in the top-right corner of the palette and choose New Group From Layers in the palette options menu.**

This option creates a group that automatically contains the selected layers. You can also create an empty group by choosing New Group (this option is available even when no layer is selected) or by clicking the New Group button at the bottom of the palette.

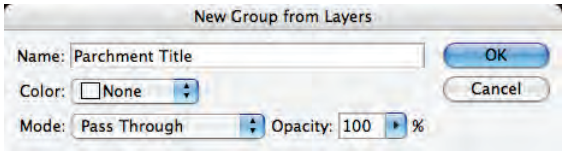


Note:

You can create a group from selected layers by dragging the selected layers onto the New Group button at the bottom of the palette. In this case, the new group is automatically named "Group N" (N is just a sequential number); of course, you can rename a layer group just as easily as you can rename a layer.

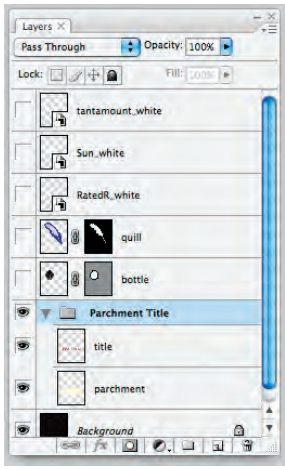
13. **In the New Group From Layers dialog box, type "Parchment Title" in the Name field and click OK.**

As for any other layer, you should name groups based on what they contain so you can easily identify them later.



14. **Click the arrow to the left of the Parchment Title group name to expand the layer.**

    The two selected layers are now part of the group.



15. **Collapse the group by clicking the arrow to the left of the group name.**

16. **Save the file and continue to the next exercise.**

Create a Nested Group

1. **In the file Movie Ad.psd, show the bottle and quill layers.**

2. **Resize the bottle layer to 40% proportionally.**

3. **Using the Move tool, drag the bottle until it is just above the "he" in the title.**

4. **Resize the quill layer to 65% proportionally.**

5. **With the quill layer selected, choose Edit>Transform>Flip Horizontal.**

6. **Drag the quill so it overlaps the "er" in the title, and the tip is just within the edges of the parchment. (Use the following image as a placement guide.)**

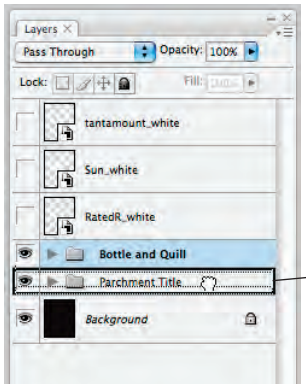
7. **In the Layers palette, select the bottle and quill layers and group them together in a group named "Bottle and Quill".**

Key Command:

When the Move tool is active, you can move the selected object or layer by a single pixel by pressing the Arrow keys. Pressing Shift with any of the Arrow keys moves the selected object or layer by 10 pixels.

8. **Click the new layer group and drag down. When a black border appears around the Parchment Title group, release the mouse button.**

This places the Bottle and Quill group inside the Parchment Title group (called a **nested** group).



The black border indicates that the dragged group will be placed inside the group.

9. **Expand the Parchment Title layer group.**

The nested group is automatically placed at the bottom of the group's stacking order, so the bottle and quill are behind the parchment.

10. **Click the Bottle and Quill layer group and drag it up above the parchment and title layers within the group.**

11. **Collapse the Parchment Title layer, save the file, and then continue to the next exercise.**

Finish the Ad

1. **In the file Movie Ad.psd, show the three remaining layers (the logo Smart Objects).**

2. **Resize the Sun logo to 20% and drag it to the bottom-right corner (inside the live area guides of the smallest ad).**

3. **Resize the Tantamount logo to 25% and drag it to the bottom live area guide, about 1/4″ to the left of the Sun logo.**

4. **Resize the rating logo to 80% and drag it to the bottom-left corner of the live area.**

5. **Select all three logo layers and align their vertical centers.**

6. **Combine the three logo layers into a group named "Logos".**

7. **Drag the Parchment Title layer group so the objects in the group appear just above the logos, centered horizontally on the page.**

