I created new thread to this so information is easier to find. I will be collecting skin related stuff in this first post. All corrections and suggestions are welcome.

Figuring out skin used:

Acquire old openable version of .pckd files, for example through steam beta preencrypt build. (backup savegame before!)
Vehicle paint reference files (.vepa) is packed inside **data\vehicle\xx_european\settings.pckd**
After unpacking with Pckd Unpacker vepa files can be found
at **settings.pckd-unpacked\part\paint**
Open .vepa file in BagEdit to view skin texture and paint used.

Skin image textures (.bmap) can be found in **data\vehicle\xx_european\art** and paint color files (.vhcp) in **data\vehicle\shared\paint**

Breckfest or build_asset.bat for making skins?

Both does work, but Breckfest does not generate mipmaps so textures will appear too crisp and gpu heavy.
Also texture quality settings don't affect Breckfest made textures.

Generally it's better idea to use build_asset.bat
Make your textures into .png or .tga files and drag and drop them over
wreckfest\tools\build_asset.bat

Official car skin formats:

c5.bmap:
Texture. On transparent areas color is taken from paint files.

n.bmap:
R - Normal map detail
G - Normal map detail
B - Alters reflections, All white

s.bmap: (Most of the info copied from dev post: Link.)

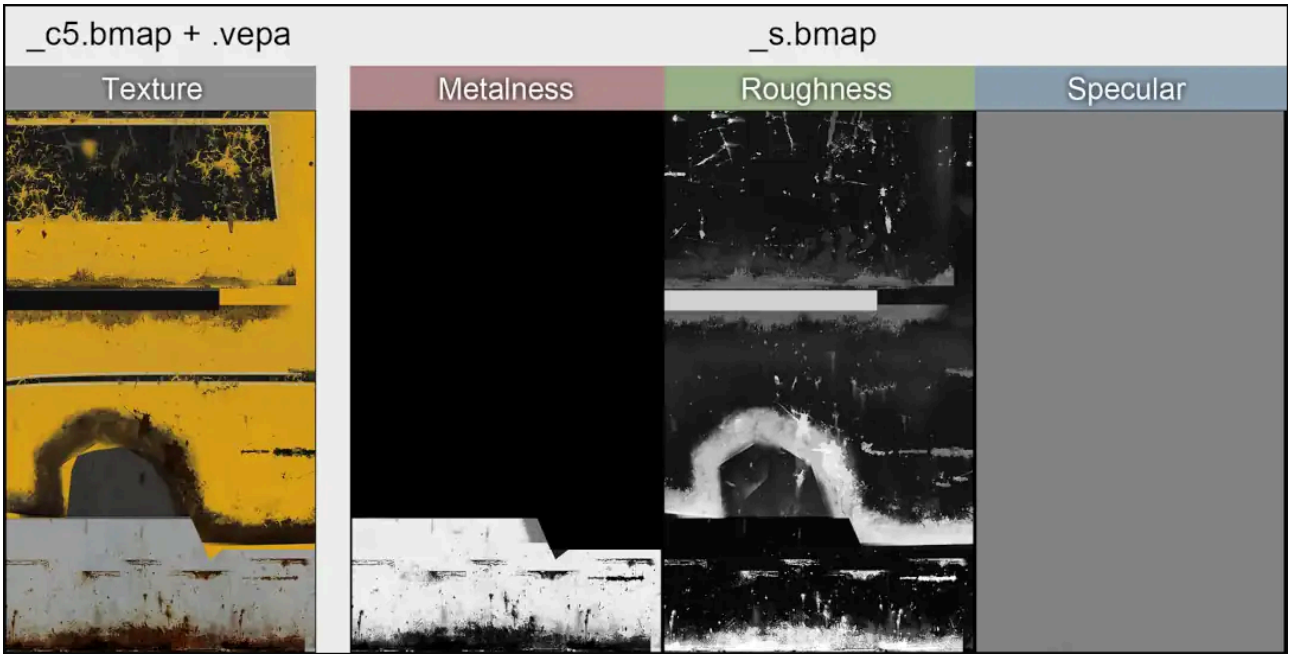
R - Metalness:
White color means it's 100% clean metal and black means it's not clean metal.
Rust, for example is no longer metal which means it's a black value in metalness.



G - Roughness:
White is super rough, black is super smooth. Most of the detail should go in this channel.

