

Texturing a Starship by Fireball



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Introduction:

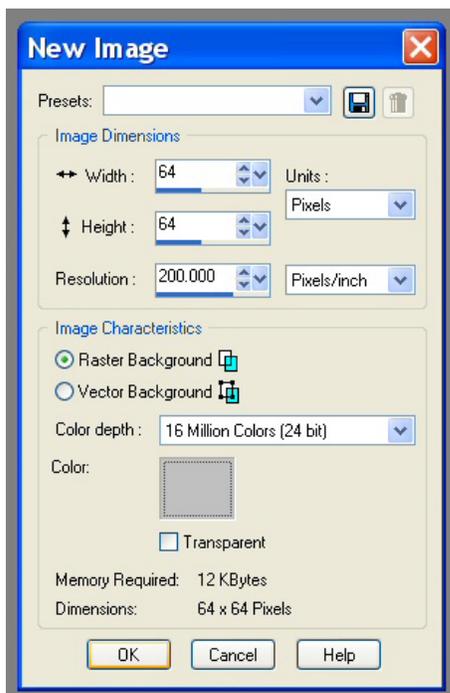
In this tutorial, I plan to teach the basic way in which I texture a Starship. This does not include UVW Unwrapping as this is program specific. There are plenty of tutorials for that available on the net.

In this tutorial you will learn the basics from detailing to creating your own Aztec pattern that will allow your ship to look realistic. This tutorial was made with *Jasc Paint Shop Pro 8* and the models were done in *3d studio max 5*. Some basic knowledge of *PSP8* (or the program you happen to be using for texturing) is required. This tutorial will probably translate to another program very easily. There is one other requirement! Be patient! This isn't a 30 minute or 1 hour tutorial!

Chapter 1:

Okay, now we will begin. This is a first and very important step to a good texture. Before you begin to texture a ship, you must think to yourself, what do I want the panelling to look like? What level of detail would I like? Before you even begin to texture the ship, you make this one texture that you can use over and over again.

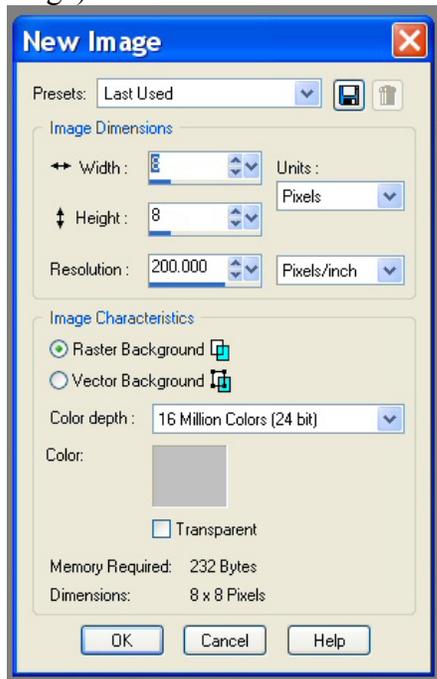
First begin by thinking what size you want your map to be, and the size of the panels that you want. For our purposes we'll want a 1024 x 1024 image. Now let's say we would like our panels to be repeated 16 times; 1024 divided by 16 gives us 64. Now we can begin, create a 64x64 image like so:



(Figure 1.0)

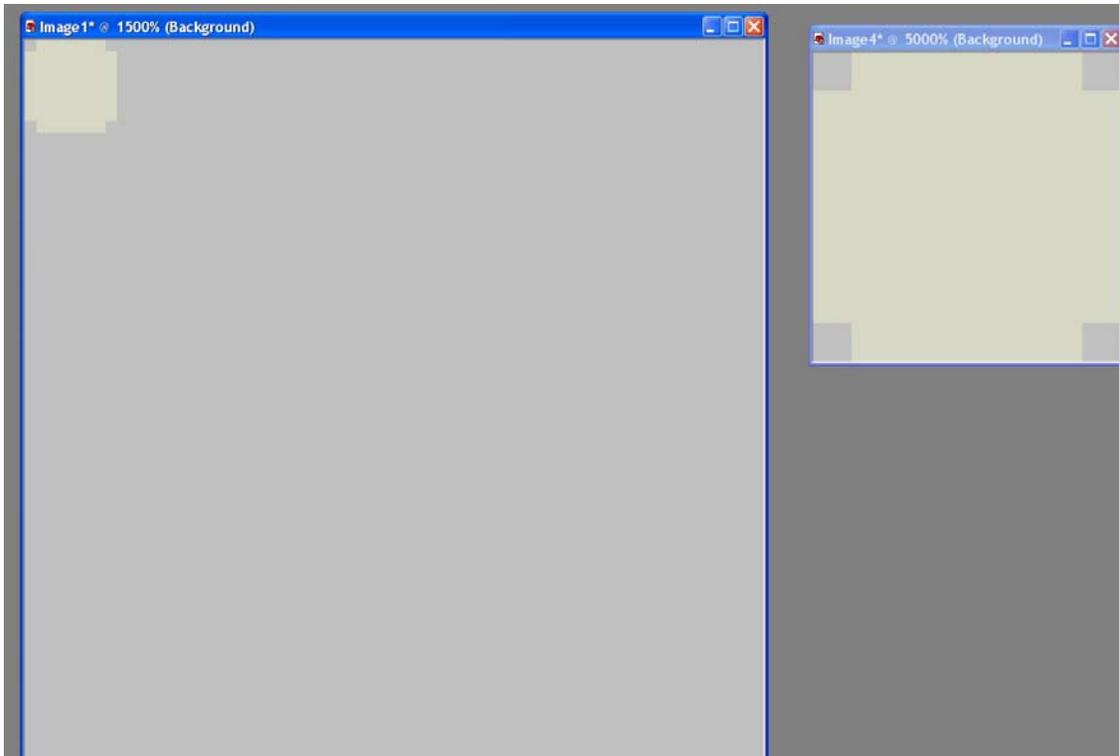
The colour you use is not very important at this stage, a grey colour is recommended for now because it can be adjusted to any colour at any time, for a vessel of any race.

Now what we want to do with this texture is to create a series of boxes. These boxes should be of equal size and various colours. Let's say we want 8 boxes across and down, we do another simple calculation of 64 divided by 8 which gives us boxes of 8 x 8 pixels. Now create an 8 x 8 image as so: (using the same background colour as the previous image).



(Figure 1.1)

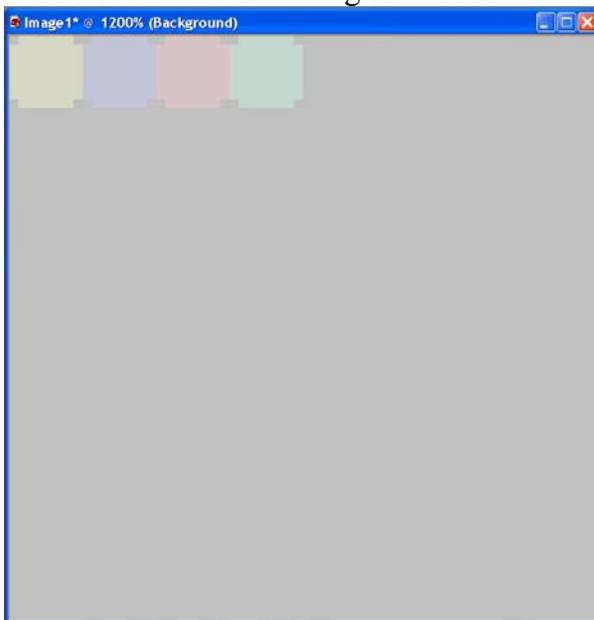
Now, chose a colour that is red, blue, beige, or any colour you'd like, but make this colour close to the base colour you have chosen. Fill the box with your new colour and paste it onto your 64 x 64 texture file as follows:



(Figure 1.2)

Now, repeat this process 3 more times, but with different colours. Paste your 8 x 8 “panel boxes” into your 64 x 64 image. It is encouraged that you keep saving both files throughout the process.

You should have something similar to this:



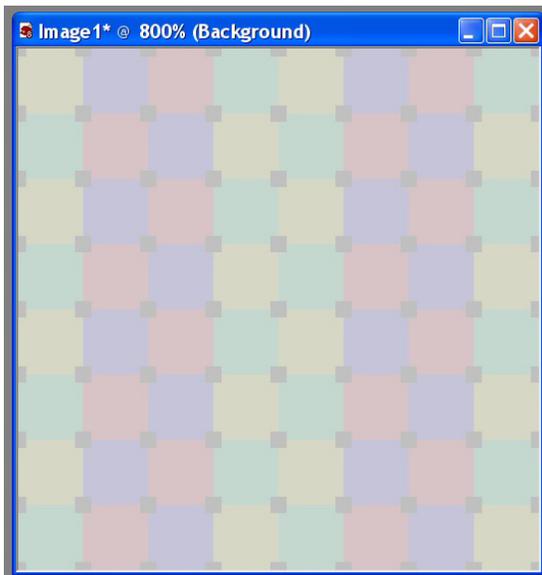
(Figure 1.3)

Now this may look unusual to many of you, but please bare with me, trust me when I say it will all work out! Now the select the top 4 panels that you created and copy them (ctrl + c). Then paste as transparent selection (ctrl + shift + E) and place these beside the original 4 panels.



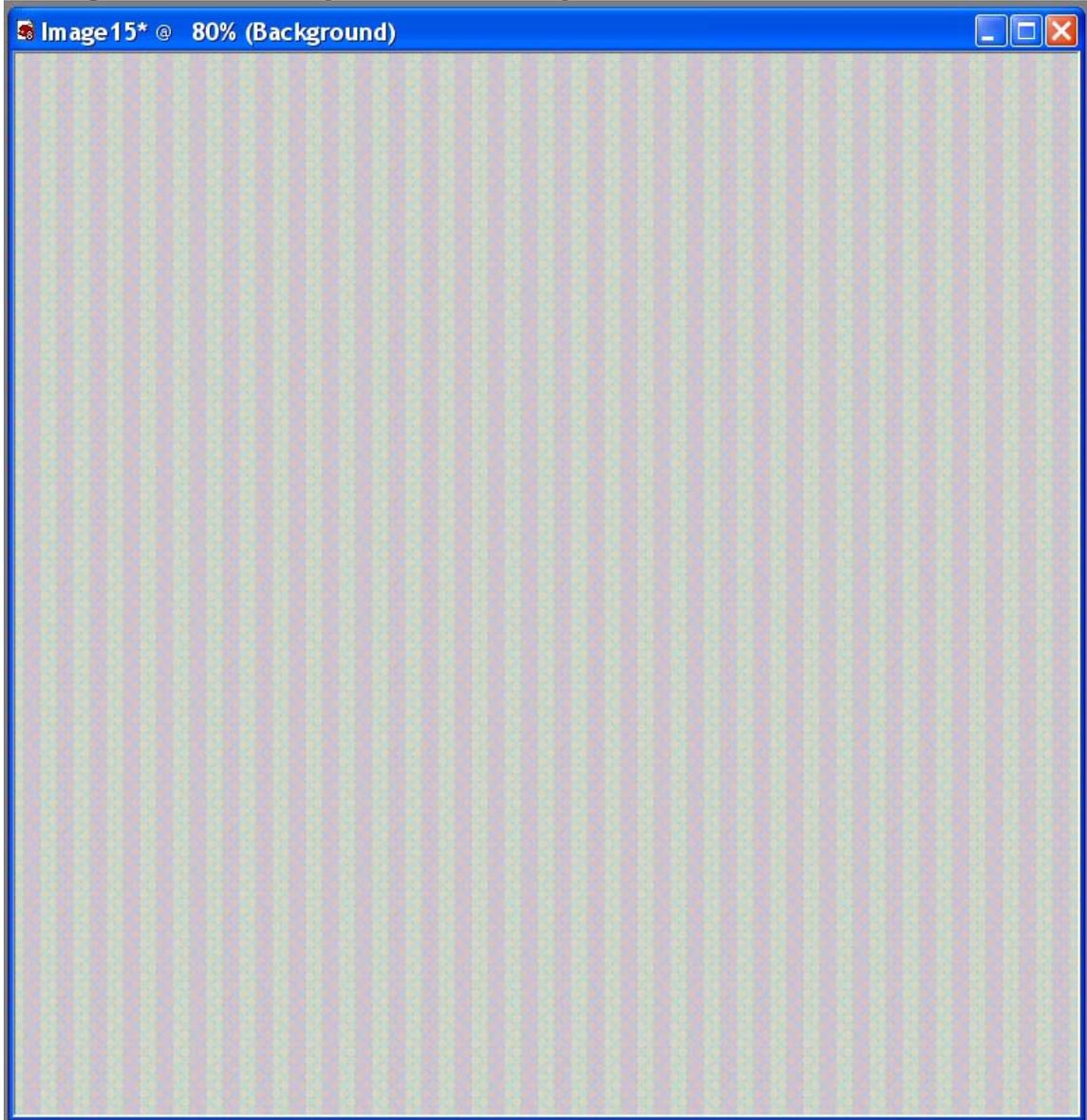
(Figure 1.4)

Now you find that you have something like this. We continue by selecting the top row and copying it. Now, mirror your selection (ctrl + m) and place it below your first layer. Continue to repeat this step until you fill the texture and have something like the image below.



