

First part of the working day was polishing the HS609PP reinforcement bars with 400gritt sandpaper. Tough job that needs some muscle power but the result is surely worth being seen.

To eliminate any potential stress points, I removed the mill marks on the material first with the mini scotchbrite on the die grinder and then further polishing it down as much as possible. I read on the site of [Dalton Zeigler](#) that Vans employee Bruce Reynolds mailed him that polishing down to 0.015" is allowed. At some point I had to convince myself to stop. In the end, you keep on rubbing the metal for the smallest possible little scratch you can see.



Below is an image of one of the areas where I removed some marks with the die grinder.



I then fitted the reinforcement bars in the HS603PP and they were perfectly flat as the plans called out for.

To ensure the position of all parts that will be attached to the rear spar, I marked their positions with a sharpie on the bars. Parts have to be taken apart again to deburr and prime and once matchdrilled, it's important that the same parts go back to the same position when re-assembling later on.

Special care has to be taken here as the 8th hole from the outer side holds blind rivets for final closing and require drilling to #21.

At that point, my neighbour Jacques came by to give me a hand. That surely speeded up things.

I then started match drilling the bars on the spar with the #30 drill for the AN470-4 rivets.



After all the main connection points were drilled, match drilled the hinges HS412PP (left) and HS413PP (right) to #30.

You can see a lot of wood dust on the pictures. That's because I drill through the part into the wood. I read somewhere that it is a good idea to do so as the wood cleans the drill, and the cleco's attach in the wood keeping the entire assembly stable on the worktable.

Drilled the position of the attaching middle rib to #21. (see black cleco in the picture below)





Next step is the positioning of the HS411APP and HS411BPP. Only HS411BPP is pre-drilled. Insert the VA146 bearing and clamp together with cleco clamps when assembled on the spar.

Then match drill to #30. An annoying thing is that the inner bearing has to be primed before the assembly can be rivetted together. I will do all priming together so I did not match drill the holes to the spar for the HS411 yet.

Clamped in place:



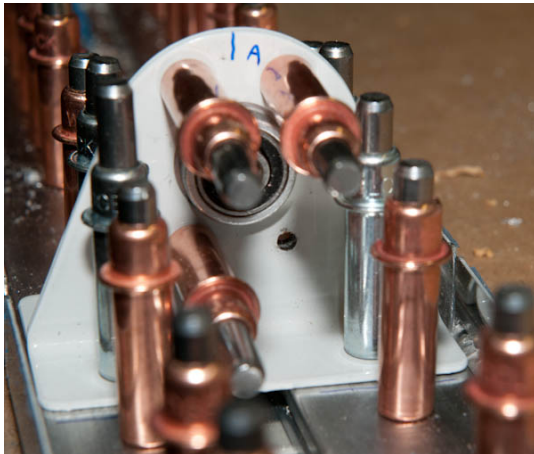
Match drilled and marked.

Matchdrilling spars 29/12/2010 - 8h10m

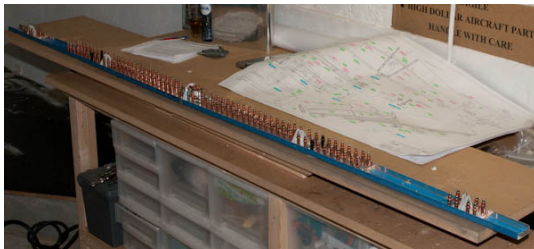
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This is how it looks like when all is attached and matchdrilled.



Then I took it all appart and started deburring all drill holes from all parts.