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Overview

These instructions are **not** intended as a tutorial on how to repaint Flight Simulator aircraft, or how to best use your Windows paint program of choice. If you are looking for a good tutorial on this subject, you might want to check out Eric Joiner's excellent treatise [here](#).

This paper is intended to give you basic guidelines on how the texture formatting of the Avanti works, and how you can use these files to create and format a new paint scheme.

In Flight Simulator 2004: A Century of Flight, additional paint schemes for any individual aircraft can be added by creating a new, complete texture set, and adding these textures to a new folder in the aircraft's directory structure using the naming convention texture.***. Where "****" is the unique folder name you wish to use.

For example, if you are creating the N320CA texture scheme, you might want to name this texture folder:

texture.N320CA

We recommend you **absolutely avoid** using naming schemes such as "texture.2", "texture.3", as you never know who else will be uploading new texture schemes, and such *generic* naming will most certainly result in duplications.

Since the Avanti was provided with an automated Load Manager in FS 2004, your add-on paint scheme should ideally be formatted to work with that utility. This instruction set will show you how to configure your paint scheme to work seamlessly with this utility.



FSD Avanti Load Manager for FS 2004- A Century Of Flight

Avanti Load Manager
 Licensed to:
 License ID:

Options - Make Your Selections

Avionics Options

- Reality XP WX 500 Weather Radar
- Reality XP Garmin GNS 530
- Reality XP Jetline 2
- SimFlyers Garmin GNS 430

Systems Realism

- Use Alarms
- Advanced Autopilot

Realism Modeling
 Real-World

Maintenance And Operation

Cost

Currency: US Dollars

Total Fuel Used:	3.80 Gal.
Fuel Cost:	10.98
Maint. Cost:	0.00
Repair Cost:	0.00
Fixed Costs:	1,479.44
Total:	1,490.42

Status/Repair

Port Engine

Status:	OK
Engine time (Hrs):	0.12
Hours to next service:	24.87

Starboard Engine

Status:	OK
Engine time (Hrs):	0.12
Hours to next service:	24.87

Formatted Paint Schemes*

Default Paint scheme

Stored Data
 Manage

Video Card

- NVidia
- ATI

Ramp Loading (MTOW)

Cargo: 0 Alt

Passengers\Crew **: 2

Ramp Weight: 10,412.00 lbs.

** Not including pilot and copilot

Exit
 Save
 Restore

*See the Loadout page of the POH for instructions on adding paint schemes

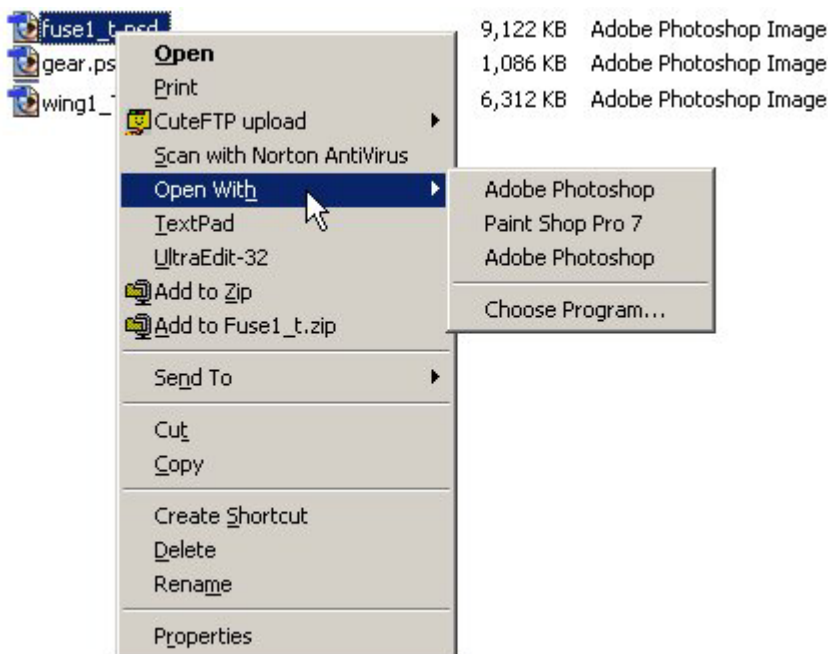
Finally, we will provide you with some basics on how to construct your upload file.



