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Registration no 2002/022837/07
Approved Maintenance Organisation AMO1264
Manufacturing Organisation M677

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SERVICE BULLETIN

#0028

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(Sling Aircraft (Pty) Ltd. considers compliance with all Service Bulletins mandatory)

RELEASE DATE: 06/06/2025

EFFECTIVE DATE: 06/06/2025

SUBJECT: Inspection and Replacement of Incorrect Check Valves

MODELS AFFECTED: Factory built Sling LSA aircraft with serial numbers listed below:

426a, 427a, 428a, 429a, 430a, 434a, 435a, 436a, 437a, 438a,
439a, 440a, 442a, 443a

COMPLIANCE TIME: Next MPI (Mandatory Periodic Inspection) or annual inspection, whichever comes first.

LABOUR TIME: Inspection: 5 minutes
Replacement: 25 minutes

1. DESCRIPTION AND PURPOSE:

Low-pressure check valves have incorrectly been installed across the fine filter, allowing fuel to bypass the filter. As a result, unfiltered fuel may reach the engine, increasing the risk of contamination and potentially leading to hazardous engine operation.

This bulletin mandates an inspection of the fuel system to identify which check valve was installed and replace if incorrect. The objective is to ensure that all fuel is properly filtered before reaching the engine, thereby maintaining system integrity and preventing unsafe operating conditions. Refer to Figure 1 below for reference.



a. Black High Pressure Check Valve. Breakout Pressure 0.8 to 1.0 Bar.



b. Blue Low Pressure Check Valve. Breakout Pressure 0.03 to 0.05 Bar.

Figure 1: Illustration of a. Black High Pressure Check Valve and b. Blue Low Pressure Check Valve.

This is only present on Sling LSA aircraft outfitted with a Rotax 912 iS engine that were built at the factory.

1.1. MASS DATA:

N/A

1.2. ELECTRICAL LOAD DATA:

N/A

1.3. SOFTWARE MODIFICATIONS:

N/A

1.4. REFERENCES:

- a) DC-KAI-006-X-A – Sling 2 Firewall Forward & Fuel System Construction Manual
- b) DC-MAM-002-X-B – Sling 2 & LSA Maintenance Manual

1.5. PUBLICATIONS AFFECTED:

N/A

2. MATERIAL INFORMATION:

2.1. PARTS AND CONSUMABLES LIST:

- a) 1 x HW-VAL-011-X-X-0 - Check Valve (0.8-1.0 Bar) (AN6 Male to AN6 Male)
- b) Fuel-resistant thread sealant e.g. Loctite 577

2.2. TOOLS REQUIRED:

- a) Philips screwdriver.
- b) 18 mm (11/16") spanner.
- c) 25mm spanner or Shifting Spanner.
- d) Clean lint-free cloths.
- e) Fuel container (for draining residual fuel).
- f) Safety gloves.

2.3. MATERIAL RESPONSIBILITY:

Sling Aircraft (Pty) Ltd will provide the required parts listed in Section 2.1 for all aircraft subject to the Service Bulletin.

2.4. COMPANY SUPPORT INFORMATION

Sling Aircraft AMO 1264 (Johannesburg, South Africa) is available to perform the required work on all aircraft on its premises. Person(s) implementing the work are required to follow instructions set out below and refer to the supplementary documentation listed in Section 1.4 as needed. Sling Aircraft cannot accept any responsibility for the quality of work performed in implementing this Service Bulletin, if the work is not performed by Sling Aircraft AMO 1264 (Johannesburg, South Africa).

All work carried out on the aircraft with respect to this Service Bulletin may be performed by the kit builder. Refer to the legal requirements of the governing aviation authority of the country where the actions, as detailed by this Service Bulletin, are to be carried out. Sling Aircraft will cover the installation costs of aircraft under warranty. Sling Aircraft is not responsible for costs related to shipping, downtime, loss of income, etc.

2.5. COMPANY SUPPORT INFORMATION

To request Service Bulletin kits, please use the following contact details:
sales@slingaircraft.com, or contact your local distributor.

Make use of the following contact details for any related technical queries:
airworthiness@slingaircraft.com or technical@slingaircraft.com.

3. INSTRUCTIONS:

This section details the inspection and corrective action required.

3.1. Visual Inspection

It is possible to inspect the installed check valve by removing only the top cowling.

- Step 1: Remove the top engine cowling. Refer to Section 5.1.1 of the Sling 2 & LSA Maintenance Manual (DC-MAM-002-X-B) for instructions on how to remove the cowling.
- Step 2: Examine the check valve to confirm it matches the high-pressure check valve specifications (breakout pressure: 0.8-1.0 bar). Refer to Figure 1 and Figure 2 for a visual reference of the low pressure (incorrect) and the high pressure (correct) check valve configuration.

