

# TECHNICAL BULLETIN

JTB00301v2

19 NOV 2013



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This bulletin supersedes TSB JTB00301/2013 dated 17 JUN 2013, which should either be destroyed or clearly marked to show it is no longer valid (e.g. with a line across the page). Only refer to the electronic version of this Technical Bulletin in TOPIx.

Changes are highlighted in gray

## **SECTION: 310-00**

### Fuel Gauge Operation

#### **AFFECTED VEHICLE RANGE:**

##### **XK Range (X150)**

**Model Year:** 2010-2012

**VIN:** B32753-B47682

##### **XF (X250)**

**Model Year:** 2010-2012

**VIN:** R47154-S23314

#### **MARKETS:**

All

#### **CONDITION SUMMARY:**

##### **Situation:**

The fuel gauge may experience one or more of the following issues:

- Fuel Gauge Not Working
- Fuel Gauge Not Showing More Than Half Full
- Fuel Gauge Fluctuating
- Fuel Gauge Switches On/Off Intermittently

If the symptoms detailed above are present on the vehicle, please carry out the fuel gauge diagnostics detailed in TOPIx section 310-01: Fuel Tank and Lines Diagnosis and Testing. NOTE: SDD will be required to ascertain the fuel sender voltage readings.

If a failure to the harness or individual fuel sender cannot be verified at any point during the diagnostic stage, then follow the procedure below.

**Please advise the customer, if possible, to bring the vehicle in with the fuel tank level below 1/4 full.**

**This Version has been issued for a change to the causal part number.**

**Cause:** Fretting corrosion across the fuel sender harness pins inside the fuel tank (black connectors) or possible backed out pins in any of the following areas, internal to the fuel tank (sender wiring), fuel pump module and/or fuel tank flange assembly. **Suggested Customer Concern Code - L69.**

**Action:** Should a customer express concern, follow the Service Instruction outlined below.

#### **PARTS:**



**CAUTION:** The splices listed below are specific to this repair. Make sure that these splices are used and crimped using special tool 418-116A (YRW500010).

C2Z 27711	Splice	Quantity: 6
C2Z7361	XF Fuel tank gasket	Quantity: 1
C2P8274	XK Fuel tank gasket	Quantity: 1

#### **WARRANTY:**

All vehicles

	Pin Numbers		Lower Resistance Value (Ohms)	Upper Resistance Value (Ohms)
Check 1	1	2	46.2	1002.2

	Pin Numbers		Lower Resistance Value (Ohms)	Upper Resistance Value (Ohms)
Check 2	1	6	46.2	1002.2

 **NOTE:** Repair procedures are under constant review, and therefore times are subject to change; those quoted here must be taken as guidance only. Always refer to TOPIx to obtain the latest repair time.

 **NOTE:** DDW requires the use of causal part numbers. Labor only claims must show the causal part number with a quantity of zero.

DESCRIPTION	SRO	TIME (HOURS)	CONDITION CODE	CAUSAL PART
Fuel Sender Harness Modification - XK	86.94.80	5.1	X2	C2P24405
Fuel Sender Harness Modification - XF 3.0L Gasoline	86.94.80	0.8	X2	C2Z23190
Fuel Sender Harness Modification - XF 3.0L Diesel	86.94.80	0.9	X2	C2Z23191
Fuel Sender Harness Modification - XF 5.0L Gasoline	86.94.80	0.8	X2	C2Z23190

 **NOTE:** Normal Warranty policies and procedures apply.

### **SERVICE INSTRUCTION:**

1. Carry out fuel system pressure release (see TOPIx Workshop Manual, section 310-00).
2. Disconnect the battery ground cable (see TOPIx Workshop Manual, section 414-01).

 **WARNING:** Make sure that the fuel system has been de-pressurized before disconnecting any fuel connections.


3. Carry out fuel tank drain (see TOPIx Workshop Manual, section 310-00).

4.  **CAUTION:** Inspect the fuel tank flange electrical connector for sign of damage or backed out pins before removing the fuel tank flange. Any repair carried out to the fuel tank flange electrical connector should be carried out as a separate warranty claim.

Remove the fuel pump sender unit (see TOPIx Workshop Manual, section 310-01).

5. Place the fuel pump and sender unit on a clean work surface.


 **CAUTION:** To reduce the chance of incorrect wiring of the harnesses, wherever possible, only repair one wire at a time.

 **NOTE:** The number of black connectors shown in the fuel tank on a vehicle may vary from the procedure shown below. To achieve the best possible repair, replace as many of the black connectors (up to 3 in total) as possible.

