



Pattern Preview

# Pattern Preview

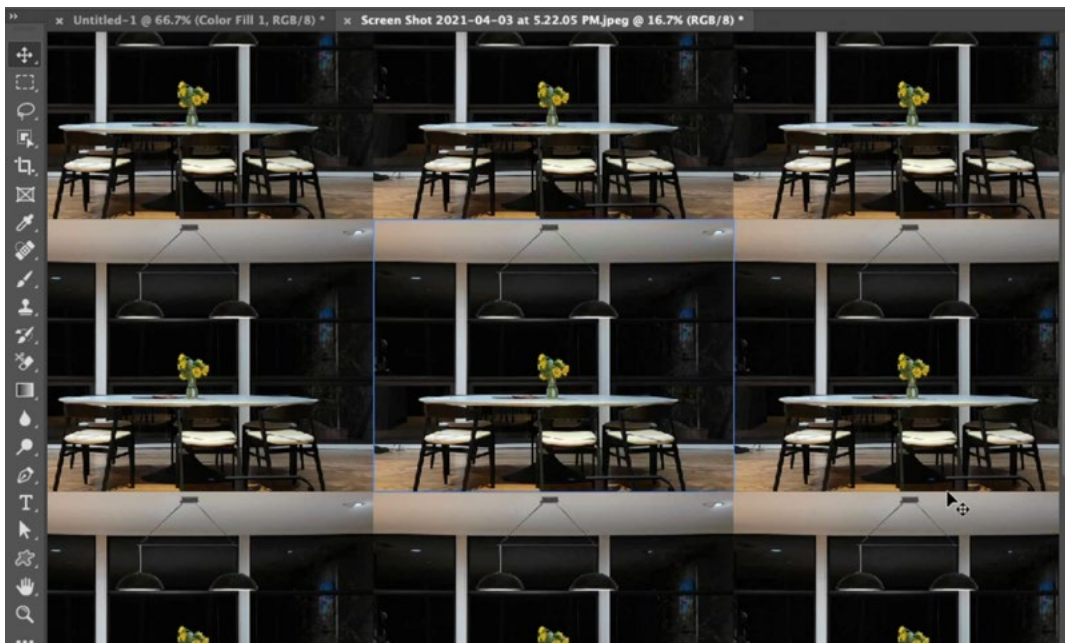
In this lesson, we're going to take a look at how to create patterns and we'll focus on the following three types:

1. Create a repeat of a graphic to be used on something like fabric or wallpaper.
2. Create an organic surface (dirt, grass, etc.) that doesn't need to be overly precise in how everything lines up.
3. Create a very precise repeating pattern, such as a brick or stone wall.

These patterns can be used to fill text, they can be used as backgrounds or they can be used in a retouching scenario where you might need to create a surface like a brick wall.

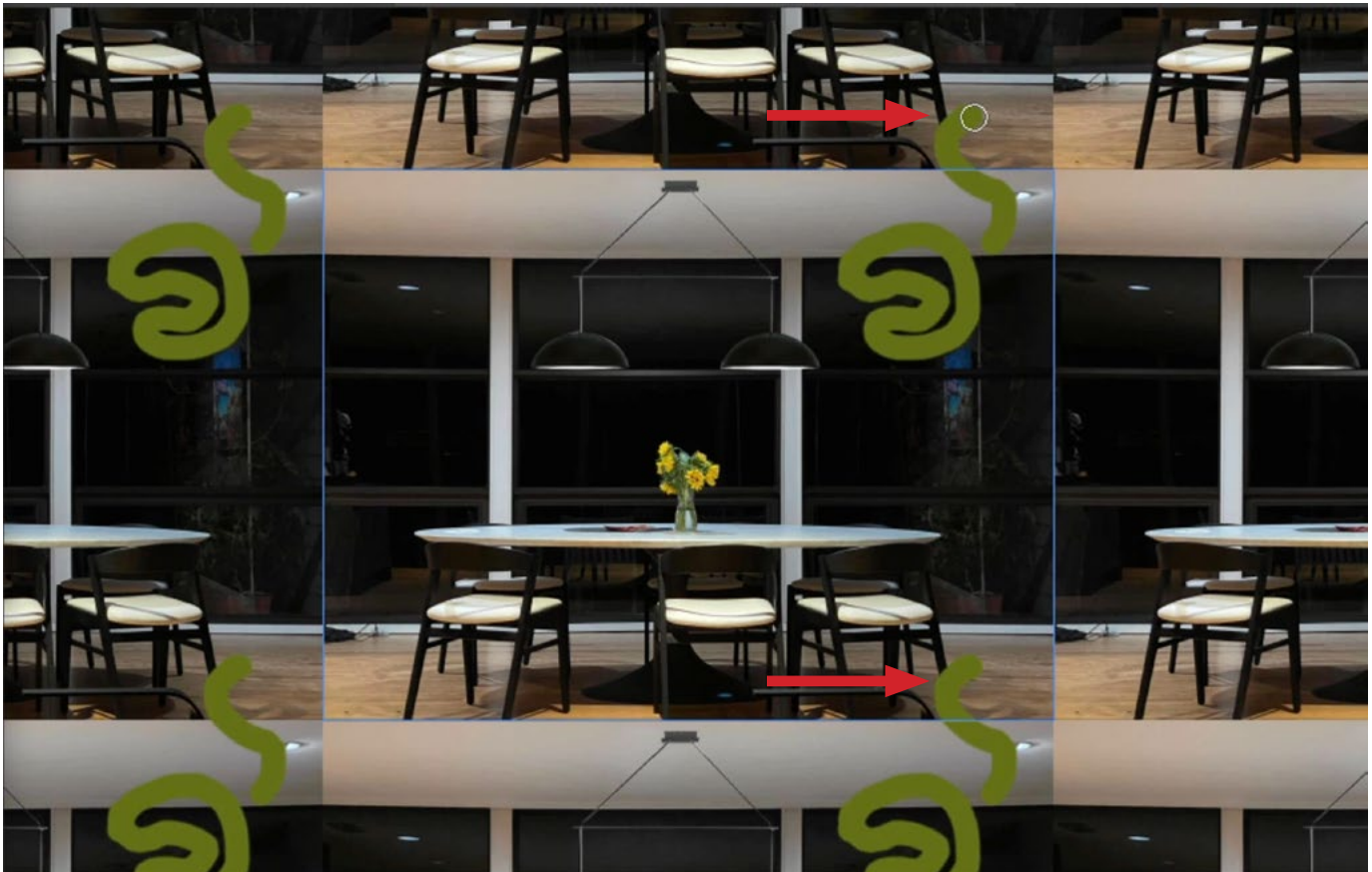
## Pattern Preview (Timestamp 2:20)

With any image open, you can run the Pattern Preview command, which can be found under the View menu. This command will take the contents of your image and it will repeat it to tile and fill your entire Photoshop window. The bounds of the actual document will be surrounded in a blue outline.



With an image open, we turned on the Pattern Preview. You can see that the bounds of the actual document is outlined in blue. The image repeats to fill the entire Photoshop screen.