Image Basics

The working files you have downloaded are in *.psd Adobe Photoshop format, which is considered the industry standard. This format is also recognized by many popular Windows paint programs, such as JASC PaintShop Pro[®] 8 and Corel Draw[®].

Simply open the file with the program of your choice.



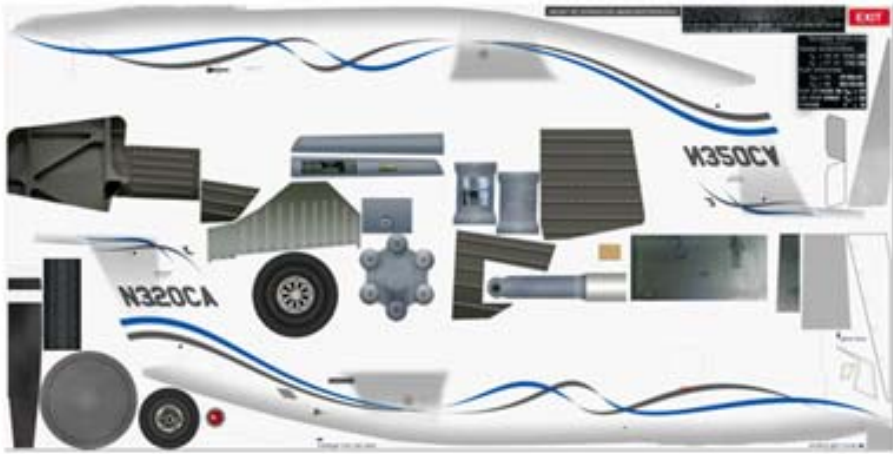
As previously mentioned, these instructions are not intended to be a tutorial on how to paint aircraft, or use any specific paint program. These are simply basic instructions on how to work with these files.

This download contains four working files in the Templates folder:	1. FSD_p180_bodymaster_T_Kit.psd	- fuselage texture
	2. FSD_p180_nacelle_T_Kit.psd	- engine nacelles
	3. FSD_p180_wingL_T_Kit.psd	- Left wing
	4. FSD_p180_wingR_T_Kit.psd	- Right wing

These are the sections of the aircraft that can be repainted. The working images are layered *.psd images. Each individual layer is given a descriptive label to allow you to create precise textures.

IMPORTANT NOTE ABOUT FUSELAGE TEXTURE

FSD_p180_bodymaster_T_Kit.psd is a 2048x1024 image. To maintain the high resolution of body textures on the Avanti, this technique was utilized. Once you are comfortable with the paint scheme you are developing, save the .psd as the bodymaster, then save it again as FSD_p180_body1_T.psd and again as FSD_p180_body2_T.psd. Remove the right 1024x1024 section from FSD_p180_body1_T.psd, leaving the left section, and do the reverse for the FSD_p180_body2_T.psd. See illustration below for details of this.



FSD_p180_bodymaster_T_kit.psd



FSD_p180_body1_T.bmp



FSD_p180_body2_T.bmp

When you are satisfied with your work, make sure you flatten the image and save it, using the same file name (and remove the _kit), but with a .bmp extension.