 **NOTE:** XF shown, XK similar.

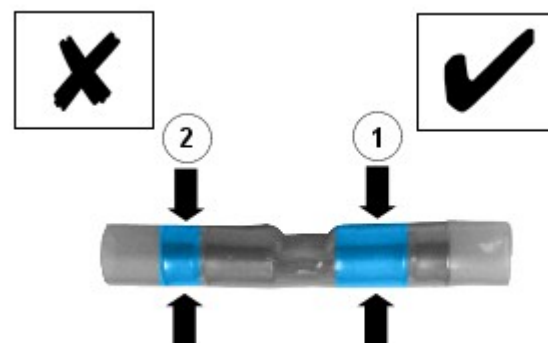
6.  **CAUTION:** Make sure that the splice is crimped in the correct location.

 **CAUTION:** Make sure that the splice is crimped using special tool 418-116A.

 **CAUTION:** Make sure that the splice with the part number listed above is used. Failure to follow these instructions may result in a poor repair.

When installing the splices, make sure that the splice is crimped in the correct location.

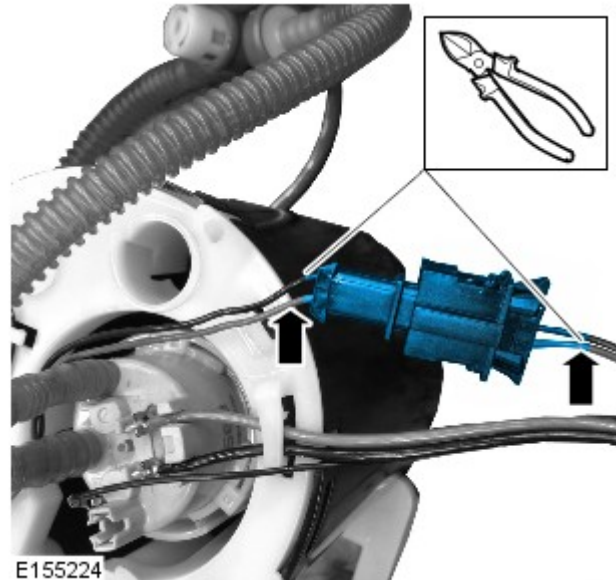
1. Correct location for crimping.
2. Incorrect location for crimping.



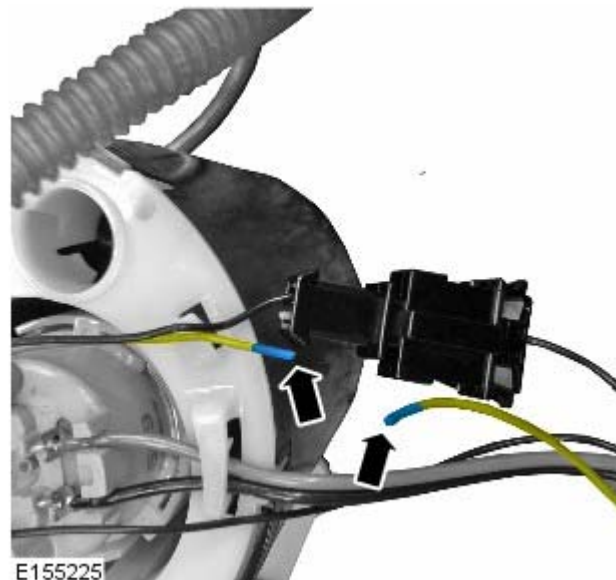
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7. Identify the connector to be removed.

- Cut the wires shown as close to the connector as possible.

