

2008 Scion xD

2008 ENGINE 2ZR-FE Fuel - xD

2008 ENGINE**2ZR-FE Fuel - xD****FUEL SYSTEM****PRECAUTION****1. BEFORE WORKING ON FUEL SYSTEM**

- a. Do not work near an open flame.
- b. Keep gasoline away from rubber and leather parts.
- c. Discharge the fuel pressure before disconnecting the fuel line to prevent gasoline from spilling out. Refer to the following procedure.

2. DISCHARGE FUEL SYSTEM PRESSURE CAUTION:

- The **DISCHARGE FUEL SYSTEM PRESSURE** procedures must be performed before disconnecting any part of the fuel system.
 - After performing the **DISCHARGE FUEL SYSTEM PRESSURE** procedures, pressure will remain in the fuel line. When disconnecting the fuel line, place a cloth or equivalent over fittings to reduce the risk of fuel spray.
- a. Remove the rear seat cushion assembly LH. (See **REMOVAL**)
 - b. Remove the rear floor service hose cover.

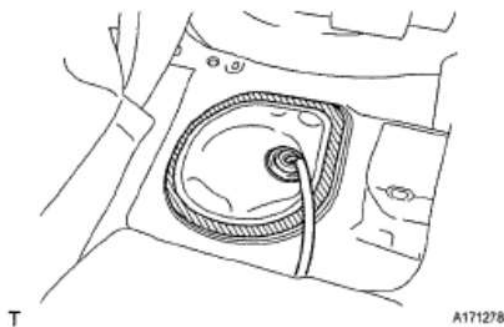


Fig. 1: Identifying Rear Floor Service Hose Cover
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- c. Disconnect the connector from the fuel pump assembly.

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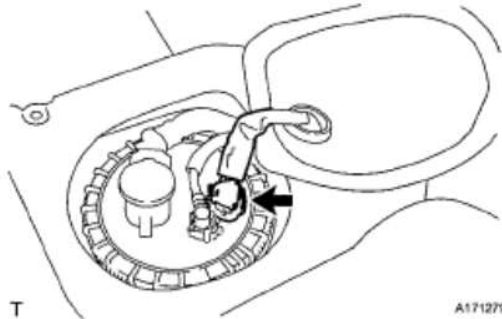


Fig. 2: Locating Connector Fuel Pump Assembly
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- d. Start the engine. After the engine stops naturally, turn the ignition switch OFF.

HINT:

DTC P0171 (system too lean) may be set.

- e. Start the engine again and make sure that engine does not start.
- f. Remove the fuel tank cap, and let the air out of the fuel tank.
- g. Connect the connector.

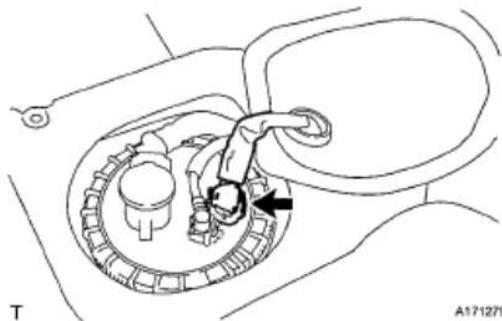


Fig. 3: Locating Connector
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- h. Install the rear floor service hole cover with new butyl tape.

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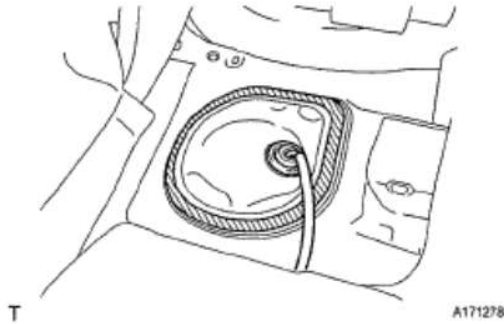


Fig. 4: Identifying Rear Floor Service Hose Cover
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- i. Install the rear seat cushion assembly LH. (See **INSTALLATION**)

3. FUEL SYSTEM

- a. When disconnecting the high-pressure fuel line, a large amount of gasoline will spray out. So take the following precautions:
 1. Discharge the fuel system pressure.
 2. Disconnect the fuel tube.
 3. Drain the fuel remaining inside the fuel pump tube into a container.
 4. Do not damage the disconnected pipe or connector, and prevent entry of foreign objects by covering them with plastic bags.

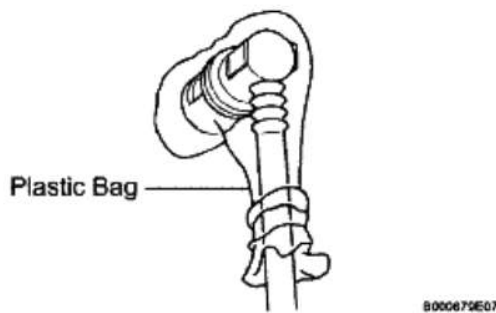
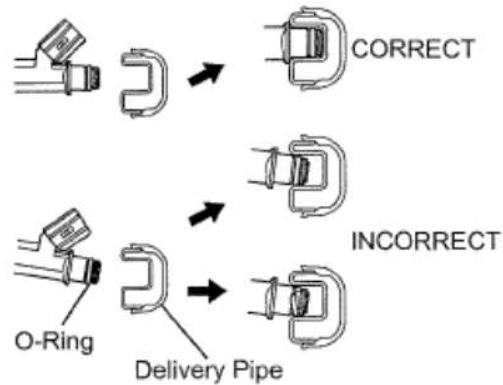


Fig. 5: Covering Pipe Or Connector With Plastic Bags
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- b. Observe the following precautions when removing and installing the fuel injector.
 1. Do not reuse the O-ring and insulator.
 2. When placing a new O-ring onto the injector, do not damage the O-ring.
 3. Coat the new O-ring with grease or gasoline before installing it. Do not use engine, gear or brake oil.

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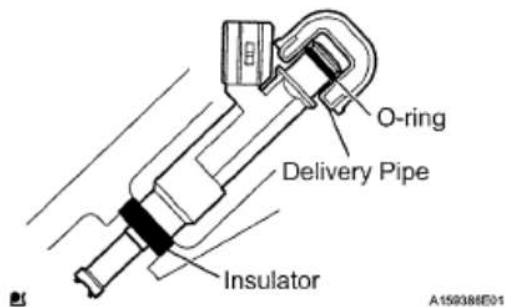


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Fig. 6: Identifying O-Ring Correct And Incorrect Positions
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- c. Install the injector into the delivery pipe and cylinder head, as shown in the illustration. Apply grease or gasoline to the contact surfaces of the injector before installing the injector.



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Fig. 7: Identifying O-Ring, Delivery Pipe And Insulator
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- d. Observe the following precautions when disconnecting the fuel tube connector (Metallic Type).

HINT:

The structure of the fuel tube connector is as shown in the illustration.

1. Check if there is any damage or foreign objects on the connecting parts of the pipes.
2. Remove the No. 2 fuel pipe clamp.
3. Wipe off dirt on the fuel tube connector.
4. Find the metallic connector of the fuel tube assembly.

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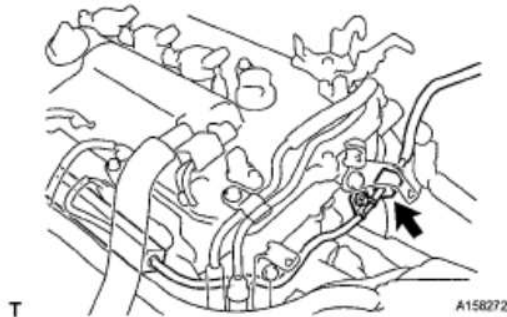


Fig. 8: Locating Fuel Pipe Clamp

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

5. Assemble SST to the connection as shown in the illustration.

SST 09268-21010

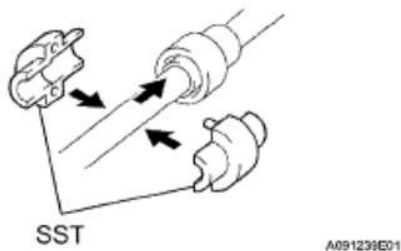


Fig. 9: Identifying SST Connection

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

6. Turn SST, align the retainers inside the connector with the SST chamfered parts and insert SST into the connector.
7. Slide SST and the connector together towards the fuel tube assembly.

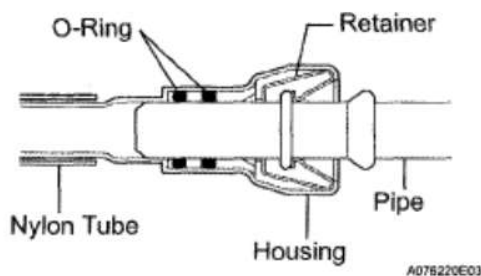


Fig. 10: Identifying O-Ring, Retainer, Housing And Pipe

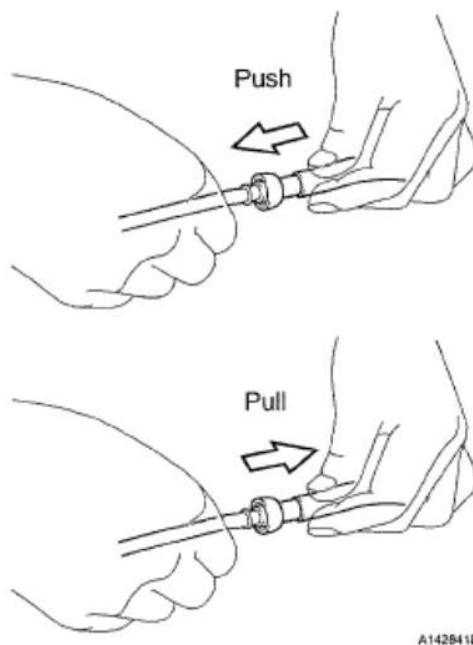
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- e. Observe the following precautions when connecting the fuel tube connector (Metallic Type).
 1. Check if there is any damage or foreign objects on the connecting part of the pipe.

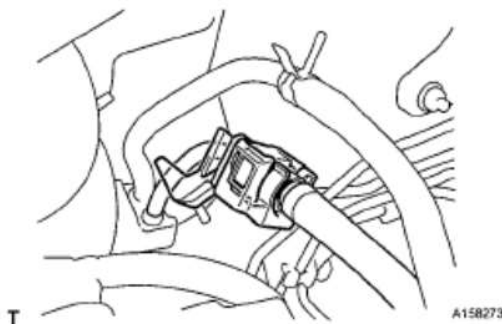
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2. Match the axis of the connector with the axis of the pipe, and push into the connector until the connector makes a "click" sound. If the connection is tight, apply a small amount of clean engine oil to the tip of the pipe.
3. After finishing the connection, check if the pipe and the connector are securely connected by pulling on them.
4. Install a No. 2 fuel pipe clamp.
5. Inspect for fuel leak.

**Fig. 11: Checking Pipe Connection****Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.**

- f. Observe the following precautions when disconnecting the fuel tube connectors (Quick Type A).
 1. Release the claw and remove the No. 1 fuel pipe clamp.
 2. Check that there is no dirt or other foreign objects on the pipe and around the connector before disconnecting them. Clean them if necessary.



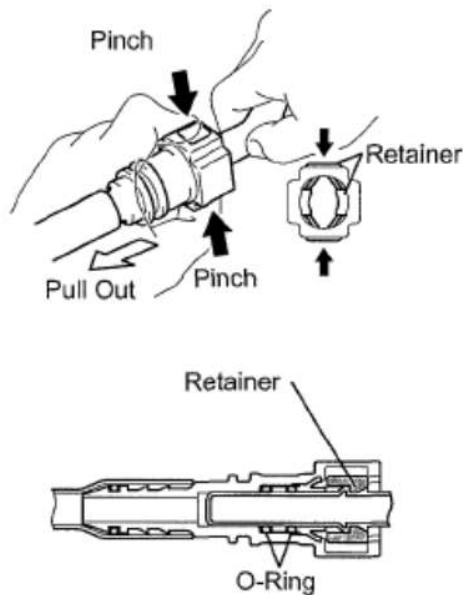
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Fig. 12: Identifying Fuel Tube Connector

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

3. Pinch the fuel tube connector, and then disconnect the fuel tube. Do not use any tools.
4. Drain the fuel remaining inside the fuel tube.

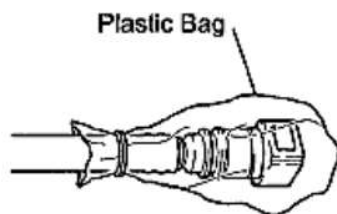


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Fig. 13: Locating Fuel Tube Connector

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

5. Cover the fuel tube and fuel pipe with a plastic bag to protect the disconnect part.



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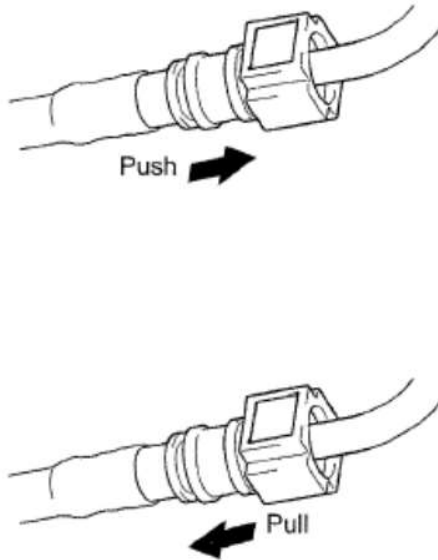
Fig. 14: Covering Fuel Tube And Fuel Pipe With Plastic Bag

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- g. Observe the following precautions when connecting the fuel tube connectors (Quick Type A).

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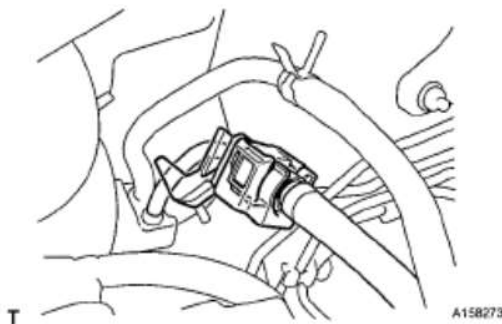


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Fig. 15: Checking Connector Connection

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

1. Check if there is any damage or foreign objects on the connecting parts of the pipes.
2. Line up the two parts of the pipes to be connected, and push them together until the connector makes a "click" sound. If the pipe is difficult to push into the connector, apply a small amount of clean engine oil to the tip of the pipe and reinsert it.
3. After connecting the pipes, check that the pipe and connector are securely connected by pulling on them.
4. Install the No. 1 fuel pipe clamp.

**Fig. 16: Identifying Fuel Pipe Clamp**

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

5. Inspect for fuel leak.
- 4. INSPECT FOR FUEL LEAK**
- a. Make sure that there are no fuel leaks after performing maintenance on the fuel system.