(Figure 1.5)

Now we are on to the final step of this texture. Create a 1024 x 1024 pixel texture. Now copy the 64 x 64 texture that you have created and repeat it until you have the image filled up. Remember we figured that it would go 16 times across and 16 times down.



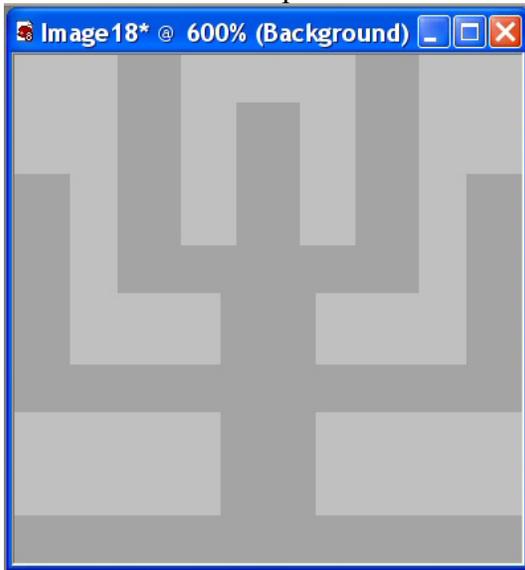
(Figure 1.6)

At this point you should have something like the image above. It may hurt your eyes and look highly un-usual, but bare with me, it will be used soon. If you'd like to make things interesting you can add some noise or dirt to the picture. Save this texture file as "*PanellingBoxes.psd*" for now, please note to save it in **psd** format!

Chapter 2:

Now, we begin with another texture file, 64 x 64 pixels with the same base colour as we used in our other texture files. Now, chose a colour a bit darker than the base colour we began with. The darkness is really dependant on what kind of look you're going for. Now here is the fun part, paint whatever you want, absolutely anything!

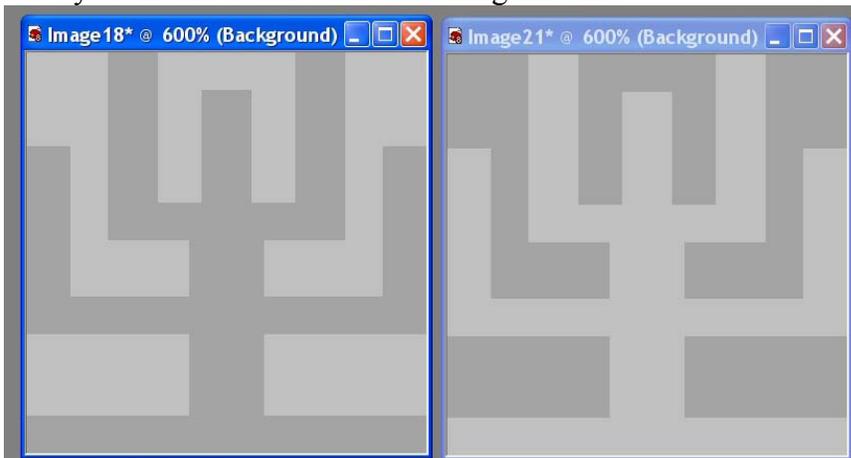
Here is what I came up with.



(Figure 2.0)

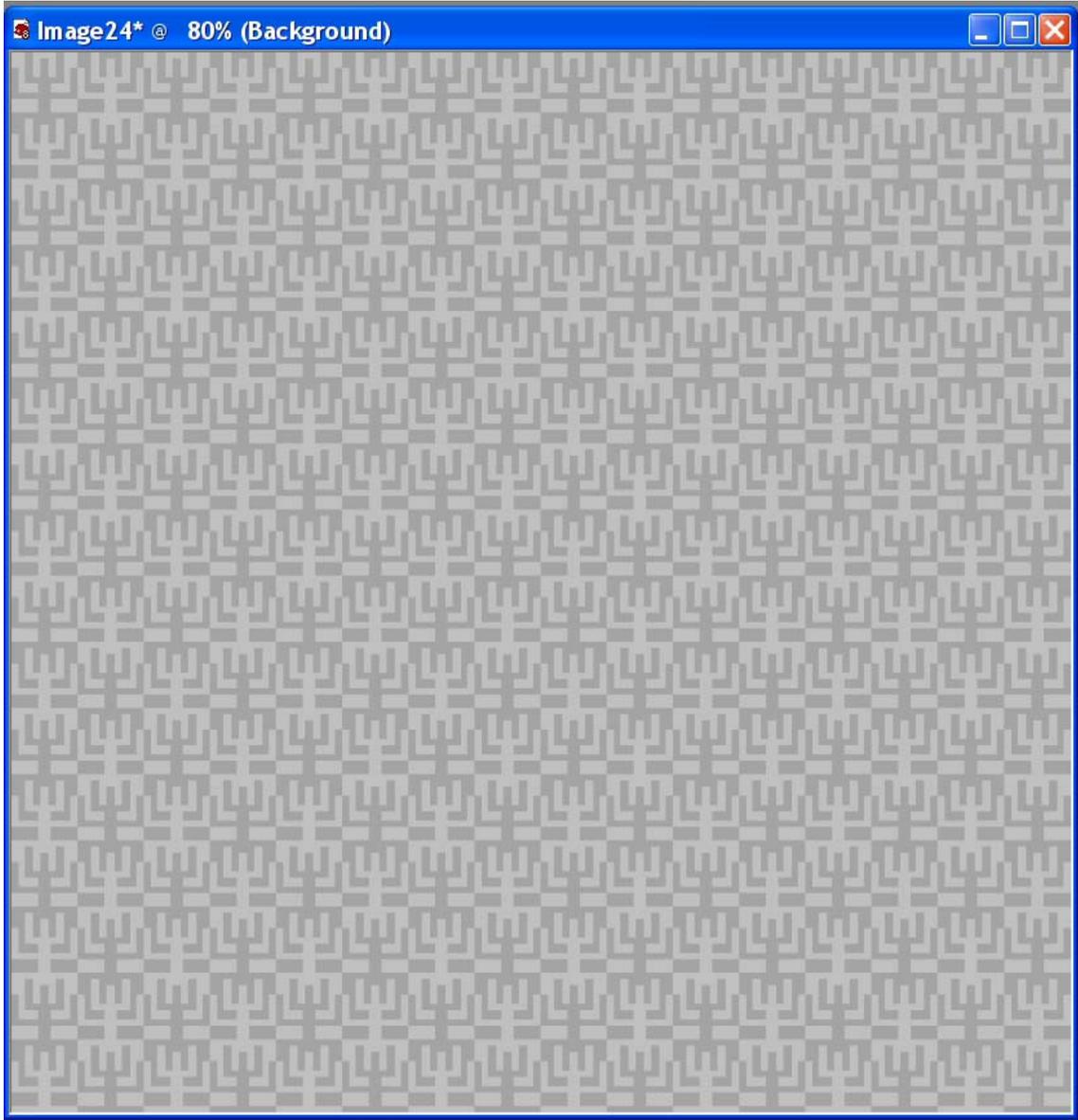
Now, copy your texture and invert the colours. Simply select the dark part and make it any colour (let's say red, it's only temporary). Then select the light part and make it the dark colour. Once you're done this, select the red part and make it the light colour from your texture.

Now you should be left with something like this:



(Figure 2.1)

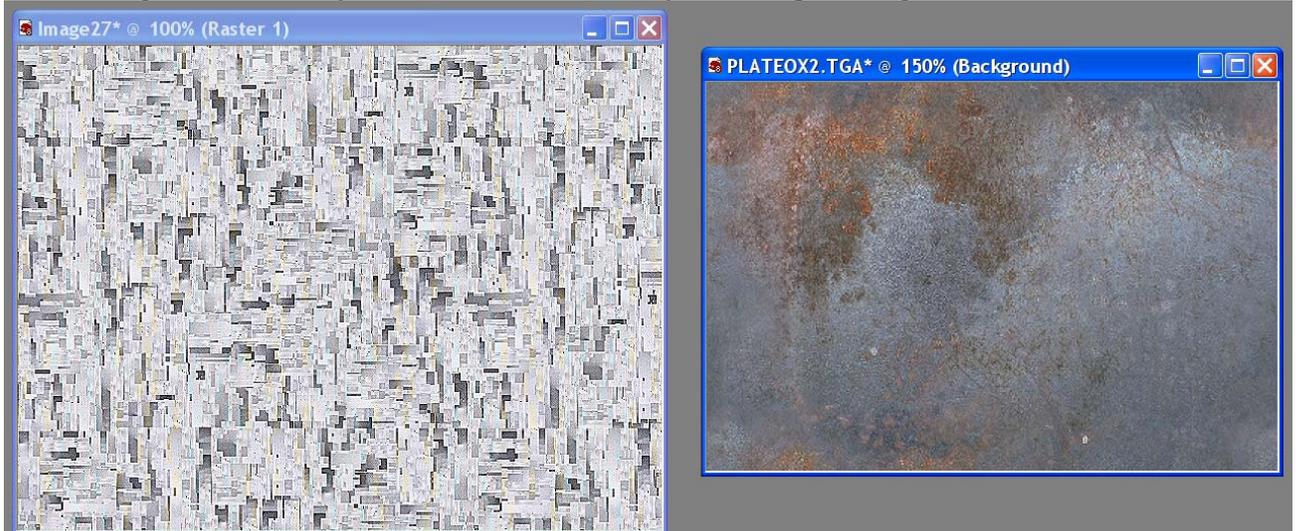
Once again, create a 1024 x 1024 pixel texture. Begin pasting (and alternating) the 2 Aztec panel textures on this texture. Remember we should get about 16 of these across and 16 down on the texture, keeping this in mind will help you keep things lined up. It's important that you alternate the patterns otherwise it greatly reduces the effect and look created by panelling! When done the above, you should get something similar to this:



(Figure 2.2)

Now it's important that you save this. Save the file as "*MainAztec.psd*". Now we're getting closer to what we are looking for. Next you need to find (Or Make) a completely random Aztec pattern. Making one is a long and tedious process but you can re-use it over and over again once you've done it once. However this tutorial won't be so extensive as to give explain how to make one, it's essentially a process of making many boxes in many layers to create a fancy effect.

One must also find an appropriate rust texture to apply onto their ship; this will give the panelling a dirty effect that we neglected to add onto our panels at the beginning of the tutorial. Figure 2.3 shows you the 2 files I use for my random panelling and rust.

