

S! pilots

This set of wingj010.dat / wingj009 / wingj008.dat / wingj007.dat / wingj006.dat and wingj003.dat file is a new set of wings, result of a joint SWWISA (www.swwisa.net) effort.

It is NOT a Flight Model patch, it is a correction of most of the Wings (wingj0xx.dat) in RB3d to

=get rid of ueber

=better matching flight characteristics

credit to the ingenious:

- KPijon
- Midnit Mike
- cpt Royce
- Zinteck for the damage model
- Rens, that's myself :) .

These wings work in \*AFM\*

= ftparam3 (the flightmodel) is a for max speed adjusted version of sierra's stock afm.

*If you want to use these wings in your own FM patch, you should FIRST adjust the maximum speed by altering the total body drag field (#42) in ftparam3.dat!!!!!!*

*after that, I wish you happy tweaking.....*

=> PfalzDIII uses a modified FM version of the pfalzDXII because the sierra FM could not fly the new wing. I would appreciate it very much if some FM wizzard fixes this issue.....

==> All other planes: No other changes.

### **The changed ftparamS.dat is important and required !**

=> The easy landing flightmodel, #44 in ftparamS.dat used in Single Play for all planes, uses the wingj001 (this wing (the location of the standard foil of RBII in RB3d!! ) is not altered by this patch) to make sure the planes can land normally. Also the engine power is slightly increased, to make things work when landing... (landing FMcode is still RBII in RB3d and of course is not adjustable to the new wings)

= XXdamage files are Zinteck's v3.1 damage model. They try to follow the 'what you see you can hit' (WYSYCH) idea and have a fuel tank modeled (no such thing in Sierra's stock damage files) the FE2b and Sopwith Strutter have no adjusted dmg model, hopefully this will get fixed in the near future...

The pfalz DXII pilot is back to human proportions.....

to test in MMP, drop the files in multi, fly solo.

to test in Single Play, drop them in shellpat

to test in both MMP and SP, drop it in Simpatch

fly solo in MMP or setup a AFM server.

====> **server SECURITY must be OFF !!!!**

( and you might want to setup RSS if others can enter that server.....)

fly now in SP,

====> **make sure the flight model is set to "Advanced" in the realism pref panel.**

As far as tested, in SP & MMP the ueber effect is gone. You will at least not be able to use it if any, in a combat situation.....

All planes using e.g. wingj003 were suffering (to a different degree) from this "ueber" flaw.  
(albatrosses / fokd7 / snipe)

We believe, the fault is in the Sierra wingjxxx file.

It allows (in the case of wingj003) a stall angle of 28 degrees, which is unrealistic to put it mildly.

Other wingj???.dat files have more realistic values but some do also ueber, to different degrees. This is also to do with the fmparam3 file and more specifically with the engine power / drag / wing -lift -moment combination.

In short, as far as we experienced now, there is no such thing as a **non-uebered wing**.

**That means there is always a way to make a wing ueber..... when fmparam3.dat is modified to do so.....**

**It will, however, in general be a lot more difficult to do and keep seemingly realistic flight behaviour. Which means simply put that FM modelers can concentrate much more about the flight characteristics of the plane without having to worry too much about the uebering phenomenon.**

These new wingj???.dat keep normal behaviour as you know it (more or less....) in AFM, but the ueber is gone.

If you take damage, the max speed goes down, and climbing performance goes down as well... if you keep taking damage, you will be forced to land.

Like it should!

Target of this effort:

- To get (the basis of) better historic (? when did you fly a camel? know anyone that did? ;) flight characteristics, and get rid of the "ueber" bug.
- To provide FM modelers with a better set of wings to choose from, so they can concentrate on FM, not fighting with "uebering".

We did get rid of the ueber bug, simply by adjusting the wings.

Getting the FM 'right' is a matter of taste, and not this team's objective.

====>

Top speeds were measured at +/- 400 m ( approx 1300 ft ) and 1000 m (approx 3300 ft)

Hopefully since the planes are a little "closer" to each other, we get to see more fight and less run.....

==> planes are behaving a little different, in general more stable....

==> the infamous irrecoverable stall of the camel is gone. that is, you can recover if you are a little lucky and not too close to terra firma

==> NO changes to the flightmodel (fmparam3.dat), except for the ForeFPA parameter, which is used & meant to tune the maxspeed of the plane.

==> one exception is the pfalz DIII which couldn't fly the pfalz wing (wingj007). this was fixed by giving it the basic pfalz DXII FM, but tuned down to expected performance (by changing ForeFPA); obviously this fm should be fixed.

Hopefully these kind of things will be fixed in the future, if the FM talented people take it from here and adjust their flight model to the new wings / make their own wings.

For a fact most FM modeling was very much targeted (for good reasons) to 'getting rid of ueber'. That is no longer a big worry / manageable, so hopefully better and more flyable, more accurate or more "fun" characteristics can be achieved... whatever the target of the FM modeler is.....

Some information:

*(italics indicate non-flyable planes)*

Wingj002

not checked or changed yet.....

Wingj003:

It is based on the actual ALbatros wing (GOE173 profile) from original data measured in 1919, available on the nasa website (NACA archives)

- Albatros II III Va
- *Albatros CIII*
- *Roland CII*

wingj006:

- camel
- pup
- *sopwith 1 1/2 (strutter) SP only*
- Sopwith Triplane
- Sopwith Snipe

a Pfalz wing, made to resemble the "sopwith" wing from NACA report 124

wingj007:

"pfalz11" GOE79 wing, same information source, said to be a copy of the spad wing ( the pfalzDXII wings were designed as a copy of captured spad s13's -that is, their wings)

- spad s7
- spad s13
- pfalz DIII
- pfalz XII

-wingj009

- SE5A wing
- *bristol fighter, non flyable in SP)*

wingj010:

based on GOE298, the Fokker DrI wing. Also from 1919 NACA report (#124) and based on these NACA data.

Fokker DrI

tuned the FPAdrag in the wingJ010 (==>!Not in the fmparam3.dat!!) adjusted (AI couldnt fly it, too high)

Fokker DVII

What is Ueber?

in short, "Ueber" is when a plane that has taken damage to wing surfaces does not suffer climbing performance, and on some planes even increases performance.

Also the level (shift A) speed does not decrease, or even increases for some planes.

What is stall ?

- the plane doesnt "float" on the air anymore, the wing loses its "lift".

there are two possible reasons for that to happen:

- too low airspeed (obvious). this happens when you nose her up, and try to hang on your prop. The engines of WWI planes are not strong enough to lift the plane by themselves, consequently you drop due to gravitation downwards to terra firma.....

- too steep angle of attack in relation to the direction of the airflow:

this typically happens when you nose down abruptly (thats the cutting out of the engine, yes...)

or nose UP to abruptly: the underpressure on the top of your wing "breaks", the air flowing over the top and over the bottom do not join at the trailing edge anymore. underpressure fails, and the wing does not "Lift" anymore...

Caution: this "breaking" or separation can and does happen at any angle:

e.g. if you dive steady at e.g. 30 degrees, wing and airflow have the same direction:

Angle of Attack (AoA) is 0 (zero)

when you abruptly nose down or up , the wing moves in a different direction than the airflow. This angle is called the Angle of Attack of the wing.

this is by no means finished work, and certainly NOT a Flight model patch, although it affects damage aspects & behaviour heavily ( and positively, we believe...)

comments / observation / insights

are very welcome!

please post on SWWISA's delphi forum (preferred) so we can share information more easily

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