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SERVICE BULLETIN

SB-110624-B

ID NUMBER & REVISION: SB-110624-B

SUBJECT: Fuel Tank Leak at Insert and/or Low Level Sensor

RELEASE DATE: 01 May 2025

EFFECTIVE DATE: 01 May 2025

SUPERSEDES NOTICE: SB-110624-A

AIRCRAFT AFFECTED: **MAKE & MODEL:** ICON A5
SERIAL NUMBERS: 00002, 00048, 00119, 00159-00199, 00201-00205, 00207-00224

REQUIRED ACTION: Inspect the Fuel Tank for leaks and replace the Tank as needed; reinstall the Low Level Sensor as directed.

- If SB-110624-A repair was previously completed, verify function of the Low Level Sensor per repair step 6a below.

TIME OF COMPLIANCE: Next condition (annual or 100-hr) inspection
(If persistent fuel smell is detected, service aircraft immediately.)

REVISION HISTORY:

A Initial Release

B Add ASN 00002 to Affected list.
Edit parts list to clarify alternate and as-needed parts.
Change all instances of “short plastic sensor” to “plastic Low Level Sensor”.
Add repair step 6a to verify function of the Low Level Sensor.
Require replacement of plastic Low Level Sensor.
Clarify application of Threadlocker (repair step 5d and Figure 7) and add caution to allow to cure before fully assembling Tank.

LEVEL OF CERTIFICATION

<input type="checkbox"/> Pilot/Owner	<input checked="" type="checkbox"/> A & P
<input type="checkbox"/> LSA Repairman – Inspection	<input checked="" type="checkbox"/> Certified Repair Station
<input checked="" type="checkbox"/> LSA Repairman – Maintenance	<input checked="" type="checkbox"/> Manufacturer

REQUIRED (any level checked can perform task):

PURPOSE:

A number of Fuel Tank leaks have been identified during aircraft maintenance. These leaks generally involve a small amount of fuel and have been traced back to the installation of the Fuel Low Level Sensor and/or the threaded inserts at the Fuel Low Level Sensor, Fuel Return Line, and Vent Line. The leak may appear as a dark or yellow stain around any of the 3 inserts or may be identified by smell. If a leak is identified at any of the 3 inserts, the tank should be replaced; if the leak is only at the Low Level Sensor installation point, the Tank may be re-used and the Sensor installed as directed.



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Figure 1. Examples of Leaks at Low Level Sensor (left) and Fuel Return Line (right)

WARRANTY:

For aircraft that are currently within their warranty period (1 year from transfer of ownership), ICON will cover the contents of this service bulletin in its entirety as long as all aspects of the Service Bulletin are adhered to during the aircraft warranty period. Failure to adhere to the entirety of the Service Bulletin can and likely will lead to owner-incurred costs. Please submit an invoice for warranty reimbursement for labor upon completion, referencing Service Bulletin number SB-110624-B.

- Inspection: 0.5 Labor Hours
- Repair: 5.75 Labor Hours



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ASSEMBLIES AND PARTS:

Part Number	Description	Quantity	Alternate		
			Part Number	Description	QTY
ME001217	FUEL TANK, BONDED ASSY	1	ICA010399	TANK, FUEL, ROTOMOLDED	1
			CB9120V5	MOUNT, CABLE TIE ANCHOR	9
			MA830	ADHESIVE, METHACRYLATE, 2-PART, PLEXUS MA830	As Needed
ME001136-B	OPTICAL SENSOR, SUBASSY	1, As Needed			
ICA016242	O-RING, VITON, .414 ID X .072 W, 90A DUROMETER, 905 DASH NO	1, As Needed (For Stainless Steel Sensor Only)			
AN822-6-6D	FITTING, ELBOW, 3/8 FLARED TUBE & 3/8 NPT	1, As Needed			
AN840-4D	COUPLING, BARB-PIPE THREAD, .250X.125NPT	1, As Needed			
ICA011512	GASKET, ACCESS PLATE, FUEL TANK	1			
15300010	CLAMP, HOSE, CRIMP, CRES, OETIKER, 0.344	1			
TY24MX	CABLE TIE, NYLON 6-6, 30LB, 5.50, TY-RAP	10			
TY528MX	CABLE TIE, NYLON 6-6, 50LB, 14.2, TY-RAP	1			
LOCTITE 425	THREADLOCKER, CYANOACRYLATE, LOW STR	As Needed (For Plastic Sensor only)			
LOCTITE 222	THREADLOCKER, PRIMERLESS, OIL TOL, REMOVABLE LOW STR, BLUE	As Needed (For Stainless Steel Sensor only)			
TT-I-735A	ISOPROPYL ALCOHOL	As Needed	Or Equivalent		
ICA012078	LUBRICANT, GENERAL PURPOSE (TEF-GEL)	As Needed			
ICA012861	SEALANT, GASKET, FUEL RESISTANT	As Needed			
LOCTITE 243	THREADLOCKER, PRIMERLESS, OIL TOL, REMOVABLE MED STR, BLUE	As Needed			
F4TAPEBLACK	TAPE, SILICONE	As Needed			