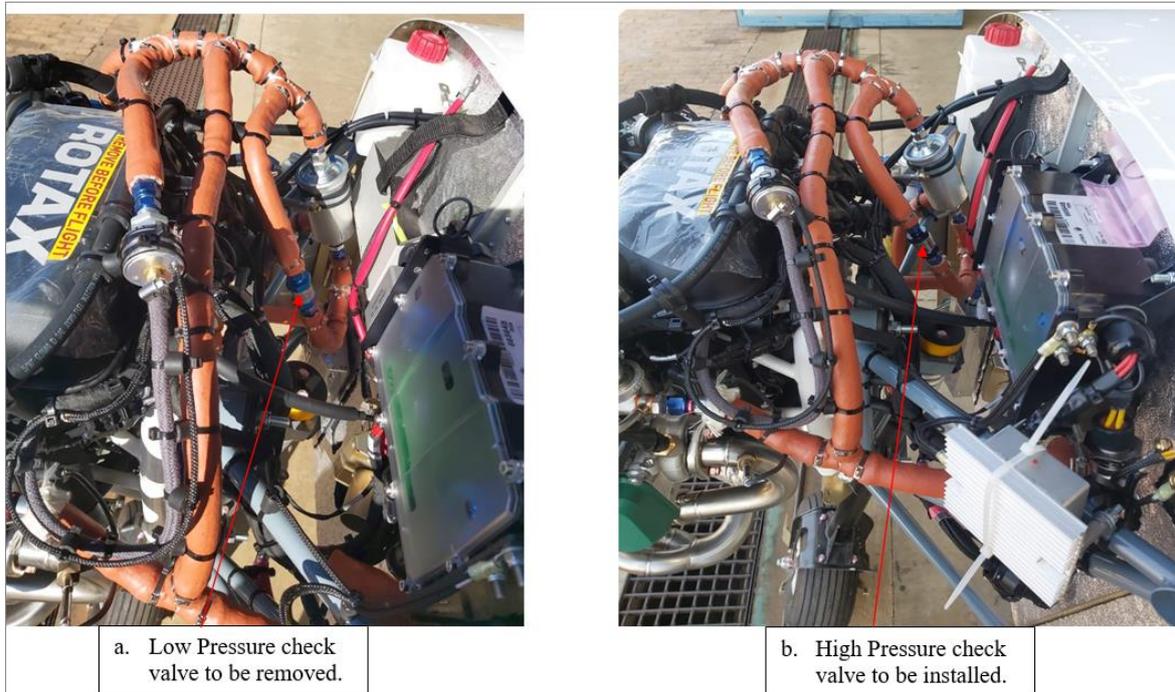


Figure 2: Installed a. Blue Low Pressure Check Valve and b. Black High Pressure Check Valve.

- Step 3: If an incorrect check valve is identified, it must be replaced to ensure proper fuel flow through the fine filter. Refer to Section 3.2 for detailed instructions on replacing the check valve.
- Step 4: If the correct high pressure check valve is installed, proceed to reinstall the cowling as per Section 5.1.1 of the Sling 2 & LSA Maintenance Manual (DC-MAM-002-X-B).

3.2. Replacement of Low-Pressure Check Valve with High Pressure Check Valve

If the check valve is ascertained to be a low-pressure, follow the procedure set out below to replace it.

- Step 1: Place a fuel container beneath the check valve assembly to catch any residual fuel.
- Step 2: Wear safety gloves to protect against fuel exposure.
- Step 3: Set the Fuel Selector Valve to the OFF position, and ensure all electrical switches are OFF.
- Step 4: Using the 18mm and 25mm spanners, carefully loosen the inlet fuel line fitting connected to the check valve. See Figure 3. Allow any residual fuel to drain into the fuel container.

