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MARLEYMAN

PAINT YOUR WAGON

Railworks 2 Reskin Tutorial | Marleyman

Marleyman

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RAILWORKS 2

Paint Your Wagon!
By

Marleyman

A Class 47 in United International Railways Livery

This tutorial is for Re-skinning Trains using Windows XP, RW Tools, RSBin Tool, Photoshop Elements 7 (PSE7) and Nvidia DDS Plug-in. At the very least you need intermediate knowledge of Photoshop Elements (PSEx) or Photoshop. You will also need a very good working knowledge of your Railworks Directory Structure in order to find things to paint. If you do not have all these tools and skills above, stop or find a tutorial that deals with other toolsets.

Top Level Overview of steps you will have to follow, or my quick reference guide that you can refer to after you get through one or two re-skins.

1. Install the correct Nvidia DDS Plug-in for your Photoshop Version (x32 or x64)
2. Install RSBin Tool
3. Install RWTools
4. Decide what you are going to paint
5. Open RW Tools
6. Clone the Asset you want to paint
7. Close RWTools
8. Open the Cloned TgPcDx Texture File in RSBin Tool

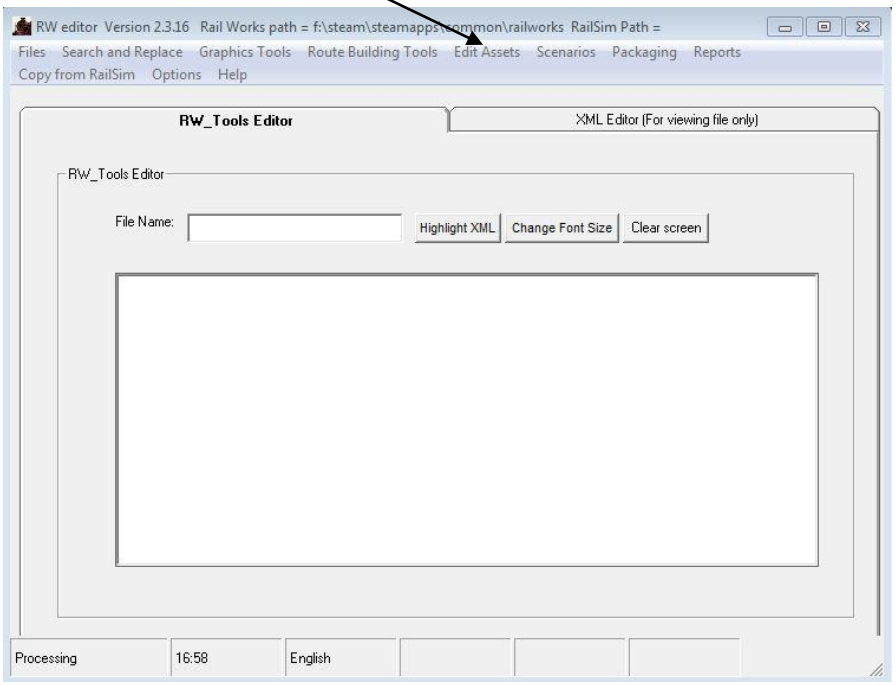
9. Export (convert) the **Cloned** TgPcDx Texture File from RSBin Tools to a DDS File
10. Paint Your Wagon!
11. Save your work as a PSD File
12. Save your work as a DDS File
13. Import the **Cloned** DDS File with RSBin Tools
14. Save the DDS File (convert the freshly painted wagon) back to the cloned asset folder and overwrite the TgPcDx Texture that corresponds to the texture you just edited. No, seriously, check the names or you may just over write the left side of a train with the right hand side, and then you need to start again.

That is your check list for the steps you will be following to paint your wagon. Once you have followed the tutorial two or three times you will just need a printout of those steps to keep you right. So let's start doing this with pictures and a few more words. Steps 1-4 should be done and if you don't know how to do those then this tutorial is not for you, also, I will use Photoshop Elements 7 throughout; you may be able to glean enough knowledge from this to use the tutorial in tools like GIMP.

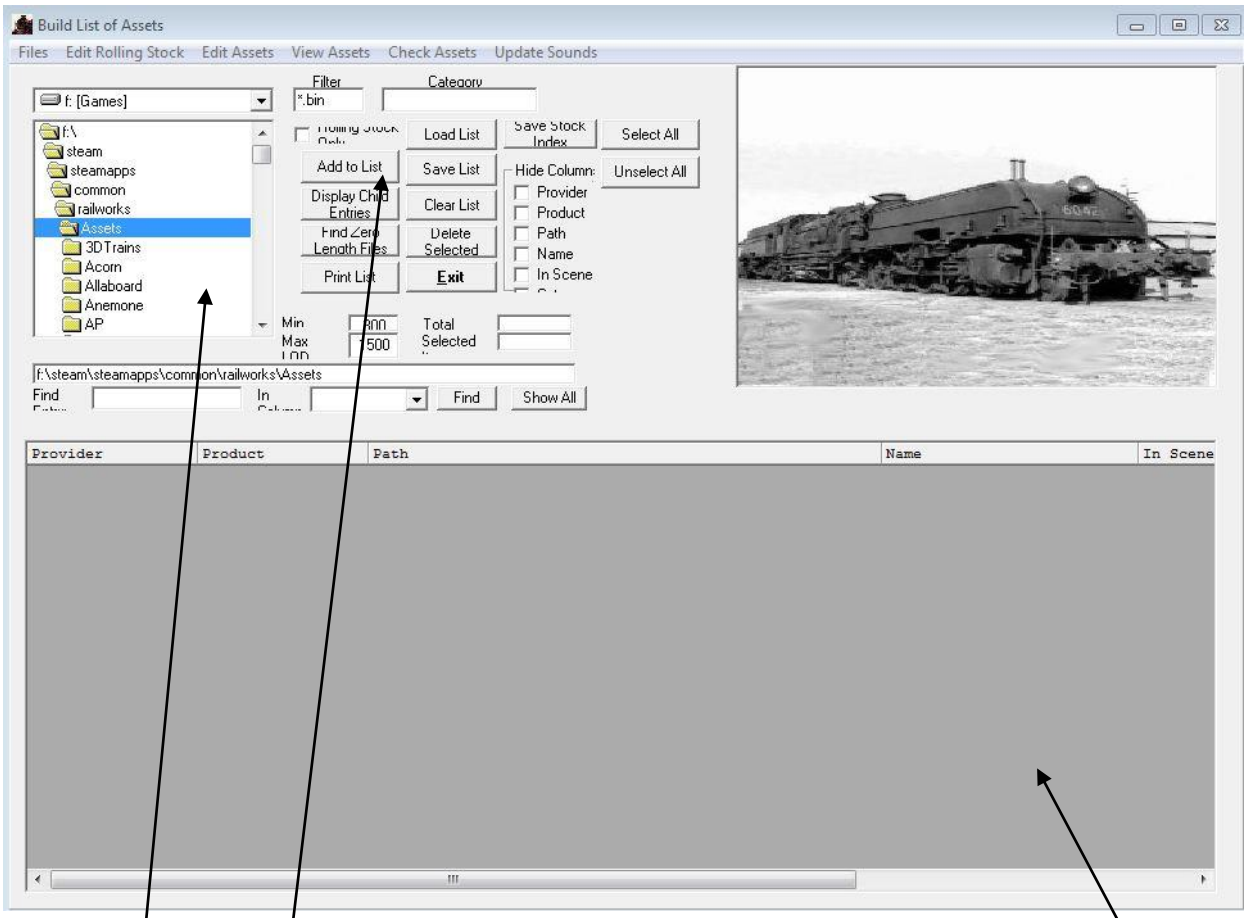
The asset we will be painting will be the Default BR Blue Class 47 and that is located here; Steam\steamapps\common\railworks\Assets\Kuju\RailSimulator\RailVehicles\Diesel\Class47\Default

We will be making a clone of that Asset so we can paint that and not totally break your copy of the Class 47. It would be a great idea to make yourself a 'Work In Progress' (WIP) directory too; One to save your PSD and DDS Files into so that you can paint many versions of the same asset if you like. Do that now. I have made a WIP Dir called UIR Re-skins on a separate drive; I called it that because all my re-skins will be for my Virtual Railroad Company, United International Railways. You can please yourself. Now create another folder in your WIP Folder and call that Class 47.

Open RW Tools
Select Edit Assets
Click on Asset Editor from the Sub Menu

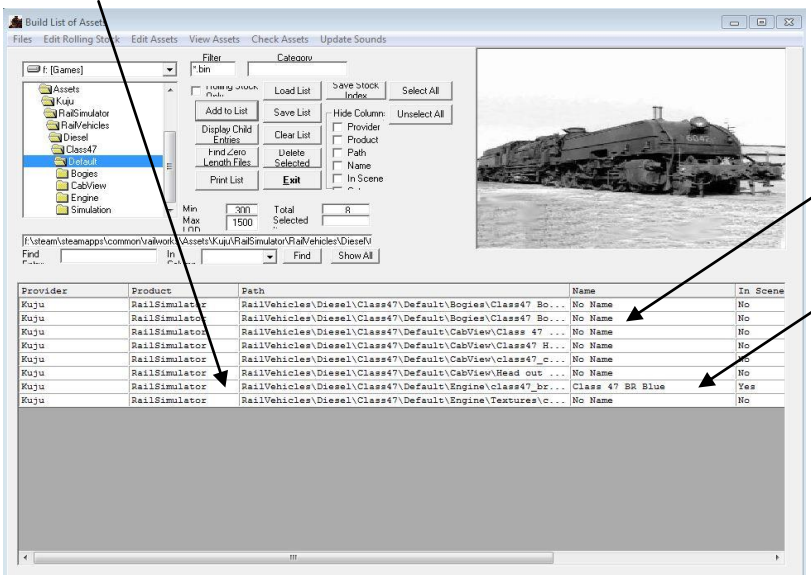


A new Window will open called Build List of Assets (if you have set up the correct Railworks path from the options menu for your RW folder). Screenshot next page.



