

UV MAPPING A CAR



Tutorial written by Tony Coleman
for use with Lightwave

I would just like to point out before you read this, I've never done a tutorial (If that's what this is called) so I'm sure there are many ways to do the following but this is just the way I found most useful, but I'm always open to suggestions.

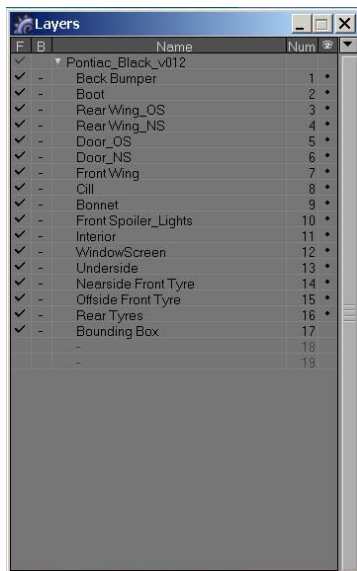
In this Tutorial we will be creating a UVmap as a reference to creating Decals/ logo's etc for a Pontiac Firebird **(Pic 1)**



The first thing you will require to follow along is a small LScript called 'Great Box'.

I always split my model up into layers, I find that this helps with any adjustments that need to be made and also it helps with quick updates when rotating the object in the perspective view, an object like a car with full interior can soon slow the best of systems down if kept in One layer and perspective set to full Textured Wireframe.

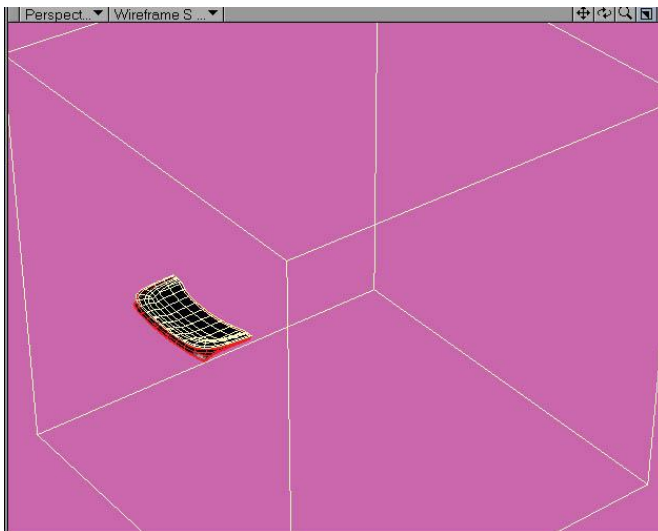
Just for reference I have my layers set up as follows: -



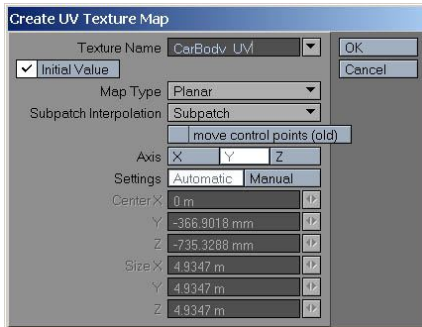
Firstly we need to setup the 'Bounding Box' using our GreatBox LScript. Add the LScript using Utilities / Add Plugins. When complete select all layers plus an empty layer, mine is layer 17, then activate the 'GreatBox LScript', mine is found in Utilities / Additional / GreatBox. This will create a bounding box with equal dimensions based on the longest side of your object, in our case from front to the rear of the car, this of course being the longest measurement.

Now select the bounding box layer only, select all polygons next select the Bevel Tool (b) in the numeric window leave all settings at their default of '0', accept these settings then press the space bar to drop the tool. This has now bevelled our box. With the polygons still selected press the Del key to delete them then press 'm' to merge all points which will now leave you with a box made of Two point polygons.