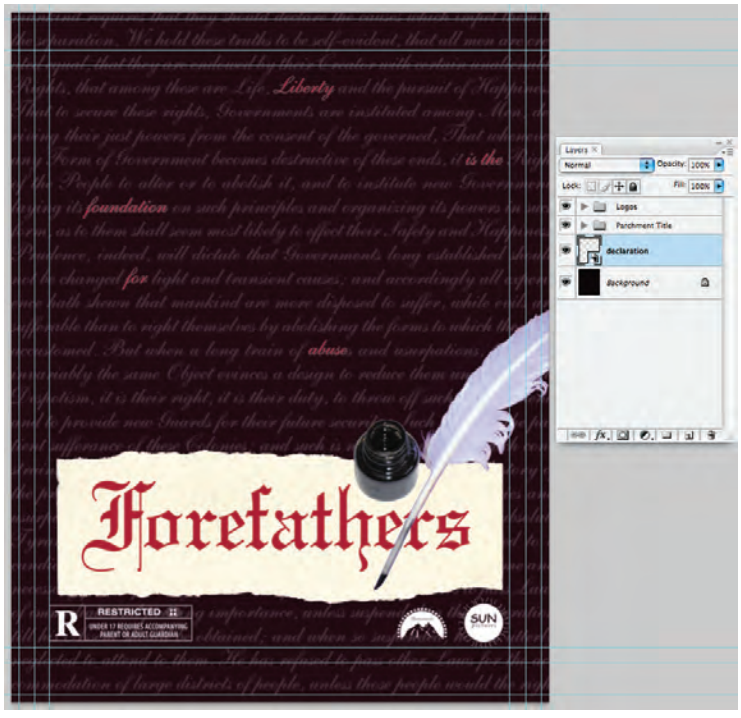
8. **Place the file declaration.psd into your ad as a Smart Object.**

9. **Make sure the placed file is scaled at 100% and reaches all four edges of the image.**

   Placed files are sometimes automatically scaled below 100% when you place them. To check, choose Edit>Transform>Scale and look at the W or H field in the Options bar.

10. **Drag the declaration layer below the Parchment Title layer group.**

    Be careful that you don't drop the declaration layer onto the Parchment Title group folder, which would place it inside that group instead of behind it.



11. **Save the file and continue to the final stage of the project.**

> ***Note:***
>
> *If you use the Options bar to resize a Smart Object, the scale percentage is maintained even after you finalize the change (unlike scaling a regular layer, in which the layer reverts to 100% once you finalize the scaling).*

Stage 5 Saving Photoshop Files for Print

At the beginning of this project, you saved this file in Photoshop's native format (PSD). However, many Photoshop projects will require saving files in at least one other format when the file is finished. Many artists prefer to leave all files in the PSD format since there is only one file to track. Others prefer to send only flattened TIFF files of their artwork since the individual elements can't be changed. Ultimately, the format (or formats, if the file is being used in multiple places) you use will depend on where and how the file is being placed.

As a general rule, many Photoshop projects are pieces of a larger composition; the overall project defines the format you need to use when you save your artwork. The ad you've created, for example, will be placed in a magazine layout, which will be built in a page-layout application like Adobe InDesign or QuarkXPress.

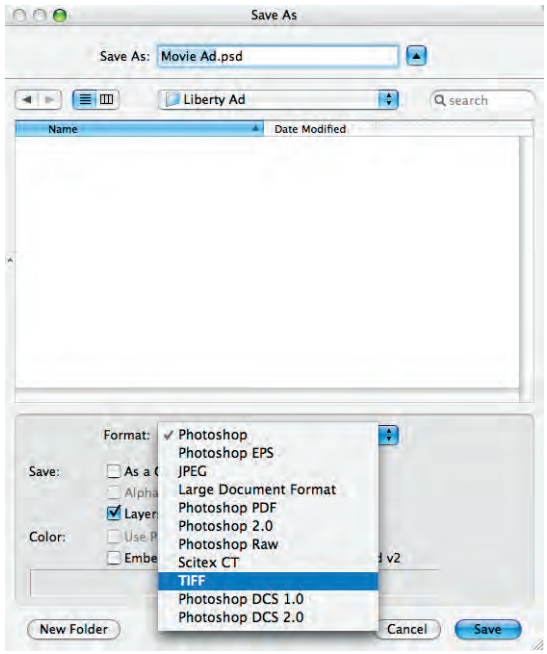
Although the current versions of both industry-standard page-layout applications can support native layered PSD files, older versions can't import those native files. If a magazine is being designed in QuarkXPress 4, for example (and many still are), you can't place a layered PSD file into the QuarkXPress 4 layout; as the Photoshop artist, you would have to save your work in a format that is compatible with the magazine layout.

