Matchdrill Skeleton Wings - 05/11/2011 - 11h

Category: 2.4. Main Wings
Published: Saturday, 05 November 2011 16:25
Hits: 1553

In front of matchdrilling the wing ribs to the skeleton, I had to do another attempt to get my spars completely level.

I'm convinced this is not required at this stage but it was a nice exercise for when they have to be perfect when matchdrilling the skins.
To ensure getting a stiff spar, I clecoed the top lower skins on the spar. Then measured on inboard and outboard to have the spar level.

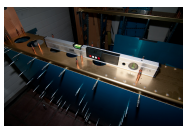
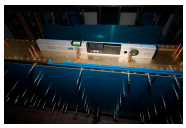
Although all was level on top side, when measuing the bottom distances from the plumb bobs, I was still about 3/32" off. I fixed that by pulling the location inboard where it was to short 'in' and clamping it with a C-clamp to an aluminum angle supporting the rear spar. Surprisingly, that was all it took and the top side remained level.

Here is in short the summary of my measurements. Recalibrated the level before starting measurements.

Left Wing:

All measurements show 0.0" degrees

Sequence of the pictures:
1. Inboard cross spar for twist
2. Outboardcross spar for twist
3. Outboard top spar inclination
4. Mid top spar inclination
3. Inboard top spar inclination

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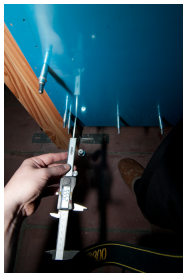
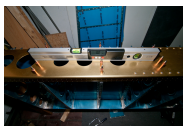
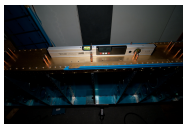
Then measured the distances from the plumb bob perpendicular fish line to the rear spar. The measurements are done with the backside of the caliper from the spar to the wire in thousands of an inch.
Inboard side shows 2"531, Outboard side 2.555. That almost equal.



Right wing measuring:

All showing 0.0 degree slope. Same sequence of images.





And the measurements on the plumb bob for twist. 2"554 and 2"558

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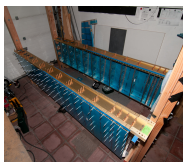
While working on that I took a shot of the clecoed wing skins. Looks sooooo nice.

Clecoeing the skins on the skeleton went very easy. That means my preparation of the ribs, fluting and putting the edges on 90° went very well.
The little bit of extra time you spend on prepping the ribs to perfection will gain a lot of time later not having to 'fight the structure'.

Then I matchdrilled all the holes in the main spar and rear spar. In the rear spar, you will need to drill some new holes on the wing walk ribs. The drilling of the main spar is quite fatigueing as you need reach under.

Overview picture after matchdrilling. Too bad I have to take it appart again now for deburring.



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