

## Pre-Paint>Wings>Prepare wing root

### Objectives of this task:

To fit all of the fuel and breather fittings in the wing root and trim the flap arm cutouts.

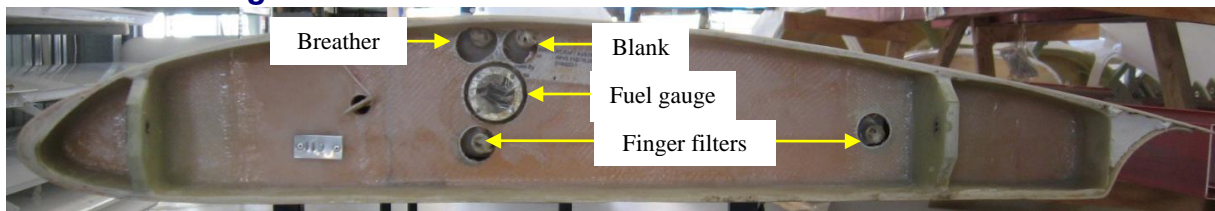
### Materials required:

Card # 11J “Fuel Components”

### Steps

1. Fit the fuel fittings
2. Fit the breather tube
3. Cut out the flap arm recess

### Fit the fuel fittings



Start by removing all the protective tape from the openings, then thread a finger filter into each of the bottom fuel fittings and remove – this will clear any surplus sealant that may have accumulated around the fittings. Clean the finger filters and apply a smear of Loctite 577 to the threads then refit the filters and tighten firmly. Take care not to cross-thread any fittings.

Apply a drop of Loctite 577 to the threads of the blanking plug and fit to the top rear fitting.

Assemble the fittings onto the breather tube as shown and then insert the breather tube into the front top fitting and work it fully into the wing tank – there are cut-outs in the top of the tank ribs to allow the breather tube to fit along the top of the tank and it may be necessary to gently manoeuvre the tube through them. A very slight bend about 200mm back from the end of the tube can be useful. Push the tube in until the end of the tank is felt and then back it out roughly 5mm.

