

PREMIER AIRCRAFT DESIGN

REPAINTING FOR ABSOLUTE BEGINNERS

For the purposes of this article the term 'FS' means **Microsoft FS2004 and FSX**

Some basic stuff you need to know:

1. The proper name for the textures used on FS models is bitmaps.
2. FS cannot use "ordinary" images such as jpg bmp gif tif etc. they must be converted to "extended bitmaps" for use in FS.
3. You cannot paint extended bitmaps, they must be converted to plain, ordinary bitmaps to paint and then converted back to extended bitmaps for use in FS.

WHAT DO YOU NEED TO START REPAINTING ?

1. A program to open and save FS extended bitmaps
2. A paint program

Freeware programs:

1. **DXTBMP** by Martin Wright. (Google for it)

This excellent program opens extended bitmaps and enables you to save them in a variety of formats.

2. **MS Paint** comes free with Windows accessories. It is pretty basic but easy to use.
3. **GIMP 2** is a powerful freeware paint program that will do just about anything but will take time to learn how to use all the tools.

STARTING TO PAINT

So, you have a nice model in FS but you would like to change the colour or the tail number or the whole livery. Where to start ?

First you need to open the bitmaps. If you try to open them in Windows Explorer or a paint program all you see is a mainly black rectangle. That's because they are extended bitmaps, they are encoded and usually compressed, you need DXTBMP to open them. The extended bitmaps may have the file extension bmp or dds. (there is a note below about dds bitmaps)

Opening the extended bitmap

1. Open DXTBMP and navigate to the texture folder of the model. Choose the bitmap you want to paint, usually this will be the fuselage texture.
2. DXTBMP will display the "unscrambled" bitmap.
3. From the file menu select 'save as' and save the bitmap as '24 bit BMP image'.
4. Tip: look across to the right hand margin before you save the file and make sure the box titled 'Mip Maps, include when saving' is **NOT** checked. This will now stay unchecked for all future use.
5. The bitmap is now saved as an 'ordinary' bitmap in the original texture folder with the original file name.
6. Now open your paint program and navigate to the bitmap you just saved

7. Use the paint tools to modify the image as required. What you do now is only limited by your skill and imagination.

8. Save your changes.

Now you need to convert your painted image to an extended bitmap so that FS can display it.

9. Open DXTBMP again.

10. Navigate to your repainted image.

11. From the File menu select 'save as' and choose 'extended bitmap'

12. In the drop down box select 'DXT3' and click the save button.

Now open FS, fly your re-painted plane and admire your handiwork.

If your repaint is not exactly as you wanted it (and it rarely is the first time) go back to stage 1 and make the necessary changes.

**** If you have a paint kit for the model you're painting you can import it into the texture folder and start at stage 6, just make sure that in stage 11 you save the bitmap with the original name**

That's all the basic stuff you need to know.

Advanced stuff :

Extended bitmaps are (usually) compressed to save space. Each time you open them and then save them again you lose some definition. In other words they get slightly blurry. The more you open and save them the blurrier they get.

To stop this happening, when you get to stage 3 in DXTBMP save the image with a slightly different name. I add an extra letter N (for normal) to the name so, for example, fuse_right.bmp becomes fuse_rightN.bmp in the paint program.

You then paint this 'N' image. When you get to stage 12 edit the file name to remove the 'N' so that DXTBMP saves the file with the original name.

Now, if you need to make changes to the paint you go straight back to the 'N' image (stage 6) in your paint program, carry out stages 7 & 8 and then carry on with stage 9. This way your 'N' image is only ever compressed once and it's never decompressed, so it always stays sharp.

More advanced stuff :

1. You may come across models with bitmap names followed by the **.dds** extension. DXTBMP will open and save these OK but they can be tricky.

There is some help in the DXTBMP 'Help' files but I recommend that beginners leave .dds bitmaps alone until you have some experience.

2. Some models have textures saved in the extended bitmap **32 bit 888-8 format**. You can recognize them because they are uncompressed and therefore visible in Windows Explorer, or a paint program.

For repainting purposes treat them the same as in stages 1-12 above, you can save them in DXTBMP as either DXT3 or as 32 bit 888-8 format.

Note that although 32 bit textures can be opened in any paint program without using DXTBMP, as soon as you click the 'save' button after repainting they become 'ordinary' bitmaps and therefore not useable by FS. After repainting you need to load them into DXTBMP to save them in the original format.

Payware Paint Programs:

If you have money to spend ...

PHOTOSHOP by Adobe is reckoned by its fans to be the best paint program on the planet. It is expensive (\$500 -ish) and there is a huge learning curve, but it's what the pros use.

PAINT SHOP PRO (PSP) is what I use, it's much less expensive than Photoshop and easier to use. Find versions 7 or 8 if you can (on Ebay?) The later versions will also do the job but they are overblown and concentrate mainly on photo editing.

The earlier versions of PSP (7 & 8) are not fully compatible with Windows Vista and Windows 7 but they work well enough. You might just get a few error messages when closing the program.

FSPAIN by Abacus is a useful file manipulation program and unlike the two programs above it is specifically made for FS work. It's very easy to use and includes a simple paint program.

FSPaint's big advantage is that you can see the results of your painting as you progress, without re-starting FS at each stage.

If you aspire to advanced stuff you can link FSPaint to a better paint program.

Copyright issues:

Unless the author of an FS model specifically states that he/she has placed the work "in the public domain" it is covered by international copyright laws. **Just because it's free to download does not mean that it's free of copyright.**

Re-painting for your own use is allowed, and if it stays on your computer no-one would know anyhow, but publishing the repainted work on a web site without permission would transgress the author's copyright.

Soooo ...if you want to publish your repaint ask the author's permission first. It is the law, and in the FS world it's regarded as common courtesy. Most freeware authors will readily give permission, and may give assistance, providing that you are giving the repaint free.

Good luck with your painting !

Bob May