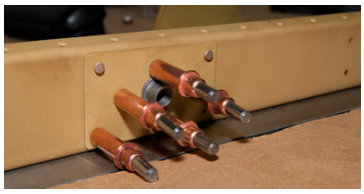
**Rudder work - 5/3/2011 - 4h**

Category: 1.3. Rudder
Published: Sunday, 06 March 2011 16:54
Hits: 1926

Saturday started well but ended early in drama by lacking an extension piece for my torque wrench.

First, we completed the backrivetting of the stiffeners to both skins.

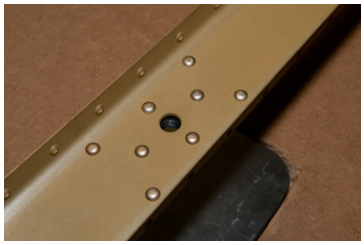
The first step in assembly of the rudder is to rivet the reinforcement plates and the K1000-6 platenuts to the front spar.



I used Fred's pneumatic squeezer again to set the 4/32'' rivets. Nice results.

Only drawback is that there is a small impression on the factory head. The die does not perfectly fit the rivet head. My next size is to big and would make it even worse so stick with this one.

Front side of spar:



Back side of spar :

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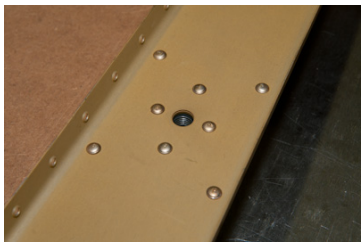
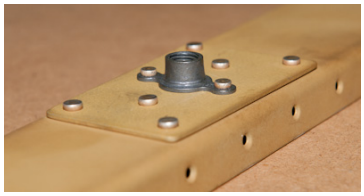
Second plate font side:



Rear side:



Then install the bottom rib and all related components.

After rivetting, it looks like this:

Here the reinforcement plate goes on the front side of the main spar. All parts nicely align.



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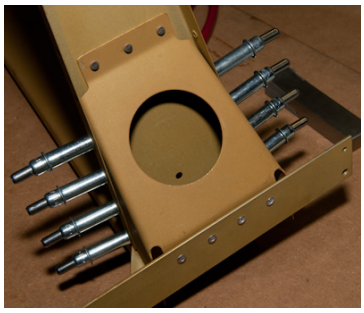
The rudder horn is rivetted on the main spar using solid rivets. You can optionally go with pop rivets here, but by the sequence I am building the rudder in (enforced by later inspection possibilities) I used solids AN470.

On the bottom side of the horn, the rear side is inaccesible, so used the pop rivet substitutes here as called on in the plan.



I had the grind down a bit from the sides of the lead block (counterweight) to allow clearence from the rivets. It won't lay flat if you don't. Unless you stronly over-set the rivets.
After reading in some other sides, found that most of the builders have to do this and that it causes no problem in weight difference. I prefer this over weak joints in the rivets.

After doing this, I realised that I have no extension arm for my torque wrench for 1/4" bus. Damn ! Only 2pm and have to stop by technical problem... I went to 5 shops but couldn't find one. Finally found one from a family member.

This is the state so far, waiting to apply the counterweight.



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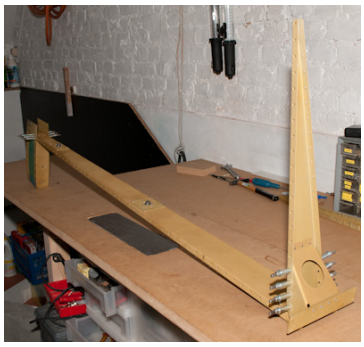



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