



**Restoring Memories**  
with

**Dave Cross**

Although restoring old photos can be extremely rewarding, it can take time. In addition, we (and/or your clients) need to have realistic expectations of what is possible.

An old photo that was out of focus when it was taken years ago is the same as a “modern” blurry photo: it’s almost impossible to “fix”.

It can be very challenging to predict how long a restoration project can take – of course over time with experience it becomes a little easier.



*My Dad’s attempt at a selfie, alone on his sailboat circa 1960*

### Capturing Images

It is possible to capture photos using a camera setup, but I prefer a scanner for a couple of reasons:

1. There’s no real setup. Just plug it in and you’re ready to go
2. It’s easier. No experimenting with lighting, lens, camera settings, etc.

A scanner with the option to scan slides and negatives makes things even easier.



Another very important tool is a can of cleaning spray. This can make a huge difference (as illustrated on the next page). If you can eliminate dust before capturing the image, you’ll have less work to do.

You may also want to purchase some archival cotton gloves that will help prevent oils from your fingers transferring onto the photos.



Here's an example of the importance of cleaning, in this example a 35 mm slide.



This first image was my initial scan. Notice all the dust and the fact that the photo looks a little out of focus.

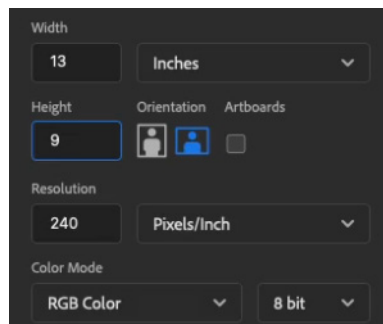
Then I cleaned the slide using the duster spray. Look at the difference: not only is there less dust, but the focus is better.

It seems that there was enough dust on the slide that the scanner had a difficult time “focusing” on the image itself.

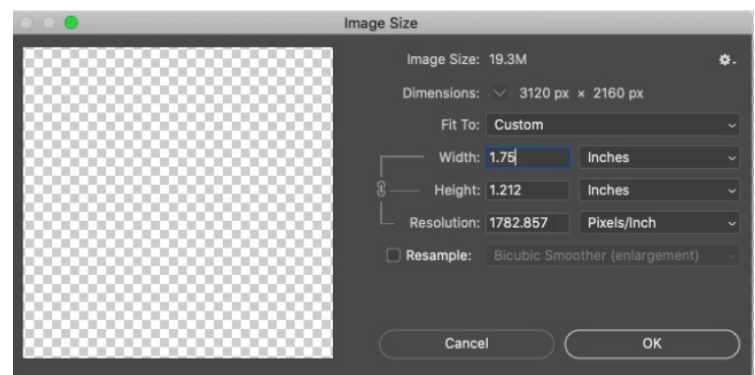
## Calculating Scanning Resolution

In general, it's best to scan at a higher resolution than you think you'll need: that makes it easier to perform detailed retouching. Then you can always lower the resolution once you are finished. But what about scanning very small photos and or slides and negatives? Here's how to have Photoshop do the calculation for you.

First create a document in the size that you need (i.e. where you want to end up). In this example we'll say 13 x 19, at a resolution of 240 ppi (a number I use for my printer).



Then go to Image>Image Size. Uncheck Resample so that all three values are linked together. Now enter one of the measurements of the original document that you are about to scan. In this example I entered 1.75 inches and it told me that I need to scan with a setting of at least 1800 ppi (rounding up).





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### Dealing with Reflections

If you need to photograph a photo in a frame with glass, or perhaps you have a photo on very shiny paper that is causing reflections, try this.

Photograph the photo on an angle.

Use the Perspective Crop Tool to “select” the corners of the photo.

Press Enter.



### Too Big for the Scanner?

Scan the photo in halves (or more pieces depending on the size). Make sure to create an overlap by including the same information (for example the same person) in both scans.

In Bridge use Tools>Photoshop>Load Files Into Photoshop Layers. Use the Move Tool to roughly line things up and then use Image>Reveal All.

Select both layers and use Edit>Auto-Align Layers.

Merge the layers together.



### Textured Paper

Sometimes photos may have a heavily textured paper that shows up in the scan. Here are some possible solutions.

