

Revision #	Date	Detail of changes
1	4-9-2007	Original
2	1-31-2009	Revised for ASTM standards
3	1-1-2025	Added flap motor install for carbon spars

Flap motor install for aircraft with out carbon fiber spars

Required Items: 1 Electric flap motor, AN hardware listed below.



Date Completed

Flap Motor install

1. Install the forward end of the motor with a AN4-15A. The motor must be against the left tab with only 1 washer between it and the tab. Fill the other side with washers to take up the space.
2. The rear mount is a AN4-21A, this should line up slightly to the left as in the picture, you may use washers or a spacer made of steel tube.
- 3. Important:** The motor must be shimmed to the left enough so that when it is extended and than retracted the housing does not catch on the spar box .
4. When wiring leave enough service loop in the wires for motor operation.



Flap motor install for aircraft with Carbon spars

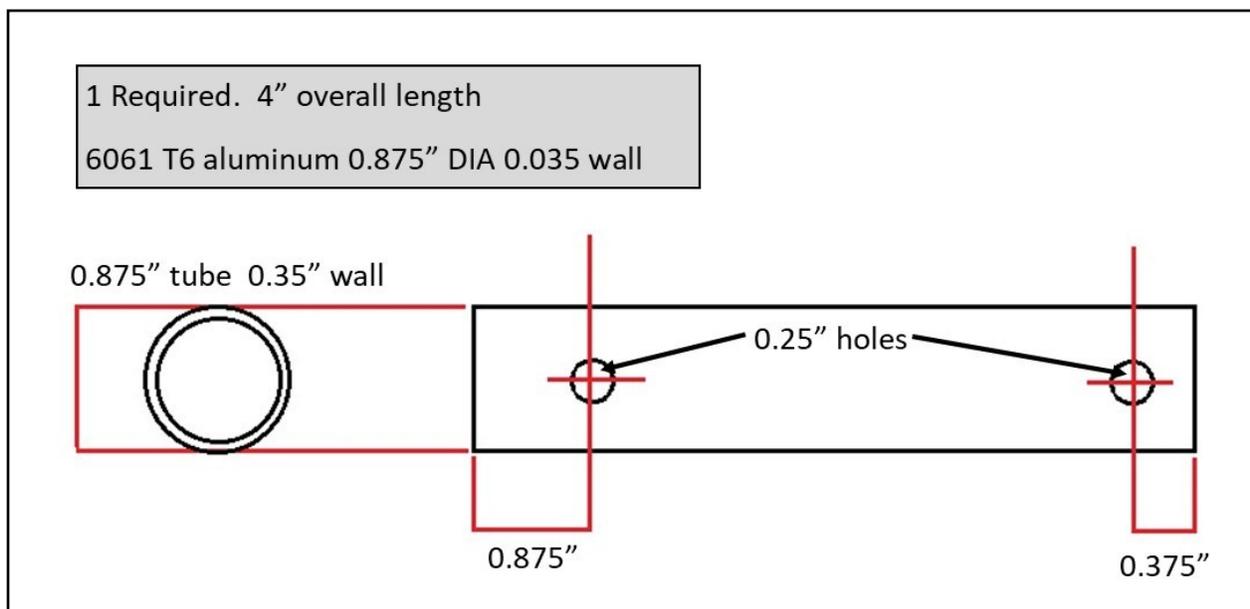
Parts Required: Flap Motor, 0.090 flat aluminum stock, 4" long 0.875" aluminum tube, 0.3125" spacer stock 1-AN4-31A, 1-AN4-24A, 4-AN4-6A, 6-AN365-428, required washers to suit.

NOTE: Mid Elevator bellcrank assembly should be built in conjunction with this or at least before the flap motor installation.