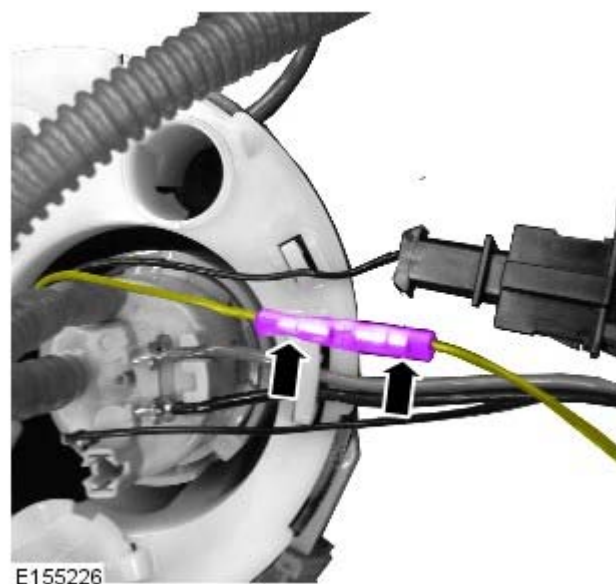


8. Using a suitable tool, remove 5mm of insulation from the end of the 2 wires.



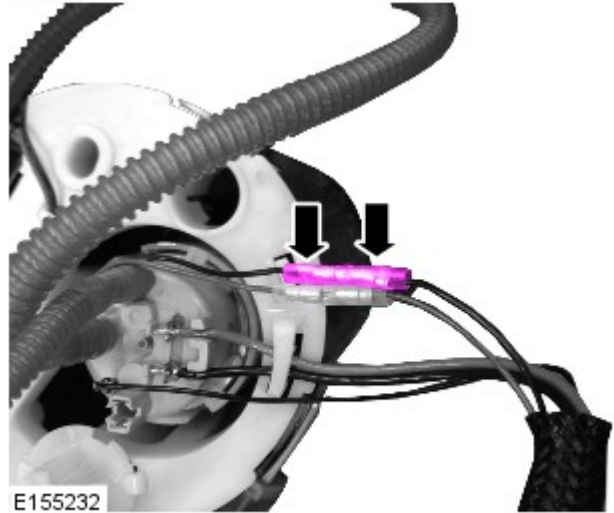
9. **⚠ CAUTION: After crimping the connection, perform a gentle pull test to make sure that a sufficiently strong connection has been created. If required, remove and replace the splice.**

Install a splice to the ends of the wires, and crimp both ends using special tool 418-116A.



10. Repeat steps 7 to 9 to the other wire.

- Discard the connector.

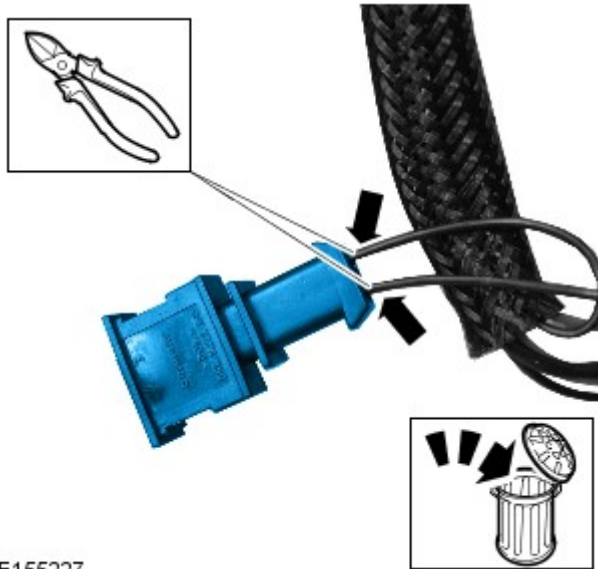


11. Using a suitable tie strap, secure the two splices together.



12. Identify the earth connector (two black wires) to be removed.

- Cut the wires shown as close to the connector as possible.
- Discard the connector.

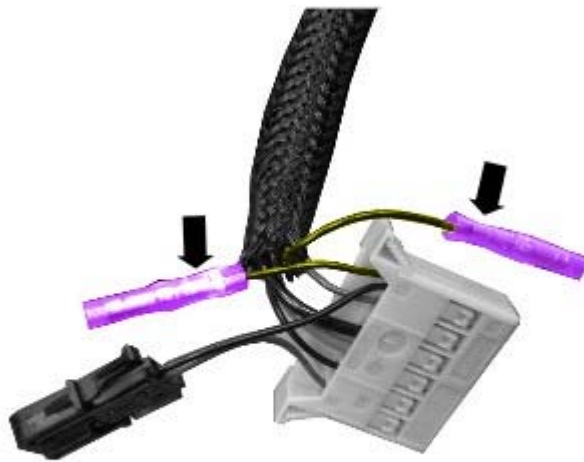


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13.  **NOTE: The two splices are not connected until step 17.**

Install a splice to the end of each wire.

- Using a suitable tool, remove 5mm of insulation from the end of the 2 wires.
- Using special tool 418-116A crimp the splices.



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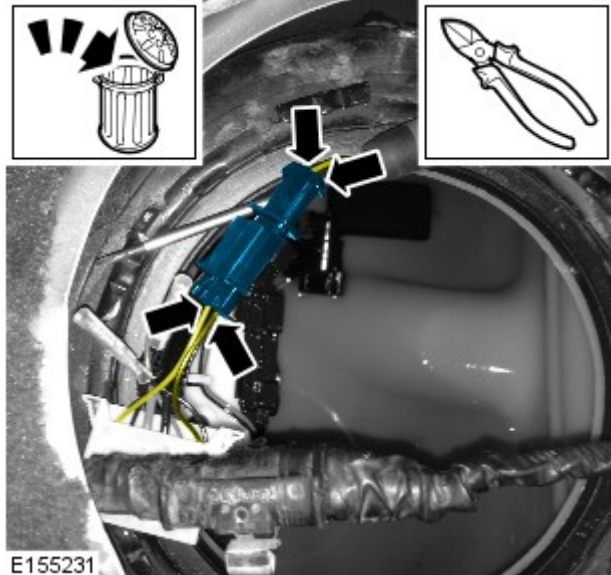
14.  **CAUTION: Do not install the fuel tank flange at this point.**

Install the fuel pump sender unit to the fuel tank (see TOPIx Workshop Manual, section 310-01).