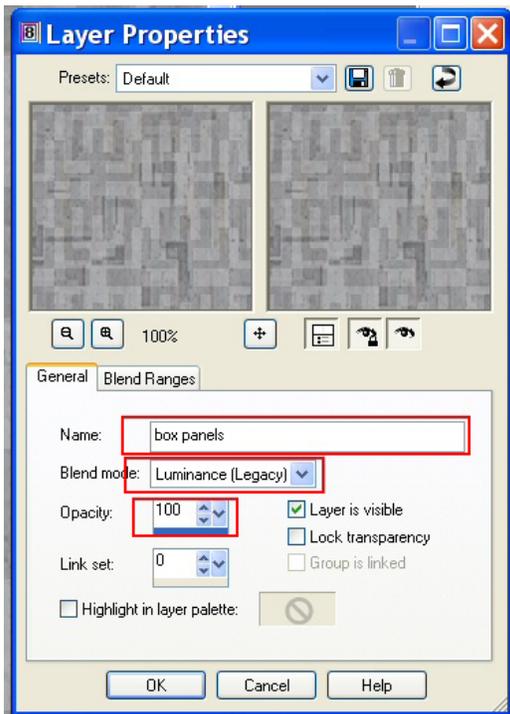


(Figure 2.3)

Chapter 3:

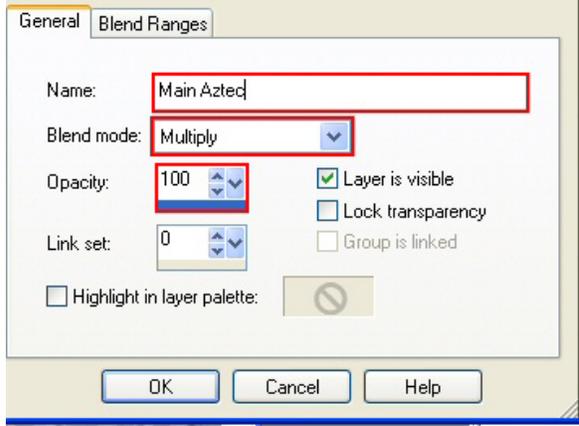
So now you've got all of these files sitting around, what do you do with them?

Let's begin a sort of preview to what you can do with this. Begin by creating a 1024 x 1024 pixel texture. Now, take "*PanellingBoxes.psd*" and paste it as a new layer, call this layer "box panels" and set the blend mode to "*Luminance (legacy)*" at 100% opacity like in figure 2.4



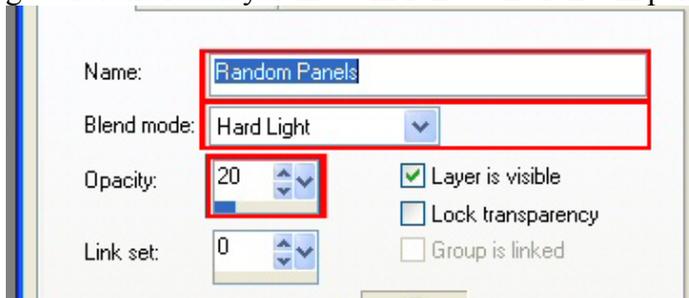
(Figure 2.4)

Next, take “MainAztec.psd” and paste it into the same texture file as a new layer. Place this layer **ahead** of the box panels layer. Call this layer “Main Aztec”, set blend options to multiply and leave opacity at 100%.



(Figure 2.5)

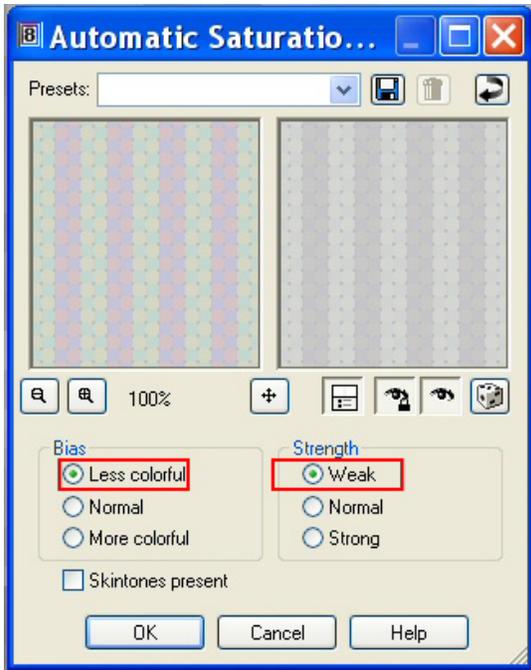
Next, take the texture part that you have that contains the random panels. Create a new layer called “Random Panels” with a blend mode of “Hard Light” and an opacity of 20%. Make sure this panelling texture encompasses the entire 1024 by 1024 image! The same goes for the rust layer that will follow the random panel layer!



(Figure 2.6)

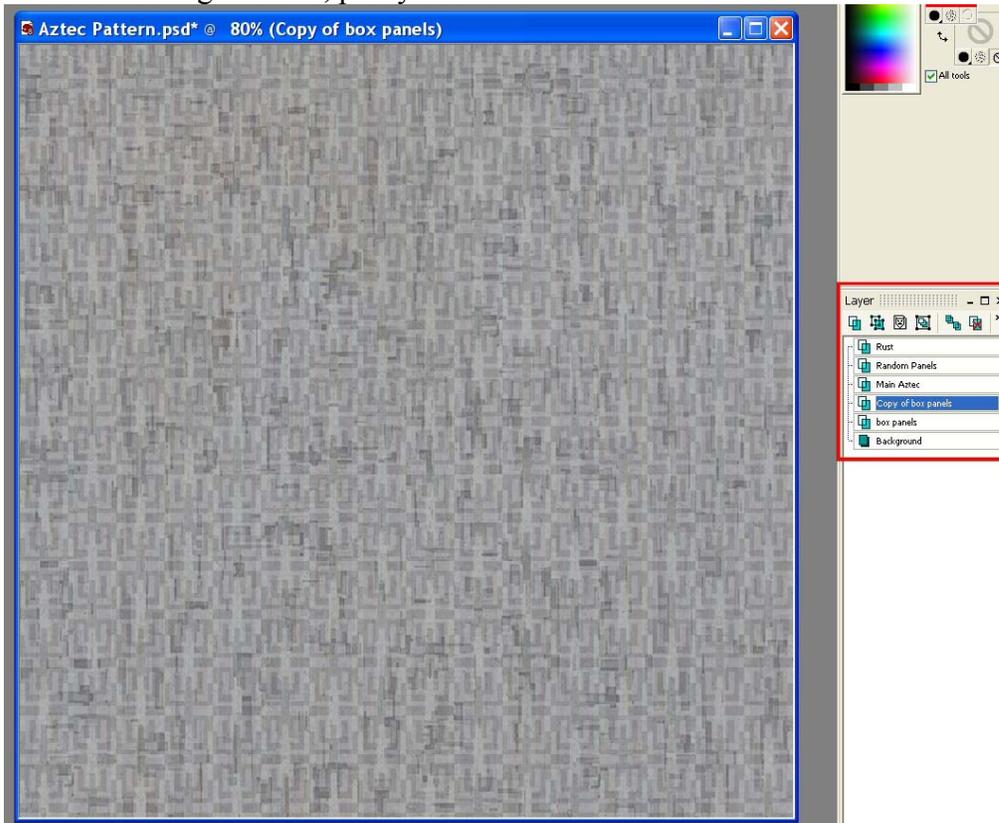
Now similarly, create a layer called “Rust” with a blend mode of “Hard Light” and an opacity of 10%. A picture is not really required for this because by now you should understand what I’m talking about (assuming you’ve gotten this far).

Next, right click on the “box panels” layer and click duplicate. This should create a layer right above the box panel layer identical to the one you have now. Open this layer and set the blend mode to “Colour” and keep the opacity at 100%. Now, go to **Adjust > Hue and Saturation > Automatic Saturation Enhancement**. From here, enter the settings shown in figure 2.7.



(Figure 2.7)

Make sure the layers are in the same order as figure 2.8, you should get a texture that looks something like this, pretty cool eh?



(Figure 2.8)

Now, save this file as a PSD. Perhaps something along the lines of “*Aztec Final.psd*”
With this file, you’ll be able to do the panelling for any part of the ship, saucer, engines;
pretty much anything is fair game.

Chapter 3:

In this chapter, we will see some applications of the Aztec texture, more accurately I am going to document its use in a ship I am currently creating. This following section will be nothing more than a summarization of how I textured the ship. It’s not going to be a step by step guide more than it is a documentation of how I texture and perhaps a few techniques that might help you in your texturing efforts.

The ship I will be texturing is called the Zophia class; it’s a small TMP Destroyer I created recently. Here are some pictures of the untextured ship.

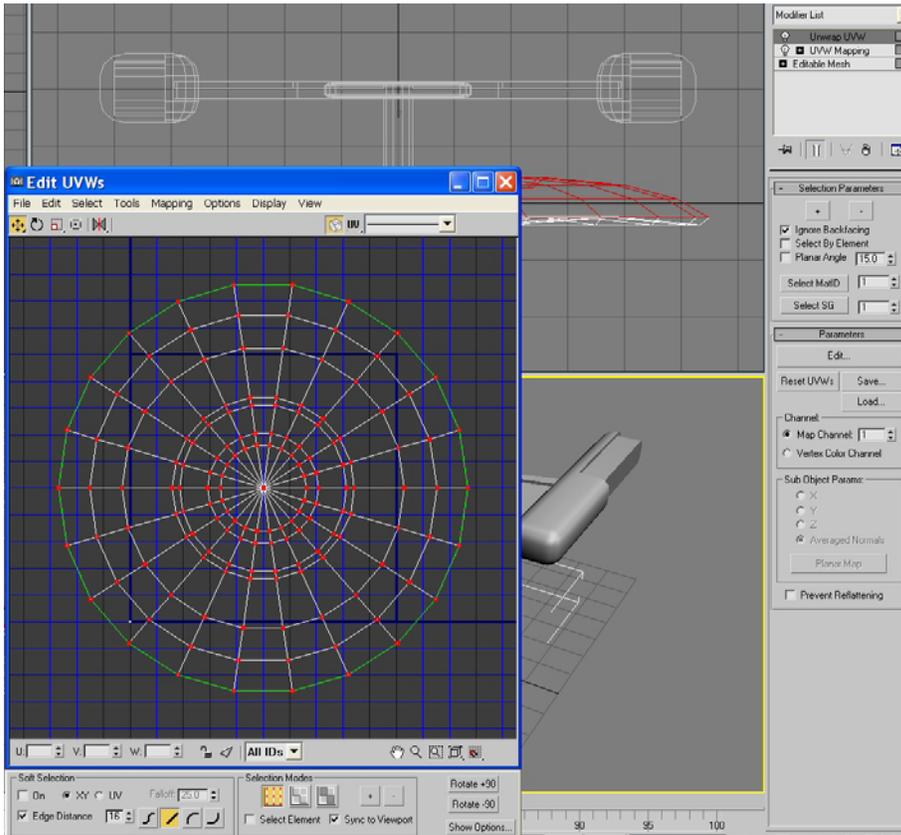


(Figure 3.0)



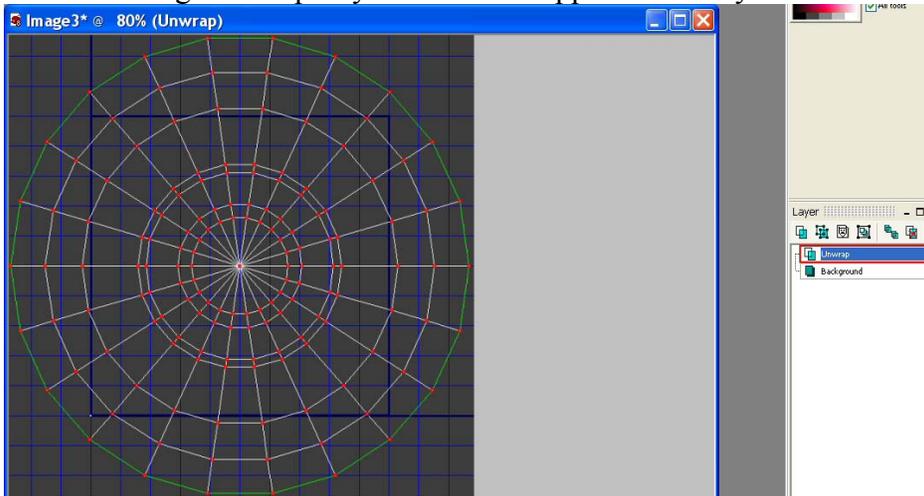
(Figure 3.1)

Now, the best way to begin when texturing any ship is to UVW unwrap all of your parts. This works differently in every program, and can be done a variety of ways for any number of ships; how you chose to do it is completely up to you. However for this tutorial you can follow along with me using the template textures I have attached. The way I texture is to unwrap the part of the texture that needs unwrapping and take a print screen of the “Edit UVWs” window. Then I copy that part into a standard 1024 x 1024 texture.