As you know, the ad you created will be placed in multiple magazines, and different publishers have provided different file requirements. You need to save two different versions of the ad to meet those requirements.

Save a Layered TIFF File

The magazine with the 8.5 × 11″ trim size suggests that ads created in Photoshop be submitted as layered TIFF files. Since you designed the ad to incorporate bleeds for pages up to 8.5 × 11″, all you have to do for this version is save the file in the appropriate format.

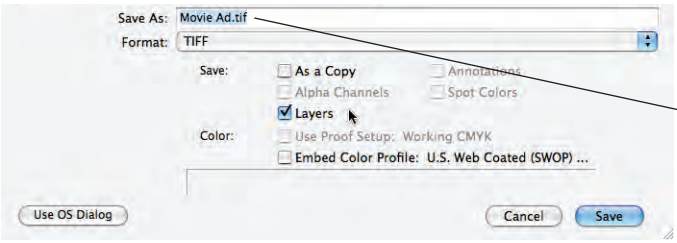
1. **With the file Movie Ad.psd open, choose File>Save As.**
2. **Navigate to your WIP>Liberty Ad folder as the target where you will save the final files.**
3. **Click the Format menu and choose TIFF.**



4. Make sure the Layers check box is selected in the lower half of the dialog box.

Because this file contains layers, this option is probably checked by default. If your file contained alpha channels, annotations, or spot colors, those check boxes would also be available. The As a Copy check box can be used if you want to save multiple versions of the same file with different options (which you'll do in the next exercise).

The two color options are used in a color-managed workflow; you'll learn more about these options in Project 4 (and, likely, throughout your professional career).



Choosing a different format automatically changes the extension in the file name.

5. Click Save.

Most file formats include additional options, which you should understand before you simply click OK in the resulting options dialog box.

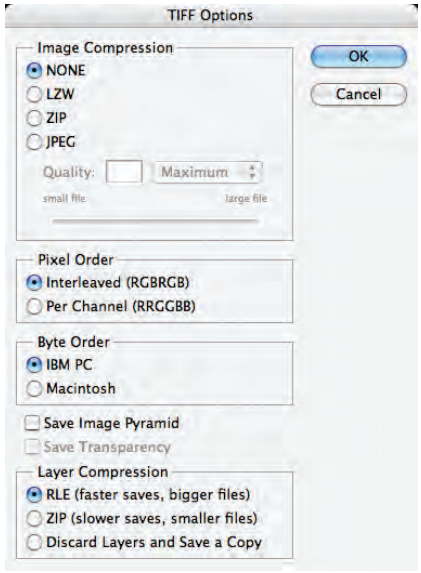
6. In the TIFF Options dialog box, make sure the None radio button is selected.

TIFF files can be **compressed** (made smaller) using one of three schemes:

- **None** (as the name implies) will not compress the file at all. This option is safe if file size is not an issue, but digital file transmission — quickly becoming the norm in publishing workflows — often requires files be smaller than a full-page, multi-layered Photoshop file.
- **LZW** (Lempel-Ziv-Welch) compression is lossless, which means that all file data is maintained in the compressed file.
- **ZIP** compression is also lossless, but is not supported by all desktop publishing software (especially older versions).
- **JPEG** is a **lossy** compression scheme, which means that some data will be thrown away to reduce the file size. If you choose JPEG compression, the Quality options determine how much data can be thrown away. (Maximum quality means less data is thrown out and the file will be larger; Minimum quality throws out the most data and results in the smallest file size.)

Note:

Older desktop publishing software doesn't always support compressed TIFF files. When saving for those workflows, you might have to save the file without compression regardless of the resulting file size.



7. **Leave the Pixel Order radio button at the default value, and choose the IBM PC byte order.**

   The Pixel Order option determines how channel data is encoded in the file. The Interleaved (RGBRGB) option is the default; Per Channel (RRGGBB) is called "planar" order.