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1. ITL002794 – LEAK TEST KIT, FUEL TANK
 - a. 1/2"-20 UNF Plug
 - b. Fuel Vent Barbed Fitting Cap
 - c. 2" Compression Cap (Filler Neck Cap)
 - d. Regulator Assembly
 - e. Pressure Gauge

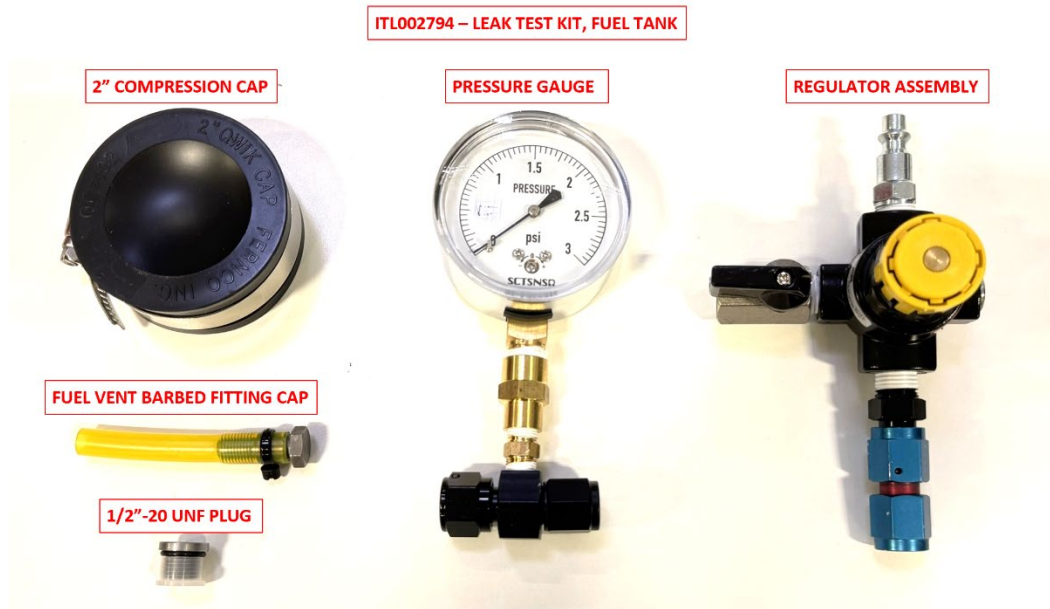


Figure 2. ITL002794 Leak Test Kit

INSPECTION INSTRUCTIONS:

1. Remove Baggage Floor and Pilot Seat Back in accordance with the Aircraft Maintenance Manual, sections 100050 and 100564.
2. Inspect the Fuel Tank for any staining or signs of leak, especially around the Fuel Low Level Sensor, Fuel Return Line, and Vent Line (Figure 3).
 - a. If a leak is identified, FAIL – continue to REPAIR INSTRUCTIONS.
 - b. If no leaks are identified, PASS. Reinstall Baggage Floor and Pilot Seat Back and proceed to LOGBOOK ENTRY.