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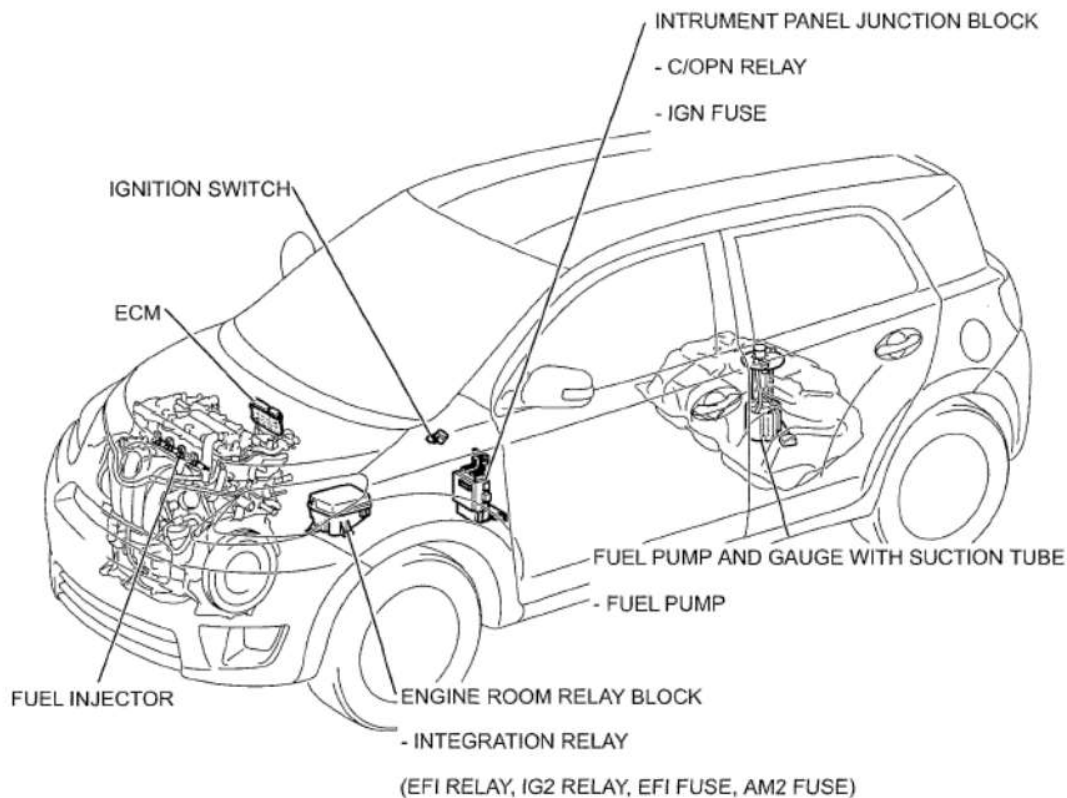
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1. Connect a Techstream to the DLC3.
2. Turn the ignition switch to ON.

NOTE: Do not start the engine.

3. Turn the tester ON.
4. Select the following menu items: Powertrain / Engine and ECT / Active Test / Control the Fuel Pump Speed / ON
5. Check that there are no leaks from the fuel system.
6. Turn the ignition switch to OFF.
7. Disconnect the Techstream from the DLC3.

PARTS LOCATION



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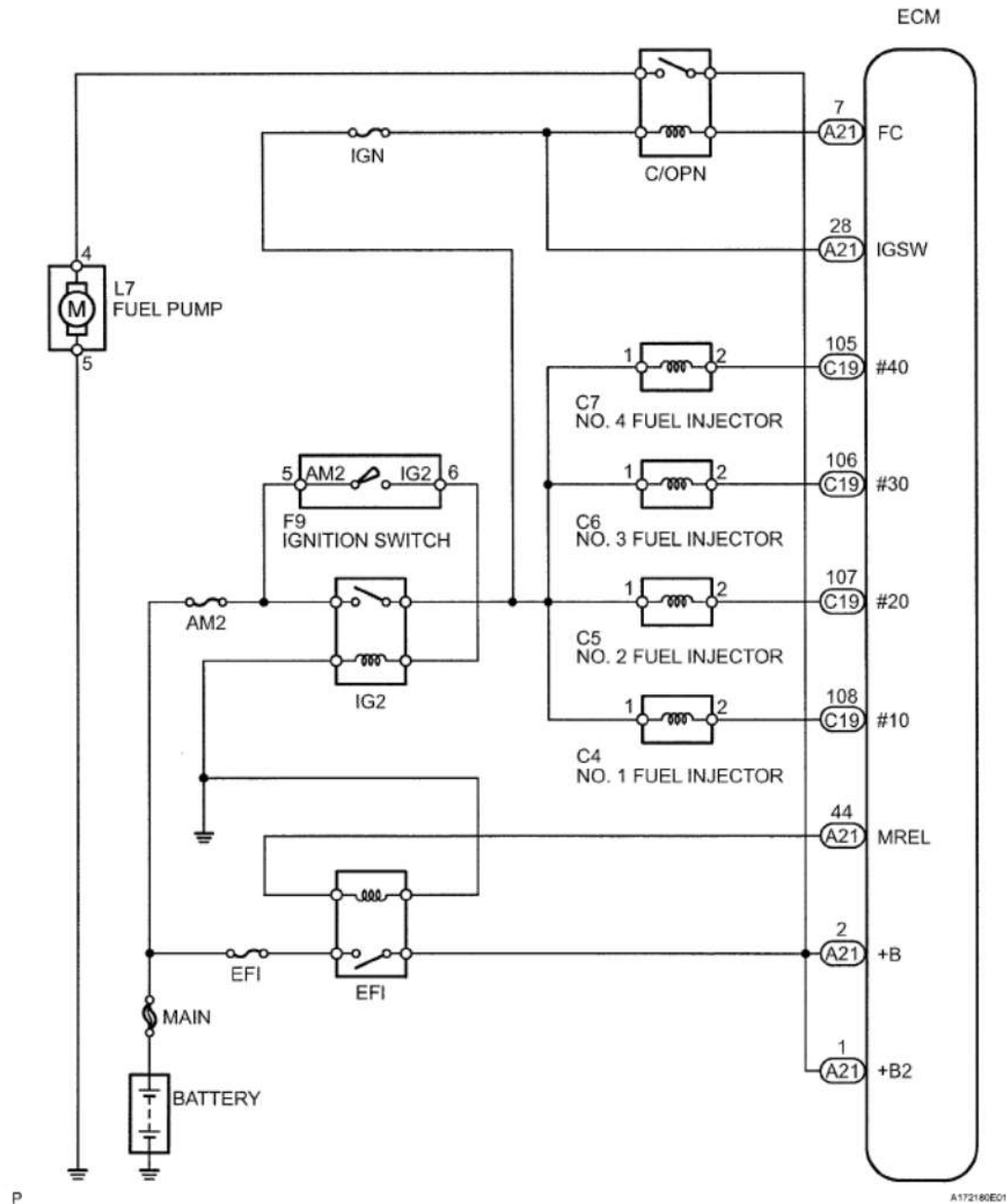
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Fig. 17: Identifying Fuel System Part Location
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

SYSTEM DIAGRAM

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**Fig. 18: Fuel System Diagram**

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

ON-VEHICLE INSPECTION**1. CHECK FUEL PUMP OPERATION**

- a. Connect the Techstream to the DLC3.
- b. Turn the ignition switch to ON.

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NOTE: Do not start the engine.

- c. Turn the tester ON.
- d. Select the following menu items: Powertrain / Engine and ECT / Active Test / Control the Fuel Pump/Speed / ON
- e. Touch the fuel hose in the engine compartment to check the fuel flow, and you will be able to hear the sound of the fuel pump.
- f. Stop the fuel pump.

If there is no fuel flow, the fuel pump may not be operating. Check the fuel pump circuit (See **FUEL SYSTEM**).

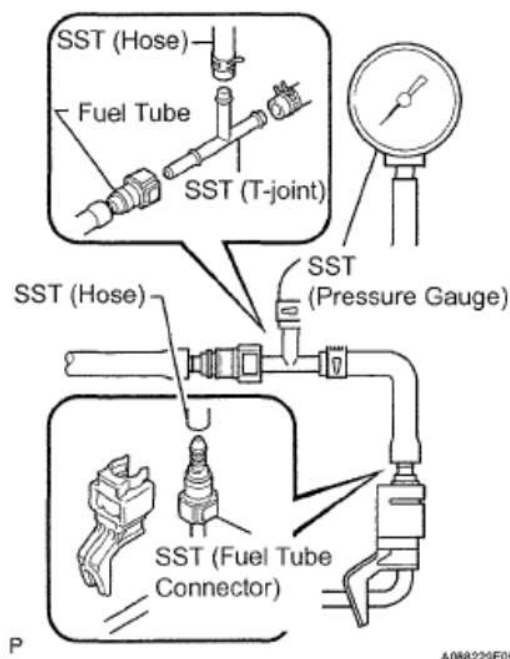
2. CHECK FUEL PRESSURE

- a. Using a voltmeter, measure the battery voltage.

Standard voltage: 11 to 14 V

- b. Discharge the fuel system pressure (See **FUEL SYSTEM**).
- c. Disconnect the cable from the negative (-) battery terminal.
- d. Disconnect the fuel main tube (See **FUEL SYSTEM**).
- e. Install SST (pressure gauge) as shown in the illustration.

SST 09268-31011 (95336-08070, 90467-13001, 09268-41500), 09268-45014 (09268-41200, 09268-41220, 09268-41250)



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Fig. 19: Checking Fuel Pressure

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- f. Wipe up any gasoline.
- g. Reconnect the cable to the negative (-) battery terminal.
- h. Start the engine.
- i. Connect the Techstream to the DLC3.
- j. Turn the ignition switch to ON.

NOTE: Do not start the engine.

- k. Turn the tester ON.
- l. Select the following menu items: Powertrain / Engine and ECT / Active Test / Control the Fuel Pump/Speed / ON
- m. Measure the fuel pressure at idle.

Fuel pressure: 304 to 343 kPa (3.1 to 3.5 kgf/cm² , 44 to 50 psi)

If the pressure the high, replace the fuel pressure regulator.

If the pressure is low, check the fuel hoses, fuel hose connectors, fuel pump and fuel pressure regulator.

- n. Disconnect the Techstream from the DLC3.
- o. Start the engine.
- p. Measure the fuel pressure at idle.

Fuel pressure: 304 to 343 kPa (3.1 to 3.5 kgf/cm² , 44 to 50 psi)

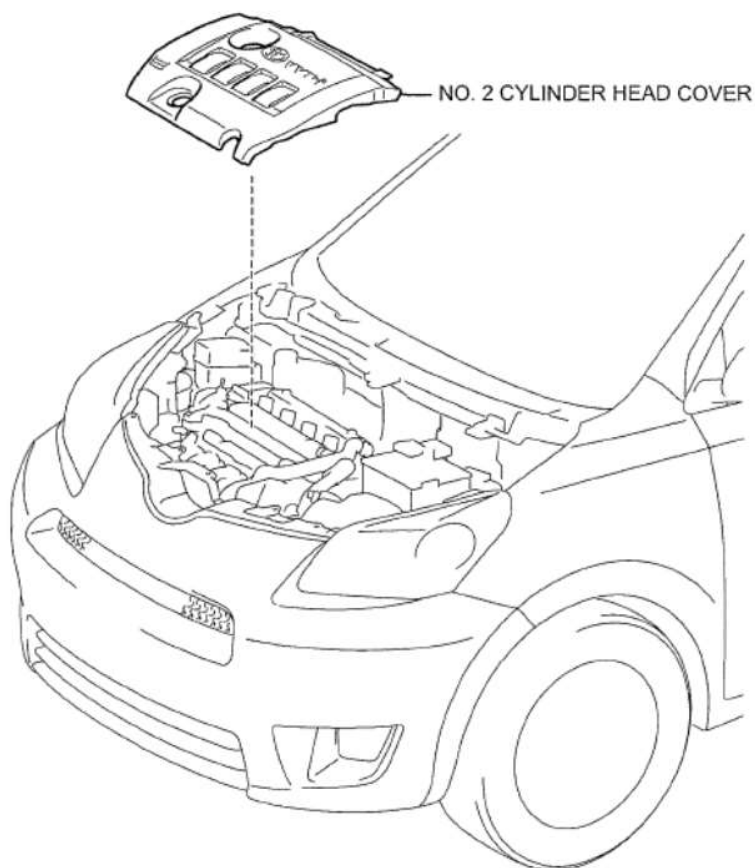
If the pressure is not as specified, check the vacuum sensing hose and the fuel pressure regulator.

- q. After checking the fuel pressure, disconnect the cable from the negative (-) battery terminal and carefully remove SST and the fuel tube connector to prevent fuel from spilling.
- r. Reconnect the fuel main tube (See **FUEL SYSTEM**).
- s. Inspect for fuel leaks (See **FUEL SYSTEM**).

FUEL INJECTOR**COMPONENTS**

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Fig. 20: Identifying Fuel Injector Components (1 Of 2)
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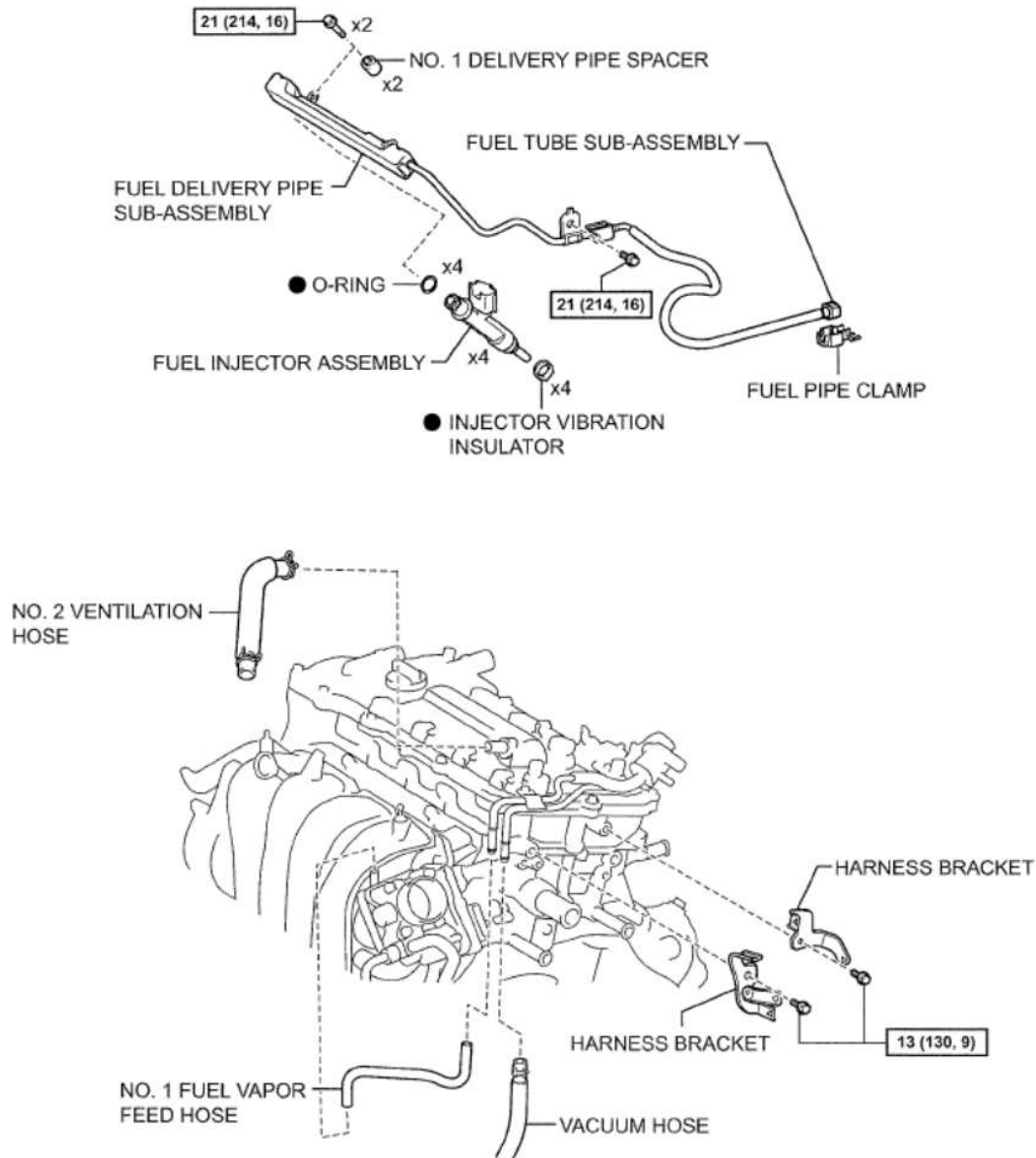


Fig. 21: Identifying Fuel Injector Components With Torque Specifications (2 Of 2)
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

REMOVAL

1. **DISCHARGE FUEL SYSTEM PRESSURE** (See **FUEL SYSTEM**)
2. **REMOVE NO. 2 CYLINDER HEAD COVER** (See **REMOVAL**)

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3. REMOVE NO. 2 VENTILATION HOSE

- a. Remove the No. 2 ventilation hose.