   Byte Order determines which platform can use the file, although this is somewhat deceptive. Even in older versions of most desktop publishing software, Macintosh systems can read the PC byte order but Windows couldn't read the Macintosh byte order. If you don't know which platform will ultimately be used, choose IBM PC.

   The Save Image Pyramid option creates a tiered file with multiple resolution versions; this option isn't widely used or supported by other applications, so you can typically leave it unchecked.

   If your file contains transparency (it doesn't have a locked "Background" layer), the Save Transparency check box will be available. If you don't choose this option, transparent areas will be white in the saved file.

8. **In the Layer Compression area, make sure the RLE option is selected.**

   These three options explain — right in the dialog box — what they do.

9. **Click OK to save the file.**

   Photoshop warns you that including layers will increase the file size.

10. **Click OK to dismiss the warning.**

11. **Continue to the next exercise.**

Note:

If you don't see the warning, it's possible that someone checked the "Don't Show Again" check box. If you want to make sure that you see all the warnings and messages, click Reset All Warning Dialogs in the General Preferences.

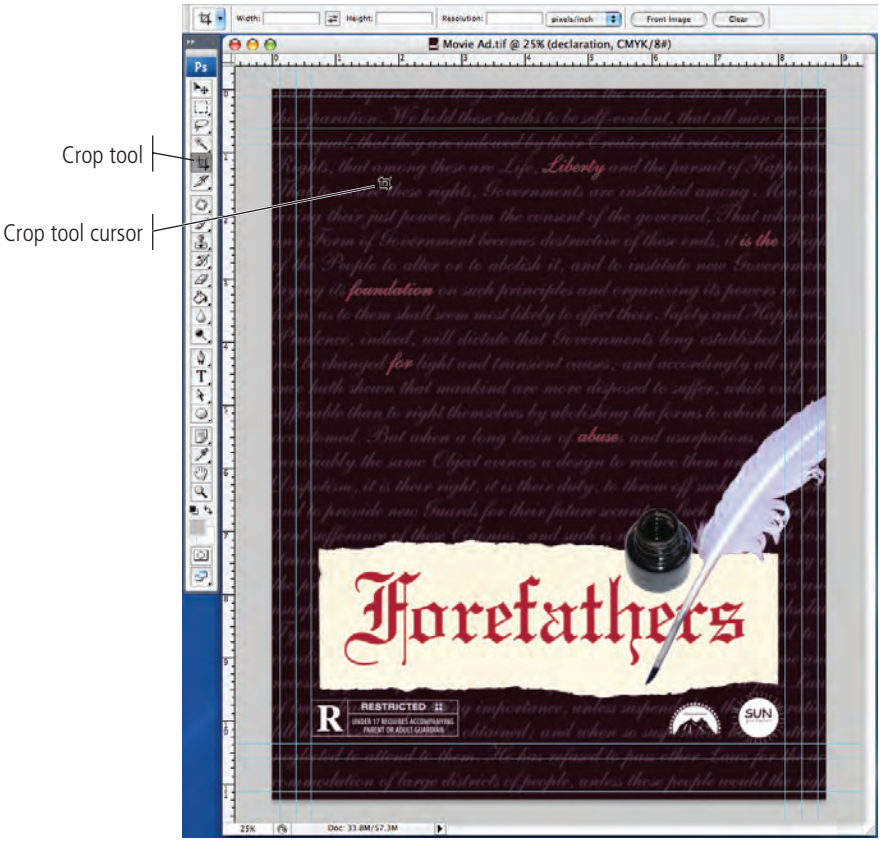
Save a Flattened TIFF File

The smallest of the magazines (the 8 × 10 version) is still using an older page-layout application that doesn't support layered TIFF or PSD files. They require ads be submitted as either native page-layout format or flattened TIFF files. To meet these requirements, you have to flatten the Photoshop file, and then save it as a different TIFF. One extra step — cropping it to the appropriate bleed size — will prevent the ad from being placed incorrectly in the magazine layout.

1. **Make sure Movie Ad.tif is open in Photoshop.**

   If you continued directly from the previous exercise, this is the version you just saved. If you quit, make sure you open the TIF version and not the PSD version from the Liberty Ad folder.