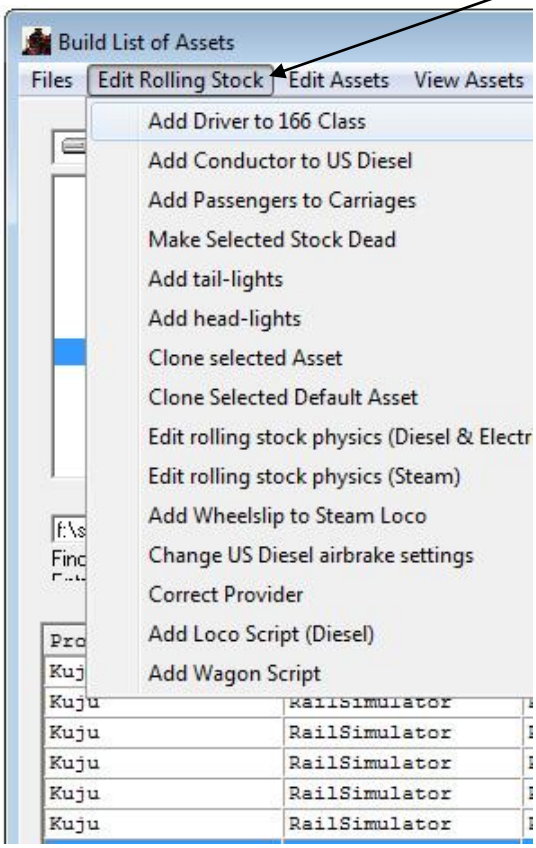
The Navigation Window should already point to your Railworks-Assets Folder. For this exercise we need to navigate to the Default Class 47 folder. You only need to click once on each folder name here to drill down to the next level. So scroll the Navigation window and find then click on;
Kuju, and then
RailSimulator, and then
RailVehicles, and then
Diesel, and then
Class47, and then
Default, and then... No More and then!

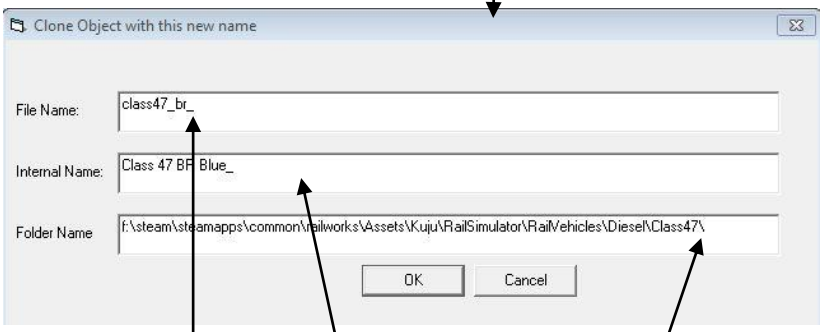
Click on the Add To List button. This will populate the grey window… whatever that is called, here with details of the selected asset.



Look through the list under name for the entry Class 47 BR Blue and highlight that entry with a single click.

Once it is highlighted go to the top menu and select Edit Rolling Stock, then from the list that drops down select Clone Selected Default Asset and a new window will pop up, the Clone Object with this new name window.





We will use this window to create a new folder within our Railworks 2 directory and copy the Class 47 asset at the same time.
There is a; File Name, Internal Name and Folder Name. For this exercise I will be renaming this Class 47 to Class 47 UIR.

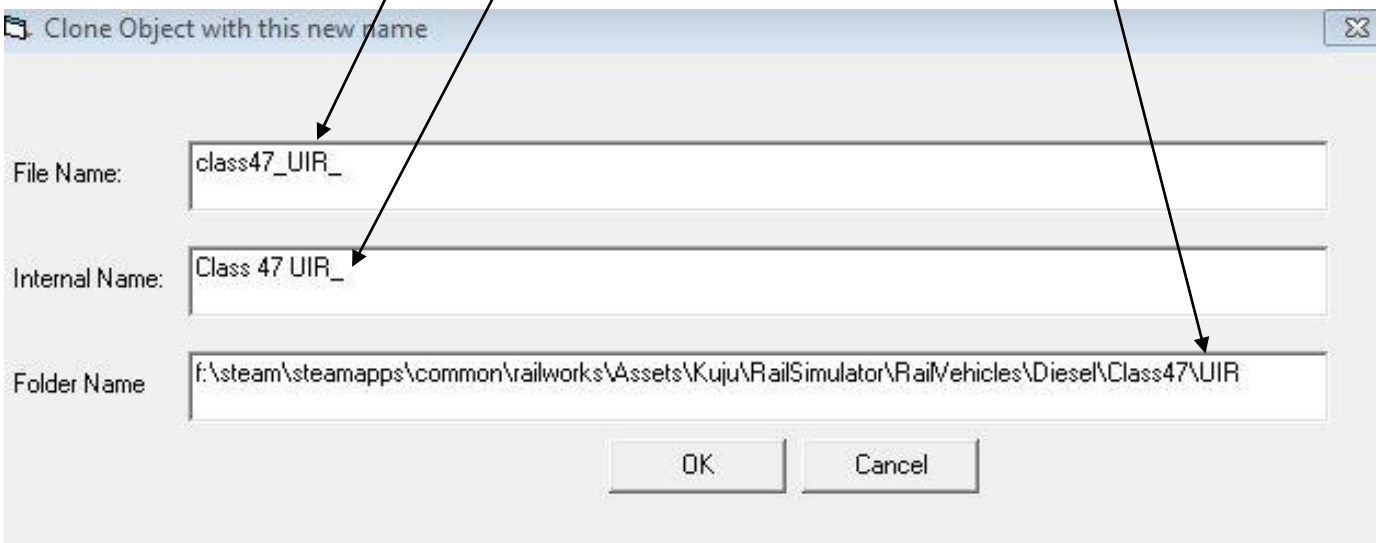
So where it says class47_br_ I will change that to class47_UIR_

And where it says Class 47 BR Blue_ I will change that to Class 47 UIR_

And where it says f:\steam\steamapps\common\railworks\Assets\Kuju\RailSimulator\RailVehicles\Diesel\Class47\

I will (change) add UIR to the end of the string.
f:\steam\steamapps\common\railworks\Assets\Kuju\RailSimulator\RailVehicles\Diesel\Class47\UIR

Click OK and RWTools will do the rest.

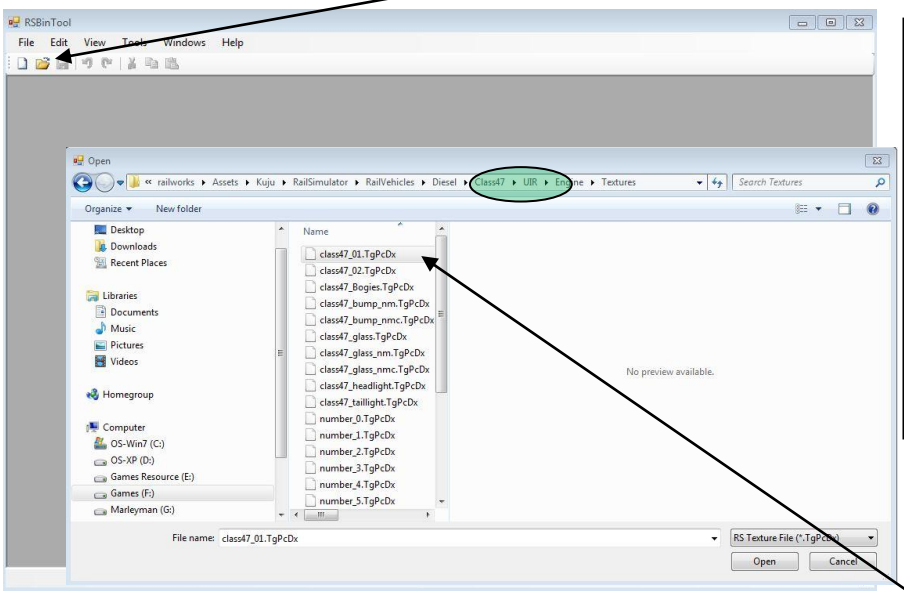


What RWTools has done is to copy the default Class 47 folder and all relevant files to a new folder called UIR and you can navigate to the folder on your HDD, you can even place this asset into your scenarios in RW2 however, it will look identical to the default Class 47 and that seems pointless.

You can now close RWTools, other tutorials still use it but I prefer to use RSBin Tools because I can view those TgPcDx files as images so much faster and when you have to convert and paint several TgPcDx's you want to know pretty fast which ones you need to be converting.

Section 2 RSBin Tool

Open RSBin Tool and click on the open folder icon



This tool is great and will allow us to view and convert the texture files (that we are going to paint) from TgPcDx files to DDS files that PSE7 can read. Without doing that we just can't paint.

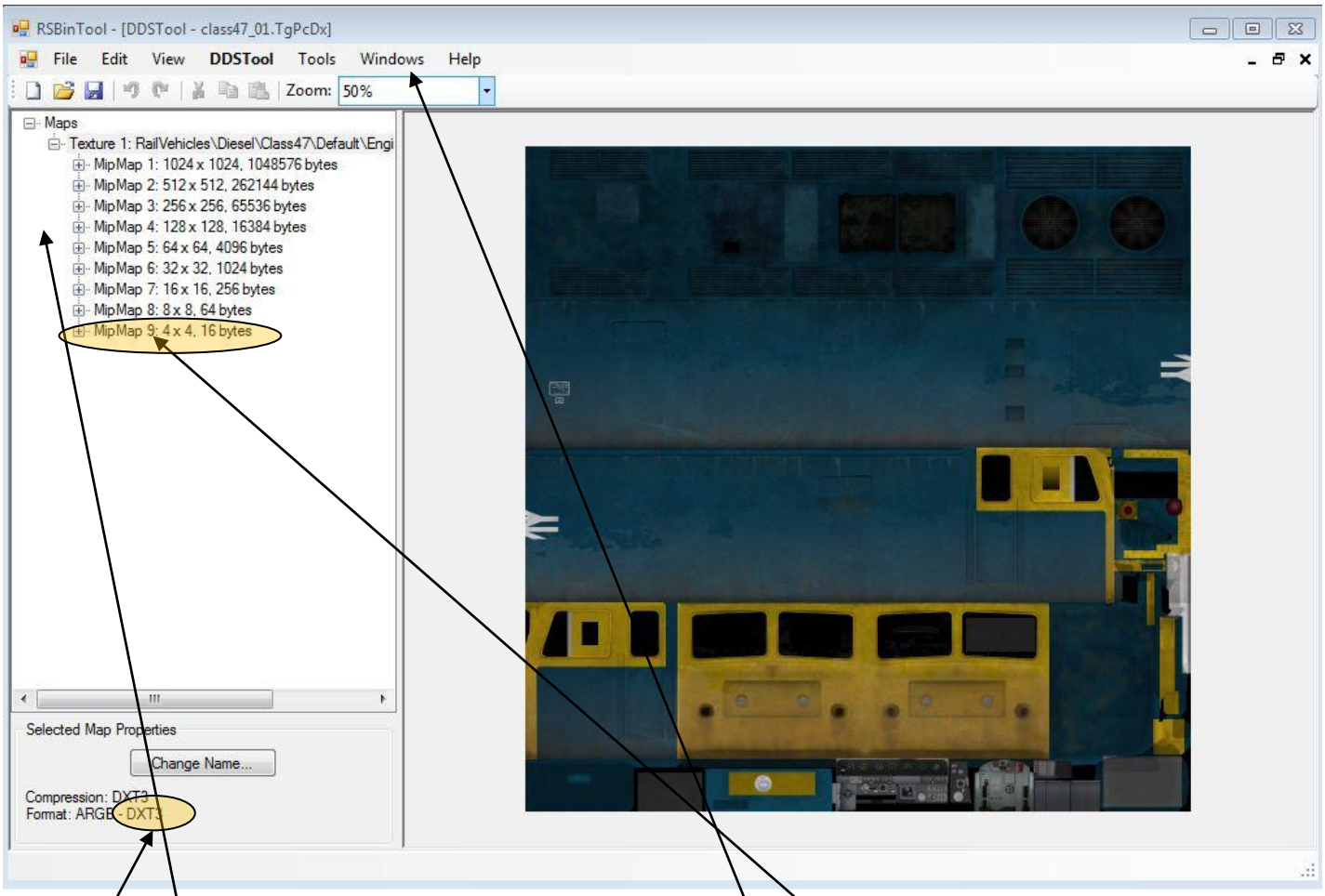
RSBin Tool; can display several texture files at once; that is why I prefer this tool over RWTools.

