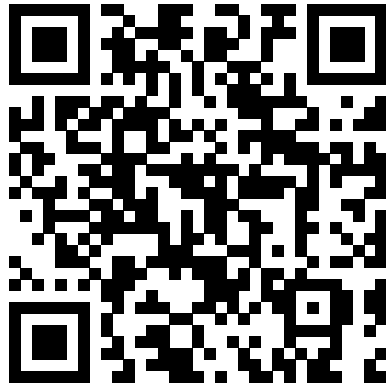


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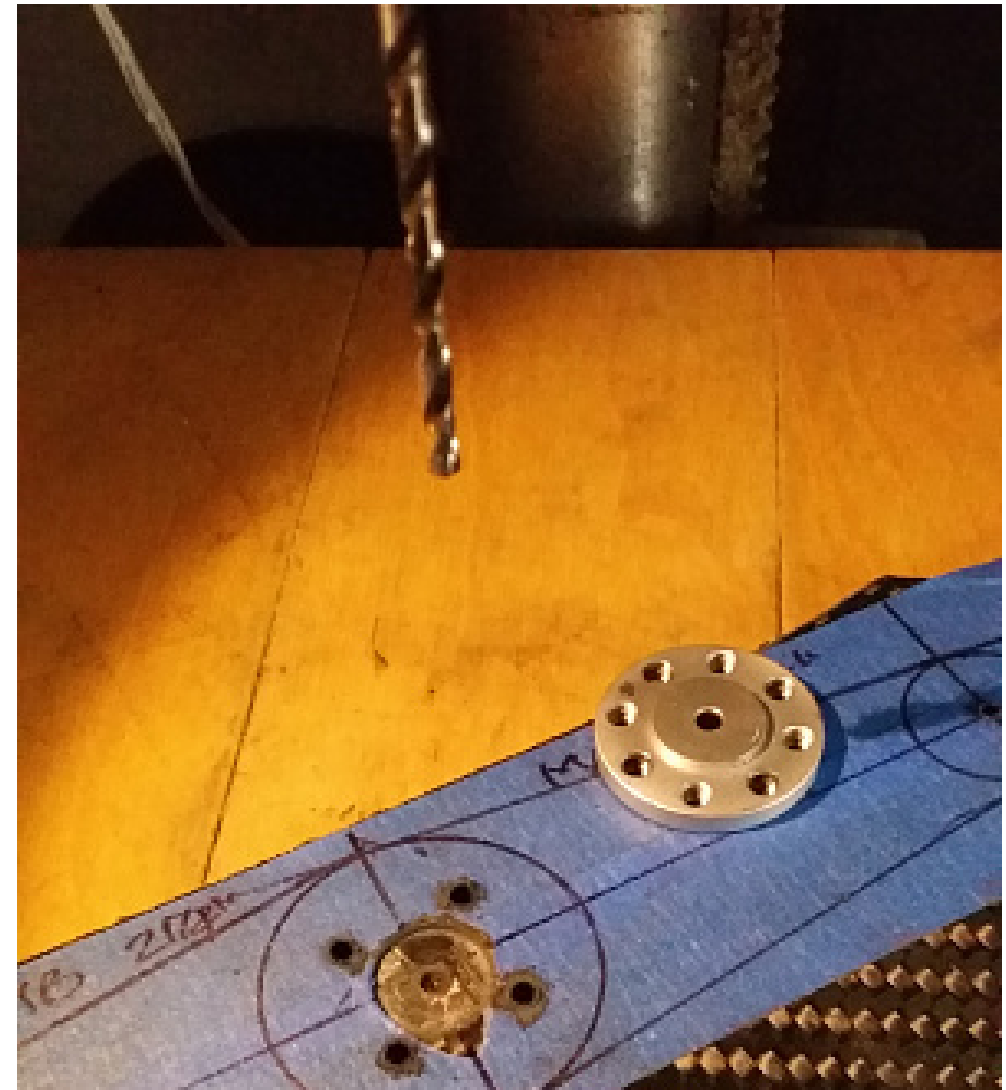
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Sail Servo Arm - How I build them....

