

Yesterday, we had the opening or with a nice word 'vernissage' of the exhibition of the photo club where I am member. Long story short, this morning I had a terrible hangover after having way too many Leffe.

Fred stayed over and insisted on doing something usefull today on the project. We decided to cut the hole in the left wing bottom skin for the Safe-air1 pitot mast.

I just received my replacement for the pitot mast. I had a crack in the weld of the previous (gold colored one). Safeair has made a new generation mast with different weldings. This time I see no cracks and the mast itself seems more solid.

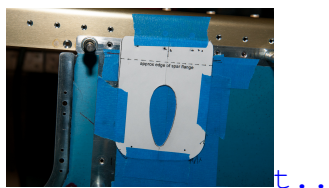
The pitot mast is a odd (aerodynamically) shaped cylinder in aluminum that will hold the Pitot tube. For the non pilot-readers. The pitot tube is a small probe tube that has an opening in the front directly and perpendicular on the wind. The ram air in the pitot tube provides the flight instruments with dynamic air pressure. Reducing the static air pressure from the dynamic air pressure allow speed instruments to determine the indicated air speed.

The pitot mast is installed in the first bay (next to the rib) passed the most outboard inspection hole. This is also where the aileron bellcrank is placed.

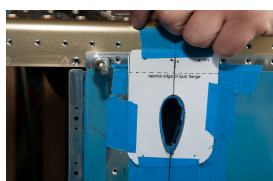
Cutout the paper template and position the template on the bottom skin. Make sure the paper sits straight as this hole that we are about to cut will also determine the angle of the pitot.

Also take care of the edge distance of the 3 rivets on the flange of the main spar.

I taped the skin with painters tape for protection of the skin.



Then made 3 pilot holes #30 and used the step drill to enlare to a size close to the template size. We were very carefull not to end up too close to the actual perimeter.



Pitot mast drill hole - 17/6/2012 - 6h30

Category: 2.4. Main Wings

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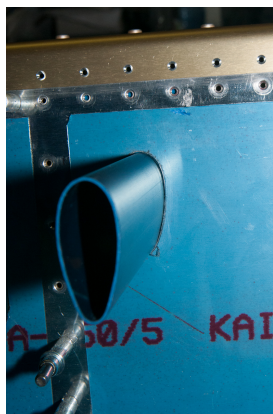
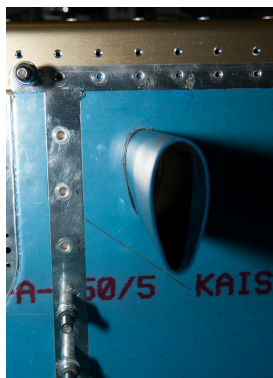
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This is what we ended up with. From here on, we used some key files to gradually increase the size of the hole, continuously checking with the pitot mast how far is left to go.

Once the material is gone... it's gone ! so go slow and check often.



It took us more then 3 hours to get to the point below. But the results is very nice. Have a look at the fit left and right of the mast. Nearly perfect fit.



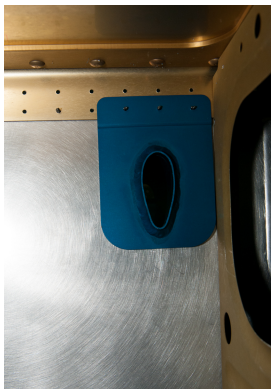
From the back side, it looks like this. As you can see, the pitot mast is not 100% straight. There is a little angle in the mast. When the pitot is in, the angle can hardly be noticed so I assume it is not a big deal.

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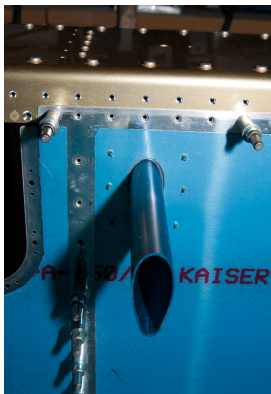
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I managed to straighten the mast slightly. For this, I had to redrill the holes in the mast through the flange of the main spar. To compensate for the slightly enlarged holes, I decided to drill 6 rivets in the mast plate instead of just 2 at then end.

Many people add a small aluminum angle on the rib and support the mast on the side. I think this is overkill and is not necessary at all.



The next day, I had another priming session. Managed to do the leading edges and the ribs and some small pieces.



In the end, I was not so happy with the result. The prime coating feels sandy. I read on some sites that it is probably because my psi

pressure on the air intake was too high. With higher outside temperatures, you need to adjust the PSI setting on the air intake to around 40.

I will have to use some fine sandpaper and scuff them lightly. I hate this, because it means scuffing zinc chromate. You can only do this with mask on because of the heavy metals. Chromate 6 is one of the most cancer invoking products around in paint industry.

The problem is the dust after using sandpaper. I clean it off with a soft wet cloth but you are never sure about the places where it falls. I have to take a decision soon what to do about the priming process.