

## ***Post-Paint>Fuselage>Interior>Fit flap drive motor***

### **Objectives of this task:**

To fit the flap drive motor and actuating assembly.

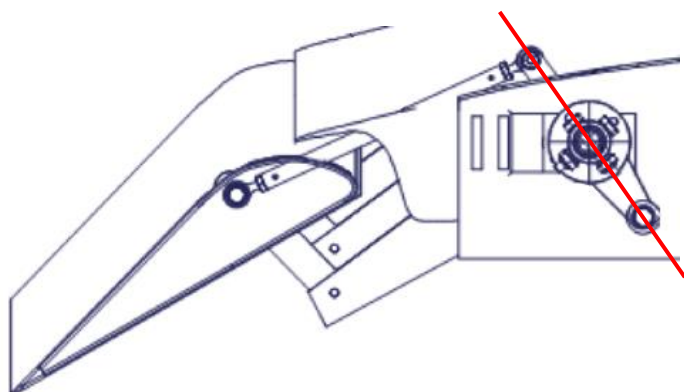
### **Materials required:**

Card #16T "Electric Flaps"

Epoxy resin and flock

### **Fit the flap shaft**

Remove the inner flap drive arm from the flap drive shaft by removing the 2 x AN3 bolts and pulling the flap drive arm completely off of the shaft. Feed the bare shaft into the cabin through the flap shaft mount in the top right of the cabin, first taking care that the bolt holes for the flap drive arm will end up on the left-hand side of the cabin, and slip the inner flap drive arm over the shaft before the shaft exits the cabin through the left side flap shaft mount.



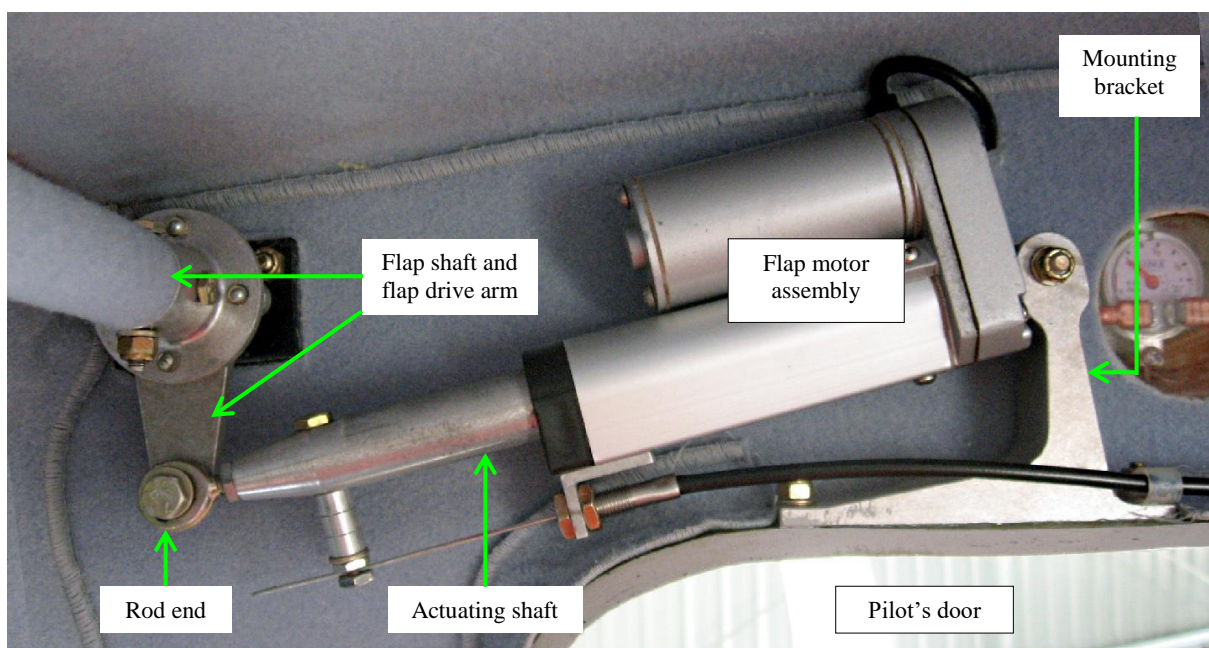
Ensure that the inner flap drive arm will be 180° away from the outer flap drive arms as shown above in red. Refit the inner flap drive arm with the AN3 bolts, flat washers and Nyloc nuts and tighten the nuts to safety as shown in the photo at above right.

Fit the outer flap drive arms to each end of the flap shaft and secure each with an AN3 bolt and Nyloc nut as shown at right. Tighten the nuts to safety.



### **Prepare the flap drive motor assembly**

Bolt the mounting bracket to the post on the gear case of the flap motor assembly by placing a Bundy tube through the post and then an AN3-12A through the bracket and the post. Fit a flat washer and a Nyloc nut with the nut facing into the cabin and tighten the nut to safety. Refer to the photo on the next page for detail.

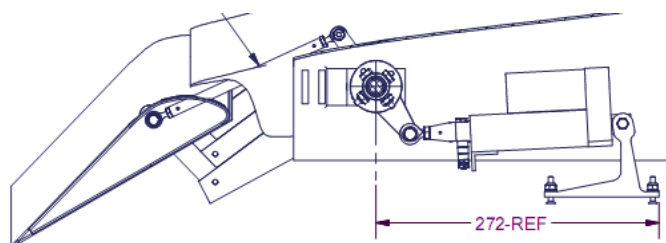


### Fit the flap drive motor assembly

Bolt the rod end of the flap drive motor assembly to the flap drive arm with an AN4-10A bolt through an AN960-516 flat washer, the rod end, an AN960-416 flat washer, the drive arm, an AN960-416 flat washer and a Nyloc nut.

