Rivetting vertical stabilisor - 5/2/2011 - 7h

Category: 1.2. Vertical Stabilo
Published: Saturday, 05 February 2011 17:18
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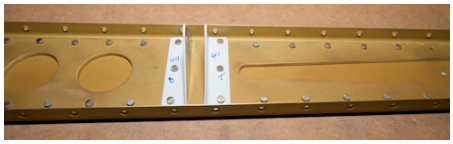
After Fred Borloo's visit, I have a better technique of rivetting using squeezing.

I learned that I have a tendency of over-setting rivets to reach the 1.5 diameter circle. The most important seem to be the shop head thickness. You should have a little more then the minimal gauge (using the rivet gauges). There should actually be a little bump down to the surface when you to the gauge test. The diameter is less important than the gauge. Too flat gives less strength.

Fred brought his pneumatic squeezer. This is truly a much less painfull experience then hand squeezing.

We started the day with a half finished rear spar. I started backrivetting the flush 426 rivets on the bottom side of the rear spar.

Take care of the different lengths of rivets when attaching the hinges. Tape over the attachment holes to the ribs to make sure in your enthousiasm you don't accidentally rivet there.



A pneumatic squeezer is fantastic for making consistent rivets. You need special attention to set them straight and to keep the machine perpendicular to the materia. But once you mastered the technique, it is very satisfying work.

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Different then specified in the instruction video's, the plans call for first rivetting the ribs to the front spar without the rear spar.

This is how it looks rivetted together. We had a bad morning and had to drill out 4 rivets that had smilies or/and bad set shop heads. Real painfull, also because the ribs are always in the way.

The you cleco the skin on. This allows for inside rivetting similar to the horizontal stabilo. This is surely much more easy then demonstrated in the video. The rear spar does not interfere yet so there is plenty of space to buck.

The pictures below have one side rivetted to the skin.

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Thenyou close the other side with cleco's and start rivetting opposite side. start at the intersection of of the center rib and the front spar.

Then work towards the tip along the front spar, then to the root. Last the rib down to the rear spar.

Once those are done, you can use the magic pneumatic squeezer again to set the outside rivets. Make sure to put the rear spar in first for good alignment.

The picture below shows the current state and the finished vertical stabilo.

The rear spar is still loose and will be final rivetted after inspection from the authorities.

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