Navigate to the newly cloned Class 47 asset and double click on the class47_01.TgPcDx file

Steam\steamapps\common\railworks\Assets\Kuju\RailSimulator\RailVehicles\Diesel\Class47\UIR\Engine \Textures\ class47_01.TgPcDx

The file will open like this;

This Screen is Important



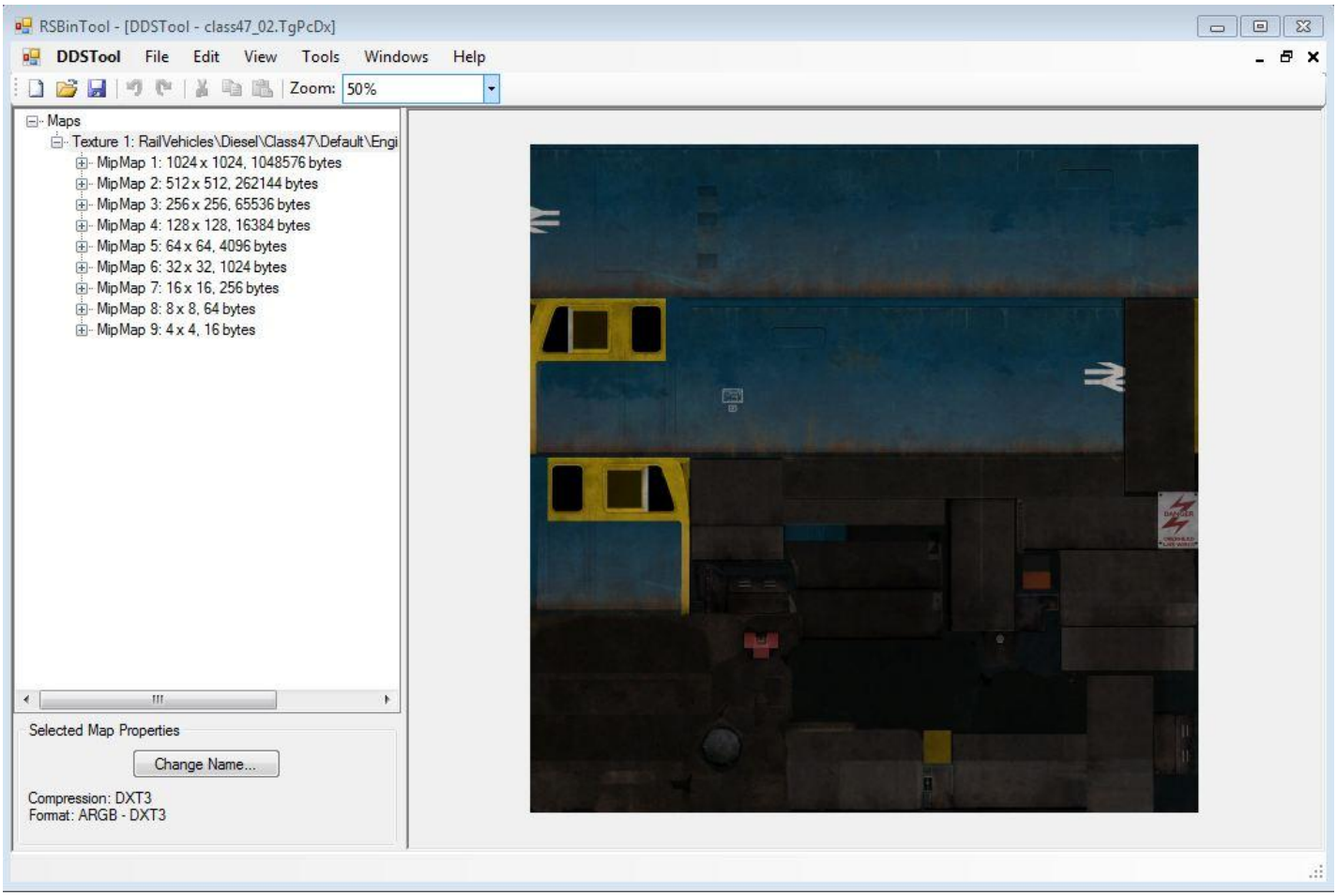
Now that the Texture File List has expanded we can see a list of **Mip Maps,** the number of Mip Maps is **very important** so you should note this number. You should also note the Format that this texture is written in. **So that is Nine (9) Mip Maps and DXT3 format that you need to know**.

You can also see a flat image that if you printed it out you could almost 'fold it' like you did at School and make a 3D train from it.

What you should do now though is open texture file class47_02.TgPcDx as well; Steam\steamapps\common\railworks\Assets\Kuju\RailSimulator\RailVehicles\Diesel\Class47\UIR\Engine \Textures\ class47_02.TgPcDx

Perform the same process as you did for the first texture file and expand the Mip Maps, zoom out so you can see the whole image and note the format. With RSBin Tool you can view both these texture files at once; in fact you can open many files and view them all at once. Select Windows from the RSBin Tool menu. Then select Tile Vertically, or just work your way through several of those options, Vertical, Horizontal or Cascade. Feel free to open even more texture files for the Class 47, just be nosey, you can't break them yet.

The next screen shot is the Second Texture File that we will need to paint. This is the other side of our Class 4, some re-paints require you to paint many texture files for the whole train to look the same.



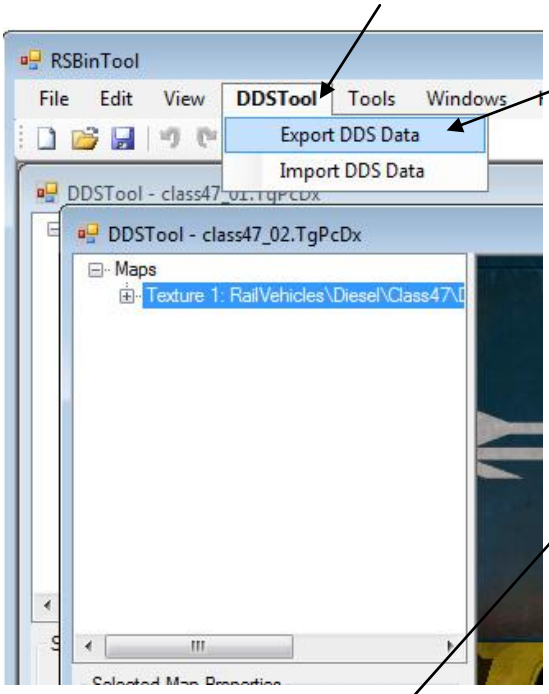
The following files make up the complete Class 47 3D image and you can view them all. Some are going to be obvious before you open them, others not so. This is the same for all Re-skins, you are best to look at the texture files in RSBin Tool and work out here if you need to be painting them for you re-skin.

class47_01.TgPcDx
class47_02.TgPcDx
class47_Bogies.TgPcDx
class47_bump_nm.TgPcDx
class47_bump_nmc.TgPcDx
class47_digits.bin
class47_glass.TgPcDx
class47_glass_nm.TgPcDx
class47_glass_nmc.TgPcDx
class47_headlight.TgPcDx
class47_taillight.TgPcDx
number_0.TgPcDx
number_1.TgPcDx
number_2.TgPcDx
number_3.TgPcDx
number_4.TgPcDx
number_5.TgPcDx
number_6.TgPcDx
number_7.TgPcDx
number_8.TgPcDx
number_9.TgPcDx
primarynumber_1.TgPcDx
primarynumber_2.TgPcDx
primarynumber_3.TgPcDx
primarynumber_4.TgPcDx
primarynumber_5.TgPcDx
shadow.TgPcDx

EXPORT DDS

Close down any texture files that you opened apart from the two shown in this tutorial. I make a habit of exporting all textures that I am going to be painting at this stage. In this case it is two. Cascade your texture file windows inside RSBin Tool, then click on one of the windows. This will be the first one to be exported as a DDS file.

