



ADOBE PHOTOSHOP



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We hope you find the friendly, informal atmosphere helps you to relax and enjoy your training session. If you have any questions during the day, please do not hesitate to ask. We want you to gain the maximum benefit from your investment.

About this Manual

This course manual is for you to keep and is intended as a reference so that it can be referred to during your daily work. Each section covers a different topic with easy to follow step-by-step instructions.

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PROJECT: VINTAGE PHOTOGRAPH RESTORATION



Adobe Photoshop includes a variety of tools and commands for improving the quality of a photographic image. This lesson steps you through the process of acquiring, resizing, and retouching a vintage photograph.

Strategy for retouching

● **Note:** In this lesson, you retouch an image using only Adobe Photoshop. For other images, it may be more efficient to work in Adobe Camera Raw, which is installed with Photoshop. Or you may wish to start in Camera Raw, and then move on to Photoshop for more advanced retouching. You'll learn about the tools Camera Raw has to offer in Lesson 5, "Correcting and Enhancing Digital Photographs."

How much retouching you do depends on the image you're working on and your goals for it. For many images, you may need only to change the resolution, lighten the image, or repair a minor blemish. For others, you may need to perform several tasks and employ more advanced filters.

Organizing an efficient sequence of tasks

Most retouching procedures follow these general steps, though not every task may be necessary for all projects:

- Duplicating the original image or scan; working in a copy of the image file makes it easy to recover the original later if necessary
- Ensuring that the resolution is appropriate for the way you'll use the image
- Cropping the image to final size and orientation
- Removing any color casts
- Adjusting the overall contrast or tonal range of the image
- Repairing flaws in scans of damaged photographs (such as rips, dust, or stains)
- Adjusting the color and tone in specific parts of the image to bring out highlights, midtones, shadows, and desaturated colors
- Sharpening the overall focus of the image

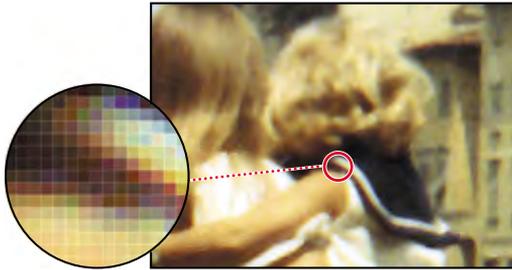
The order of the tasks may vary depending on the project, though you should always start by duplicating the image and adjusting its resolution. Likewise, sharpening should usually be your final step. For the other tasks, consider your project and plan accordingly, so that the results of one process do not cause unintended changes to other aspects of the image, making it necessary for you to redo some of your work.

Adjusting your process for different intended uses

The retouching techniques you apply to an image depend in part on how you'll use the image. Whether an image is intended for black-and-white publication on newsprint or for full-color online distribution affects everything from the resolution of the initial scan to the type of tonal range and color correction that the image requires. Photoshop supports the CMYK color mode for preparing an image to be printed using process colors, as well as RGB and other color modes for web and mobile authoring.

Resolution and image size

The first step in retouching a photograph in Photoshop is to make sure that the image has an appropriate resolution. The term *resolution* refers to the number of small squares, known as *pixels*, that describe an image and establish its detail. Resolution is determined by *pixel dimensions*, or the number of pixels along the width and height of an image.



Pixels in a photographic image

In computer graphics, there are different types of resolution:

The number of pixels per unit of length in an image is called the *image resolution*, usually measured in pixels per inch (ppi). An image with a high resolution has more pixels (and therefore a larger file size) than an image of the same dimensions with a low resolution. Images in Photoshop can vary from high resolution (300 ppi or higher) to low resolution (72 ppi or 96 ppi).

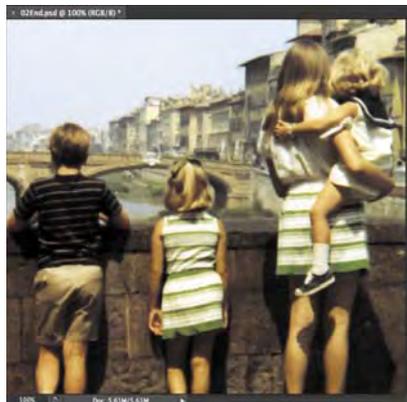
The number of pixels per unit of length on a monitor is the *monitor resolution*, also usually measured in pixels per inch (ppi). Image pixels are translated directly into monitor pixels. In Photoshop, if the image resolution is higher than the monitor resolution, the image appears larger onscreen than its specified print dimensions. For example, when you display a 1x1-inch, 144-ppi image on a 72-ppi monitor, the image fills a 2x2-inch area of the screen.

