26/02/2017 - Running conduit in baggage and seat area - 4h

Category: 3.9. Forward and Center fuselage
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Another small task before final assembly which is much easier now than after final rivetting is running some conduit underneath the seat pans and baggage ribs for future electric wiring towards the back of the plane.There are some bushings foreseen in the center of F705 and F706 but I kind of not like the location of those. Running wires near to the elevator pushrod seems pretty strange to me. I'm probably over worrying here but it's also a matter of running the wire later on underneath closed surfaces. Using a conduit, you get to the possibility to run a push/pull wire in here and will be able to run new wires once the seatpans and baggage ribs are rivetted. That's why I decided for a setup with 2 conduits.

First conduit will be on the pilot side running from the harnass support bracket (because the forward seat pan comes off with screws to be able to access the control systems. This one will run to the back of the plane and come out after the F706 bulkhead. I used the pilot side because the elevator trim is also located on the right side and as such I can keep all wiring on the left side of the tailcone and away from the elevator pushrod system.

Second conduit wire will run from the right (passenger) side harnass bracket compartment into the baggage area and stop there. I plan to install the ELT in this compartment and make a modification to the baggage cover to be accesible with screws.

First I marked the location of the holes through the bulkheads. I took the center of the two ribs (baggage and seat rib) and marked the location just high enough to be over the stiffener on F-705

Knowing this location now, I could measure the height that my brackets need to be inorder to support the conduit on both sides.

The fact that the hole is centered also means that the brackets will be equal height for left or ride side.

I needed 6 brackets. 4 in the seating area, 2 in the baggage area.

To make the brackets, I took 0.025" stock sheet and cut 1.5" wide strips.
Using a template then marked a 1.5" radiused arc on each end.

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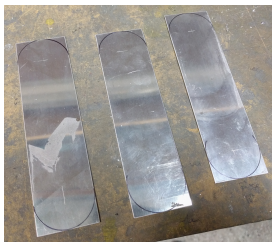

Then used snips and grinder to round the corners.

Then measured center location on the strips and cut a 3/4" hole using the bench drill. First a #40 pilot, then with the rotacut tool.

Finally measured height and drawn a second line underneath for the end of the flange.

Then cut the pieces in half in the middle and clean the bottom up and round the corners

Then Drilled #40 pilot holes for the rivets in the flanges.

Finally took the small bending brake and bent the flanges. Et voila.... you made yourself some support brackets.

Then cut the holes in the bulkheads using pilot drilling and rotacut tool to 3/4"

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F-706 pass through. 1 location

And drilled the brackets in place. I made sure that the conduit is not running up and down too much so aligned the brackets accordingly eyeballing through the holes of the brackets.

It's too much of a job to run the conduid through the brackets so just put it in for the picture to give you an idea in which compartments I'm running them.

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