

Indicator Lights

Part A – The Bezel

Any control panel will have a few indicator lights to tell you the status of a certain features at a glance. These can be round or rectangular but they are usually red, green or yellow and sometimes blue or white depending on the function. I'm going to show you how to make a "jewel light" in all five colors with three different rims or bezels that you can make in Copper, Brass, Chrome or whatever metallic finish you prefer. This is a very long tutorial which probably qualifies as Advanced level due to the complexity. I have broken it down into three parts so you can take a break, save the XCF file, and come back to it later to finish it. I promise the results will be worth the effort.

You will need quite a few things in order to complete this tutorial which you will find listed below with their respective links. If you are an advanced Gimp user, you probably already have most of these installed already.

Python Plugin- <http://www.python.org/ftp/python/2.6/python-2.6.msi>

Pattern Scale script - <http://registry.gimp.org/node/13707>

Copy-Rotate script - <http://registry.gimp.org/node/22254>

Voronoi Plugin - <http://www.geocities.jp/gimproject/plugin-ins/links/voronoi.html>.

Glossy Tiles - <http://browse.deviantart.com/?qh=§ion=&q=glossy+tiles#/d4jqc5u>

You will also need to download the metallic gradients zip file from my **Metal Wurx – Part XII** tutorial which you can find here:

<http://www.gimpchat.com/viewtopic.php?f=23&t=4097&p=50500#p50500>.

Install them to your Gimp "user" Gradients folder. For those who are working in another version of Gimp, I have included the Voronoi pattern in both .pat format for easy installation and a jpeg as well. I have converted the Glossy Tiles pattern referenced above to a .pat file which is also included. Install them in your user "Patterns" folder and refresh your patterns.

Once you have downloaded and installed all these bells and whistles, you will need to restart Gimp so that the new Curves will be available. There's no way to refresh them like you can with patterns, gradients, or scripts.

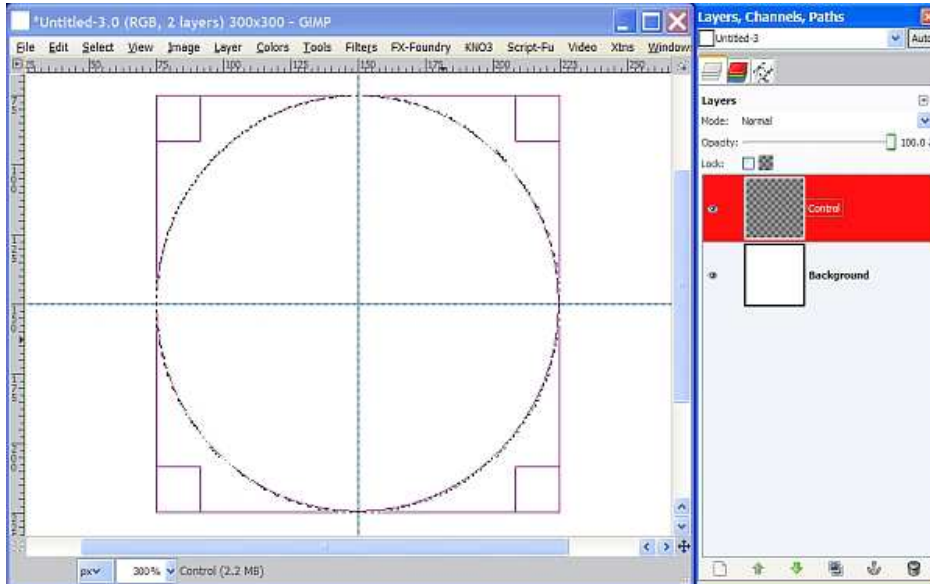
Step 1.

Open a new image 300 x 300 pixels and let's use a resolution of 300 ppi.

Step 2.

Increase your view to 300% so we can see what we are doing a little better. Add a vertical and horizontal guide in the center using the rulers at the top and left to help guide you in placement. Now create a new transparent layer, above your background layer, and name it "Control". Go get the Ellipse Select tool and in the tool dialog, tick the two boxes for Expand from center and Fixed. Place your mouse cursor in the exact center of your image,

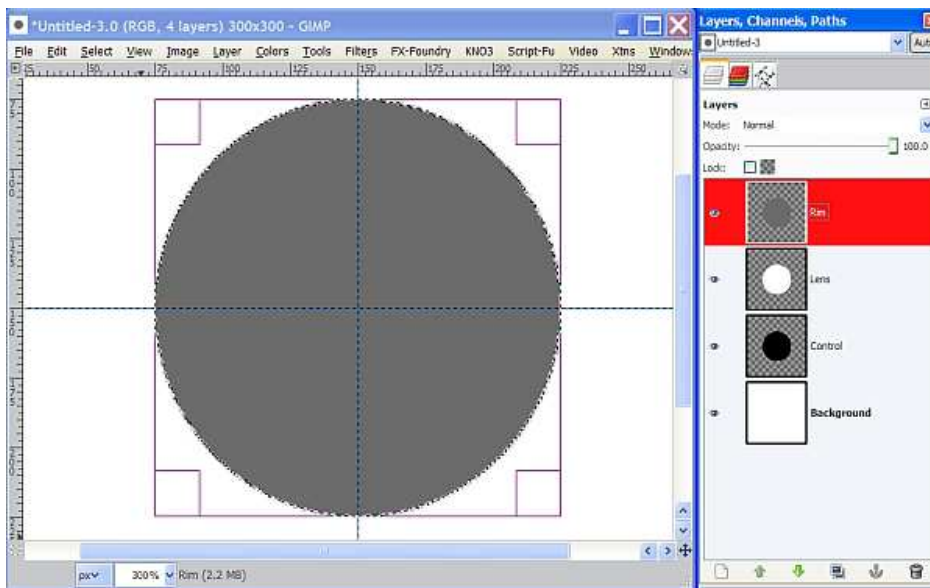
using the guides, and drag out in any direction until the Size boxes in the tool dialog both say 150.



Drag your foreground color (black) over to the selection to fill it.

