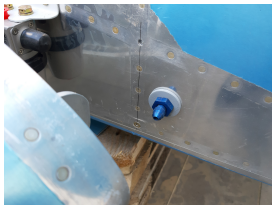
25/05/2020 - Fuel tank attach bracket - 5h15

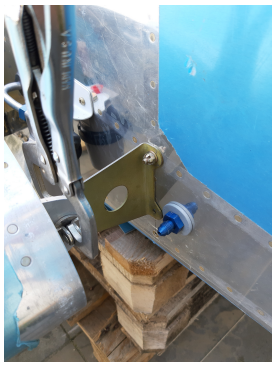
Category: 2.9. Wing mating
Published: Monday, 07 September 2020 08:19
Hits: 900

Jumping a bit from left to right in the build process and decided to attach the fuel tank attach brackets to the fuselage. These brackets stabilize the fuel tank in front of the wing.

It's a steel bracket that is bolted to the fuselage side skin and attaches the fuel tank attach bracket with a 'loose grip'.
One hole was already drilled when I made the fuselage side skin. Now it's time to hang the attach bracket perpendicular to the side skin and drill the second hole #12.
The regular way of doing this using a center line marked on the skin and then cleco the attach bracket to the top hole. Center the line in the hole of the bracket and match drill the bracket using the hole as a guide.



The bracket held in place with a vise grip. You may need to slightly bend the attach bracket in the last inch to have it mate perfectly with the fuel tank bracket. Mine fit without tampering with it.



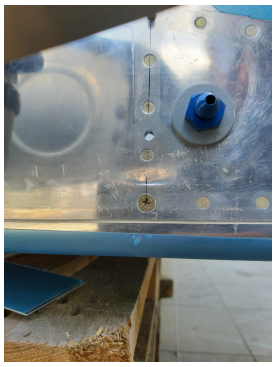
In the next image, you can see the centerline through the bracket (green).

And drill the hole, deburr

Phoca PDF

25/05/2020 - Fuel tank attach bracket - 5h15

Category: 2.9. Wing mating
Published: Monday, 07 September 2020 08:19
Hits: 900



Now the fuel tank attach bracket can be bolted to the fuselage. Clamped the bracket back onto the fuel tank attach bracket and drilled the hole through the back slot for an AN4 bolt.

As you can see, this is a 'slip bolt'. The bolt will be held in place with a large washer and a nut.
The reason why this design as such is for safety reasons. If ever you end up in a crash and the nut would be thight in a regular hole, then on impact the fuel bracket may tear out of the inner rib, destroying and opening the fuel tank.
Imagine that happening with lot's of fuel in the tank. Not a good idea. Instead, this slip bolt construction will safely detach the tank from the fuselage on impact without destroying the tank.

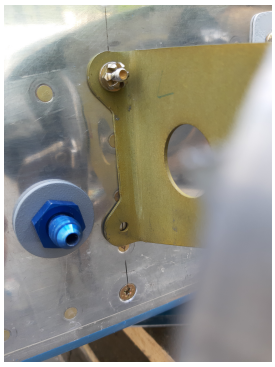
Here's a shot with the washer installed. There is no nut on at this time. Notice how the attach bracket butts nicely against the tank bracket without gap.

Phoca PDF

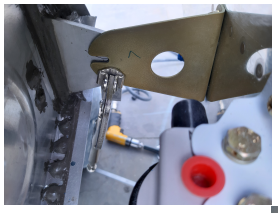
25/05/2020 - Fuel tank attach bracket - 5h15

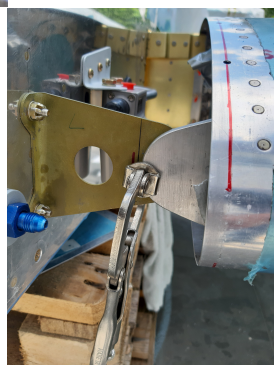
Category: 2.9. Wing mating
Published: Monday, 07 September 2020 08:19
Hits: 900

Same work now on the other wing.

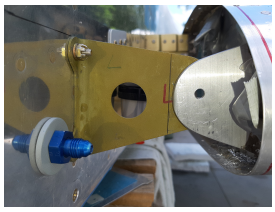


Clamping





And drilling the hole leaving lot's of edge distance all around.



Phoca PDF

25/05/2020 - Fuel tank attach bracket - 5h15

Category: 2.9. Wing mating
Published: Monday, 07 September 2020 08:19
Hits: 900

Both wings are now fully mated to the fuselage. Another step to remove from the to-do list.

Phoca PDF