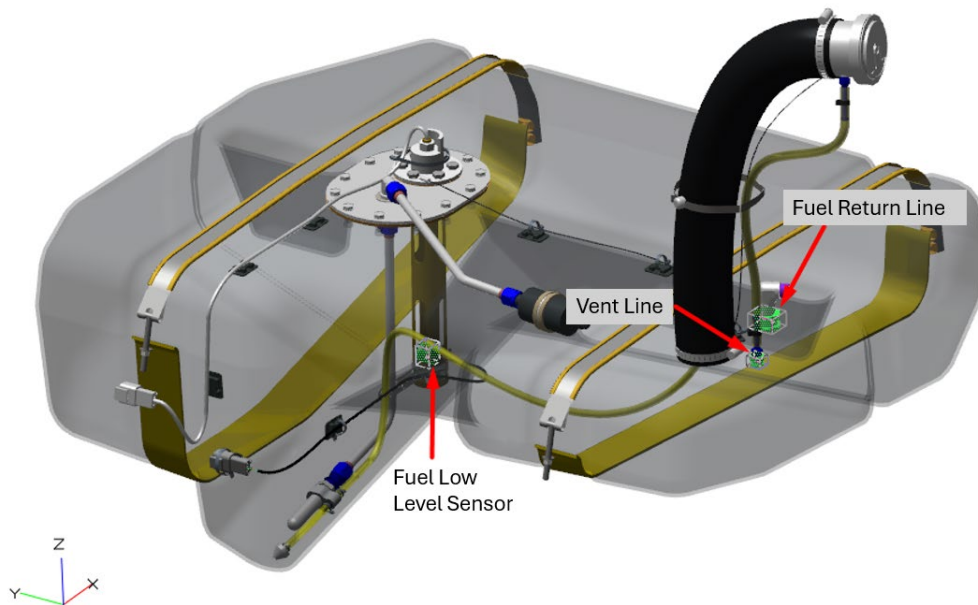
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Figure 3. Fuel Low Level Sensor, Fuel Return Line, and Vent Line

REPAIR INSTRUCTIONS:

1. Remove the Fuel Tank Assembly in accordance with the Aircraft Maintenance Manual, task 100507.
2. Disassemble the Fuel Tank and install the Fuel Tank test equipment (Figure 5) as follows in order to determine the source of the leak(s). Reference the Aircraft Maintenance Manual, task 100508. Inspect removed parts for damage – discard damaged parts; retain and clean any remaining parts.
 - a. Remove the Low Level Sensor, removing zip ties as needed.
 - i. For the plastic Low Level Sensor (ref. Figure 6), discard. The Sensor Assembly (both the Sensor and O-Ring) must be replaced.
 - ii. For the stainless steel Low Level Sensor (ref. Figure 6), remove and discard the O-Ring.
 - b. Clean threads in insert of Tank, and Low Level Sensor if applicable, using mild soap and water. As needed, use a pick to carefully chip away remaining adhesive. Wipe with isopropyl alcohol.
 - c. Install provided ½-20 UNF plug into Low Level Sensor Insert and seat completely. Max torque of 13 in-lb.
 - d. Remove fastening clip on Fuel Vent tubing and tygon tube.
 - e. Install provided Cap for barbed fitting for Fuel Vent.
 - f. Install provided regulator assembly to 90 degree fitting for Fuel Return. Tighten until snug, max 130 in-lb.
 - g. Install pressure gauge assembly to Coarse Fuel Filter. Tighten until snug, max 130 in-lb.

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- h. Ground tank to earth using the grounding point on the Tank (ref. Figure 4).

