Service Bulletin SB.JS-005

TITLE

JS1 Tail valve V2 modification & inlet filter installation

APPLICABILTY

	MODEL	SERIAL NUMBERS
Replacement of tail valve with inlet filter	**JS1B**	1B-019, 1B-020, 1B-021, 1B-022
Replacement of tension spring	**JS1B**	1B-019, 1B-020, 1B-021, 1B-022

REASON

It was reported by a customer that the dumping rate of the tail valve was slower than the dump rate of the main wing tanks. This may lead to the centre of gravity moving outside of the approved aft limit. Investigations showed that:

1. Foreign objects inside the tail tank or objects entering the tail tank during water filling may have obstructed the valve inlet and as a result may restrict the dump rate, and/or prevent proper sealing of the valve.
2. The tail valve may not open fully due to the compression spring not compressing enough and as a result may restrict the dump rate, and/or prevent proper sealing of the valve.

DESCRIPTION

A filter (Fig 2, #11) has been added to the tail valve to prevent debris obstructing the valve plunger. The dump rate of the Tail valve V2 must be tested and if found less than 1 litre per minute, the tail valve must be modified accordingly:

1. The valve inlet must be modified to accommodate the installation of the filter and the internal diameter of the plunger increased. The filter must be cleaned if the dump rate is slower than specified.
2. The compression spring must be removed and replaced with a tension spring (Fig 2, #14) on the opposite side of the cable. The cable adjuster (Fig 2, #13) and clevis (Fig 2, #8) must be removed and replaced to accommodate the tension spring.

This Service Bulletin explains:

1. The procedure to remove and install the tail valve V2, with the following modifications incorporated:
    a. Inlet filter installed to the valve inlet
    b. Plunger modified to increase flow rate
    c. Modified lever to accommodate the tension spring, modified clevis and cable adjuster.
2. The maintenance checks required to ensure correct operation.

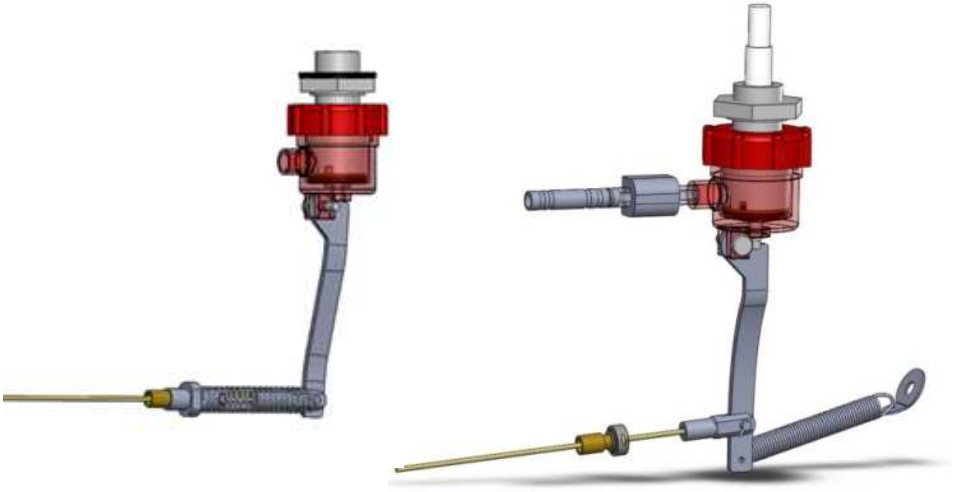

Figure 1: a)Tail valve V2 with compression spring and without the filter; b)Tail valve V2 with the tension spring and filter

COMPLIANCE

MANDATORY: This service bulletin must be accomplished at the next scheduled maintenance inspection or when the measured dump rate of the tail tank is less than 1 litre per minute. (NOTE: The dump rate may slow down as the tank drains and the gravity head decreases.)

INSTRUCTIONS

Test the tail tank dump rate as explained in the maintenance manual (Issue 2, rev1, page 6-20.) and if less than specified, the procedure to correct the slow dump rate as explained in the maintenance manual (Issue 2, rev1, page 6-22.) must be followed. The dump rate must be tested again and if still less than specified the following procedure must commence:

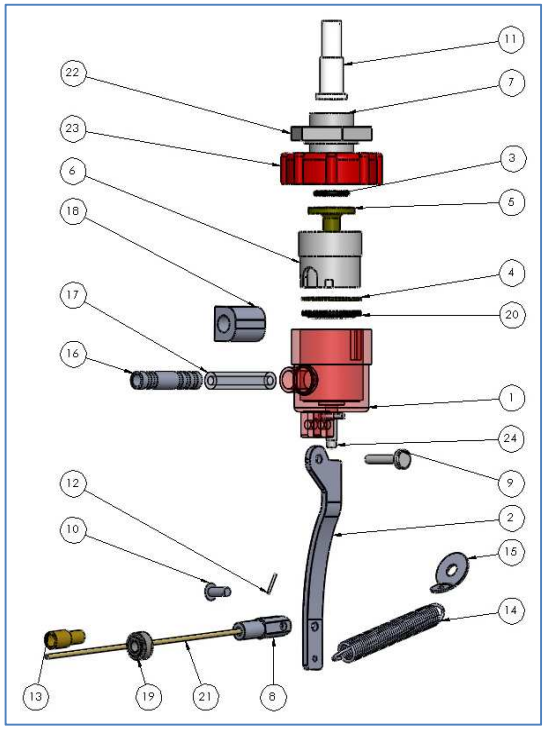

Figure 2: tail valve V2 exploded view

Procedure to remove tail tank V2 and install filter:

