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Approved Maintenance Organisation AMO1264 Manufacturing Organisation M677

SERVICE BULLETIN #0009

(The Airplane Factory (Pty) Ltd considers compliance with all Service Bulletins mandatory)

RELEASE DATE: 19 September 2016

EFFECTIVE DATE: 19 September 2016

SUBJECT: **Installation of restricted bypass line between fuel inlet and return lines and check valve line around fine fuel filter**

MODELS AFFECTED: All Sling 2 and Sling LSA aircraft fitted with 912iS engines

COMPLIANCE TIME: **At next MPI.**

DESCRIPTION AND PURPOSE:

The Service Bulletin requires the implementation of two changes to the fuel system, namely –

1 The installation of a restricted fuel bypass line between the inlet (pressure side of the fuel pump module) and the fuel return line, the purpose of which is to allow venting of the fuel system after potential inclusion of air, as well as relief of pressure in the system following engine shutdown. (The restriction is intended to maintain a balance between short venting time and minimum fuel flow rate); and

2 The installation of a bypass fuel line with a check valve fitted, bypassing the fine (GUD E14) fuel filter in the high pressure side of the fuel system, the purpose of which is to allow fuel to bypass the filter in the event of a filter blockage.

PARTS AND CONSUMABLES LIST:

a. 1 x The Airplane Factory part no HW-FTG-504-X-X-0 (8mm diameter fuel line T-piece with 0.5 mm restriction in T outlet)
b. 3 x The Airplane Factory part no HW-FTG-503-X-X-0 (8mm diameter fuel line T-pieces)
c. 1 x The Airplane Factory part no HW-VAL-006-X-X-0 (0.8 – 1.2 bar fuel check valve with connector barbs fitted)
d. 0.5 m x The Airplane Factory part no HW-SHE-104-X-X-0 (8mm high pressure fuel line / hose)
e. 14 x The Airplane Factory part no HW-CLM-302-X-X-0 (Oetiker hose clamps for 8mm fuel line)
f. 0.5m x The Airplane Factory part no HW-HSL-001-X-X-0 (SIL 10 fire sleeve)
g. The Airplane Factory part no HW-WLC-002-X-X-0 (0.04 mm lock wire)

TOOLS REQUIRED:

a. Stanley knife or blade to cut fuel line
b. 1 x Oetiker hose clamp tool
c. Wire locking pliers

INSTRUCTIONS:

Warning: Prior to cutting or disconnecting fuel line, ensure that the pressure in the high pressure section of the system is relieved, as the 912 iS engine retains high fuel pressure in the system and fuel might spray under considerable force upon fuel union release.

Part 1

1 A fuel bypass line with a restriction (contained in the T-piece) should be fitted between the inlet (ie - pressure side of the fuel pump module, downstream of the fuel pressure sender), and the fuel return line. (See diagram A and illustrative photographs).
2 The T-piece with the restricted T should accordingly be fitted in the inlet side of the fuel system as described in 1 above. A second, unrestricted T-piece should be fitted in the fuel return line between the fuel pressure regulator and the firewall.
3 The two T-pieces should be connected with an appropriate length of high pressure 8mm fuel line.

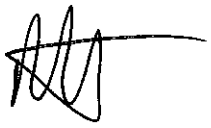
Part 2

4 A bypass fuel line with a 0.8 – 1.2 bar check valve should be fitted bypassing the fine (GUD E14) fuel filter in the high pressure side of the fuel system. (See diagram A and illustrative photographs.
5 T-pieces should be fitted adjacent to the T-piece fitted pursuant to paragraph 2 of Part 1 above, on the fuel filter side, and in the fuel line on the outlet side of the fuel filter.
6 The two T-pieces should be connected with an appropriate length of high pressure 8mm fuel line within the length of which a 0.8 – 1.2 bar check valve should be fitted.

