Crotch seatbelt kit and more drilling - 28/12/2013

Category: 3.8. Center Fuselage
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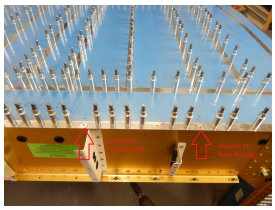
Some more preparation work is needed on the center fuselage before we can start dimpling and deburring.

One of those steps is machine countersinking hole 11 and 19 from either side in the most front row of holes on the center fuselage skin.
Mark them with a sharpie and countersink through skin and into the F704 bulkhead. No big deal.

To be on the safe side, put some tape over it to avoid dimpling them later.



Next, I decided to drill the crotch strap kit on the seat ribs. It's easier to do this now.
I could have done it even much better by removing the rib left and right as to have even more access.
After drilling my holes in the ribs were good but the prepunched holes on the sides of the crotch strap brackets were far from perfect.

So better to run the extra mile and temporarily remove the seat ribs around them.

I am planning to install the Hooker harnesses instead of the Vans seatbelts so the standard measurements on the plans that come with the crotch strap kit do not apply.
The Hooker harness requires a wider opening between the brackets to allow insertion of the crotch belt.

I sent a mail to Hooker harnesses and got the following response from Scott McPhilips :

Increasing the spacing between the brackets to a minimum of 3/8”. That way you can accommodate any of the available options for crotch straps.

I made a spacer out of wood that was exactly 3/8 inch and clamped that

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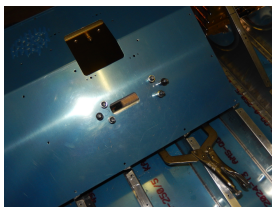
between the brackets.

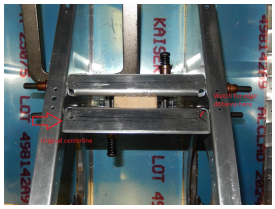
Then added the top floor plate cover and had a look at the alignment.

It's clear that the center line on the top flange of the brackets will not work as the spacing is too wide now.
I aligned for best edge distance there and drilled the left and right side of the brackets.

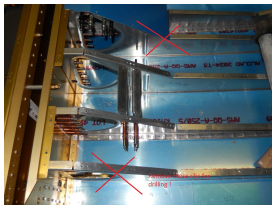
Then matchdrilled through the floor plate.



As you can see from my original center lines on the brackets, The holes are much more toward the web of the bracket as with the original Vans seatbelt spacing.



Then continued drilling the remaining holes with the angle dril. I'll repeat what I said earlier. It's better to remove the seat ribs left and right of the ones where the crotch brackets sit. That way, you would be able to use the normal drill and it would be much more accurate.



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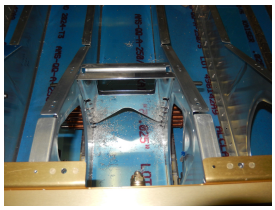
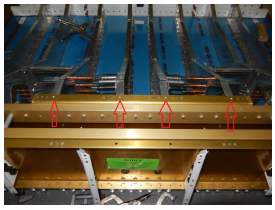
View from the top.

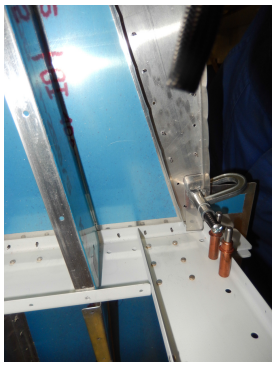


Did the same for the other crotch strap brackets.

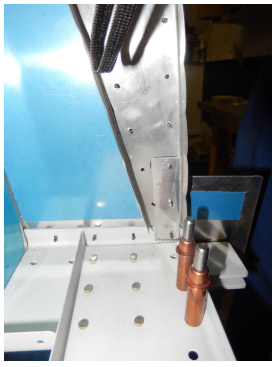
Next, I machine countersunk the top holes where the top flange of rear side of F704 connects with the seat rib.



Then drilled the small F623A-FWD attach straps to the F623-L and R corner ribs.



Clamped them in place and drilled.



One rivet is a bit in the way so I'll have to cutout a small portion

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later. This is normal, every builder has to do this as the measurements on the plans are too wide.

Next I positioned my original F623A-AFT attach straps and found that the edge distance would be very small. I decided to make some new attach straps that would fit the assembly more. It looks kind of funky but the edge distance is much better now.

That completed all the matchdrilling work.

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