B - Specular (Reflectivity):
This is an additional adjustment for reflectivity which in most cases should be left as 128,128,128 grey. However, if you have details such as holes marked into your textures I recommend marking them into this channel as black.

A - Car paint clear coat (Not used anymore)
White means a clean showroom quality clear coat, black means no clear coat at all.



Example channels from 05_american/skin01_s.bmap: (AM2 Skin3)

ns.bmap: (Combined format used only with blend materials)
R - Normal map detail
G - Normal map detail
B - Ambient Occlusion
A - Roughness

Car skin formats with Breckfest:

During convert to and from bmap Breckfest will swap some channels. Following is the swapped order.

n.bmap: (Red & Alpha swapped)(old format before BC5U)
R - Not used anymore, All black
G - Normal map detail
B - Alters reflections, All white
A - Normal map detail

s.bmap: (Green & Alpha swapped)
R - Metalness:
G - Car paint clear coat (Not used anymore, All Black)
B - Specular
A - Roughness

Photoshop's unique TGA transparency:
Tga files in Photoshop must have Alpha 1 channel for transparency to work.
You can double check your file have transparency with Paint.net or Gimp.

Pink texture problem with special textures:
Some rare textures like driver_c.bmap and register plates require that png/tga file must be in correct folder during conversion or they will turn pink. These textures also can't be converted with Breckfest as Breckfest does not store directory path in .bmap

Other threads to check

TOOL Breckfest - BMaps made tasty
Custom Skins Thread

LIVERIES

Little update for the layer colors. This is controlled by the livery skins.

Red = Layer 1

Green = Layer 2

Blue = Layer 3

I believe the RGB values can be mixed together as well to create some interesting fading effects between the colors.

SPECULAR MAP EXPORT/IMPORT

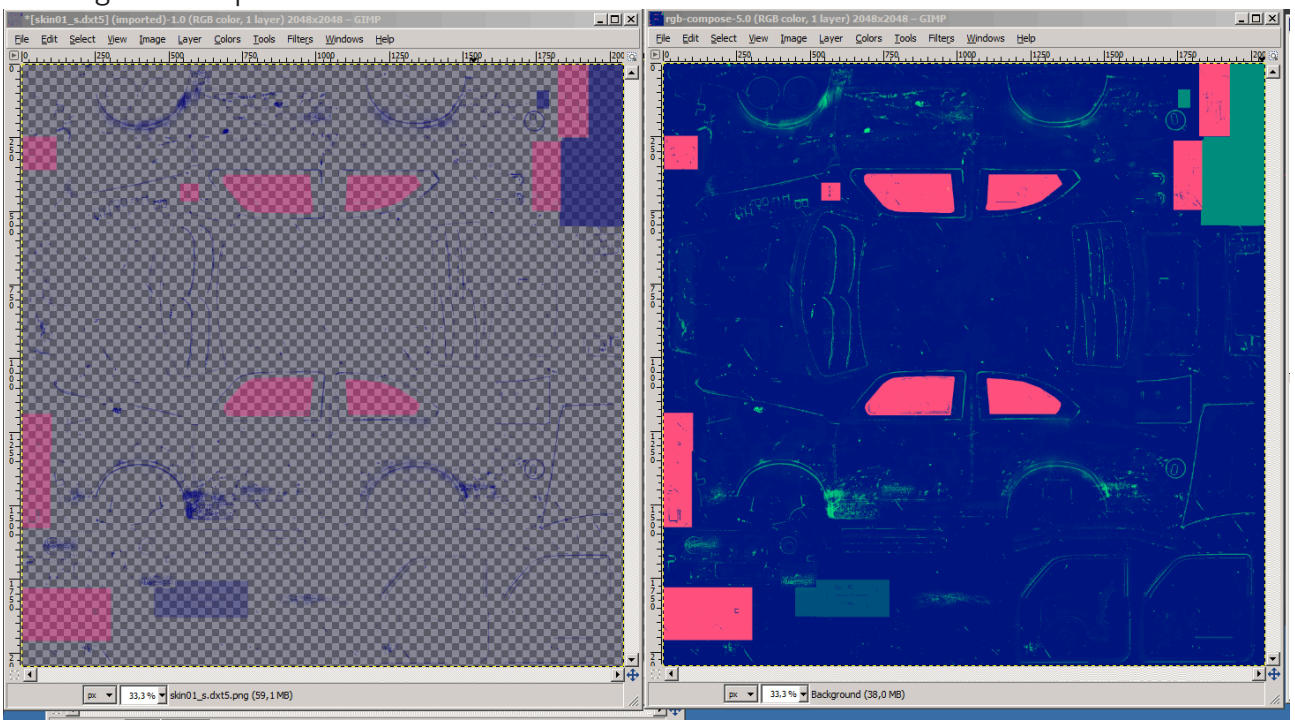
Ah now I realized how to switch the channels on specular maps (_s files) that are Breckfest .bmap -> png exports. I was first thinking just RGB but it was RGBA. Speculars only use RGB so switching alpha and green channels around and removing alpha is the way to go then.

