

**\*MANDATORY SERVICE BULLETIN\*****NUMBER:** SB14-03**REVISION:** 01**DATE:** June 12, 2014

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**SUBJECT:** TKS™ CONSOLE TANK LEVEL INDICATOR INSTALLATION

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**EFFECTIVITY:**

As required for TKS™ equipped KODIAK® 100 Series Aircraft Serial Numbers: 100-0001 thru 100-0114 with TKS™ installed prior to June 10, 2014.

**SUMMARY:**

The accompanying Field Service Instruction provides instruction for installation of the fluid-level indicator in the console tank of the TKS™ ice protection system, to prevent overfilling and spillage for fielded aircraft.

**COMPLIANCE:**

This Mandatory Service Bulletin must be complied with during or before the next 100 Hour Inspection or Annual Inspection, whichever comes first.

**ATTACHED DOCUMENTS:**

Document #:	Document Title:
FSI-088	TKS™ CONSOLE TANK LEVEL INDICATOR INSTALLATION

**FAA APPROVAL STATUS:**

The instructions attached to this Service Bulletin have demonstrated compliance with all applicable Federal Aviation Regulations and are approved by the Federal Aviation Administration.

**CREDIT AND WARRANTY INFORMATION:**

For aircraft under factory warranty, Quest will supply one Service Kit FSI-088 and reimburse up to 2 hours of labor costs associated with this bulletin. Refer to Quest's web site for information on submitting invoices for labor reimbursement.

For aircraft not under factory warranty, Service Kit FSI-088 is available for purchase through Quest Customer Service for \$155.21 (price subject to change).

**Quest Customer Service****Service Bulletin: SB14-03****Phone: (208)263-1111 Toll Free: 1(866)263-1112****Email: [Customerservice@questaircraft.com](mailto:Customerservice@questaircraft.com)****SPECIAL INSTRUCTIONS:**

None applicable.



# FIELD SERVICE INSTRUCTION

TITLE: TKS Console Tank Level Indicator Installation  
SERIAL RANGE: As Required

JASC CODE: 3000

PAGE: 1 of 10  
REPORT NO.: FSI-088  
REVISION: 01

## SUBJECT

This Field Service Instruction provides instruction for installation of the fluid-level indicator in the console tank of the TKS ice protection system, to prevent overfilling and spillage for fielded aircraft.

## AFFECTED MANUALS AND PUBLICATIONS

AM901.004, *TKS Ice Protection System* (supplement to the *KODIAK® 100 Pilot's Operating Handbook*)

## INDUSTRY REFERENCES

None.

## WEIGHT AND BALANCE

Negligible

## MANPOWER

The estimated man-hours and minimum number of persons required to perform this Field Service Instruction are listed below. The "Minimum Persons" refers only to maintenance personnel or installers, and unless otherwise specified within this instruction does not include additional personnel that may be needed solely to comply with safety requirements (for example, safety observers that are not performing tasks within this instruction). It is the responsibility of maintenance personnel to comply with safety requirements, including having a safety observer available as needed.

**Estimated Man-hours: 2 hours**

**Minimum Persons: 1 person**

If more than the minimum personnel perform this instruction, the actual man-hours required may be reduced due to increased efficiencies. As appropriate, Quest encourages the use of additional personnel; man-hour estimates are based on the minimum personnel required.

## RECORD OF COMPLETION

- Update the appropriate KODIAK® 100 airplane maintenance records
- Ensure the *KODIAK® 100 Pilot's Operating Handbook* is up-to-date with the current revision
- Ensure the *KODIAK® 100 Airplane Maintenance Manual* is up-to-date with the current revision.

