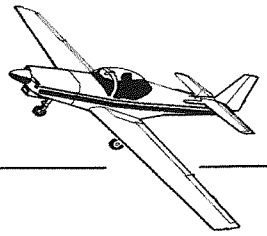
SLINGSBY AVIATION



Service Bulletin

S.B. No: **157**

Title: **FIVE YEAR FUEL TANK INSPECTION**

Classification: This Service Bulletin has been classified by SAL as Essential

Compliance: At next annual* and subsequently every five years.
* Not applicable if:

a) Previous issues, i.e. 1, 2, 3, have been invoked in previous five years
b) Aircraft are not yet five years old on receipt of this Issue 4.

Applicability: T67B, T67C Series, T67M, T67M-MkII, T67M200, T67M260 and T67M260-T3A

Issue 4: "*Not applicable..." note added to Compliance. Action has been re-written to include, in the main, calibration of sender/gauges and access panel removal and replacement.

INTRODUCTION:

This Service Bulletin introduces an interior inspection of the integral fuselage tank or wing tanks, at five-year intervals.

Note:

Not all items are applicable to fuselage tanked or wing tanked aircraft. Refer to relevant aircraft's IPC and Maintenance Manual, where applicable.

ACTION:

1. Perform the following inspections to the fuel tank/tanks after gaining access in accordance with the relevant aircraft's Maintenance Manual. Remove lower access panel, where applicable, iaw the relevant aircraft's Maintenance Manuals. For removal of the upper access panel, proceed as follows.

   1.1 This paragraph 1.1 is not applicable to fuselage tank access panel. Carefully remove the Annular Vinyl Ring, using a warm air gun. Do not over heat wing skin.

   1.2 Carefully remove paint, filler and sealant from around joint plus paint and filler from 12 off wing panel retaining screws or 22 off for fuselage fuel tank panel.

   1.3 Remove screws.

   1.4 Carefully prise panel from wing skin and sealant.

   1.5 Clean panel and wing skin removing excess "brown" sealant and filler. Ensure, panel and wing skin panel seating, have not been damaged. Do not damage the panel sealant. Ensure access panel bonding strip is exposed, Figure 2 refers.

2. Inspect internally the tank/s for general condition. Loose and peeling sealant. Flop tubes for hose clip tightness, correct location of flop tube spring, no distortion to spring, flexibility of Tygon tube and no damage to the flop tube. Avoid removing flop tubes.

3. Inspect for accumulation of sediment especially at drain valves and rib areas. Remove sediment.

4. Ensure correct operation of non-return valve/filter assembly, fuel drain and fuel level sender.

5. Ensure correct operation of flapper valves. Ensure seals on flapper valves have not deteriorated, are not de-bonded, hard or sufficiently de-formed to allow incorrect seating. If any of these conditions are found, return assembly to SAL for rectification.

6. This paragraph 6 is not applicable to the following: fuselage-tanked aircraft, T67M-MkII Post Mod M516 aircraft (Works No. 2111, 2116 and subsequent), T67M200 (Works No. 2264 and subsequent), T67M260 (Works no. 2072, 2234 and subsequent) and T67M260-T3A (2109, 2110, 2123 to 2233).

   Ensure wing drain valve is securely fastened into its retaining nut and that retaining nut is securely bonded to wing.

   Should nut not be bonded to wing, remove drain valve, clean retaining nut and skin surface. Bond nut to wing using adhesive 126-51-060. Ensure there is no adhesive blocking nut castellations or threads. Replace drain valve by using adhesive 126-51-067 (not required if nylon locking strip evident). Ensure adhesive does not contaminate drain mechanism. Torque valve to 50 lb in (5.65 Nm). Re-seal tank surface as required IAW Maintenance Manual. It is recommended that these drains are not removed from these types of aircraft for the de-fuelling process

7. Ensure filters, vent lines and fuel lines are clean and un-obstructed.

8. Wing Tank Aircraft:

   Ensure vent line hose clips are correctly positioned Ref Figures 1a and 1b. If vent line cannot meet dimensions at both ends, then replace vent line with new tube (SAL Stores Code 126-36-054). Ensure the requirements of Service Bulletin SB161 Fuel Tank Vent Pipe Check are met.

9. Ensure all rib holes are clean and unobstructed, including holes in collector panels.

10. If applicable, ensure correct operation of fuel low level sensor/warning light.

11. Check for fungicidal attack throughout fuel tank assembly.

12. Check filler cap adjustment IAW relevant aircraft's Maintenance Manual.

13. Rectify any faults found.

14. Prior to re-assembly, ensure tank is free from contamination and foreign objects.

15. Reassemble fuel tank internal components and lower access panels (wing tanked aircraft). Ensure relevant items are replaced and sealed IAW the relevant aircraft's Maintenance Manual.

