

# How-to

BY LINNEA DAYTON AND JACK DAVIS

## Disappearing Act. Making and faking transparent backgrounds in Photoshop

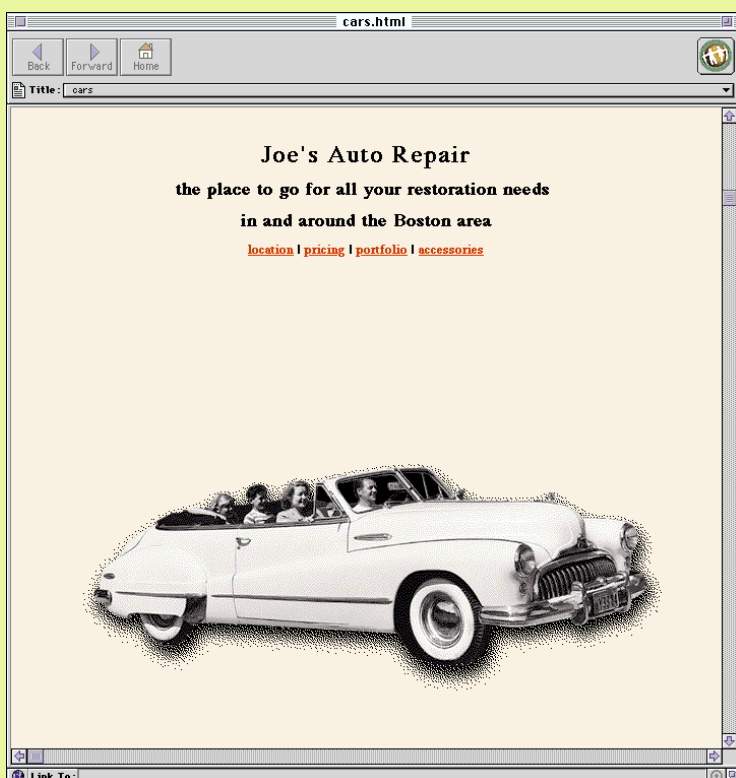
YOUR CLIENT WANTS TO SHOW OFF SOME CARS IN HER NEXT BROCHURE, FOCUSING attention on the autos and eliminating the distracting surroundings in which they were originally photographed. So you open the two photos in Photoshop and painstakingly select each car. You invert the selection, and you press Delete. *Voilà!* The oil-stained curbside and nondescript bushes are replaced with plain white nothing, and you've got a silhouette, right?

Maybe—or maybe not. If your page is white *and* the cars are far apart in the layout, you may be home free. But if they're placed close together, they start acting like a couple of trading cards: whichever car you put “on top” in the layout, the white background of that car covers up part of the other car. You redesign the layout to cope . . . hmmm, looks good!

But now the client wants a full-bleed blue background. While you dump buckets of blue paint into the white areas, you're thinking, “There has *got* to be a better way!”

There is. Or rather, there are—several methods let you make those pixels outside the silhouette disappear. The one you choose will depend on whether your image is headed for print or the Web, what the background of your final layout

is, and whether you want to add drop shadows. Too many choices? Don't worry, this article will give you techniques for all of these options. (We'll show them in Photoshop 4.0, but you can also use them in Photoshop 3.x, although the processes and shortcuts will vary.)



### Focusing on the subject

There are at least three ways to create a silhouette by making a background “disappear.”

- For a print image, you can use a clipping path—a selection stored within the image file that, in a page-layout or illustration program, isolates the subject and makes the rest of the image transparent.
- For a Web image, you can use an alpha channel. Wherever the alpha channel is light, the image will show up; wherever it's dark, the image will disappear.
- For either print or the Web, you can simply retain whatever part of the image you want, and fill the rest with the background color of the final page. This will make the background around your silhouette blend seamlessly into the page.

Note: We recommend working on a duplicate image in case you need the original again later. Also, for simplicity, we've assumed that you're starting with a flattened file—that is, one composed of only a Background layer in Photoshop.

Start by selecting the subject you want to silhouette. If your subject contrasts with the background of the photo, you may be able to put that color difference to

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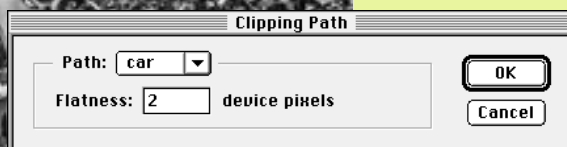
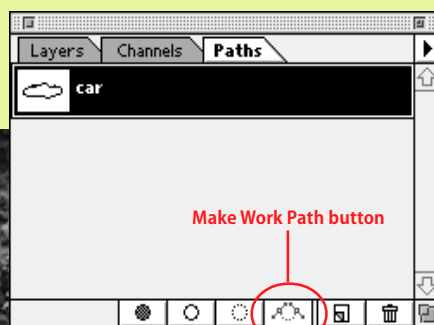
work in the selection process (for tips, see “Beyond the Magic Wand: Making selections by color in Photoshop” in the Autumn 1997 issue of *Adobe Magazine*). Otherwise you can place points and shape curves with the pen tool to make a path around the subject, or maybe “draw” the silhouette selection with the lasso tool.

