

**\*MANDATORY SERVICE BULLETIN\***

**NUMBER:** SB-008

**DATE:** 04/14/2009

**SUBJECT:** FUEL SYSTEM; Mandatory Fuel Drain Valve Resistance Test

**SUMMARY**

QUEST AIRCRAFT RECOMMENDS THAT EACH OPERATOR COMPLY WITH THIS MANDATORY SERVICE BULLETIN IMMEDIATELY.

**RECURRENT REQUIREMENTS**

No recurrent requirements associated with this Service Bulletin.

**BACKGROUND**

On September 16, 2008 Quest Aircraft Issued a Mandatory Service Bulletin that called for a mandatory replacement of the plastic fuel drain valves. The instructions were to replace the plastic fuel drain valves (P/N 100-0140-0100) with a new metal fuel drain valve (P/N SA5817-4C). Due to the conductive nature of metal fuel drain valves, Quest Aircraft performed lightning tests on the fuel system with the metal fuel drain valves installed to ensure adequate protection of the fuel system if the fuel drain valves experienced a direct lightning strike. The KODIAK's lightning tests were successful with the metal fuel drain valves. In order to ensure adequate protection of the fuel system, the resistance between the metal fuel drain valves and the aircraft must be less than 3.8 milli ohms. Quest is mandating a one-time inspection for operators to test the resistance of the fuel drain valves installed on the aircraft.

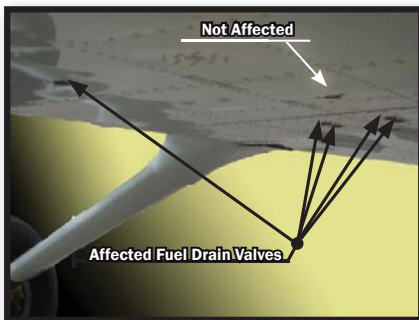


Figure 1 - KODIAK 100 Lower Cabin

**ACTION**

Instructions to test the resistance of the fuel drain valves are included in this Service Bulletin. If the fuel drain valves do not meet the maximum of 3.8 milli ohms, the valve must be removed and the mating surface must be cleaned to increase the conductive path between the aircraft and the fuel drain valve.

**EFFECTIVITY**

KODIAK Aircraft Serial Numbers:  
100-0001 thru 100-0005.

**AFFECTED PARTS**

- KODIAK PART AFFECTED:
- P/N SA5817-4C Saf-Air Metal Fuel Drain Valve

REPLACEMENT PART FOR AIRCRAFT RECORDS:

- N/A

**COMPLIANCE**

This Service Bulletin needs to be completed prior to next flight.

**INDUSTRY SUPPORT INFORMATION**

None

**MANPOWER**

The instructions contained in this Service Bulletin will take approximately 2.5 hours to complete.

**COMPLETION**

Upon completion, please annotate the work completed in the KODIAK Maintenance Logbook.

