14+15/8/2019 - Elevator pushrod assembly - 8h

Category: 3.11. Empennage mounting
Published: Monday, 02 December 2019 11:39
Hits: 980

During mounting of the empenage and elevator surfaces, this is a good moment to fabricate the elevator pushrod assembly.

First of all, I had to prime the inside of the pushrod to protect the pushrod against corrosion with the primer. You can't really get in there with a spray gun so the best way is to tape one end of the pushrod, pour some primer inside and then tape the other side. Now slosh the paint from left to right and roll the pushrod over couple of times so the paint evenly distributes over the inner surface. When finished, remove tape from one end and let the excess paint drip out of the pushrod.

You will have to remove the paint again from the first half inch of the inner tube as otherwise the VA-101 threaded rod ends won't be able to slide in the pushrod.

Then initially installed the MD3616 rod end bearings on the VA-101's. No need to tighten this yet as you will need to adjust the lengths onc the pushrod is fitted in the control tunnel.

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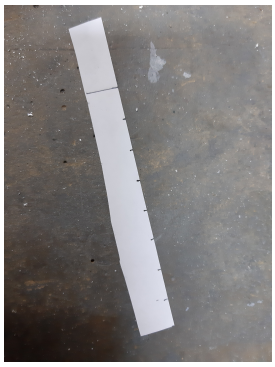
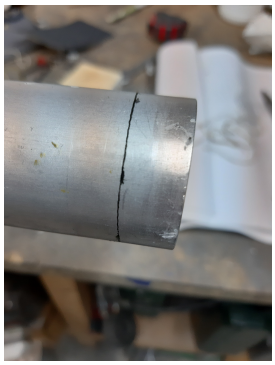
The VA-101 connects to the pushrod with 8 MSP42 blind rivets. You will have to layout the spacing on this circular part yourself and take care of the edge distance on the holes on both sides (VA-101 and pushrod bar itself).

A little trick to get the spacing right is using a little paper tape ruler where you evenly distribute the 8 rivet positions.



Now mark the depth of the VA-101 in the pushrod tube and mark it on the pushrod in order to evaluate edge distances on both parts.



Taped the paper template around the pushrod and marked spacing locations on the pushrod.

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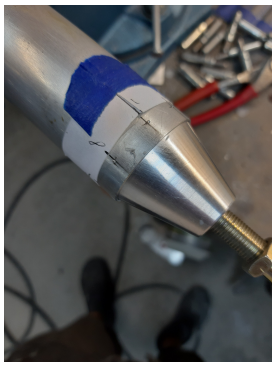
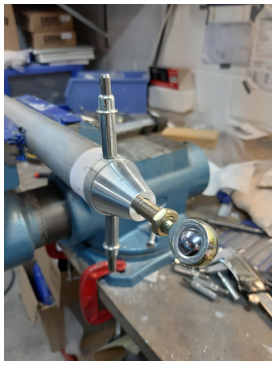
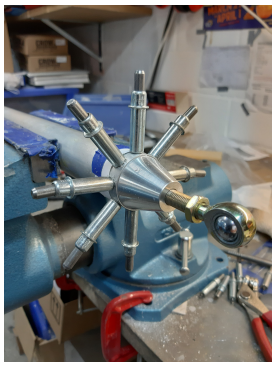


Then start drilling first #40 and insert cleco's as your go.



Here's a picture with all holes drilled #40.



Then used the reamer to enlarge the hole to #30 for the MSP42 blind rivets. Building airplanes gives you the opportunity to shoot some nice spacy pictures sometimes :)

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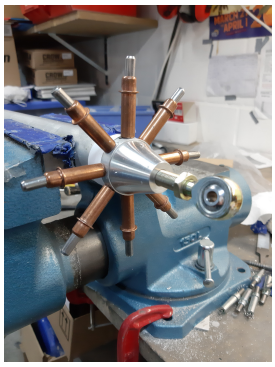
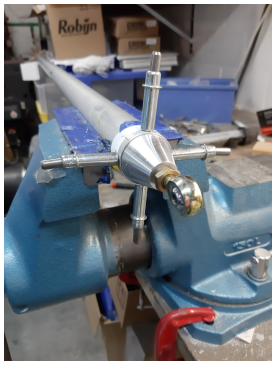


Did the same on the other end.



And finalised that side #30

MSP42 requires #30 or 1/8" drilled diameter. Edge distance 2 diameters is 0.250. Measured from the hole edge to end of pushrod should be 1.5 diameter or 0.1875".
As you see, I get 0.202 which is very good.

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On the other side (VA-101) I end up with even more edge distance. Sucess !

Then I got the pneumatic squeezer out to pull the MSP42 rivets. Walk in the park from here...

And here is the finished result. Perfect !

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