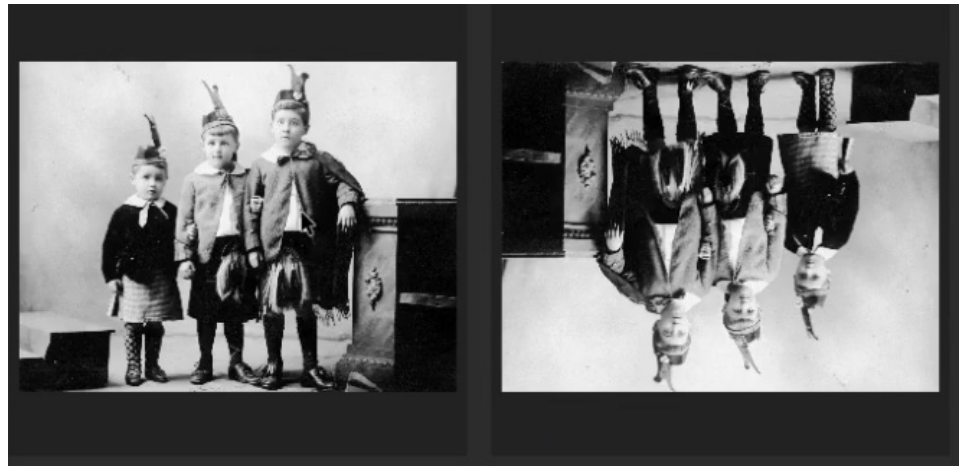
1. Scan the photo on an angle, and then in Photoshop use the Crop Tool and its Straighten option to straighten and then crop the image.



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2. Scan the photo twice, once in the flipped position. Load them both into Photoshop as layers and flip the top image so they are both oriented correctly.

As before, select both layers and use Auto-Align Layers.



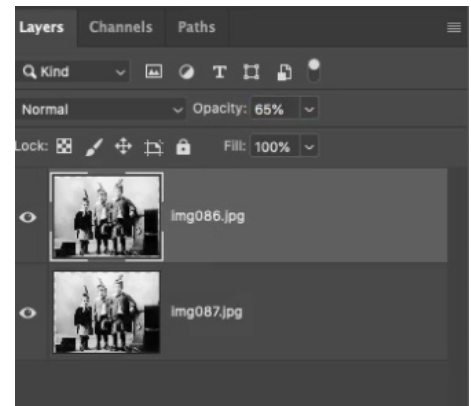
Option 1:

Lower the opacity of the top layer.

Option 2:

Select both layers, Right-click and choose Convert to Smart Object.

Go to Layers>Smart Object>Stack Mode>Median.

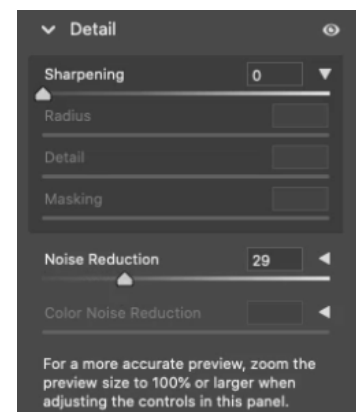


### Camera Raw

Camera Raw can be a very powerful tool in restoration, and is often one of the first things I try, particularly with faded photos (as in this example). You can either apply Camera Raw as a filter if the image is already in Photoshop, or open the jpeg or tiff file in Camera Raw.

Settings like Dehaze, Clarity, and Texture (with negative settings) can make a huge improvement to a photo.

Add in Noise Reduction and very often you will be off to a great start.



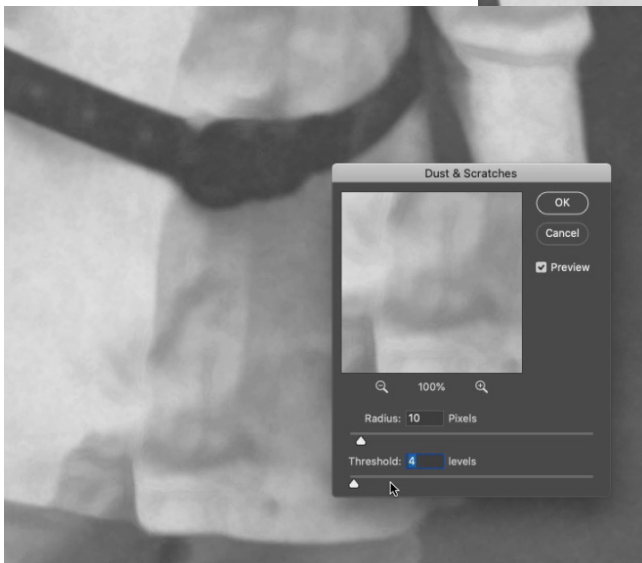
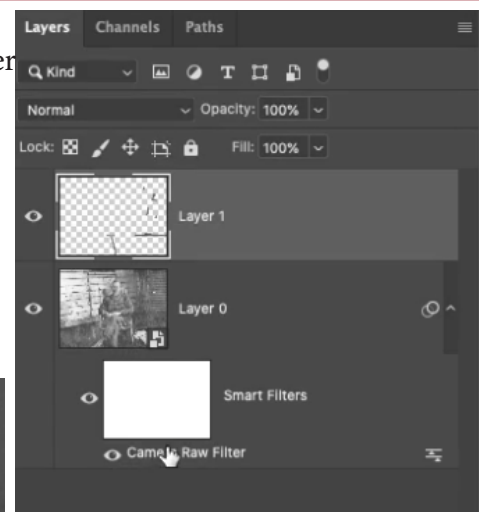
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Note: You can apply the Camera Raw filter as a Smart Filter, but then to do further retouching with the Healing Tool etc, you'll need to add a blank layer above the Smart Object. Then make sure that the tool settings is set to Use All Layers (in the Options Bar).

