

Category: 2.9. Wing mating

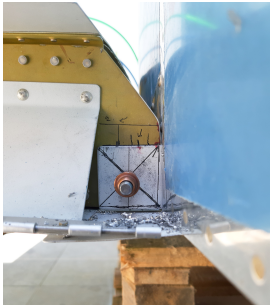
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Hits: 869

Yesterday 18th, I had another full day of measuring and finetuning. Basically trying to convince myself everything was perfect now and ready to drill the pilot holes.

I kept reading small variations of 0.1 degree on the incidence measuring between inner and outer area's of the wing. (only weeks later I found out that my difference was caused again by something I learned before but forgot about over the years. The wing walk doubler actually has also some extra height under the inner wing skin and adds a fraction to the level. So that most inner reading is actually normal to be tenth of a degree of).

I decided to take the shot and with shaking hand drilled the first #30 pilot hole in the fuselage fork and through the rear spar on the left wing. I used a metal block with a predrilled hole on the benchdrill to ensure holding the drill straight.



I immediatly checked the position of the hole on the forward part of the fork and saw that my vertical line indicating the predicted location of the hole was quite accurate. Edge distance on the fork looks perfect.



Then did the same on the right wing.

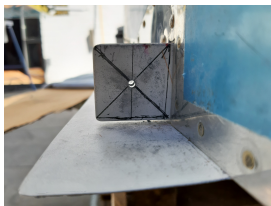


Also here, the hole location on the back looks very good.

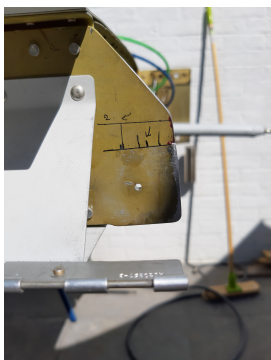


To make sure all was fine, I took both wings of again and measured the fuselage attach fork edge distances as well as the distances on the rear spar itself.

As you can see in the pictures below, edge distance is fantastic on all parts.



Het is the rear spar on the left wing.



Rear spar on the right wing.

19/05/2020 - Drilled the holes mating the wings - 10h

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Then it was time to enlarge the hole for the final AN5 bolt size on the left wing. I used an undersize drill bit and finally enlarged with various reamers until I got a snug fit of the AN5 bolt in the hole.



All still looks good.

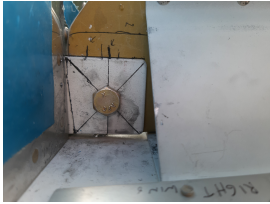


Then did the same procedure on the right wing.





This is how it looks with that massive bolt inside.



As you can see, there's plenty of edge distance in the rear spar attach.



One thing worried me a bit. Although I used a drill block to make the initial pilot hole and have it straight, I found out that the bolt sits a bit tilted in the fork. Reason, using the wrong rivet line to look if the drill bit was held straight.

I hate it when such stupid things happen. I contacted Vans support on this and suggested to add some filed washers on an angle to support this and have a flat surface.

This is the response of Sterling on this:

"Filling a set of washers to match these angles and gluing them to the face of the fuselage bars would be an acceptable work around and is all I would attempt to do. Other than that what you have appears to be perfectly acceptable. I expect this assembly would be fine without the filed washers but if you add them it arguably should be on both sides so the bolt head and nut are on flat mating surfaces. Might require the next size up bolt be used."



left wing final size hole edge distance.



The tilting on the bolt is better on this one but also still slightly tilted. I'll go with the filed washer solution on final assembly.