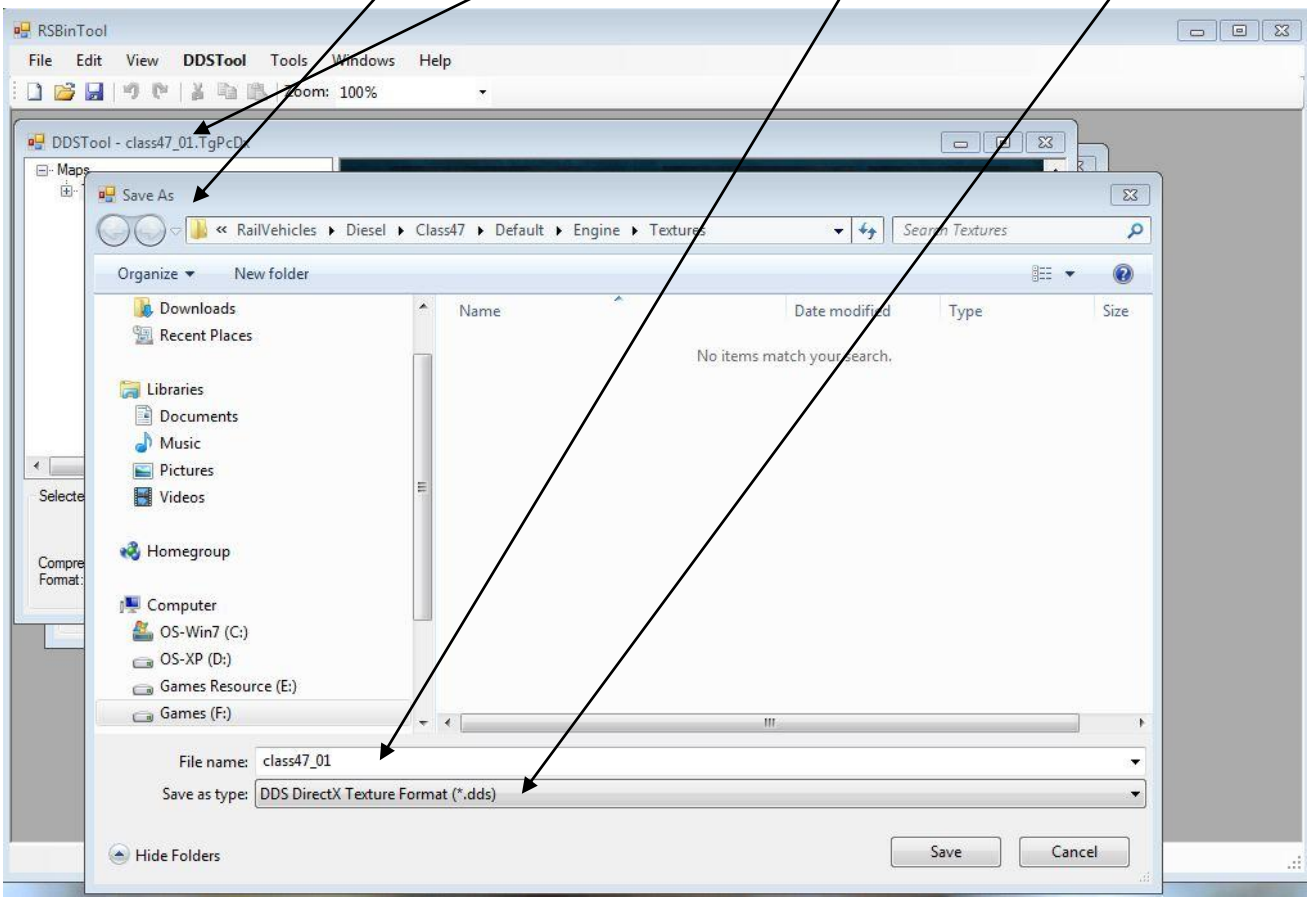
Remember that WIP Folder you created earlier, the one for working in, on the separate drive, we need that folder now. Select DDSTOOL from the top menu then Export DDS Data from the drop down menu.



In the Save As window that now opens you need to name the file as it Exports out as a DDS file. You are going to want to keep track of these files so check what the name of the TgPcDx is in the first place.

You can see the name here due to the way I have arranged the windows. So just type the file name minus the extension into the file name box. In this case class47_01

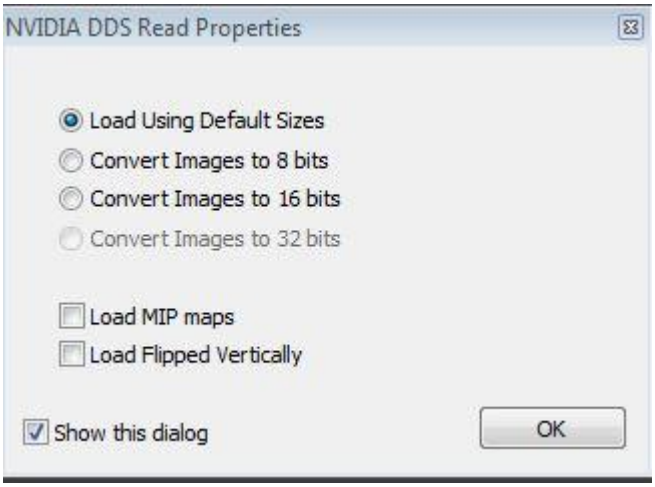
And make sure the save as type is set to DDS.



You can now export the class47_02.TgPcDx texture file to the same folder and if you were painting a multi-modal unit like a Class 101, you could export all the other cars associated with the model since it is made up of at least three different assets. You can now minimise or close RSBin Tool. *If you close it, when you want to Import the finished paint job, you will first have to open the original texture files that you exported. By that I mean go back to the start of section 2 and open the two cloned Class 47 texture files, or whatever assts you are painting. Painting can take a while so it is not a worry to close it, just be aware that you need to open the cloned textures to import them and convert them. It will become clear later, I promise.*

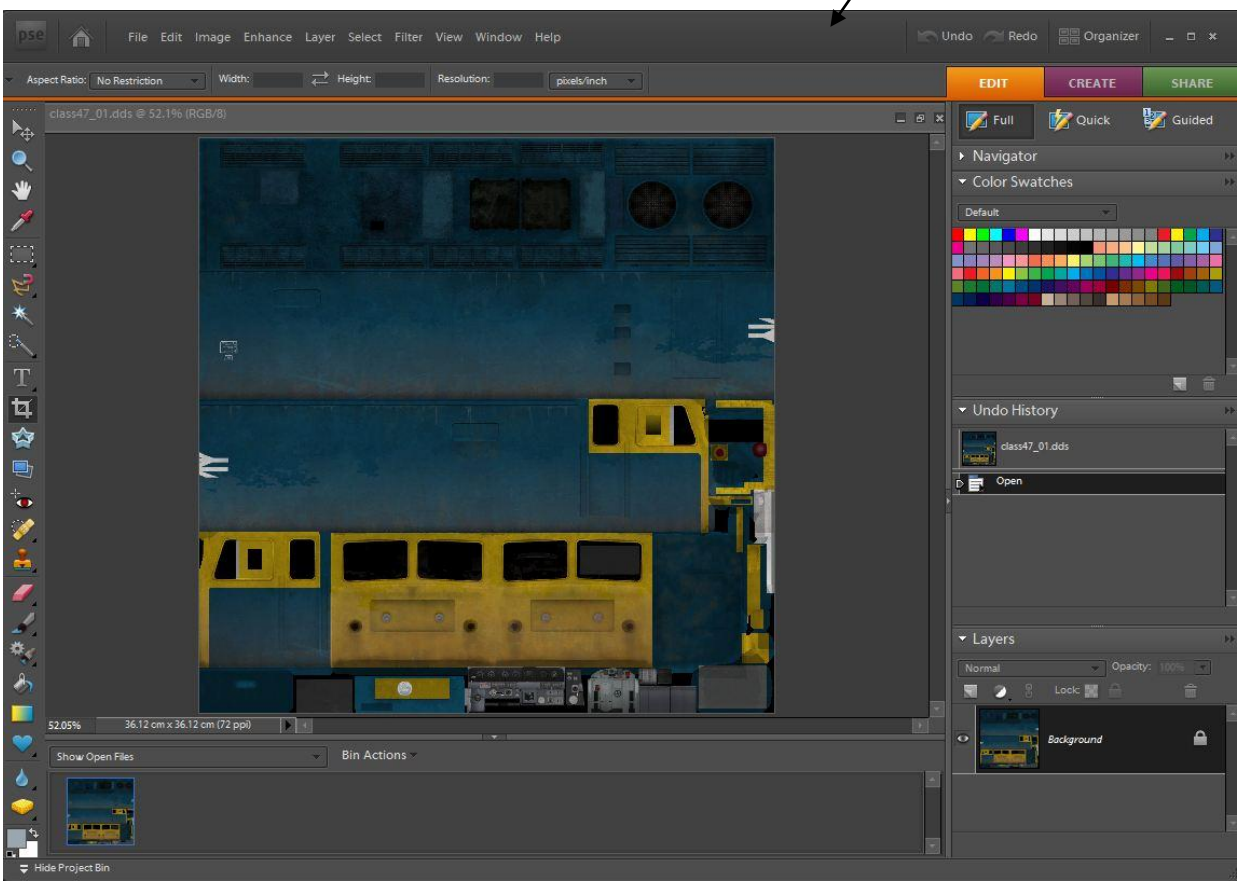
Section 3 Painting in PSE7

You can now open PSE7 and select File then Open and navigate to your WIP folder where the newly exported class47_01.dds and class47_02.dds files are, open class47_01.dds. The Nvidia Properties box may pop up.