Notes

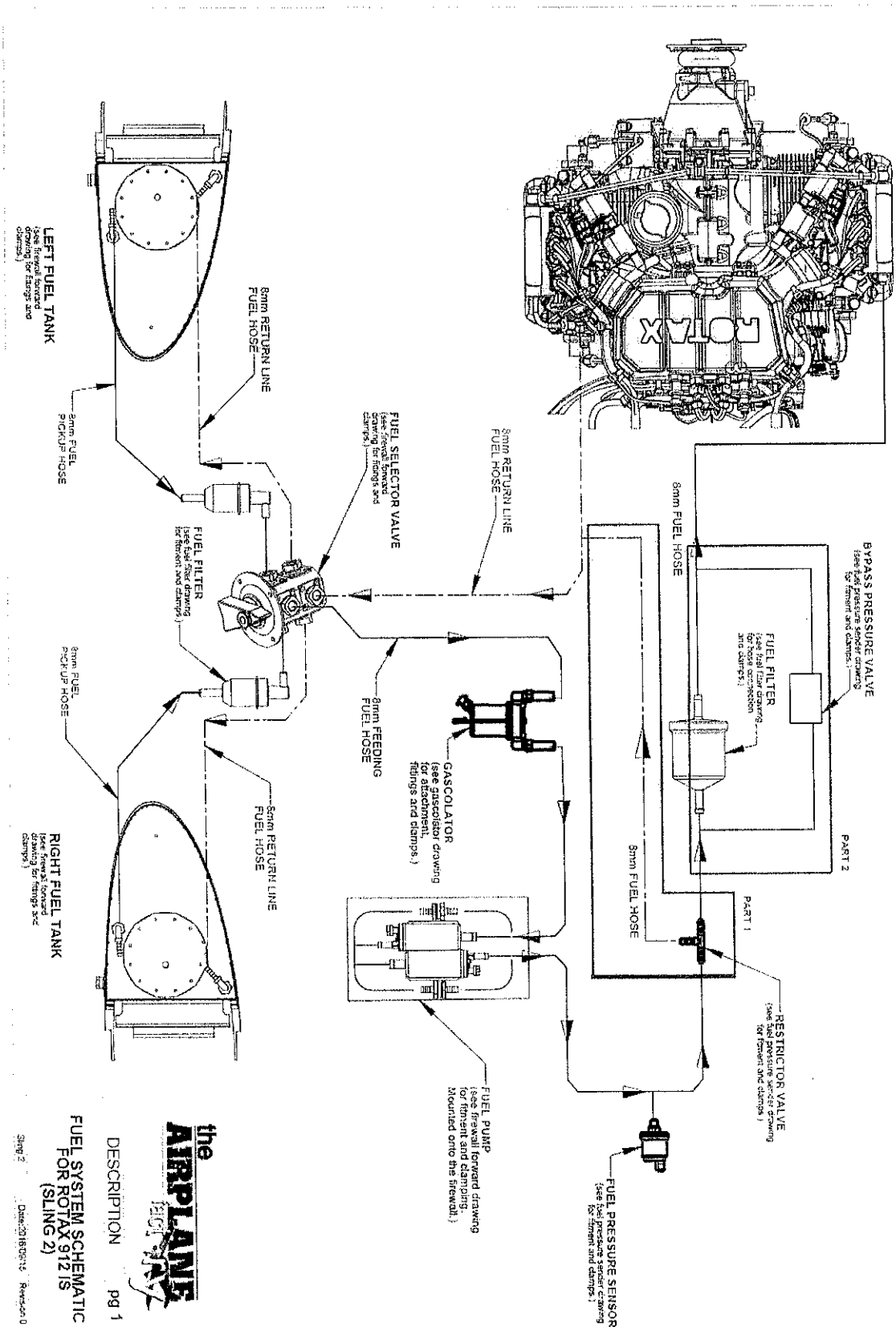
1. **Comply at all times with good aeronautical practice. Ensure that Oetiker clamps are properly fastened and that stand offs are fitted where appropriate.**
2. **Ensure that fuel check valve is fitted in correct direction for fuel to bypass filter if check pressure is exceeded.**
3. **Diagram A shows dual fuel tank installation. In case of single fuel tank installation, the second tank in the diagram is excluded from the system.**
4. **Following implementation of the Service Bulletin, a full-power ground run (following engine warm up) should be performed. (Ensure that aircraft is properly secured and that a fire extinguisher is available nearby). Fuel flow, pressure and all other engine parameters should be checked and should meet all requirements. Following the run up the system should be checked to ensure that it is free of leaks.**

