Drilling longerons - 05/09/2014

Category: 3.9. Forward and Center fuselage
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in the last session, I matchdrilled the side skins to the fuselage and drilled the second row of holes in the F706.

Next step is to drill the longerons to the skin.

For some reason, I find this a milestone in the building process. It's the part where some important key pieces are fixed in their final position.
All that effort done before (like bending the longerons) finally pays of.

The process of drilling the longerons is not a big deal, but it is a big effort as there are a zillion of holes to drill.

The only thing to make sure is that the top of the angle is flat/even with the top edge of the side skins.
At the aft fuselage, this is not possible and you will see the longeron very slightly sticking out of the skin. This is because of the F711D and F710B angles.
Don't worry about it, everybody has this (saw the same thing on Hugo's RV9). There's plenty of edge distance left even with this little shift in height.

Start drilling from the aft fuselage to the front.

To make sure it's absolutly at the top position, I clamped the longeron to the F711D angle and added more clamps at F710B and further on returning the longeron exactly to the side of the skin as soon as practicable.

Started drilling with a #40 drill. In the picture below you see the clamps on the left side and the drilled part on the right. Don't clamp the hole longeron in the beginning. Move the clamps as you go so the longeron nicely follows the skin.

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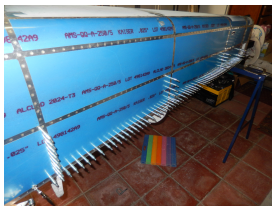
Halfway through the drilling process. Notice the places where I seem to miss some clecoes. These are the locations of the "rivet between rivets".
It took me a while before I understood what they meant here,but it's actually quite simple. The place where you see these onevenly spaced clecoes actually have 3 holes drill close to eachother. This is because between the normal spacing, they added an additional hole. This hole will be used to rivet the longeron to the aft fuselage side skin before the top turtle deck is added. (so a kind of keeper rivets). The top deck follows an even spacing for the rivet pattern.



A shot from the inside. The location between these clecoes on the inside is where the keeper rivet is located.

And in the next shot, the passenger side is completely drilled. Time for some rests and start all over on the other side in the next session.

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