Quest Aircraft Company, LLC  
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## ▲ DISCLAIMER ▲

*The instructions / procedures presented herein are based upon the systems and components of the aircraft when it was delivered from the factory, or as modified by Quest Service Bulletins. Third-party modifications that have affected any component, system, or operating characteristic discussed by this document may invalidate the instructions / procedures provided. Before performing the instructions / procedures herein, examine all Supplemental Type Certificate (STC), Supplemental Type Authority (STA), or equivalently authorized modifications to verify that the instructions/procedures presented in this document can be properly completed. If an aircraft has an STC, STA, or equivalently authorized modification that affects any component, system, or operating characteristic also affected by this document, the operator is responsible for obtaining appropriate regulatory approval before performing the instructions / procedures herein. Quest Aircraft Company cannot be responsible for the quality of work performed in accomplishing the requirements of this document.*

*If you have any questions as to the applicability of this document to your specific aircraft, contact Quest Customer Service by telephone at (208) 263-1111, toll-free at (866) 263-1112, or via email at [CustomerService@QuestAircraft.com](mailto:CustomerService@QuestAircraft.com)*



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### REVISION RECORD

REV	PAGE	CHANGE DESCRIPTION
00	All	Initial Release
01	4	Table 2-1 Item 2-1-6 P/N 10M620-1 moved to Table 2-4 Table 2-2 Item 2-2-1 P/N P/S 890-A2 moved to Table 2-4
	6	Added: Caution "Use caution when removing the access cover..." Updated: Figure 5-1
	8	Updated: Figure 5-4



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## 1. Special Safety Instructions

### 1.1 Warnings

Failure to comply with “Warnings” contained in this instruction may result in financial loss, significant delay in the completion time, and/or serious injury to personnel.

### 1.2 Cautions

Failure to comply with “Cautions” contained in this instruction may result in the destruction of components, unnecessary complications, the need to reverse completed work, and/or delays in the completion time.

### 1.3 Notes

“Notes” are provided when additional information may lead to an increase in efficiency.

## 2. Parts, Tools, and Equipment

The following tables describe the parts, tools, and equipment necessary to successfully complete this instruction. Where applicable, reference to drawings provided with this instruction is provided.

**Table 2-1: Parts and Tools Included in the Service Kit**

Item #	Part No.	Qty	Description	Drawing No.	Dwg Item #
2-1-1	100-830-1999	1	TKS Fluid-Level Indicator for Console Tank	N/A	N/A
2-1-2	MS20470AD3-5.5	2	Rivets	N/A	N/A
2-1-3	100-910-0118	1	TKS Console Tank Placard	N/A	N/A
2-1-4	100-013-8810	2	CAV Sealing Ring	N/A	N/A
2-1-5	S1201-20	1	CAV O-ring	N/A	N/A

**Table 2-2: Consumables Included in the Service Kit**

Item #	Part No.	Qty	Description	Drawing No.	Dwg Item #
2-2-1	N/A	-	N/A	N/A	N/A

**Table 2-3: Serial-Number-Specific Parts Included in the Service Kit**

Item #	Part No.	Qty	Description	Drawing No.	Dwg Item #
2-3-1	N/A	-	N/A	N/A	N/A

**Table 2-4: Parts and Tools NOT Included in the Service Kit**

Item #	Part No.	Qty	Description	Drawing No.	Dwg Item #
2-4-1	10M620-1	AR	O-ring	N/A	N/A
2-4-2	P/S 890-A2	AR	ProSeal 890 Class A Type 2 (Alt: AC-236-A-2)	N/A	N/A