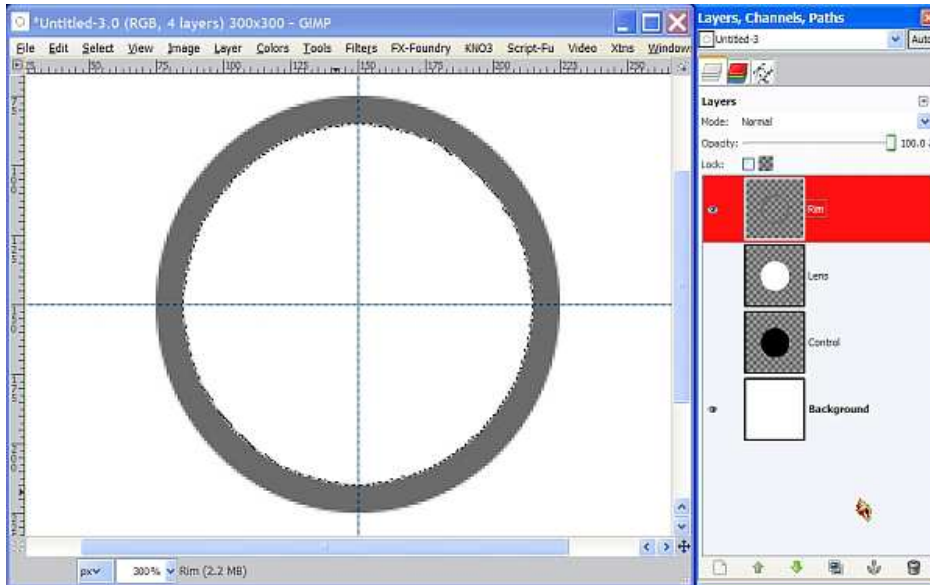
Step 3.

Create a new transparent layer above the Control layer and name it “Lens”. Drag your BG color (White) over to the selection to fill it with white. Now, duplicate the Lense layer and rename the duplicate layer to “Rim”. Change your FG color to a dark gray like 6B6B6B and fill the selection with the gray color by dragging it over to the selection like before. Don’t turn off the selection yet. You should now have four layers arranged like this.



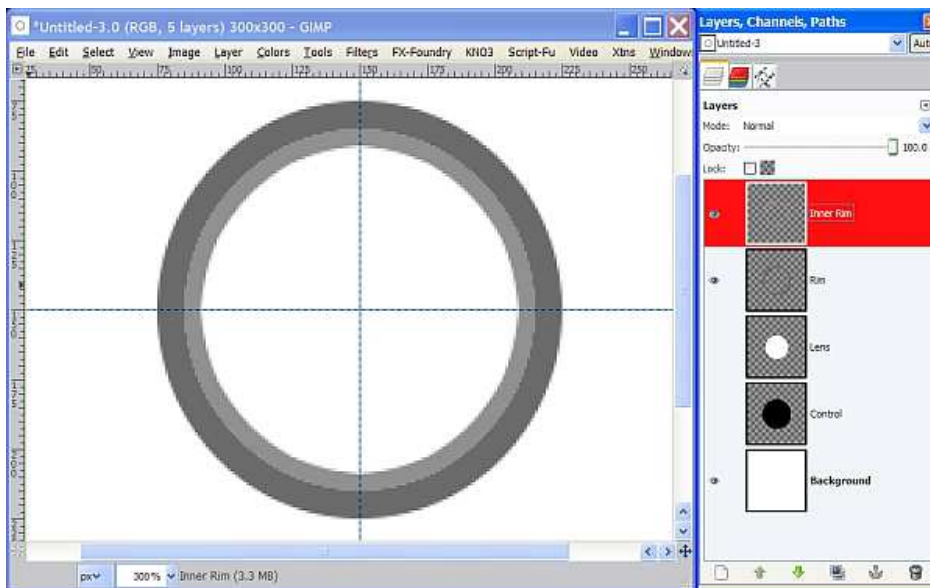
Step 4.

Turn off the visibility for the Lense and the Control layers. While we are still on the Lens layer, go to Select>Shrink and enter 10 for the amount and click the OK button. Hit the delete key on your keyboard to “cut out” the center area. Leave the selection active.



Step 5.

Create a new transparent layer above the Rim layer and name it “Inner Rim”. Go to Select>Grow and enter 1 pixel for the amount and click OK. Change your FG color to a lighter gray like 919191, just so we can see the difference and fill the selection. Go to Select>Shrink again but this time enter 8 for the amount and click OK. Hit the delete button again to remove the center of this layer.

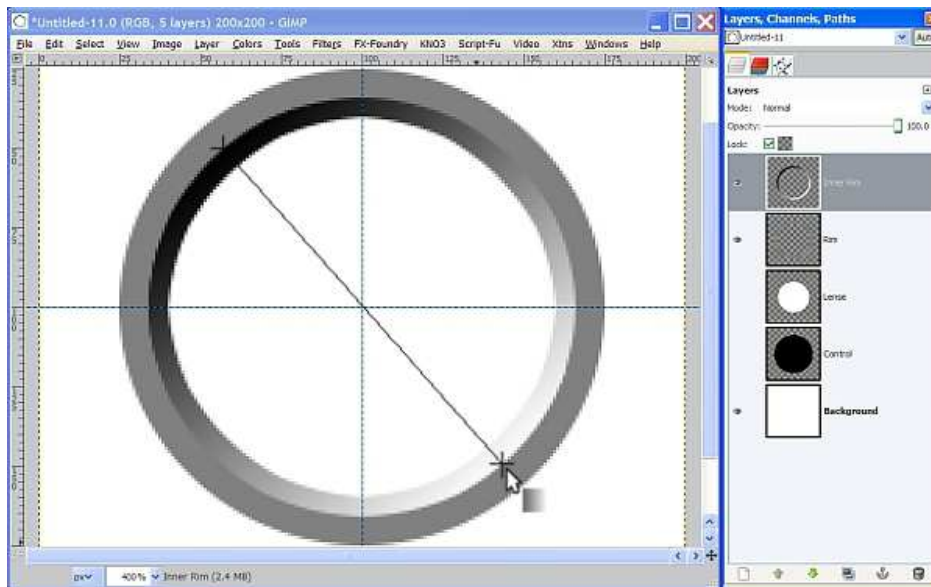


Step 6.

Go to Select>Grow and enter 1 for the amount, then click OK. Now, click on the Lense layer in the Layers dialog to make it active. Go to Select>Invert and hit your delete key to remove the area outside the selection. This effectively makes the Lense layer smaller but still gives us a 1 pixel overlap underneath the Inner Rim layer. I won't bother with a screenshot but you can see the result over in the layer stack. Go to Select>None to turn off the selection.