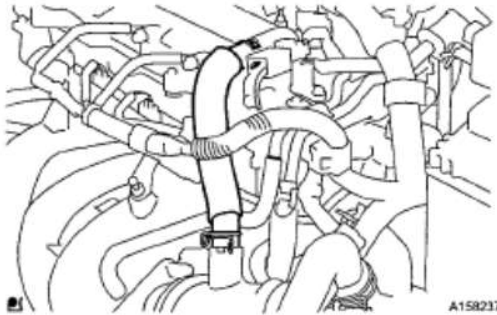


Fig. 22: Identifying No. 2 Ventilation Hose
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

4. SEPARATE ENGINE WIRE HARNESS

- a. Remove the 3 bolts, harness clamp and 4 fuel injector connectors and separate the engine wire harness.

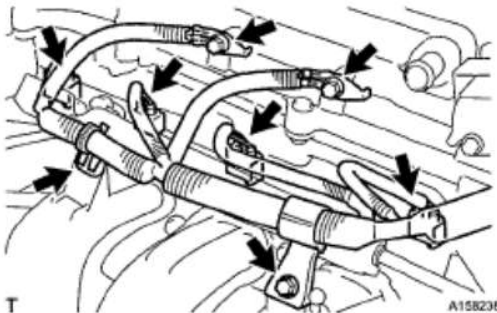
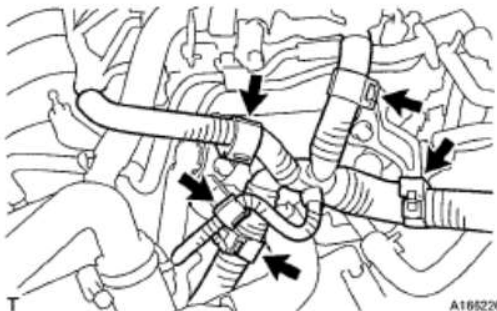


Fig. 23: Locating Engine Wire Harness Bolts And Clamp
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

5. REMOVE HARNESS BRACKET

- a. Disconnect the 5 wire harness clamps shown in the illustration.



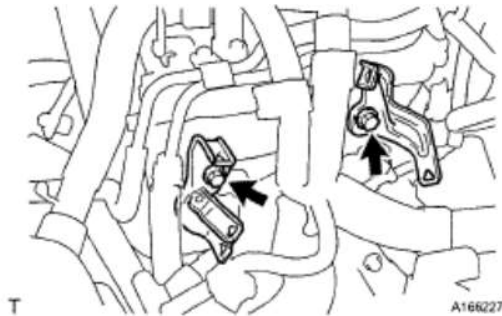
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Fig. 24: Locating Wire Harness Clamps

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

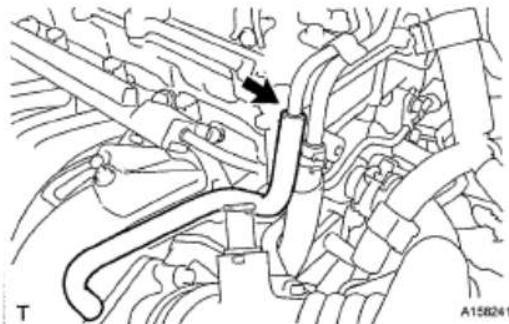
- b. Remove the 2 bolts and remove the 2 harness brackets.

**Fig. 25: Locating Harness Brackets And Bolts**

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

6. DISCONNECT NO. 1 FUEL VAPOR FEED HOSE

- a. Disconnect the No. 1 fuel vapor feed hose.

**Fig. 26: Locating No. 1 Fuel Vapor Feed Hose**

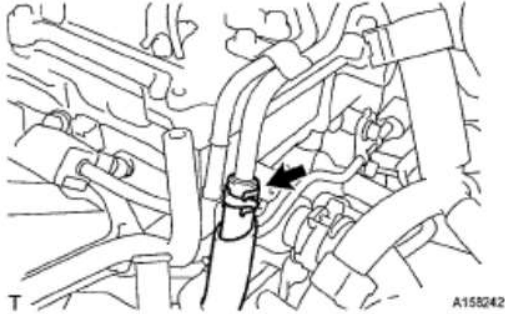
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

7. DISCONNECT VACUUM HOSE

- a. Disconnect the vacuum hose.

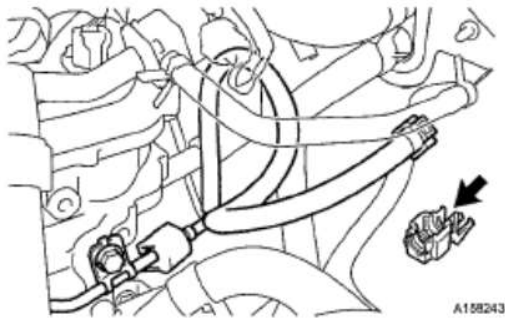
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**Fig. 27: Locating Vacuum Hose**

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

8. **REMOVE FUEL PIPE CLAMP**
 - a. Remove the fuel pipe clamp.

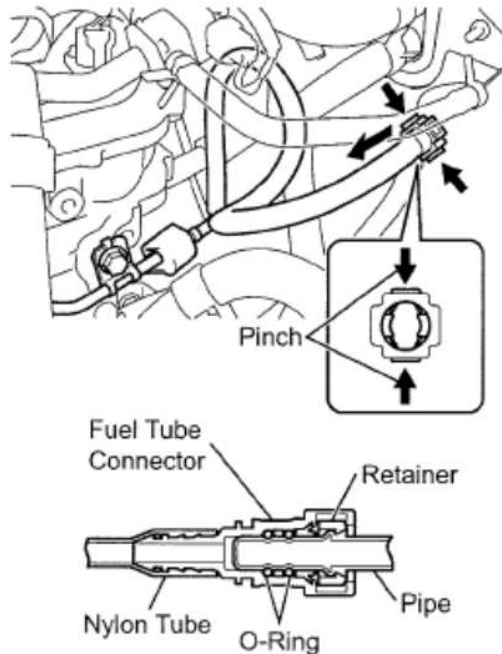
**Fig. 28: Locating Fuel Pipe Clamp**

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

9. **DISCONNECT FUEL TUBE SUB-ASSEMBLY**

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Fig. 29: Locating Fuel Tube Sub-Assembly

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- a. Pinch the retainer of the fuel tube connector, then pull out the fuel tube connector to disconnect the fuel tube from the fuel pipe.

NOTE:

- Remove any dirt and foreign matter from the fuel tube connector before performing this work.
- Do not allow any scratches or foreign matter on the parts when disconnecting as the fuel tube connector has O-rings that seal the pipe.
- Perform this work by hand. Do not use any tools.
- Do not forcibly bend, twist or turn the nylon tube.
- Protect the disconnected parts by covering them with vinyl bags after disconnecting the fuel tube.
- If the fuel tube connector and pipe are stuck, push and pull to release them.

10. REMOVE FUEL DELIVERY PIPE SUB-ASSEMBLY

- a. Remove the bolt.

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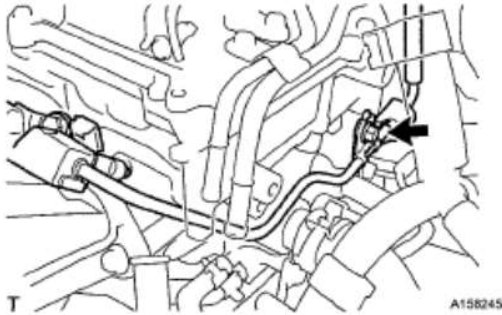


Fig. 30: Locating Fuel Delivery Pipe Sub-Assembly And Bolt
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- b. Remove the 2 bolts and remove the fuel delivery pipe with the 4 fuel injectors.

NOTE: Do not drop the fuel injectors when removing the fuel delivery pipe.

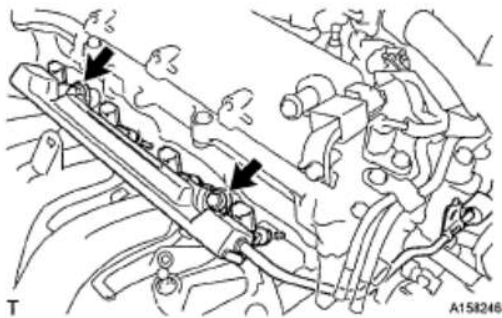


Fig. 31: Locating Fuel Delivery Pipe, Fuel Injectors And Bolts
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

11. REMOVE NO. 1 DELIVERY PIPE SPACER

- a. Remove the 2 No. 1 delivery pipe spacers.

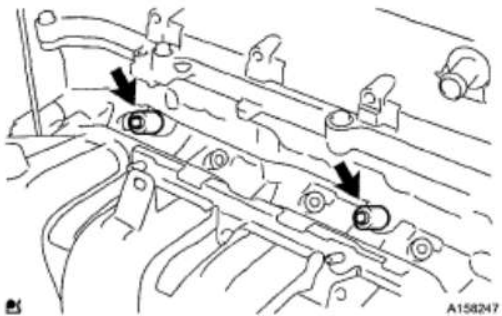


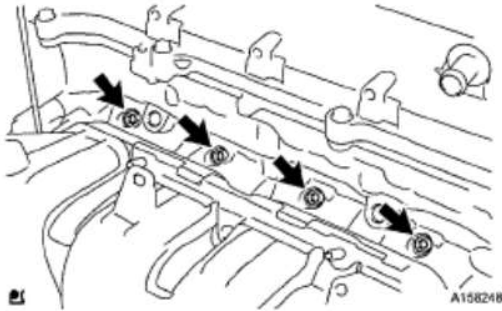
Fig. 32: Locating No. 1 Delivery Pipe Spacers
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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12. REMOVE INJECTOR VIBRATION INSULATOR

- a. Remove the 4 injector vibration insulators.

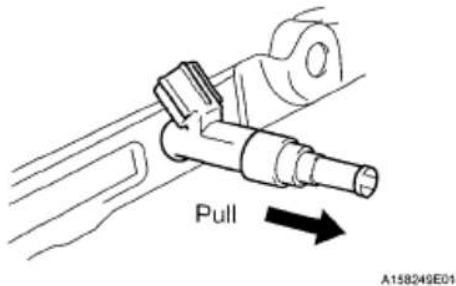
**Fig. 33: Locating Injector Vibration Insulators**

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

13. REMOVE FUEL INJECTOR ASSEMBLY

- a. Pull the 4 fuel injectors out of the fuel delivery pipe.

NOTE: Place the fuel injector in a plastic bag to prevent foreign matter from entering.

**Fig. 34: Pulling Fuel Injectors Of Fuel Delivery Pipe**

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

INSPECTION**1. INSPECT FUEL INJECTOR ASSEMBLY**

- a. Check the resistance.
 1. Measure the resistance according to the value(s) in the table below.

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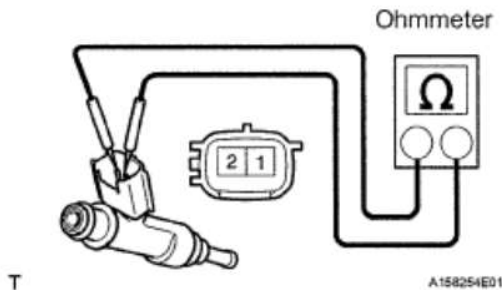


Fig. 35: Measuring Resistance Value
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

Standard resistance

RESISTANCE REFERENCE

Tester connection	Condition	Specified condition
1-2	20°C (68°F)	11.6 to 12.4 ohms

If the result is not as specified, replace the fuel injector.

- b. Check the operation.

CAUTION: Perform the inspection in a well-ventilated area. Do not perform the inspection near any flames.

1. Connect SST (fuel tube connector) to SST (hose), then connect them to the fuel pipe (vehicle side).

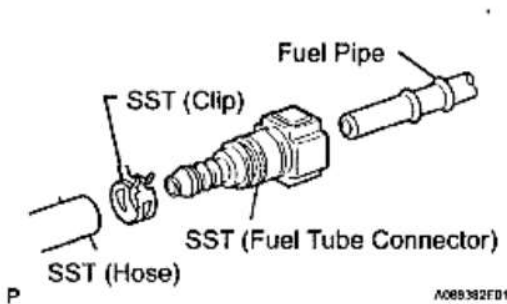


Fig. 36: Identifving Connection Of Fuel Pipe (Vehicle Side)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

SST 09268-41048 (90467-13001, 95336-08070, 09268-41500)

2. Install the O-ring onto the fuel injector.
3. Connect SST (adapter and hose) to the fuel injector, and hold the fuel injector and union with SST (clamm).

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SST 09268-41048 (09268-41110, 90467-13001, 95336-08070, 09268-41310)

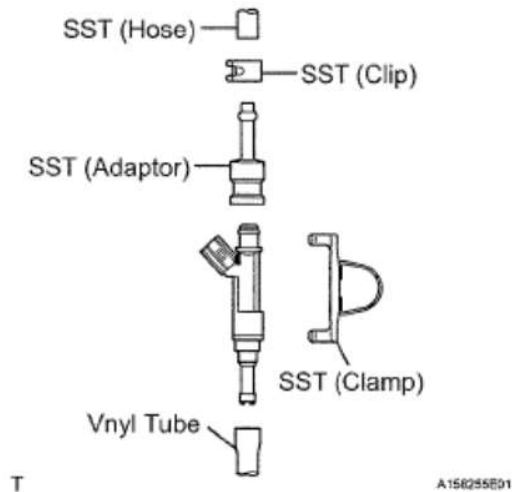


Fig. 37: Identifying Connection Of Fuel Injector
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

4. Set the fuel injector in a graduated cylinder.

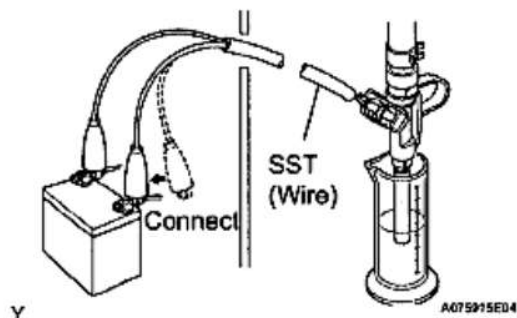
CAUTION: Install a suitable vinyl tube onto the injector assembly to prevent gasoline splashes.

5. Operate the fuel pump (See **ON-VEHICLE INSPECTION**).
6. Connect SST (wire) to the fuel injector and the battery for 15 seconds, and measure the injection volume with the graduated cylinder. Test each injector 2 or 3 times.

SST 09842-30080

Injection volume: 60 to 73 cm³ (3.7 to 4.5 cu in.) every 15 seconds

Difference between each injector: 13 cm³ (0.8 cu in.) or less



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Fig. 38: Identifying Connection Of SST (Wire)
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

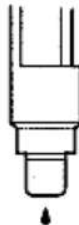
NOTE: Always do the switching at the battery side.

If the injection volume is not as specified, replace the fuel injector.

c. Check the leakage.

1. In the condition above, disconnect the test probes of SST (wire) from the battery and check the fuel leakage from the fuel injector.

Fuel drop: 1 drop or less every 12 minutes



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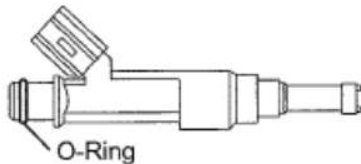
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Fig. 39: Identifying Fuel Leakage Of Fuel Injector
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

INSTALLATION

1. INSTALL FUEL INJECTOR ASSEMBLY

- a. Apply a light coat of gasoline to new O-rings, then install one onto each fuel injector.
- b. Apply a light coat of gasoline to the contact surfaces of the fuel delivery pipe and the O-ring of the fuel injector.