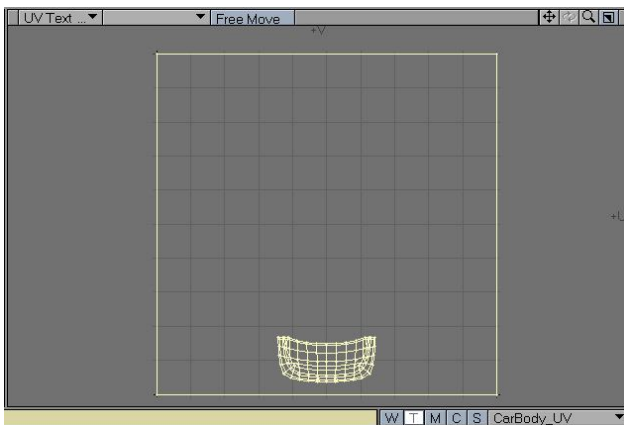
Now to start with the UVmap. Activate Layers 2 (Boot) and Layer 17 (Bounding Box) Select the top Polygons on the Boot and all polygons of the Bounding Box



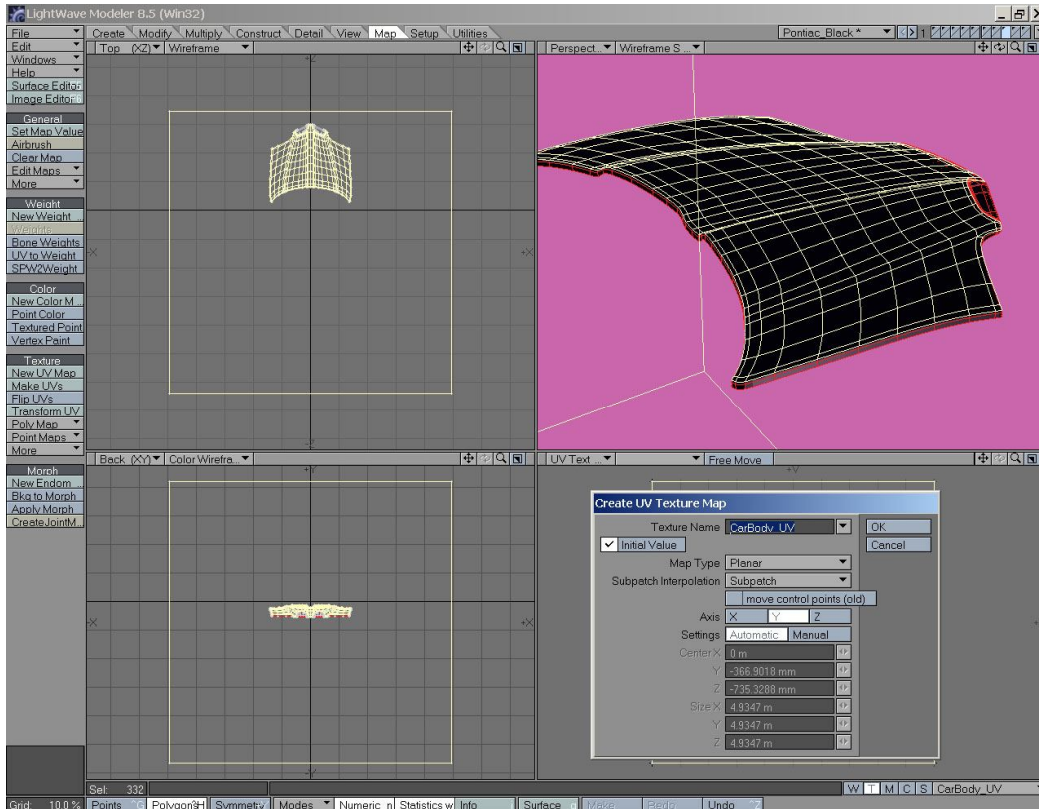
Click the 'T' button in the bottom right hand corner select new, in the UVmap options window change the 'Texture Name' to CarBody_UV, or whatever you wish, set the map type to 'Planer', Subpatch Interpolation to 'Subpatch' (If you leave this option at it's Linear default you can get some distortion of the map due to it being a Subpatch model). Set the Axis to 'Y'



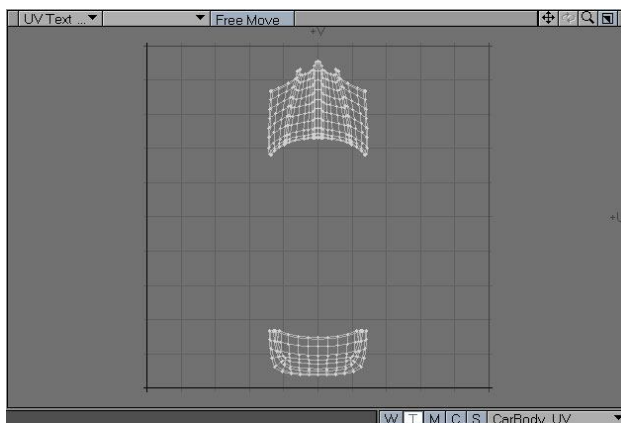
As you can see the boot keeps its scale in relation to the bounding box area rather than being distorted and taking up the whole UV area.



