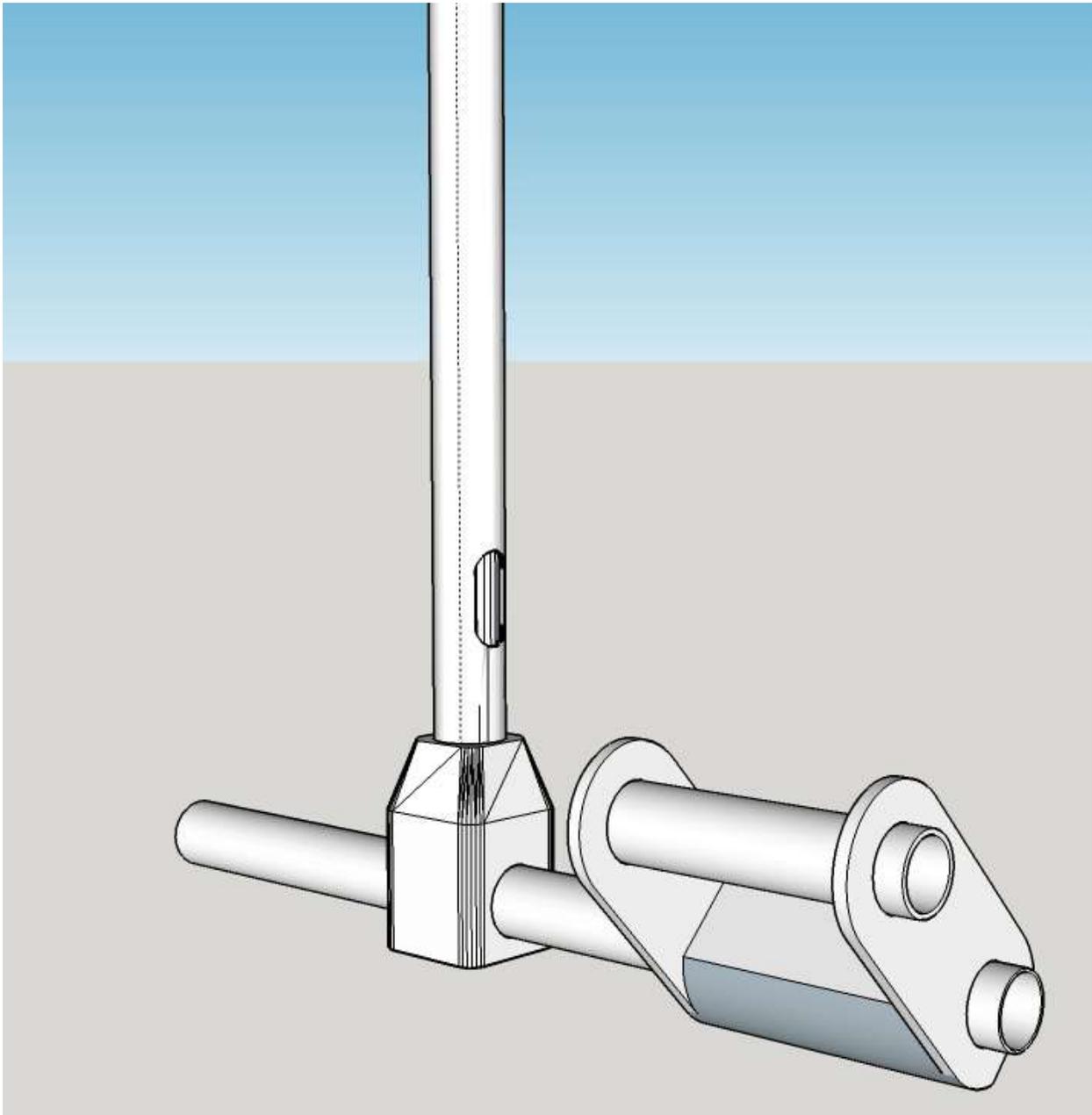


Aluminum and Steel Machined Flaperon Handle for Belite Aircraft

ASSEMBLY INSTRUCTIONS

Last Revised January 7, 2016

Read and understand all instructions completely before beginning your Flaperon Handle assembly.



1. Inventory Check.

Please verify the contents of your Flaperon Handle kit. It includes the following parts:

- a. 1pc: Axle / Handle Intersection machining
- b. 1pc: "U" Extension machining
- c. 1pc: 4130 Machined steel handle (slots are machined) 9/16" OD
- d. 1pc: 0.5"OD x 0.035" wall x 2.375" length aluminum tube, 6061T6
- e. 1pc: 0.5" OD x 0.035" wall x 7.500" length aluminum tube, 6061T6
- f. 1pc: 0.375" OD x 0.035" wall x X.XXX" length 4130 steel axle tube
- g. 4pc: Stainless Steel Bolt 8/32 thread x 1.25" length
- h. 4pc: Stainless Steel locknut 8/32 thread, low profile
- i. 1pc: Spring, part # XXXXXXXXXXXX.YYY
- j. 1pc: Nylon insert rod, 7/16" diameter x X.x length
- k. 1pc: Steel pin, XX diameter x Y.y length
- l. 2pc: Nylon Bushing, 3/8" ID

