Post-Paint>Wings>Fit flaps

Objectives of this task:

To fit the wing flaps to the wings and adjust their deflection. We use 2 people in the factory to carry out this task and we recommend that you do the same as the flap is too long for one person to handle and there is a risk of damaging the painted surface of the flap and the wing.

Materials required:

"*Wotan*" cloth tape to hold the flaps up while adjusting the flap push rod lengths.

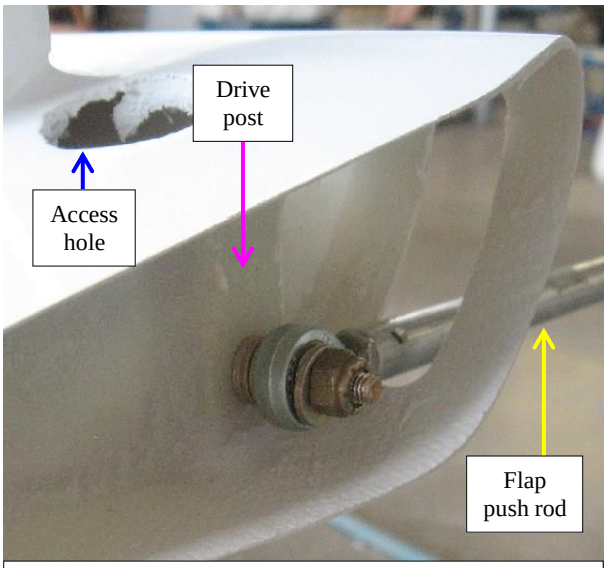
Fit the flap push rods to the flaps

Fit a rod end and plain locking nut to one end of each flap push rod and tighten the lock nuts firmly. Lay the flaps upside down on trestles and fit the flap push rods to the inboard end of each flap.

Working through the access hole in the flap, feed an AN3-13A bolt with an AN960-416 (3/16") flat washer under the head from the inside of the flap through the drive post.

Fit 3 x AN960-416 (3/16") flat washers, then the rod end and an AN960-515 (1/4") flat washer and a Nyloc nut as shown in the photo at right. Tighten the nut to safety.

The flap push rods should now be centred in the slot in the leading edge of the flap.

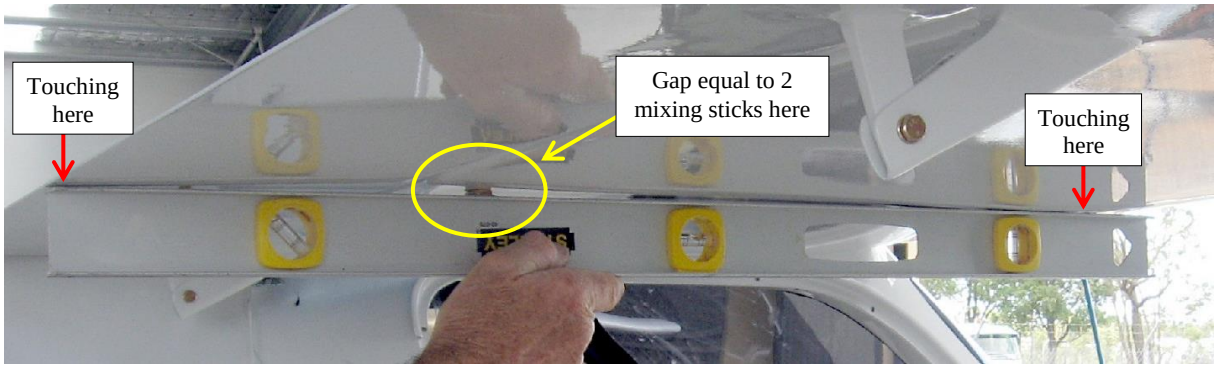


Inboard end of inverted flap showing push rod attachment

Fit the flaps to the wings

Each flap post bolt hole has a short length of Bundy tube spacer fitted inside (*tip*: a smear of grease will hold the spacer in place while fitting) and the flap post fits into the flap hanger and is then secured with an AN3-8A bolt.

Working on one flap at a time, fit the flap to the wing with the AN3 bolts with a 3/16" flat washer under the head of each bolt. Fit a 3/16" flat washer and Nyloc nut and tighten each nut to safety. Check that the flap can be extended and retracted by hand, taking care not to scratch the fuselage or the side window when the flap is near full deflection.



Hold a straightedge under the wing and flap with a gap equal to 2 mixing sticks at the rear of the wing and touching at the front and back, all as shown in the photo above.

Tape the flap into position with a length of cloth tape as shown arrowed in the photo at right.

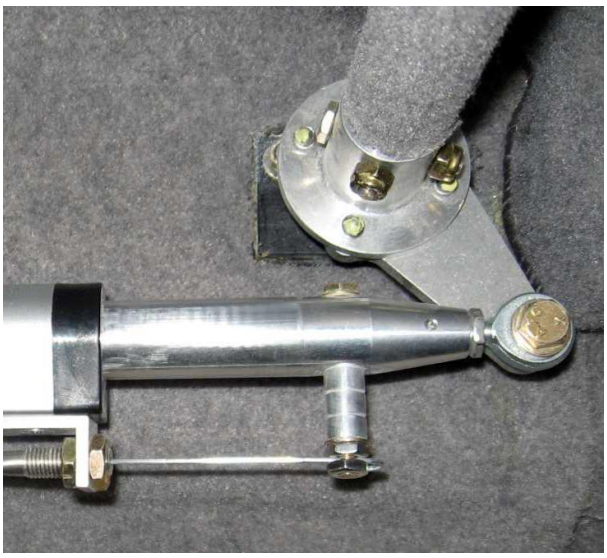
Fit and set the other flap in the same manner.

The flaps are now in the fully retracted position and are ready for the flap push rods to be connected to the flap drive arms in the next step.

It may be necessary to trim the lower front inboard section of the flap to minimise any risk of chafing the fuel lines when the flaps are in the fully retracted position.

Connect and adjust the flaps

Apply power to the flap motor and extend the actuating shaft fully as shown at right.



Fit a rod end with a plain locking nut to the free end of the flap push rods and screw the rod end into the flap push rods until the hole in the rod end lines up with the hole in the flap drive arm, then fit the rod end into the clevis in the flap drive arm as shown below right with an AN3-10A bolt with a 3/16" washer under the head of the bolt and another 3/16" flat washer and a Nyloc nut and tighten the nut to safety. Tighten the plain locking nut firmly.

Repeat the process for the other flap. At this point the flaps have been fitted and adjusted.

Apply power to the flap motor and extend the flap to the first position and check both flaps for clearance from the fuselage.

Have someone watch each flap as you continue to extend the flaps to the second "full flap" position and check each flap for clearance from the fuselage until the full flap position is reached.

If you set your flap end clearances correctly in the *Pre-Paint>Wings>Test fit wings* task there should be no problems, but if the flaps do touch the fuselage then you will need to remove the flap and cut the end of the flap away to maintain a 5mm clearance from the fuselage.

This completes the *Post-Paint>Wings>Fit flaps* task.