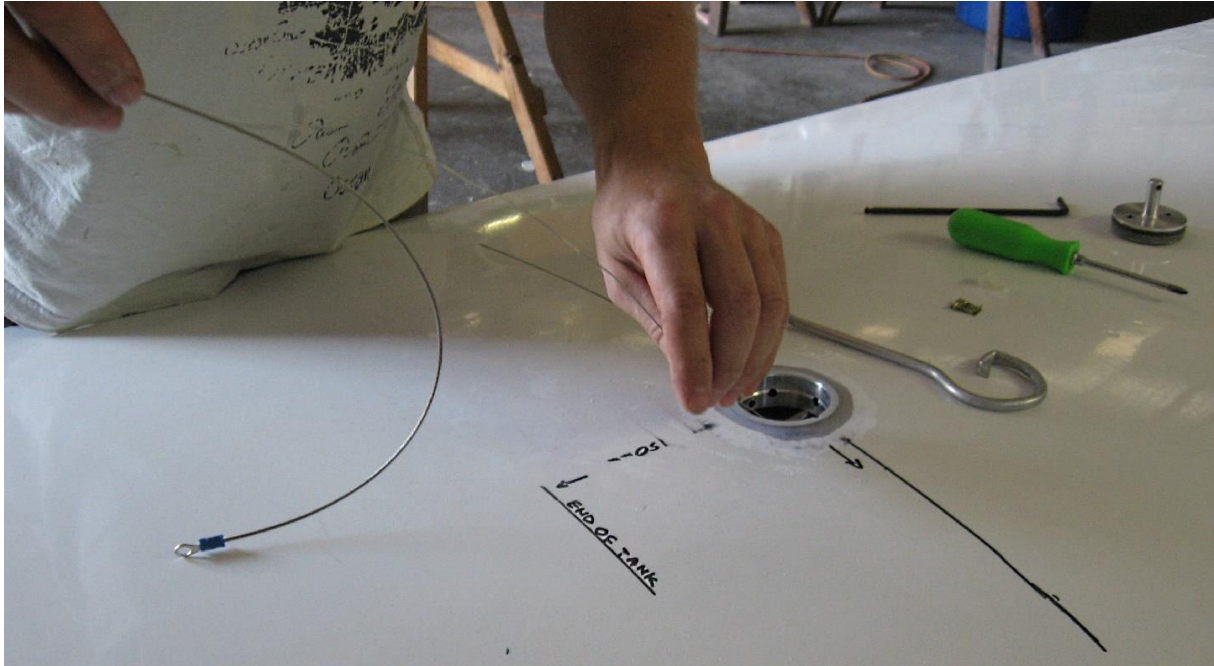


Once the tube is in place, apply a smear of Loctite 577 to the threads of the brass nipple and tighten it into the fitting, then do the same with the gland nut. The 90° curved end of the breather tube should face the rear of the wing and be horizontal when finally fitted.

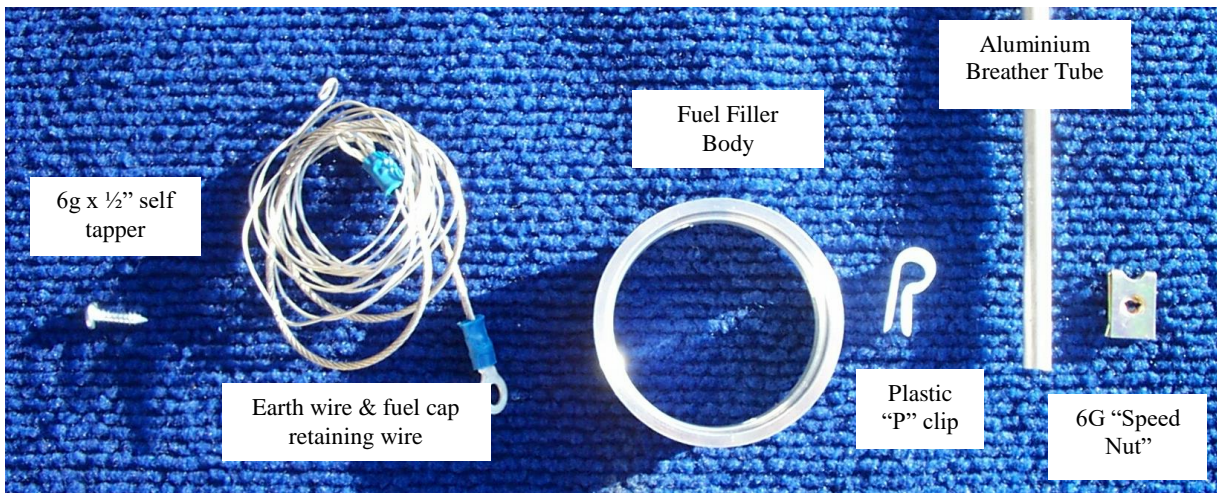
Place a square of tape over the fuel gauge opening for the moment. Due to the breakable nature of the fuel gauge it will be calibrated and installed after the wing has been painted.

### Fit the breather tube and the fuel cap

The breather tube will now be visible through the fuel filler opening on top of the wing.