Here's a quick tip for GIMP:
- Open the _s.png file that was generated by Breckfest
- On the top bar Colors -> Components -> Decompose -> Color model: RGBA and tick Decompose to layers -> OK
- Now there are all four RGBA channels in grayscale generated as separate layers. The green one you can throw out because it's actually an alpha channel that's not even used on specular maps. The alpha is the actual green channel.

When you want to bring it back to colors for the export:
- On the top bar Colors -> Components -> Compose -> Color model: RGB -> Channel Representations: Red and blue are right. On the Green choose the alpha layer -> OK

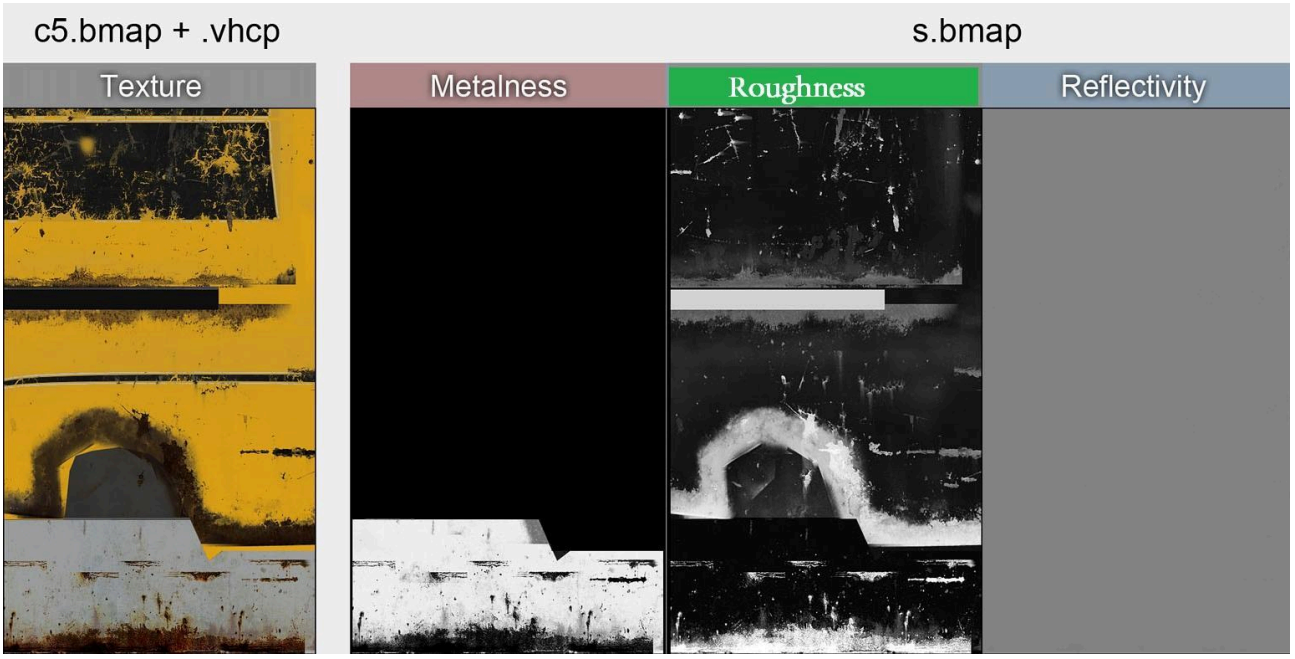
//EDIT: I also noticed that getting closer to the original Blue channel needs to be inverted. It doesn't seem like doing much but there's small difference in reflection tha can be seen in carage view when watching closely.