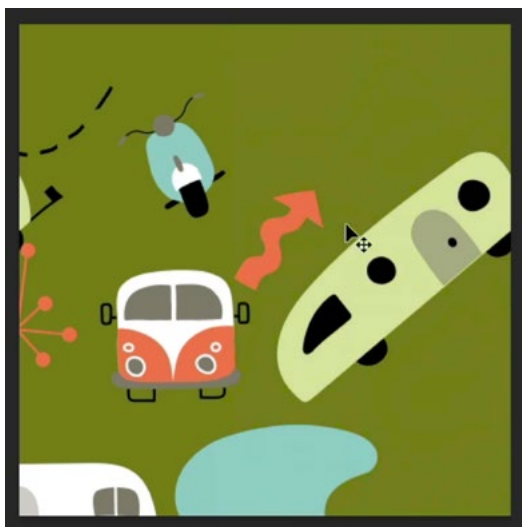
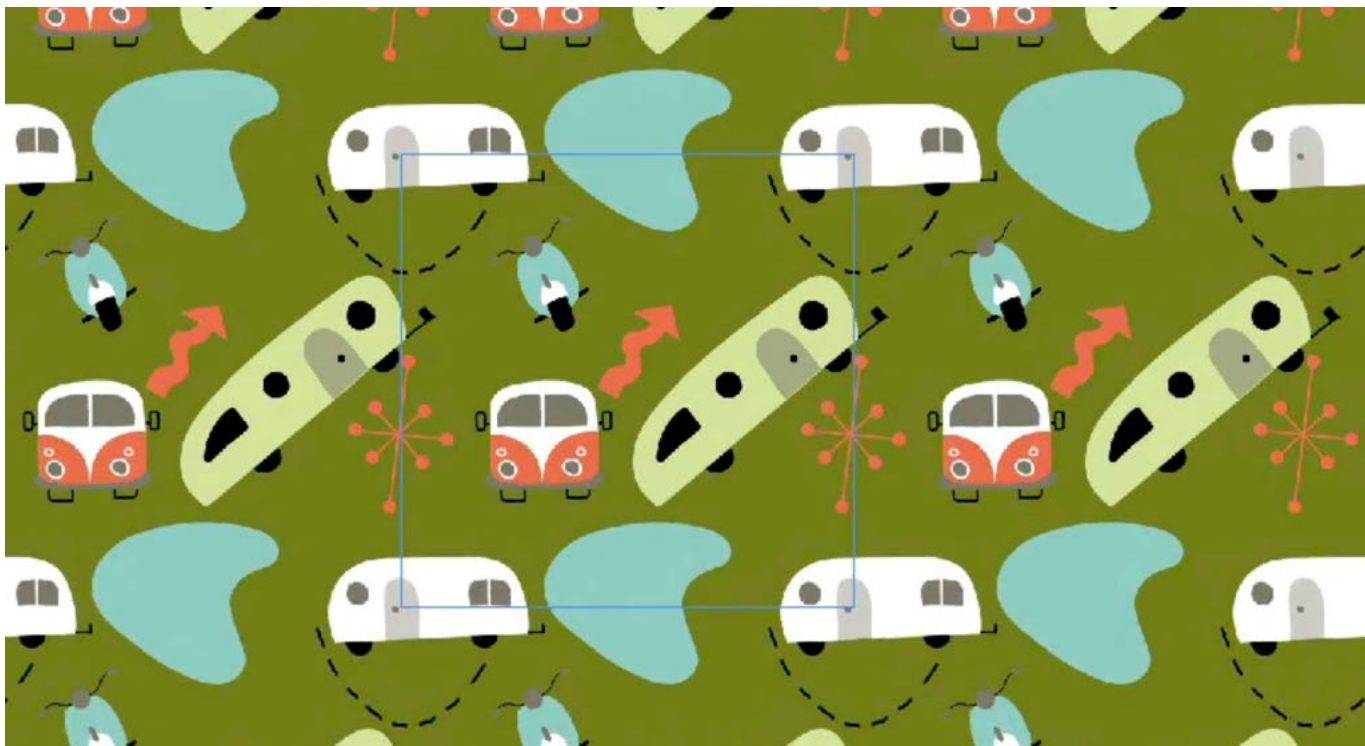
If you make changes to the document within the blue outline, it will interactively repeat that change across the entire tiled pattern. In the video example, we used the Brush Tool to paint on the document and you can see that the paint stroke is reflected in every tile. You can even extend the paint stroke outside of the edge of the image and it will continue the stroke on the opposite edge.



As we paint, you can see that the strokes not only repeat in every instance of the image, but we can also paint outside of the document bounds and it will wrap to the opposite side.

**Smart objects vs. regular layers** When Pattern Preview is turned on, objects extending beyond one side of the document bounds will automatically continue into the opposite side. In the video example with the retro graphics, the little trailer extends outside of the right side of the document. With Pattern Preview turned on, you can see the trailer hitch wrap around to the left side. If the layer

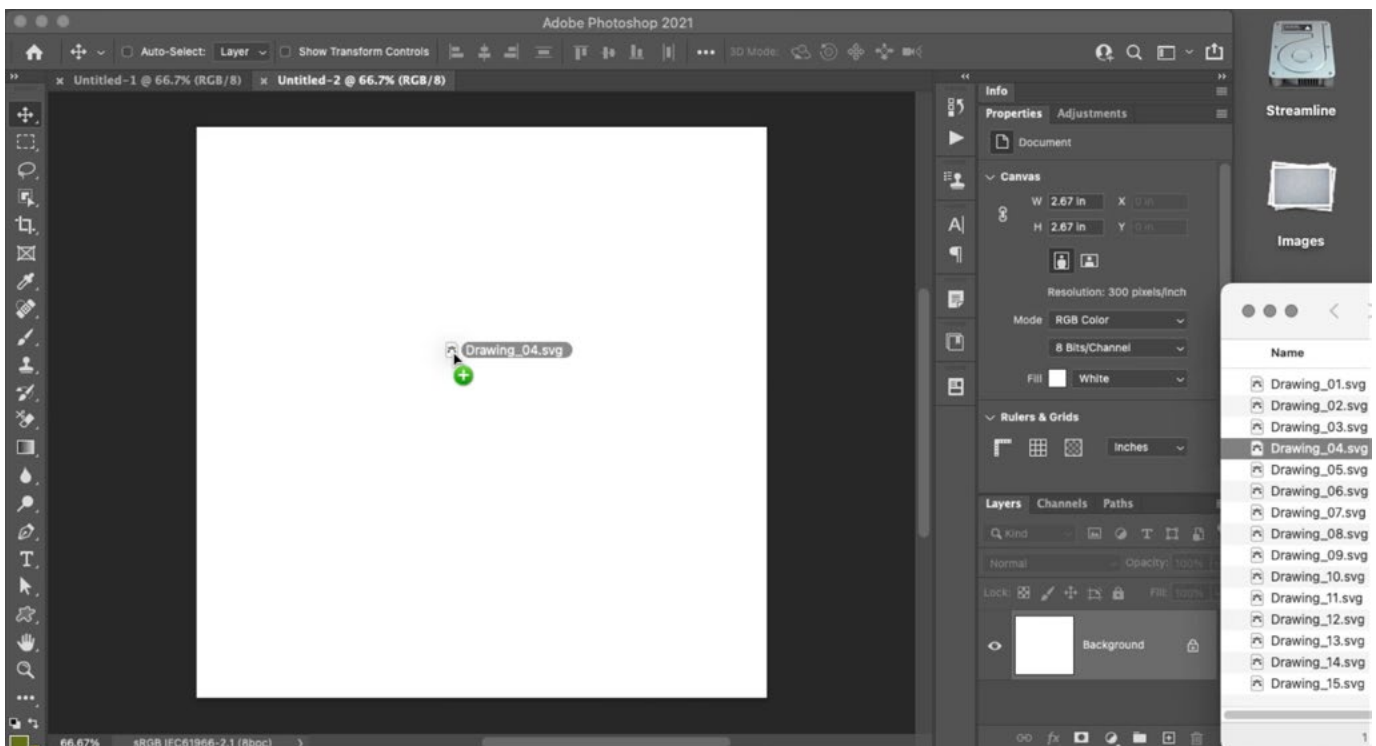
is a smart object and you turn Pattern Preview off, that wrapping will no longer occur. If the layer is NOT a smart object, you can turn Pattern Preview off and you will still see the object appear on the opposite side, BUT it's as if the object was cut into two pieces using scissors. If you move the layer, you will see that it has been split into two pieces.