● **Note:** To determine the image resolution for a photograph you plan to print, follow the computer-graphics rule of thumb for color or grayscale images intended for print on large commercial printers: Scan at a resolution 1.5 to 2 times the screen frequency used by the printer. If the image will be printed using a screen frequency of 133 lpi, scan the image at 200 ppi (133x1.5).

● **Note:** It's important to understand what "100% view" means when you work onscreen. At 100%, one image pixel = one monitor pixel. Unless the resolution of your image is exactly the same as the resolution of the monitor, the image size (in inches, for example) onscreen may be larger or smaller than the image size will be when printed.



7x7 inches at 72 ppi; file size 744.2KB
100% onscreen view



7x7 inches at 200 ppi; file size 5.61MB
100% onscreen view

The number of ink dots per inch (dpi) produced by a platesetter or laser printer is the *printer*, or *output, resolution*. Higher resolution images output to higher resolution printers generally produce the best quality. The appropriate resolution for a printed image is determined both by the printer resolution and by the *screen frequency*, or lines per inch (lpi), of the halftone screens used to reproduce images.

Keep in mind that the higher the image resolution, the larger the file size, and the longer the file will take to print or to download from the web.

For more information on resolution and image size, see Photoshop Help.

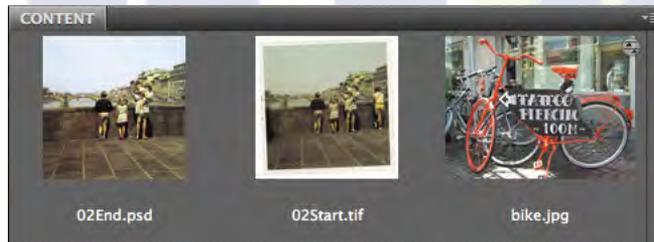
Getting started

In this lesson, you'll retouch a scan of a damaged and discolored vintage photograph so it can be shared or printed. The final image size will be 7x7 inches.

You'll start the lesson by comparing the original scan to the finished image.

● **Note:** If Bridge isn't installed, you'll need to install it from Adobe Creative Cloud. For more information, see page 3.

- 1 Start Adobe Bridge CC by choosing Start > All Programs > Adobe Bridge CC (Windows) or double-clicking Adobe Bridge CC in the Applications folder (Mac OS).
- 2 In the Favorites panel in the upper left corner of Bridge, click the Lessons folder. Then, in the Content panel, double-click the Lesson02 folder to see its contents.



- 3 Compare the 02Start.tif and 02End.psd files. To enlarge the thumbnails in the Content panel, drag the Thumbnail slider at the bottom of the Bridge window to the right.

In the 02Start.tif file, notice that the image is crooked, the colors are relatively dull, and the image has a green color cast and a distracting crease. You'll fix all of these problems in this lesson, and a few others. You'll start by cropping and straightening the image.

- 4 Double-click the 02Start.tif thumbnail to open the file in Photoshop.
- 5 In Photoshop, choose File > Save As. Choose Photoshop from the Format menu, and name the file **Working2.psd**. Then click Save.



Straightening and cropping the image in Photoshop

You'll use the Crop tool to straighten, trim, and scale the photograph. You can use either the Crop tool or the Crop command to crop an image. By default, cropping deletes the cropped pixels.

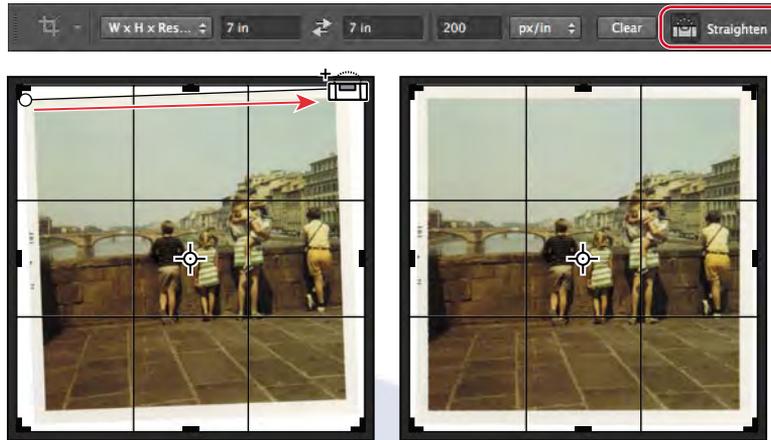
- 1 In the Tools panel, select the Crop tool (⌘).
- 2 In the options bar, choose W x H x Resolution from the Preset Aspect Ratio menu. (Ratio is its default value.)
- 3 In the options bar, type **7 in** for the width, **7 in** for the height, and **200 px/in** for the resolution.