System Overview Picture



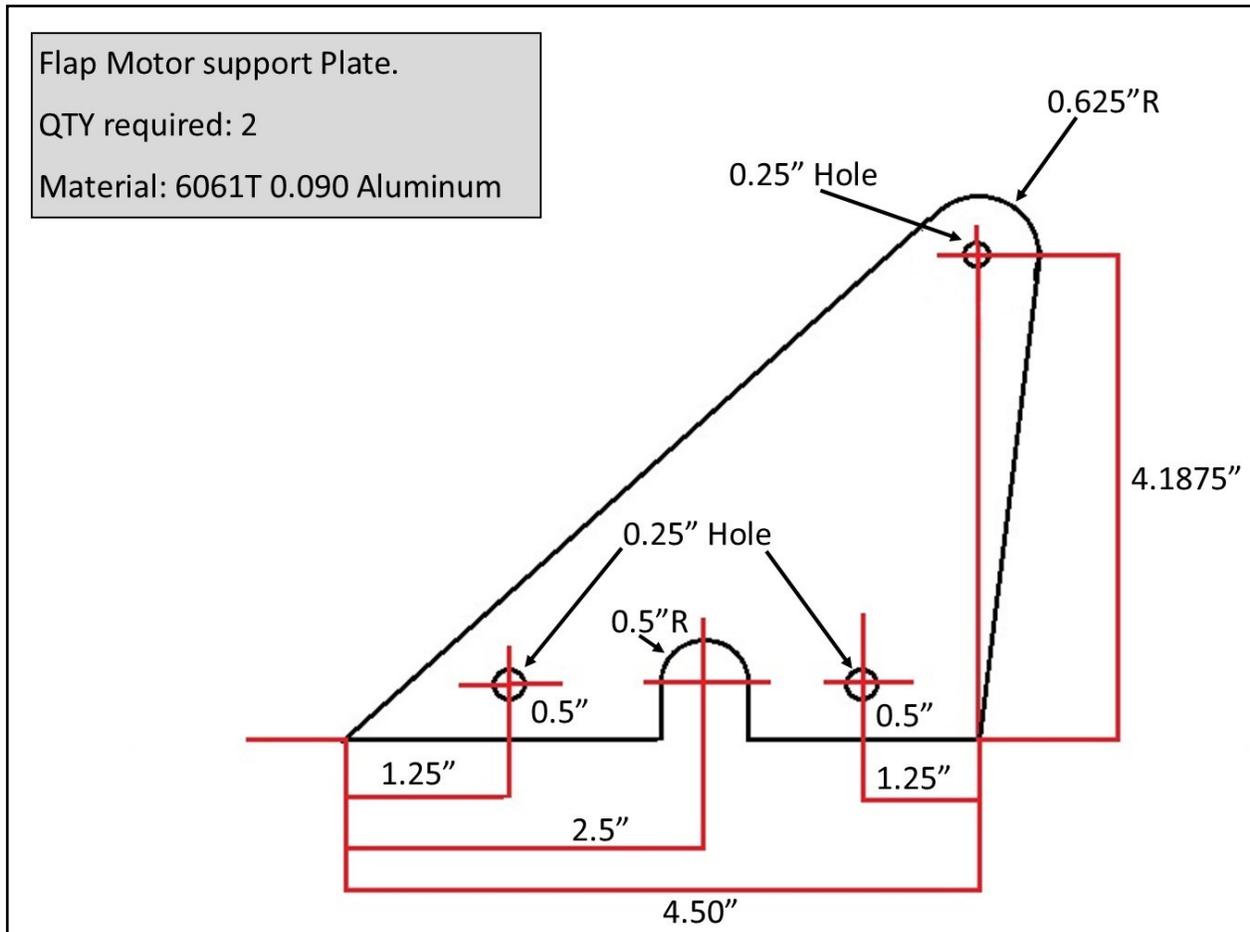
1. Fabricate the flap motor extension tube shown below. Only 1 is required.
2. Attach the motor extension to the flap output shaft with an AN4-12A and AN365-428 nut, The extension is attached to the motor with the hole placed closed to the edge.



6B. Flap motor Installation

LS-1

- Fabricate two identical flap motor mounting brackets using the drawing below. Flat stock material has been provided in the kit.



- Bolt the motor brackets to the inside of the mid-elevator bellcrank angles using AN4-6A bolts and AN365-428 nuts.
- The installed parts should appear like the picture to the right.
- Fabricate 3 spacer tubes from the provided 0.3125" tubing for attaching the motor to the rear brackets and the flap torqued tube at the spar box.

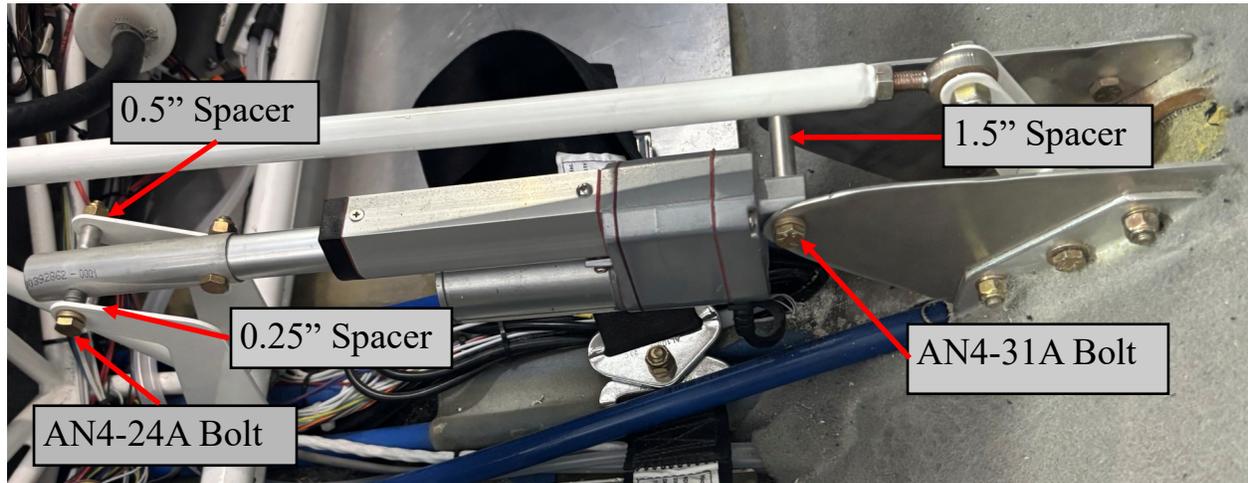


- The spacer tubes need to be approximately 1.5" for the rear, 0.5" and 0.25" for the front.

6B. Flap motor Installation

LS-1

8. Assemble the spacers and flap motor to the rear brackets and flap output torque tube as shown below.
9. The long AN4 bolts which attach the assembly should not be torqued down hard. These need to be installed so that 3 threads are showing and the bolt may pivot somewhat to allow free movement of the motor.
10. These bolts do not pivot and are not subject to rotation, however if you choose you may install with drilled bolts, castle nuts and cotter keys, not provided.



11. The provided Flap motors are manufactured by Fregelli Automations. The drawing below shows how to wire that flap motor and provides output for motor position.