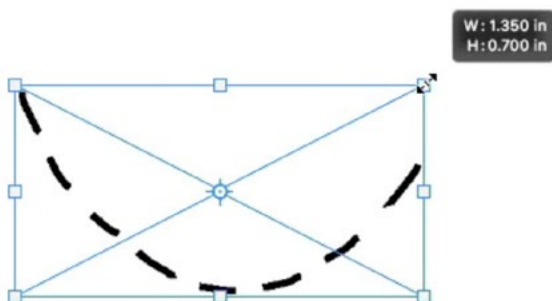
Above, the individual smart object layers were positioned in the document with Pattern Preview turned on. At left, Pattern Preview is turned off and you can see that the wrapping effect is no longer happening.

## Create a Graphical Pattern (10:15)

Now let's look at how we can create a repeating graphical pattern from scratch. We'll start by creating a brand new Photoshop document. In the video example, my document size was 800x800 pixels. Make sure that the folder containing the graphics you're going to use is easily accessible. I like to open the folder in the Finder and then have the Finder window visible right behind my Photoshop window. This will make it easier to move the individual image files into the Photoshop document. Drag one of the image files from the Finder into the open document. When you release the mouse button, transform handles will appear around the layer. Use these to resize and position the layer.



**ABOVE:** The first graphic is being dragged from the Finder into the Photoshop document.

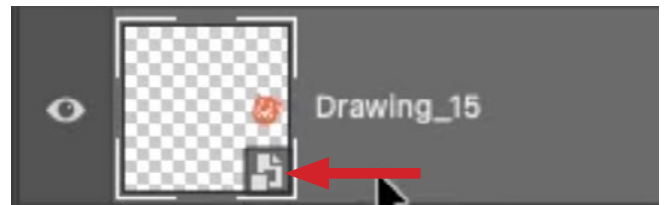


**LEFT:** Transform handles appear around the layer and we're using them to scale the graphic layer.



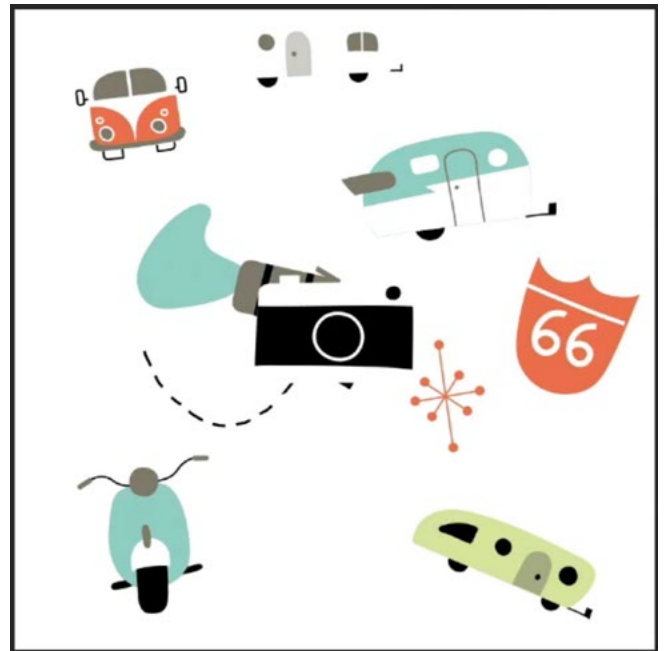
**Note:** When transforming a layer, know that there is a setting in the Preferences that will determine whether or not the proportions remain constrained. If you start to resize the layer and you find that you can squish or expand it (creating a distortion effect), hold down the Shift key to constrain the proportions. The opposite is also true. If you click and drag on a corner to resize and you find that the proportions are constrained, hold down the Shift key to distort the layer. This is all a matter of preference. Sometimes, you'll want to distort the layer. Other times you won't.

After you've positioned and sized the layer, tap the Return/Enter key to lock in the transformation and remove the transform handles. The image will be placed as a smart object, and you can see the smart object icon appear in the bottom corner of the layer thumbnail.



The icon indicates that the layer is a smart object.

Continue this process with the other graphics, dragging and placing them into the document. Know that you can also select multiple images/graphics and drag them into the Photoshop document all at once. When you do this, Photoshop will present them to you one at a time so that you can use the transform handles to position the layer. When you tap the Return/Enter key, the next selected image will appear (with transform handles) so that you can place it.

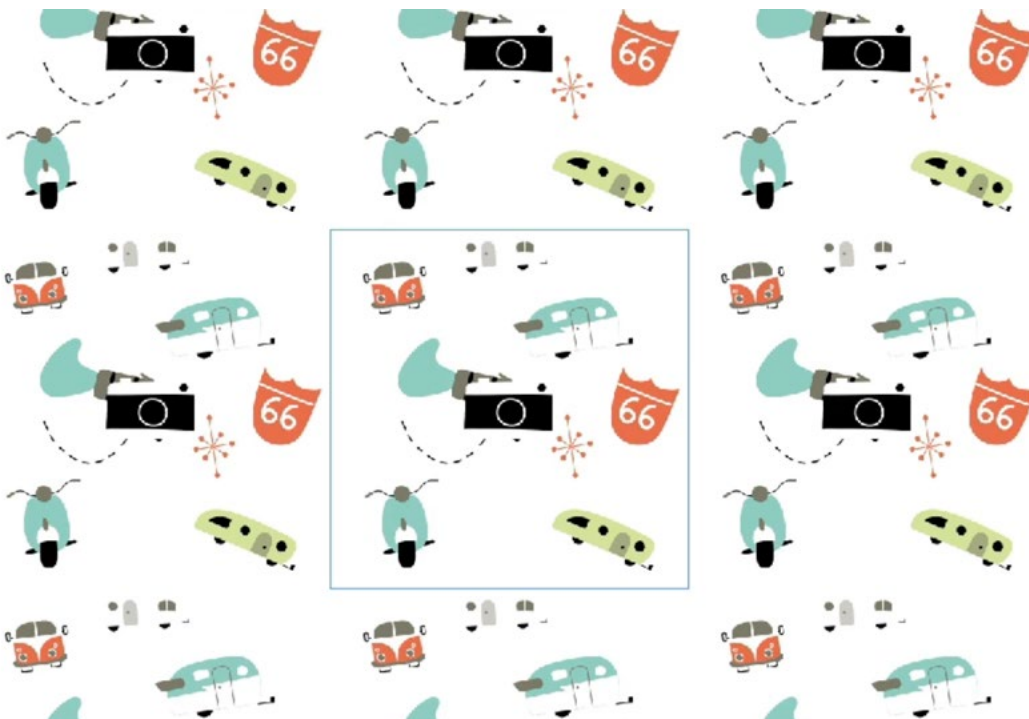


All of the graphics have been placed in the document.

After all of the graphics have been placed in the document, click on the View menu and choose Pattern Preview. The contents of the document will repeat to fill

the entire Photoshop window. If you zoom out , you will see that the pattern is infinite, with the actual document outlined in blue.

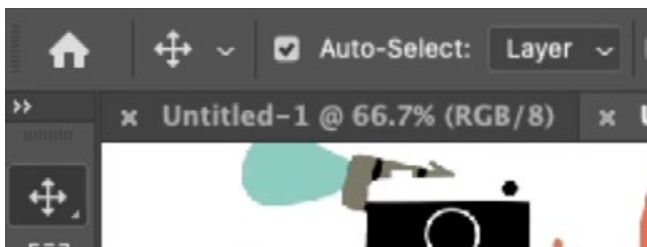
Now you can use the Move Tool to position the graphics into a pleasing arrangement. With the preview turned on, you will see the wrapping effect as the layers extend partially beyond the edge of the document.



**Pattern Preview is turned on and we can not position the individual graphics to form a pleasing pattern.**

**Auto Select Setting** When positioning many graphic layers like this, it can be useful to turn on the Auto-Select Layer setting, which can be found in the Options Bar when the Move Tool is active. With this setting turned on, you can click

on things in your document and it will automatically select whatever layer is directly beneath the cursor. This makes it so you don't need to click on the individual layers in the Layers Panel in order to make them active. You can simply click and drag within the document.