1. Remove the tail wheel and mud guard.
2. Undo lever by removing the hinge pin (See Fig 2, #9)
3. Remove the silicon tubing from valve body.
4. Undo the locking nut (See Fig 2, #22)
5. Remove tail valve by rotating the valve anti-clockwise.
6. Remove the valve inlet and replace with the valve inlet with the attached filter.
7. Reinstall the tail valve.
8. Tighten the locking nut by hand.
9. Attached the lever with the hinge pin.
10. Test the dump rate:
    a. If found according to specifications, reinstall the tail wheel and mud guard.
    b. If less than specifications the following procedure must commence:

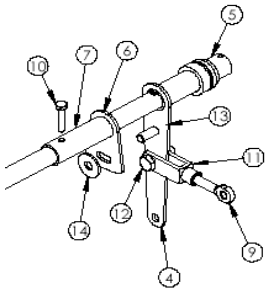

Figure 3: Torsion tube assembly in fuselage

Procedure to remove compression spring and installing tension spring with affected components:

1. Remove the tail wheel and mud guard.
2. Assure the water system lever in the cockpit is at closed position.
3. Cut the cable at the clevis (Fig 3, #9)
4. Remove cable from sleeve through tail.
5. Drill a hole in the shear web where the cable adjuster will be placed as illustrated in figure 4.
6. Place the adjuster (Fig 2, #13) as illustrated in figure 6.
7. Rout the cable with clevis attached.

Figure 4: Hole position in shear web.

8. The arm (Fig 3, #4) may have to be fitted with an extra hole, as illustrated in fig 6. inorder for the cable to fit. Removal and reinstallation as wel as adjustment needs to commence as explained in the maintenance manual issue 2, par 6.6.4. Adjustment of the water ballast system.
9. Install the spring retaining washer (Fig2, #15) on the bottom rudder hinge bolt, at the rear end of the wheel box.
10. Install the lever to the valve body with the hinge pin (Fig2, #9)
11. Attached the cable to the clevis (Fig 3, #9) with the lever and clevis, (Assuring the valve is in the closed position) in the positions as illustrated in figure 6.
12. The tension of the cable can be adjusted with the clevis (Fig3, #9).
13. Install the mud guard and ensure there is no interfernce with the tail valve and actuators.
14. Install the tail wheel.
15. Test the dump rate and assure it is as specified.

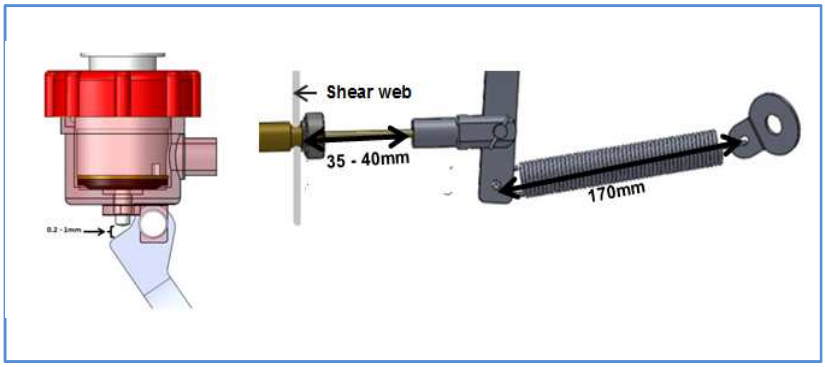

Figure 5: Play specification between valve pin and lever, lever and spring retainer, clevis and shear web.

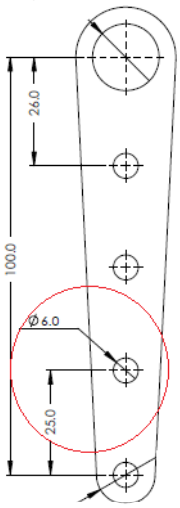

Figure 6: Arm fitted with extra hole.

MAINTENANCE

Maintenance should occur as described in the maintenance manual Issue 2.

MATERIAL AND PARTS

Part description	Part number
• Tail valve V2:	1A-1.08.71
• Tail valve inlet filter:	1A- 1.08.71.16
• Valve inlet:	1A-1.08.71.9
• Plunger:	1A-1.08.71.5
• Tension spring:	1A-1.08.73
• Clevis:	1A-1.08.71.10
• Cable adjuster;	1A-1.08.72

- Drawing numbers: D1A- 1.08.71

MASS AND BALANCE

No change

MANUALS

Maintenance Manual: Pages: 6-21, 6-22