2. Choose the Crop tool in the Tools palette.



Note:

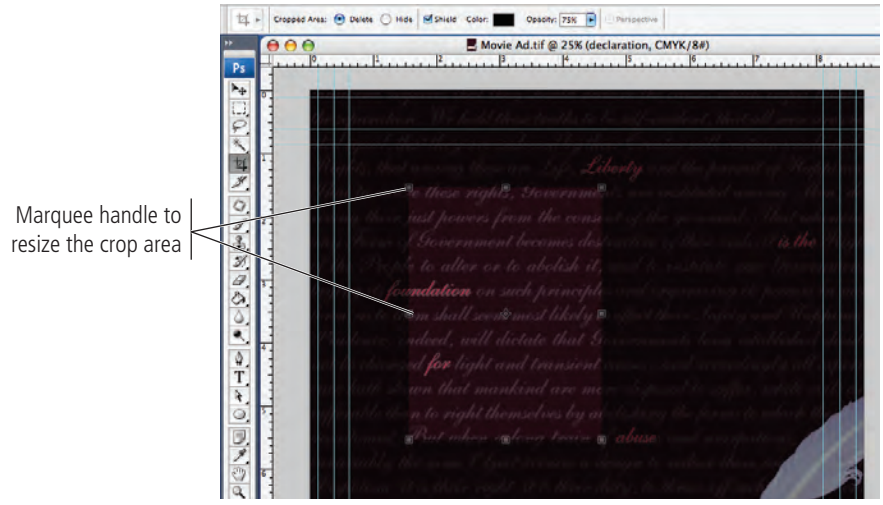
You can use the Options bar to resample the cropped image to a new resolution based on a defined height and width. Since you created this file at 300 dpi, and simply want to save a smaller portion of it, you should leave these fields empty (click Clear if they aren't empty). The Front Image button lets you resample an image based on the dimensions and resolution of another open image.

3. Click in the image window and drag a marquee with the Crop tool.

The crop marquee has eight handles, which you can drag to change the size of the cropped area.

When you draw a marquee with the Crop tool, the area outside the marquee is masked by a darkened overlay so that you can get an idea of what you'll be left with when you finalize the crop. You can turn off this preview by unchecking the Shield box on the Options bar; you can also change the color and opacity of the shield.

Finally, you can decide whether the cropped area will be deleted (the default value) or simply hidden (this isn't available when the file has a Background layer).



Note:

You can rotate a crop marquee by placing the cursor slightly away from a corner handle.

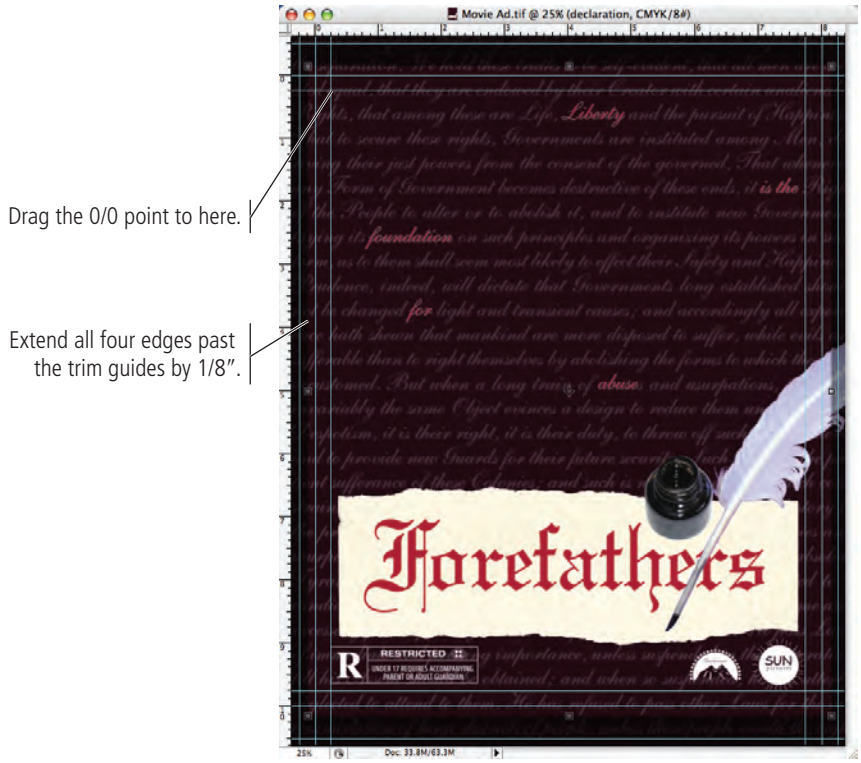
4. **Drag the crop marquee handles to resize the crop to the smallest page trim guides (8 × 10).**