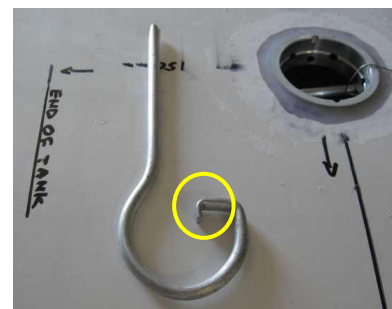


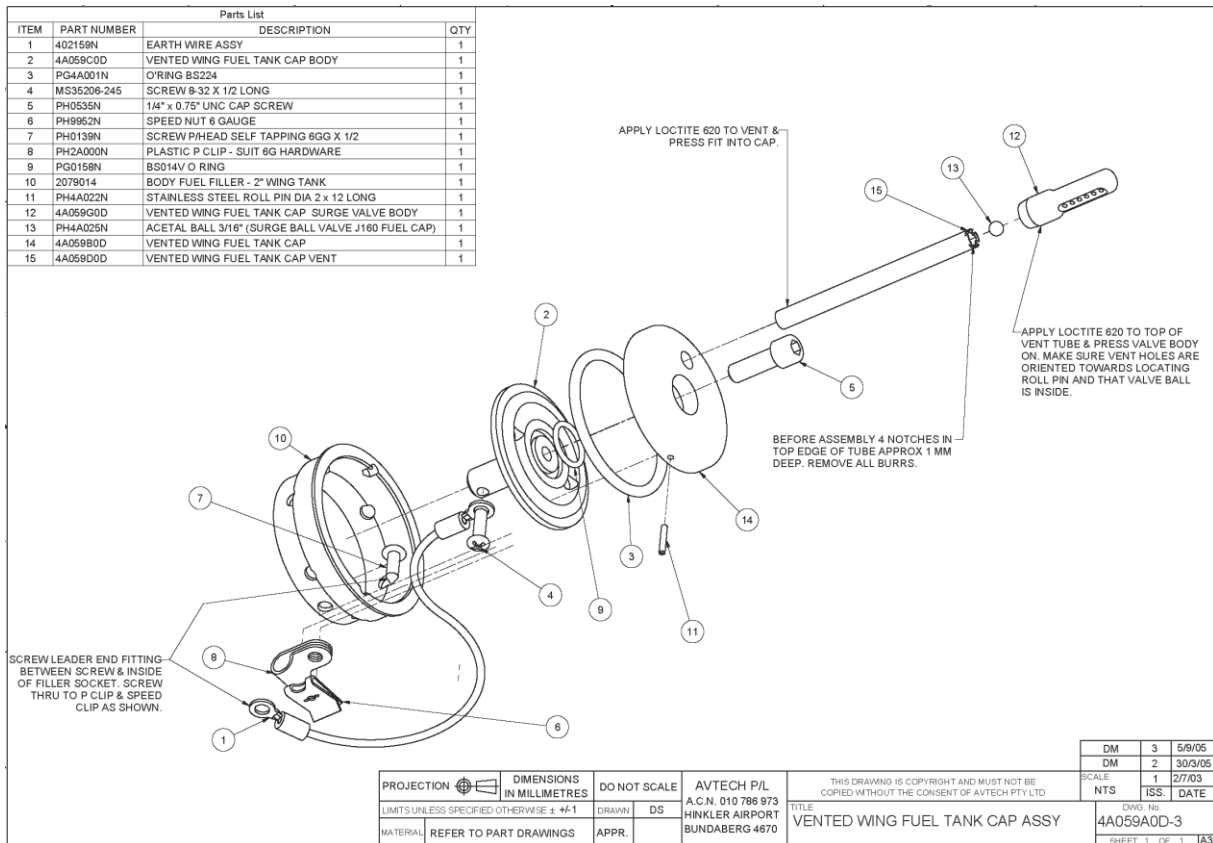
Move it to the rear of the opening and behind the filler body, then take the plain earth wire and thread it into the tank from the filler and work it along the bottom of the fuel tank and through the gap in the bottom of each tank baffle towards the wing root as shown in the photo above. Proceed carefully until the entire length of plain earth wire is inside the tank.



Fit the speed nut onto the “P” clip, fit the “P” clip around the breather tube and then fit the 6g self-tapping screw through the 4mm ring terminal, through the fuel filler body and into the speed nut on the “P” clip. See the drawing on the next page.

You may need to make up a tool to assist in the fitting of the “P” clip – here is a photo of the tool that we use in our factory for the purpose. The end (circled) is used to push the breather tube up and towards the fuel filler body so that the screw can be fitted. The tool is shown in use on the next page.





The drawing above shows the components and the process of assembly so that you can see how the parts all fit together, while the photo below right shows the actual fitting taking place in the fuel filler opening.

Note that the blue ring terminal will be pushed down to a horizontal position before the screw is tightened so that the earth wires will not foul the fuel cap when it is fitted.