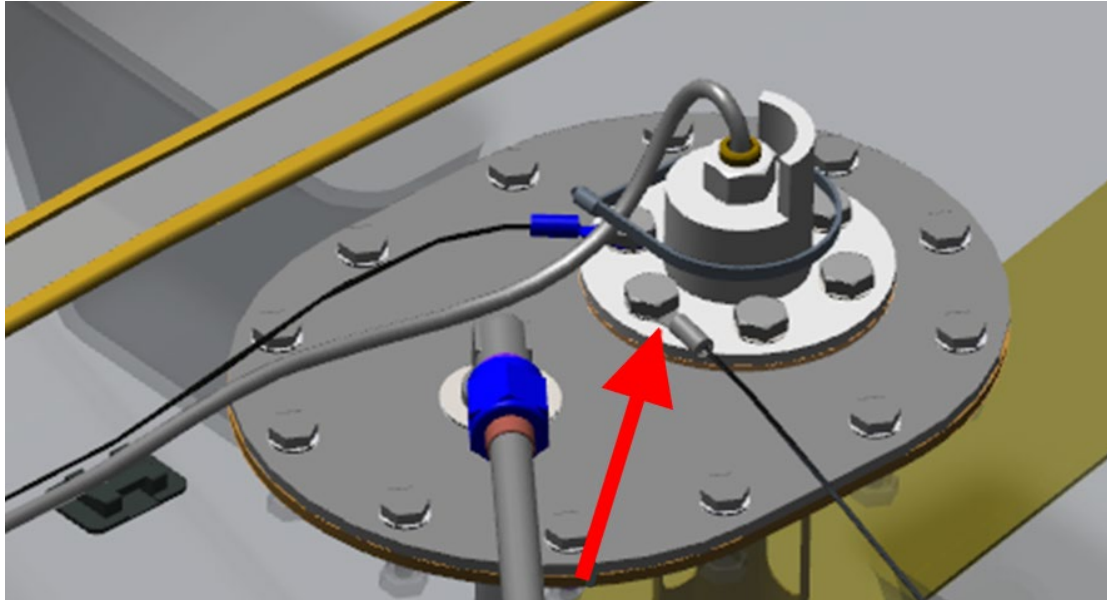


Figure 4. Fuel Tank Grounding Point

- i. Ensure all fuel has been removed from Tank. Dry inside of Tank.
- j. Open relief valve and regulator adjuster completely. Plug in clean (filtered) compressed airline.
- k. Rotate regulator adjuster in tightening rotation slowly until air is heard coming through the relief valve.
- l. Purge remaining fuel vapors for at least 1 minute.
- m. Install provided 2" compression cap on Fuel Fill Hole and tighten until snug.
 - i. FUEL SUMP LINE will be pushed into the tank and must be retrieved with mechanical fingers after test.
- n. Close relief valve and continue closing regulator adjuster to pressurize Tank to 1.1-1.5 psi.
CAUTION: *Over-pressurizing Tank may cause damage or deform the Tank.*
- o. Inspect the Tank threaded inserts and fittings for leaks.
 - i. Spray a mild soapy water solution on the Low Level, Fuel Return, and Fuel Vent inserts. With a light, observe closely for small air bubbles showing a leak around the fittings and/or inserts.
 - ii. Fuel Tank shall not leak after 5 minutes with the use of a leak detector or visual "bubble" inspection. **If leak is detected from under the insert, the Tank shall be replaced.**
 - iii. If leak is detected from fitting, remove. Clean and inspect fitting and insert; replace fitting as needed and reinstall in accordance with the Aircraft Maintenance Manual. As desired, repeat leak test.
- p. Remove the test equipment.

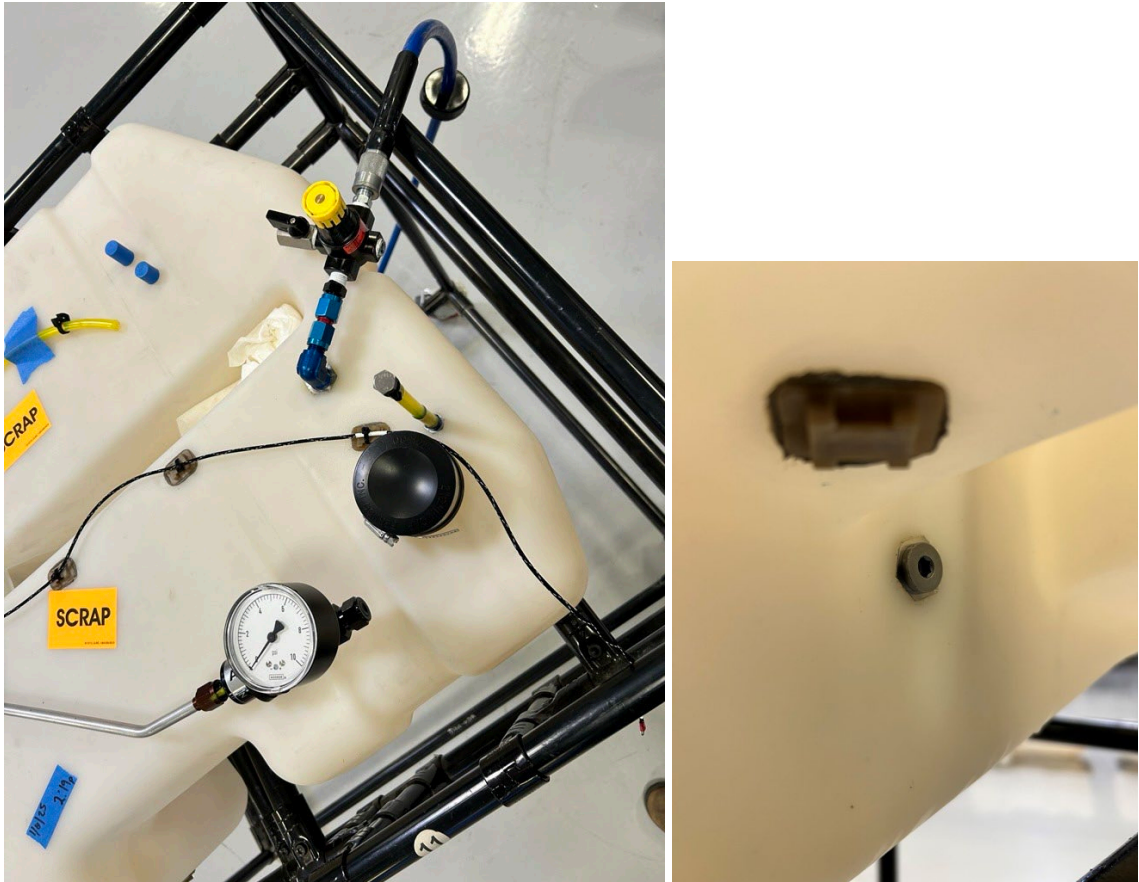
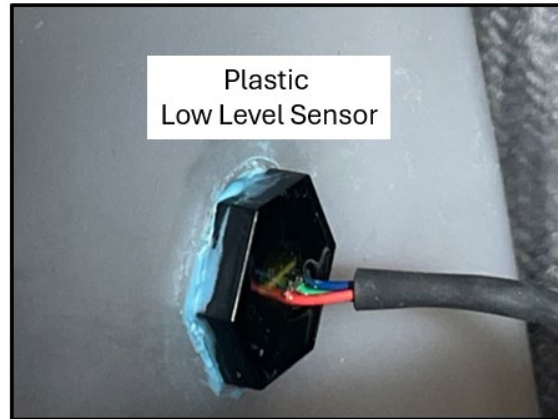
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Figure 5. Fuel Tank Leak Test Setup (left); Low Level Sensor Plug (right)