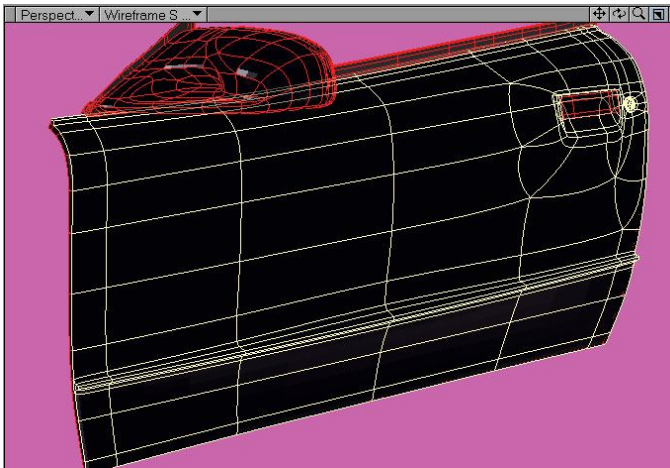
Next activate layer 9 (Bonnet) and layer 17 (Bounding Box), select all top polygons of the bonnet and all polygons on the bounding box, click the 'T' button select New and in the UVmap window options window change the settings as before 'Texture Name' to CarBody_UV / Planer / Subpatch / 'Y'



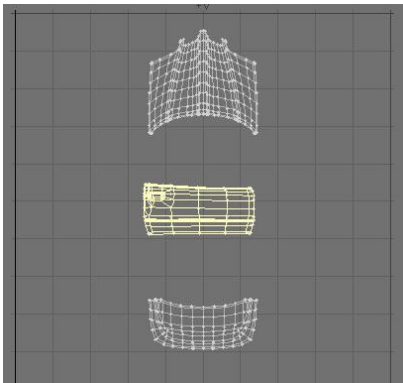
This will obviously create your UV texture for the Bonnet and again it will keep its scale intact. If you now select layer 2 (Boot) and layer 9 (bonnet) you will see that the Bounding Box has not only kept the boot and Bonnet to the correct scale but also the correct position in relation to the car model. This doesn't mean that you can't change them if you so wish and when we come to the doors we will have to.



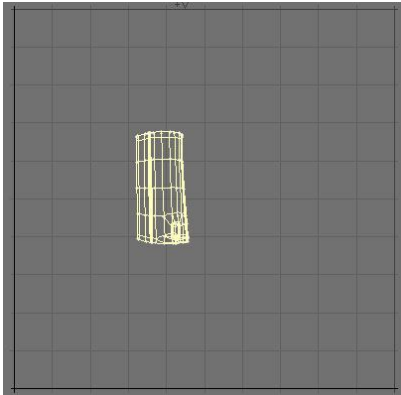
Next the doors. Select the polygons on the outside face of Layer 6 (Door_NS) and again all polygons of Layer 17 (Bounding Box)



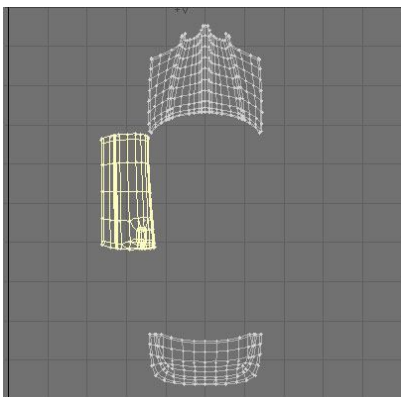
Click the 'T' button and change all Options to the same as before except change the Axis to 'X'. As you can see the door doesn't line up with the car outline so a few adjustments need to be made.