Tighten the nut to safety and then swing the motor assembly forwards and up until the mounting bracket sits on top of the door jamb as shown above. Align the flap drive arm to be completely vertical (i.e. directly under the flap shaft) as pictured above.

Measure forwards from the vertical centre of the flap shaft 272mm and mark the front of the mounting bracket as shown at right. Drill and countersink the 2 x 3/16" mounting holes through the door jamb and mark the location of the mounting bracket.

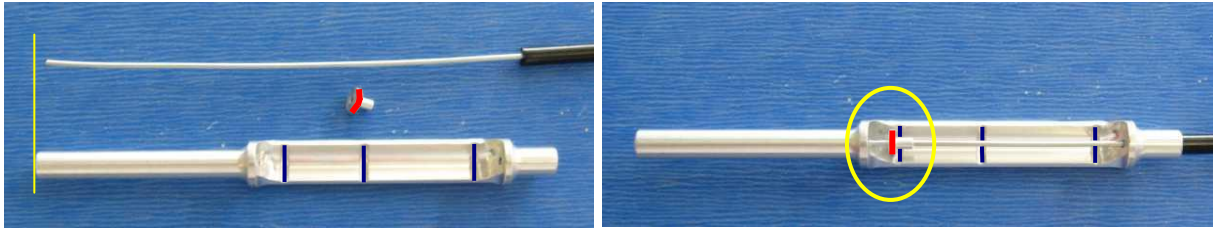


Cut away any upholstery and peel cloth from the where the bracket will be mounted and roughen the bracket and the door jamb surface where the bracket will be bonded into place. Note that the flap drive motor will sit at a slight angle to the vertical due to the profile of the fuselage skin, so it may be necessary to make the mounting bolt holes slightly oversize to accommodate the mounting angle. It is **very** important that the flap drive motor actuating shaft can be extended and retracted with no binding at any point in its travel. In the factory we fit the flap drive motor in place with packing underneath and power up the motor (12v) and then run the actuating shaft through its full range of travel to check for any binding before flocking the bracket into place.

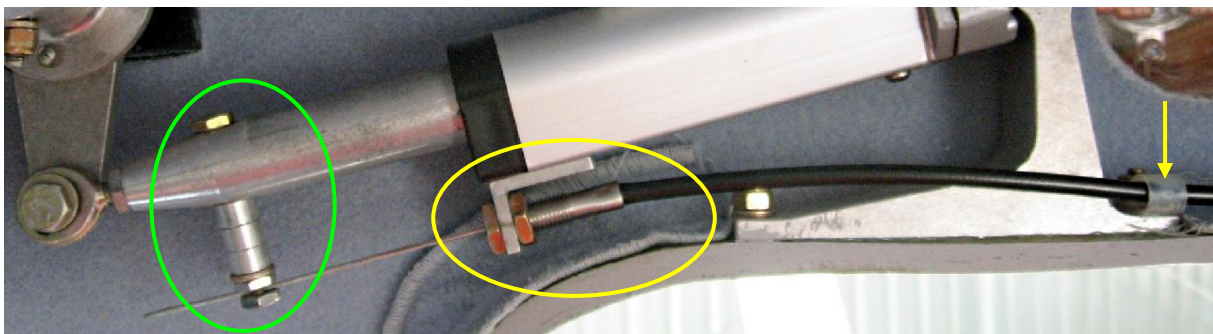
Flock the mounting bracket into place on an 8mm bed of flock and fix it loosely in place with 2 x 3/16" waxed countersunk screws and Nyloc nuts and leave overnight to cure.

Tighten the nuts to safety the next day.

## Fit the flap indicator



Assemble the flap indicator: paint the outside of the indicator washer red and mark the 3 flap positions in a dark colour. Push the inner cable through the indicator body and through the indicator washer and then all the way into the long end of the indicator body. Slide the washer to the last mark at the long end of the indicator body as circled above right and crimp it to the inner cable. Using the supplied crimping tool, crimp the indicator body to the outer cable.



Screw the "L" shaped bracket to the bottom of the motor assembly with a countersunk screw (circled in yellow above), then drop the AN3-16A bolt down through the actuating shaft and add the 3 spacers and the 2 retaining nuts (circled in green above).

Position the flap indicator on the left-hand windscreen pillar so that the cable follows the line of the door opening and remains clear of the opening and screw the flap indicator and cable into place with the supplied nylon clips as shown at right.

Check the outer cable for length and trim as required then crimp the threaded end in place. Fit the threaded cable end to the "L" bracket on the motor with 2 thin nuts and fit the inner cable to the long bolt through the actuating shaft, all as shown in the photo on the bottom of the previous page.



Check that all bolts and nuts are tightened, route the power lead behind the motor assembly and down behind the door opening for later connection in the [Post-Paint>Fuselage>Interior>Install electrical wiring](#) task. Adjustment of the flap motor and indicator will be done in the [Post-Paint>Wings>Fit flaps](#) task.

This completes the [Post-Paint>Fuselage>Interior>Fit flap drive motor](#) task.