



Modification to Rotax fuel system

Classification	Mandatory.
Applicability	All Rotax 912 engined Europa aircraft.
Compliance	Before the next flight.

Introduction

Several instances have occurred of aircraft with the Rotax 912 engine suffering from fuel vapour lock, particularly after prolonged low power running. This modification introduces a fuel return line to the fuel tank in accordance with the requirements of the engine manufacturers. The return line includes a restrictor which allows a small amount of fuel to circulate continuously, so that the temperature of the fuel in the supply line is prevented from rising sufficiently to cause vapour locking.

Action

All aircraft

- 1. Drain the fuel tank as much as possible. This can conveniently be done by disconnecting the fuel line at the inlet to the engine mechanical fuel pump and operating the electric pump.**
- 2. At the engine, disconnect the hoses from the existing "T" MTP001 to the port and starboard carburettors. Shorten these hoses to be about 40 mm (1 ½") long from the carburettor end. Connect the existing "T" to the starboard carburettor using the short hose just formed. Similarly connect the new supplied "T" to the port carburettor, arranging the leg of the "T" to point upwards as far as reasonably possible. Using new hose connect together the two "T"'s.**
- 3. The upwards pointing leg of the new "T" is to be connected back to the tank via the restrictor FS02. Push the restrictor into the end of the supplied stainless steel braided hose SSR001 with the plain end facing outwards (to enable easy inspection for particles if necessary later), and fit the hose so modified to the leg of the "T" piece.**
- 4. Route the hose back to the tank generally following the route of the fuel supply line.**



Either:-

A. Aircraft without optional Mod 33 (fuel tank drains)

- 5. Make up and fit the gauze filter to the new fuel tank outlet fitting F09C (ref. Page 10-52 - old manual, or page 16-4 - new manual). Fit the union FPA 903/B into the new fitting.**
- 6. Remove the starboard fuel tank fitting F09A from the fuel tank and discard it. Fit the new fuel tank fitting assembly to the tank with the two outlets horizontal with each other.**
- 7. Fit the fuel return line to the FPA 903/B union, and refit the fuel supply line to the other outlet of the new fuel tank fitting.**

Or:-

B. Aircraft with Mod 33 fitted.

- 5. At a convenient point cut the FH013 rubber hose which connects the starboard, reserve, fuel tank fitting to the drain valve.**
- 6. Fit the "T" piece MTP002 at this cut.**
- 7. Slide back the stainless steel braid from the end of the SSR001 hose. Apply a small quantity of a suitable grease to the leg of the "T" and slide the hose on.**

Note: *The hose bore is 6mm and the fitting diameter is 8mm, so the hose will need stretching slightly to fit.*

All aircraft

- 8. Refill the tank and check for leaks.**
- 9. Annotate the aircraft technical records - Mod 40 incorporated.**

Modification kits

Modification kits are available from Europa Aviation. If you have not fitted the water drain kit (Mod 33), order Mod 40A kit; if you have fitted the water drain kit, order Mod 40B kit. The price of either kit is £25 plus postage and VAT as applicable.