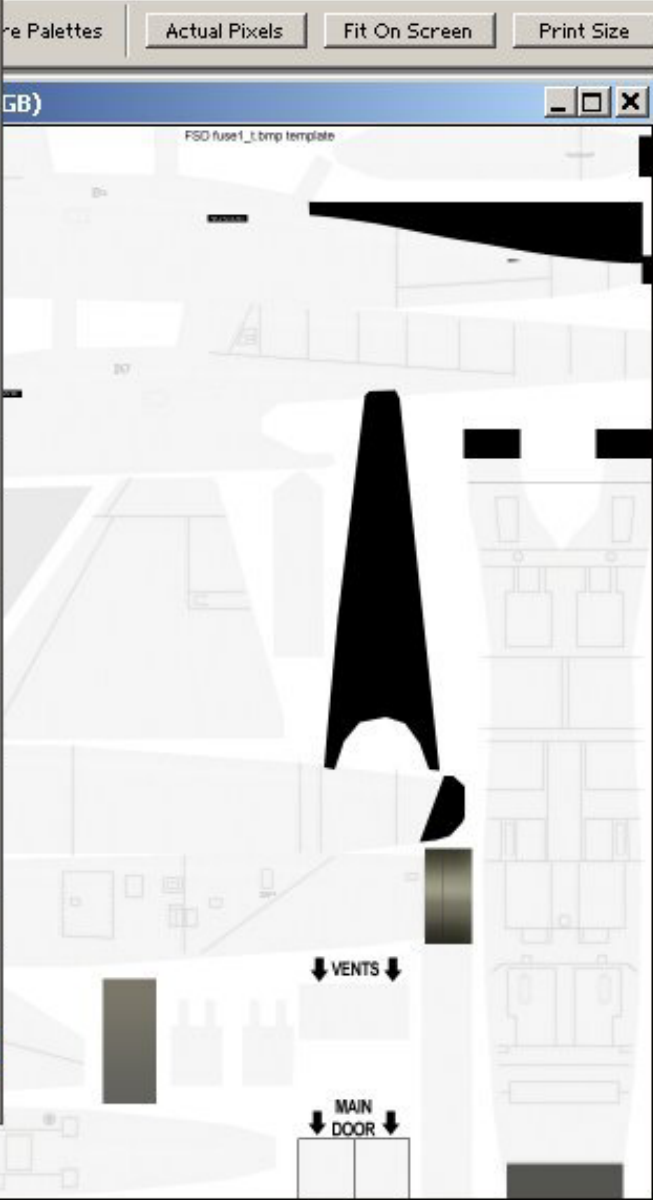


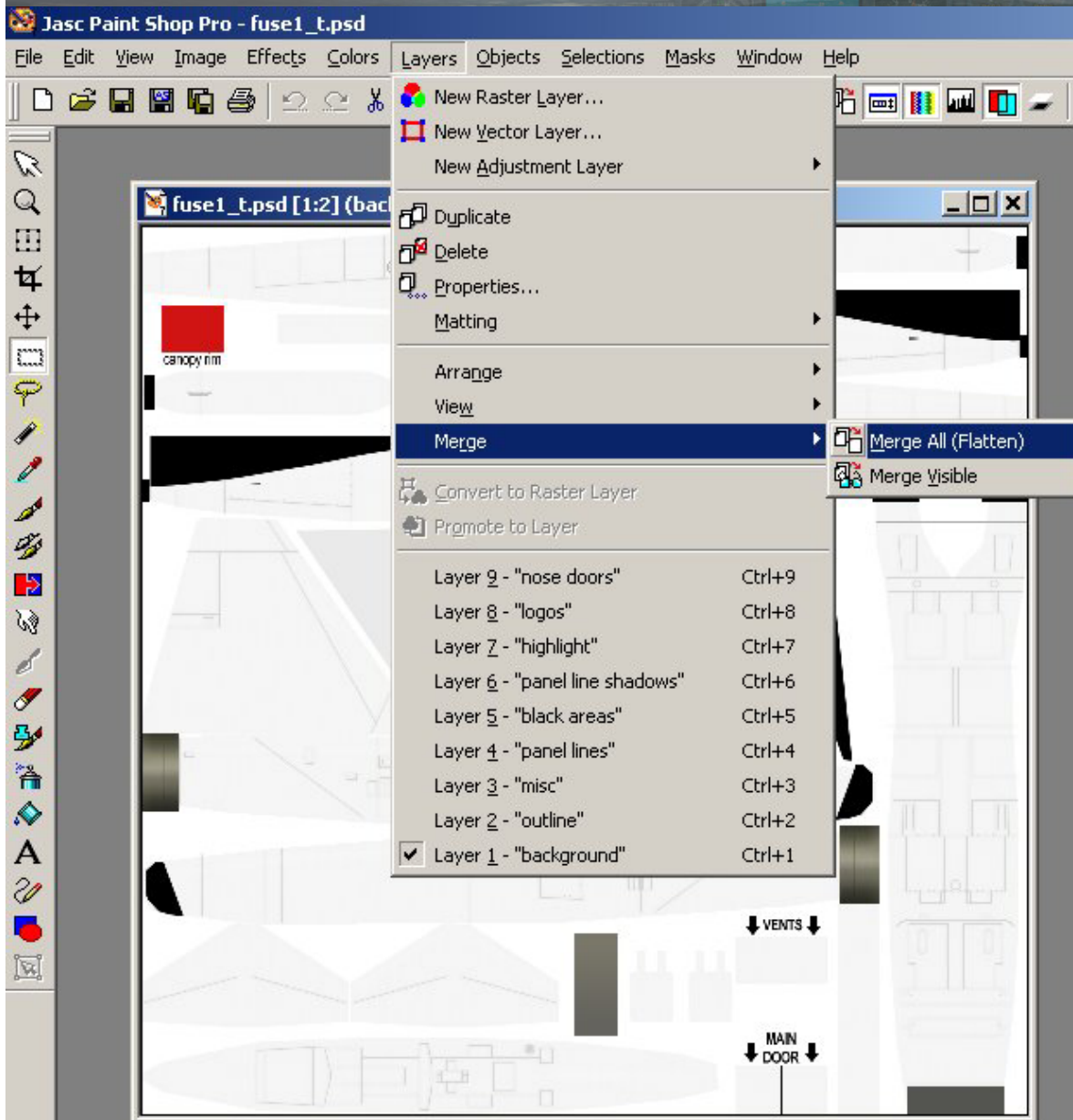
Adobe Photoshop

File Edit Image Layer Select Filter View Window Help



- New
- Duplicate Layer...
- Delete
- Layer Properties...
- Layer Style
- New Fill Layer
- New Adjustment Layer
- Change Layer Content
- Layer Content Options...
- Type
- Rasterize
- New Layer Based Slice
- Add Layer Mask
- Enable Layer Mask
- Add Vector Mask
- Enable Vector Mask
- Group with Previous Ctrl+G
- Ungroup Shift+Ctrl+G
- Arrange
- Align Linked
- Distribute Linked
- Lock All Layers In Set...
- Merge Down Ctrl+E
- Merge Visible Shift+Ctrl+E
- Flatten Image**
- Matting





We recommend using DXT3 16-bit extended bitmap format for these aircraft textures, for best simulator performance. The program [DXTBmp by Martin Wright](#) is an excellent tool for this application. You can also use Microsoft's Image Tool, which is available in the [FS 2004 Terrain SDK](#).

Configuration Files

The Porter was released with a Load Manager, which will allow users to add paint schemes quickly and easily. The Load Manager finds add-on texture folders, fills in all missing textures, and formats the Porter Aircraft.cfg file automatically, so that the new paint scheme will be available in the FS 2004/Select Aircraft menu.

In order to accomplish this, the Load Manager makes use of two configuration files, which **must** be located in the add-on paint scheme's texture folder:



- Paint.cfg Contains display information on how the new paint scheme will be displayed in the Load Manager's information window, and in the FS 2004 Select Aircraft menu
- Aircraft.bmp Image to display in the Load Manager's view window.

Paint.cfg File

