Closing access plates - 10/6/2012 - 4h

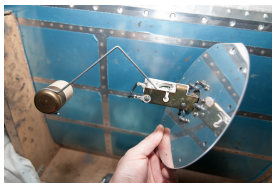
Category: 2.5. Fuel Tanks
Published: Thursday, 14 June 2012 16:44
Hits: 1947

After spending a day in Fred's workshop yesterday - helping with the parking brake installation -, I returned to my own shop for a short work session in order to close the access plates on the tanks.

I first prepared some fuel tank sealant to permanently seal the fuel sender to access plate connection. These are installed with 8R8 screw. Dipped the screws in sealant before fastening as the manual dictates.

Make sure the bending of the fuel sender arm is acurately tested before closing the tank baffle. It is impossible to see in the second fuel bay once the back baffle plate is rivetted on. Mine were both tested installed on the baffle plate but shifted one bay inboard so that the empty and full position where clearly visible and reached to the extents of the tank.

The first picture shows the fuel sender mounted on the access plates and the arm in the down or 'empty' position.



The second picture shows the fuel tank sender in the 'full' position. An electric wire will bring an ohm value between 25 and 300 to the cockpit to display the fuel level.
I will be using the Dynon skyview system. This system allows you to calibrate in the glass flight deck the min and max ohm value for empty and full.

To install the access plate, I decided to use the cork seal gasket ring until the final installation. Using the cork to seal the access cover plate is not a good idea in the long run. Many builders have reported leaks starting at the cork gasket once it starts getting saturated with fuel after a couple of years. I will remove the cork gasket on final installation on the main spar and will then close the access plate with fuel sealant.

This is how the cork looks when layed over the opening in the fuel

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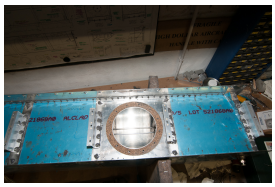
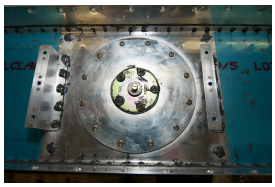
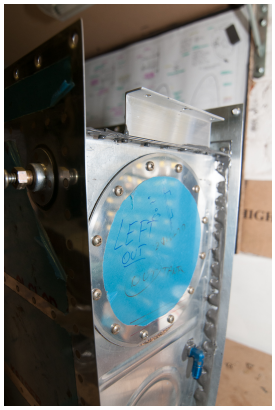
baffle plate.



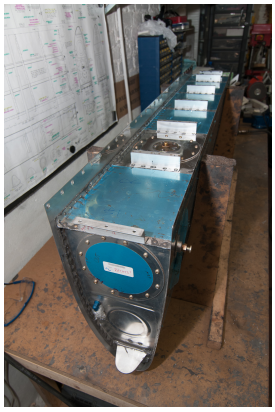
Then installed the access plate using 8R8 screws.



The same procedure on the inboard access plate.



Et voila ! The tank fully closed and ready for the leak test in a couple of weeks.



I also installed the drain valve. Be carefull when doing this, the drain valve should not be screwed all the way in.

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It is impossible to do this. This is 3/8 NPT pipe thread. Screwing the hole thing in WILL DAMAGE the dain flange in the tank. The drain valve is steel, the flange is aluminum, guess who willl win if you use a wrench and a lot of force ?

The correct procedure is to apply fuelube on the threads of the valve screw (half way, not on the top) and then screw it in "fingerthight". Then take the wrench and give it 1/2 to 1 turn with the wrench. This is more then enough.

I will still cover the rivet shop heads on the fuel tank baffle in the coming days but the real structural work on the tank is now completed...

Thank God !

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