**6**

DAMAGE CONTROL AND REPAIR

The torture we put our old photographs through—storing them in damp basements, carrying them in wallets, folding, tearing, cutting, and pasting them into albums—all leave the telltale cracks, rips, tears, and misshapen corners. So if this is so bad for photographs, why do we put them through the gauntlet of abuse? Because we value, treasure, and cherish them. We like carrying a picture of loved ones in our wallets or purses, we take pleasure in making the family photo album or collage, and sadly we often don't realize that the basement isn't the best place to store a valuable print.

So rather than relegating the damaged to a darker, more forgotten, basement corner—let's get them out, scan them in, and learn to

- Eliminate scratches
- Remove wires and clutter
- Repair tears, rips, and cracks
- Make stains and discoloration disappear

The tools and techniques used to conquer these challenges include

- The Rubber Stamp tool
- The Background Eraser tool
- Levels and Layer options
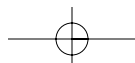
ELIMINATING SCRATCHES

One of the most pedestrian and irritating things you will need to retouch are scratches caused by dirty film processors, coarse handling, or specks of dust on the scanner or digital camera CCD (charged coupled device). But take heart; with the following techniques you'll make those scratches disappear with ease and panache.

Using the Rubber Stamp Tool

Old photos and negatives are often plagued with numerous irregular scratches, which can be hidden quickly and easily. **Figure 6.1** shows an original print that curled over time and cracked when it was stored incorrectly and weight was placed on it. **Figure 6.2** shows the repaired file.

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BEFORE

figure 6.1

AFTER
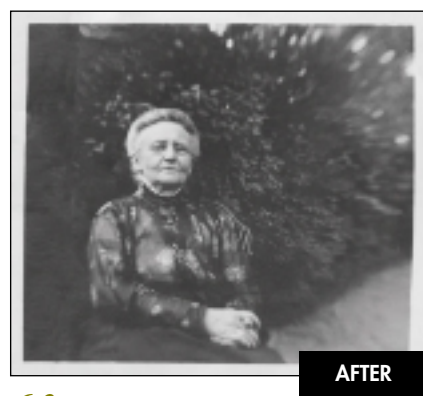
figure 6.2

ch6_scratch.jpg

1. Add an empty layer and name it Scratch Removal. Select the Rubber Stamp tool and set the Mode to Normal, the Opacity to 100%, and check Use All Layers as seen in **figure 6.3**.

figure 6.3

*Setting up the scratch removal layer and the Rubber Stamp parameters.*

2. Select a brush size that is large enough to cover the scratch. Move the mouse 1 to 2 brush widths to the left or right of the scratch, to an area that has a similar tonal range and (Option + click)[Alt + click] to set the clone source.

3. To spare yourself the trouble of having to draw along the entire scratch, Shift + click the Rubber Stamp tool at the top of the scratch.

4. Let go of the mouse button and move the brush about an inch down the scratch, and Shift + click again. The Rubber Stamp tool clones in a perfectly straight line (see **figure 6.4**).

figure 6.4

After Shift + clicking along the scratch.

5. Continue Shift + clicking your way along the scratch. The Scratch Removal layer, shown in **figure 6.5**, shows the cloning that's been applied to the photograph.
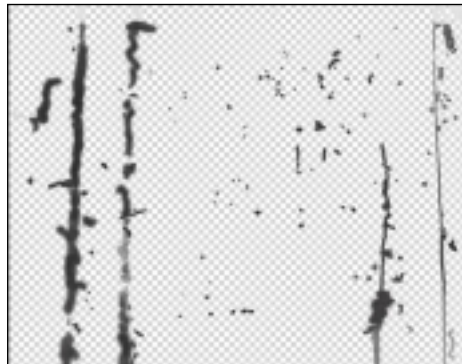
figure 6.5

The isolated Scratch Removal layer.

Tip

While working with the Clone Stamp or any painting tool, access the context-sensitive menu to change brush size or Blending Modes by pressing (Control) [right mouse button] (see *figure 6.6*).

figure 6.6

Accessing the context-sensitive menu of the Rubber Stamp tool for faster brush or Blending Mode changes.

