

Post-Paint>Wings>Connect wing tanks

Objectives of this task:

To connect the fuel lines and earth the wing tanks to the fuel system.

Route and connect the fuel lines

At this stage all of the fuel lines will have been routed through the front conduits during the wing fitting task and will now be labelled and hanging down inside the cabin.

Start with the left-hand side fuel line bundle.

Take the time to arrange the bundle of fuel lines as they pass through the conduit so that the breather line is on the top of the bundle as they enter the cabin. Cut a length of white aviation wire long enough to run from the front of the wing, along with the fuel lines and terminate at the earth point from the fuel pump, beside the header tank under the rear cabin step.

Cut a length of fuel line sheath to run between the front or entry conduit and the conduit in the rear bulkhead. Make sure that the sheath is long enough that the fuel line bundle can be routed just above the rear window and fit the fuel line bundle and the earth wire through the sheath and then through the rear bulkhead conduit.

Lock wire the sheath in place over the front and rear conduits as shown at right.

The fuel lines will be hanging down behind the rear bulkhead and the lines must now be accurately sized so that they run *smoothly* to the ferrules on the top of the header tank.

Take care that the lines will run to the header tank with no low points that could cause a vapour lock – this is **very** important and you must size the lines so that they run always *down* to the header tank, **not** down and back up to the header tank!

Use zip ties through holes in the rear bulkhead lip to keep the fuel line routing smooth and correct as shown at right.

Cut the lines to length and then loosen the retaining strap that holds the header tank down, rotate the header tank onto its right side, slip a hose clamp over each fuel line and fit them to the brass ferrules on the header tank with the breather line going to the top ferrule.

Tighten each hose clamp firmly.



Example of fuel line routing behind the rear bulkhead.

Reposition the header tank in its brackets and tighten the retaining strap firmly and then repeat the fuel line sizing and fitting process for the right-hand fuel lines. The right-hand fuel lines can be fitted with the header tank strapped in place.

Route the earth wires

At this stage you will have an earth wire running inside the sheathing with the fuel lines from each wing tank and emerging from each conduit behind the rear bulkhead. Crimp a suitable terminal to the bottom of each wire and fit to the common earth connection – the same earth connection that connects the earth from the fuel pump and the quick-drain fitting on the header tank. The top of each earth wire will be connected to the quick-drain fittings on each wing after the wing root fairings have been fitted in the *Post-Paint>Wings>Fit fairings* task.

This completes the *Post-Paint>Wings>Connect wing tanks* task.