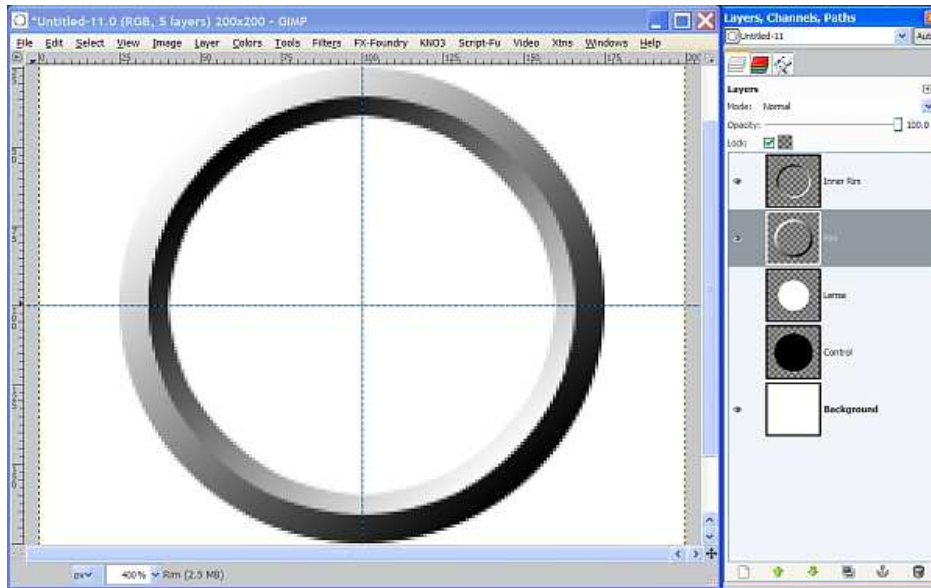
Step 7.

Select the Inner Rim layer to make it active, then reset your FG/BG colors to the default black and white. Select the Blend tool and in the tool dialog select the FG to BG (RGB) for the gradient. Lock the alpha channel by clicking on the little box at the top of the layers dialog that says "Lock". Make a 45 degree stroke from top right to bottom left of the layer, making sure you pass through the exact center, to apply the gradient. Leave the alpha channel locked.



Step 8.

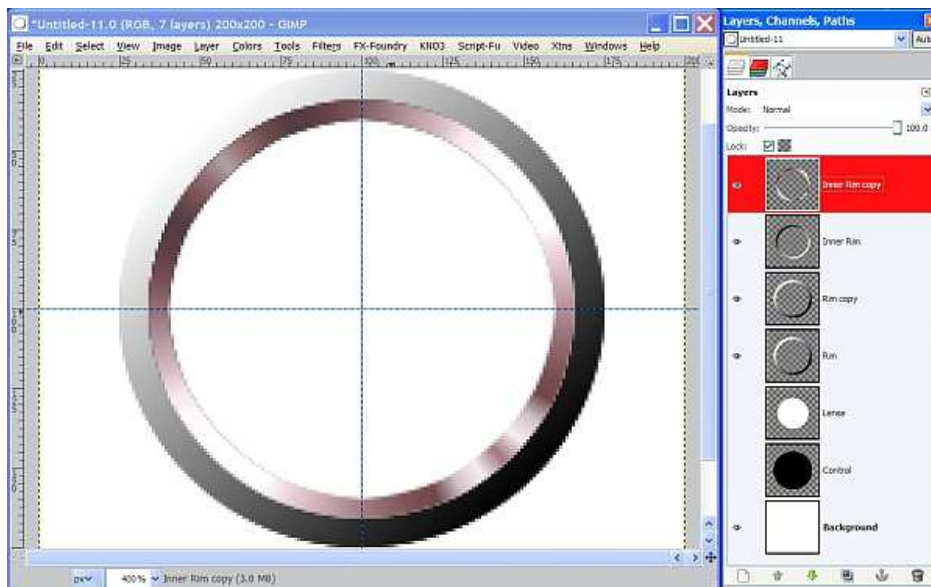
Now, select the Rim layer and lock the alpha channel. Reverse the Gradient in the Blend tool dialog and apply the reversed gradient in the same manner for this layer. Again, leave the alpha channel locked. This gives our Rim layers a beveled look that can also be achieved using the Python based "Selection Bevel" script with the appropriate settings. I just wanted to show the mechanics of how this is done manually.



Now let's give it more of a metallic look.

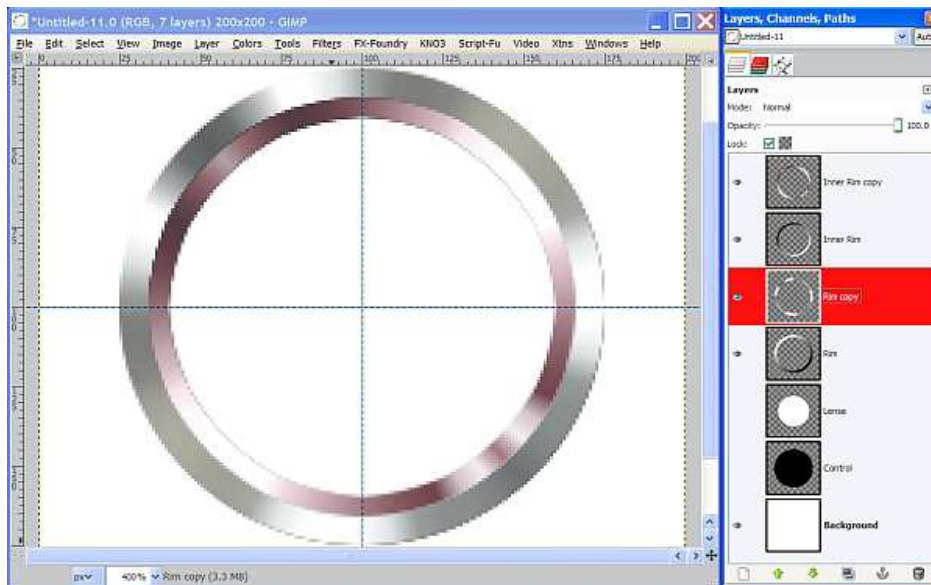
Step 9.

First, we need to duplicate both Rim layers so we have copies to work on. The alpha channel will automatically be locked on both layers. Select the Inner Rim Copy layer and in the Blend tool dialog select the Metallic 1 gradient and set the Shape to Conical (sym). The gradient was reversed in Step 8 above so uncheck the box to "un-reverse" the gradient. Place your cursor on the exact center using the guides and drag out in any direction to the edge of the layer.



Step 10.

Change the gradient to Metallic 4 and select the Rim copy layer to make it the active layer. Apply the gradient in the same manner as in Step 9 above.



The Metallic 4 gradient has a hint of color which we want to remove so go to Colors> Desaturate and select Lightness and click OK. Repeat for the Inner Rim copy layer.