Removing Straight Scratches

Sometimes a speck of dust will land on the scanner CCD, creating a one or two pixel line that runs the entire length of the file, such as the one seen in *figure 6.7*. Don't despair; you can purge the world of that scratch as shown in *figure 6.8* with the outlined steps. To fix a vertical scratch, use the Single Column Marquee tool, and to fix a horizontal scratch, use the Single Row Marquee tool.
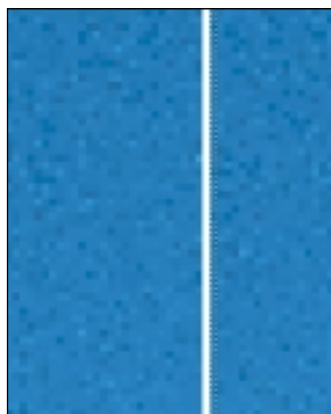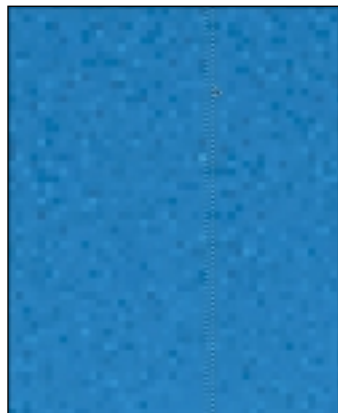

figure 6.7

figure 6.8

ch6_scratch2.jpg

1. Select the Single Column Marquee tool, zoom in on the culprit, and click next to the scratch, as seen in *figure 6.9*. If you didn't land directly next to the scratch, use the arrow keys to nudge the selection into position.

figure 6.9

Selecting good information directly next to the scratch.

2. (Cmd + Option + arrow key) [Ctrl + Alt + arrow key] will duplicate and nudge a single column of pixels over to cover the offending scratch, as shown in **figure 6.10**.

figure 6.10

Nudge to duplicate the good information over the scratch.

REMOVING UNWANTED ELEMENTS

Wires, cables, and clutter only serve to distract the viewer from what is really important in the picture. You can use this technique when preparing real estate photos—by taking out the distracting telephone wires and electric cables, the homes come to the visual foreground and look much more attractive (translation: more sellable).

Dismantling Wires or Cables

To remove telephone wires, cables, or smooth, long, thin scratches, start by tracing the problem with the Pen tool, and then stroke the path with the Clone Stamp tool. In the example seen in **figure 6.11**, the wires detract from the picture of the locomotive, and without the wires the image looks much cleaner, as seen in **figure 6.12**.
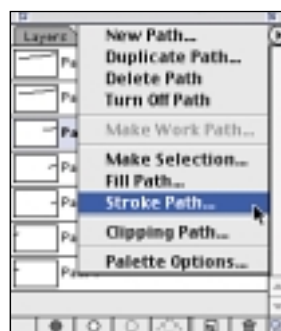

figure 6.11

figure 6.12

1. I started by drawing a separate path along each wire (see **figure 6.13**).
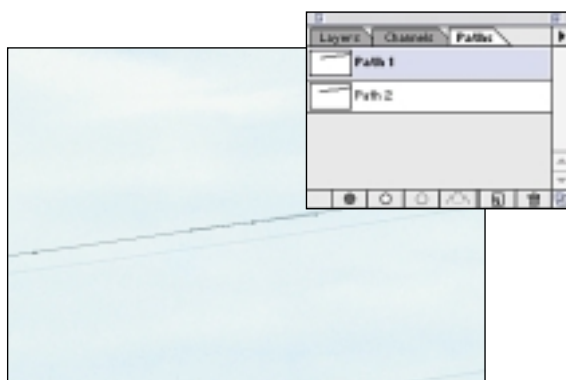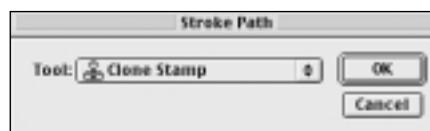
figure 6.13

Creating paths with the Pen tool along each wire.

2. Select the Rubber Stamp tool and set the brush to the same width as the wire. (Option + click) [Alt + click] to set the clone source 1–2-brush widths from the wire to be removed.

3. Select Stroke Path from the Paths palette menu (see **figure 6.14**). Select the Clone Stamp from the Tool menu (see **figure 6.15**).

figure 6.14

Accessing the Stroke Path command.

figure 6.15

Selecting the Clone Stamp from the Stroke Path menu.

4. Continue drawing and stroking paths until all wires are removed. To hide shorter sections of wire, I prefer to use the Shift + click method I described in the first scratch removal example in this chapter.