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Fig. 40: Identifying O-Ring Of Fuel Injector
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- c. While turning the fuel injector left and right, install it onto the fuel delivery pipe.

NOTE:

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- Do not twist the O-ring.
- After installing the fuel injectors, check that they turn smoothly. If they do not, replace the O-ring with a new one.

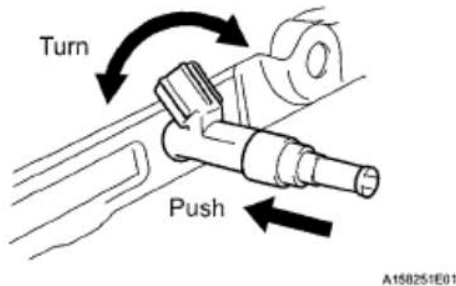


Fig. 41: Turning Fuel Injector Left And Right
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

2. INSTALL INJECTOR VIBRATION INSULATOR

- Install 4 new injector vibration insulators onto the cylinder head.

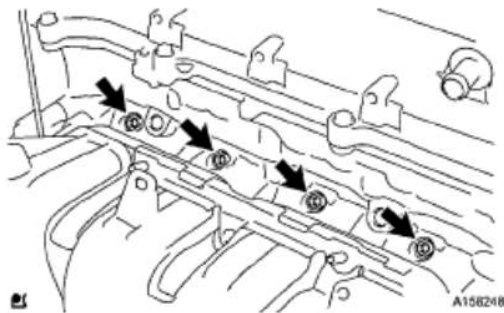


Fig. 42: Locating Injector Vibration Insulators
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

3. INSTALL NO. 1 DELIVERY PIPE SPACER

- Install the 2 No. 1 delivery pipe spacers onto the cylinder head.

NOTE: Install the No. 1 delivery pipe spacers in the correct direction.

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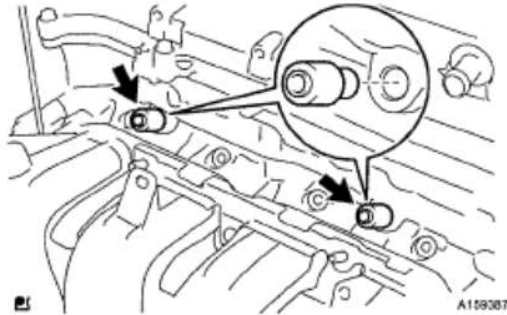


Fig. 43: Locating No. 1 Delivery Pipe Spacers

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

4. INSTALL FUEL DELIVERY PIPE SUB-ASSEMBLY

- Install the fuel delivery pipe with the 4 fuel injectors, then provisionally install the 3 bolts.

NOTE:

- Do not drop the fuel injectors when installing the fuel delivery pipe.
- Check that the fuel injectors rotate smoothly after installing the fuel delivery pipe.

- Tighten the 3 bolts to the specified torque.

Torque: 21 N*m (214 kgf*cm, 16 ft.*lbf)

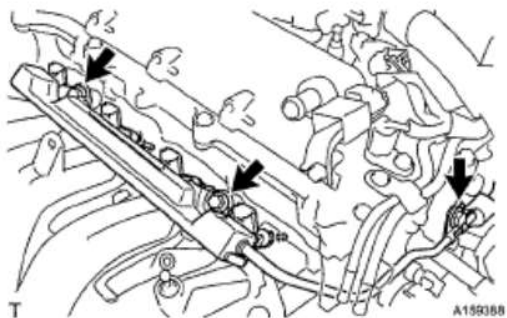


Fig. 44: Locating Fuel Delivery Pipe, Fuel Injectors And Bolts

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

5. CONNECT FUEL TUBE SUB-ASSEMBLY

- Insert the fuel tube connector into the fuel pipe until a click sound can be heard.

NOTE:

- Check that there are no scratches or foreign matter around the disconnected parts of the fuel tube connector and pipe before performing this work.
- After connecting the fuel tube, check that the fuel tube

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connector and pipe are securely connected by pulling them.

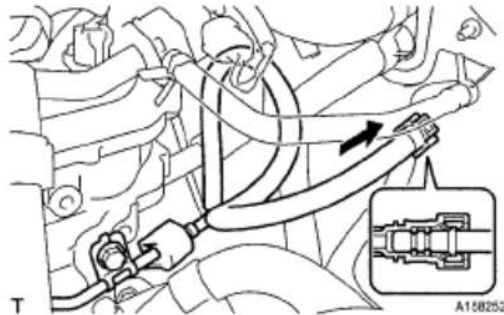


Fig. 45: Connecting Fuel Tube Sub-Assembly
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

6. INSTALL FUEL PIPE CLAMP

- Install the fuel pipe clamp.



Fig. 46: Locating Fuel Pipe Clamp
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

7. CONNECT VACUUM HOSE

- Connect the vacuum hose.

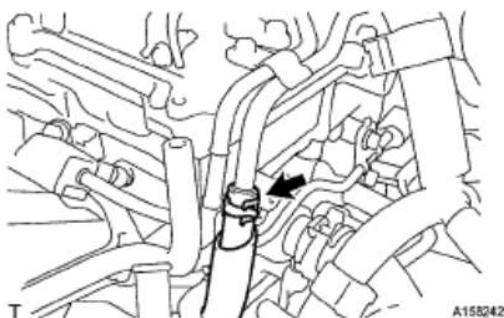


Fig. 47: Locating Vacuum Hose
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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8. CONNECT NO. 1 FUEL VAPOR FEED HOSE

- a. Connect the No. 1 fuel vapor feed hose.

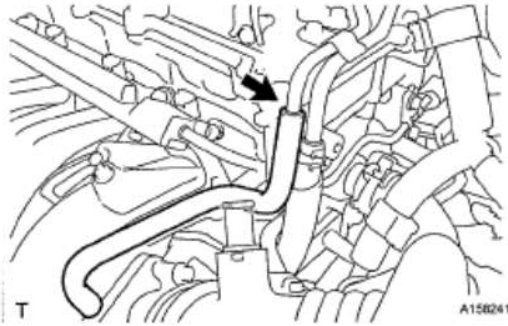


Fig. 48: Locating No. 1 Fuel Vapor Feed Hose
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

9. INSTALL HARNESS BRACKET

- a. Install the 2 harness brackets with the 2 bolts.

Torque: 13 N*m (130 kgf*cm, 9 ft.*lbf)

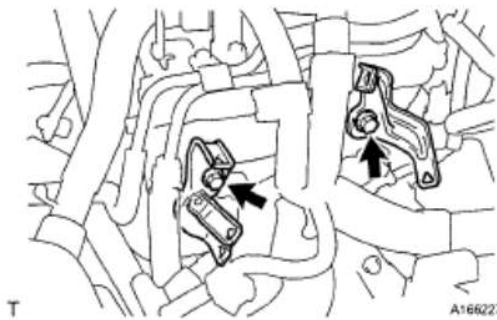
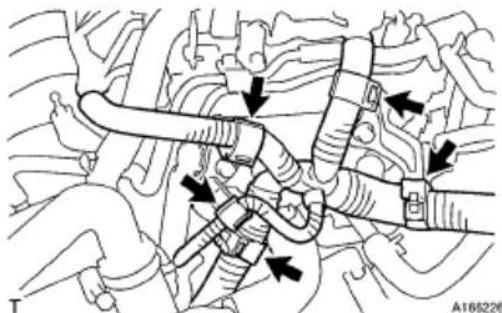


Fig. 49: Locating Harness Brackets With Bolts
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- b. Connect the 5 wire harness clamps shown in the illustration.



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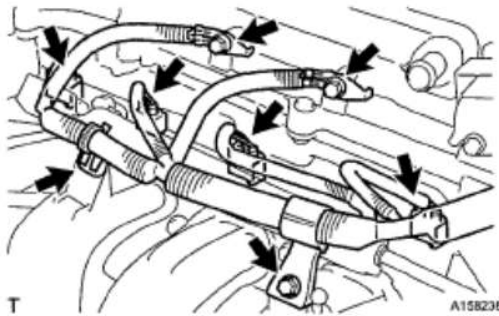
2008 ENGINE 2ZR-FE Fuel - xD

Fig. 50: Locating Wire Harness Clamps

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

10. INSTALL ENGINE WIRE HARNESS

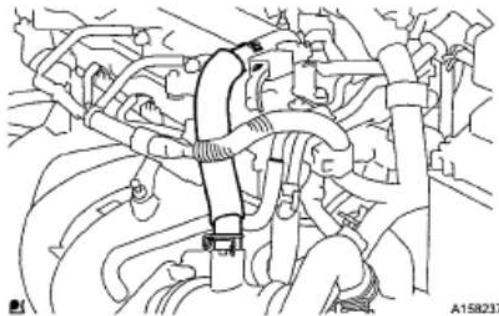
- a. Install the engine wire harness with 3 bolts and harness clamp.
- b. Connect the 4 fuel injector connectors.

**Fig. 51: Locating Fuel Injector Connectors**

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

11. INSTALL NO. 2 VENTILATION HOSE

- a. Install the No. 2 ventilation hose.

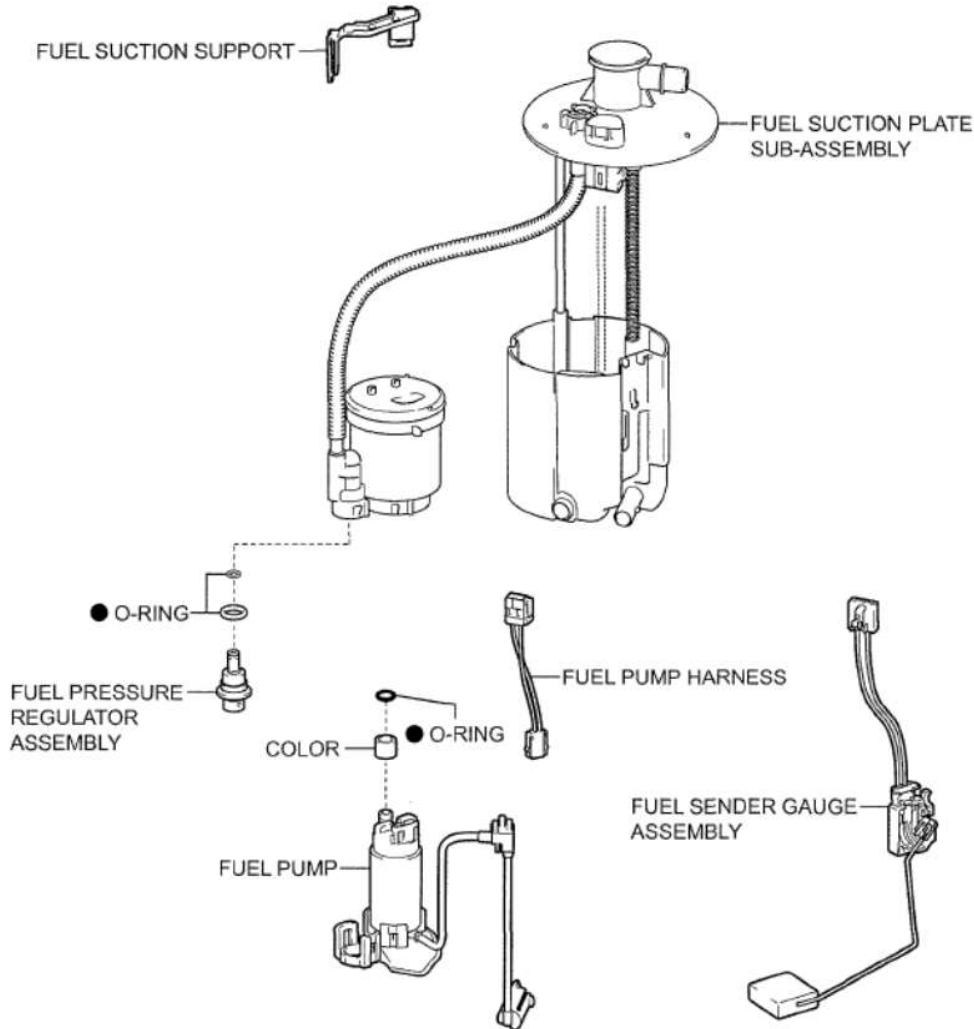
**Fig. 52: Locating No. 2 Ventilation Hose**

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

12. INSPECT FOR FUEL LEAK**13. INSTALL NO. 2 CYLINDER HEAD COVER (See INSTALLATION)****FUEL PRESSURE REGULATOR****COMPONENTS**

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Fig. 53: Identifying Fuel Pressure Regulator Components
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

REMOVAL

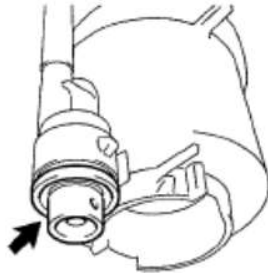
1. **DISCHARGE FUEL SYSTEM PRESSURE** (See **FUEL SYSTEM**)
2. **REMOVE FUEL PUMP**

Refer to the procedures under "**REMOVE FUEL PUMP**".

3. **REMOVE FUEL PRESSURE REGULATOR ASSEMBLY**

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- a. Using a screwdriver with its tip wrapped in protective tape, remove the pressure regulator.



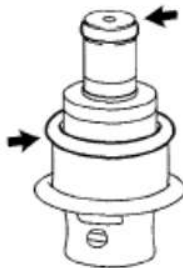
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Fig. 54: Locating Pressure Regulator

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- b. Remove the 2 O-rings from the pressure regulator assembly.



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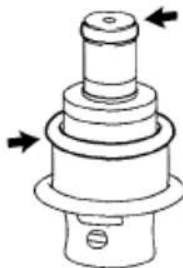
Fig. 55: Locating O-Rings Of Pressure Regulator Assembly

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

INSTALLATION

1. INSTALL FUEL PRESSURE REGULATOR ASSEMBLY

- a. Apply gasoline to 2 new O-rings and then install them onto the fuel pressure regulator assembly.



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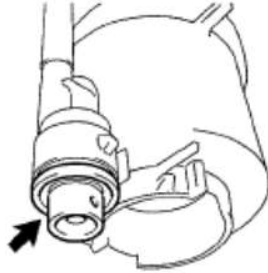
Fig. 56: Locating Fuel Pressure Regulator Assembly

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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- b. Install the fuel pressure regulator assembly.



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Fig. 57: Locating Fuel Pressure Regulator Assembly
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

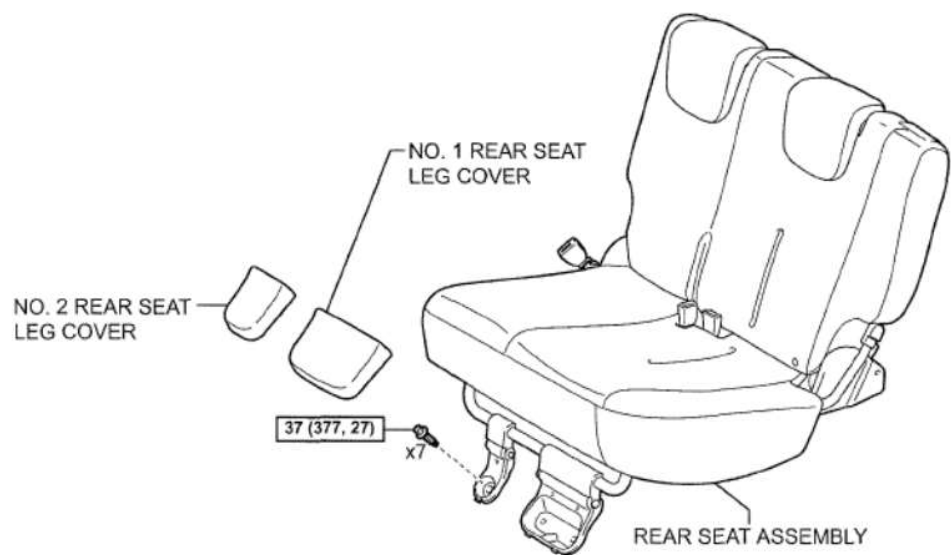
2. INSTALL FUEL PUMP

Refer to the procedures under "**INSTALL FUEL PUMP**".

