

Category: 3.11. Empennage mounting

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Hits: 906

Some months ago, I drilled the elevator horns when the plane was still in my garage.

The edge distance on my horns were ok but even though I used a drill block in between the horns, I managed to get the holes vertically misaligned. The bolt was tilted slightly down.

Reason being that I used a hard-wood drill block. Tip for you, get some cast iron block when you drill the horns.

Since this is a vital steering control, I did not want to take any risks and asked a friend to weld the hole on one of the horns. I also had the problem that the two elevator arms (wearing the counterbalance weight) were slightly off in alignment.

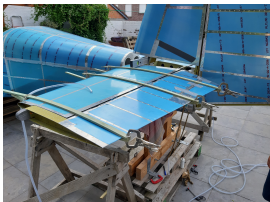
I discussed that issue last summer in Oshlosh with Gus Funnel from Vans Aircraft.

He told me that almost all RV's have the tabs unaligned. So you can not just assume that clamping the elevator tabs to the horizontal stabilizer will give you aligned elevators.

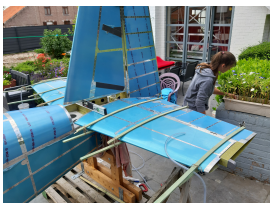
The tip he gave me is to run flexible wood strips over the horizontal stabilizer and clamp them before and behind.

In that way, the elevator follows the natural flow of the stabilo. If ou do this on both sides it ensures the elevators are aligned.

Surprisingly, the elevator horns were also better aligned by doing this.



In the next picture you see the strips on both sides



The drilling needs to be very accurate this time as I no longer have a #40 pilot hole but need to drill to final size #12 from the first time.

I made a cast iron drill block instead of wood in the previous attempt

02/07/2020 - Redrilling elevator horn after rewelding - 4h

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and sandwiched it between the horns secured by a c-clamp.



This time the holes align perfectly ! Very pleased with the result.