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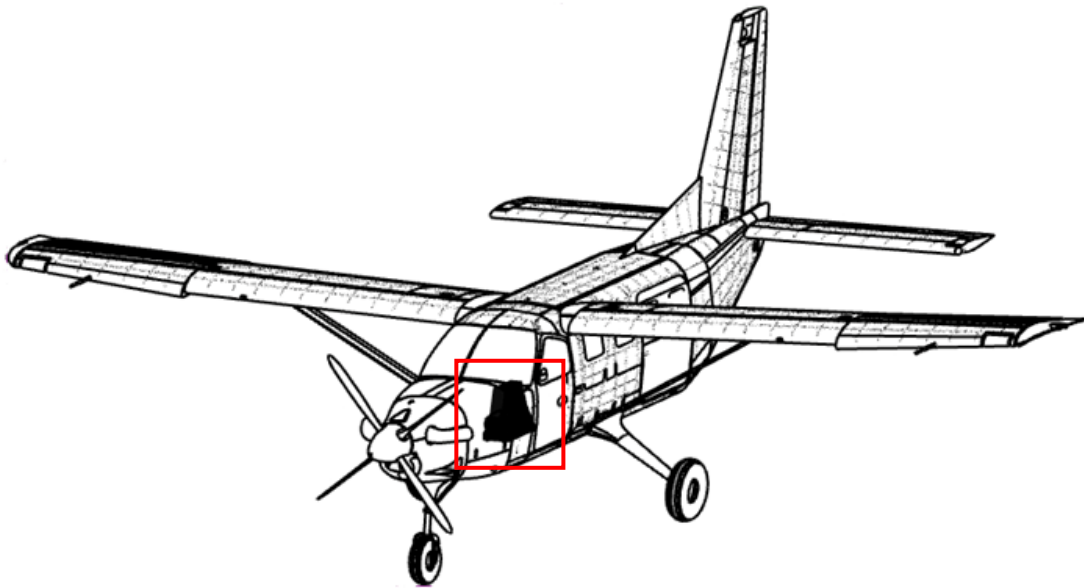
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### 3. General

Quest has noted that it is very easy to overfill the TKS ice protection system console tank and fail to leave sufficient volume in the top of the tank for temperature and atmospheric expansion. This Field Service Instruction provides instruction for installation of a fluid-level indicator inside the TKS console tank.

Contact Quest Customer Service if any problems or questions arise while performing the work instructions.



**Figure 3-1: Overview**

### 4. Preparation

These instructions are written as if the ice protection system console tank will be removed from the aircraft for the drilling and riveting operations. This is not a requirement but may be advisable depending on the mechanic's dexterity and access to the tank in the cockpit. If the mechanic chooses to keep the tank in the cockpit, proper care must be taken to protect the airplane interior and electronics during the drilling and riveting operations.

## 4.1 Console Tank Preparation

1. Drain the TKS console tank using the TKS drain port in the lower aft closeout in accordance with the *KODIAK® 100 Airplane Maintenance Manual*, Chapter 30.

**▲ NOTE ▲**

If the TKS fluid is clean and drained into a clean container, it may be returned to the console tank at the end of this procedure.

2. Remove the right crew seat.
3. Remove the leather shell from the console tank.
4. If the console tank is to be removed from the aircraft, disconnect and cap the TKS lines and remove the tank from the aircraft. Place the console tank on a secure workbench.

**▲ NOTE ▲**

Take care to protect the lines where they pass through the cockpit floor cutouts.