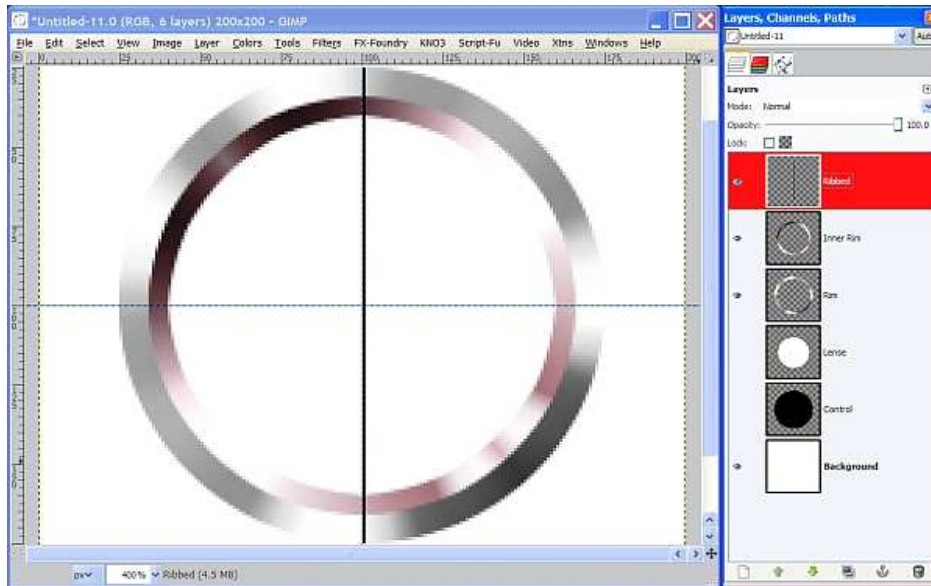
Step 11.

Unlock the alpha channel for all four Rim layers. In the layer stack, move the Inner Rim copy layer down below the Inner Rim layer. Move the Rim copy layer down below the Rim layer. Set the Layer Mode for both the Rim and Inner Rim layers to Overlay. Now right click on the Inner Rim layer and select Merge Down. Repeat the same process with the Rim layer so that we are back to four layers again. Rename both Rim layers so that the word “copy” is deleted.

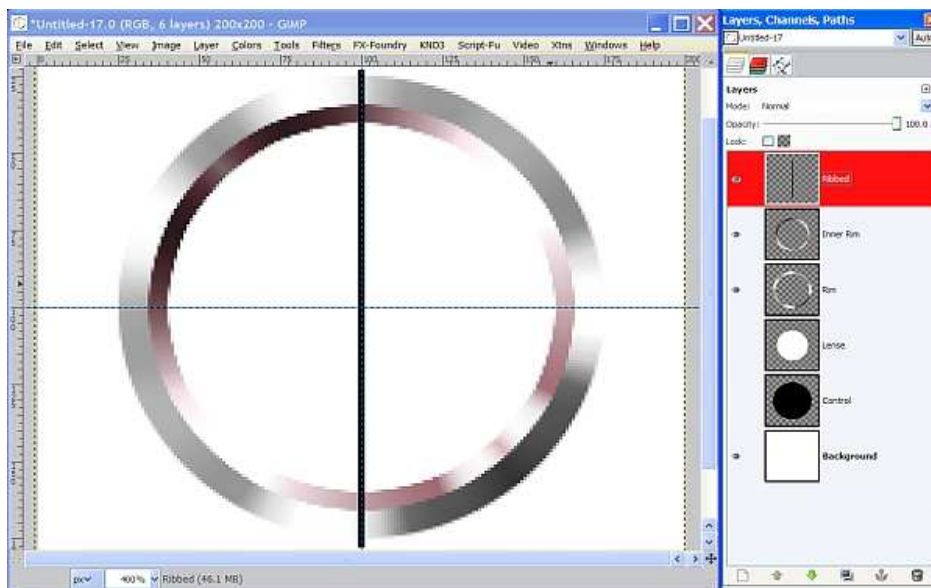
Before we merge these two layers, I want to show you how to create another type of Rim or “Bezel” for our indicator lights so that when we are finished you will have several options to choose from.

Step 12.

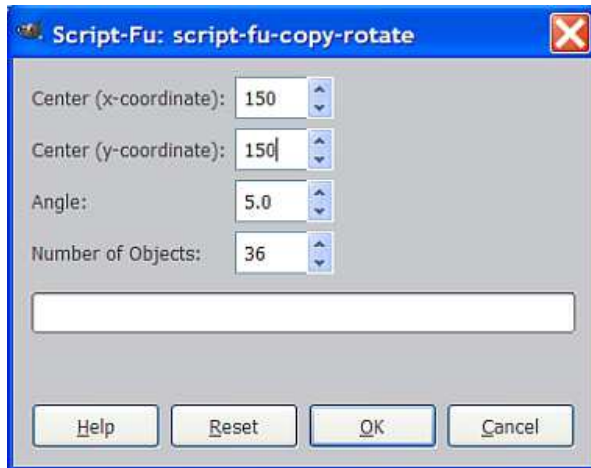
Create a new transparent layer and name it “Ribbed”. Place this layer at the top of the layer stack. Select the Pencil tool and pick the smallest Circle brush which should be the 1 pixel brush. Using the Vertical guide and the Shift key to keep it straight, draw a line from the top of the Rim layer to the bottom. Enlarge your image window a bit if you need to.



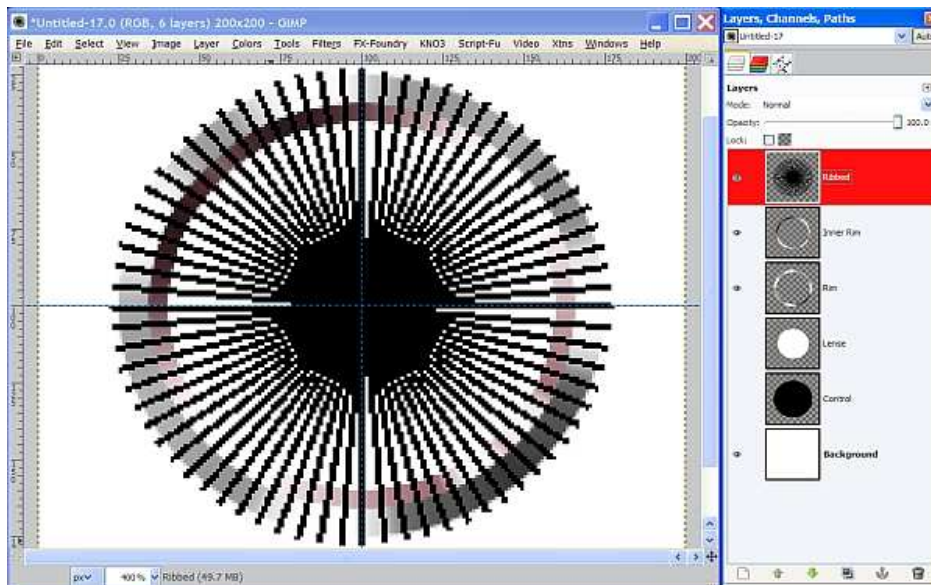
It's OK if you go past the edges because we will get rid of the excess in just a minute. Duplicate the Ribbed layer and select the Move tool. Click on the vertical line we made and use the left arrow button on your keyboard to move the layer 1 pixel to the left. Now right click on the Ribbed copy layer and select Merge Down.