Not included:

- a. 180 grit sandpaper
- b. 2216 Structural epoxy
- c. acetone

2. Material preparation.

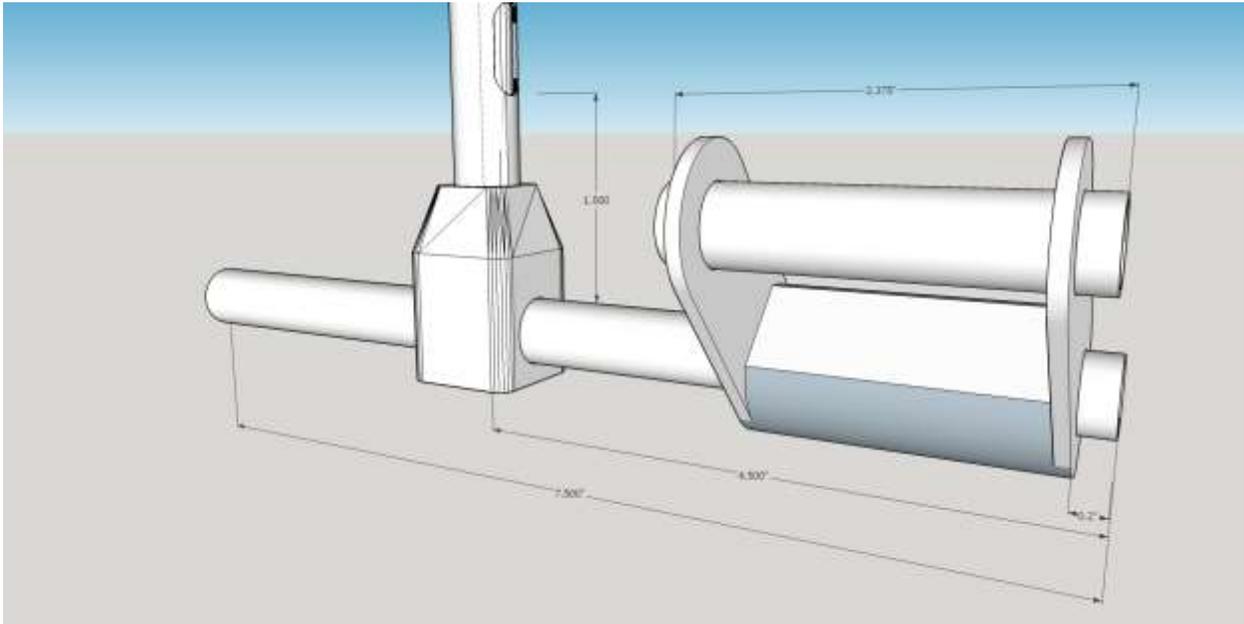
Machined parts:

Using a bench belt sander or sandpaper (180 grit), remove all burrs and surface imperfections from the machined parts. You may find it useful to clean corners with sandpaper (by hand) or with a wire brush. Final sanding should be with 180 grit sandpaper.

Aluminum and steel tubes:

Deburr ends of tubes. Lightly sand with 180 grit sandpaper.

3. Clean parts with acetone. Ensure fit of parts before gluing. Especially ensure that machined steel handle (with slots) fits snugly and completely into connector machining.
4. In anticipation of gluing and bolting the assembly together, the angle of the offset is 57 degrees  $\pm$  2 degrees. Do not glue anything until you understand placement of all parts!



Critical dimensions. 2.375" aluminum tube is centered in "U" yoke. Base of slot is 1.500" above top of aluminum tube.



57 degrees  $\pm$  2 degrees is correct angle. Steel handle is hidden, behind digital angle, lying flat on table.

5. Apply a small amount of correctly mixed 2216 structural epoxy to parts; align and clean off excess epoxy.



Epoxy in all areas where metals touch. Excess has already been cleaned up.



Note placement of slots in steel tube relative to assembly.



We used weighted base to allow angle to hold during epoxy cure. Predecessor welded part (obsolete) also shown.

6. Allow epoxy to cure (at least 12 hours).
7. Insert 3/8" OD steel axle into part. Align part into position in the aircraft to ensure appropriate placement of steel axle! Drill four holes with 1/64" bit as shown below and temporarily secure with four stainless steel bolts and locknuts. You are drilling through the machined fittings, the aluminum tube, and the steel axle! Steel axle will therefore be locked into the assembly and the entire assembly will float on the two 3/8" nylon bushings after placement.



8. Insert spring and nylon pushrod into 9/16" handle steel tube with slots. You may need to trim end of main steel tube to allow full range of "push button" motion. Roughen steel pin and insert through hole, using small amount of 2216 epoxy to lock position.

9. Final tightening of four bolts is done after correct placement of assembly into aircraft cabin.
10. A video of the flaperon handle showing pushbutton action may be seen here on YouTube:

<https://youtu.be/i1y5h6mkql0>

Or, search on YouTube for the video entitled: Belite Flaperon Handle Final Assembly.