16. Check fuselage sender/gauge calibration as follows:

    16.1 Ensure fuselage datums are set horizontal refer to datum levelling in Maintenance Manual, paragraph 2.1.

    16.2 If necessary ensure that there is fuel in the pipelines etc. to the level of tank base.

16.3 Pour in 4.5 litres of fuel T67B and T67C aircraft or 9 litres for T67M aircraft. Check gauge reading is zero (0).

16.4 If reading is not zero then carefully bend sender arm until reading is zero.

16.5 Add half a litre of fuel check for immediate change in fuel gauge reading.

16.6 Fill tank in 4 gallon* steps. Gauge reading to equal quantity contents.

16.7 If in doubt at any point contact SAL.

* Ensure correct units per marked gauge, i.e. Imperial gallons or US gallons.

17. If during the course of this inspection it was necessary to remove the fuel filler access panel/s then replace as follows:

17.1 Check integrity of bonding strap, on the wing or fuselage and access panel.

17.2 Check that sealant around anchor nuts is in good order repair by painting with sealant 126-51-038 use 30mm margin around any damage. Ensure end of bonding strip is sealed, refer Figure 4.

17.3 Check that panel sealant is in good order if required paint with sealant 126-51-030.

17.4 Refit access panel/s using sealant 126-51-038, applied IAW Figure 3. Ensure bonding strips are aligned. Use screws 126-21-116, fasten screw at bonding position first, and then diametrically opposite followed by remainder. Torque to 20-25lb before sealant cured as per previous sequence. Ensure continuous bead of sealant has formed around circumference of panel and that panel is flush or below surface. If below surface, ensure no more than 2mm. It is acceptable for sealant to ooze out at screw positions.

17.5 Using gloved finger remove bead of sealant (before cured), leaving a curved-bottomed groove. Allow sealant to cure, Figure 4 refers.

17.6 After sealant has cured, replace filler cap and check tanks for pressure and perform bonding tests, (0.02 ohms or less), IAW relevant aircraft's Maintenance Manual. Rectify as required.

17.7 Check wing fuel sender/gauge calibration as follows:

17.7.1 Ensure fuselage datums are set horizontal, refer to datum levelling in Maintenance Manuals, paragraph 2.1.

17.7.2 Pour two litres of fuel into each tank and ensure that the contents gauges read zero (0). If zero cannot be achieved contact SAL.

17.7.3 Add fuel in one gallon* increments up to 15** gallons in each wing tank and read off and record the corresponding fuel contents gauge readings. Tabulate readings and ensure they are within the specified limits as indicated in Table 1.

If in doubt contact SAL.

* Ensure correct units per marked gauge, i.e. Imperial gallons or US gallons.
** Note the fuel sender arm float reaches the top of the fuel tank at around 15 gallons, therefore the calibration exercise need not proceed beyond 15 gallons actual fuel contents.

17.8 Remove beads of sealant from screw heads and, if necessary, fill screw heads and recessed panel flush with filler 128-52-052. Note remove paint where required before filling.

17.9 Mask area, if required, for painting. Mask groove. Paint IAW T67 GRP Repair Manual, paragraph 2.9.4 refers.

17.10 Once dry remove masking and using lining tape line edge of groove. Ensure tape is level. Refer Figure 4.

17.11 Fill groove to the level of the tape using acrylic sealant 126-51-039. Allow to cure.

17.12 Remove tape and if necessary, remove excess sealant until flush, using 1500 grade wet and dry.

17.13 Paint IAW T67 GRP Repair Manual, paragraph 2.9.4 refers.

17.14 Apply new annular rings T67F-00-301, wing tanked aircraft only.

18. Annotate Log Book "SB 157 complied with".

19. Repeat paragraphs 1 to 17 every 5 years.

Issue 4 amendments will be incorporated into Maintenance Manuals at next amendment.

For any assistance required, please contact SAL Customer Service Department.

Fuel Tank Contents			**Permitted Readings**	
Actual	Indicated		Max (gals)	Min (gals)
	Port (gals)	Stbd (gals)		
2 litres (gals)	0	0	0	0
1			1.0	0.5
2			2.0	1.0
3			3.0	1.5
4			4.0	2.5
5			5.0	3.0
6			6.0	4.0
7			7.0	5.0
8			8.0	6.0
9			9.0	7.0
10			10.0	8.0
11			11.0	9.0
12			12.0	10.0
13			14.0	11.0
14			15.0	12.0
15			15.0	13.0