   Remember: anything that runs to the edge of the page has to incorporate a bleed allowance.

5. **Drag the zero point to start at the top-left corner of the smallest page trim guides.**

6. **Extend the crop marquee 1/8″ outside each trim guide.**

   Use the rulers to include 1/8″ bleed allowance within the area of the crop marquee.



Key Command:

You can press Esc to cancel the crop marquee and return to the uncropped image.

7. **Press Return/Enter to finalize the crop.**

8. **Choose File>Save As.**

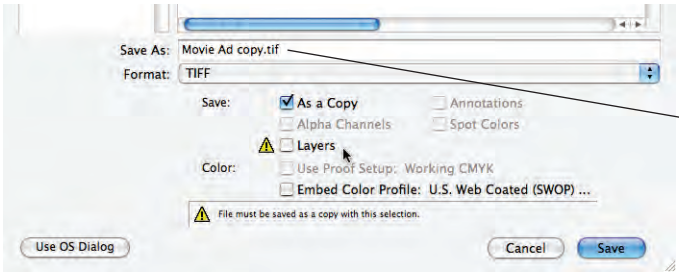
   Since you started this exercise with the TIFF file from the previous exercise, the format and file name extension already reflect the TIFF options.

9. **Uncheck the Layers check box.**

   The As a Copy box is now selected by default. A warning shows that the file must be saved as a copy when the Layers option is unchecked. This is a failsafe built into Photoshop that prevents you from overwriting your layered file with a flattened version.

Note:

You can manually flatten a file by choosing Layer>Flatten Image.

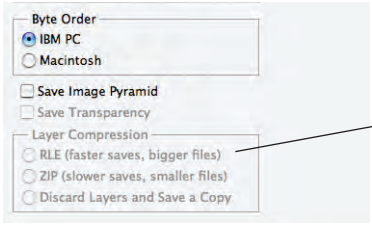


When As a Copy is checked, Photoshop automatically adds the word "copy" to the file name.

10. **In the Save As field, replace the word " copy" (including the preceding space) with "_flat" to distinguish it from the layered version. Click Save.**

11. **In the TIFF Options dialog box, make sure the None compression option is selected and the Byte Order is set to IBM PC.**

12. **Click OK to save the second version of the file.**



Since layers weren't selected in the Save options, the Layer Compression options are not available here.

13. **When the save is complete, choose File>Close.**

When you finished the previous exercise, you saved the file as a TIFF; that TIFF file is what remained open at the end of the exercise (not the original PSD file).

In this exercise, you saved a copy of the TIFF file and not the file itself; the file that's open is still the TIFF file that you saved in the previous exercise. You've made changes, though (you cropped the image), so Photoshop asks if you want to save your changes before closing.

14. **Click Don't Save.**

If you click Save, you will overwrite the 8.5 × 11 version with the cropped version.

File Formats

PHOTOSHOP FOUNDATIONS

Photoshop, with the extension PSD, is the native format.

Photoshop EPS can maintain both vector and raster information in the same file, and can maintain spot color channels.

JPEG is a lossy compressed file format that can be used for CMYK, RGB, or grayscale images. JPEG does not support transparency.

Large Document Format, using the extension PSB, is used for images larger than 2 GB (the limit for PSD files); this format supports all Photoshop features including transparency and layers.

Photoshop PDF is a device- and system-independent format that can contain all of the required font and image information in a single file. PDF files can be compressed to reduce file size.

Photoshop 2.0 lets you save a file that can be opened in Photoshop 2.0; the image is flattened and all layer information is thrown out.