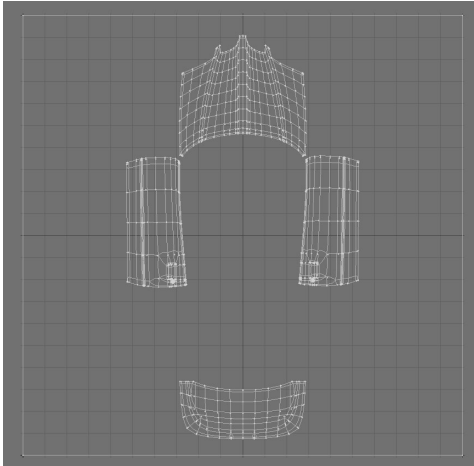
Firstly with **only** the Door_NS layer active select all polygons in the UVmap window and rotate 90deg then drop the rotate tool by pressing the space bar. If you look at the door closely you will notice that it's upside down. This can be cured by going to Map / Flip UV's and in the options window select 'Flip U' only and click O.K this will flip the door on its 'U' value and consequently correct its positioning. This will not work if you have any other window active.



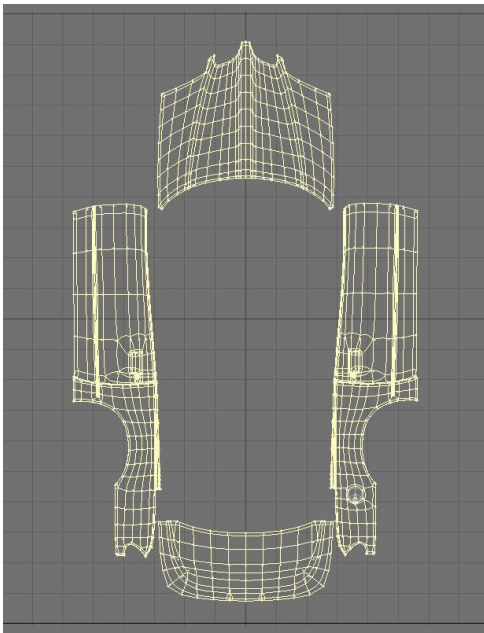
Now activate layer 2 (Boot) and Layer 9 Bonnet then with the move tool, realign the door to its correct position.



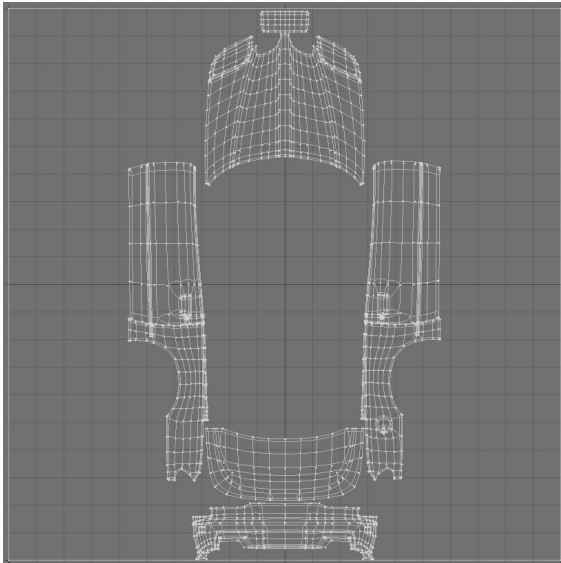
Now select the polygons on the outside face of layer 5 (Door_OS) and again all polygons of Layer 17 (Bounding Box) .Click the 'T' button and change all options as used for Door_NS. Activate Layer 5 only (Door_OS) and select all polygons in the UVMap window and rotate the door 90deg and as before activate layer 2 (Boot) and Layer 9 Bonnet then with the move tool, realign the door to its correct position.



We now need to go through the same routine with the rear wings as we did with the doors and you should end up with something close to the following but making sure that the doors align to the rear wing otherwise the logos, if painted the full length as in our example, won't line up.