**The Auto-Select setting is available with the Move Tool is active.**

I actually find this setting to be annoying in most OTHER situations, so I'll be sure to turn it off after I'm done positioning the graphic elements.

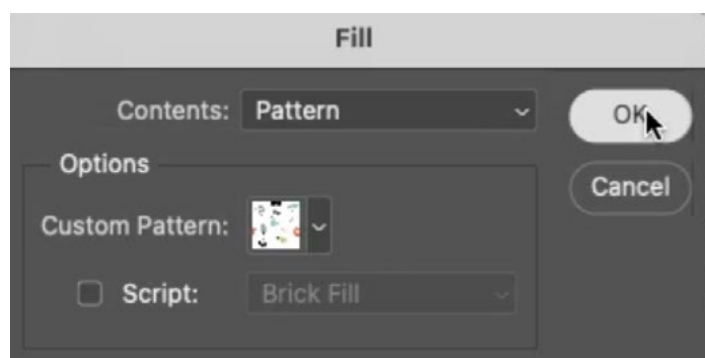
Note that you can keep the Auto-Select Layer setting off and then temporarily access it by holding down the Command key (Ctrl on Win) when clicking and dragging with the Move Tool. When you hold down that key, it will auto-select the layer that's directly beneath your cursor. If you like to keep the Auto Select setting on all the time, then holding down the Command key (Ctrl on Win) would temporarily turn it off.

Zoom out so that you can see the pattern repeated many times. This will truly give you a good sense for how the pattern looks overall. With this zoomed-out view, I like to fine-tune the position of the graphics because I can see the movement occur across the pattern at large.

**Define the pattern** After all the elements have been positioned, you move on to save the pattern. Make sure that the Pattern Preview setting is still turned on when you do this. If it's not, the elements that extend beyond the document bounds will not be wrapped around. They will instead be cut off. Click on the Edit menu and choose Define Pattern. A little box will pop up, prompting you to give the pattern a name. Click OK to save the pattern.

**Testing the pattern** After the pattern has been defined, it's time to test it out. Create a new document and use really large dimensions (so that you can see the pattern repeated many times). In the video example, I made this document 4,000 x 4,000 pixels.

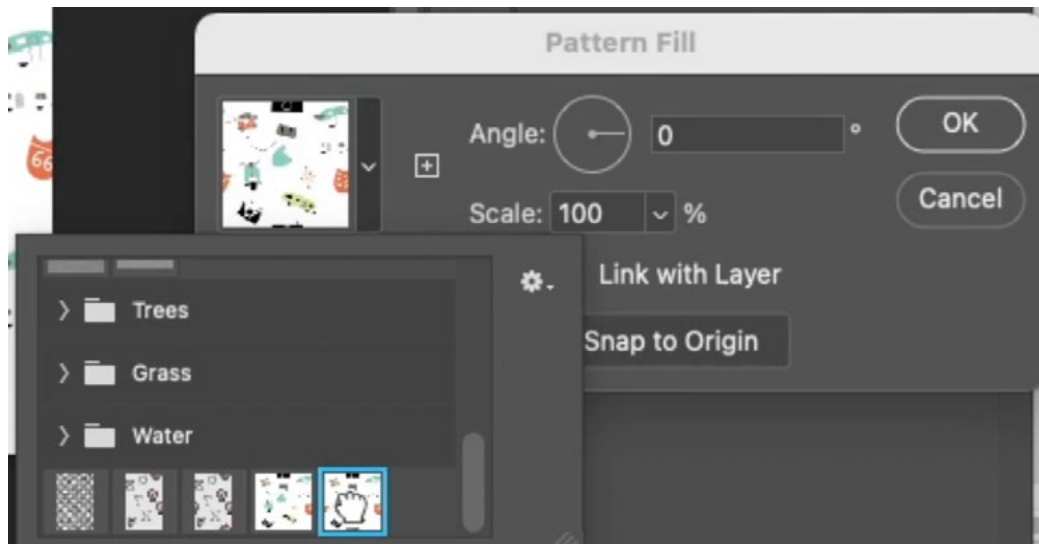
**Fill with pattern** There are several ways to fill the document with a pattern. You could click on the Edit menu and choose Fill. In the Fill dialog, set the Contents menu to Pattern and then use the Custom Pattern menu to choose the pattern you just created. Click OK and the active layer will be filled with the pattern.



**The Fill command is one method of filling the document with a pattern.**

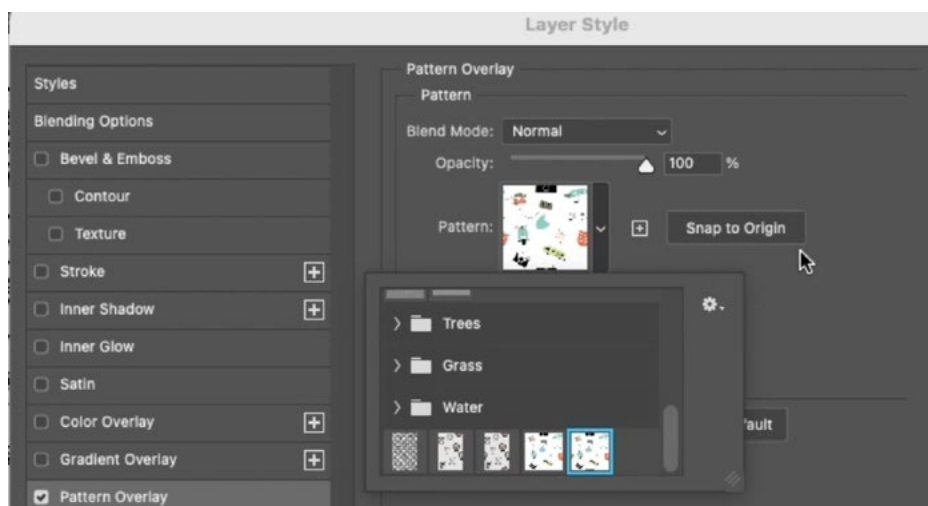


**Pattern Fill layer** You could also fill the document with the pattern by using a Pattern Fill layer. Click on the Adjustment Layer icon at the bottom of the Layers Panel and choose Pattern from the pop-up menu. Use the menu in the dialog that pops up to choose your pattern.



A Pattern Fill layer is being applied and we clicked on the menu to choose a pattern.

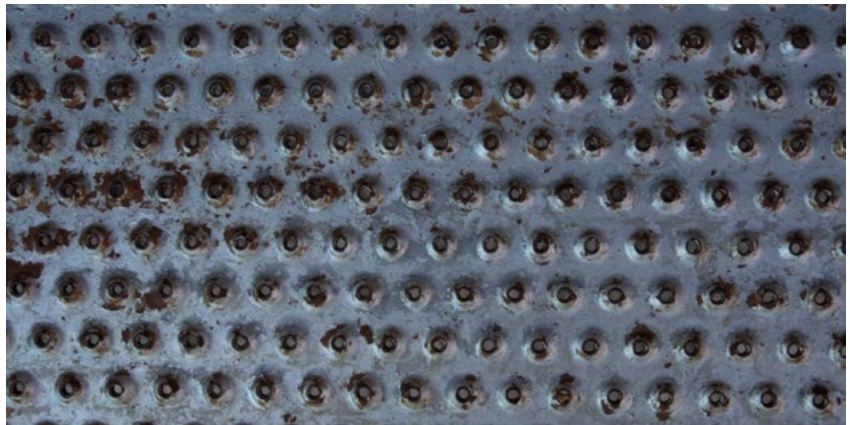
**Apply layer style** A layer can be filled with a pattern using a layer style as well. Make sure that the layer you want to apply the pattern to is active. Then click on the Layer Style icon (fx) at the bottom of the Layers Panel and choose Pattern Overlay from the pop-up menu. The Pattern Overlay settings will appear inside the Layer Style dialog. This feature lets you fill the entire contents of a layer with a pattern. Use the Pattern menu to choose the pattern. You will also find settings for scaling and angling the pattern.