Tip

If the Clone Stamp tool is active, you can just tap the Enter key (not the return key), and Photoshop will stroke the active Path with the Clone Stamp.

Hiding Clutter and Distractions

In the excitement of taking a picture we often forget to look at the entire scene. We might not notice the tree trunk coming out of the skater's head, as seen in **figure 6.16**, or the bits of garbage on the sidewalk or the clutter in the background of a family snapshot. By removing the clutter you can focus the viewer's attention on the picture and clean up the living room without getting out the vacuum.

You can't physically take something out of a digital image, but you can cover it up. You could also take the subject out of the image and put her on a new background (addressed in Chapter 7, "Replacing and Recreating Missing Image Elements."). In the following example, the palm tree that is coming out of the rollerblader's head truly distracts from the picture; with just a few minutes of work, the image seen in **figure 6.17** is much better.


BEFORE

AFTER

© Corel Corporation

figure 6.16   *figure 6.17*

1. Make a generous selection around the clutter to be removed (see **figure 6.18**).

figure 6.18

Roughly selecting the area to be covered up.

2. Press Q to enter Quick Mask mode and run the Gaussian Blur filter to soften the edge of the mask (see **figure 6.19**). This is identical to applying a feather to a selection, but the advantage is that you can see the effect of the blur.
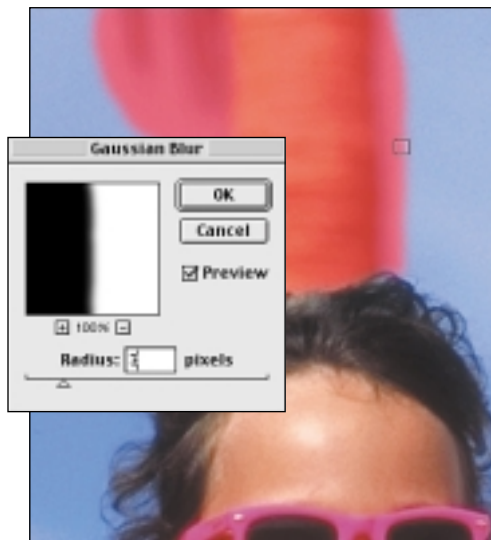
figure 6.19

Blurring the Quick Mask is identical to feathering the selection, except that you have an accurate preview of the effect.

3. If need be, use a painting tool to refine the Quick Mask.

4. Press Q again to exit Quick Mask mode and activate the selection.

5. With any selection tool, move the selection to an area that has uncluttered, good information, as seen in **figure 6.20**.

figure 6.20

Move the selection over to good information.

6. Create a new layer via copy with (Cmd + J) [Ctrl + J]. Use the Move tool to drag the good information over the bad. The result is shown in **figure 6.21**.
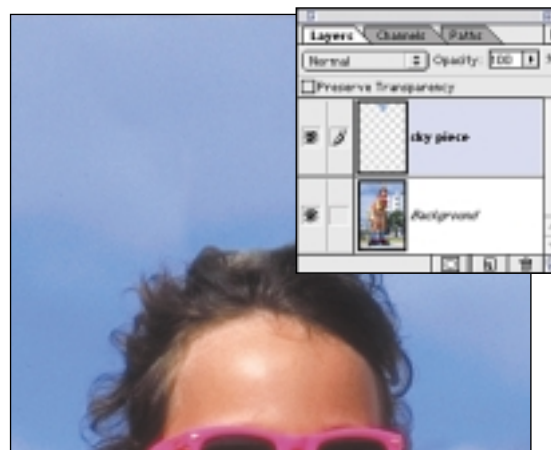
figure 6.21

After floating good sky and moving it over the palm tree trunk you might need to do a bit of clean up with the Rubber Stamp tool to fine tune the results.

7. Cover up any edge or tone difference with the Rubber Stamp tool.

REPAIRING TEARS, RIPS, AND CRACKS

Over the years the photographs that we cherish tend to get folded, cracked, torn, and damaged. If you're lucky, you'll at least have all the pieces to reconstruct the image—if you're not so lucky, you'll have to make up image information to reconstruct the missing pieces. In the following examples the image was torn into pieces, which I was able to scan on a flatbed scanner and then recombine in Photoshop.