3. Clean the affected area as required.
 - a. Use acetone to clean composites in the fuel compartment.
 - b. Do not allow acetone to come into contact with the Fuel Tank or Sensor.
4. Assemble the Tank in accordance with the Aircraft Maintenance Manual, task 100344, except:
 - c. For new Tanks only: Install only the (9) externally bonded Zip Tie Mounts; disregard step(s) for the (1) internally bonded Mount.
 - i. If using the Fuel Tank Assy or re-using the existing Tank, the Cable Tie Anchor Mounts are already installed – the associated steps can be skipped.
 - d. Do not install the Low Fuel Level Sensor using the instructions provided in the Maintenance Manual if equipped with the plastic Low Level Sensor (ref. Figure 6).
 - e. **CAUTION:** To provide ventilation for proper cure, do not install the Fuel Filler Neck or Fuel Level Sensor Assembly until the Threadlocker on the Low Level Sensor has cured (see below).

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5. Install the Low Fuel Level Sensor as follows:
- For aircraft with the stainless steel Sensor, replace the O-Ring (ICA016242) and install in accordance with the Aircraft Maintenance Manual, task 100354. For aircraft with the plastic Low Level Sensor, continue to the following steps.
 - Obtain new Low Level Sensor Assembly (ME001136).
 - Inspect the Fuel Tank around the Low Level Sensor insert. As needed, carefully remove and clean burrs or material above/around the insert, such that the Sensor will fully seat against the insert upon installation.
 - Using isopropyl alcohol, clean surfaces where Threadlocker will be applied. Apply one small drop of LOCTITE 425 to the leading threads of the Tank insert (not the Sensor) (Figure 7) and install Sensor into bottom of Fuel Tank (Figure 8).
 - CAUTION:** *To avoid contaminating the O-ring and Low Level Sensor, do not apply more than one drop of LOCTITE 425.*
 - NOTE:** *Working time of LOCTITE 425 is less than 2 minutes.*
 - Torque Sensor to 11-13 in-lbs.
 - Cure per manufacturer's specification (approx. 24 hours – lower temperatures may require longer cure) before adding fuel.