(Figure 3.2)

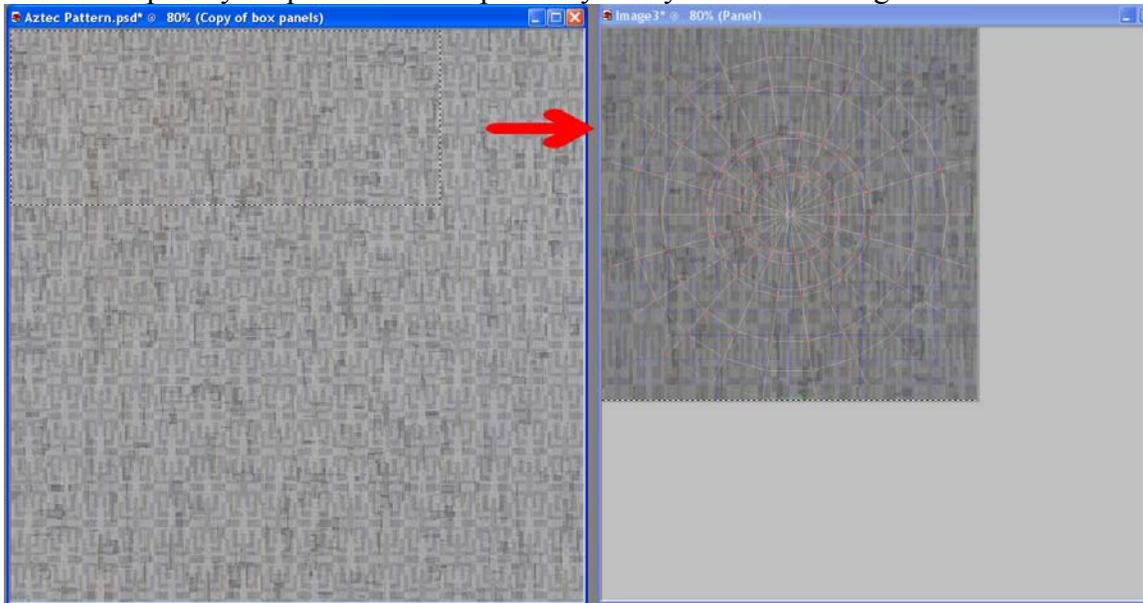
Now with this, create a 1024 x 1024 texture file and make a new layer called “unwrap”. Place the image of the part you have unwrapped in this layer as shown in figure 3.3



(Figure 3.3)

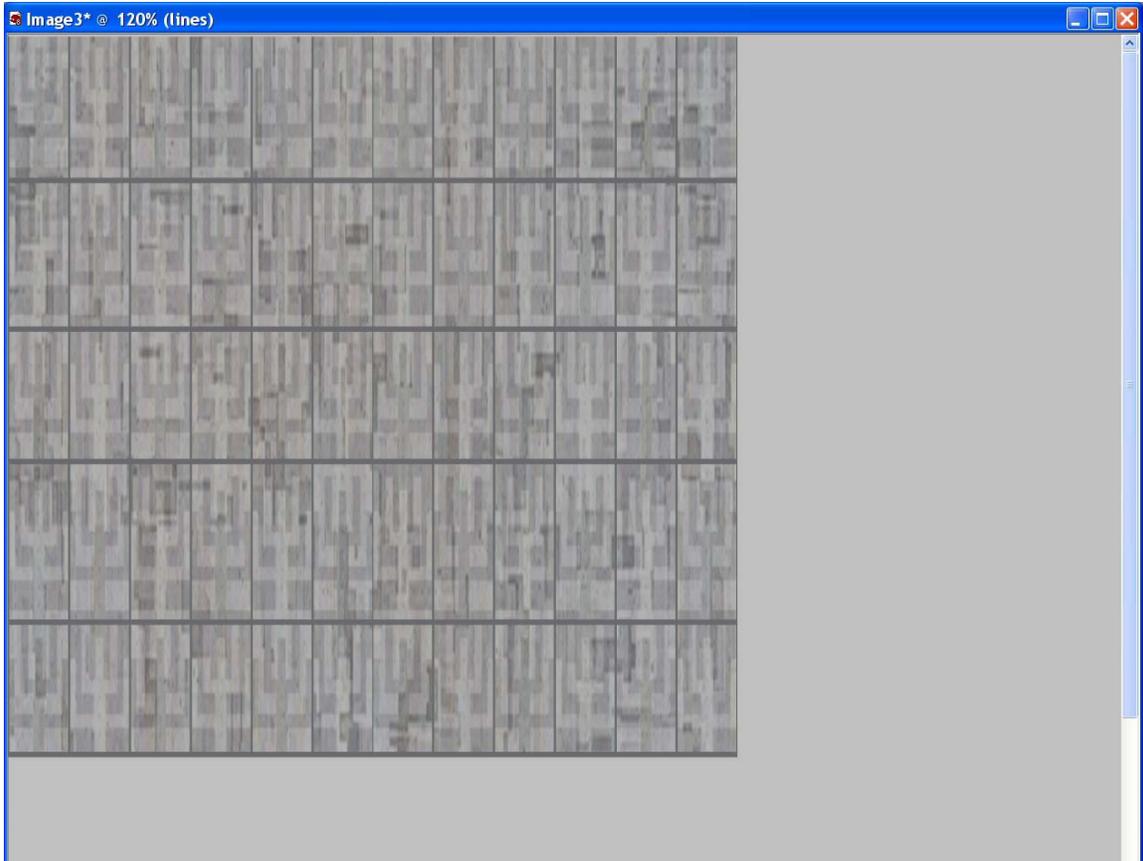
Now here comes the more fun part, create a new layer called “Panels” and place it just above the background. This will be the layer in which we put our panelling. Leave the blend option to “Normal” and the opacity at 100%. At this point you can turn down the opacity on the unwrap layer to 30%. This will allow you to see what you are texturing, while allowing you to see on what part of the ship this texture will appear. At the end of the texturing process you will simply delete this layer and flatten the image.

Begin by opening up the “Aztec Final.psd” texture. Taking a look at the ship, it’s a smaller ship so we can assume it wouldn’t have as many panels as say the Constitution class. For this ship we’ll go 12 panels wide and 5 panels in height. Your selection should look like in figure 3.4. When you have made this selection, click **edit > copy merged or (ctrl + shift + C)**, this is very important! Don’t forget to **copy merged** or else your texture will not look right! When you’ve done this create a selection around the top of the saucer and paste your panels into the panel layer of your texture image.



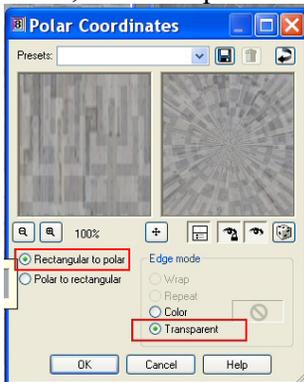
(Figure 3.4)

Now we would like to create some lines, more specifically, shield grid lines. Create a new layer called lines with blend options of “normal” and an opacity of 100. Then begin to draw lines along the Aztec pattern as in figure 3.5. Make sure that the vertical lines are then, 1-2 pixels wide at most, where the horizontal lines remain thicker, around 4-5 pixels thick. The reason for this is the way things are stretched when you add a polar coordinates modifier to it to make it conform to the round shape.



(Figure 3.5)

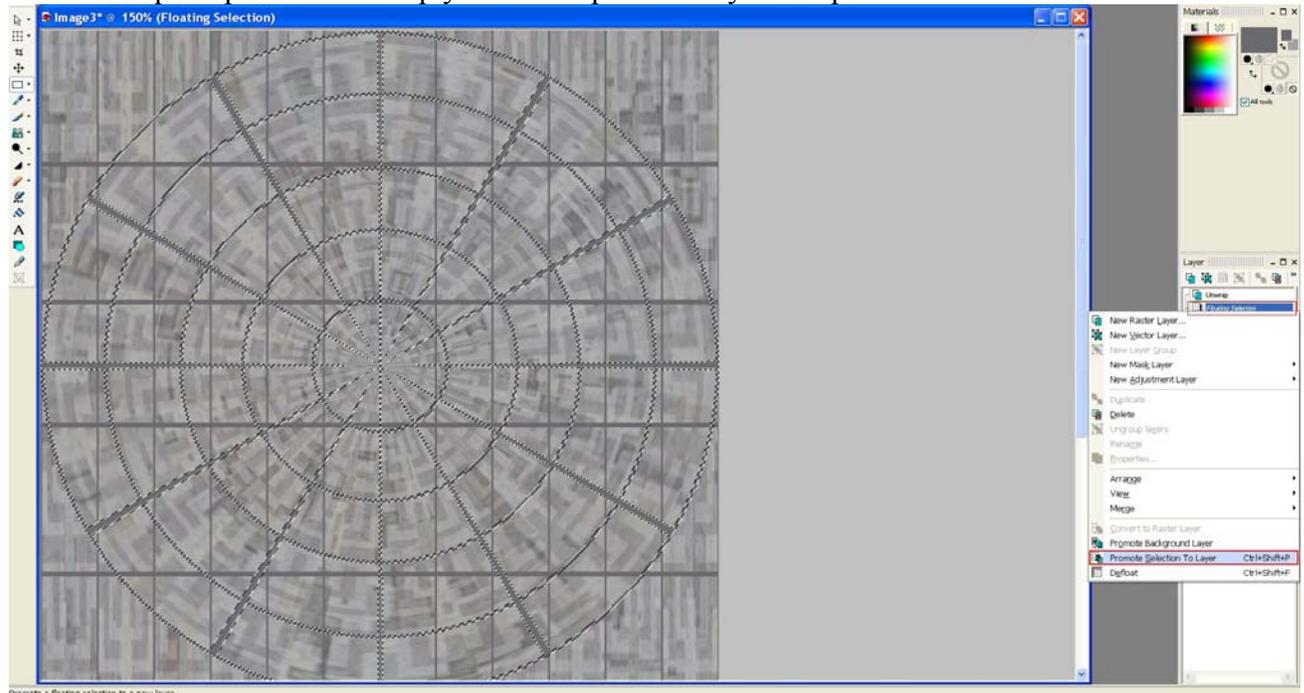
Now, make a selection around your panels (in your panel layer), then go to **effects > distortion effects > polar coordinates**: and enter the following settings: Rectangular to Polar, and transparent.