As you can see in **figure 6.22**, the original 14.5 inch by 10 inch fiber-based print is torn, cracked, and damaged. With a few repair layers the final image is ready for framing, as seen in **figure 6.23**. Because the print is too large to fit completely on my flatbed scanner, I needed to scan it in sections, as seen in **figure 6.24**. I started the restoration process by opening each individual file to repair the small cracks and large tears, as described in earlier parts of this chapter. When that was finished, I was ready to combine the three pieces and fine-tune the overlapping edges.

figure 6.22   *figure 6.23*

🌐▷⤙ **ch6_torn.jpg**

🔍 **T i p**

When scanning print pieces, do not change the print orientation by rotating pieces. That will vary the reflectance of the paper texture between the pieces, making them difficult to merge.
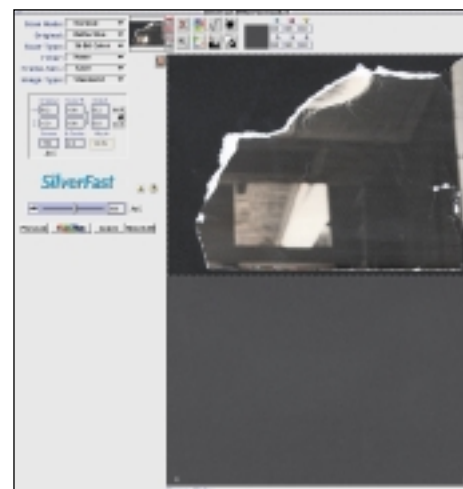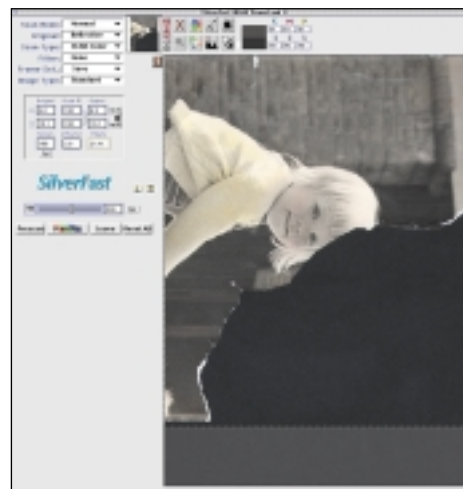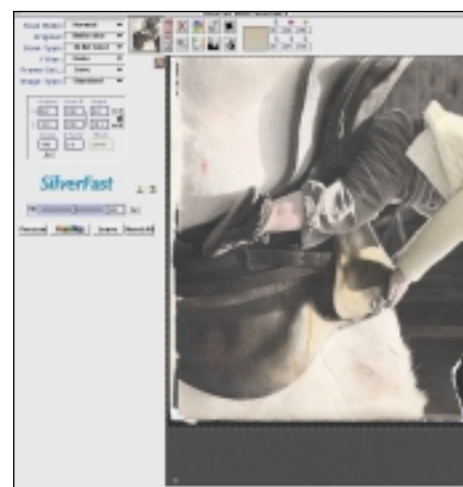

© Herb Paynter

figure 6.24

The physical print was larger than my flatbed scanner could handle, so I scanned the pieces in three separate passes.

1. Select the Background Eraser and set it to Contiguous with a 20%–50% Tolerance. The lower the Tolerance, the less the eraser will erase, which is very useful when erasing similarly toned areas. In this example, the light areas next to the little girl's light hair required a lower tolerance.

2. Zoom in and keep the Background Eraser crosshair close to the edge of the image as you carefully stroke along the white side of the edge, as shown in **figure 6.25**. Use the Shift + click technique to speed this process up.

figure 6.25

Use the Background Eraser to carefully delete the unwanted white paper fringe caused by the tearing of the print.

3. Select the Lasso tool and draw a complete circle around the corner piece by drawing through the transparent area and circling the entire outside edge of the corner. Then, press (Cmd + J) [Ctrl + J] to move the selected information onto its own layer, as shown in **figure 6.26**.

figure 6.26

Isolating the good information onto its own layer.

4. Move the new layer into position making the two pieces meet, lower the opacity to 50% (see **figure 6.27**). Return the opacity to 100% when the piece is properly placed.

figure 6.27

Lowering the opacity helps you see where to align the pieces with one another.

5. As you can see in **figure 6.28**, there is still a slight line along the tear. Add a new layer and clone over the edges.

figure 6.28

At 100% opacity, slight image damage is still visible.