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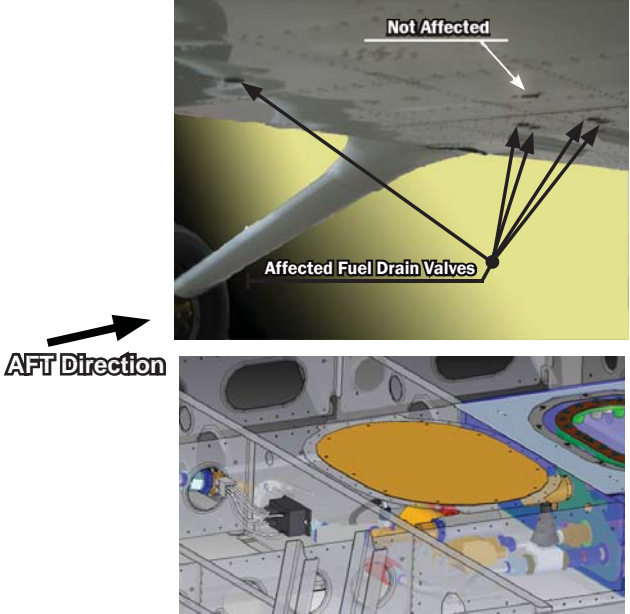
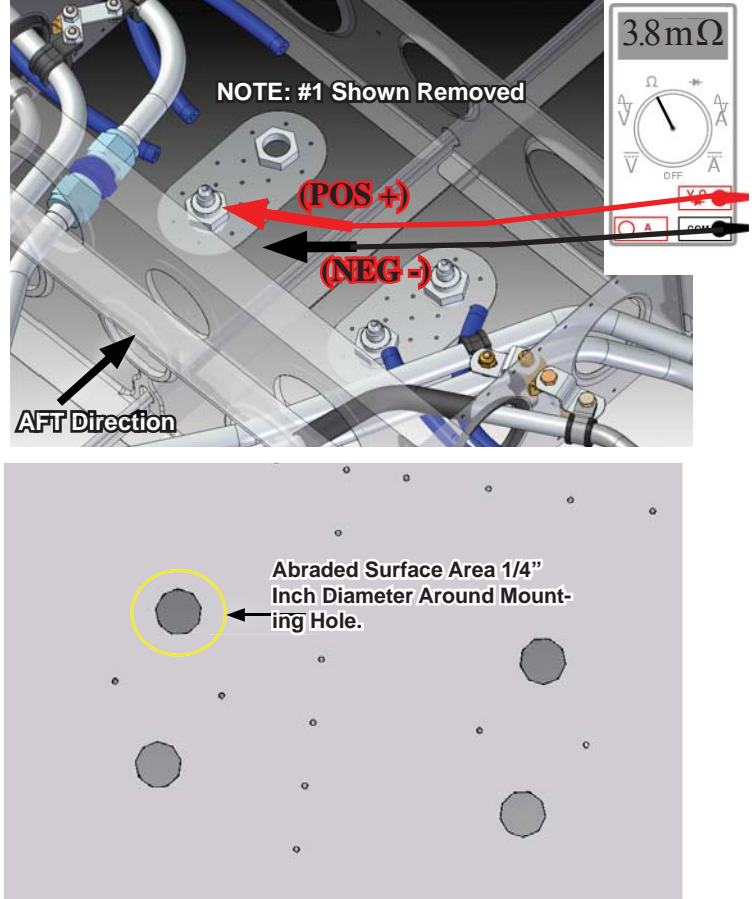


**\*IMPORTANT SERVICE BULLETIN\***

**SB-008 Fuel Drain Valve OHM Test**

# **INSPECTION INSTRUCTIONS**

# FUEL DRAIN VALVE RESISTANCE TEST

Task	Instruction	
1	Ground the Aircraft using an approved grounding wire and grounding point.	
2	Turn off the main fuel selectors and de-fuel forward fuel tank reservoir using the de-fueling procedures defined in Chapter 28 of the KODIAK Maintenance Manual "Defueling".	
3	<p>Using the procedures defined in the KODIAK Maintenance Manual, disconnect the fuel lines from the 5 affected fuel drain valves. To gain access to the forward fuel drain valve, perform the following steps:</p> <ol style="list-style-type: none"> <li>1. Remove the crew seats and forward center floor board to gain access to the floor fuel bays.</li> <li>2. Once the center cockpit floor has been removed, using a Phillips #2 Screwdriver, remove the 12 screws that secure the forward fuel compartment access panel to the floor.</li> </ol> <p><b>NOTE:</b> Fuel bladder access (aft most access cover) is not required to accomplish this procedure.</p> <p><b>*CAUTION*</b> - When removing, do not damage the seal located underneath the forward fuel compartment access panel.</p>	
4	<p>Using an applicable Ohm Meter, place one end of the meter on the fuel drain valve and the other end of the meter on a clean surface of the aircraft floor or a rivet. (If corrosion protectant is removed to create a grounding surface, re-apply corrosion protectant once test is complete.) The resistance between the fuel drain valve and the floor of the aircraft should be less than 3.8 milli ohms. If any of the fuel drain valves ohm reading is greater than 3.8 milli ohms, remove the fuel drain valve using the procedures defined in the KODIAK Maintenance Manual Chapter 28. To increase the conductivity between the fuel drain valves and the aircraft, remove the paint and primer on the exterior of the aircraft 1/4" inch around the contacting surface of the fuel drain mounting hole. To accomplish this, use an abrasive Scotch-Brite pad. Re-apply alodine to the abraded surface. Repeat this step for each of the fuel drain valves that do not meet the 3.8 milli ohms resistance criteria.</p>	

# FUEL DRAIN VALVE RESISTANCE TEST

Task

Instruction

After all fuel drain valves are checked, make sure all tools are removed.