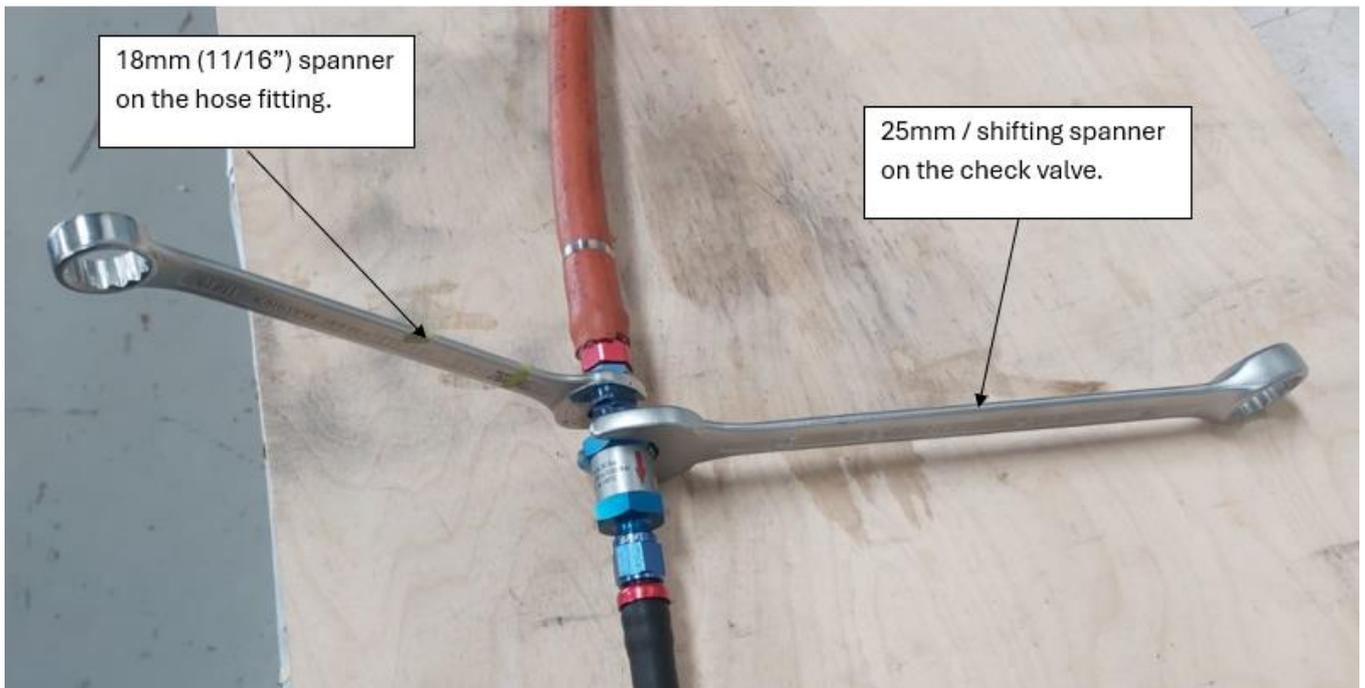


Figure 3: Correct way of loosening and tightening the check valve from the fittings.

- Step 5: Repeat the process with the 18mm and 25mm spanners to loosen the outlet fuel line fitting.
- Step 6: Gently remove both fuel lines from the check valve, ensuring no debris enters the lines. Cover the open ends of the fuel lines with clean lint-free cloths to prevent contamination.
- Step 7: Verify that the replacement black high-pressure check valve matches the required specifications (breakout pressure: 0.8-1.0 bar).
- Step 8: Apply a thin layer of fuel-resistant thread sealant (Loctite 577) to the threads, see Figure 4 below, of the replacement valve to ensure a secure and leak-free connection.



Figure 4: Check Valve with a thin layer of Loctite 577 applied on one thread and covering only half a turn.

- Step 9: Remove the cloths covering the fuel line ends and inspect for cleanliness.
- Step 10: Position the high-pressure check valve in the same orientation as the removed valve, ensuring the flow direction arrow on the valve aligns with the fuel flow toward the engine, see Figure 5 below.



| Figure 5: Ensure that the arrows are pointing towards the engine.

- Step 11: Reattach the inlet fuel line to the check valve using the 18mm and 25mm spanners; see Figure 3 above.
- Step 12: Reattach the outlet fuel line using the 18mm and 25mm spanners.
- Step 13: Wipe down all connections with a clean lint-free cloth to remove any residual sealant or fuel.
- Step 14: Open the Fuel Selector Valve and check for leaks at the check valve connections. If leaks are detected, tighten the fittings slightly until no leak is detected.
- Step 15: Before flight, perform an engine ground run and verify correct fuel flow and pressure. After the engine run, inspect for any sign of fuel leaking at the check valve to hose connections.
- Step 16: Reinstall the top cowling. Refer to Section 5.1.1 of the Sling 2 & LSA Maintenance Manual (DC-MAM-002-X-B) for instructions on how to install the cowling.
- Step 17: Document the inspection and replacement in the aircraft maintenance log, including the part number of the new check valve and the date of service.
- Step 18: Dispose of any residual fuel and used materials in accordance with local regulations.

Signed on this the 02 day of June 2025

JAL Pitman

ACCOUNTABLE MANAGER
MR JAMES PITMAN