25/07/2018 - WD-409 tail spring mount issues - 2h

Category: 3.7. Tail Assembly
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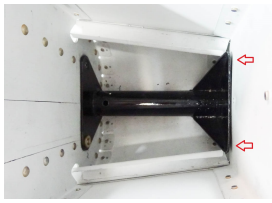
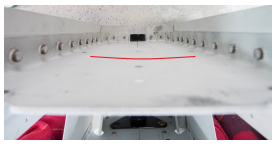
When I cam to the point of starting rivetting the aft deck, I made a re-check of all internals underneath the aft deck in order to make sure everything looked good for closing the aft deck with the F-714 aft deck plate. I checked the presence of all rivets because having to do this once the lit is on would become very difficult. While doing that inspection, I noticed that the WD-409 tail spring mount had quite a large gap between the F-712 bulkhead assembly and the mount. Scratched my head a couple of times and decided that I could not leave it like this. The F-712 will butt the vertical stabilo back spar and this is bolted with AN4 bolts in the tail spring mount. Leaving it like this would deform the F-712 too much and create stress on the material.



Looking at the F-712 from the top, you can already now clearly see the bulkhead being pulled inwards towards the tail spring mount only by the keeper rivets in the bottom of the bulkhead.



So I decided to make a shim to place between the F-712 and the WD-409 tail spring mount. The manual calls for a shim between the F-711 and the mount but since it's already squeezed in between the two bulkheads, there was no more way to move the tail spring mount forward or get it out of it's current position. The shim was made from 0.064 stock. If I had to redo it, I would not have drilled the keeper rivets holes before positioning it. I did it by holding the shim on the back side of the F-712 over the tail pipe and drilled from the inside out. However I didn't take into account that there is some welding material on the inside on that pipe and you can't get the plate comletly to the bottom. Long story short: do yourself a favor and drill the keepers rivets later.

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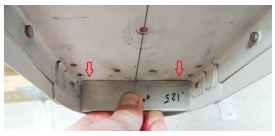
Sliding the shim in place still gave a little bit of opening left and right but very minimal. To be able to squeeze it in there (really thight) I had to use a piece of would and a hamer to be able to get it down there. I also had to remove the lower center rivets that mate the F-712 parts together in order to be able to slide the shim down.

Checking in the back with a straight piece of stock aluminum, I found that above the keeper rivets, the bulkhead was now nice and flat.

But on the bottom side where the bottom AN4 bolt will come, the bulkhead is already starting to bulge out a very little bit.



Adding another shim on the inside to close the left and right gap would even more bulge out this bottom side so decided to leave it at the average of both and not make any more changes. The spar of vertical stabilo will pull all this together when installing the AN4 bolts and this will now work fine.

Reinstalled and torqued the AN4 bolts in the F-711 bulkhead and re-set the keeper rivets.

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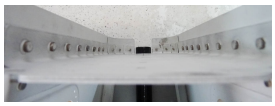
The back of F-712 looks better now and we can now proceed with the aft top deck work.



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