## 5. Instructions

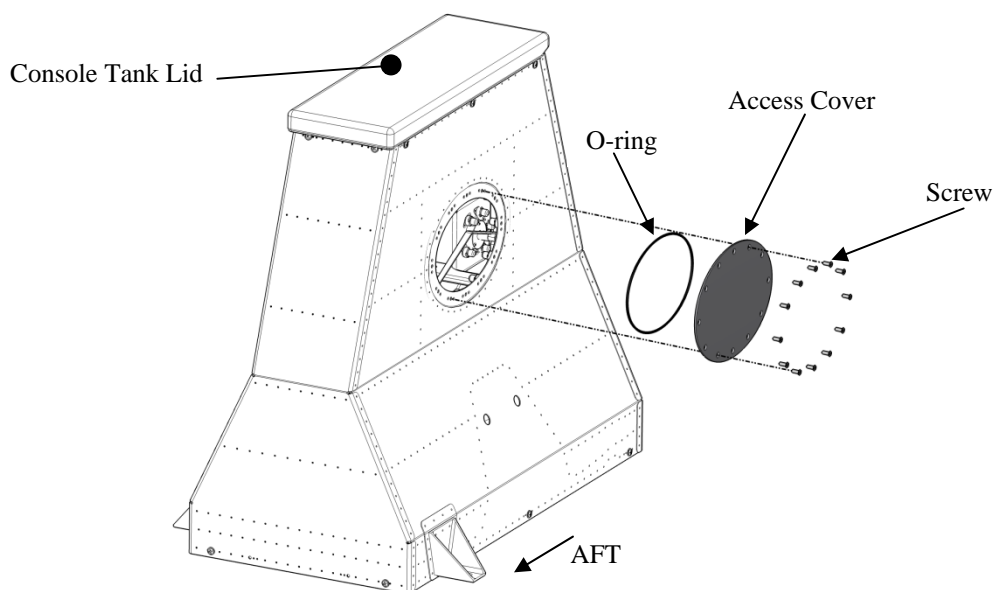
### 5.1 Remove Existing Rivets

1. Open the access cover on the right side of the console tank by removing twelve (12) screws (**Figure 5-1**).

**▲ CAUTION ▲**

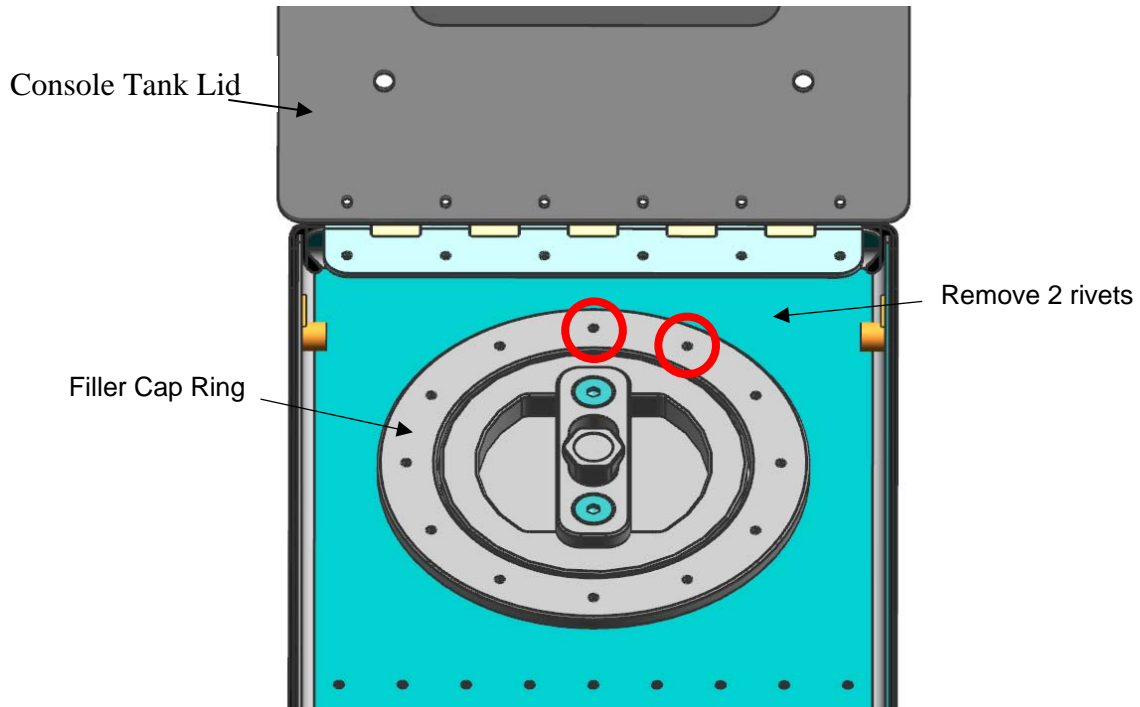
Use caution when removing the access cover to prevent damage to the o-ring. If damage occurs, contact Quest Aircraft Customer Service, or replace with item listed in **Table 2-4-3**.

2. Lift the console tank lid.



**Figure 5-1: Console Tank**

3. While covering the inside end of each rivet, drill out the two rivets in the filler cap ring shown in **Figure 5-2**.



**Figure 5-2: Filler Cap Ring**

4. Using a sharp scraper, remove the sealant and the remnant of the two rivets. Scrape the inside surfaces clean of sealant so that the base of the fluid-level indicator can rest against the bare aluminum.