### Dealing with Spots

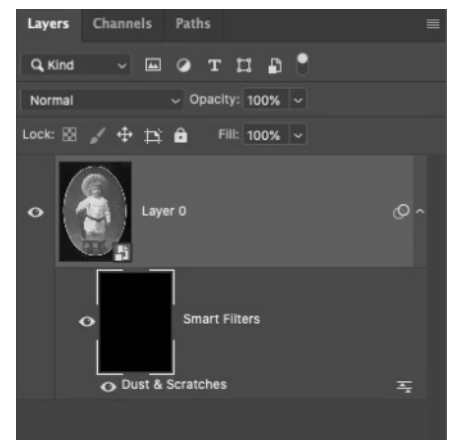
Although Camera Raw may be able to help with smaller dust specks, if there are larger spots, you may need to try a different approach.

Convert the scan to a Smart Object and then use Filter>Noise>Dust and Scratches.



Adjust the settings to use the lowest number you can for the Radius and the highest number you can for Threshold, and still have the spots disappear.

Click OK and in the Layers panel, fill the filter mask with black.



Then use a small brush and with white as the Foreground color, paint over the spots.

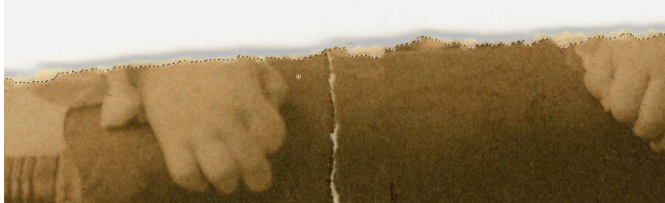


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### Fixing Tears

Pace the pieces on the scanner close together but don't worry about matching them up exactly.

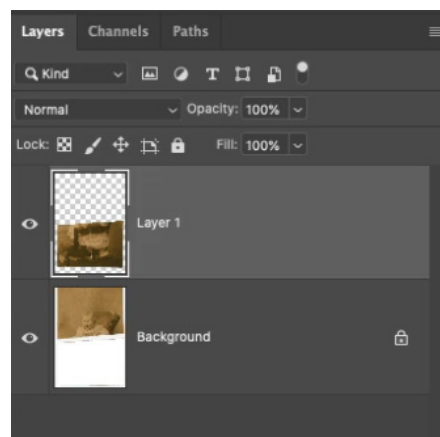
Use selection tools (in this example the Quick Selection Tool worked very well) to select one piece. Look closely as you want to only select the photo itself, not the torn pieces of paper.



Once the piece is selected, use Layer>New>Layer Via Cut to put the piece on its own layer.

Use the Move Tool to position the piece so it matches up on one edge.

Then use Free Transform, moving the reference point to the corner that matches up.



Position your cursor at the opposite side and rotate the piece so it matches up as closely as possible.

Merge the layers together\* and use the Spot Healing Brush to deal with the visible tears.

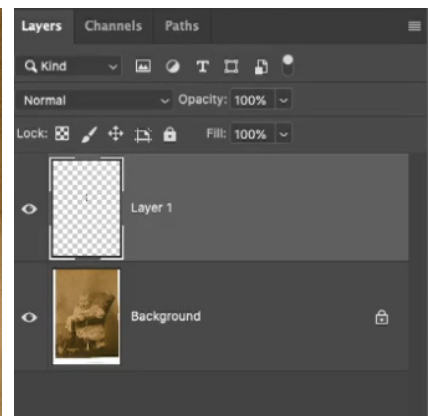
Hint: Use small brush strokes so if you need to undo something, you're only undoing a small area.



\*In most of my classes I advocate working Non-Destructively and never using commands such as Merge. One of the main reasons is so you can easily go back to previous versions if needed. Many of these restoration techniques are exceptions to the rule since it's very unlikely that you would need to go back to the version of the photo in pieces.

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If you are working on areas (such as faces) where you do want a little more control, you may want to add a blank layer above the photo, and then use the Healing Tools etc with the Use All Layers option.