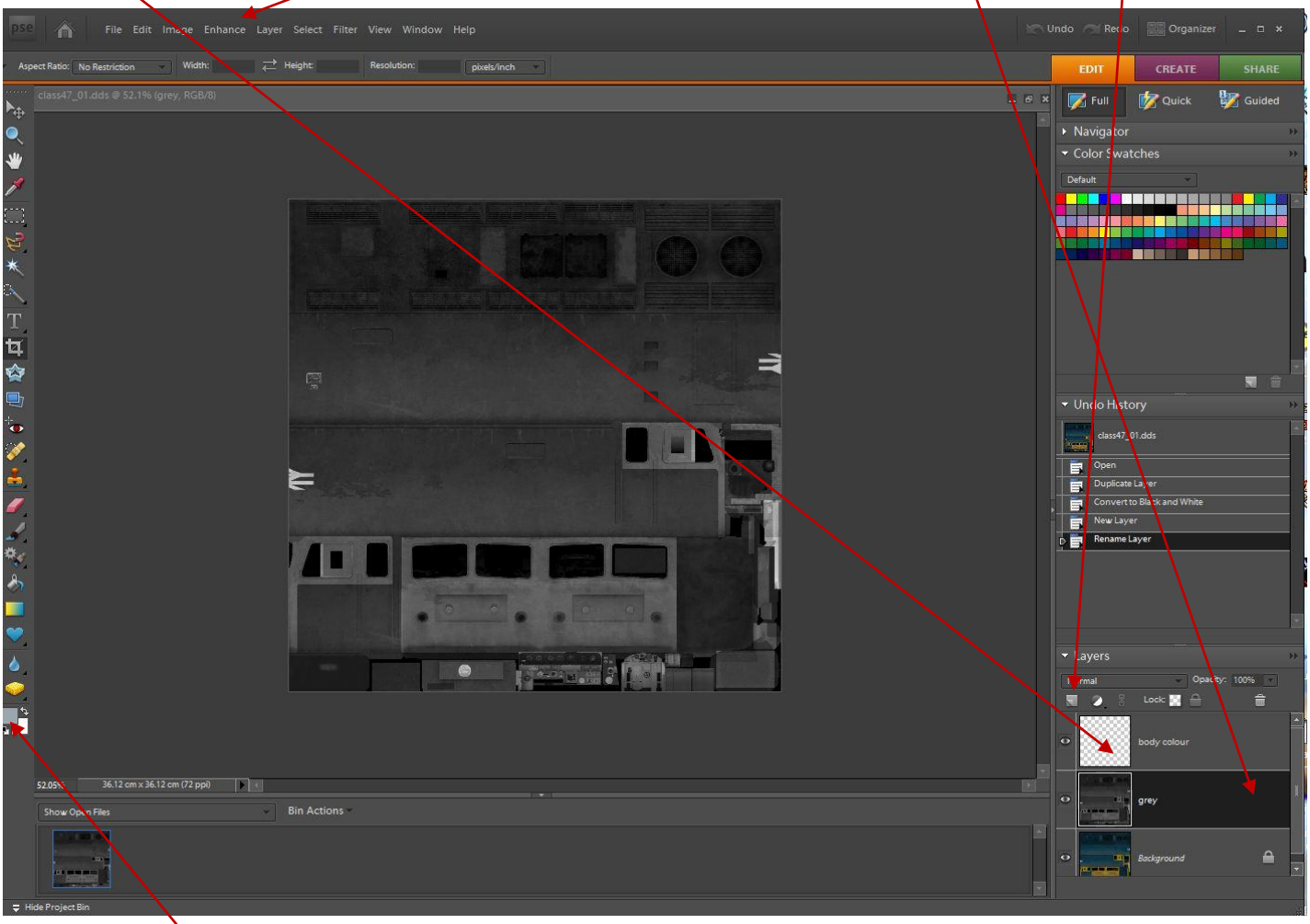


If this box does pop up set it like this if it is not defaulted to this. Do not load the Mip Maps. We will not need to paint those; we will have PSE/Nvidia DDS Plug-in create new ones for us.

The class 47 dds file will open in PSE and look like this depending on you work layout other tools and windows may be displayed.



The first steps are as follows, Duplicate the Background layer and call it grey. With the 'grey' layer selected go to the top menu and select Enhance then Convert to Black and White. You now have a duplicate of the dds but in black and white. Now in your Layers Window select create a new layer and call this body colour. Your screen should be like this;



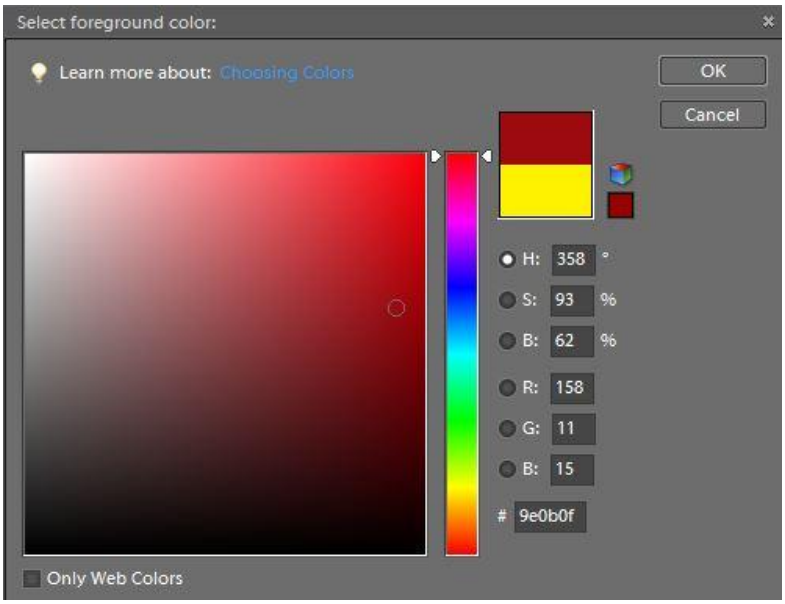
Choose a foreground colour,

I have set mine to R G B

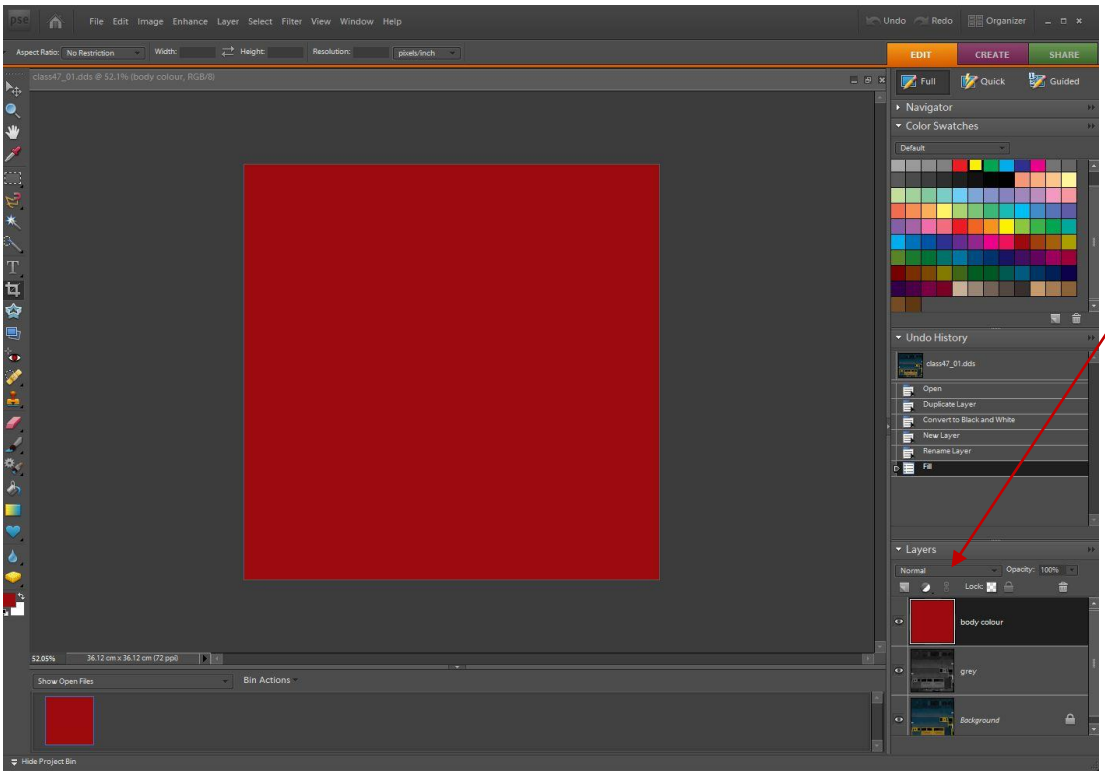
158, 11, 15 specifically as this will be the United International Railways Fleet Livery.

Select OK.

From the top menu select Edit then Fill Layer make sure foreground colour is selected in the pop up window and click OK.



What we have now is a solid red square over our **body colour layer.**

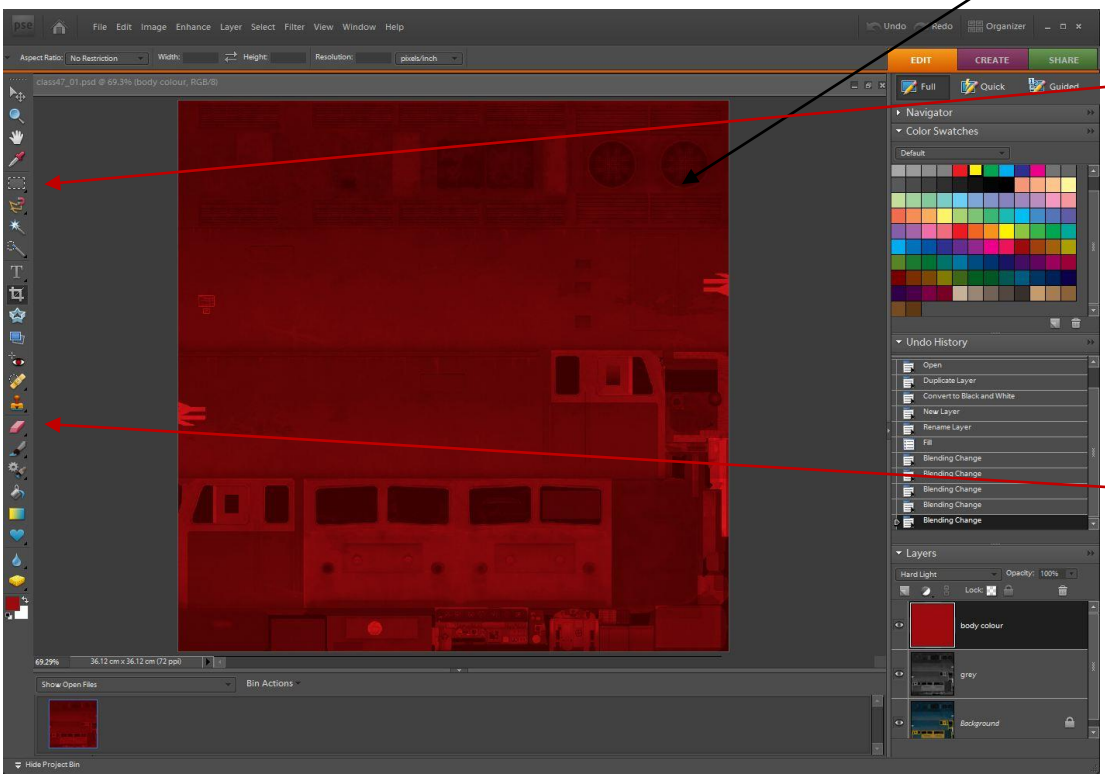


Look in the Layers Window just below 'layers' there is a drop down menu for colour effects. Select Hard Light from this list.