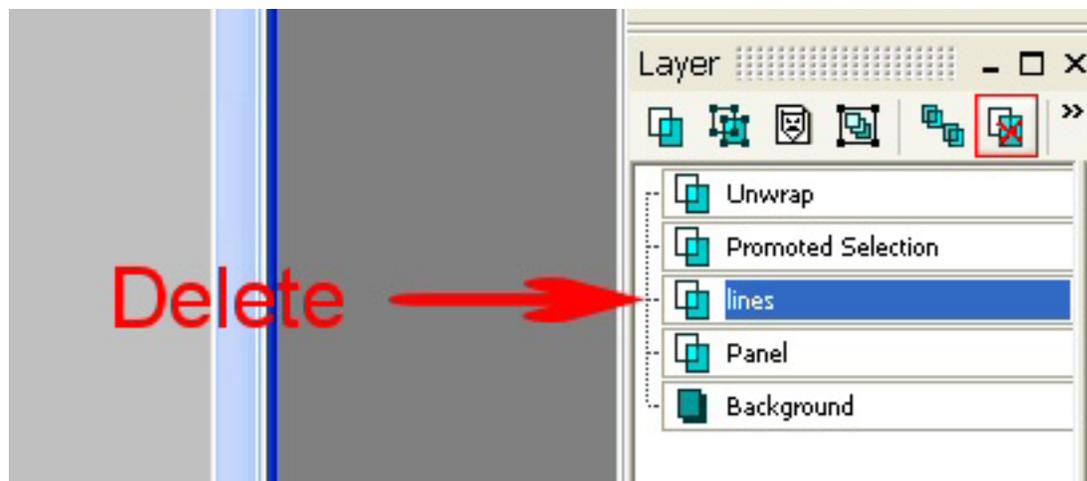
(Figure 3.6)

After completing this, select your line layer and do the exact same thing (make sure you've got a rectangular selection around the area of the panels. With the same settings in figure 3.6, click okay. You'll notice something unusual; you see the lines in the square pattern and the round pattern!

With the lines you just created still being selected, right click on the “floating selection” and click “Promote selection to layer” Now, delete your old “lines” layer; this should get rid of the square pattern and keep your round pattern on your ship!



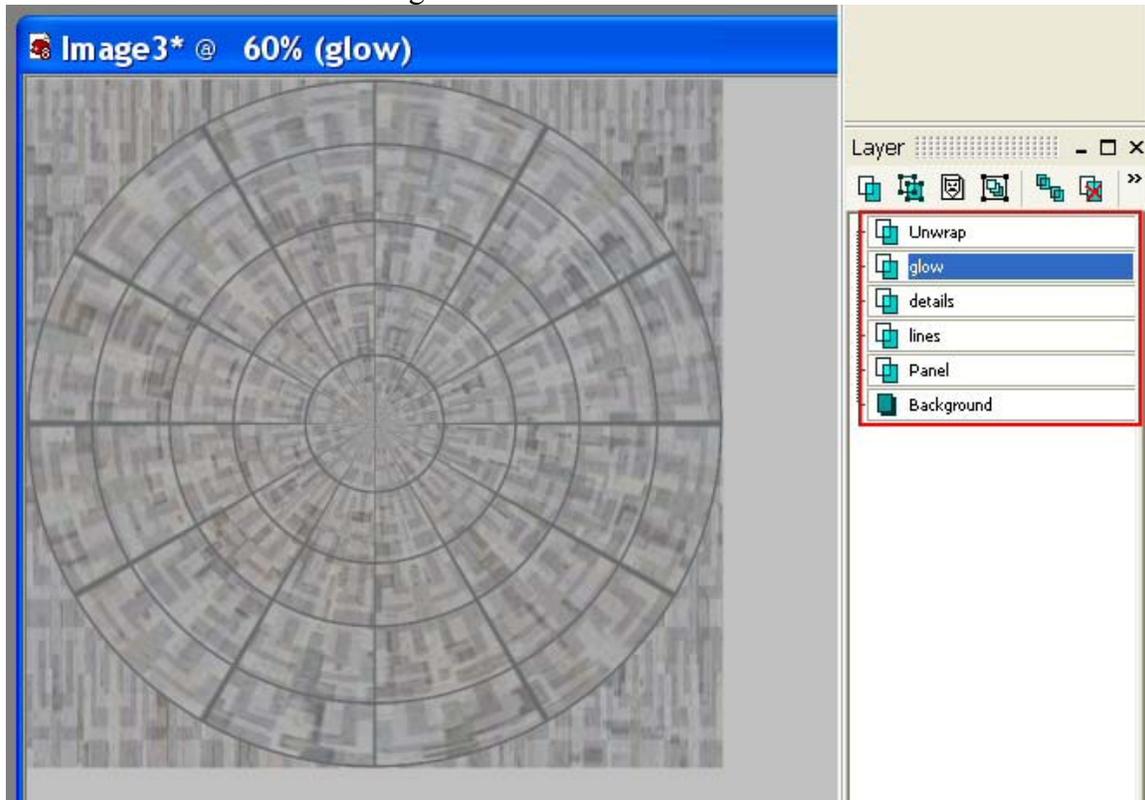
(Figure 3.7)



(Figure 3.8)

Now, rename the Promoted Selection layer to lines and then create a new layer above this one. Call it “Details” and set the blend options to “Multiply” and leave opacity at 100%; this will be the layer where we put all of the details: Phaser banks, sensor palettes, etc. Next create another layer and put it above all of the other layers, call this one “Glow” with blend options set to “Normal” and opacity at 100%.

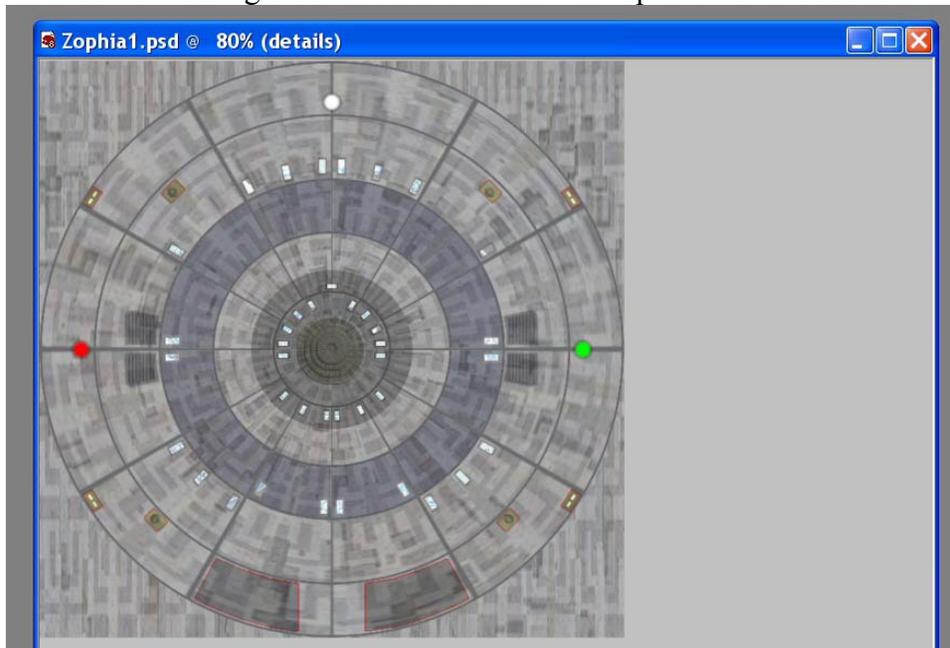
You should now have something like this:



(Figure 3.9)

Now begin to put details as you please. Glow is generally used for windows, spotlights or anything that would glow on a ship; you can later use this to help you make your light maps. Save your textures frequently and keep it in PSD format.

After some messing around here is what I came up with for the saucer:

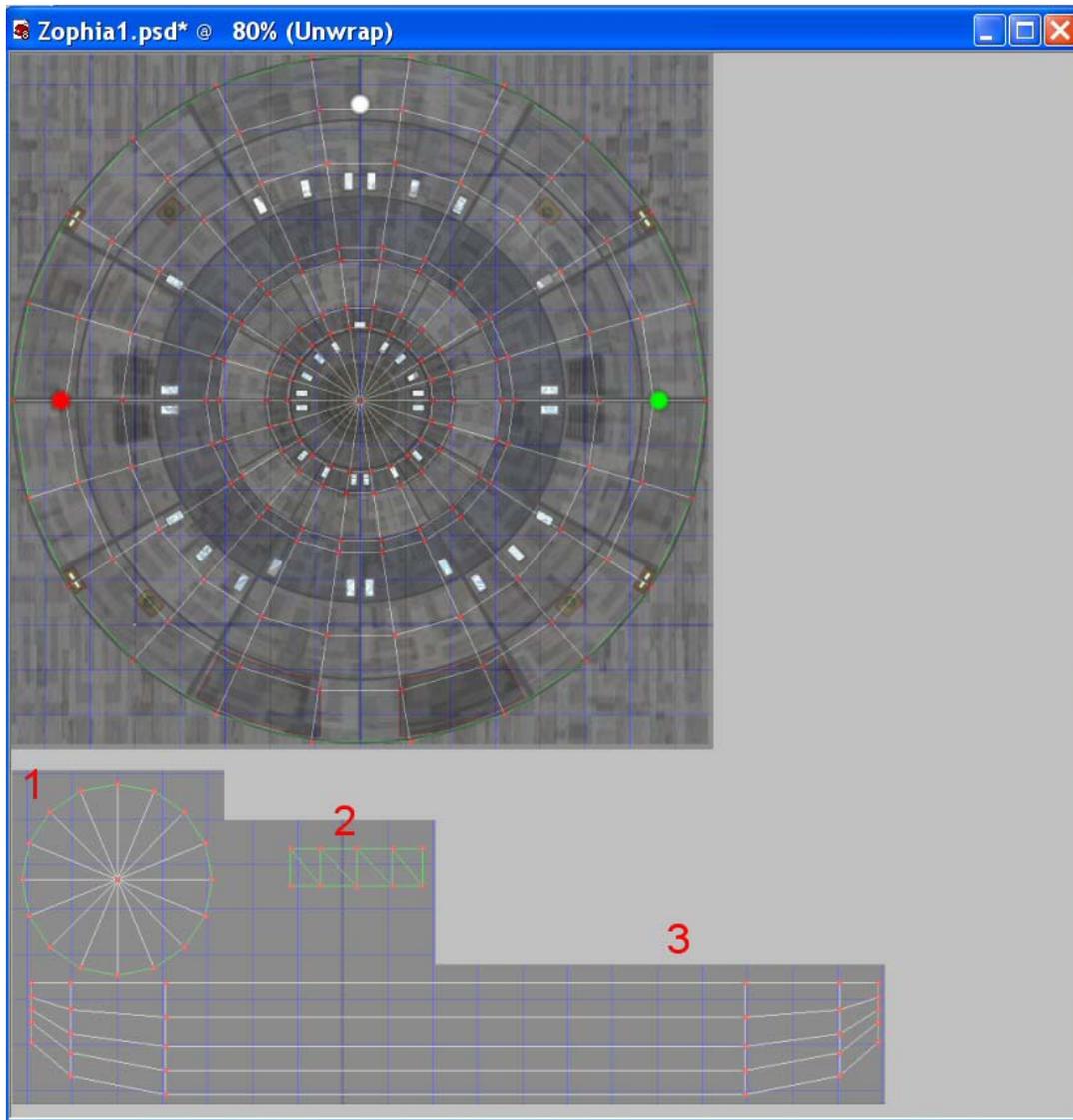


(Figure 3.10)

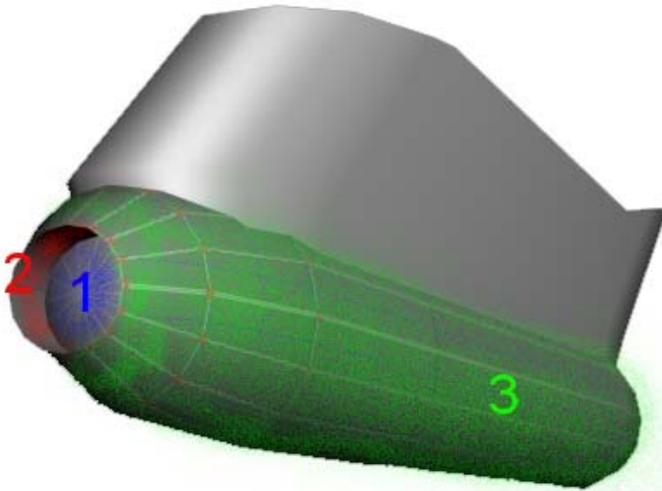
Now I don't expect you to have the exact same results for the simple reason that texturing is a work of art. You can texture this 100 different times with 100 different results, that's the fun in texturing! In the next chapter I will teach you how to apply your panelling to the mega phaser and add detail to it.