Now we have a 2 pixel vertical line. Right click on the Ribbed layer and choose Alpha to Selection. Go to Select>Script-Fu-Copy-Rotate (one of the new scripts you installed) and enter the settings shown in the screenshot below and click OK.



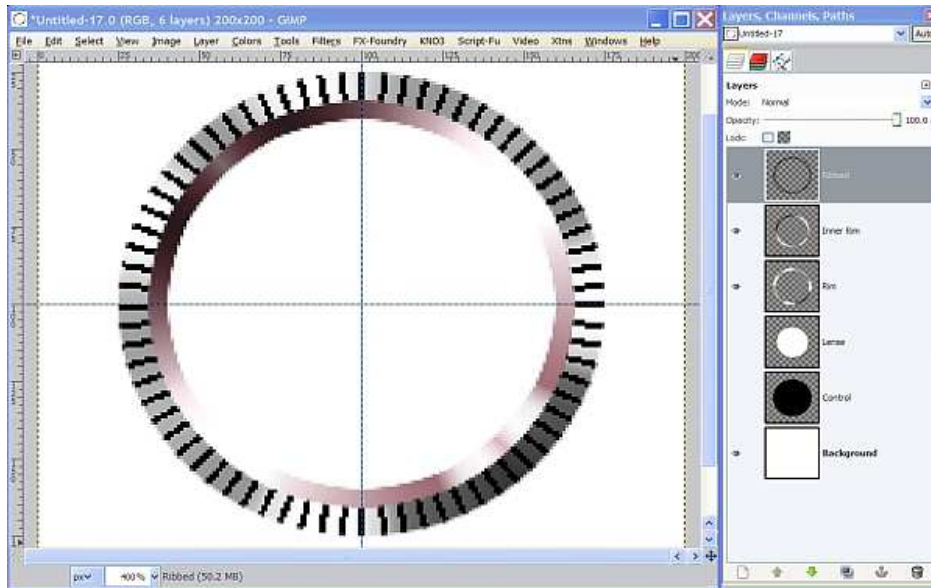
The filter will do the work for you as the name implies, copying and rotating our line at 5 degree increments until the entire image is filled.



It looks a little messy right now so let's clean it up.

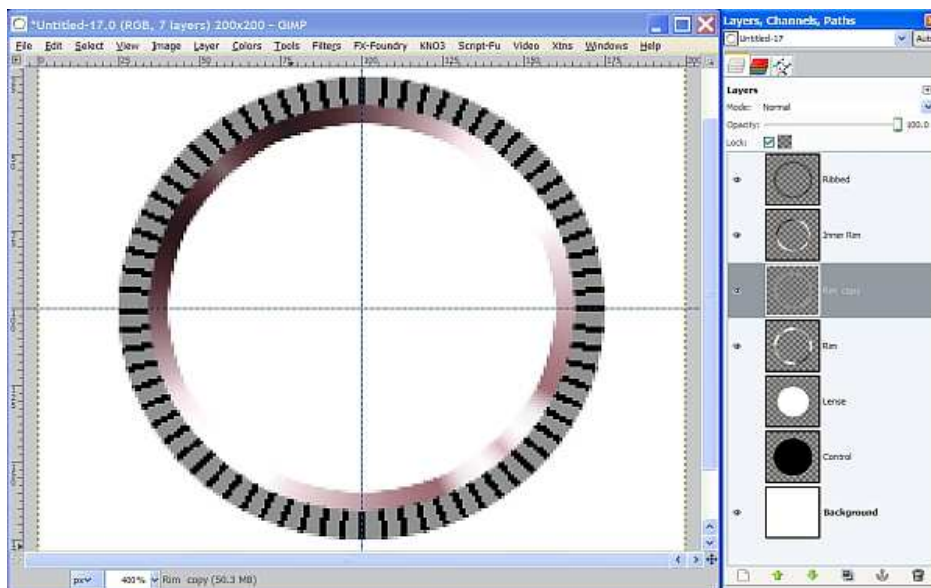
Step 13.

Right click on the Rim layer and select Alpha to Selection. Go to Select>Invert and then reselect the Ribbed layer and hit your delete key to remove most of the excess. Go to Select>None to turn off the selection. You will still have a little bit remaining on the inside so Right click the Inner Rim layer and choose Alpha to Selection, reselect the Ribbed layer and hit your delete key to remove any remaining portions of the lines. Now it's all cleaned up and we can turn off the selection (Select>None).



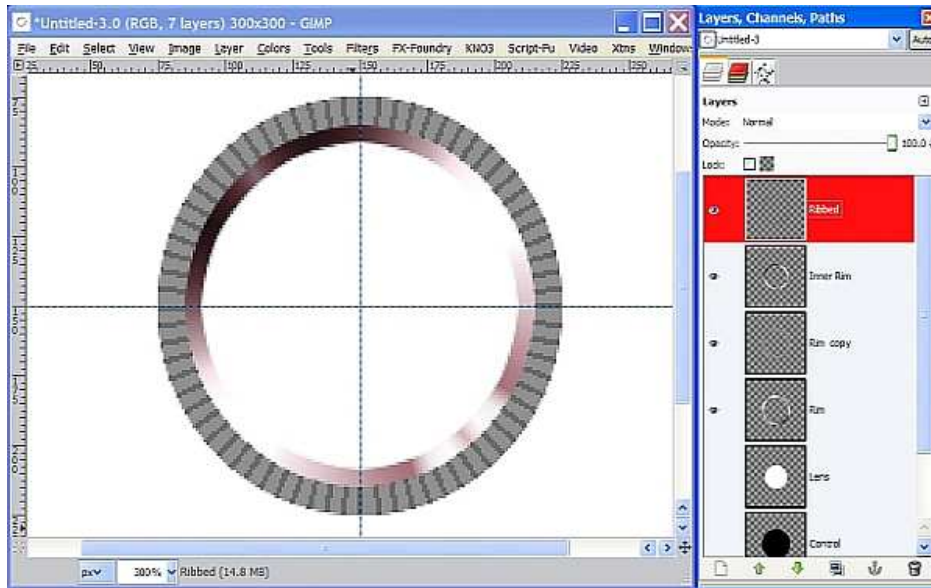
Step 14.