The Pattern Overlay layer style can be used to fill the contents of a layer with a pattern.

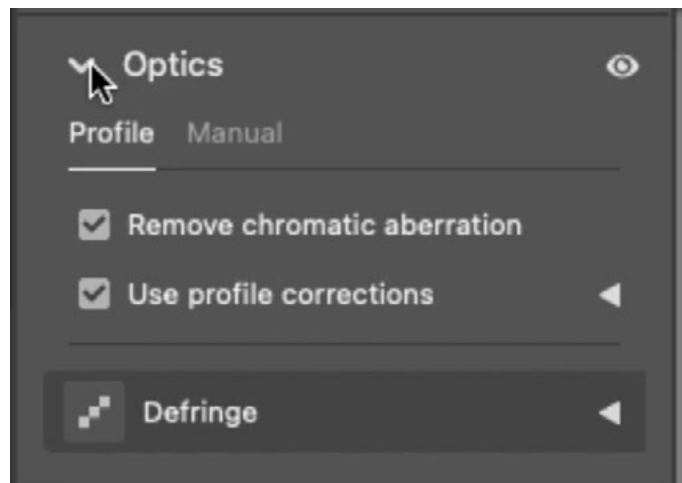
## Create a Precise Pattern from a Photograph (21:10)

Another type of pattern you can create is one that is comes from a photograph and needs to be very precise. You can take a photo of a repeating design and then convert that into a pattern that can be used in Photoshop. In the video example, we have a photo of a weathered metal surface that is going to be converted into a repeating pattern.



**This is the type of photograph that can be turned into a repeating pattern.**

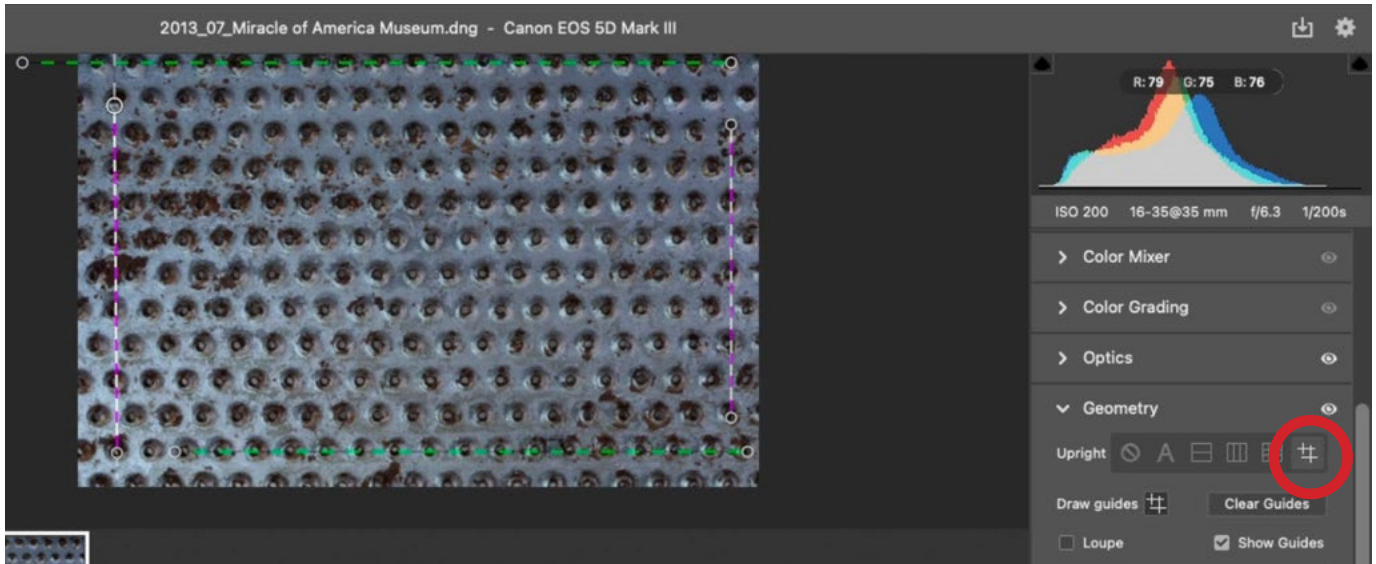
**Prepare the photo in Camera Raw** Start by opening the image in Camera Raw. Here, you'll want to ensure that any lens corrections have been applied. Expand the Optics Panel on the right side of the interface and turn on the "Use Profile Corrections" check box. This will attempt to remove any vignetting that was caused by the lens. A vignetting effect would make the edges of the image darker than the middle and this would cause the repeating nature of the pattern to be overly obvious. I also like to turn on the "Remove chromatic aberration" check box.



**In Camera Raw, the "Remove chromatic aberration" and "Use profile corrections" settings are turned on.**

Next, expand the Geometry Panel and click on the right-most Upright icon. With this tool active, you can click and drag within the image to define what should be perfectly vertical and perfectly horizontal. In the video example, we have even-

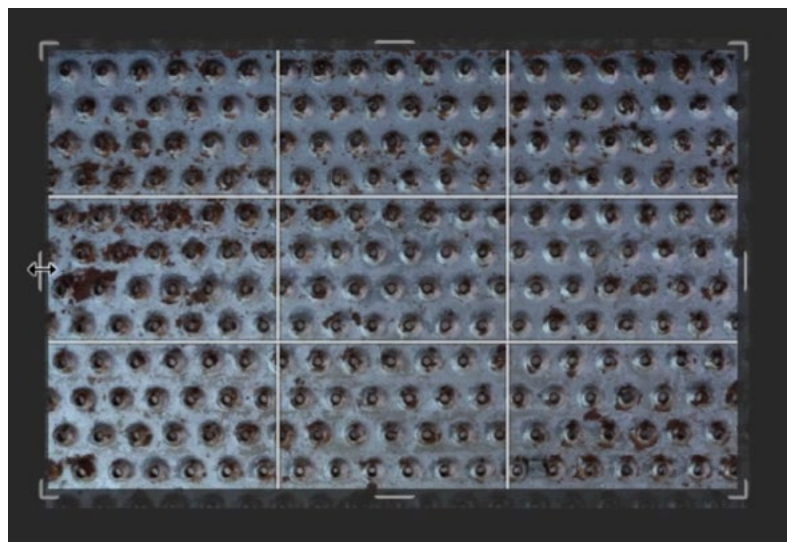
ly-spaced rivets and we dragged lines on the document over the lines of rivets that should be perfectly horizontal and perfectly vertical. When the mouse button is released, the image straightens based on the guides you defined.



**In Camera Raw, the Guided Upright tool (circled) is being used to define horizontal and vertical lines.**

While you're still in Camera Raw, activate the Crop Tool and attempt to crop the image so that you're as close as possible to having the kind of repeat that you'd like.

In the video example, we cropped the image so that the top and bottom edges fell right in the gap between rows of rivets and the left and right edges were centered in the middle of the rivets. Therefore, when the image repeats, we won't end up with half of a rivet in the pattern.