Chapter 4:

In the last chapter we textured the saucer section. Applying panelling to that was more difficult than it is to apply to a flat part. Now we will texture the mega phaser. This will teach you how to apply the panelling on an object that doesn't need any sort of polar coordinates filter applied to it. We will also go through how detail is added to the phaser. Now, like before we unwrap the various parts of the mega phaser in max and stick them into our texture on the unwrap layer. It looks like in figure 4.0; where 1 represents the "spike" on the inside of the mega phaser, 2 represents the cylindrical part and 3 represents the outside body of the mega phaser (figure 4.1).



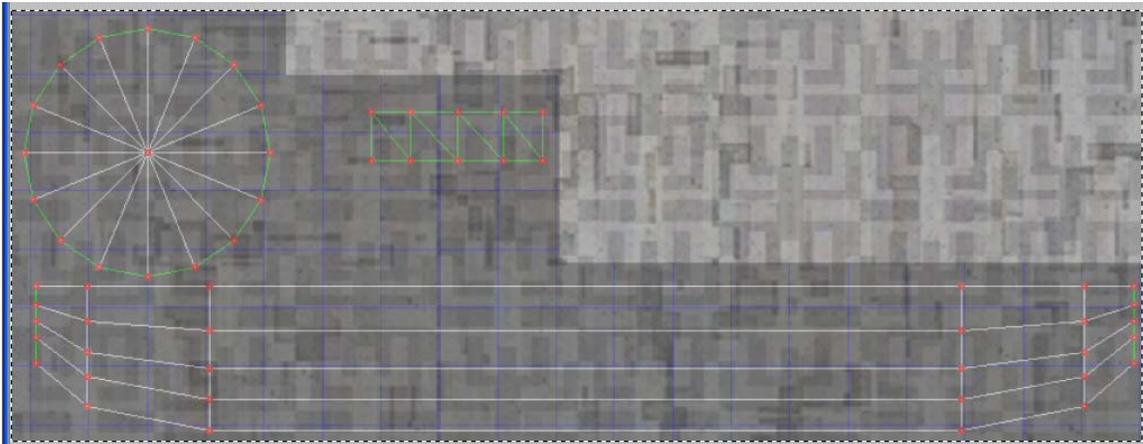
(Figure 4.0)



(Figure 4.1)

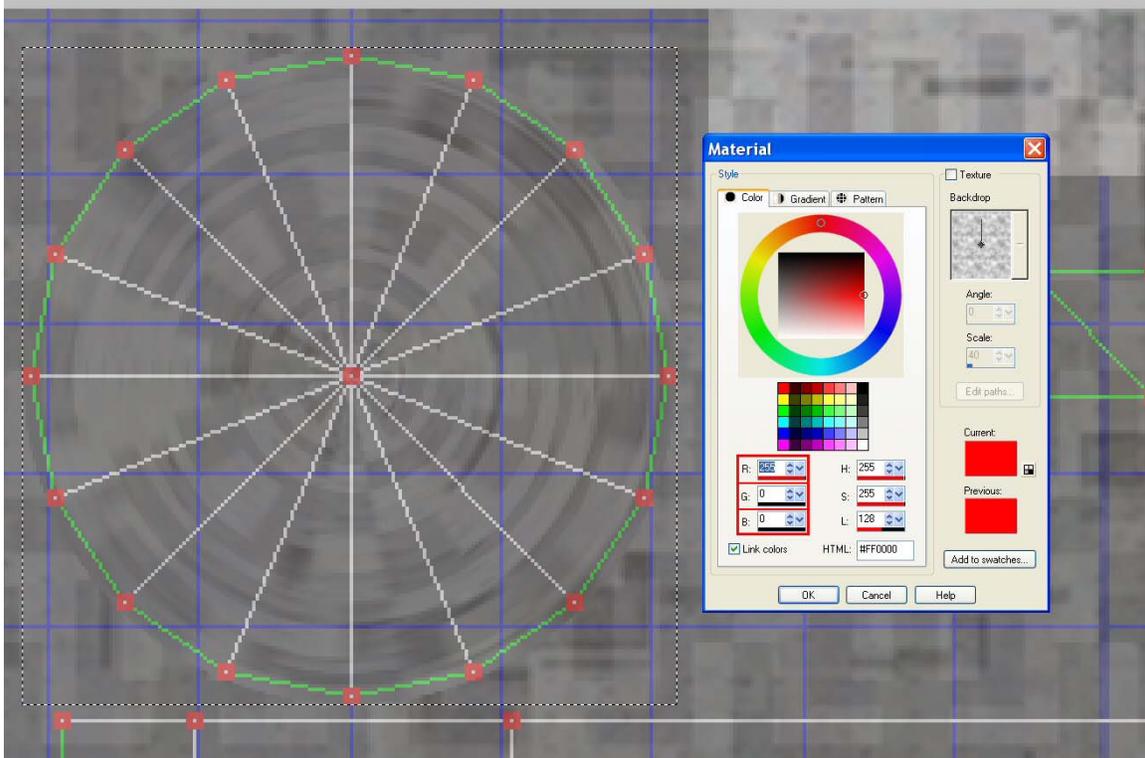
Now we began as usual by selecting a section of panelling from our “*Aztec Final.psd*” and placing it in our panelling layer. You should get something similar to this. This is very easy because once you’ve done that, your work in the “panels” layer is pretty much done!

Although in the last section, I skipped over the addition of any detail, in this chapter I will go through the addition of detail. There is simply too much detail on the saucer to explain how each part was added, however with something as small as the mega phaser we can talk about it more in-depth. So now you should have something that looks like this:



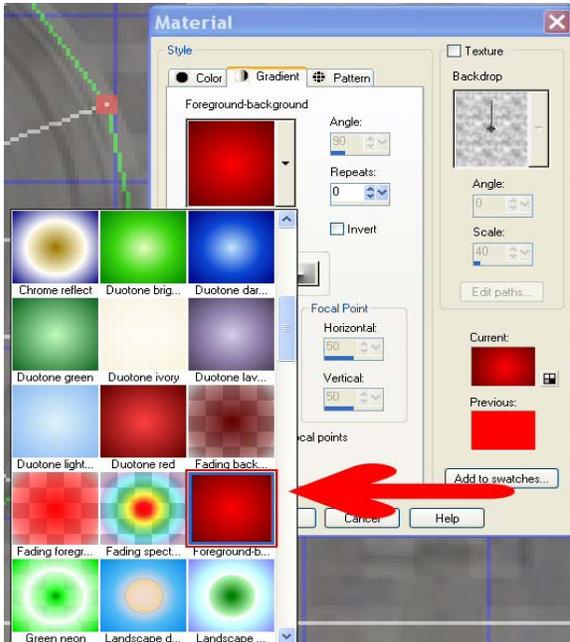
(Figure 4.2)

Now, for section number 1, create a box selection around the entire circle as in the following picture. We will put a simple but effective glow here. Select the first colour as red; R = 255, G = 0, B = 0. Set colour 2 to R = 100, G = 0, B = 0.



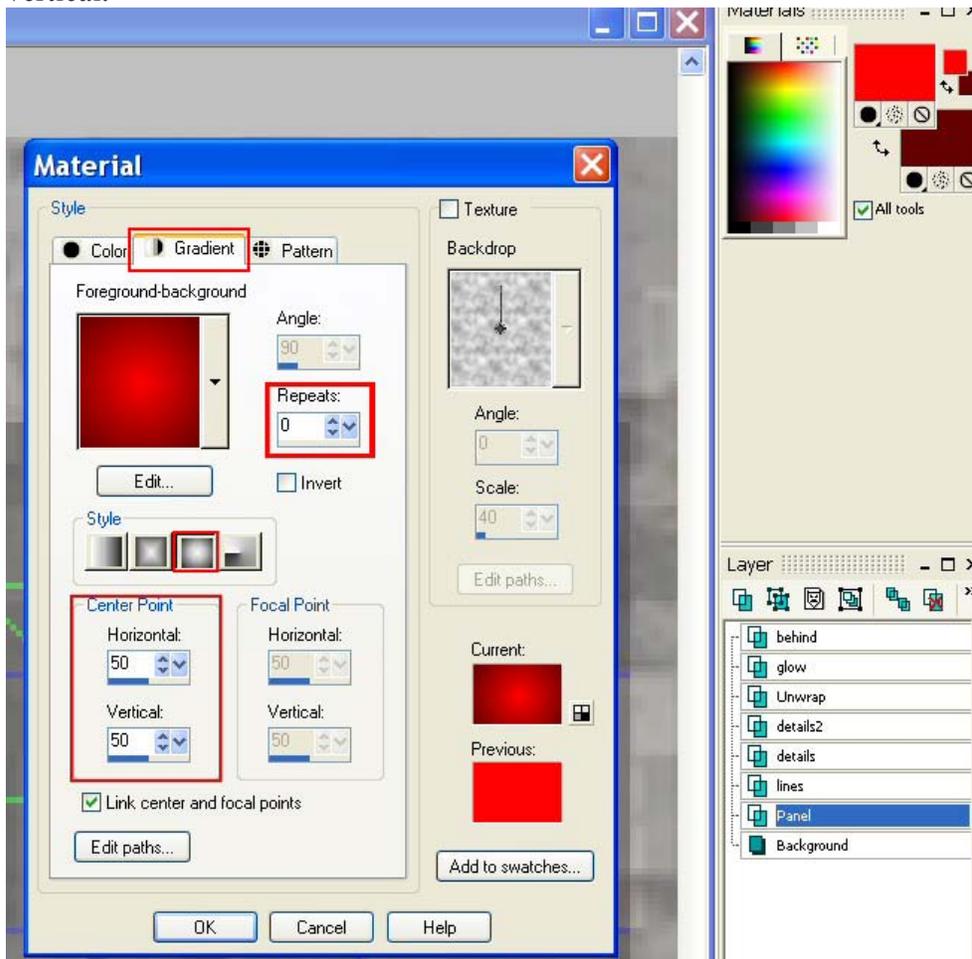
(Figure 4.3)

Now, once again click on the first colour. Go to the style menu of **gradient**; from there clock on **sunburst**; Now you want to set your sunburst to “*Foreground – Background*” as so:



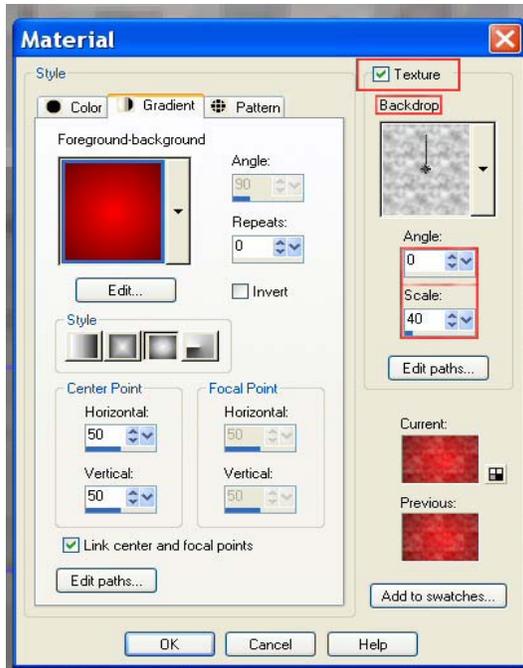
(Figure 4.4)

Your settings should be as follows; 0 repeats, a center point of 50 horizontal and 50 vertical.