The next step is to reinstall the access panel to the forward fuel access bay.

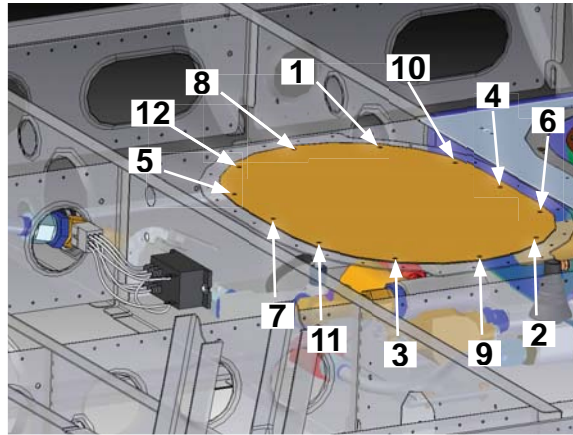
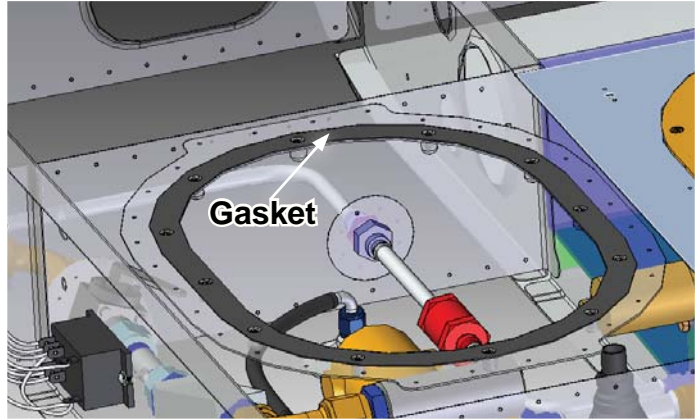
**NOTE:** The gasket must be properly aligned and reinstalled using an asymmetrical tightening.

Insert the gasket on top of the fuel bay where the access panel will be installed. Ensure that the holes in the gasket line up with the holes in the floor. Also, ensure that the gasket is flat and free of any foreign debris.

- 5 Place the forward fuel access bay cover on top of the gasket. Make sure all holes are aligned. Install the screws with a Phillips #2 Screwdriver and tighten each screw using the asymmetrical tightening diagram on the right.

Torque the screws to 12-15 inch-pounds.

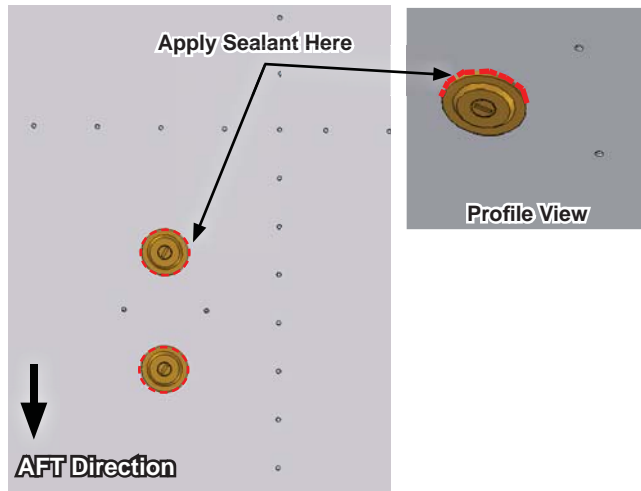
**DO NOT** install the floor over the forward fuel access bay at this point. After tightening, allow 1 hour to pass and retighten the screws to the torque previously specified. This procedure ensures the gasket is sealed properly after settling.



Apply a thin bead of fuel tank sealant around the perimeter of the re-installed fuel drain valve.

- 6 The sealant will protect against moisture and corrosion between the valve and the aircraft skin.

Annotate the work performed in the KODIAK Maintenance Manual.



- 7 End of Instructions.