3. INSPECT FOR FUEL LEAK (See FUEL SYSTEM)**FUEL PUMP****COMPONENTS**

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N*m (kgf*cm, ft*lb) : Specified torque

P

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Fig. 58: Identifying Fuel Pump Components With Torque Specification (1 Of 3)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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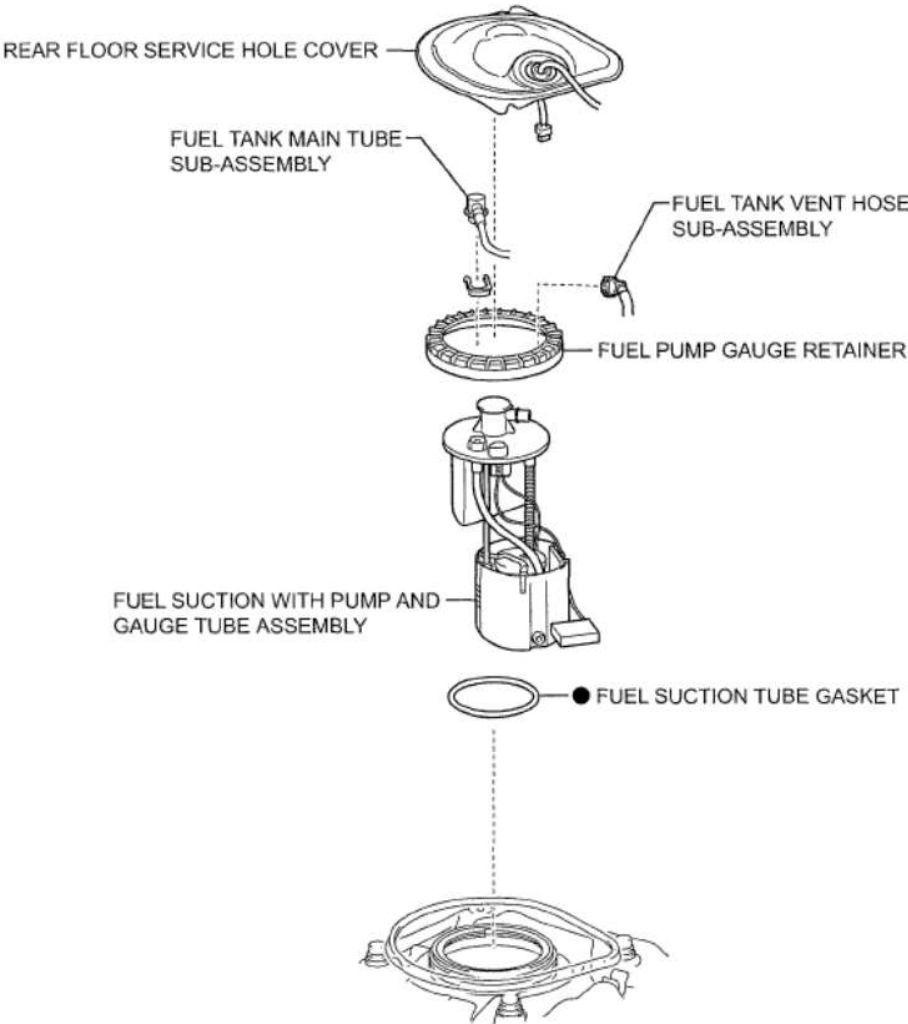
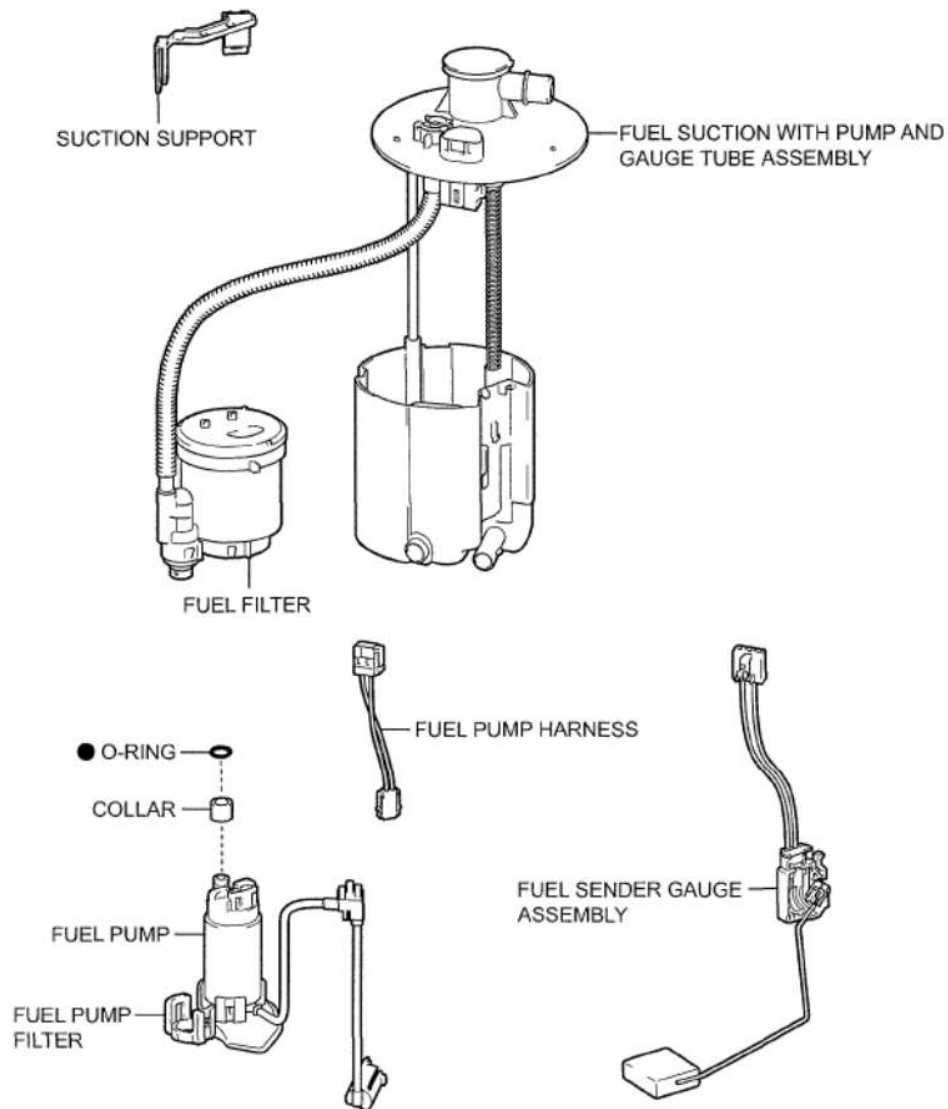


Fig. 59: Identifying Fuel Pump Components (2 Of 3)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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- Non-reusable part

P

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Fig. 60: Identifying Fuel Pump Components (3 Of 3)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

REMOVAL

1. REMOVE NO. 1 REAR SEAT LEG COVER (See **REMOVAL**)
2. REMOVE NO. 2 SEAT LEG COVER (See **REMOVAL**)
3. REMOVE REAR SEAT ASSEMBLY (See **REMOVAL**)

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4. REMOVE REAR FLOOR SERVICE HOLE COVER

- a. Remove the rear floor service hole cover.

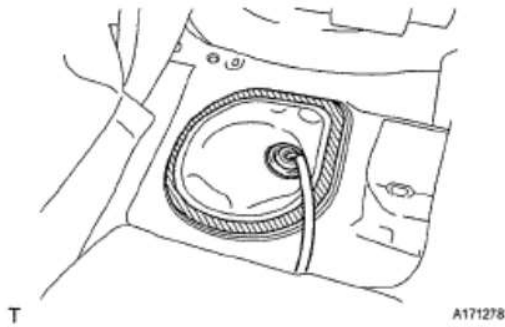


Fig. 61: Identifying Rear Floor Service Hose Cover
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

5. DISCHARGE FUEL SYSTEM PRESSURE

- a. Discharge the fuel system pressure (See **FUEL SYSTEM**).

6. DISCONNECT FUEL TANK MAIN TUBE SUB-ASSEMBLY

- a. Widen the tip of the tube joint clip and pull out the clip in the direction indicated by the arrow.
- b. Disconnect the fuel tank main tube.

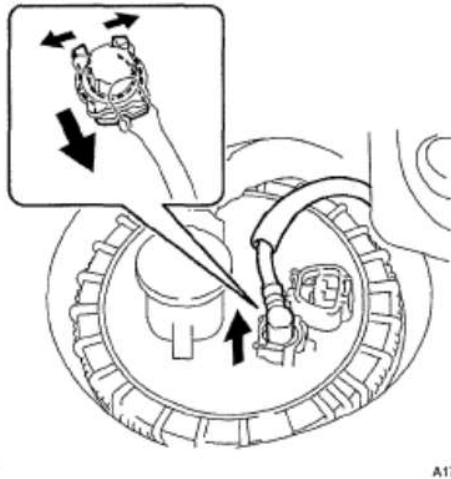


Fig. 62: Locating Fuel Tank Main Tube Sub-Assembly
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

NOTE:

- Keep the O-ring free of any foreign matter, as it becomes contaminated easily.
- Do not use any tools in this procedure.
- Do not forcefully bend or twist the tube.

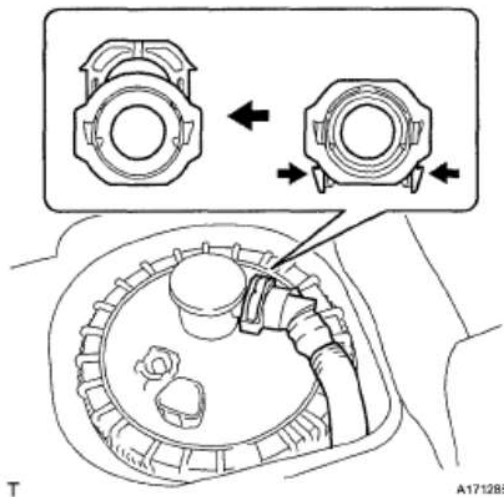
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2008 ENGINE 2ZR-FE Fuel - xD

- Put the tube in a plastic bag to prevent damage and contamination.
- If the fuel suction plate and tube are stuck together, pinch the tube and turn it carefully to disconnect them.
- Do not damage any clips. If a clip is damaged, replace it.

7. DISCONNECT FUEL TANK VENT HOSE

- Disconnect the fuel tank vent hose.

**Fig. 63: Locating Fuel Tank Vent Hose**

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

8. REMOVE FUEL PUMP GAUGE RETAINER

- Using SST, remove the fuel pump gauge retainer.

SST 09808-14020 (09808-01410, 09808-01420, 09808-01430)**HINT:**

Align the claws of the fuel pump gauge retainer with the tips of SST.

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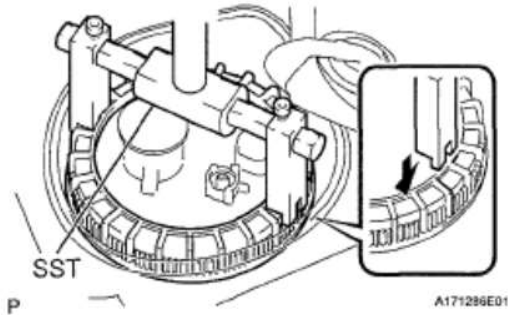


Fig. 64: Removing Fuel Pump Gauge Retainer
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

9. REMOVE FUEL SUCTION WITH PUMP AND GAUGE TUBE ASSEMBLY

- a. Remove the fuel suction with pump and gauge tube.

NOTE: Do not bend the arm of the sender gauge.

- b. Remove the fuel suction tube gasket from the fuel tank.

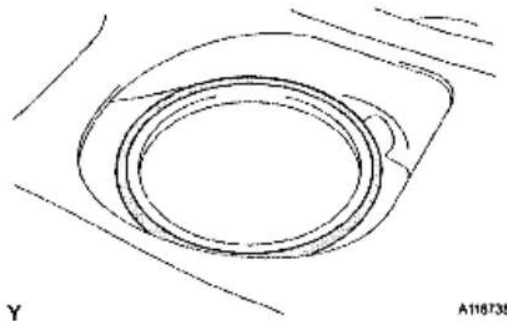


Fig. 65: Identifying Fuel Suction, Pump And Gauge Tube
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

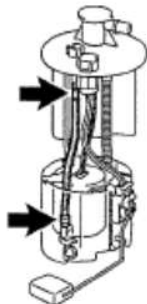
DISASSEMBLY

1. REMOVE FUEL SENDER GAUGE ASSEMBLY

NOTE: Do not separate the tube indicated in the illustration.

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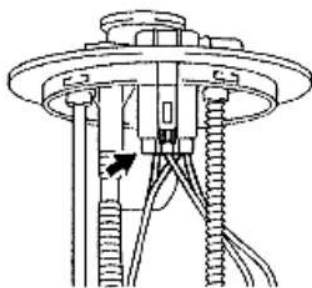
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Fig. 66: Locating Fuel Sender Gauge Assembly

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- a. Disconnect the connector of the fuel sender gauge.



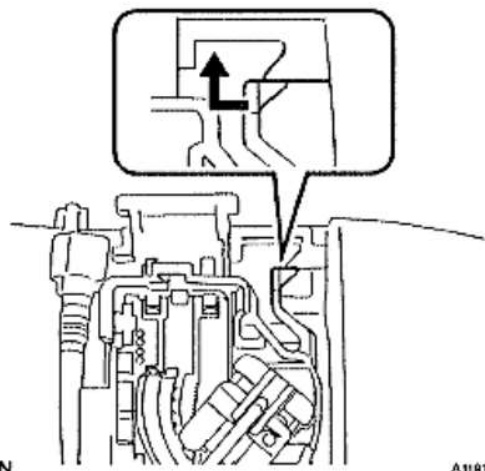
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Fig. 67: Locating Connector Of Fuel Sender Gauge

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- b. Release the lock by sliding the fuel sender gauge upward, as shown in the illustration.



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Fig. 68: Sliding Fuel Sender

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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2. REMOVE FUEL PUMP

- a. Disconnect the connector of the fuel pump harness.

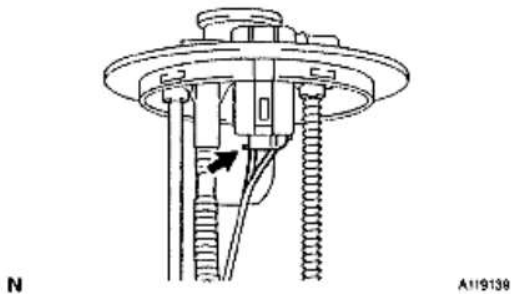


Fig. 69: Locating Connector Of Fuel Pump Harness
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- b. Disconnect the fuel pump filter hose.

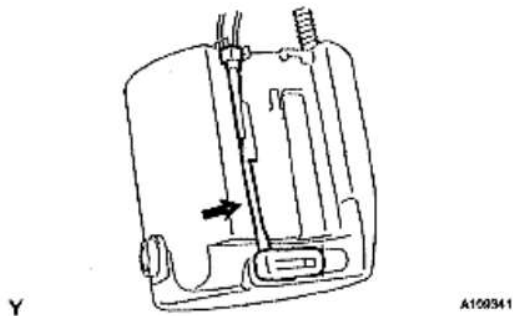


Fig. 70: Locating Fuel Pump Filter Hose
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- c. Using a screwdriver with its tip wrapped in protective tape, disengage the 4 claws and remove the fuel filter and the fuel pump from the fuel sub-tank.