**Preparing silhouetted images for print.** Once your path or selection is made, you’ll save it as a clipping path so that you can import both the image and its path into a page-layout or illustration program. Here’s how.

1. Make sure you have a work path: If you used the pen tool to outline your subject, the work path will already be in the Paths palette. If you selected your subject by some other method, turn the active selection into a path by clicking the Make Work Path button. (You may need to fine-tune the path with the pen’s modifier tools from the fly-out palette in the tool box.)
2. Create the clipping path: Double-click the work path, and then name and save it as a path. Choose Clipping Path from the Paths palette pop-up menu and select your newly named path.
3. Save the file as a TIFF or Photoshop EPS image. (See “To TIFF or not to TIFF?” on page 52 to learn more about the pros and cons of these formats.)

**Preparing silhouetted images for the Web.** Photoshop gives you two formats for silhouetted Web graphics—GIF and PNG. GIF is well-established and supported by virtually all Web browsers—any visitor who lands at your site can see your GIF image. PNG is fairly new, and not all browsers fully support it yet. But PNG offers a few benefits that GIF doesn’t. GIF images can contain no more than 256 colors; PNG files can contain millions. Pixels in a GIF are either totally transparent or totally opaque; PNG uses a grayscale mask to cut out your silhouette, which means you can have varying lev-

A clipping path with a Flatness setting of 3 or less should give your cutout a tight trim, as if it were made with one smooth, sustained cut; a higher setting can make it look “faceted,” as if cut with a series of straight snips.



els of opacity for smooth, anti-aliased edges. In this article, we’ll stick to the “here-and-now” technology of the GIF format. (To learn more about PNG, see “Look Out, GIF and JPEG” by Glenn Fleishman on page 23.)

The way you produce a GIF for a silhouetted image will depend on what kind of background it will appear over, and whether your subject also has the background color inside it. If the background for the Web page is a known solid color, the following approach will allow the pixels at the edges of the silhouette to pick up tints of the page’s background color, resulting in limited anti-aliasing so the silhouette edge will look smooth instead of stairstepped. Here’s how you set it up.

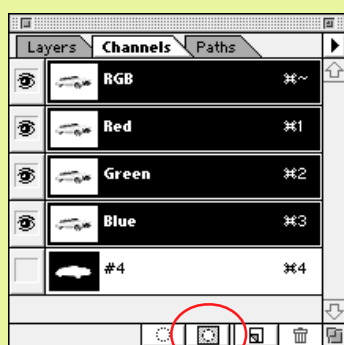
1. Select the background area: Working in RGB mode, make an anti-aliased selection of the subject you want to silhouette (anti-aliasing is the default for most selection tools). Store the selection as an alpha channel. With the selection still active, choose Inverse from the Select menu.
2. Match the Web page’s background color and fill the selection: Set Photoshop’s Foreground color to that of the Web page and press Alt + Backspace (Windows) or Option + Delete (Mac) to fill the selection.
3. Make an RGB “backup” of your image by choosing Duplicate from the Image menu. (This just ensures that you can start over if the rest of the procedure doesn’t give you the results you want.)
4. Make an Indexed Color version of the file: Choose Indexed Color from the Mode submenu of the Image menu. In the Indexed Color dialog box, select Web (if you expect a significant portion of your viewing audience to be using 256-color display systems) or Adaptive (if you expect the vast majority of your audience to have display systems that can display thousands of colors) from the Palette pop-up menu. Click OK.
5. Export in GIF and make the background pixels transparent: Choose GIF89a Export from the Export submenu of the File menu, and then click the dialog box’s eyedropper tool on the background color, outside of the subject but still within the preview box. This makes the background color transparent but leaves the “anti-aliasing” pixels in place. (If there are pixels of the background color within the silhouette subjects, those pixels will also become transparent, allowing the background color to show through the holes. But that shouldn’t be a problem if the color that you’ve chosen for transparency really is the same as your Web page’s background color.)

If you don’t know the background color of the Web page, or if the silhouette will need to appear over more than one background color, then you should create your GIF image using an alpha channel, as described on the next page. Be forewarned, however, that the pixels in a GIF transparency created in this manner are “all or nothing”—

there will be no anti-aliasing at the edges (even though the alpha channel as it appears in Photoshop will have a smooth, anti-aliased edge).