15.  **CAUTION: Make sure that the correct wires are re-connected to each other.**

Identify the connector to be removed.

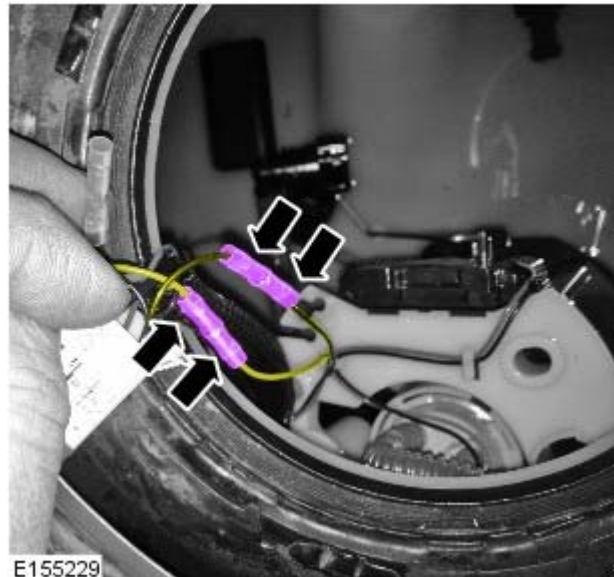
- Carefully withdraw the connector out of the tank.
- Cut the wires shown as close to the connector as possible.
- Discard the connector.



16.  **CAUTION: After crimping the connection, perform a gentle pull test to make sure that a sufficiently strong connection has been created. If required, remove and replace the splice.**

Install a splice to the ends of the wires, and crimp both ends using a suitable tool.

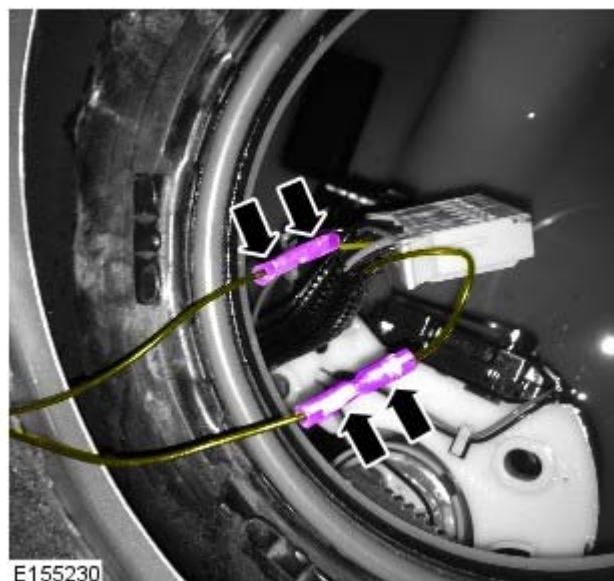
- Using a suitable tool, remove 5mm of insulation from the end of the wires.
- Using special tool 418-116A crimp the splices.
- Using a suitable tie strap, secure the two splices together.



17.  **CAUTION: After crimping the connection, perform a gentle pull test to make sure that a sufficiently strong connection has been created. If required, remove and replace the splice.**

If equipped, connect the two earth wires from the base of the fuel tank flange to the two splices installed in step 13.

- Position the fuel tank flange close to the fuel tank.
- Using a suitable tool, remove 5mm of insulation from the end of the two wires.
- Using special tool 418-116A crimp the splices.
- Using a suitable tie strap, secure the two splices together.



**18.** Using a suitable tool, check the resistance values across fuel tank flange pins listed in the table above.

1. If the resistance value is between 46.2 and 1002.2 ohms, continue to step 19.
2. If the resistance value is outside this range, further investigation is required.

**19.**  **CAUTION: Make sure that a successful resistance check has been carried out before continuing to install the fuel pump sender unit.**

Carry out the remaining steps of the fuel pump and sender unit procedure (see TOPIx Workshop Manual, section 310-01).

**20.** If required, using Jaguar approved diagnostic equipment read and clear any stored DTCs.