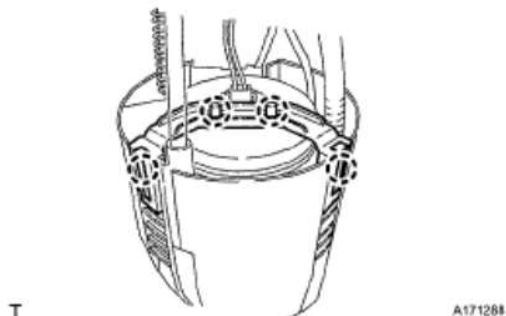


Fig. 71: Identifying Fuel Filter Claws
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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2008 ENGINE 2ZR-FE Fuel - xD

- d. Using a screwdriver with its tip wrapped in protective tape, disengage the 5 claws, and remove the fuel pump filter and fuel pump from the fuel filter.

NOTE:

- Do not damage the fuel pump filter.
- Do not remove the suction filter.
- Do not use either the fuel pump or the suction filter if the suction filter is removed from the fuel pump.

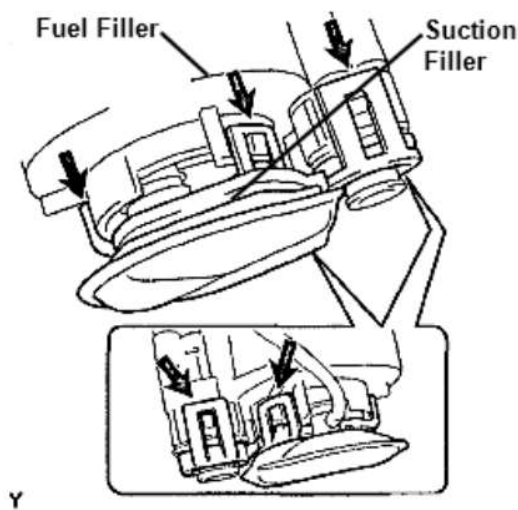


Fig. 72: Locating Fuel Pump Filter Claw

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- e. Disconnect the fuel pump harness.

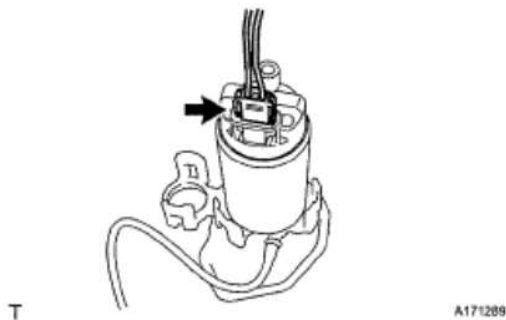


Fig. 73: Locating Fuel Pump Harness

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- f. Remove the O-ring.

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2008 ENGINE 2ZR-FE Fuel - xD

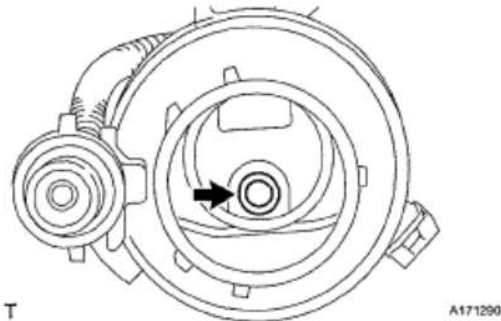


Fig. 74: Locating O-Ring
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

INSPECTION

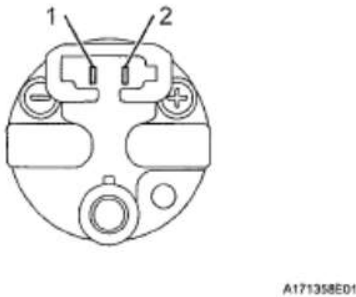


Fig. 75: Identifying Fuel Pump Connection
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

1. INSPECT FUEL PUMP

- a. Check the resistance of the fuel pump.
 - 1. Measure the resistance according to the value(s) in the table below.

Standard resistance

RESISTANCE REFERENCE

Tester Connection	Condition	Specified Condition
1 - 2	20°C (68°F)	0.2 to 3.0 ohms

- b. Inspect the operation of the fuel pump.
 - 1. Connect the positive (+) battery lead to terminal 1 of the connector, and the negative (-) lead to terminal 2. Check that the fuel pump operates.

NOTE:

- These tests must be performed within 10 seconds of connecting the battery to prevent the coil from burning out.

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- Keep the fuel pump as far away from the battery as possible.
- Turn the voltage on and off on the battery side, not the fuel pump side.

REASSEMBLY

1. INSTALL FUEL PUMP

- Connect the fuel pump harness.

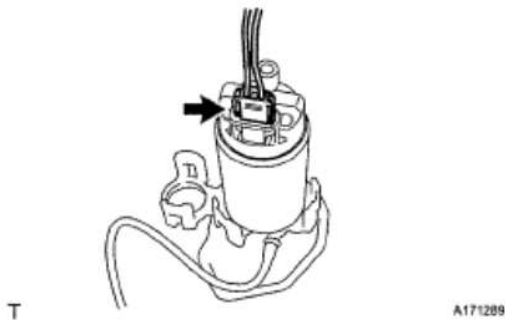


Fig. 76: Locating Fuel Pump Harness

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- Apply gasoline to the collar and a new O-ring, and then install them into the fuel filter.

NOTE:

- Do not remove the suction filter from the fuel pump, because they are nonreusable parts.

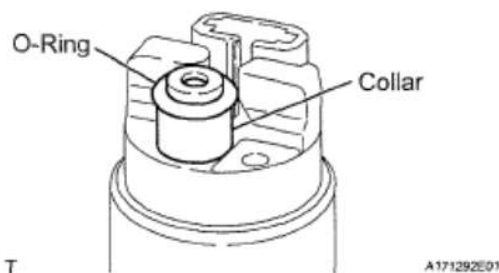


Fig. 77: Identifying O-Ring And Collar

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- Engage the 5 claws of the fuel pump.

NOTE:

- Do not remove the suction filter.
- Do not use either the fuel pump or the suction filter if the

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2008 ENGINE 2ZR-FE Fuel - xD

suction filter is removed from the fuel pump.

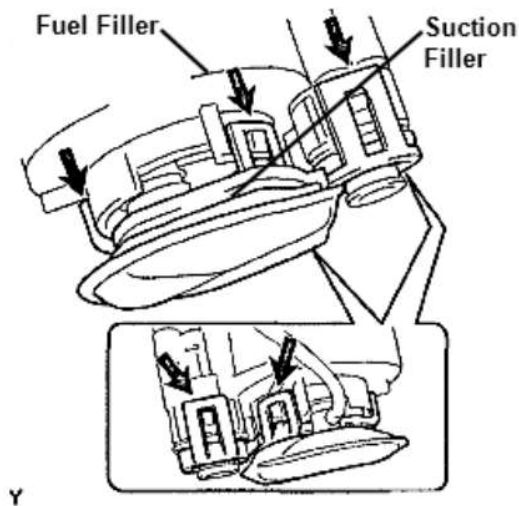
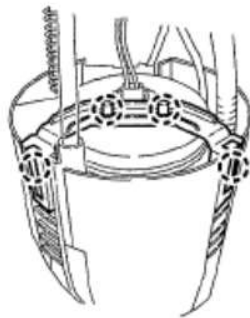


Fig. 78: Locating Fuel Pump Filter Claw
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- d. Engage the 2 claws of the fuel suction support.
- e. Engage the 4 claws of the fuel suction support and install the fuel filter and the fuel pump onto the fuel sub-tank.



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Fig. 79: Identifying Fuel Filter Claws
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- f. Connect the fuel pump filter hose.

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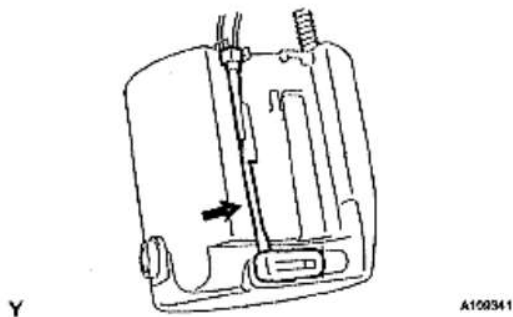


Fig. 80: Locating Fuel Pump Filter Hose
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- g. Connect the connector of the fuel pump harness.

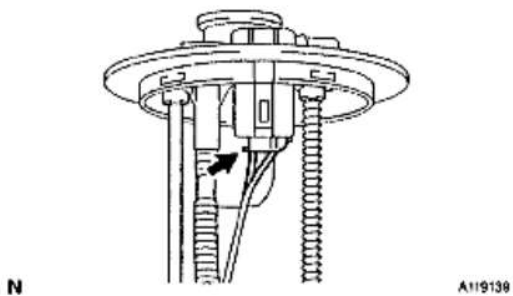


Fig. 81: Locating Connector Of Fuel Pump Harness
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

2. INSTALL FUEL SENDER GAUGE ASSEMBLY

- a. Install the fuel sender gauge by sliding it downward.

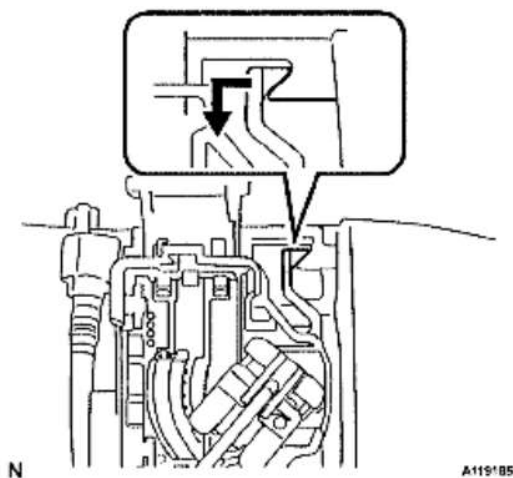


Fig. 82: Installing Fuel Sender Gauge
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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- b. Connect the connector of the fuel sender gauge.

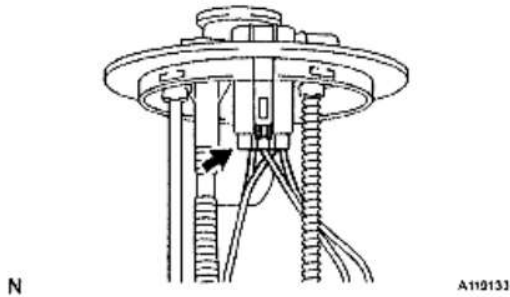


Fig. 83: Locating Connector Of Fuel Sender Gauge
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

INSTALLATION

1. INSTALL FUEL SUCTION TUBE ASSEMBLY WITH PUMP AND GAUGE TUBE ASSEMBLY

- a. Install a new fuel suction tube gasket onto the fuel tank.

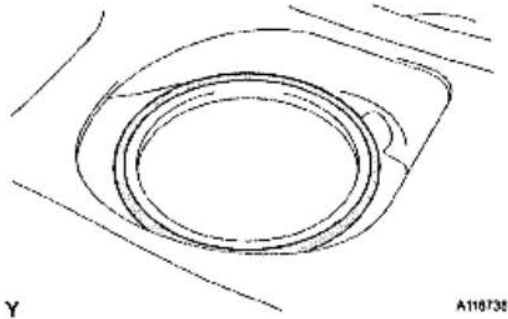


Fig. 84: Identifying Fuel Suction, Pump And Gauge Tube
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- b. Align the protrusion of the fuel pump with the cutout of the fuel tank and install the fuel suction with pump and gauge tube assembly.

NOTE: Do not bend the arm of the sender gauge.

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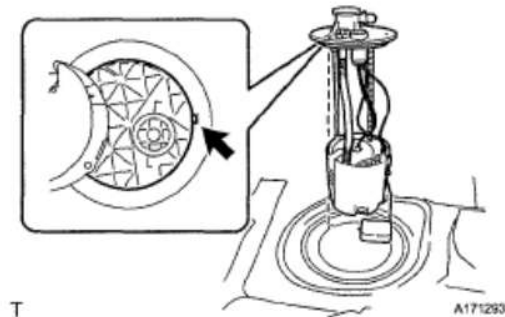


Fig. 85: Locating Protrusion Of Fuel Pump
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

2. INSTALL FUEL PUMP GAUGE RETAINER

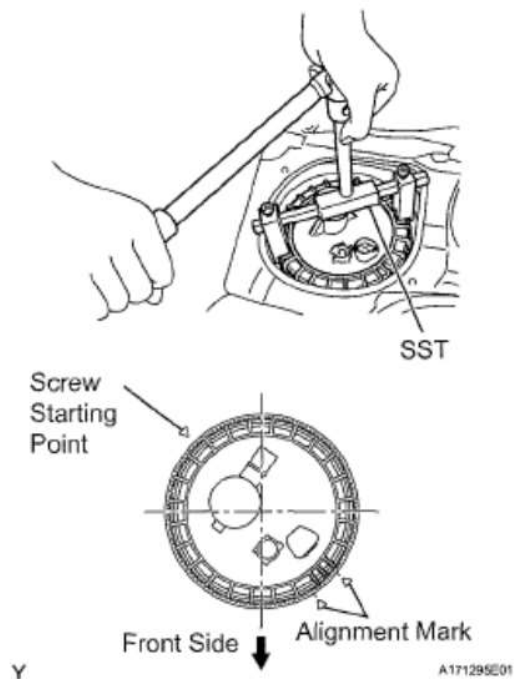


Fig. 86: Installing Fuel Pump Gauge Retainer
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- a. Turn the retainer 180° clockwise by hand from the screw starting point and further turn it 360° clockwise using SST to align the claw of the retainer with the matchmark on the fuel tank.

SST 09808-14020 (09808-01410, 09808-01420, 09808-01430)

NOTE: Replace the fuel pump gauge retainer with a new one if not turned 180° clockwise by hand.

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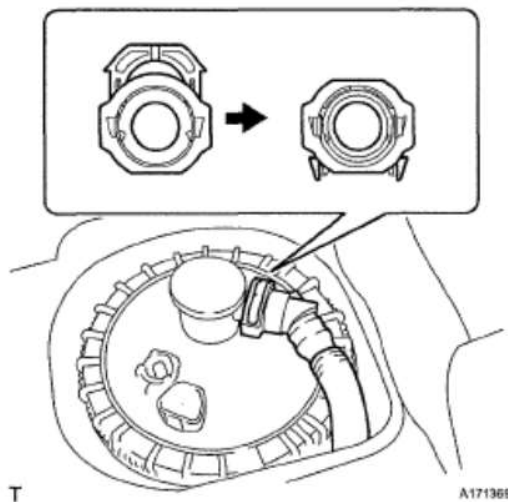
2008 ENGINE 2ZR-FE Fuel - xD

Part No. 77144-52030**HINT:**

- Align the claws of the fuel pump gauge retainer with the tips of SST.
- At the point where the retainer is turned 90° from the start of the thread, push the retainer in from the opposite side to the start of the thread. Check that the thread of the retainer is properly engaged with that on the tank.

3. CONNECT FUEL TANK VENT HOSE

- a. Connect the fuel tank vent hose.