**▲ NOTE ▲**

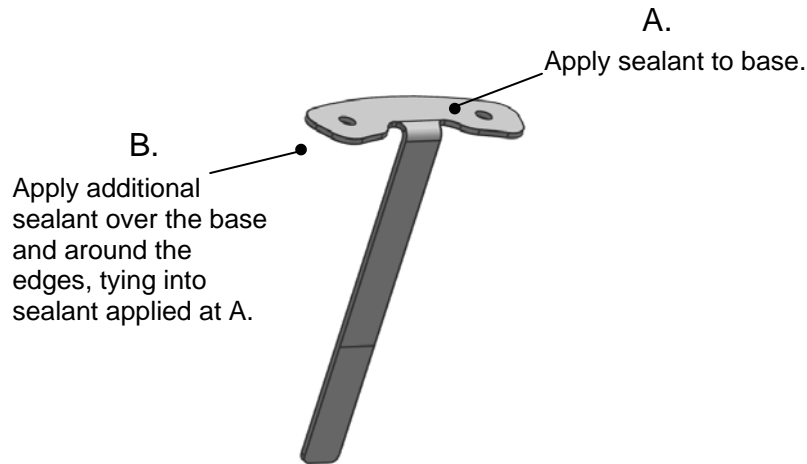
Take care to catch any sealant scraps and protect the interior of the tank from foreign object damage.

5. Clean up the rivet holes with a #40 drill bit.

## 5.2 Install Fluid-Level Indicator and New Rivets

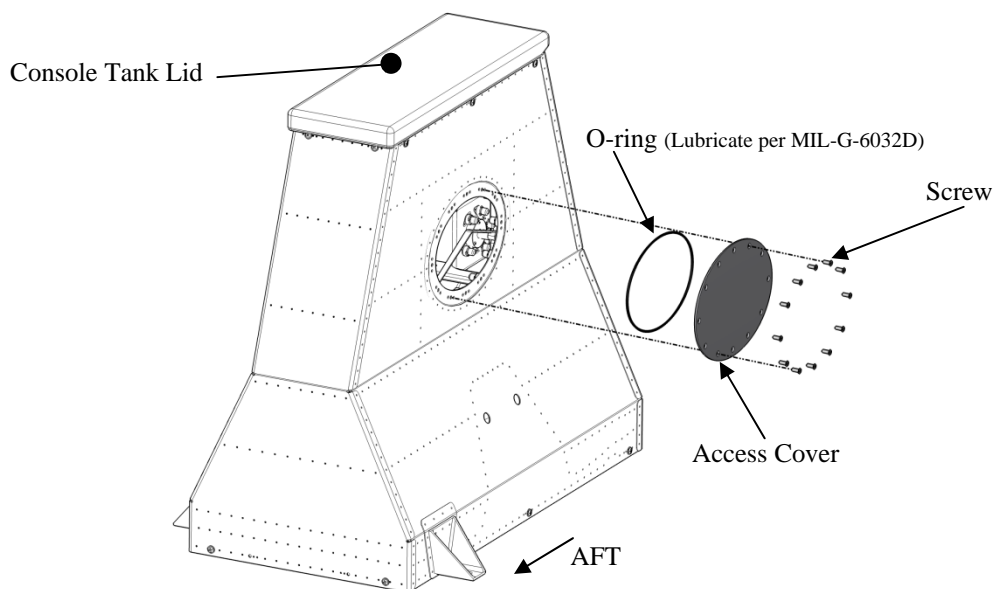
1. Apply ProSeal 890 (or any sealant meeting the requirements of SAE AMSS8802 Class A) to the base of the fluid-level indicator (P/N 100-830-1999) (**Figure 5-3(A)**).
2. From within the tank, align the fluid-level indicator with the rivet holes drilled out in Section 5.1.
3. Wet install two rivets (P/N MS20470AD3-5.5).
4. Clean up any squeeze-out sealant visible on the top of the filler cap ring.
5. Apply sealant over the base of the fluid-level indicator, around the edges, and the area around the fluid-level indicator to tie into the existing sealant (**Figure 5-3(B)**).