TABLE 1 WING TANK FUEL CONTENTS TO GAUGE READINGS

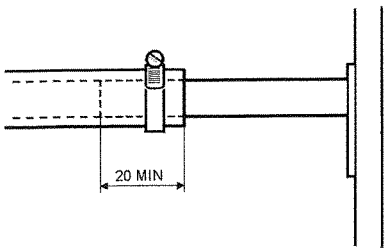


FIGURE 1a PRE MOD M500/M554

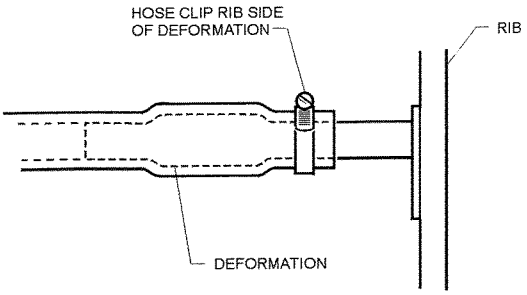
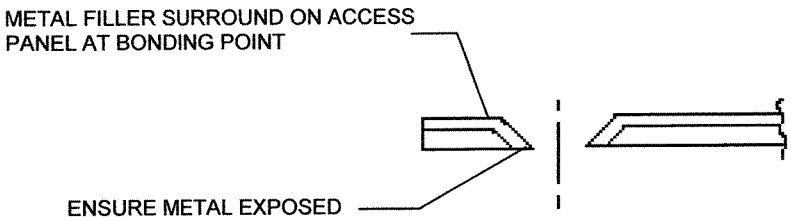


FIGURE 1b POST MOD M500/M554



PART SECTION THRU SCREW HOLE IN ACCESS PANEL

FIGURE 2

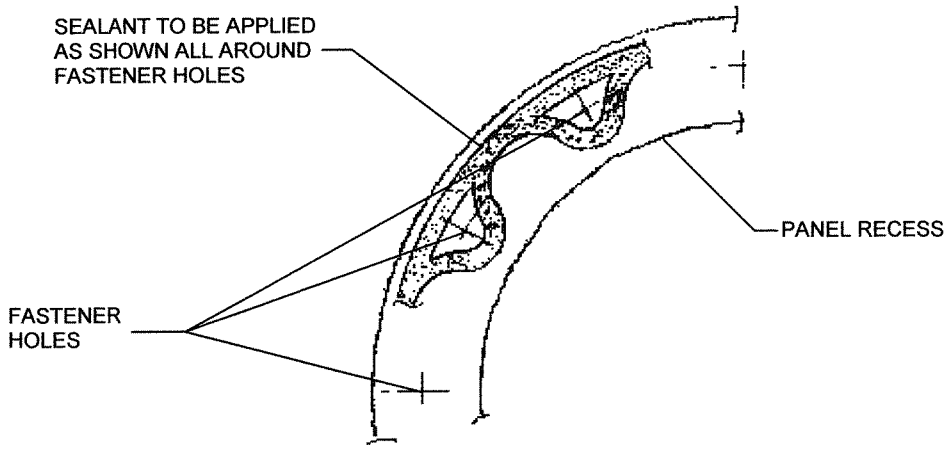


FIGURE 3

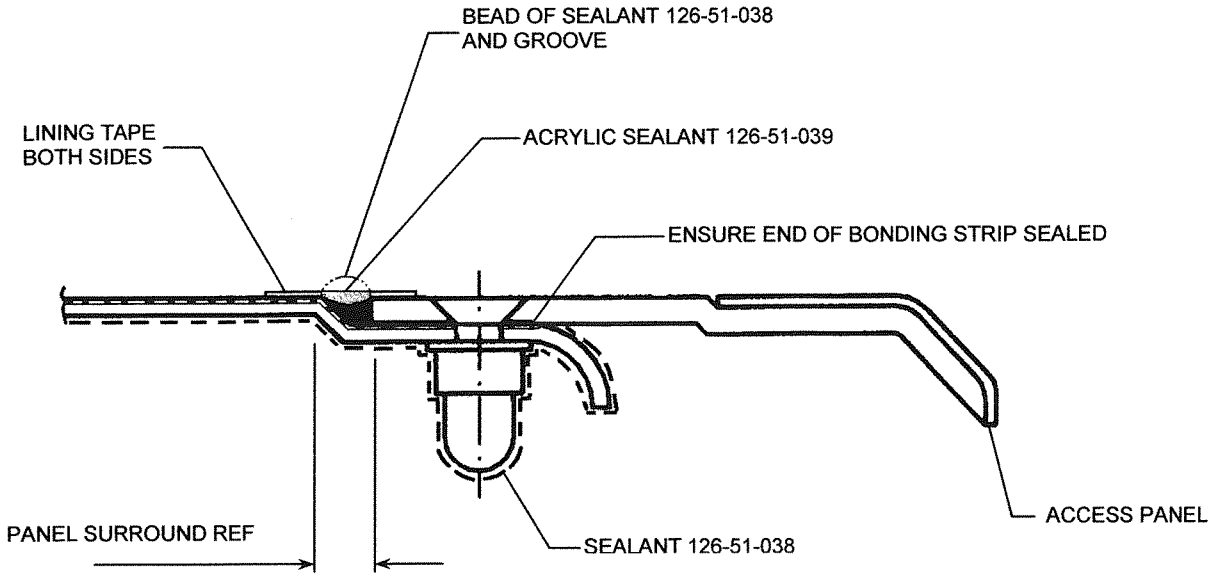

BEAD OF SEALANT 126-51-038
AND GROOVE
LINING TAPE
BOTH SIDES
ACRYLIC SEALANT 126-51-039
ENSURE END OF BONDING STRIP SEALED
ACCESS PANEL
PANEL SURROUND REF
SEALANT 126-51-038

FIGURE 4