**Fig. 87: Locating Fuel Tank Vent Hose**

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

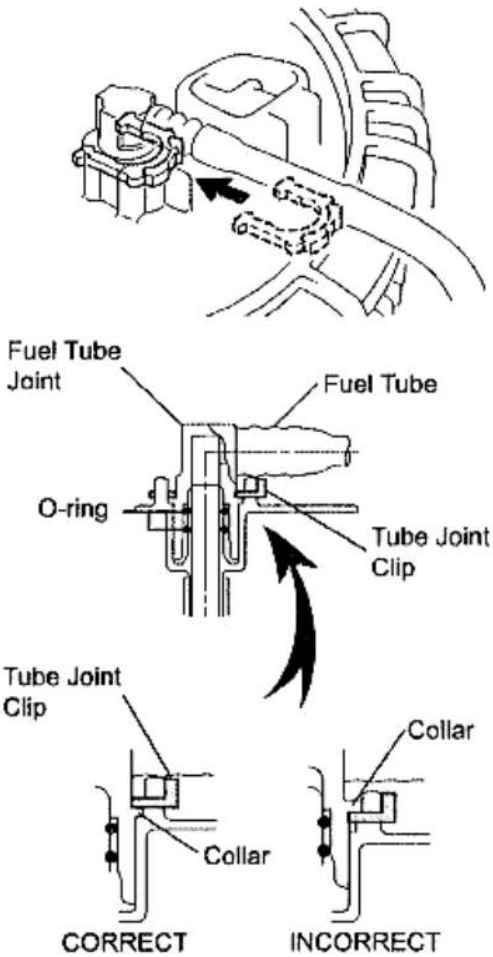
4. CONNECT FUEL TANK MAIN TUBE SUB-ASSEMBLY

- a. Insert the fuel tank main tube.
- b. Install the tube joint clip.

NOTE:

- Check that there are no scratches or foreign matter on the connecting parts.
- Check that the fuel tube joint is on the collar of the fuel tube joint.
- After installing the tube joint clip, check that the fuel tube joint has not been pulled off.
- Do not damage any clips. If a clip is damaged, replace it.

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2008 ENGINE 2ZR-FE Fuel - xD

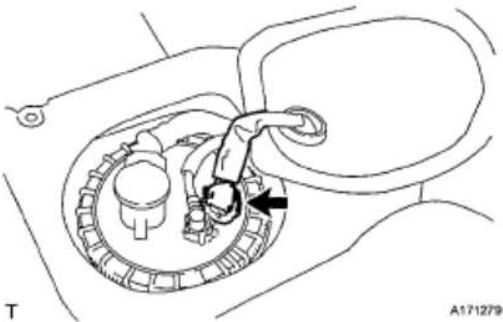


N A128126F01

Fig. 88: Connecting Fuel Tank Main Tube Sub-Assembly
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

5. INSTALL REAR FLOOR SERVICE HOLE COVER

- a. Connect the fuel pump connector.



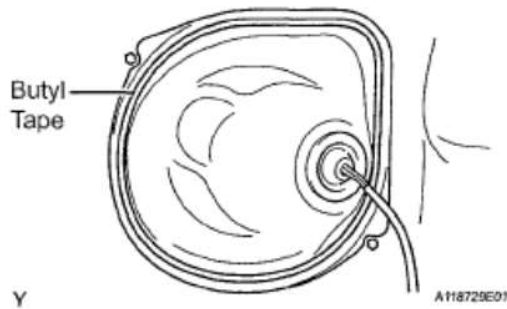
2008 Scion xD

2008 ENGINE 2ZR-FE Fuel - xD

Fig. 89: Locating Fuel Pump Connector

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- b. Install the rear service hole cover with new butyl tape.

**Fig. 90: Identifying Rear Service Hole Cover With New Butyl Tape**

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

6. **INSTALL REAR SEAT CUSHION WITH COVER PAD SUB-ASSEMBLY LH** (See **INSTALLATION**)
7. **REMOVE NO. 2 SEAT LEG COVER** (See **INSTALLATION**)
8. **INSTALL NO. 1 SEAT LEG COVER** (See **INSTALLATION**)
9. **CONNECT CABLE TO NEGATIVE BATTERY TERMINAL**

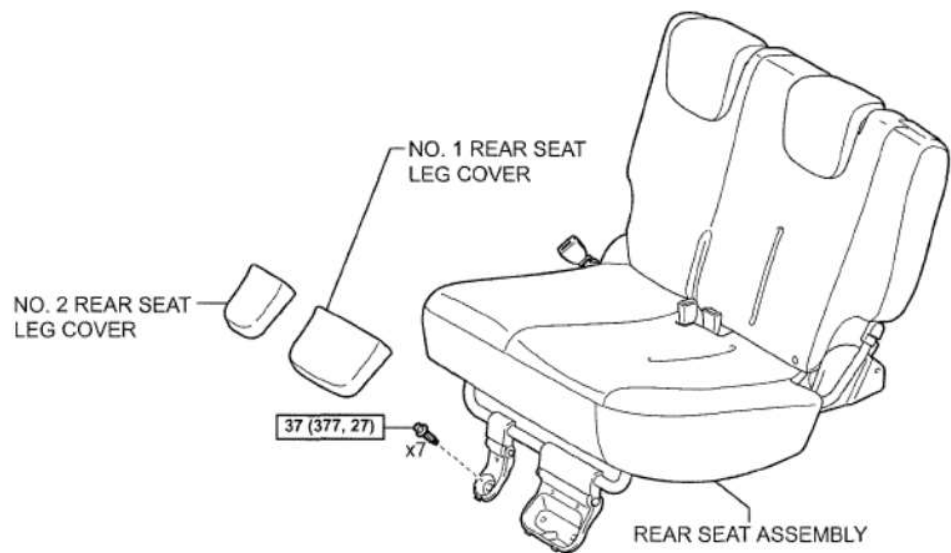
Torque: 5.4 N*m (55 kgf*cm, 48 in.*lbf)

10. **CHECK FOR FUEL LEAK** (See **FUEL SYSTEM**)

FUEL TANK**COMPONENTS**

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2008 ENGINE 2ZR-FE Fuel - xD



N*m (kgf*cm, ft*lb) : Specified torque

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Fig. 91: Identifying Fuel Tank Components With Torque Specification (1 Of 3)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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2008 ENGINE 2ZR-FE Fuel - xD

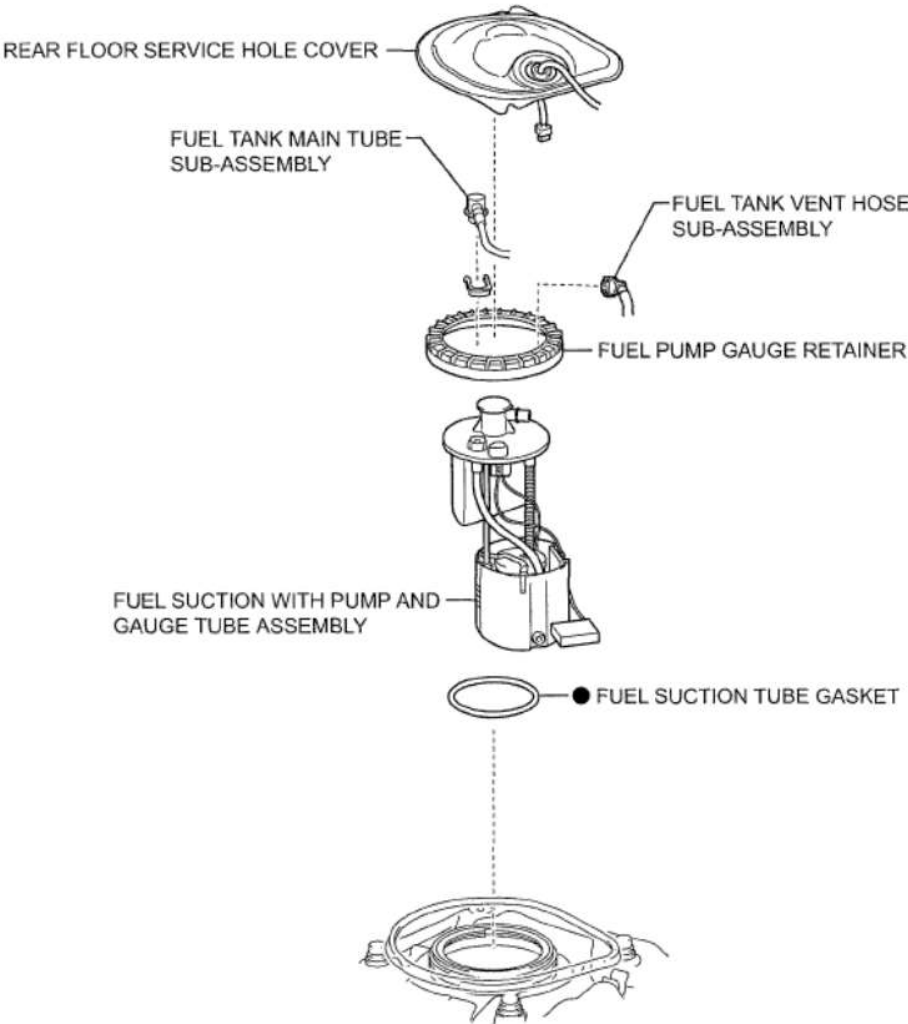
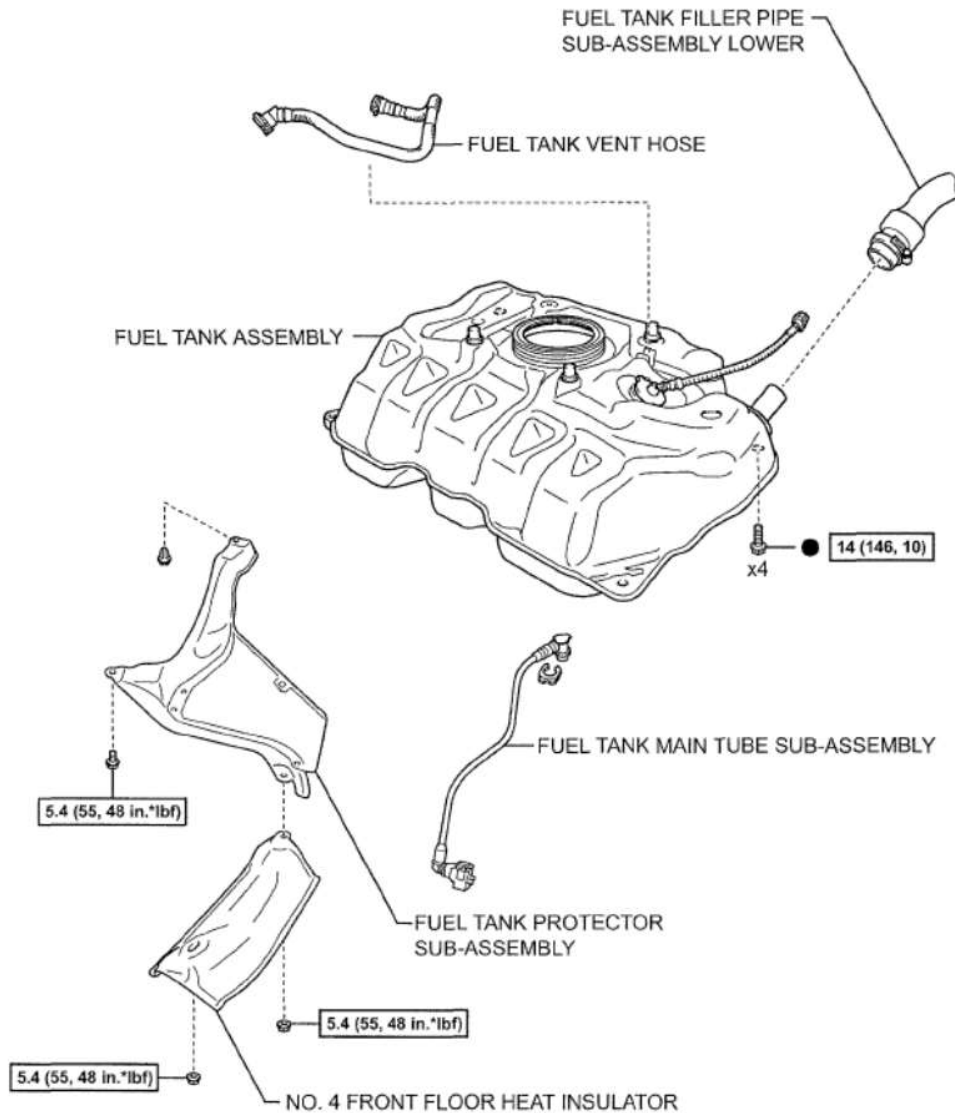


Fig. 92: Identifying Fuel Tank Components (2 Of 3)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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[N*m (kgf*cm, ft*lbf)] : Specified torque ● Non-reusable part

A171300E01

Fig. 93: Identifying Fuel Tank Components With Torque Specifications (3 Of 3)
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

REMOVAL

1. REMOVE NO. 1 SEAT LEG COVER (See REMOVAL)
2. REMOVE NO. 2 SEAT LEG COVER (See REMOVAL)
3. REMOVE REAR SEAT CUSHION WITH COVER PAD SUB-ASSEMBLY LH (See REMOVAL)

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4. **REMOVE REAR FLOOR SERVICE HOLE COVER** (See REMOVAL)
5. **DISCHARGE FUEL SYSTEM PRESSURE** (See FUEL SYSTEM)
6. **DISCONNECT FUEL TANK MAIN TUBE SUB-ASSEMBLY** (See REMOVAL)
7. **DISCONNECT FUEL TANK VENT HOSE** (See REMOVAL)
8. **REMOVE FUEL PUMP GAUGE RETAINER** (See REMOVAL)
9. **REMOVE FUEL SUCTION WITH PUMP AND GAUGE TUBE ASSEMBLY** (See REMOVAL)
10. **DRAIN FUEL**
11. **REMOVE NO. 4 FRONT FLOOR HEAT INSULATOR**
 - a. Remove the 2 nuts together with the insulator.

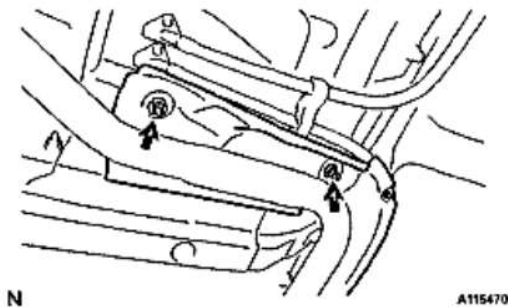


Fig. 94: Locating Insulator Nuts

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

12. **REMOVE NO. 1 FUEL TANK PROTECTOR**
 - a. Remove the bolt together with the clip and remove the No. 1 fuel tank protector.

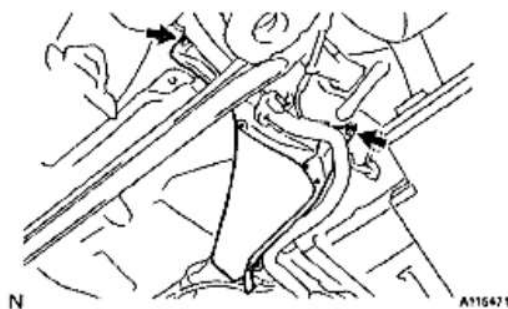


Fig. 95: Locating No. 1 Fuel Tank Protector Bolts

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

13. **DISCONNECT FUEL TANK MAIN TUBE SUB-ASSEMBLY**
 - a. Release the lock as shown in the illustration, then pull and remove the fuel tank main tube.

NOTE:

- Remove any dirt and foreign matter from the clip before performing this work.

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- Avoid any scratches or foreign matter on the parts when disconnecting them, as the quick connector has an O-ring that seals the plug.
- Perform this work by hand. Do not use any tools.
- Do not forcibly bend, twist or turn the nylon tube.
- Protect the disconnected parts by covering them with a plastic bag.
- If the connector and pipe are stuck, disconnect the nylon tube by turning it by hand to release them.

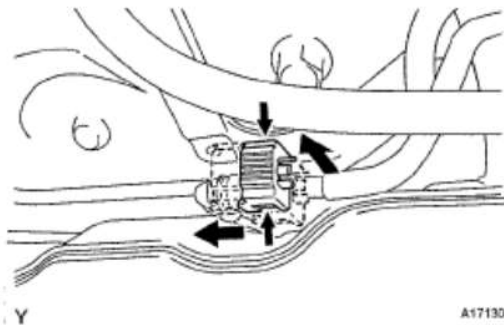


Fig. 96: Releasing Lock

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

14. DISCONNECT FUEL TANK VENT HOSE

- Disconnect the fuel tank vent hose from the charcoal canister assembly.