Sometimes Multiply or Overlay will work better but you won't be 100% sure until you see the asset in the game.

You should now be able to see the grey layer below the body colour layer.

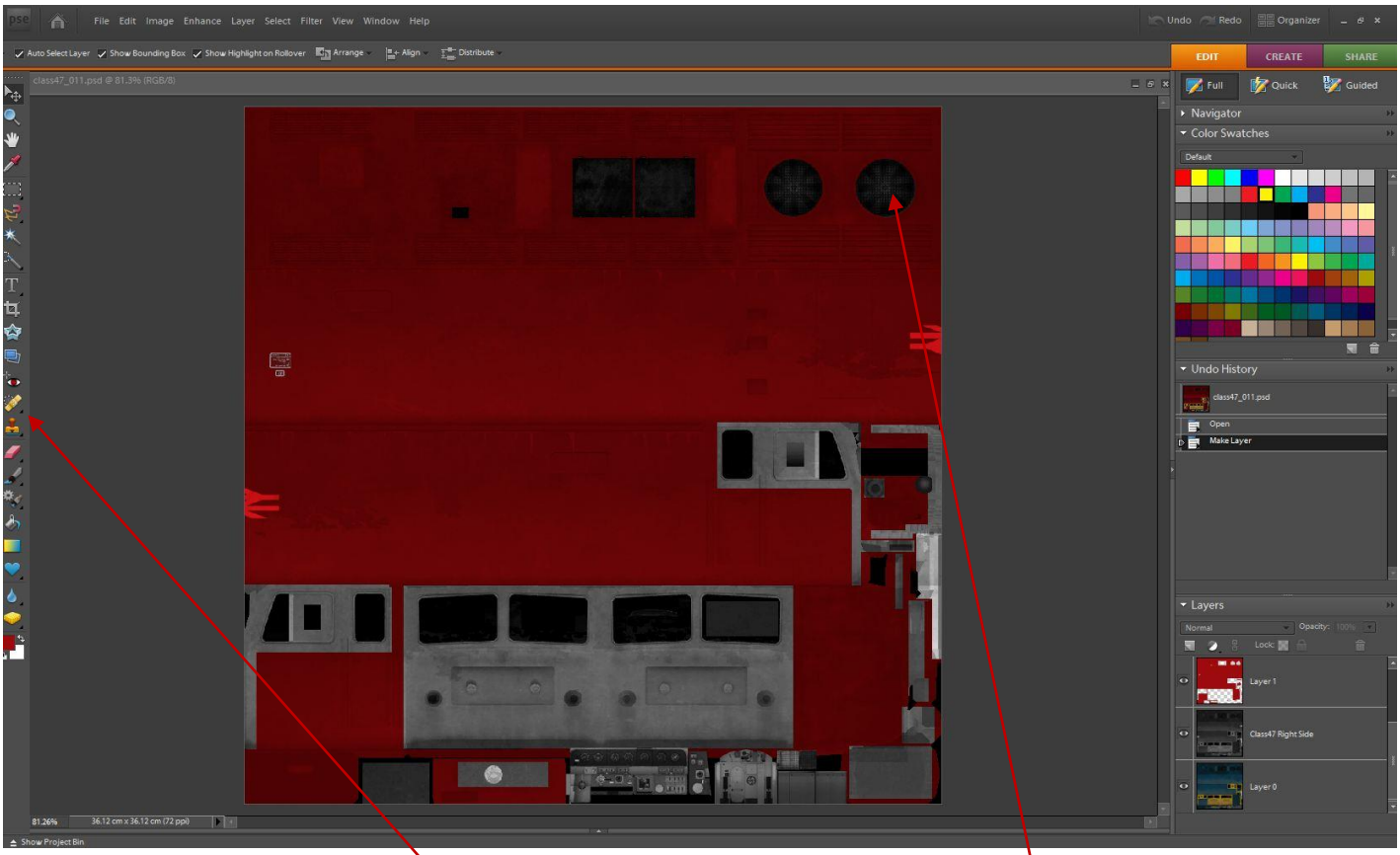
At this stage you should save your work as a PSD file, keep the name the same, just save it as a PSD so you can preserve the layers should you wish to re-paint anther class 47.



Start using your Rectangular Marquee Tool on **the body colour layer** to select areas of the body colour that are **not** BR Blue by default. We will cut those out of this layer. Use the 'marching ants' to select and ctrl-x to cut out. On smaller or finer areas you can use the eraser and a square brush.

Tip, hold the shift key when using the eraser to force it to move in straight lines.

Keep working at the image knocking out any areas that are not blue. These are areas that will retain their colour on the finished re-skin. In this case the Yellow Front of the loco and the area of the cab as seen from your outside view. Turn on and off the grey layer to remind yourself which bits need cut through. Soon you will get to this stage.



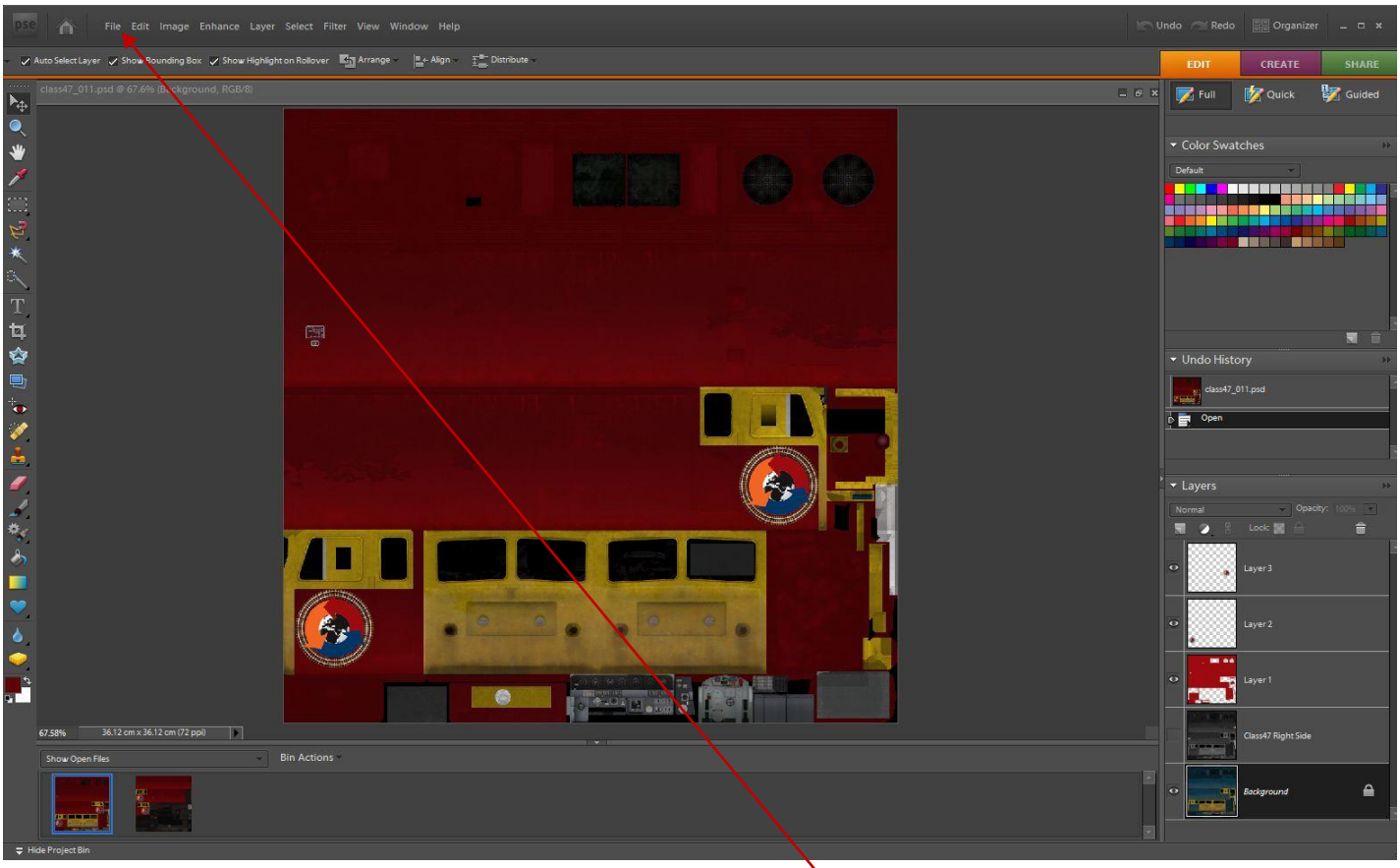
If you plan on using your own Railroad Logos, like I will be doing, then it would be a good idea to unlock the background layer and use the Healing Brush Tool with the Replace Setting to paint over the BR Logo. If you want to keep the BR Logo you will have to use the eraser on the Body Colour Layer and cut through the Red to expose the logo. Also, do not forget the details on the roof of the Loco, cut through to those too.

When you are happy that all the required areas that you want to keep are cut through you can delete the grey layer. It was there to make sure we did not work on the main paint scheme and damage that.

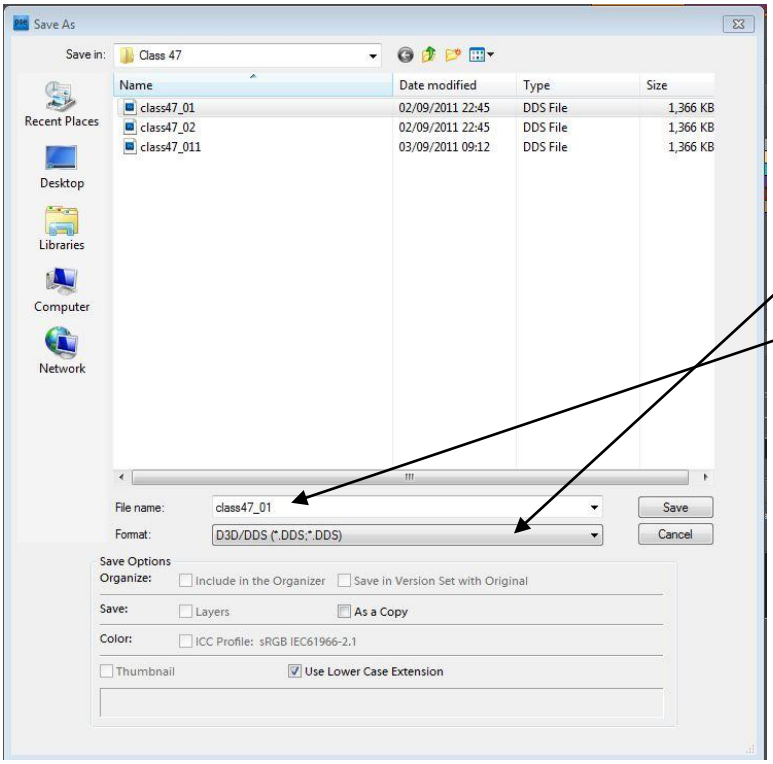
I have added two new layers for my UIR Logo that I created earlier, it is a transparent .png file and I open that in PSE then I select the logo, copy it and then paste it into the class47_01.psd image.