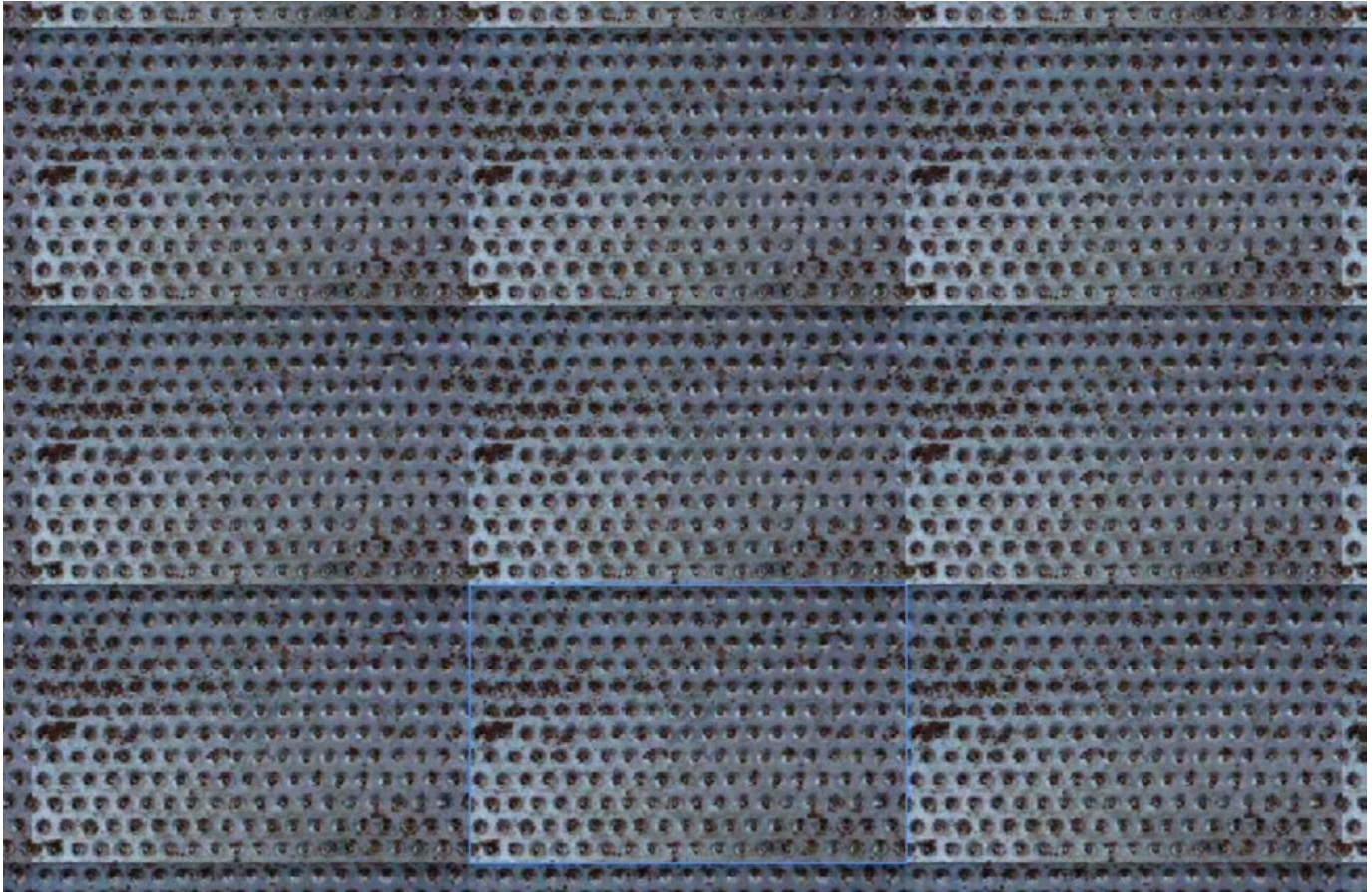


**The Crop Tool is being used in an attempt to create optimal pattern edges.**



Now that the image has been prepped in Camera Raw, it's time to head to Photoshop. Click on the Open button in the bottom right corner of the Camera Raw interface and the image will open in Photoshop.

**Preview Pattern and inspect for issues** In Photoshop, turn on Pattern Preview (under the View menu) and inspect the initial result. This is where you will find any flaws in the pattern.



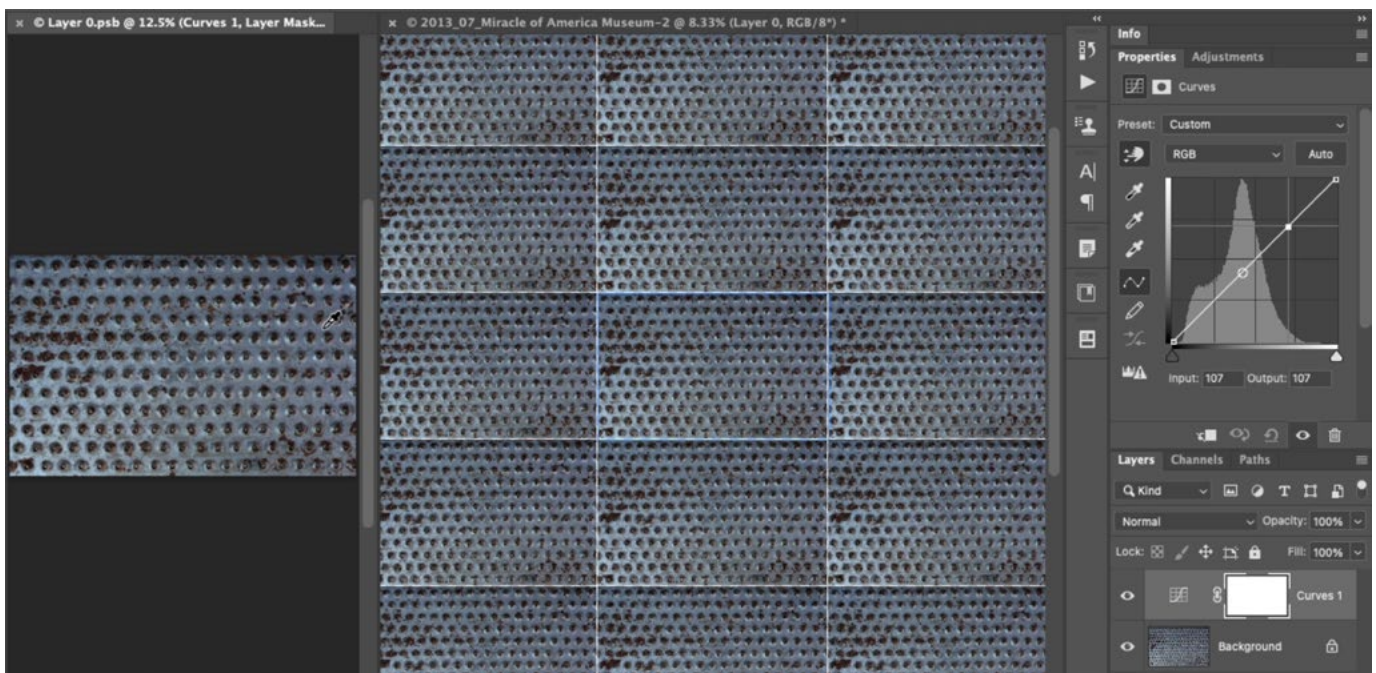
**Pattern Preview is turned on in Photoshop. We can see an issue in that the bottom left corner of the repeating image is too bright.**

In the video example, we can see that the bottom left corner is too bright and this makes the pattern look overly obvious. When correcting a problem like this, first turn OFF the Pattern Preview so that your adjustments do not wrap around to the other side of the repeating image.

Additionally, it's a good idea to convert the layer into a smart object because this will allow for additional functionality. Click on the Layer menu and choose Smart Objects > Convert to Smart Object.

With a smart object, you can double-click on the layer thumbnail in order to open the contents of the smart object in a separate document. This is what you'll do in order to make changes to the image. A benefit to working this way is that you can place the smart object document beside the pattern preview document so that you can see the pattern update as you make changes to the image. To get this view, click on the Window menu and choose Arrange > 2-up Vertical.