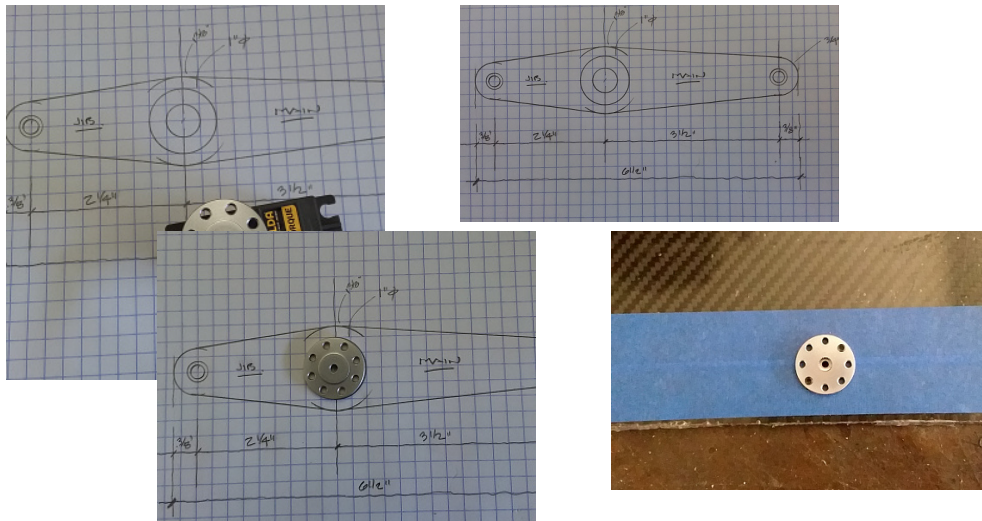
by Joe727



23rd Oct 2020

Sail Servo Arm - How I build them....

Sail Servo Arms are subjected to a great deal of stress and torque, particularly when handling 1,000 sq. inches of sail. The servos I use generate about 275 oz.in. of torque. (20kg.cm.), so a strong arm is necessary. There are commercially available arms that are typically plastic or aluminum, but I prefer to build my own out of carbon fiber 2.5mm sheet. I like to build everything anyways! Starts out as with all of my designs, I sketch options and then creative final drawing to full size in graph paper. To transfer this design to the carbon sheet, I use some masking tape and cover an area of the cf sheet. Then I redraw on the masking tape with a thin sharpie. Then I cut out the arm on my bandsaw while wearing safety glasses and a mask. The carbon fiber dust and slivers are nasty, don't want to breath at all. Still trying to dig a sliver out of my finger so you might consider gloves as well. I recently found this nice aluminum servo hub which is low profile and has threaded holes - see photo for brand. The hub is secured with four screws and seem to be adequately strong. The eyelets that the sail sheets (lines) will pass through need to be smooth to avoid snags and will have to take a lot of wear. I use glass rings that are used in fishing pole guides. I buy the replacement tip kit, see photos. Using a rotary tool with an abrasive wheel I gently cut through the metal ring holding the glass ring, it will just pop out. Finished arm shows the pressed in glass eyelets and hub mounted. Then, finally shown mocked up in a current build. Please ask any questions that you may have as this is a pretty brief post. ? Joe ?

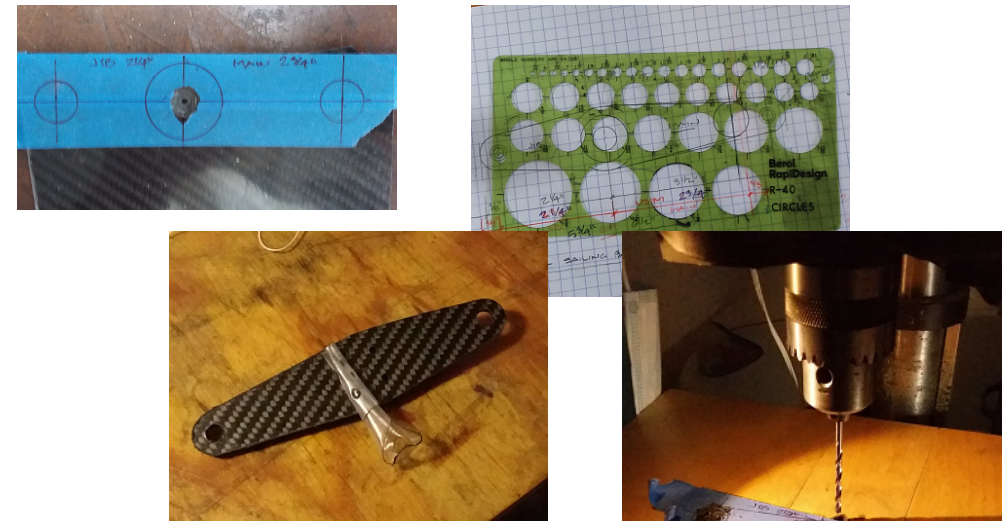


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30th Oct 2020

Additional photos

Some additional photos of the process taken while building the sail arm for my US1Meter boat. Joe?



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