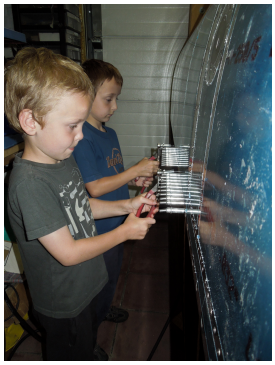
Rivetting aft line leading edge to spar - 12/07/2012 - 5h30

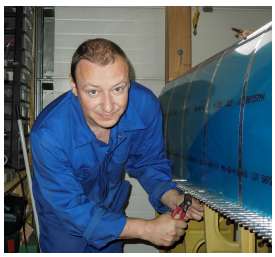
Category: 2.4. Main Wings
Published: Thursday, 12 July 2012 09:15
Hits: 1792

After succesfully rivetting the ribs of the leading edge to the spar, it is now time to rivet the rest of the leading edge skin to the main spar.

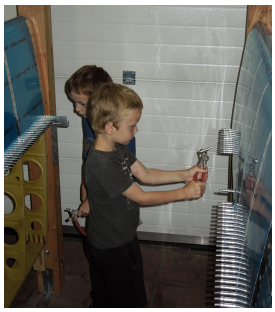
To start, there are a lot of cleco's to attach the skin to the spar. Fortunatly I got some help from the boys.



Yep, that's me...



Robin in true ninja style



Once they were all clecoed, started rivetting the 3/32 rivets using the pneumatic squeezer. Tried different ways and positions to do this but the best was to hold the squeezer in opposite direction and squeeze them standing in front.

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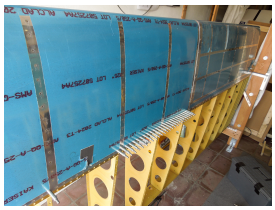
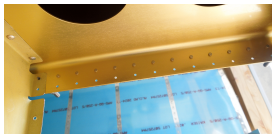


The result was very satisfying. All rivets very consistent and nicely flat.



View of the workshop from outside.

The master at work. Look how I'm holding the squeezer. Upside down and the right fingers inside the yoke. This allows you to control the height and distance by leaning with the hand against the spar.

Only one beauty mistake. Since that last rivet inboard was so close to the rib, I needed to use the no-nose yoke. By doing so, I didn't pay attention and squeezed one of the rivets of the nutplate for the tank. I was thinking at first of removing the rivet of the nutplate, but then realised that the rivet sits half way under the skin of the leading edge. So there is no more room to remove it.
If I want to remove it, I would have to drill out three or four excellent rivets to replace this nutplate rivet.
The function of the rivet in the nutplate ear is to keep the nutplate

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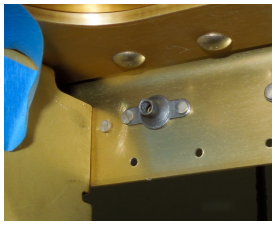
in position while screwing in the 8R8 screws from the tank. There is no real tension on these rivets so decided to leave them as is and follow the typical advice from the Vans engineers 'Build on !'



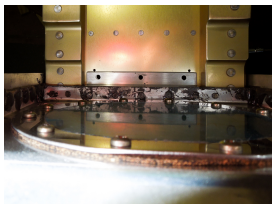
Both leading edges done !

Another milestone reached.

Then installed the tank on the spar to check the join again between tank and leading edge.

I noticed that this was not as easy as expected. There was a small misalignment on the z-bracket on the inboard side of the tank. I guess this is cause because of too much pressure on the tank while strapping it down to the spar when matchdrilling the z-brackets.
I'll have to re-drill from the back through the spar and 'elongate the holes' in the zbracket as also described in the manual.

It was very hard in the beginning to get the tank z-bracket bolt screwed in. I noticed that this was caused because I did the screws on the skin first. It's actually better to first put in the bolts through the z-brackets and only install the skin to spar screws later. The alignment is better.



Then installed the screws in the tank to leading edge W-423 joint plate. I had to re-level the spar and got good alignment between both skins.

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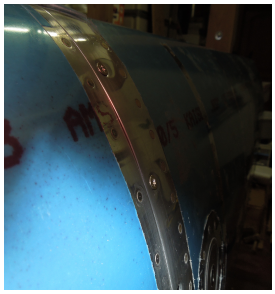
One beauty problem, the skin bulges or 'curtains' up a little on the front side of the wing. It's only a small bit but has to be solved for cosmetic reasons. I think I will follow the approach of putting a little shim under the leading edge rib. (described also in this vans airforce article)



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