The Paint.cfg file within each texture folder determines how the new paint scheme will be displayed in the Load Manager's View Window, and also, contains entry data for how it will be described in the Select Aircraft menu in Flight Simulator. The Paint.cfg file contains eight entries:

scheme=	Defines how the entry will be displayed in the Load Manager's information window
ui_variation=	Defines how the paint scheme will be defined in the Porter Aircraft.cfg file, and in the FS 2004 Select Aircraft menu
texture=	Literal name of the texture folder you have chosen. For example, the texture folder name for the Liberty paint scheme is texture.liberty. The entry in the Paint.cfg file is texture=liberty
atc_id=	Defines the tail number for the Aircraft.cfg file, and for the FS 2004 ATC feature.
title=	Unique title for the entry in the Aircraft.cfg file. Make this name as unique as possible, to reduce the possibility of duplication with someone else's paint scheme. The FS 2004 menu system will not deal with duplications!
description=	Another entry for the Aircraft.cfg file.

Best results will be obtained by not adding any space between the entry's "=" sign and the data. Here is an example for the N320CA paint scheme by Janey Gelling. The paint scheme is located in a folder titled texture.N320CA:

```
scheme=N320CA
ui_variation=N320CA
texture=N320CA
atc_id=N320CA
title=Piaggio P-180 Avanti N320CA
description=Piaggio Avanti by FSD for FS2004 Paint
Scheme by Janey Gelling.
```

The Load Manager also utilizes a view window, so that users can see what the individual paint scheme looks like. It is a convenience feature, and is in fact optional. If no image is provided, the Load Manager will simply not display anything.