That creates a new layer and I can move the logo around the screen until I find a suitable place for it. This can be done on all your repaints if you are making a complete new fleet of re-paints with your own Logo or any real world logo if you are making a prototypical re-skin and have an image of their logo.

My re-skin now looks like the next screen shot, yours of course may look very different, but the principles are the same. We now need to save this a DDS file ready to export (convert) back to a texture file for the game. Exiting now, yes?



Delete the grey Layer then flatten your image, do not save this as a PSD file because we want to preserve these layers for any future re-paints. Just right click on the grey layer then select delete. Next select Layer from the top menu and select flatten image from the list.



Now select File then Save As.

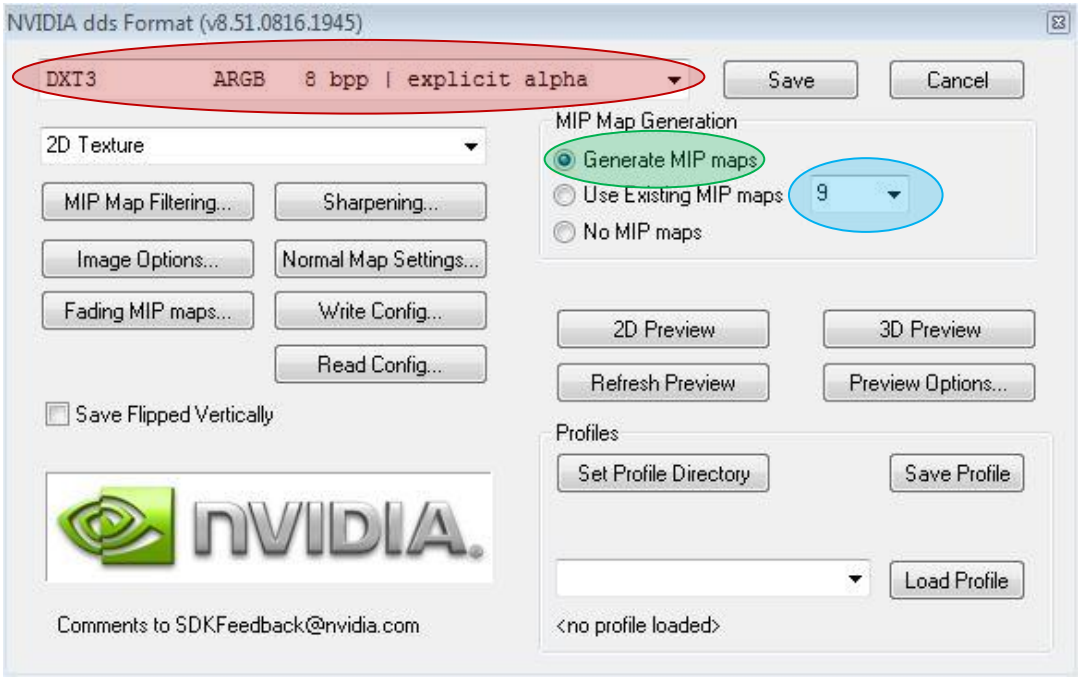
In the pop up window change the format to DDS.

Make sure the name for the file is class47_01 as we are going to overwrite the cloned class 47 dds file we opened in our RSBin Tool.

Click on save and the Nvidia DDS Plug-in tool will open, here we will set those important Mip Maps and DXT3 compression attributes for our re-skin.

These can be different for every re-skin, so remember to check them.

This is the **Nvidia DDS configuration** window that will pop up.



This one is set up correctly for our file conversion. Remember I said;

'So that is Nine (9) Mip Maps and DXT3 format that you need to know'

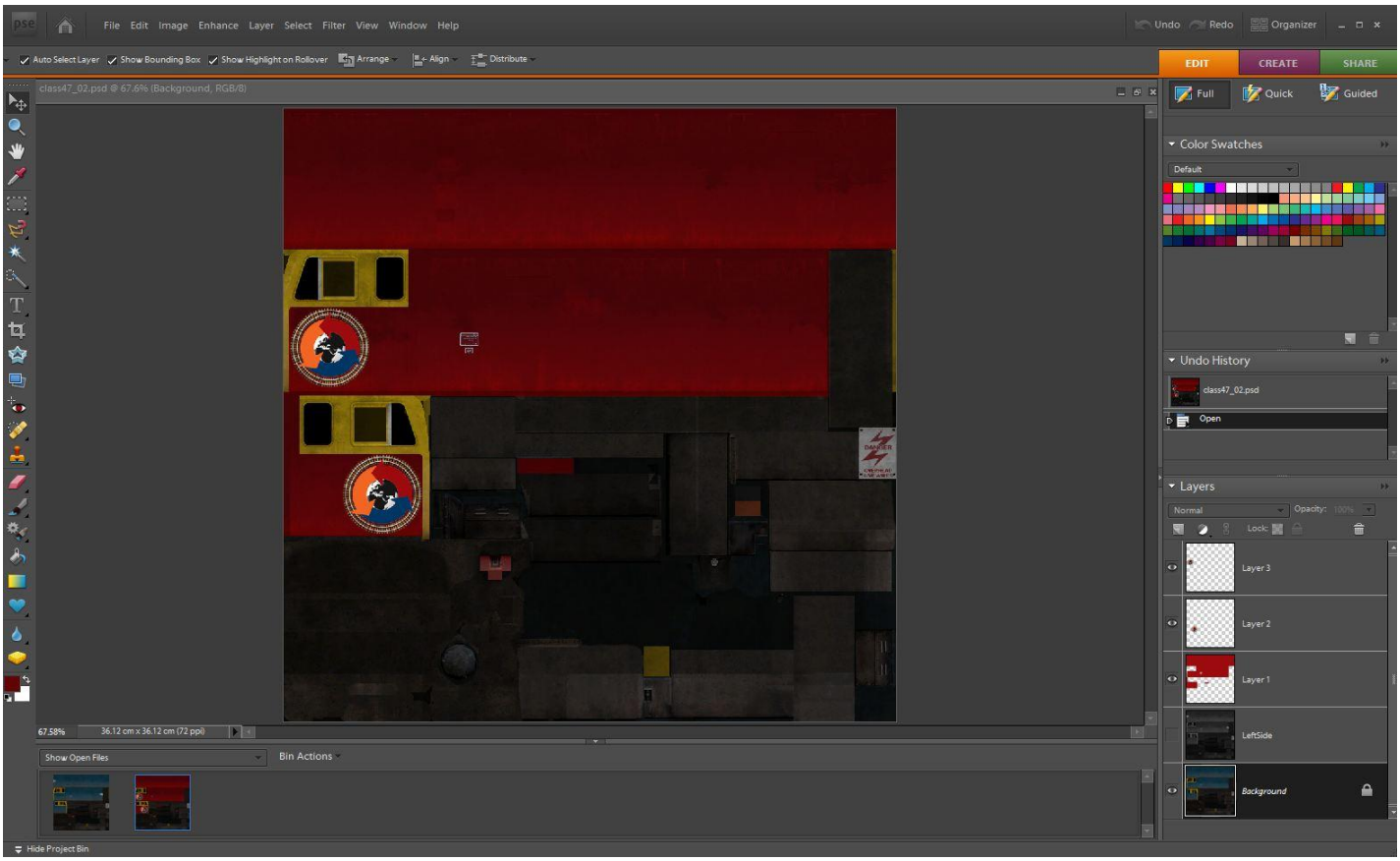
Well this is where it needs to be set.

DXT3 Format here.

Generate MIP maps here

Set 9 MIP maps here

When you have completed that, click on save and you can then paint the other part of the Class 47 following the same procedure. Take it to this stage and then add any logos, delete your grey layer, flatten the image and save it out as a DDS File and set the same DXT3 compression and the same MIP maps.



