Dimpling 22/02/2011 - 5h30m

Category: 1.3. Rudder
Published: Sunday, 20 February 2011 17:07
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My work scheme has been a little disturbed this weekend. Yesterday I was in Dusseldorf for an extention of our company meeting. So no work on saturday this time. I tried to catch up today.
Next week I will be in Bremen for work but I came to a point that I can take some things with me to be able to be ready for priming for next weekend. Sounds like " a man with a plan ".

I started the day with machine countersinking the trailing edge of the rudder.

The countersink drilling is quite easy to mess up and get chatteron the holes. Therefor, I decided to do it this time in the bench-drill. Problem 2 is that the trailing edge had an angle and is quite difficult to keep straight. Therefor, I used a wood file and my band sander to make an angle in a piece of scrap wood and drilled a pilot hole to support the trailing edge

The result is fine and consistent.

Next step is matchdrilling the counterweight in the supporting rib. The toolhole in the front already fits the pre-drilled hole in the counterweight. Aligned those and used second hole in counterweight to matchdrill through the rib web.
I realised I have no #10 drill. Kind of a drawback. Strangely, the #12 already does the job. I drilled using #12 and could run in the bolt without much friction. I have put the #10 drill on my 'to order' list for the next tool-order from Avery.

The machine countersunck the counterweight to #12(same reason). And screw-dimpeled the web of the rib to #10 (that was part of the avery kit).

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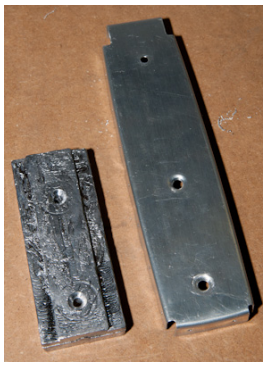

Next task today was deburring all holes in the skins. Time consuming work and you have to be really carefull here. 0.016 is like paper ! 1 turn and NO pressure is sufficient.

Then it was time to dimple the skins using my C_Frame. Same story here, LOW pressure, NO WHACKING.

You would be surprised, but there are an incredible amount of rivets in the rudder compared to the previous parts.

I then used the pneumatic squeezer from Fred Borloo to dimple the ribs and spars.

Since a couple of weeks, I have a problem with my right side elbow. I forced my muscles during dimpling the spars of the vertical stabilizer using the hand squeezer.Fred told me the squeezer of Avery really sucks.Cleveland has a better version that requires much less force.

The pneumatic squeezer have a good result but you have to be really carefull. The squeezer punches right through the aluminum if you are not aligned well. So keep concentrated when doing this.

My technique is to align the hole with the male part of the dies. Then gently close the squeezer.This will pull the female side towards you and you have to guide the part by hand being carefull not to push to

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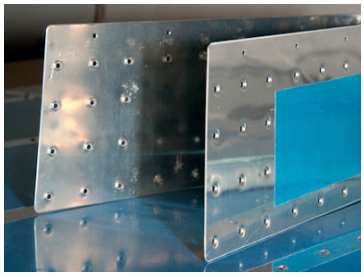
hard. Then close it like you would do with a rivet.

The result is really nice and produced very nice, well formed dimples with no arm power at all.

This is the result as seen on the counterweigt skin.



After all a pretty productive day with all this dimpled.

Next I continued edge preparation of all these parts. Most were done on the outside and needed some extra touch up on the insides using the hand die grinder with the mini scotchbrite wheels.

All parts are ready now to be sanded to 400 grit and final preparation for priming.

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