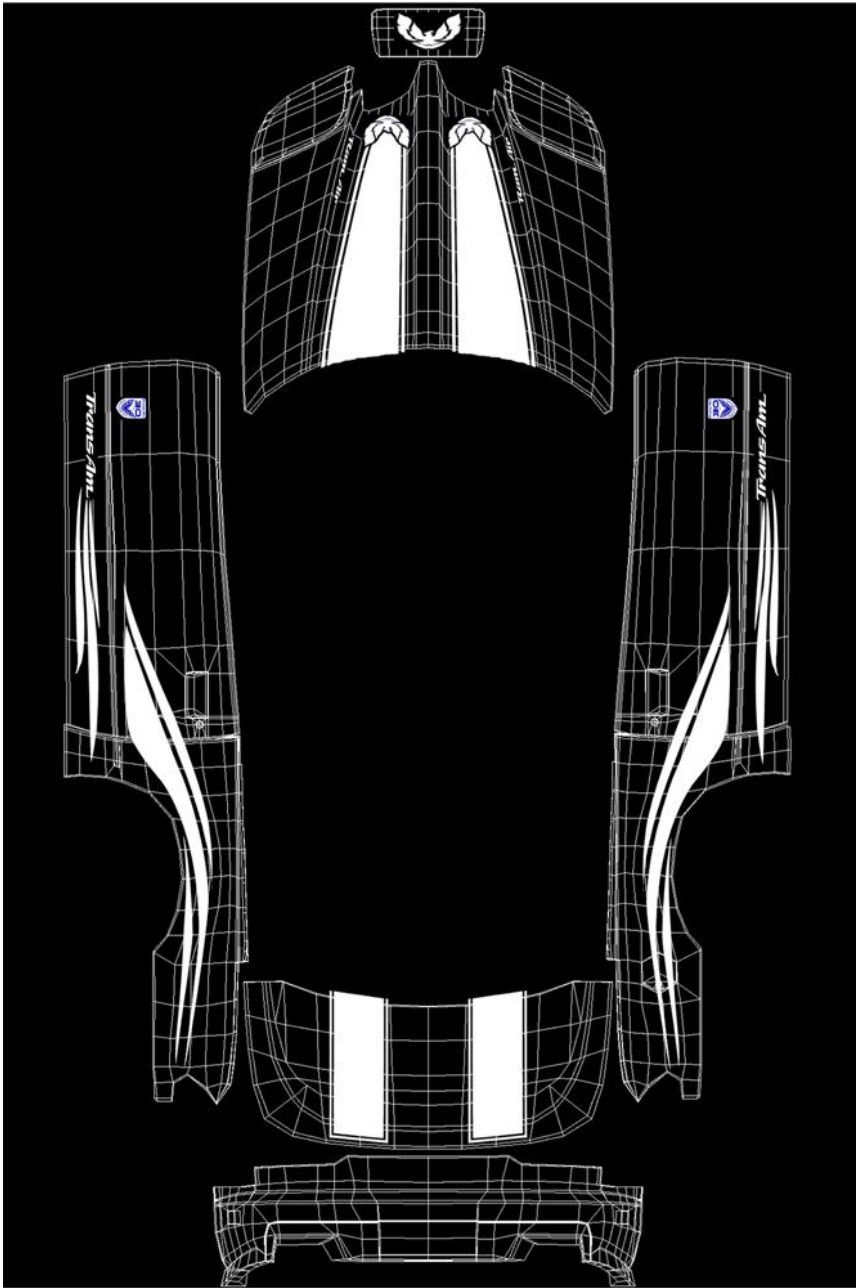


There isn't any decals or logos to go on the front wings but should want them just repeat the same procedures as you we did for the doors and rear wings, also, being a convertible, the stripes we will be creating for the Bonnet and boot won't be following onto the roof, but if you should have one on your model just follow the procedure as we did for the Bonnet & boot. Its worth noting that you can move any of the parts that make up your UVMap because the point of this exercise was to keep all parts to scale not necessarily in the correct position. Here is the completed UVMap that I created for the Pontiac.



Notice that I've moved the boot up to fit in the rear bumper which has a bump map texture to be applied to it, the same goes for the head lights which also has a bump map for the Pontiac logo . This brings me neatly to my next point which is that this UVMap can also be used as a reference for creating the Bump map textures, should you require them, and any other texture map that may be required, One UVMap used for the whole car, sounds good to me.

Here's my finished texture map painted in Photoshop, I've left the UVMap layer exposed so as you can see the position of the decals.



Thanks' for your interest in this small tutorial and I hope it's been of some use if only to give you some ideas.