Duplicate the Rim layer and lock the alpha channel on the Rim copy layer. Set your FG color to the light gray color we used before (919191) and drag it over to your image to fill the Rim copy layer with the light gray color. When you are finished, be sure to unlock the alpha channel.



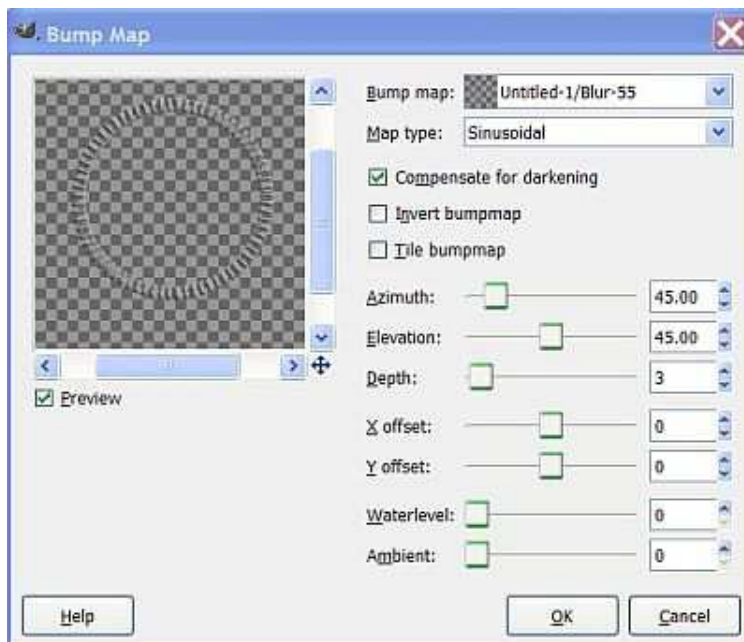
Step 15.

Right click on the Ribbed Layer and choose Alpha to Selection. Click on the Rim copy layer to make it active and hit the delete key. While the selection is still active, reselect the Ribbed layer and set the FG color to the dark gray color (6B6B6B) and fill the selection. Go to Select >None to turn off the selection.

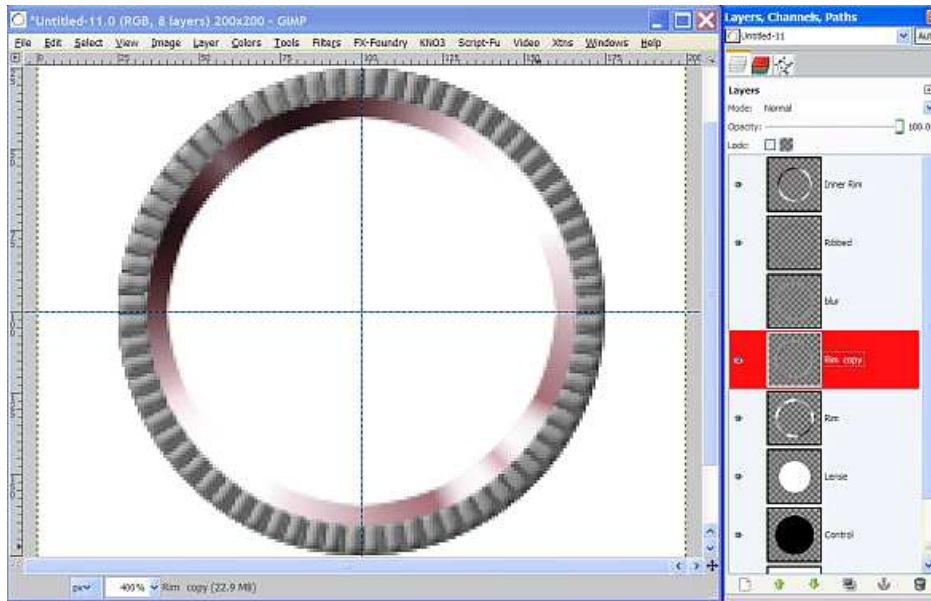


Step 16.

Move the Ribbed layer down in the layers stack below the Rim copy layer. Duplicate the Rim copy layer, and rename it “Blur”. Go to Filters>Blur>Gaussian Blur and use 3 for the amount and click OK. Turn off the visibility of the Blur layer and select the Rim copy layer. Go to Filters>Map>Bump Map and use the following settings making sure that the Blur layer is selected for the Bump map. Once you have entered the settings, click OK.

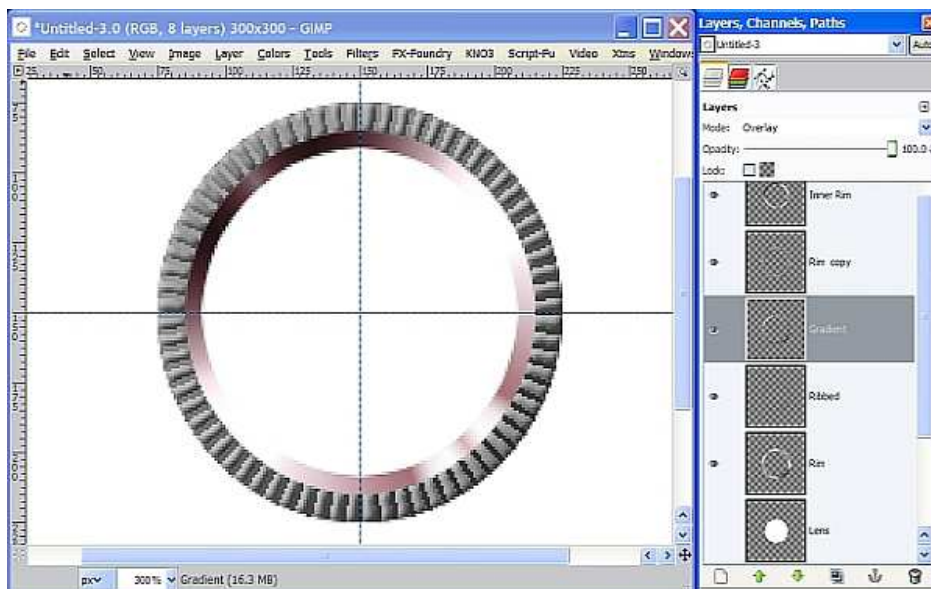


Your image should now look something like this.