Left one is what Breckfest .bmap -> .png export looks like
Right one is how it should actually be. Right one is what you want to throw in the build_asset to make .tga -> .bmap convert



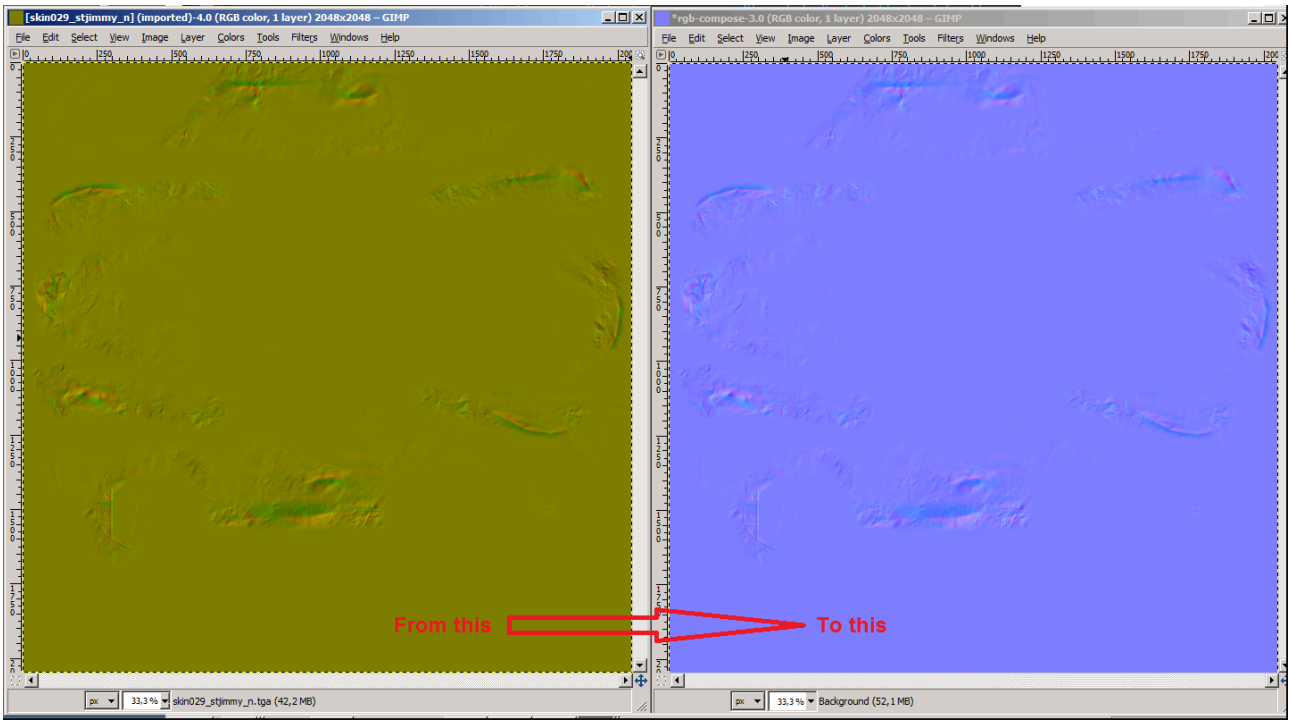
I'm assuming that alpha channel isn't used anymore? And the picture in the first page should be

like this?


c5.bmap + .vhcp
s.bmap
Texture
Metalness
Roughness
Reflectivity

NORMAL MAP EXPORT/IMPORT

Also about normal maps. The right picture is how normal map should look like with GIMP when you want it to export right. If you've it like the left one, some channel inversion and changes need to be done:



With GIMP:
decompose -> RGB -> select red channel(layer) -> inver it -> select green(layer) channel -> invert it -> compose RGB and change red to green and green to red ->
then invert the composed picture

Speaking of normal maps, has anyone found a way to get Breckfest to open the new _n.bmap files without crashing?

Make shortcut of Breckfest.exe and change path in shortcut to Breckfest.exe -dump

Drag and drop .bmap over the shortcut to uncompress. You should get file with .raw file extension.

Open file in hex editor like HxD and delete from beginning everything until "DDS" text.

Save the file and change file extension to .dds.

Then get some program that can load .dds file, for example latest Gimp.

COMPRESSION REFERENCES

if you want some references what texture uses which compression

_ao = DXT1
_c = DXT1
_c5 = DXT5
_ns = DXT5
_n = BC5U
_s = DXT5