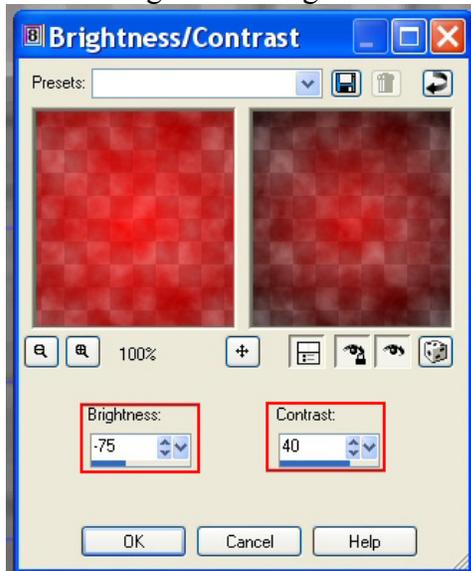
(Figure 4.5)

Now, you want to have a texture pattern on the back of this glow. Check texture at the top right and select the default texture of backdrop. Then make sure the angle is at 0 and change the scale to 40.



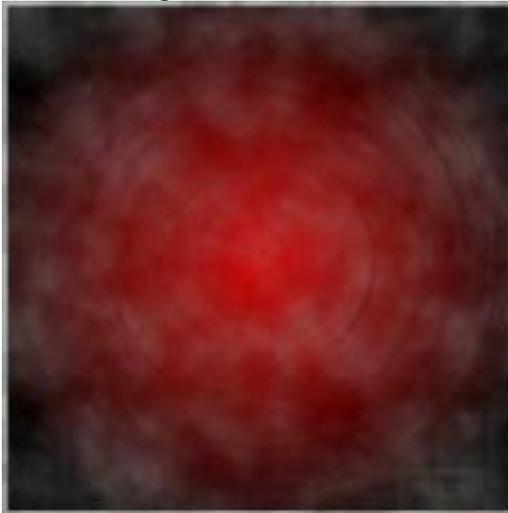
(Figure 4.6)

This gives us an interesting effect on the texture. Now fill your selection with the paint bucket. Next, go to: **Adjust > Brightness and Contrast > Brightness/Contrast**. Then enter settings of **-75** brightness and **40** contrast.



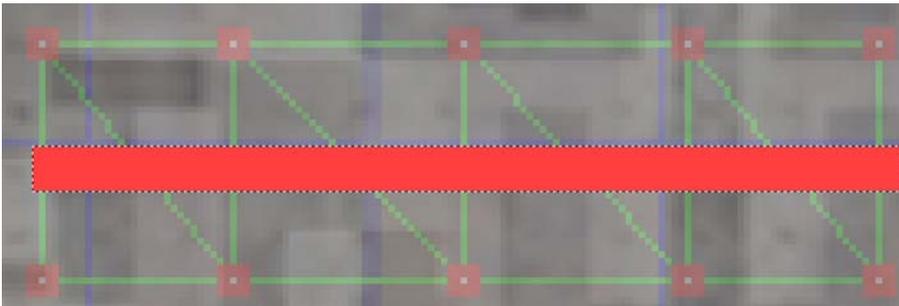
(Figure 4.7)

You should get results similar to this:

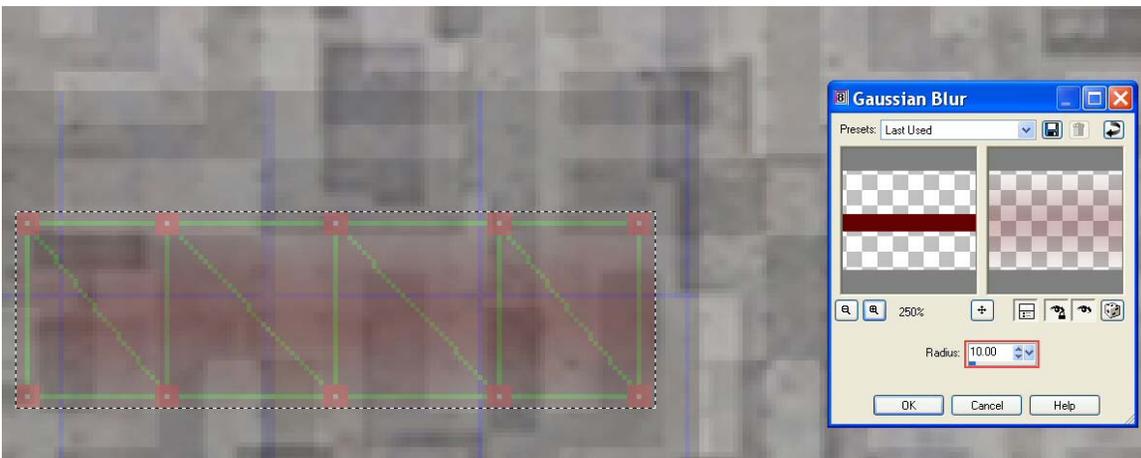


(Figure 4.8)

Next we'll work on part 2 (still in the glow layer). Create a small selection approximately in the middle of part 2 as shown in the figure below. Use the paint bucket and fill this with a red, this will be the glow created inside the rim by the mega phaser. After this, select around the entire box and go to **Adjust > Blur > Gaussian blur**. Then set the radius to 10.00.

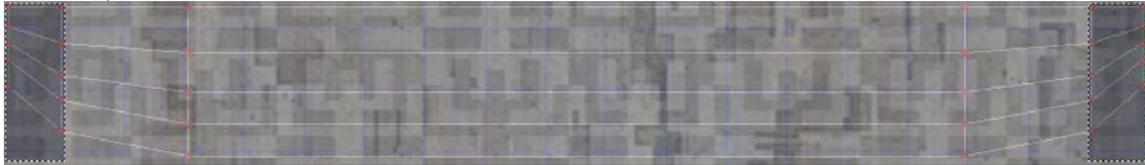


(Figure 4.9)



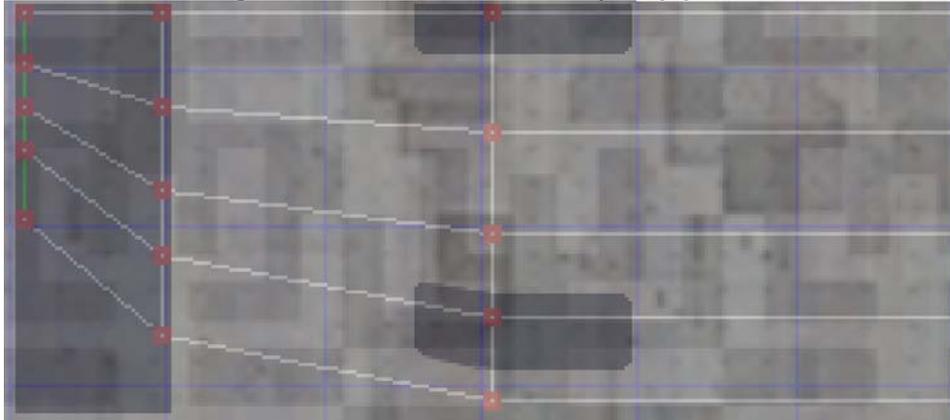
(Figure 4.10)

Alright, that was fairly easy, now lets go onto the next and final part; part 3. Here we will mostly be using the “*details*” layer that we created. Now, create a selection near either edge of part 3. We will make this a blue colour (I’m using R = 168, G = 168, B = 182).



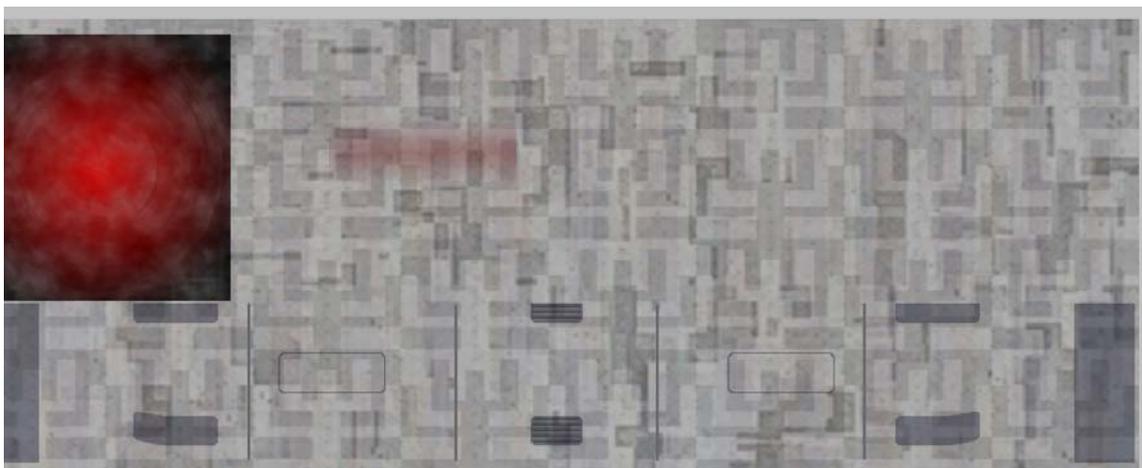
(Figure 4.11)

Now create a few blocks as so, put them on either side of the phaser. These will be simple little details, no big deal. You can do this in any way you’d like, this is what I got:



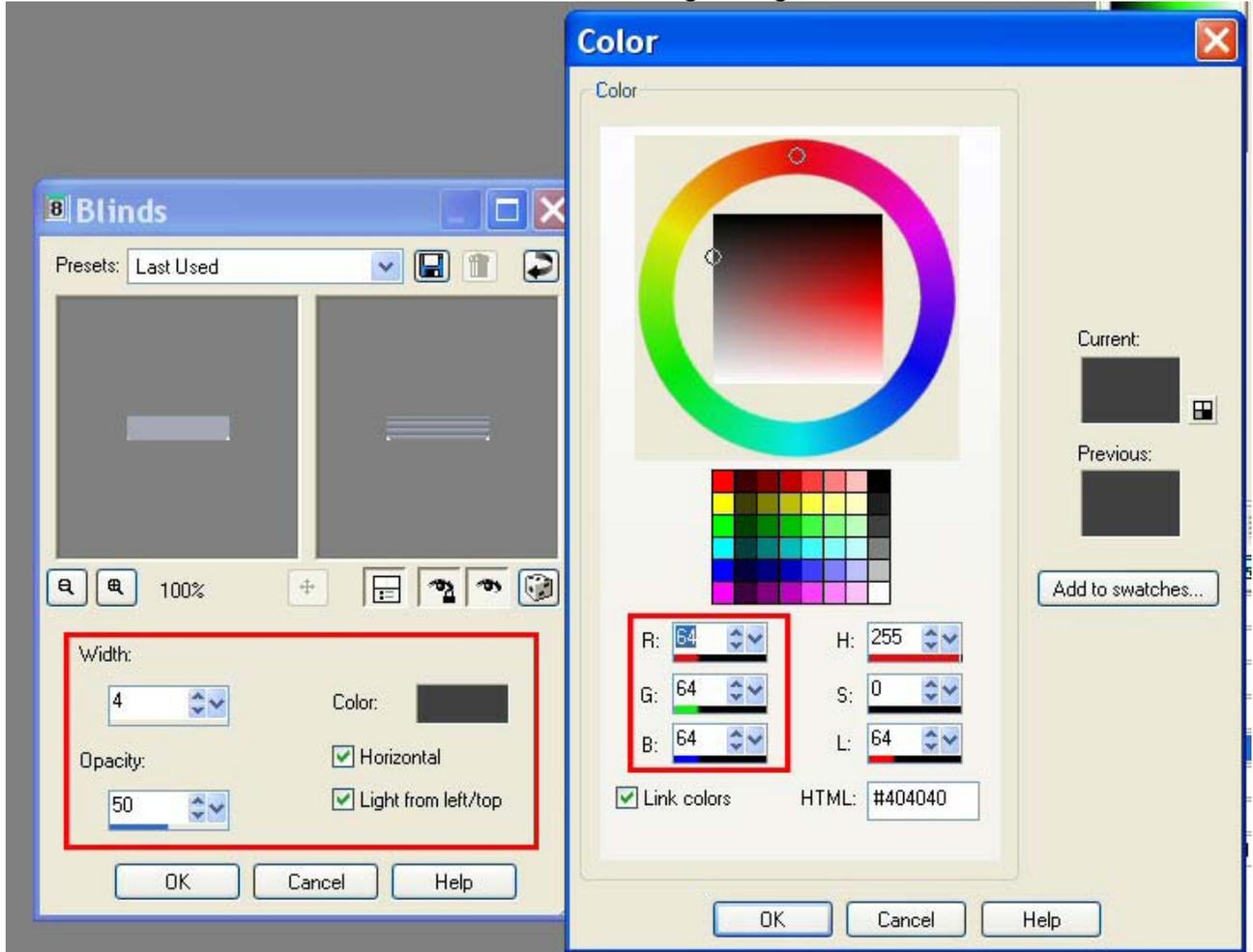
(Figure 4.12)

Now, after this, I began to fiddle around and add other panels around the shaft of the mega phaser. Here is what I came up with. I also added some lines in the lines layer. You can pretty much do anything you want here. I am going to explain how I created the “Grille effect” on the middle panels now.



