

Some general wing work done in the process of finalizing the wing work.

Next on the list was attaching the Dynon pitot tube to the SafeAir1 pitot mast.

The pitot mast opening in the skin was cut out at an earlier stage and now it's time to make sure the mast sits tight in the mast.

The pitot is used to measure airspeed and angle of attack. The airspeed is measured by subtracting the ram air (the air that hits the tube in line of flight, also called dynamic pressure) from the static air. This static air is the barometric air pressure measured outside of the air stream (just like the little weather station on your living room wall does). Subtract the two and the systems that attach to it, can deduce indicated air speed from it (in my case the Dynon Skyview system).

The angle of attack is a kind of stall warning device. When the airflow inverts, a warning is displayed in the cockpit. So I will actually have 2 stall warning devices. The one integrated in the Efis of Dynon using the AOA measurement from the pitot, and the stall warner horn in the front of the wing.

To make this installation, all you have to do is make 4 screw connections using 6R6 screws. Sounds easy, but it's actually a bit tricky.

The difficult work in this is: you need to tap the drilled hole for the screw to attach, you have to drill carefully because of the tubes inside and you have to countersink on a non flat surface.

I started first by marking extension lines on the mast that indicate the center of the taps where screws have to be on the pitot tube.

The drilled the holes in the mast with a pilot drill.

Next, taping the tube in the mast in it's final position. Just to make sure it doesn't move during drilling.

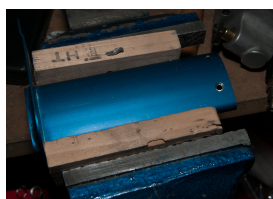


Next, drilled through the tube. Be careful here. The two aluminum tubes that transport the air (the main component in this mast) run really close to the end of the taps you are about to drill. A small hole in those tubes, and you can re-order a new one.



Next step is countersinking the holes in the mast. This is a real pain.

The countersink cage can just be used to start the process but you will have to finalise it by hand using the swivel deburr tool. Countersinking on curved surfaces is a real pain in the ass. The whole can impossibly stay concentric, so it's difficult to judge direction. In the end, it turned out well.



Here is a final shot with the screws installed flush with the curvature of the mast.



As a last step before final mounting (when bottom skins are rivetted on), I countersunk the skin to mast holes.



This one can go aside now. Another small task done.