Photoshop Raw supports CMYK, RGB, and grayscale images with alpha channels, and multichannel and Lab images without alpha channels; this format does not support layers.

Scitex CT is used for high-end image processing on proprietary Scitex computers.

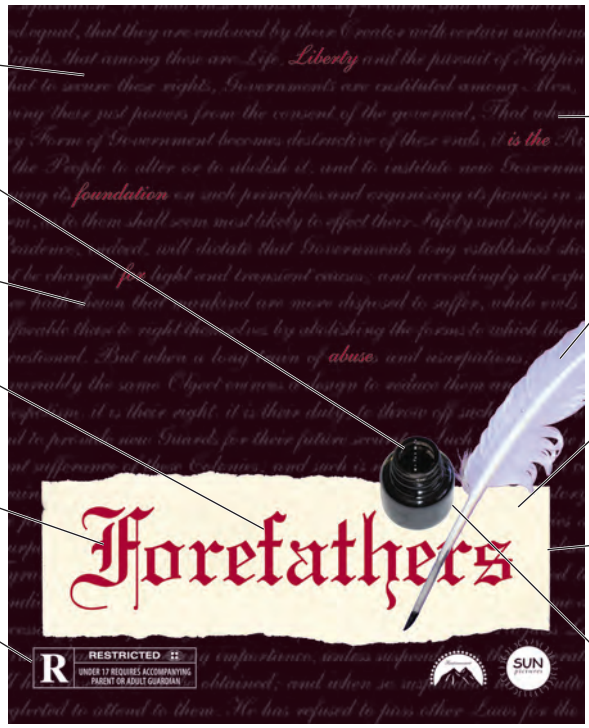
TIFF is a raster-based image format that supports layers, alpha channels, and file compression.

DCS 1.0 creates a separate file for each color channel in a CMYK image, plus a fifth composite file that can be used for placement.

DCS 2.0 is a later variation of DCS 1.0; version 2 supports spot color channels, and can be saved as multiple files (one for each channel) or as a single file.

Summary

This four-color magazine ad incorporated a number of skills that you will use in many (if not all) projects that you build in Photoshop. Making selections is arguably the most important thing you will learn to do in Photoshop; selections are so important that Photoshop dedicates an entire menu to the process. By completing this project, you learned a number of ways to make both simple and complex selections (and you'll learn other ways in later projects). You also learned what you can do once you've made those selections — from compositing images to moving pixels to silhouetting an object from its background.



Define a custom background color

Incorporate scans and digital photographs

Incorporate a Photoshop file as a Smart Object

Scale, position, and manage multiple layers

Incorporate vector graphics as raster elements

Incorporate vector graphics as Smart Objects

Create a high-resolution file for multiple trim sizes

Create a silhouette using the Select Color Range utility

Create a silhouette using the Quick Selection tool

Refine a selection using the Refine Edges utility

Create a silhouette using a vector path

Portfolio Builder Project 1

Tantamount Studios is pleased with your work on the Forefathers ad, and they would like to hire you again to create the ad concept and final files for another movie that they're releasing early next year.

To complete this project, you should:

- ❑ Find appropriate background and foreground images for the movie theme (see the client's comments at right).
- ❑ Incorporate the title artwork, logos, and rating placeholder that the client provided.
- ❑ Composite the different elements into a single completed file; save both a layered version and a flattened version.

"The movie is titled Above and Beyond. Although the story is fictionalized, it will focus on the men who led the first U.S. Airborne unit (the 501st), which suffered more than 2000 casualities (killed, wounded, captured, or missing) in the European theater of World War II.

"We don't have any specific artwork in mind, but obviously, the final ad should reflect the time period (the 1940s) and the atmosphere (World War II) of the movie. The 501st Airborne was trained to parachute into battle, so you should probably incorporate some kind of parachute image.

"We already have the title artwork, which we've provided for you in the RF_Builders>Airborne folder.

"This movie is another joint venture between Sun and Tantamount, so both logos need to be included in the new ad. It isn't rated yet, so please use the "This Movie Is Not Yet Rated" artwork (in the RF_Builders> Airborne folder) as a placeholder.

"Create this ad big enough to fit on an 8.5 × 11" page, but keep the live area an inch inside the trim so the ad can be used in different sized magazines.