If you don't want your new paint scheme to look like this, you will want to provide your own image for users to see:



The image should ideally be 293 x 297 pixels. It can be either 8-bit (256 color) or 24-bit (16 million color). The name of the image **must** be:

Aircraft.bmp

In practical terms, you will find that you likely will not lose image quality reducing the image memory size to 256 colors, but the difference in file size is significant. So from the standpoint of economizing on bandwidth, we recommend you use 8-bit 256 color images. But it is your choice.

Putting It All Together

Since the Load Manager formats everything for the user, and copies all of the generic textures you did not paint from the aircraft's main texture folder automatically, it is not necessary, **and not desirable** for you to upload all 18 aircraft textures for your new paint scheme. The only



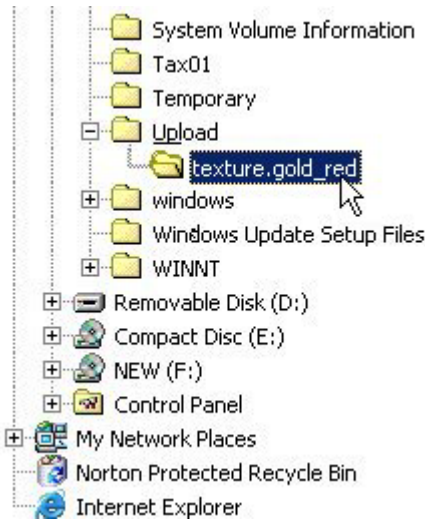
files you should upload are the ones you repainted. The Load Manager scans the aircraft folder structure when it is executed. If it finds these five textures:

- FSD_p180_body1_T.bmp
- FSD_p180_body2_T.bmp
- FSD_p180_nacelle_T.bmp
- FSD_p180_wingL_T.bmp
- FSD_p180_wingR_T.bmp

It will recognize the folder as a new texture set, and copy the other textures from the primary texture folder automatically. If you do repaint an additional texture, such as p180glass_T.bmp, the Load Manager **will** recognize it, and **will not** overwrite it. But from the standpoint of economizing on bandwidth, it is certainly wasteful to upload files unnecessarily. So give the folks who will be downloading this a break. Just upload the files you repainted, and let the Load Manager do the rest.

Zip It Up

The best way to do this is make a new folder on your hard drive, called "Upload", for example.



Inside that folder, create a sub-folder titled as you want it to appear inside the Flight Simulator 9\AIRCRAFT\FSD Piaggio P180 directory structure. Place your finished repainted * .bmp files, your Aircraft.bmp file, and your Paint.cfg file inside that sub-folder. We recommend you format your zip file according to the flightsim.com website's Developer's Tips. This format will pretty much be suitable for wherever you want to upload. The FSD Development Team **highly** recommends the flightsim.com file library and the AVSIM library. You will want to put your zip file together like this:

File_ID.diz	Contains the text as you want it to appear in the file library description
..gif	Small screenshot of the aircraft with your paint scheme, as it will appear in the file



	library
Readme.txt	Some basic instructions for the user
Texture Folder	Named as above, like texture.jump_plane, etc. Contains your completed files.

So your Upload folder you created should look something like this:

Name	Size	Type
texture.koreanAF		File Folder
File_ID.diz	1 KB	DIZ File
Mypaint.gif	35 KB	Paint Shop Pro 7 Image
Readme.txt	2 KB	TXT File

Select an item to view its description.

See also:
[My Documents](#)
[My Network Places](#)
[My Computer](#)

Then just zip this file up, using WinZip, or a comparable program, and you are set to go!

texture.koreanAF	File Folder
File_ID.diz	1 KB DIZ File
Mypaint.gif	35 KB Paint Shop Pro 7 Image
Readme.txt	2 KB TXT File

- Open
- Print
- Print To
- CuteFTP upload
- Scan with Norton AntiVirus
- Open With
- TextPad
- UltraEdit-32
- Add to Zip**
- Send To
- Cut
- Copy
- Create Shortcut
- Delete
- Rename
- Properties

Copyright and Distribution

The texture files being repainted remain the copyrighted property of FSD International. Repainting the Avanti is fine as long as appropriate reference is made in your uploaded file,



referring to the original authors (FSD), and as long as you do not distribute copyrighted files other than the five files listed in this document.

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Special thanks to Janey Gelling for use of her wonderful repaint for use in this tutorial.

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