1. Make an alpha channel of the selection: Working in RGB mode, select the subject and shrink the selection by one pixel all around (choose Contract from the Modify submenu of the Select menu). Open the Channels palette (from the Window menu) and click the Save Selection button. The new channel will show up in the Channels palette.
2. Convert to Indexed Color using the procedure in step 4 in the previous column.
3. Export in GIF format: Choose GIF89a Export from the Export submenu of the File menu. In the GIF89a Export dialog box, choose the alpha channel's name in the Transparency From pop-up menu, and then click OK. You'll see that wherever the alpha channel is black, the GIF file will be transparent, and wherever the channel is white, the GIF's pixels will be opaque, creating a silhouetted subject when you place the image on a Web page.

Regardless of what kind of background your GIF image will sit upon, you'll start with an alpha channel. The white area in the alpha channel at right represents the silhouette.



Save Selection button

## Stepping into the shadows

The technique you'd use for creating a soft, semitransparent shadow is the same for both print and the Web, but you have to process the shadow appropriately for its final medium. First, we'll create the shadow effect.

**Making the shadow.** There are many ways to make a realistic drop shadow. Here's our favorite "manual" technique, but you can automate the process with a Photoshop Action or use a plug-in such as PhotoCastShadow (in Extensis PhotoTools 2.0, reviewed on page 25).

1. Make a shadow layer: Select your subject from the Background layer using the stored selection you made for safekeeping when you were producing the silhouette. Copy the subject to a new layer (Ctrl + J in Windows or Command + J on a Macintosh), and then duplicate the new layer by dragging its thumbnail in the Layers palette to the New Layer button at the bottom of the palette, so you have two isolated subject layers stacked above the background.
2. Create the shadow: Set the foreground color to black. Make the lower subject layer active, and then press

Shift + Alt + Backspace (Windows) or Shift + Option + Delete (Macintosh). This fills the subject in the lower layer with black without spilling the fill into the layer's transparency. (The Shift key acts as a temporary Preserve Transparency function.)

3. Add a white-filled layer beneath the shadow: Activate the Background layer, click the New Layer button, select all, and fill with white. This layer will help give you a good view of your developing shadow, and may serve other purposes later depending on the background you'll be using.
4. Reactivate the shadow layer and soften the edges of the shadow with the Gaussian Blur filter (from the Blur submenu of the Filter menu).
5. Adjust both the shadow's density (with the opacity slider in the Layers palette) and position (with the move tool) to suit you. No matter how you've made the shadow, as long as it's on its own layer, you can continue to tweak it.

**Processing the shadow.** How you will work with the shadow from this point forward depends on whether it's going to print or to the Web, and what kind of background will be behind it.

If your silhouette and shadow are going to appear over a portion of a page that has no other printed elements, just flatten the file (choose Flatten Image from the Layer menu) and then turn off the clipping path (if you made one earlier) by choosing Clipping Path from the Paths palette pop-up menu and choosing None for the Path option in the Clipping Path dialog box. Save the file as a TIFF or EPS.

If your silhouette and shadow will appear over a solid-color printed background on a paper page, fill the white layer below the shadow with the color of the page (set the foreground color to match the page's background color and press Alt + Backspace in Windows or Option + Delete on a Macintosh). Then flatten the file, turn off the clipping path, and save the file.

If you plan to put your shadowed subject over printed matter other than a solid-color background, you can turn your shadow into a separate transparent image using Bitmap mode. The following technique will turn your shadow into a high-resolution, transparent, one-bit image that can "fake" the soft grays of the shadow by using tiny black dots in varying densities—more dots per inch for the dark center of the shadow, and fewer dots per inch for the edges. The spaces between the dots are transparent, so whatever is underneath shows through the shadow. You then combine this shadow image with the opaque, colored subject image.

1. Make sure the file is at its final printed dimensions: If necessary, use Image Size from the Image menu to

## Got a match?

To make sure the background color behind your silhouette and shadow exactly matches the color you're printing for the background of the page, try this: Create a new, very small file, using the same color mode as your image. Fill the entire canvas of this little file with the same color you used for the color fill behind the shadow, and then save it in the same format (TIFF or EPS). In your layout program, place this small file on the page, stretch it to fit, allowing for any bleed, and then place the silhouette file and all the other page elements on top of this background.

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## To TIFF or not to TIFF?

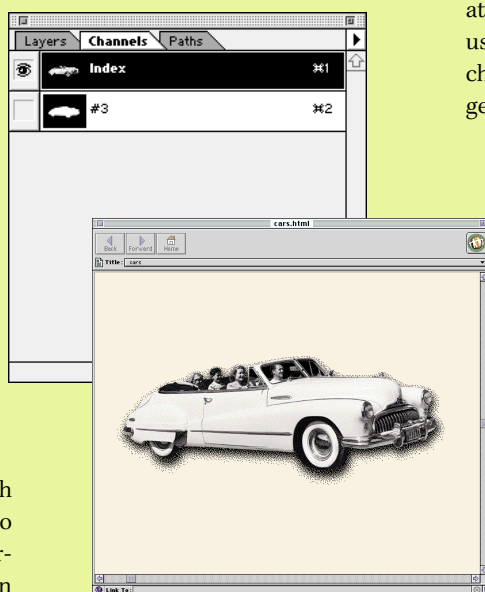
Photoshop can save clipping paths in both EPS and TIFF files, so which format should you use? Each has distinct advantages.