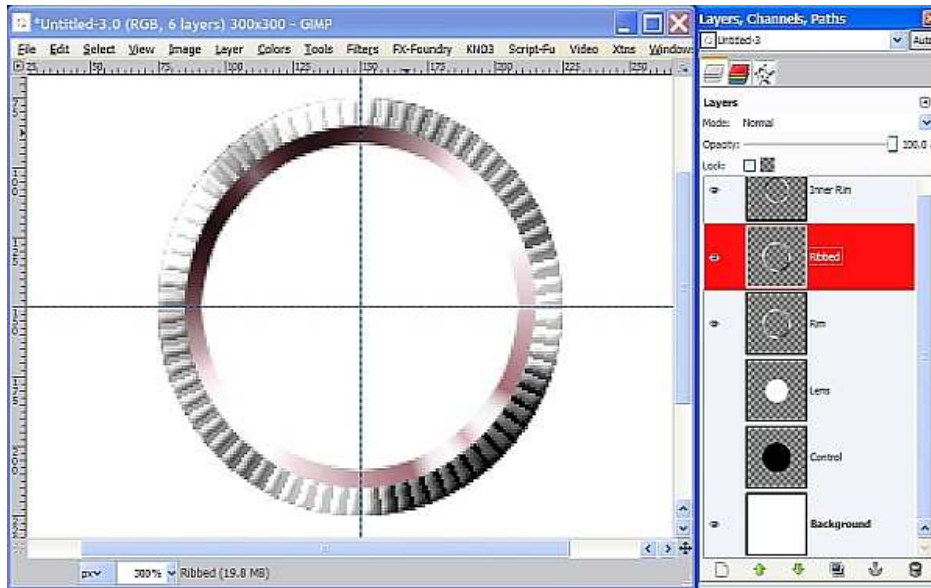
Step 17.

Delete the Blur layer and create a new Transparent layer above the Ribbed layer and name it Gradient. Right click on the Ribbed layer and choose Alpha to selection. Reset your FG/BG colors to the default black and white and select the Blend tool. In the tool dialog, set the Gradient to FG to BG (RGB) and set the shape back to Linear. Click the little box to reverse the gradient. Make a diagonal stroke, just like we did before, to apply the gradient. Turn off the selection and set the layer Mode for the Gradient layer to Overlay.



Step 18.

Right click on the Gradient layer and select Merge Down. Now right click on the Rim copy layer and select Merge Down. Duplicate the Rim layer and move the duplicate above the Ribbed layer and set the layer Mode to Grain Merge. Right click on the Rim copy layer and select Merge Down.



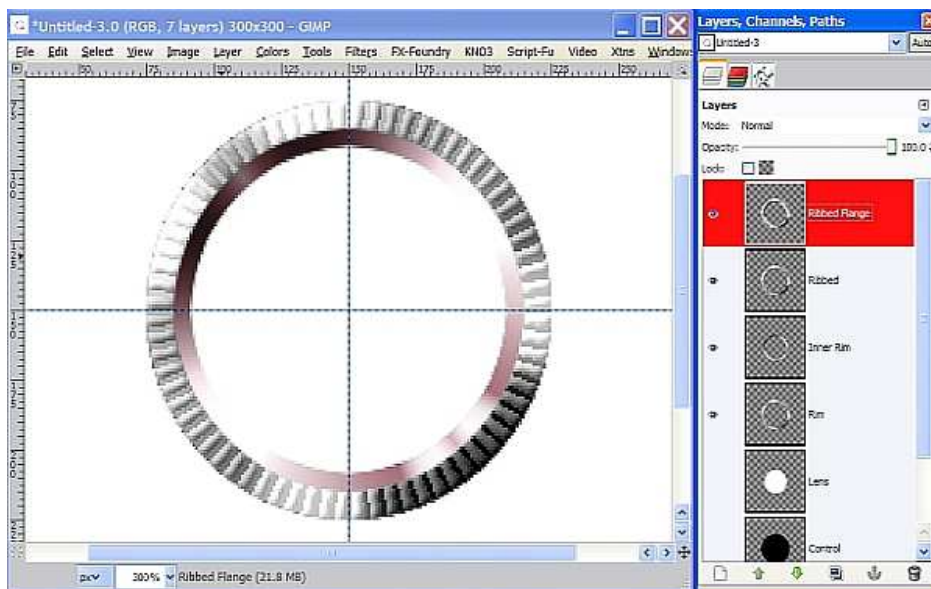
Now we can save this combination for one of our optional bezels or we can use just the Ribbed layer by itself.

Note: To use just only the Ribbed layer only without the Rims, omit the second merging process above and refer to Step 20 below.

To make other combinations, we add a few steps.

Step 19.

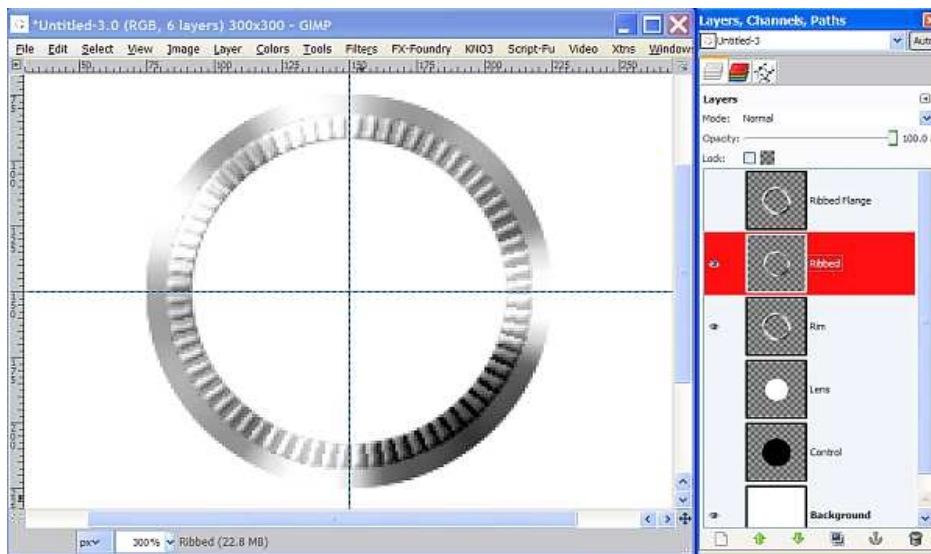
Duplicate the Ribbed layer and rename the duplicate to “Ribbed Flange”. Duplicate the Inner Rim layer and move the duplicate up in the layer stack just under the Ribbed Flange layer. Right click on the Ribbed Flange layer and Merge it down with the Duplicate Inner Rim. You’ll need to rename the layer back to Ribbed Flange again.