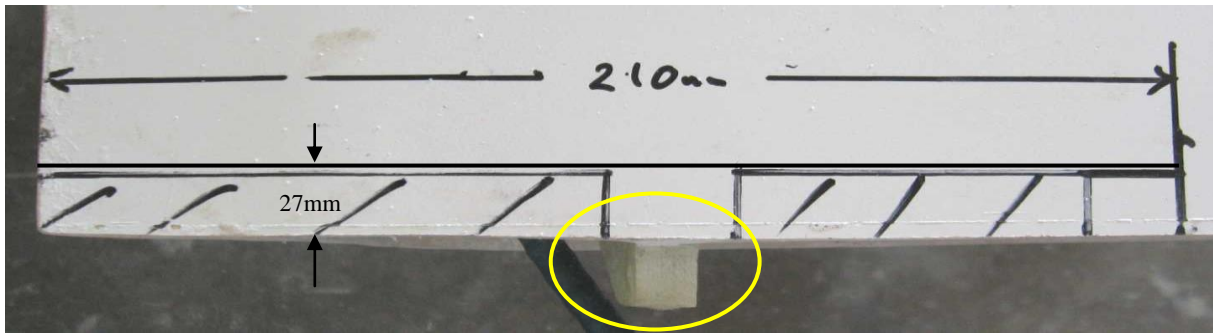
The braided length of the earth cable is the fuel cap retaining cable and it should now be connected to the bottom of the post on the fuel cap with a 1/2" machine screw with a drop of Loctite 243 on it.

The fuel filler cap, which comes partly assembled on the card, can now be placed into the opening with the locating dowel fitted into the recess at the rear of the opening and tightened in place and the vent tube opening can be taped over until after painting.



The vent tubes will be fitted to the fuel filler caps when the wings are being prepared for final fitting in the *Post-Paint>Wings>Prepare wings for fitting* task.

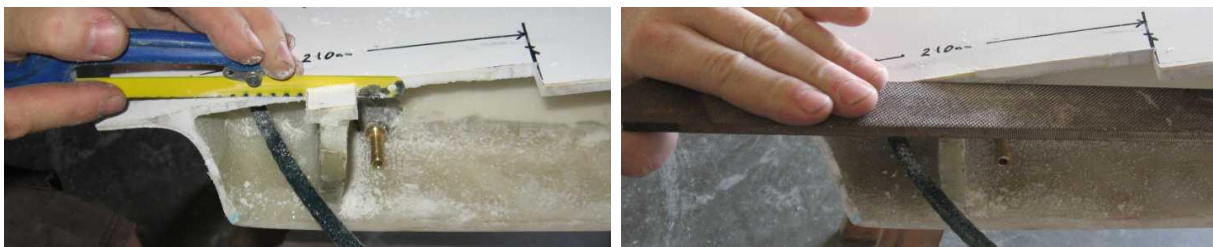
### Cut out the flap arm recess



You will need to cut out the marked flap arm recess in the top of the wing root: check that the line is 27mm from the wing root and re-mark if required. Care is needed around the wing attachment lug (circled): under no circumstances must any material be removed from the lug.



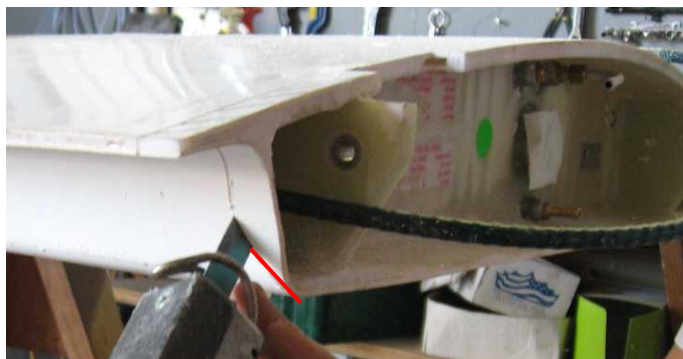
When using a jigsaw near the wing attachment lug you will need to make sure that the shoe of the jigsaw is completely level when cutting near the wing attachment lug as shown above.



Use a hacksaw in a holder to remove the final section of the wing skin above the wing attachment lug, finishing off carefully with a flat file as shown above.

Cut down the rear of the wing as shown at right, angling out from where the saw is in the photo to finish the cut level with the bottom surface of the wing, shown indicated the red line.

Sand all cut surfaces to a smooth finish.



This completes the *Pre-Paint>Wings>Prepare wing root* task.