## Missing Pieces

This could mean a physical piece missing, or a portion of the photo “missing” due to a tear or some obstruction.

If the missing area doesn't contain too much detail (faces etc), try Content-Aware Fill. Make a selection of the area and then go to Edit>Content-Aware Fill.

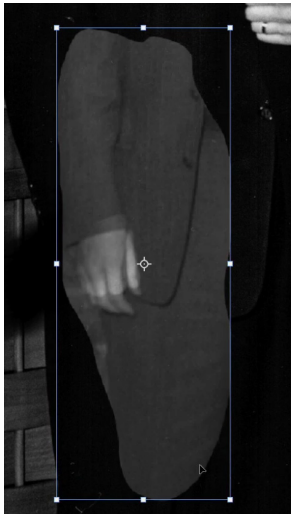
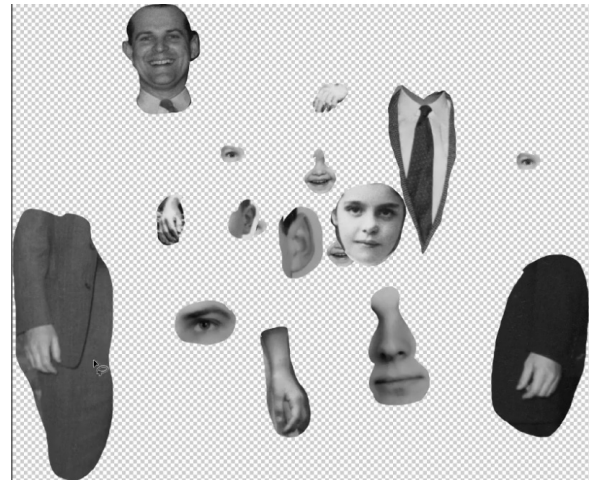
In the Content-Aware dialog the green overlay shows areas that will not be used for the “patch”.





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Unfortunately Content-Aware Fill cannot generate body parts, so – as odd as it sounds – it’s a good idea to build up a document filled with spare parts. So when you are working on a photo and think, “that’s a nice clear hand or nose or eye...” copy it and paste it into your body parts document (on separate layers).

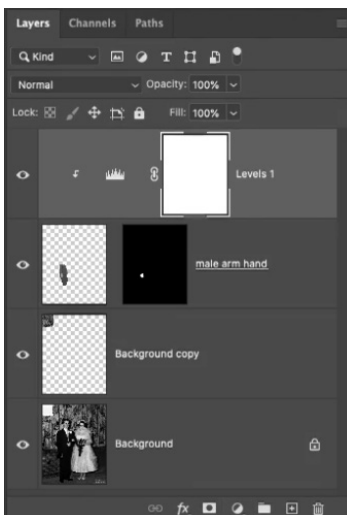
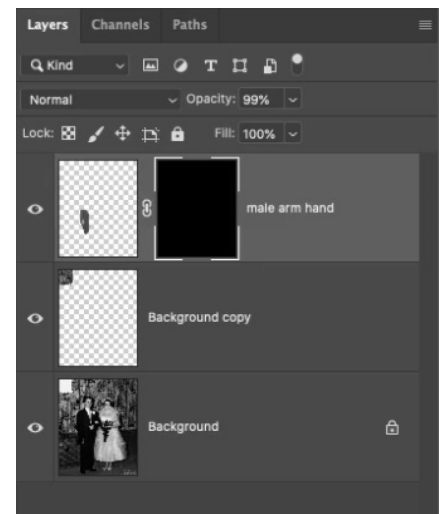


Then drag the part into the document you’re working on. Use Free Transform and lower the opacity of the layer so you can match it up with the underlying photo.

Once it matches up, return the Opacity to 100%.

Add a Layer Mask filled with black (Option/Alt click on the Add a Mask button).

Then paint with white to show only as much as you need.



If necessary, add an Adjustment Layer (clipped so it only affects the layer below) and adjust the “spare part” so it matches up.



## **About Dave Cross**

For over 30 years Dave Cross has been helping photographers and creative professionals get the most out of their Adobe software. He has a Bachelor of Education, is an Adobe Certified Instructor and is a Certified Technical Trainer. Dave has taught for Adobe, at Photoshop World, the Texas School of Photography, ShutterFest, Adobe MAX, Imaging USA and at numerous corporate locations. In 2009 Dave was inducted into the Photoshop Hall of Fame, and in 2016, 2017 and 2019 was named an Adobe MAX Master Instructor.

Dave teaches Photoshop on his membership site [LearningPhotoshop.CC](https://www.learningphotoshop.com), and runs the [Photoshop Virtual Summit](https://www.photoshopvirtualsummit.com).