

Category: 3.2. F-704 bulkhead

Published: Wednesday, 02 January 2013 13:20

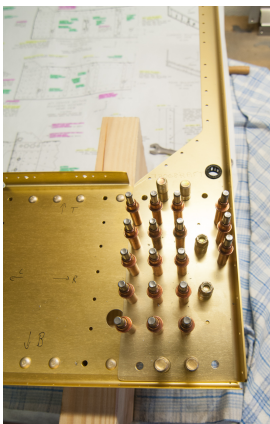
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More work on the F704 center bulkhead section.

Clecoed the F704-C and D in place. The manual calls for usage of at least 2 of the NAS close tolerance bolt to insure proper alignment when matchdrilling.

These bolts fit really tight. When you put some boelube liquid on, they slide little better but still it's a very tight fit. Had to give some of them a light tap with the hammer to get them out again.

Matchdrilled all holes to #30. There's lots of em, the part looks like a nailboard.



Then bolted the F704-G vertical bars in place and bolted them. The AN4 holes in the vertical bars come predrilled. All you have to do is drill the two holes to #30 for the two AN426AD4 rivets that hold the bar in place.

Vans calls for AN426AD4-14 rivets to rivet these vertical bars to the center section. These rivets are way too small and will not lead to compliance to military specifications. But... these are non structural connections. They only serve to keep the bars in place until the two larger AN4 bolts are installed. Anyway, I need to order some stuff end of this month so I'll throw in some 16 rivets but if you don't have them, it's ok to go with the 14 size.

Here's a picture from the other side with the two holes in the vertical bar drilled.

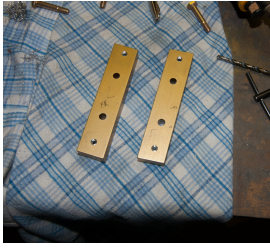


Then you countersink the holes for AD4 (flush head on the vertical bars forward side.

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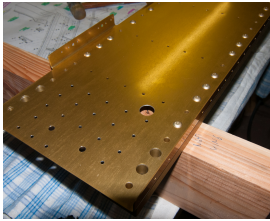
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Center bulkhead with both sides matchdrilled.

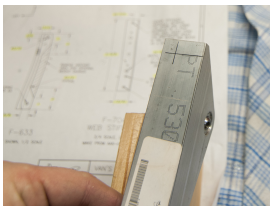


Deburring the parts is next. I took this picture because it shows nicely the nice edges on these holes after deburring.



Next job on the aft center bulkhead is to mount the control column mount brackets.

I measured the first hole as per the plans and then drilled it on the bench press. This will be the alignment hole.



Once drilled, you put a AN3 bolt through the reference hole and square the mount on the aft side of the aft center section.

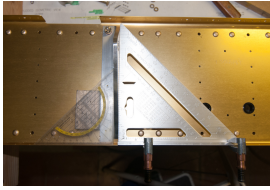
The picture shows me 'being anal again' and pushing the measurement to the limits of absurdity.

As I said... you can never be sure enough on these parts. Measure and measure again and then double check.

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Here is the reason why you need to double check what you do. The picture above shows the screw-up of the day.

The squaring and positioning is fine, but the angle is inverted. I accidentally took the right bracket for the left side on the bulkhead. I only realised when I tried to mount the control column bar. Fortunately for me, the CNC machining by Vans is close to perfect and by just inverting both angles after matchdrilling, the match still worked as good as if I would done it the correct way. Thank you Van.

The picture below shows the correct alignment with both angles installed.



Same work of matchdrilling for the forward side. Check the nice green poisonous coloured label saying that you can 'by no means' touch those close tolerance holes on the sides.



Then continued on countersinking the nutplate ear holes on the top side of the bulkheads.

This feels familiar as it's the same as on the wing spar work. I used the same technique of clamping a fat piece of aluminum to pilot the countersink pilot drill.



Worked like a charm.

704 matchdrilling - 12/31/2012 - 6h30

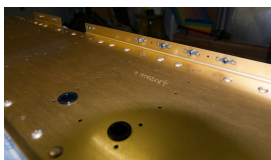
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The installed all the nutplates on both sections.



The plans look simple on this part but there so much little detail jobs on this that it actually takes a lot of time to complete.