Now that we have this “Ribbed Flange” combination as a separate layer we can adjust our original Ribbed layer to be used by itself in a different way. Turn off the visibility of the Ribbed Flange layer.

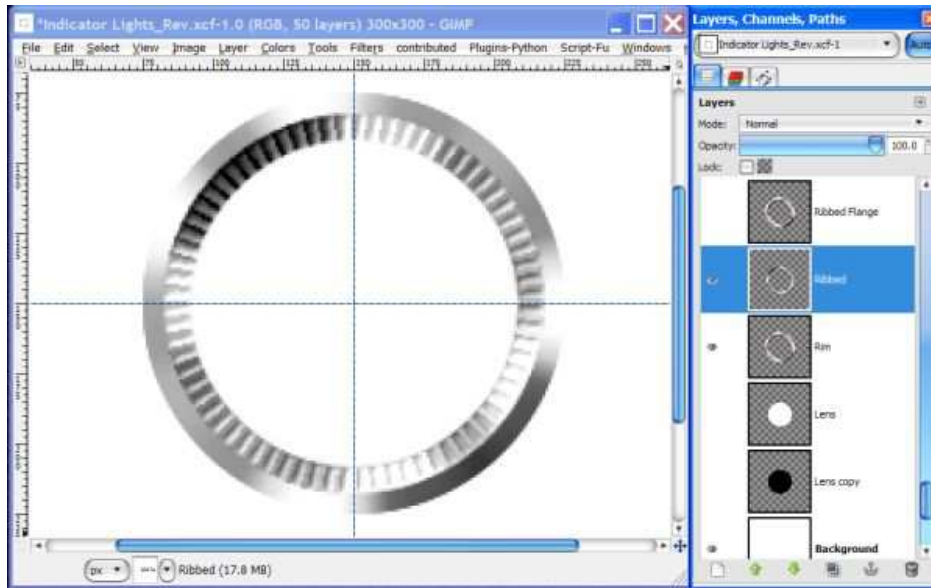
Step 20.

Right click The Inner Rim layer and select Merge Down so that we now have one Rim layer consisting of the inner and outer Rim layers. Click on the Ribbed layer to make it the active layer, then go to Layer>Scale Layer, set the Mode to Per Cent and enter 90 for the amount then click on the Scale button.



Right click on the Ribbed layer and select Layer to Image Size. Since the Ribbed layer is now on the inside of our Bezel, we need to make one more adjustment to correct the shadow effects. Go to Layer>Transform>Flip Vertically and then repeat using Flip Horizontally. Your Ribbed layer should now look like this with the shadow reversed.

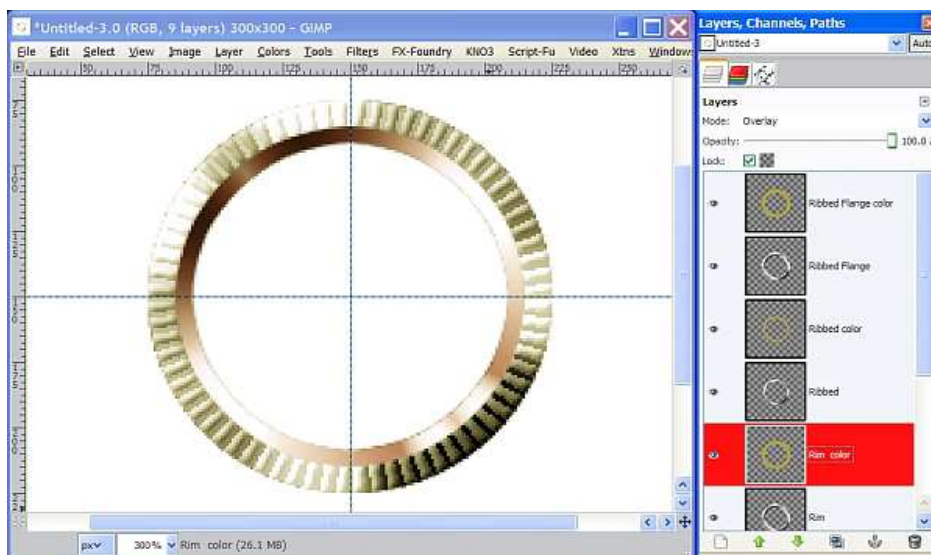
Note: To save the Ribbed rim for use by itself, omit the “flip” part of this step so the shadow remains in the correct position.



Make a separate combined layer out of this as well like we did for the Ribbed Flange layer. Turn off the visibility of the Rim layer below and you can save just the smaller Ribbed layer by itself. This gives us a total of four different options for bezels.

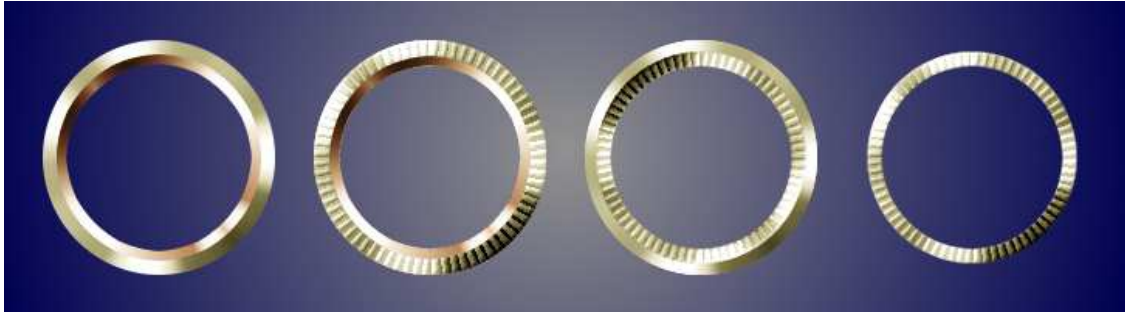
Step 21.

From this point we can use our layers as is for a soft Chrome look, or we can make them take on any metallic color desired. I'm only going to show one to illustrate. Duplicate each of the Rim layers, lock the alpha channels, fill the duplicates with the desired color and set the layer Mode for each of the duplicates to Overlay. I'm using a Brass color (B5A642). Your colored layers should now look something like this.



Note: Don't merge any of the layers until you have finished the entire tutorial as you may want to make different metallic colored sets of lights, with different rim combinations, later on.

Here are the four options using the Brass color.



These would also serve as nice bezels for making a watch, clock or a gauge perhaps. Make sure you save the XCF file so you can pick up from where you left off if you are not going to complete the whole tutorial right now. Be sure not to merge any layers yet!

I hope you found this informative and perhaps useful. When you are ready, proceed to **Part B – The Lense.**