

21/02/2017 Cutting fuel pass through in F7101

Category: 3.9. Forward and Center fuselage
Published: Wednesday, 22 February 2017 09:36
Hits: 1502

Here's one of these things that's not explicitly mentioned in the manual or on the plans but that should not be forgotten.

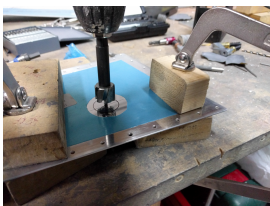
The F-7101 gear attach doublers are installed on both the RV7 and RV7-A version. On DWG28, there is an instruction to enlarge a pilot hole to lynch for the fuel line pass through rubber grommet.

Since the F-7101 butts at the same location on the inside, the pilot hole there also needs to be cut to 1 inch as the fuel line will also need to penetrate the side of the aircraft at that point.

Some caution here. I read on many sites that some builders just cut the 1 inch hole on the F-7101 using a 1 inch cutter and go with that. They found out that there are alignment problems if you do that.

There for (and also because I don't have a lynch cutter I admit), I decided to follow another methode which is a bit more "crafts work" but gives excellent result.

It started bu cutting with the largest cutter in my rotacut set which is still way undersize of 1 inch just using the pilot hole.

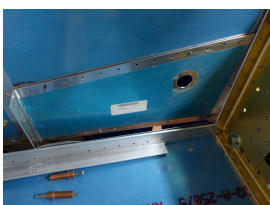


I then removed all my auxilliary longerons and the bottom longeron from the side skin and peeled back the side skin.

The reason I did this is because I want to line up and mark with a sharpie pen the already existing enlarged hole in the side skin with the F-7101 "to be" cut.

Since the F-7101 normally sits on top of the longerons, that would not be possible. I wan't both skins to butt to eachother in order to make a nice copy-drawing.

In the picture below, you see that the F-7101 can easily be clecoed to the side skin if you pull it away.



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So now this is the view from the outside. I can easily transfer the hole of the side skin on the F-7101 remaining surface.

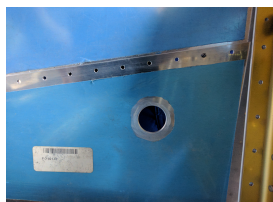


Once that is done, I used a dremel tool to cut off the major parts and finished it off by hand with a small rounded key file regularly measuring with a caliper for 1".

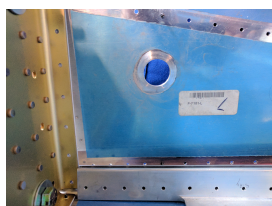
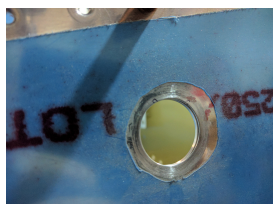
Fitted it in place again "et voila" a nice match.



View from the inside.



Did the same trick then on the left side and got a similar good result.



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One thing that I didn't found immediatly is the question if the rubber grommet is put over both holes at once, or if there is only a rubber grommet in the first and the second hole is left open, of if both holes take a rubber grommet.

I checked out some builder sites and it seems that both holes take a rubber grommet. That will be fun to install once I make the fuel lines as it looks like a very thight fit.

Another option I discovered is on Dan Checkoway's site. He has cut out some lightning holes from the F-7101's. After all, we are not building an RV7-A and these parts don't look like being structural for an RV-7 and this is beefy 063 material.

Couple of ounces here and there... Still thinking about it and will decide .

The more I look at the reassembled place, the more stuff I found that I still need to do before priming. Discovered that I still have not deburred and dimpeled the bagagge compartment bulkhead and covers. Also found out I forgot to countersink the forward #30 holes that attach to the steel brackets. At least I know now why the fit of the side skin to the longerons looked so horrible :)