6. Of course some fine-tuning Clone Stamping will be required, but the mask method does a lot of the work for you. **Figure 6.29** shows the final layer stack used to retouch this image.

figure 6.29

The final layer stack used to repair this image

MATCHING DENSITY TO MINIMIZE STAINING

The only dirt or stains that you should remove from the physical print original are the ones that brush or blow off easily. A professionally trained conservator should be the only one to treat stains that are embedded in the film or print emulsion. **Figure 6.30** is a fiber-based black-and-white original from 1951 that has survived two transoceanic moves and numerous storage conditions, from the proverbial shoebox to the miscellaneous desk drawer, but still has damage we can repair.

After correcting the tone and exposure (as explained in Chapter 2, "Improving Tone and Contrast"), I worked with layers, layer masks, Adjustment Layers, and cloning to hide the staining in the center of the print and on the face of the handsome young man (my father) (see **figure 6.31**). No, the baby isn't me…I'm not that old yet.

To reduce the staining, try covering up the stain with parts of the image that aren't stained, or use the Clone Stamp tool on an empty layer, or work with Levels to balance out the tonal differences. Most of the time you'll need to undertake a combination of these techniques to achieve good results.

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BEFORE

figure 6.30

AFTER

figure 6.31

ch6_BWfamily.jpg

1. Select and copy good image information as seen in **figure 6.32**.

figure 6.32

Selecting replacement information.

2. Loosely select the stain with a feathered Lasso, as shown in **figure 6.33**.
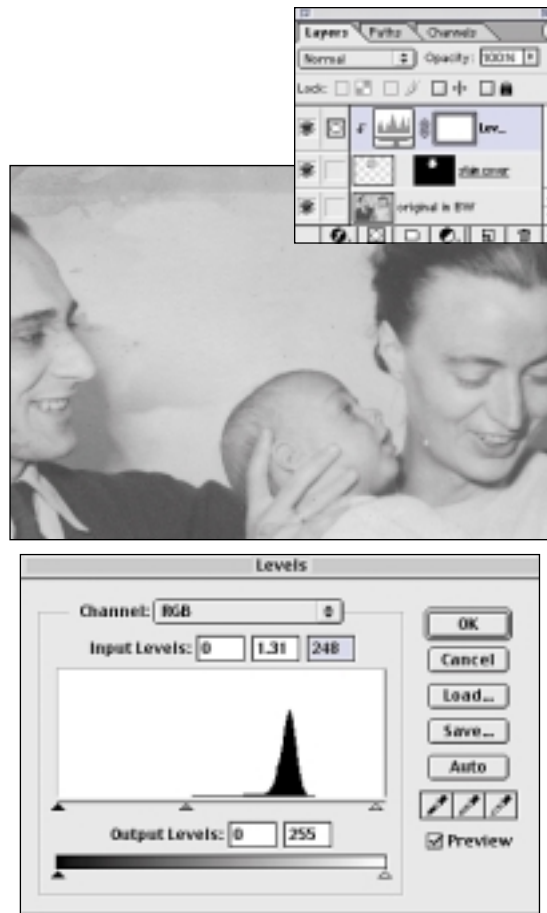
figure 6.33

Selecting the stained area.

3. Select Edit > Paste Into. Photoshop automatically creates a layer with a layer mask based on your Lasso selection.

4. Select Edit > Free Transform and drag the handles to make the new information fit into the stained selection.

5. Select Layer > New Adjustment Layer > Levels. Click Group with Previous Layer as seen in **figure 6.34**. (This is just a time-saver; you can always group layers with one another after the fact with (Cmd + G)[Ctrl + G]).

figure 6.34

Adding a grouped Levels Adjustment Layer.

6. Adjust the Levels sliders until the stained area's tone matches the unstained wall, as shown in **figure 6.35**.

figure 6.35

Working with Levels to match the tones.

CLOSING THOUGHTS

Although repairing tears or removing clutter sounds like a mundane endeavor, I hope that the techniques shown in this chapter have given you some creative approaches to ridding the world of scratches, wires, and clutter. Most importantly, always keep in mind how valuable the photo is that you're working on—the people, the memories, the captured moment might be the only reminder you or your client has of something or someone near and dear to them. By removing those scratches and damage, you're giving them back their memories as clear as the day the picture was taken.