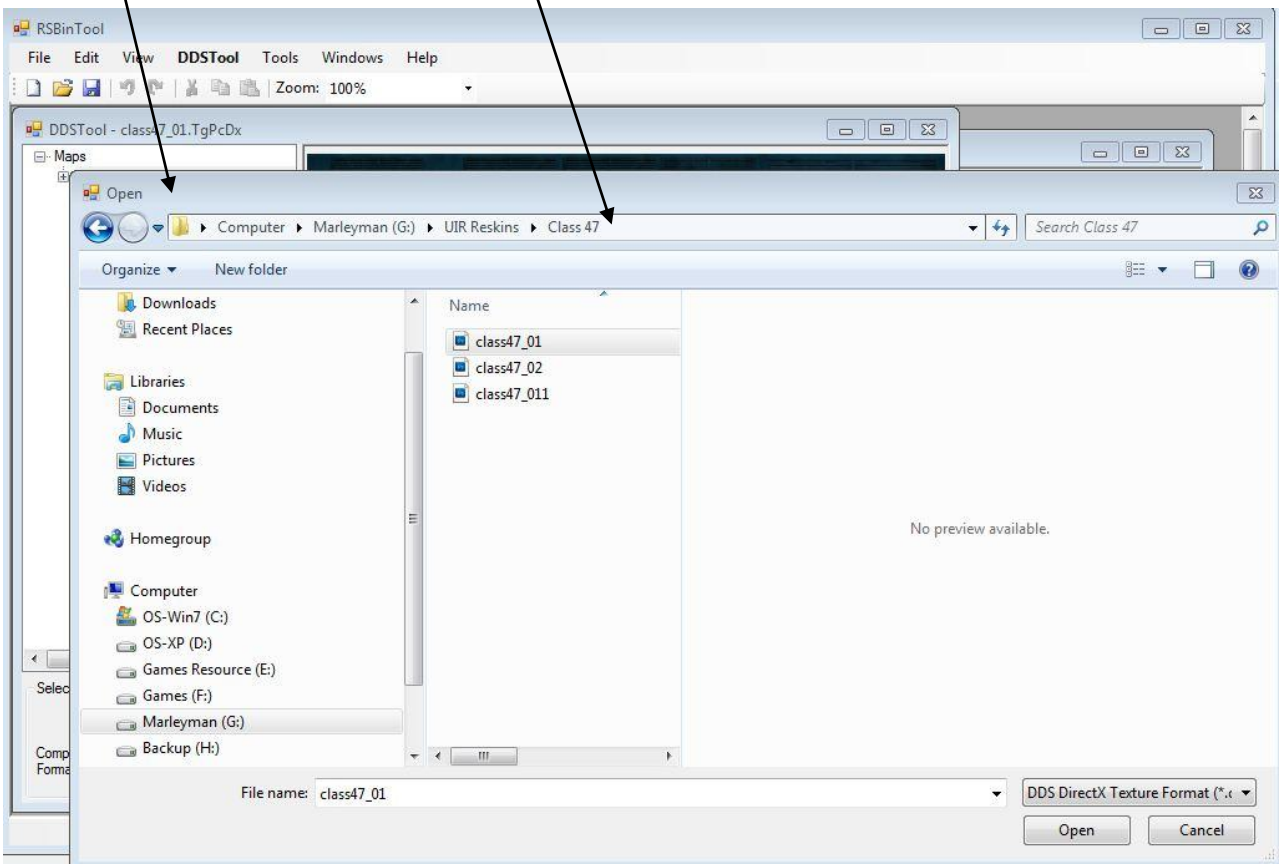
Section 4 Import DDS Data

You can now open (or maximise) your RSBin tool. If you have had to open this tool again you will have to Navigate to the cloned Class 47 asset and double click on the class47_01.TgPcDx file;

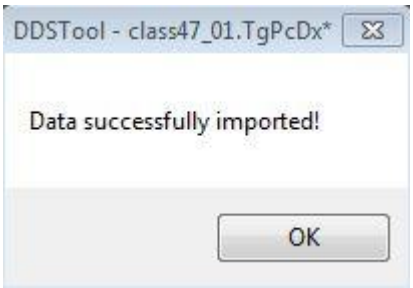
Steam\steamapps\common\railworks\Assets\Kuju\RailSimulator\RailVehicles\Diesel\Class47\UIR\Engine\Textures\ class47_01.TgPcDx to open each of the texture files again. This is so we can overwrite them with our newly painted ones.

With either one of the textures in the foreground of RSBin Tool select DDSTool then Import DDS Data

The Open window will pop up. Navigate to your WIP Folder and select the corresponding DDS File, in this case class47_01.

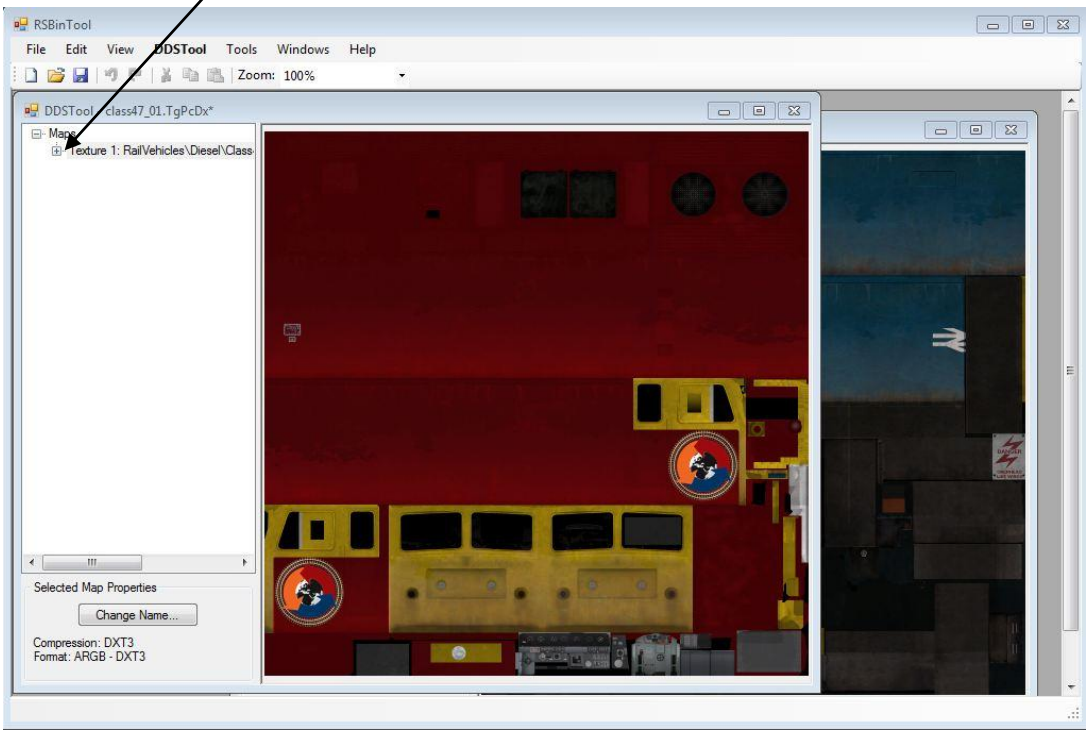


You should get this pop up window.



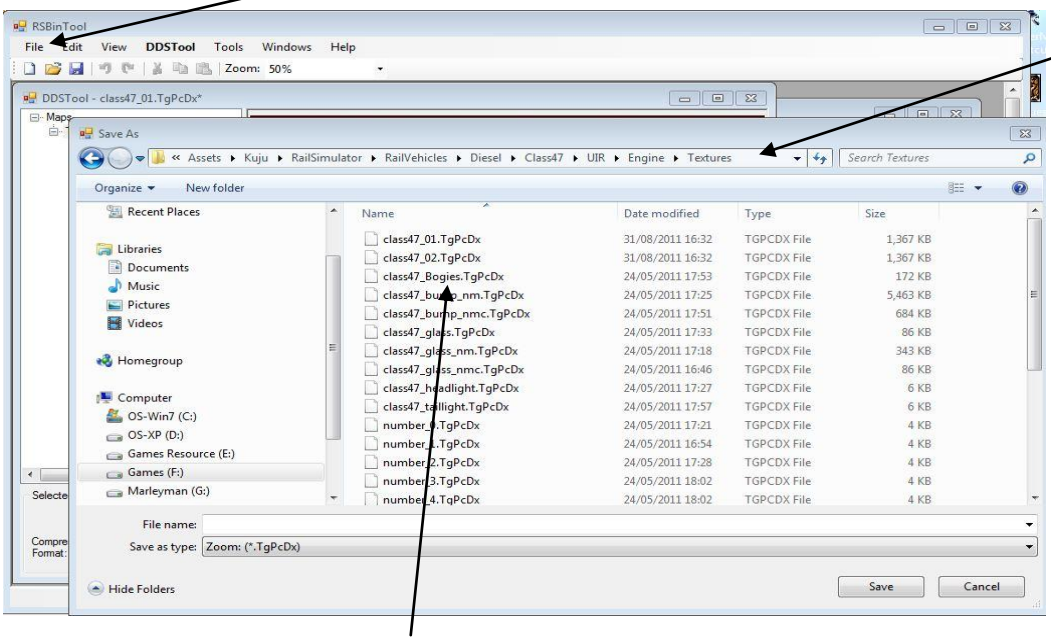
And your new livery DDS File should now be visible in the texture view window within the RSBin Tool; see next screenshot. If it has imported correctly, do the same for class47_02 and make sure that looks ok too.

Expand the MIP maps and check that they have been written and look like your new livery too.



Now that we have the DDS inside the RSBin Tool we need to **convert it back to a TgPcDx** file and save it to our Cloned Class 47 folder within Railworks 2. So select File then Save As from the menu.

Navigate to the cloned class 47 folder, in my case; \Steam\steamapps\common\railworks\Assets\Kuju\RailSimulator\RailVehicles\Diesel\Class47\UIR\Engine\Textures

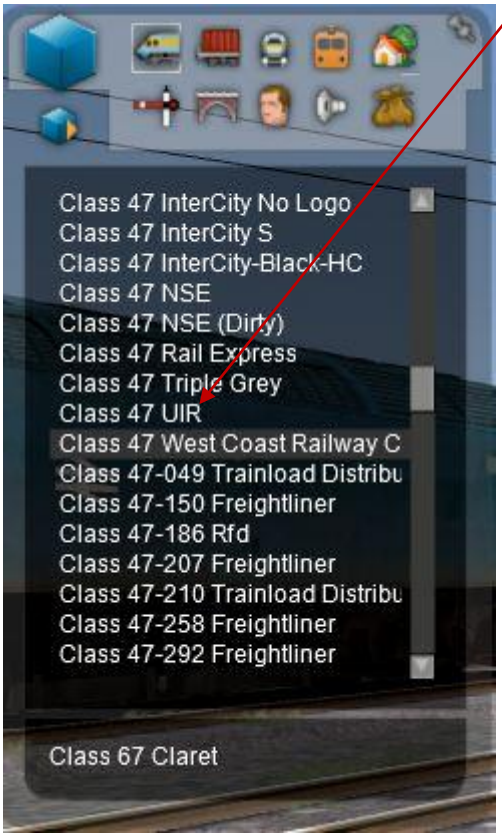


Double Click on the class47_01.TgPcDx file already there to replace it with your new painted class 47.

Do the same for the class47_02 DDS file.

Section 5 Check your work in RW2

Very briefly, Open Railworks 2 and select the editor create a new scenario; look for your Class 47 in this list, there may be quite a few Class 47's there, just scroll down them.



Place your Class47 on the rails, add a driver, set a destination and select play. Now go feel the buzz of driving the Class 47 in your very own livery, it is such great fun!

This is my United International Railways Class 47

That is it, not easy the first time round and not so difficult the second or third time round. I say that because after reading several tutorials on this subject and having to piece on picture together from at least 3 different and sometime contradicting sources I decided to work it out and write it out in one bit tutorial.

So this is it, I have dine 3 re-skins in my time before writing this. I am confident this tutorial contain all the basic skills to get the files in and out of Railworks, all you need to add is your creativity. And if you want to paint Trains for my UIR Multi-Player Virtual Railroad Company, give me a shout on the Forum at

http://www.railworks.marleyman.co.uk/platform1/

I hope you have enjoyed this tutorial and find it useful.

Kind regard,

Marleyman.