(Figure 4.13)

Now, for the grille effect, create a selection around the panel and go to the following: **Effects > Texture Effects > Blinds**; enter the following settings under blinds:



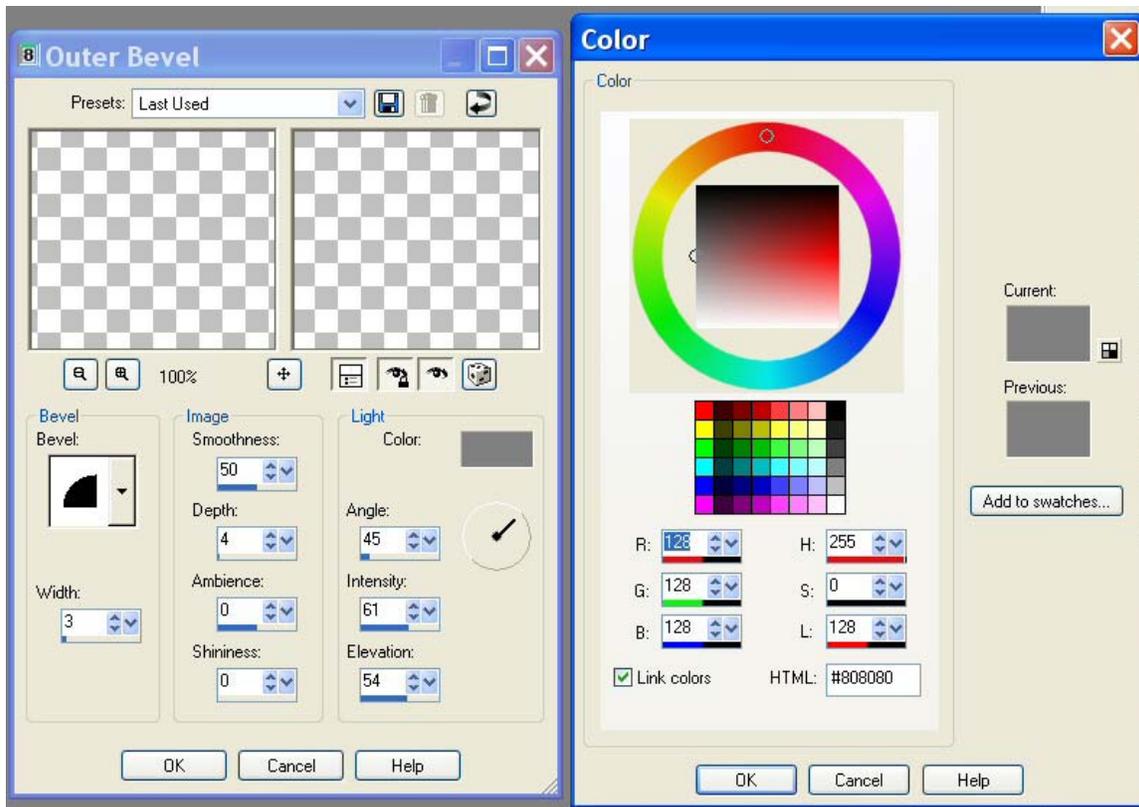
(Figure 4.14)

Alright, so we're done. This concludes the hands on part of the tutorial, pretty much all you need to know to make all the various parts of the textures is here.

Chapter 5

Okay, so you've been texturing and you want to add some finishing touches? What should you do? Two functions I make heavy use of once I'm done texturing are "Outer Bevel" and "Inner Bevel". These functions can make things look 3-dimensional instead of flat; this often gives a more detailed look than a simple flat texture.

The bevel functions are found under **Effects > 3d Effects**. In this menu you will find your inner and outer bevel. The settings I usually use are in the picture that follows.



(Figure 5.0)

Another thing I like to do is add a bit of rust anywhere there are lines. For example, using the texture we've been working on; I duplicate the "lines" layer. Then selecting "Copy of lines" I go to **Adjust > Blur > Gaussian blur**; from here I set the radius to between 2 and 3. Then I go to the menu **Adjust > Colour Balance > Automatic Colour Balance**. Set the temperature to **4250**.

Now stick this layer beneath your "lines" layer. This will create a rust effect as such:



(Figure 5.1)

Well, this concludes this tutorial. Thanks for staying with me so long, I really hope this helps some people. My best advice is to be patient throughout this tutorial and to try different things. Whenever you're texturing at all, you should try different things, whether it's changing the order of the layers, change the brightness. Don't be afraid to try different things and hang in there, texturing is a tough and painful process!

Best of luck,

- Fireball

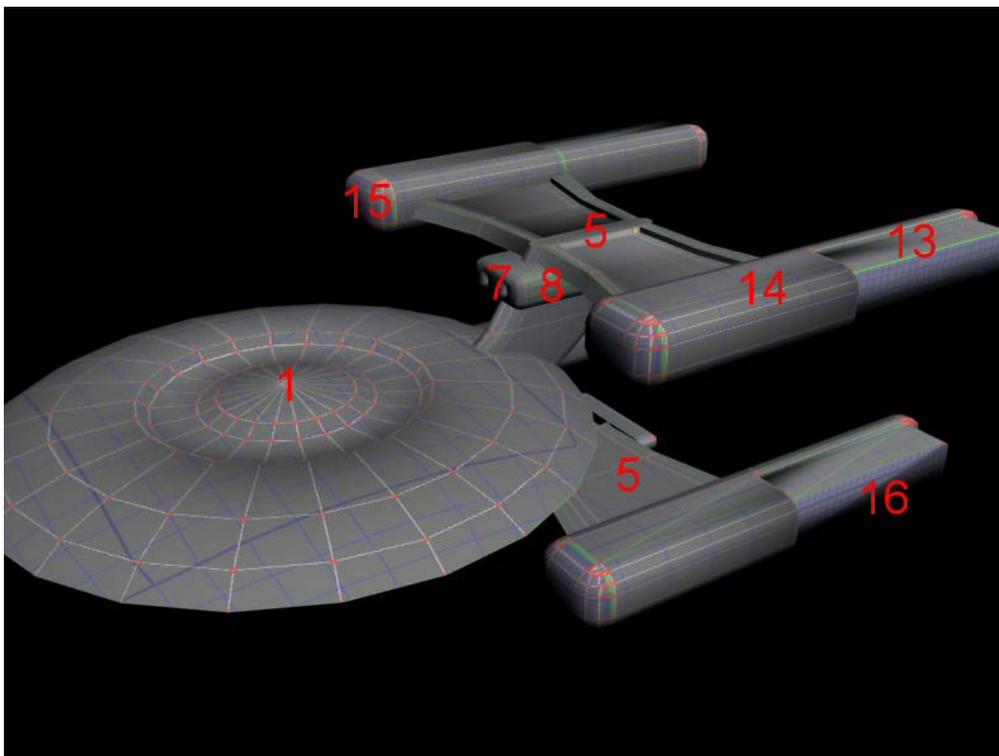
Appendix

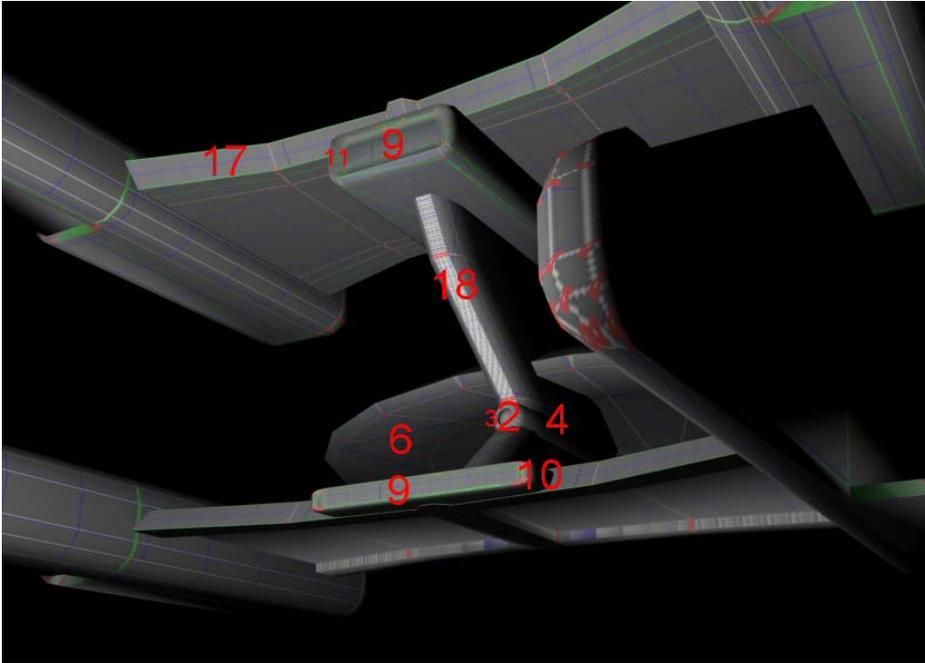
A1:

This appendix will focus on which part on the texture is which part for the ship. This will be done via writing and via pictures.

Number:

- 1: This is the top section of the saucer.
- 2: This is the round, inside part of the mega phaser.
- 3: This is the inside ring of the mega phaser.
- 4: This is the shaft of the mega phaser.
- 5: This is the top of the strut.
- 6: This is the bottom of the saucer.
- 7: This is the front of the torpedo bay (refit only).
- 8: This is the side and top of the torpedo bay (refit only).
- 9: This is the glowing part of the impulse engine.
- 10: This is the side and top of the impulse engine.
- 11: This is the inside ring of the impulse engine.
- 12: This is the sensor dome on the bottom of the saucer.
- 13: This is the dark grille part of the warp engines.
- 14: This is the top, bottom and sides of the warp engines.
- 15: This is the front of the warp nacelle.
- 16: This is the dark part of the warp engines facing the outside.
- 17: This is the front and back edges of the strut.
- 18: This is the neck.





If there are still some parts you're having trouble texturing, head over to armada2files.com and download the ships and look at the textures I've made. It's also important to note, you should NOT change the texture name.

A2:

Some general notes; when you are saving your final textures, make sure they are in **TGA** format as *Armada II* does not read any other format for textures. Secondly, you must add these ships to the techtree and a shipyard as you see appropriate. The instructions for this are included in the readme.

A3:

There is a giant blank space in the 3rd texture and you're probably wondering why? This is extra space I left for the simple reason that it is where I normally put my damage textures. I however did not cover the creation of damage textures in this tutorial and *may* do that further down the road.