**Figure 5-3: Fluid-Level Indicator**

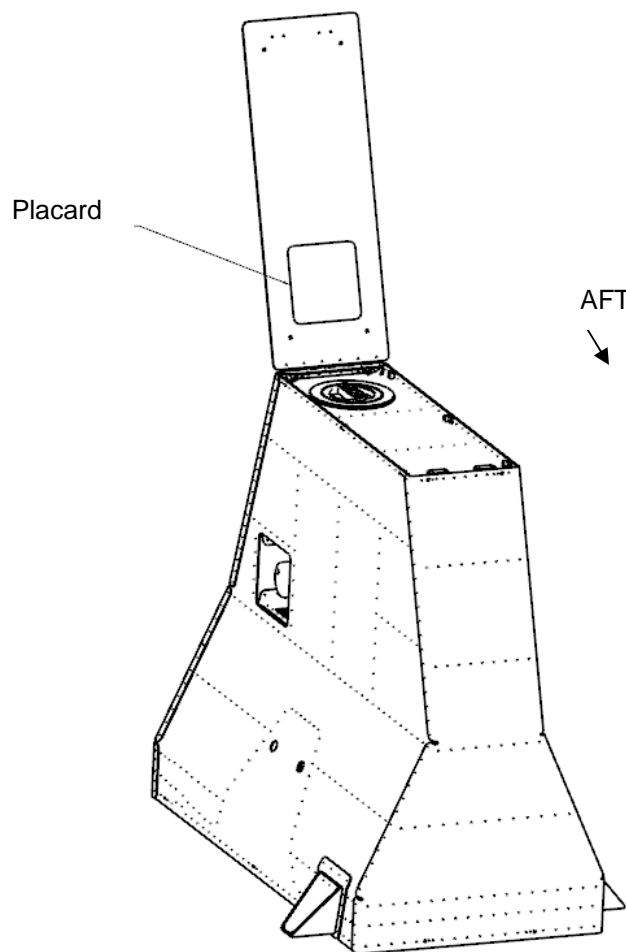
6. Allow the entire assembly to dry 24 hours or until the sealant is fully cured.
7. Inspect the console tank fluid for debris. If debris is present, remove and flush the strainer, and reinstall in accordance with the *KODIAK® 100 Airplane Maintenance Manual*, Chapter 30.
8. Lubricate the access cover O-ring (P/N 10M620-1) with EZ Turn Fuel Lubricant (or other lubricant per MIL-G-6032D).
9. Reinstall the O-ring into the access cover (**Figure 5-4**).
10. Reinstall the access cover with 12 screws (**Figure 5-4**).



**Figure 5-4: Access Cover Reinstallation**

## 6. Completion

1. If the tank was removed from the airplane, reinstall the tank and connect the three hose fittings below the floor using two (2) new sealing rings (P/N 100-013-8810) and one (1) new O-ring (P/N S-1201-20).
2. Apply the placard (P/N 100-910-0118) to the inside lid of the console tank as follows:
  - a. Ensure that the surface where the placard is to be applied (**Figure 6-1**) is clean, dry, and free of grease, oil, or other lubricants and contaminants.
  - b. Peel placard from carrier sheet, center, and press firmly.



**Figure 6-1: Placard Installation**



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3. Using clean TKS fluid, refill the console tank slowly while checking for leaks at the hose fittings and around the access cover.
4. Perform the Windshield Sprayer functional check in accordance with the *KODIAK® 100 Airplane Maintenance Manual*, Chapter 30.
5. Complete the System Leak functional check in accordance with the *KODIAK® 100 Airplane Maintenance Manual*, Chapter 30.
6. Reinstall the leather console tank shell.
7. Update the reference copy of the following KODIAK® 100 document:

AM901.004, *TKS Ice Protection System* (a printed supplement to the *KODIAK® 100 Pilot's Operating Handbook*).

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