EPS files with clipping paths are widely accepted by page-layout and illustration programs (including PageMaker, Illustrator, and FrameMaker). But PageMaker 6.x can also recognize a clipping path in a TIFF image. While EPS is the more universally readable format, TIFF's big advantages are that it can produce a smaller file size (since it supports LZW compression) and can print reliably to non-PostScript printers.

TIFF files can also provide better on-screen previews than EPS files. In some cases—particularly with EPS files created in Windows—your clipping path may not display properly (the area outside the clipping path may not look transparent on screen). Regardless of how the EPS displays, it'll print properly on any PostScript device. But if you're printing to a non-PostScript printer (which can print only the screen preview, not the actual EPS), what you see on screen is what you'll get on output.

adjust the final printed width and height of the file. (Once you make the 1-bit shadow file as described in steps 3 and 4 below, you won't be able to resize it without degrading its appearance.)

2. Make the separate shadow file: With your shadow layer active, turn off visibility for the silhouette layer above it, select all, and copy merged (Ctrl + Shift + C in Windows or Command + Shift + C on the Mac). Then start a new file, choosing Grayscale from the Mode pop-up menu. Paste the shadow into the new file.
3. Convert to Bitmap mode: Select Bitmap from the Mode submenu of the Image menu. Click OK to flatten the layers. In the Bitmap dialog box, choose the Diffusion Dither option and enter an output resolution—try 300 to 600 dpi for laser printing, 600 dpi for offset printing. (To be successful with this method, you may have to experiment to get the right output settings for the conversion to Bitmap mode. Higher settings can make the shadow "go solid" because of dot gain on the press or desktop printer. Lower settings can show the dotted nature of the image. For offset printing, you should consult with your commercial printer about what you plan to do.)
4. Save and place the file: Save the shadow file as a TIFF and then place the TIFF into your layout program. In most applications (including Adobe applications), the noncolored areas of the 1-bit image will automatically behave as if they're transparent. In some applications, however, you might need to select an option to ensure that your shadow behaves this way (check your application's manual if you're not sure how it handles 1-bit TIFFs). You can position your silhouette file on top of the shadow on the page.



**To give your shadow a glow or "halo," assign it a light color; to give it a color cast, make it a dark version of the Web page's background color.**

To process a transparent shadow or halo for a GIF, use an alpha channel that combines the shapes of the silhouette and shadow. It takes several steps to get the desired result, so suspend your disbelief and follow the instructions carefully. We'll assume you've made an alpha channel and shadow using the procedures for a complex or unknown background, and your image is 72 dpi.

1. Create a separate bitmap shadow file as described in steps 1–3 in the previous procedure, but this time set the file's resolution to 72 dpi.
2. Convert the bitmap shadow file back to grayscale and select all the black pixels: Set the Tolerance option for the Magic Wand at 0 (zero), click on a black pixel, and then choose Similar from the Select menu.
3. Use a selection tool—not the move tool—to drag and drop only the selection border ("marching ants"), not the contents, back into the silhouette file. Offset the marching ants where you want the shadow to be. (In Photoshop 3.x, paste the selection border into a new alpha channel in the original file.)
4. Add the silhouette selection to the shadow selection: Ctrl-Shift-click (Windows) or Command-Shift-click (Mac) the thumbnail for the silhouette's alpha channel in the Channels palette, and then click the Save Selection button. You've now created a combined alpha channel. (In 3.x, use Load Selection to add the first alpha channel to the second, and press Delete to get your combined channel.)

5. In the original shadow layer, select all and fill with the shadow color. The entire layer will now be filled with color.

6. Convert the image to Indexed Color (duplicating it first for later projects) and delete the silhouette-only alpha channel. Export as a GIF, choosing your combined alpha channel from the dialog box's Transparency From pop-up menu.

## Fadeout

It may take some experimentation with drawing clipping paths or adjusting bitmap output resolution to pull off this "disappearing act" and get the silhouettes, soft edges, or partial transparency that you want. But the time and effort will pay off with pages that stand out *clearly* among everyone else's. ♦

*Linnea Dayton and Jack Davis are the authors of The Photoshop 4 Wow! Book and accompanying CD-ROM with more than 60 Wow! tutorial special-effects actions, published by Peachpit Press.*