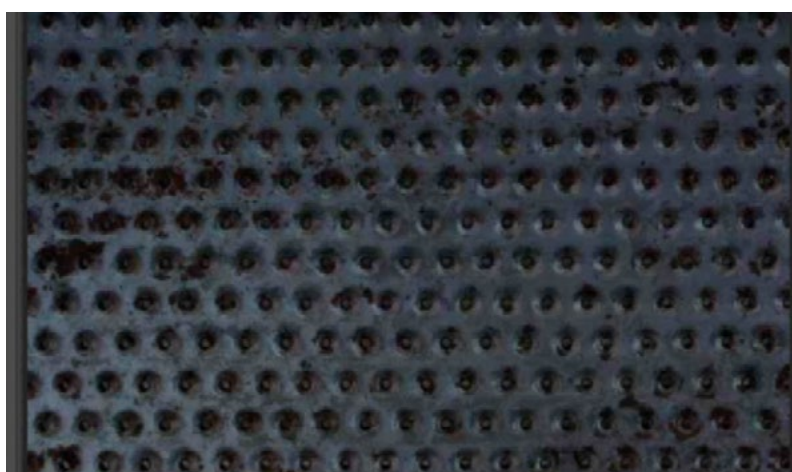
In the video example, we'll start by darkening the bottom left corner (that is currently too bright). I like to use Curves for this. We'll create a Curves Adjustment Layer and make sure that the Targeted Adjustment Tool is turned on. It looks like a little hand icon on the left side of the Curves Properties Panel. We'll use this tool to click on the part of the image we want to change. In this case, it's the bottom corner that's too bright. When we click, a point is added to the curve and two numbers appear beneath the chart. These Input and Output numbers indicate how much light is in the targeted area.



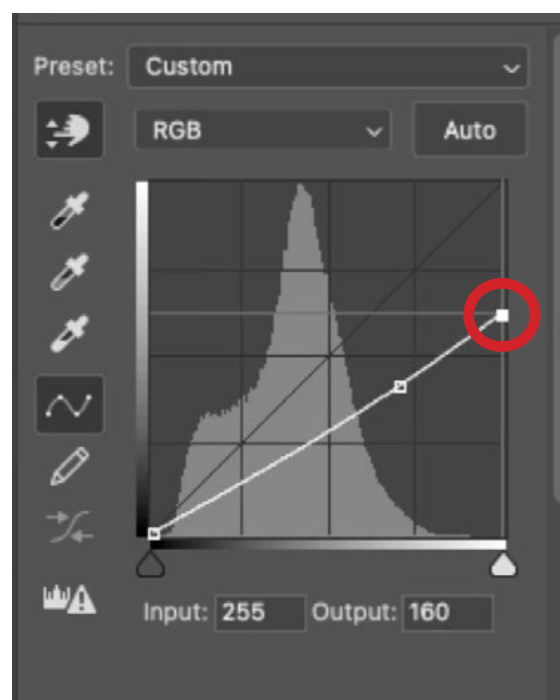
**We're working on the image document, with the pattern document visible beside it. A Curves Adjustment is being used to darken the image.**



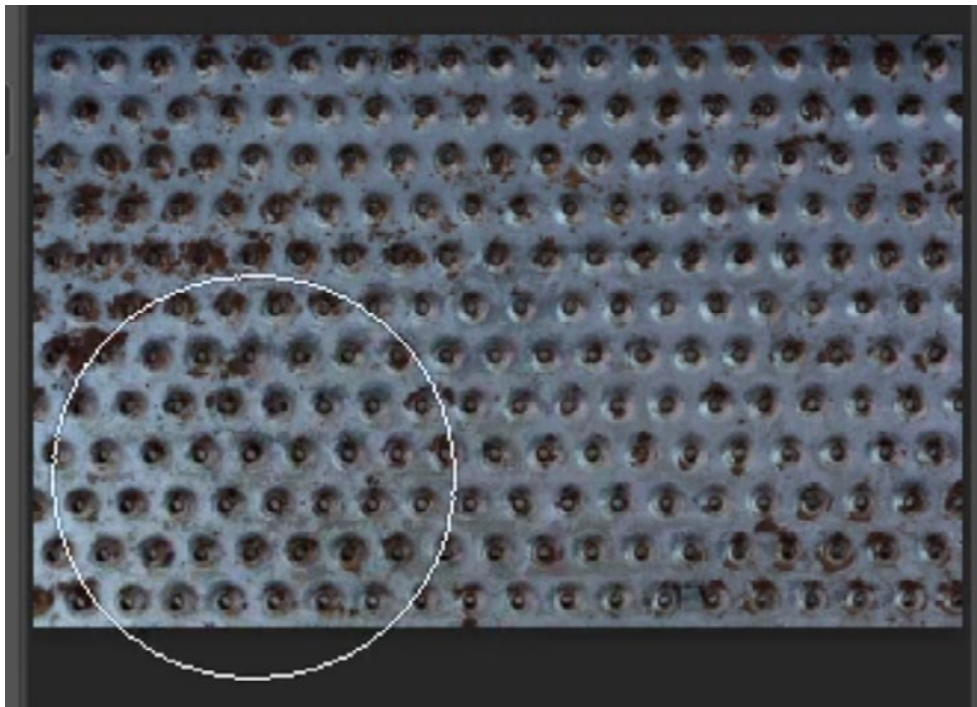
Next, we'll simply hover the cursor over the part of the image that has the brightness we desire for that bottom corner and we'll make a note of the numbers that appear in the Input/Output fields. We'll go back to the Curves Properties Panel and we'll enter that number into the Output field. This will reposition the point that represents the too-bright area, making the area match the darker area. The problem is that the rest of the curve moved as well, creating a steep curve. We'll correct that by dragging the top right curve point down until the curve line becomes close to straight. This will make it so the rest of the image does not become overly dark.



**ABOVE:** The Curves adjustment was used to darken the image as a whole. **RIGHT:** The right curve point is being moved down until the curve line straightens out.



The Curves adjustment is applying to the entire picture and we only need the adjustment in the lower left. We'll use the layer mask to control this. We'll invert the mask so that it's filled with black (Image > Adjustments > Invert). This hides the entire Curves Adjustment Layer. Now, we can selectively add white to the mask in the area where the adjustment should be visible. We'll activate the Brush Tool and we'll use a large, soft-edged brush with the foreground color set to white. We'll also lower the brush opacity so that the effect will be very gradual. We'll use the Brush Tool to gradually paint over the bottom left corner, darkening it to match the rest of the image.



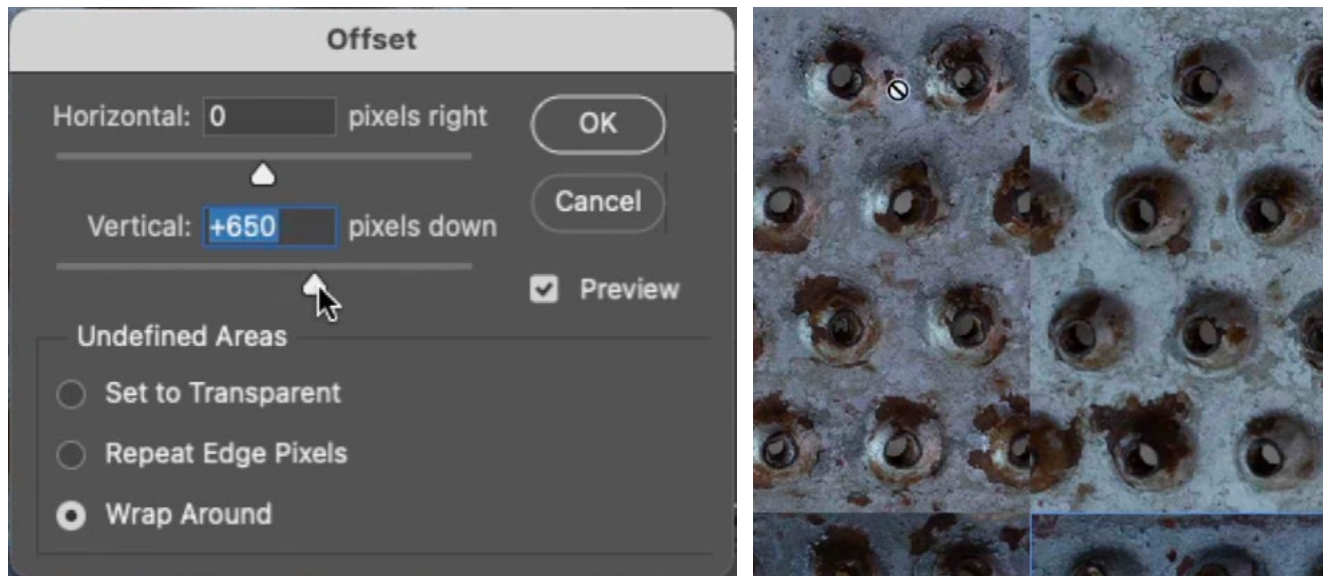
The mask for the Curves Adjustment Layer was filled with black, which hides the adjustment entirely. Here, we are painting on the mask with white in order to reveal the adjustment and darken the bottom left corner.