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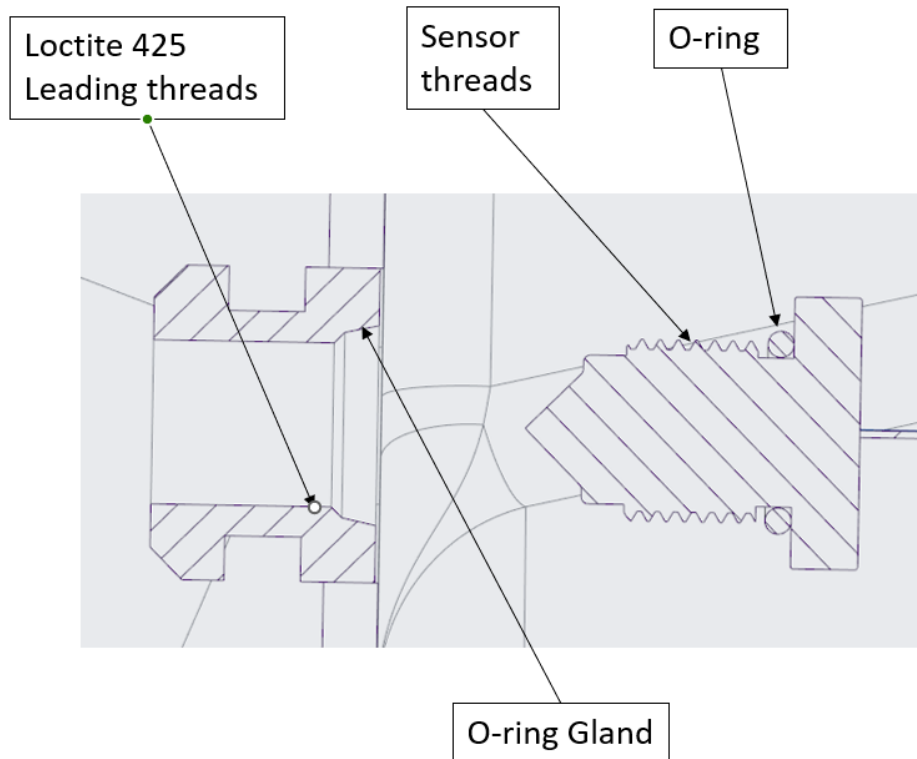


Figure 7. Apply ONE Drop of Loctite 425 to the Leading Threads of the Insert

- e. If not already wrapped, wrap Low Level and Fuel Level Sensor connectors with F4TAPEBLACK tape. Secure wiring for Low Level Sensor to Fuel Tank using TY24MX Zip Ties.

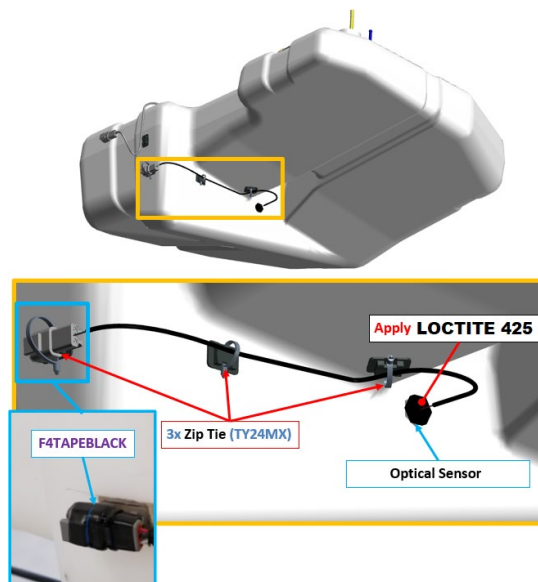


Figure 8. Install Low Level Sensor



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6. Install the Fuel Tank in accordance with the Aircraft Maintenance Manual, task 100343.
 - a. When adding fuel, verify that the low fuel level light is illuminated with less than 2 gallons of fuel in the tank and that the light extinguishes with more than 2 gallons of fuel in the tank. If the light is not functioning properly, contact ICON for further assistance.

Make the appropriate logbook entry:

If Inspection PASSED:

“The inspection of Service Bulletin SB-110624-B (Fuel Tank Leak at Insert and/or Low Level Sensor) has been completed and no repair is required (ref. FAA Exemption 10829D)”.

If Inspection FAILED:

“The inspection and repair of Service Bulletin SB-110624-B (Fuel Tank Leak at Insert and/or Low Level Sensor) have been complied with (ref. FAA Exemption 10829D)”.

For aircraft registered outside the U.S., omit “(ref. FAA Exemption 10829D)” as applicable.

If you have questions, comments, or concerns about this Service Bulletin and/or if you are no longer owner/operator of this aircraft, please forward this information to the present owner/operator and notify ICON Aircraft at:

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support@iconaircraft.com

Please include the aircraft registration number, serial number, your name, and if known the contact information of the new owner/operator.