Signed on this the 19th day of September 2016

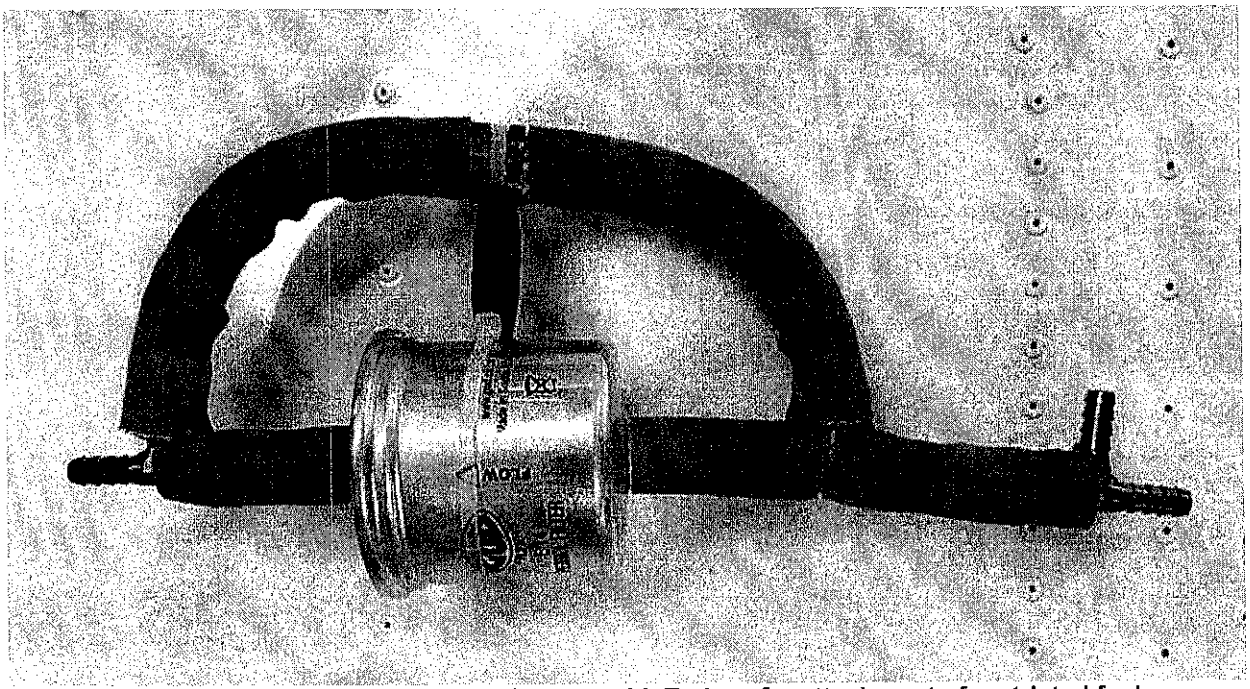


ACCOUNTABLE MANAGER – MR ANDREW PITMAN
MANUFACTURING ORGANISATION M677

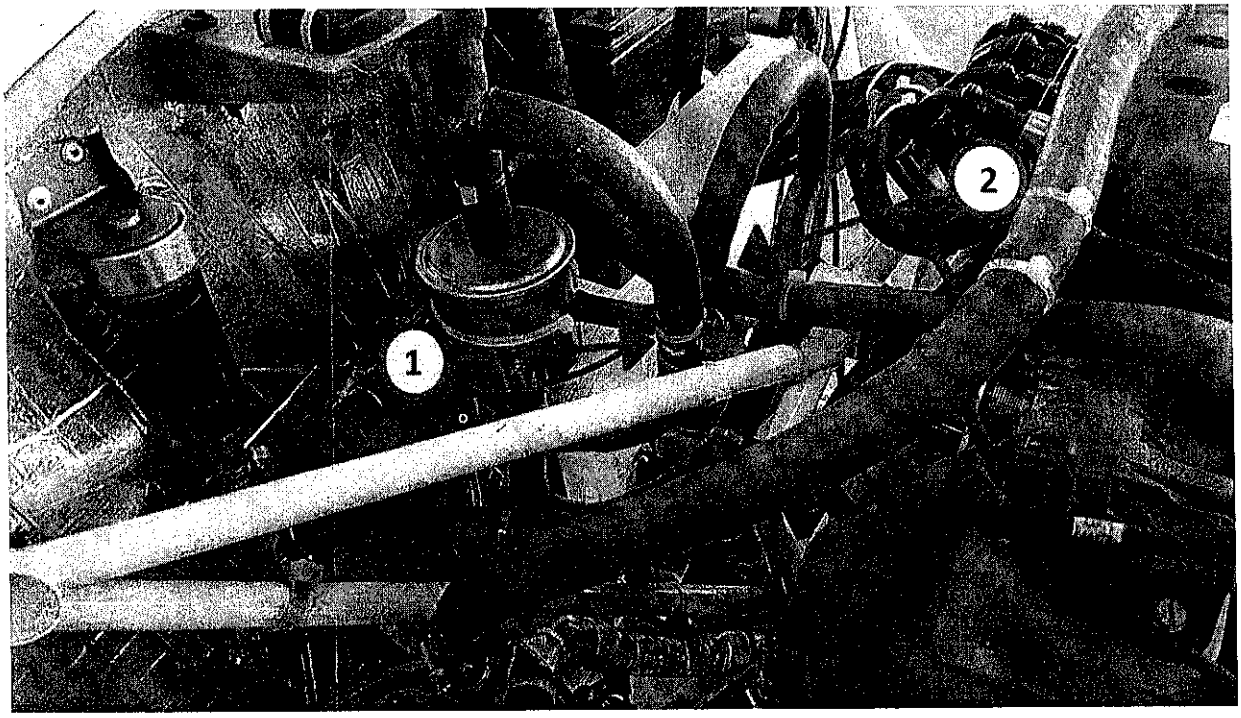
DIAGRAM A


LEFT FUEL TANK
(see firewall forward drawing for fixings and clamps.)
8mm FUEL PICKUP HOSE
8mm RETURN LINE FUEL HOSE
FUEL SELECTOR VALVE
(see firewall forward drawing for fixings and clamps.)
FUEL FILTER
(see fuel filter drawing for fitment and clamps.)
8mm RETURN LINE FUEL HOSE
8mm FUEL HOSE
BYPASS PRESSURE VALVE
(see fuel pressure sender drawing for fitment and clamps.)
FUEL FILTER
(see fuel filter drawing for fitment and clamps.)
PART 2
PART 1
8mm FUEL HOSE
8mm FUEL PICK UP HOSE
8mm FEEDING FUEL HOSE
GASCOLATOR
(see gascolator drawing for attachment fittings and clamps.)
8mm RETURN LINE FUEL HOSE
RIGHT FUEL TANK
(see firewall forward drawing for fixings and clamps.)
FUEL PUMP
(see firewall forward drawing for fitment and clamping. Mounted onto the firewall.)
RESTRICTOR VALVE
(see fuel pressure sender drawing for fitment and clamps.)
FUEL PRESSURE SENSOR
(see fuel pressure sender drawing for fitment and clamps.)
the AIRPLANE FACTORY
FUEL SYSTEM SCHEMATIC FOR ROTAX 912 IS (SLING 2)
DESCRIPTION pg 1
Sling 2
Date: 20160914
Revision 0

PHOTOGRAPHS



Pre-assembly photograph of check valve bypass with T-piece for attachment of restricted fuel pressure bypass line on inlet (pressure) side of fuel system



Post service bulletin implementation photograph of fuel system showing overall arrangement.
1 – Check valve in filter bypass (Part 2)
2 – T-piece with 0.5mm restriction (Part 1)