The Pattern Preview document will not automatically update. We'll need to save the smart object document in order for the pattern to update. (File > Save) This will allow us to see how the change affected the overall pattern.

**Retouch the seams** When creating a pattern from a photograph like this, you'll also need to retouch the edge seams so that they're not overly obvious. The Healing Brush will be the most convenient tool for this, but the Healing Brush does not like to work along the edges of a document. Because of this, you'll have to cheat by using the Offset filter. The Offset filter will shift the entire image contents in one direction, creating a wrapping effect on the other side. This will make it so the seam is not positioned on the edge of the document. With the seam in the middle of the document, you can easily use the Healing Brush without any problem.

Note that if you have an adjustment layer, like we do in the video, the filter will need to be applied to both the image layer and the adjustment layer. Click on the Filter menu and choose Other > Offset. In the Offset dialog, use the sliders to shift one of the edges into the middle of the document and then click OK. If you have two layers, click on the other layer to make it active. Then click on the Filter menu

and choose the top-most choice, which should be Offset. This will automatically apply the same offset settings you just used to the first layer. Now the image layer and the adjustment layer should match.

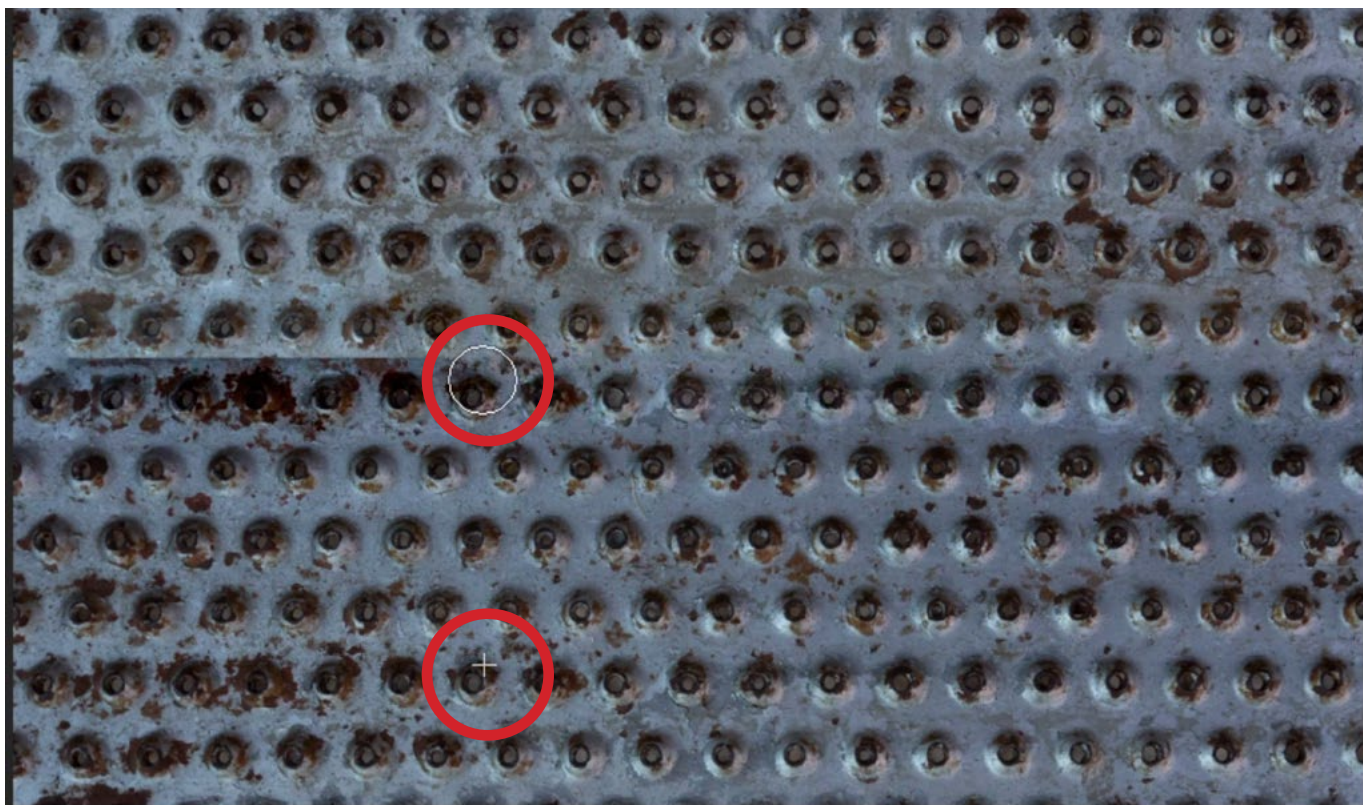


**The Offset Filter is being used to shift the edges of the document so that the seam appears in the middle.**

If you still have the side-by-side image view, it might be easier to go back to viewing the image full screen. This will just give you more screen real estate for the retouch work. You can do this by clicking on the Window menu and choosing Arrange > Consolidate All to Tabs.

Now you can activate the Healing Brush and retouch the seam that is now positioned in the middle of the document. Apply the retouch work on a new, empty layer at the top of the layer stack. Make sure that the Aligned setting is turned on and that the Sample menu is set to Current & Below. These settings can be found in the Options Bar when the Healing Brush is active. Now you can use the Healing Brush to sample from a non-seam area and paint over the area with the seam. Every image will be different when it comes to the sample area. In the video example, we painted over the line of rivets both above and below the seam before painting over the seam itself (in one long stroke). We made sure that the brush didn't partially overlap a rivet, as this would cause the Healing Brush to mess up.





**The Healing Brush is being used to remove the seam. The brush tip and sample area are circled.**

After you've removed the seam, save the document and then return to the pattern preview document to see the result. The seam should no longer be visible.

You'll need to do the same thing with the vertical seam (if it was the horizontal one that you started with). Return to the image document and repeat the offset Filter and retouch work for the vertical seam. Remember that the offset will need to be changed for all the layers before retouching. You can either apply the offset filter to all of the layers (we have three in the video example) OR you can simply flatten the image and then apply the filter to the one, single layer.

**Define the pattern** After applying the retouching, you can save the document and then inspect the pattern preview document. If the seams have been successfully removed, you can close the image document. In the pattern document, it's time to actually define the pattern. Click on the Edit menu and choose Define Pattern. Give the pattern a name and click Save. Now you can create a new document and test the pattern using one of the methods above.

## Create an Organic Surface Pattern (40:43)

You can also make a pattern based on a photograph of an organic surface. This will be similar to the process described above. Start by opening the image in Camera Raw and making sure the Profile Corrections and Chromatic Aberration check boxes are turned ON. Then open the image in Photoshop.

Run the Offset filter and shift either the horizontal or vertical seam. Then use the retouching tools to remove the seam. In an organic image, the Spot Healing Brush often times does a good job. Repeat the process for the other seam.

Then, turn on the Pattern Preview and zoom out to inspect the pattern. If any additional retouching needs to be done, you can do that in this view as long as the retouching occurs within the bounds of the document. Once everything looks good, define the pattern using the Edit menu.



The Spot Healing Brush is being used to retouch this organic surface pattern.