► **Tip:** Deselect the Delete Cropped Pixels option if you want to crop nondestructively, so that you can revise the crop later.



A crop grid appears. A *cropping shield* covers the area outside the cropping selection. First, you'll straighten the image.

- 4 Click Straighten in the options bar. The pointer changes to the Straighten tool.
- 5 Click at the top corner of the photo, and drag a straight line across the top edge of the photo.



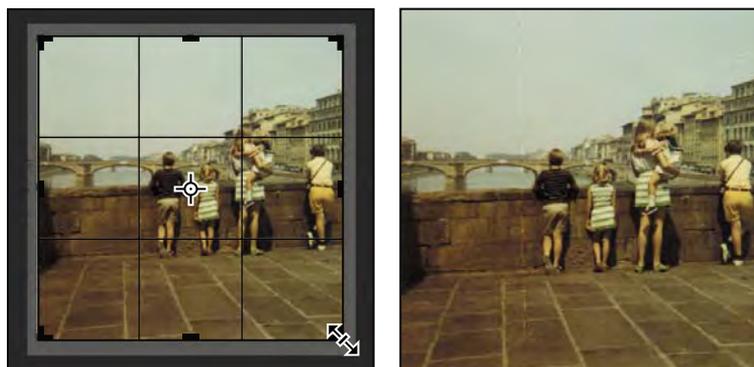
Photoshop straightens the image, so that the line you drew is parallel with the top of the image area. You drew a line across the top of the photo, but any line that defines either the vertical or horizontal axis of the image will work.

Now, you'll trim the white border and scale the image.

- 6 Drag the corners of the crop grid in to the corners of the photo itself to crop out the white border. If you need to adjust the position of the photo, click and drag it within the crop grid.
- 7 Press Enter or Return.

► **Tip:** You can choose Image > Trim to discard a border area around the edge of the image, based on transparency or edge color.

The image is now cropped, and the cropped image fills the image window, straightened, sized, and positioned according to your specifications.



► **Tip:** To quickly straighten a photo and crop out the scanned background, choose File > Automate > Crop And Straighten Photos.

- 8 To see the image dimensions, choose Document Dimensions from the pop-up menu at the bottom of the application window.
- 9 Choose File > Save to save your work. Click OK if you see the Photoshop Format Options dialog box.

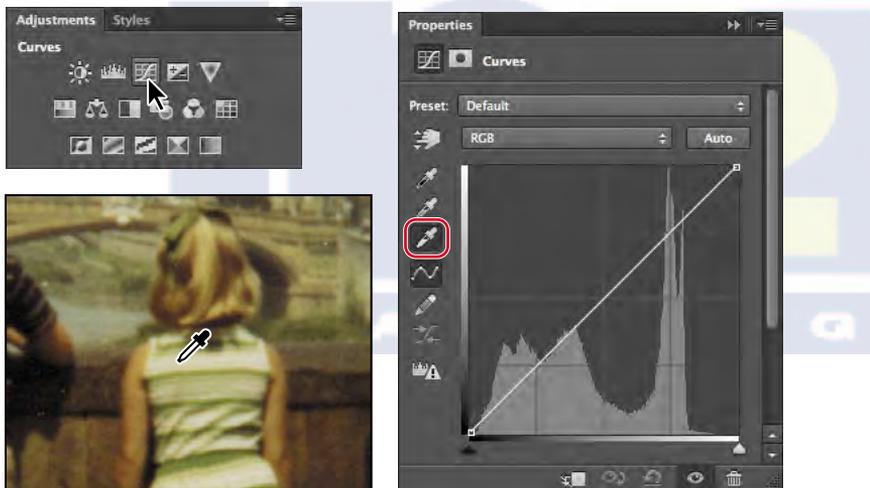
Adjusting the color and tone

You'll use Curves and Levels adjustment layers to remove the color cast and adjust the color and tone in the image.

- 1 Click Curves in the Adjustments panel to add a Curves adjustment layer.
- 2 Select the White Point tool on the left side of the Properties panel.

Specifying a white point changes all the colors in the image. To set an accurate white point, select a white area in the image.

- 3 Click a white stripe on the girl's dress.



The color tone of the image changes dramatically. You can click different white areas, such as the child's sailor dress, a stripe on the woman's dress, or the girl's sock, to see how each selection changes the color.

In some images, adjusting the white point is enough to remove a color cast and correct the tone of the image. Here, selecting a white point is a good start. You'll use a Levels adjustment layer to fine-tune the tone.