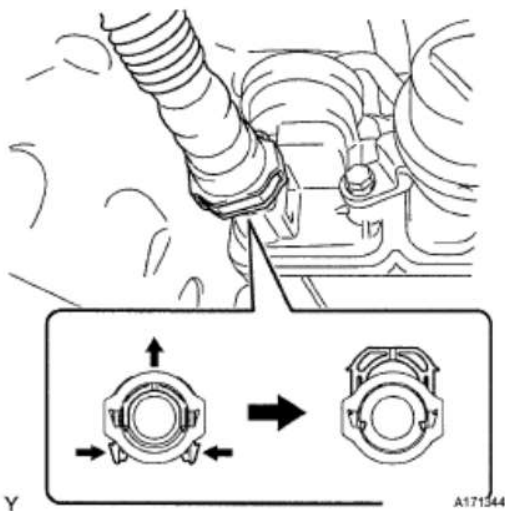


Fig. 97: Disconnecting Fuel Tank Vent Hose Of Charcoal Canister Assembly

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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15. DISCONNECT FUEL TANK BREATHER HOSE

- a. Release the lock as shown in the illustration, then pull and remove the fuel tank breather hose.

NOTE:

- Remove any dirt and foreign matter from the clip before performing this work.
- Avoid any scratches or foreign matter on the parts when disconnecting, as the quick connector has an O-ring that seals the plug.
- Perform this work by hand. Do not use any tools.
- Do not forcibly bend, twist or turn the nylon tube.
- Protect the disconnected parts by covering them with a plastic bag.
- If the connector and pipe are stuck, disconnect the nylon tube by turning it by hand to release them.

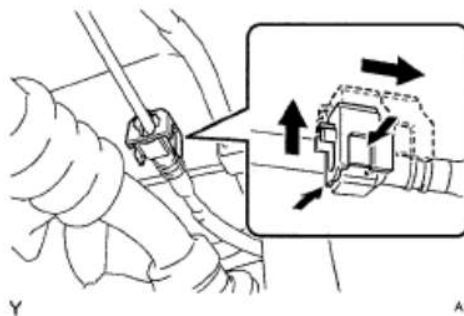


Fig. 98: Disconnecting Fuel Tank Breather Hose
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

16. DISCONNECT LOWER FUEL TANK FILLER PIPE SUB-ASSEMBLY

- a. Loosen the clamp and disconnect the fuel tank filler pipe.

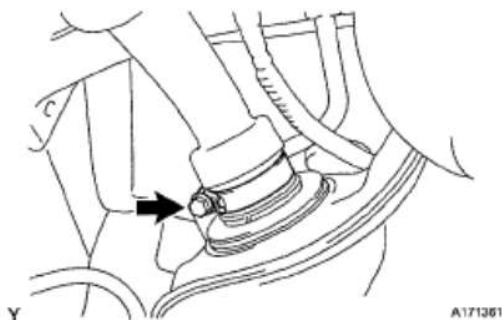


Fig. 99: Locating Fuel Tank Filler Pipe Clamp
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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17. REMOVE FUEL TANK ASSEMBLY

- a. Remove the 4 bolts and remove the fuel tank.

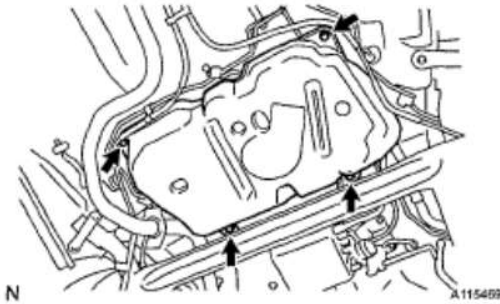


Fig. 100: Locating Fuel Tank Bolts

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- b. Remove the fuel tank main tube from the fuel tank.

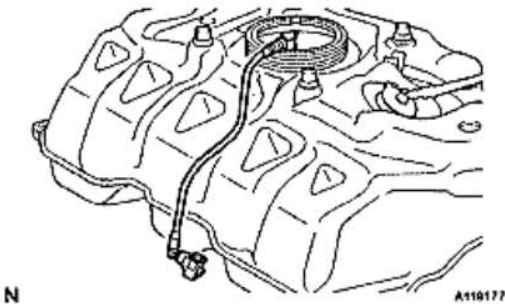


Fig. 101: Identifying Fuel Tank Main Tube

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- c. Remove the fuel tank vent hose from the fuel tank.

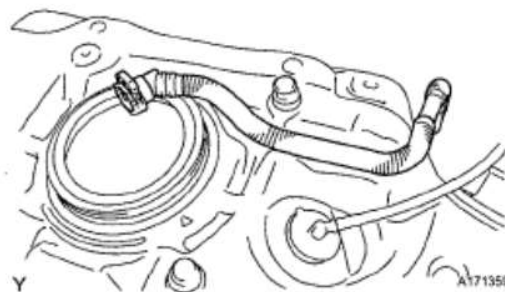


Fig. 102: Identifying Fuel Tank Vent Hose

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

INSTALLATION

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2008 ENGINE 2ZR-FE Fuel - xD

1. INSTALL FUEL TANK ASSEMBLY

- a. Install the fuel vent hose onto the fuel tank.

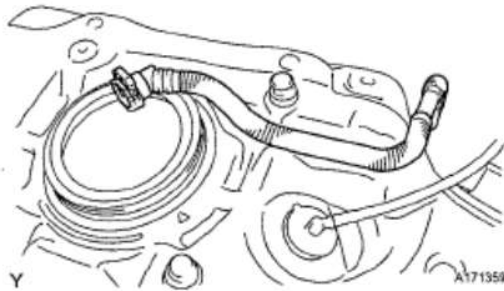


Fig. 103: Identifying Fuel Vent Hose Of Fuel Tank
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- b. Install the fuel tank main tube onto the fuel tank.
- c. Clean the bolt hole and remove any grease.

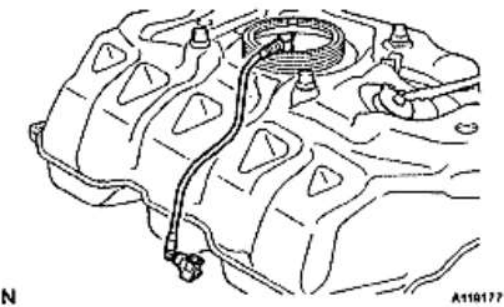


Fig. 104: Identifying Fuel Tank Main Tube
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- d. Install the fuel tank with 4 new bolts.

Torque: 14 N*m (146 kgf*cm, 10 ft.*lbf)

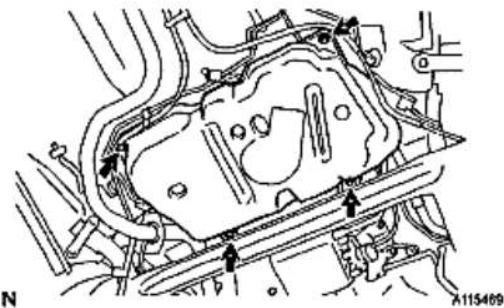


Fig. 105: Locating Fuel Tank Bolts

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2008 ENGINE 2ZR-FE Fuel - xD

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

2. CONNECT LOWER FUEL TANK FILLER PIPE SUB-ASSEMBLY

- Connect the fuel tank filler pipe and install the clamp.

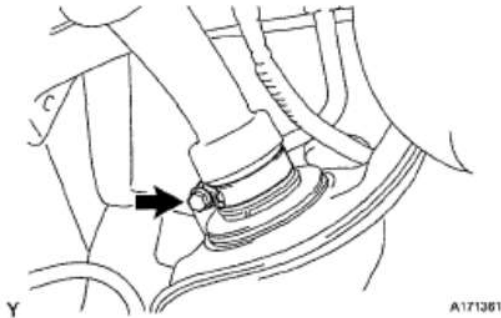


Fig. 106: Connecting Fuel Tank Filler Pipe And Clamp

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

3. CONNECT FUEL TANK BREATHER TUBE

- Align the fuel tank breather tube connector with the pipe, push the fuel tube connector in until the retainer makes a click sound, then lock the cover of the connector.

NOTE:

- Check that there are no scratches or foreign matter on the disconnected parts of the fuel tank breather tube connector and pipe before performing this work.
- After connecting, pull the pipe and fuel tank breather connector to make sure that they are securely connected.

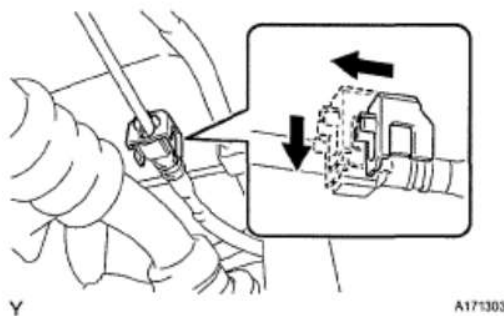


Fig. 107: Connecting Fuel Tank Breather Tube

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

4. CONNECT FUEL TANK VENT HOSE

- Connect the fuel tank vent hose to the charcoal canister assembly.

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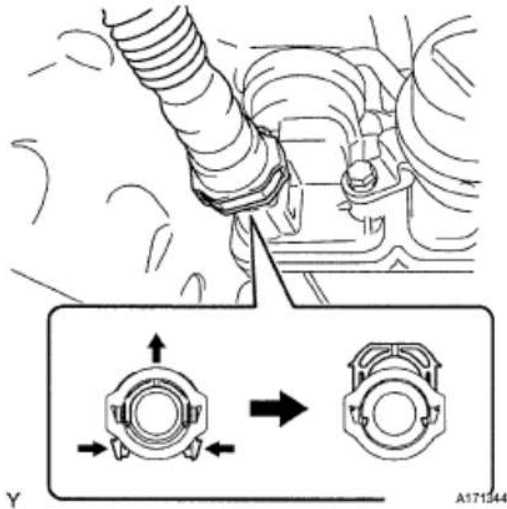


Fig. 108: Connecting Fuel Tank Vent Hose To Charcoal Canister Assembly
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

5. CONNECT FUEL TANK MAIN TUBE SUB-ASSEMBLY

- a. Align the fuel tube connector with the pipe, push the fuel tube connector in until the retainer makes a click sound, then lock the cover of the connector.

NOTE:

- Check that there are no scratches or foreign matter on the disconnected parts of the fuel tube connector and pipe before performing this work.
- After connecting, pull the pipe and fuel tube connector to make sure that they are securely connected.

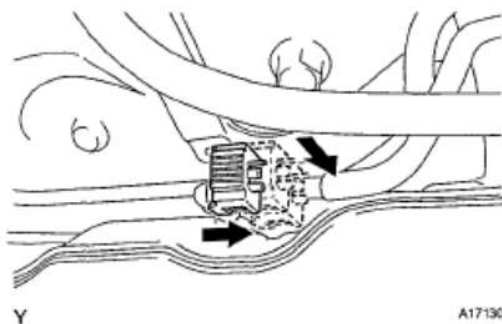


Fig. 109: Connecting Fuel Tank Main Tube Sub-Assembly
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

6. INSTALL NO. 1 FUEL TANK PROTECTOR

- a. Install the No. 1 fuel tank protector with the bolt and clip.

Torque: 5.4 N*m (55 kgf*cm, 48 in.*lbf)

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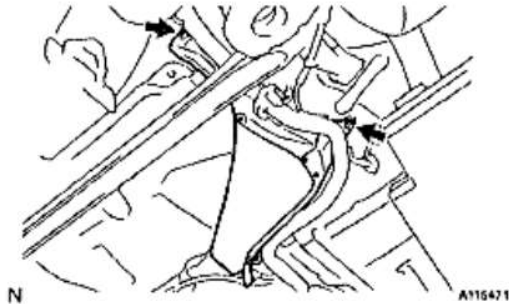


Fig. 110: Locating No. 1 Fuel Tank Protector With Bolt And Clip
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

7. INSTALL NO. 4 FRONT FLOOR HEAT INSULATOR

- a. Install the No. 4 front floor heat insulator with the 2 nuts.

Torque: 5.4 N*m (55 kgf*cm, 48 in.*lbf)

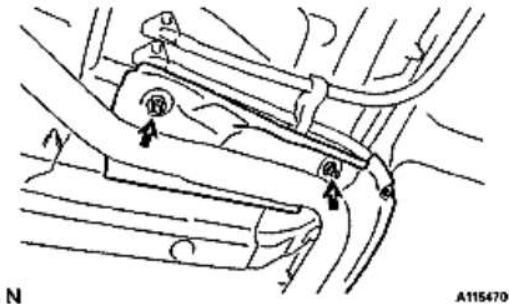


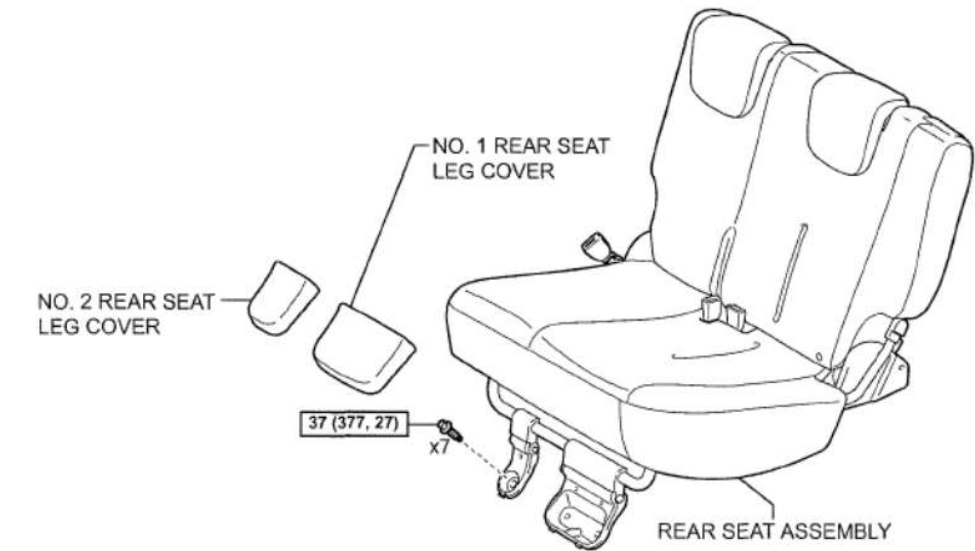
Fig. 111: Locating No. 4 Front Floor Heat Insulator With Nuts
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

8. **INSTALL FUEL SUCTION WITH PUMP AND GAUGE TUBE ASSEMBLY** (See INSTALLATION)
9. **INSTALL FUEL PUMP GAUGE RETAINER** (See INSTALLATION)
10. **CONNECT FUEL TANK VENT HOSE SUB-ASSEMBLY** (See INSTALLATION)
11. **CONNECT FUEL TANK MAIN TUBE SUB-ASSEMBLY** (See INSTALLATION)
12. **CONNECT REAR FLOOR SERVICE HOLE COVER** (See INSTALLATION)
13. **INSTALL REAR SEAT CUSHION WITH COVER PAD SUB-ASSEMBLY LH** (See INSTALLATION)
14. **INSTALL NO. 2 SEAT LEG COVER** (See INSTALLATION)
15. **INSTALL NO. 1 SEAT LEG COVER** (See INSTALLATION)
16. **ADD FUEL**
17. **INSPECT FOR FUEL LEAK** (See FUEL SYSTEM)

FUEL SENDER GAUGE ASSEMBLY

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2008 ENGINE 2ZR-FE Fuel - xD

COMPONENTS



N*m (kgf*cm, ft*lb) : Specified torque

P

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Fig. 112: Identifying Fuel Sender Gauge Assembly Components With Torque Specification (1 Of 3)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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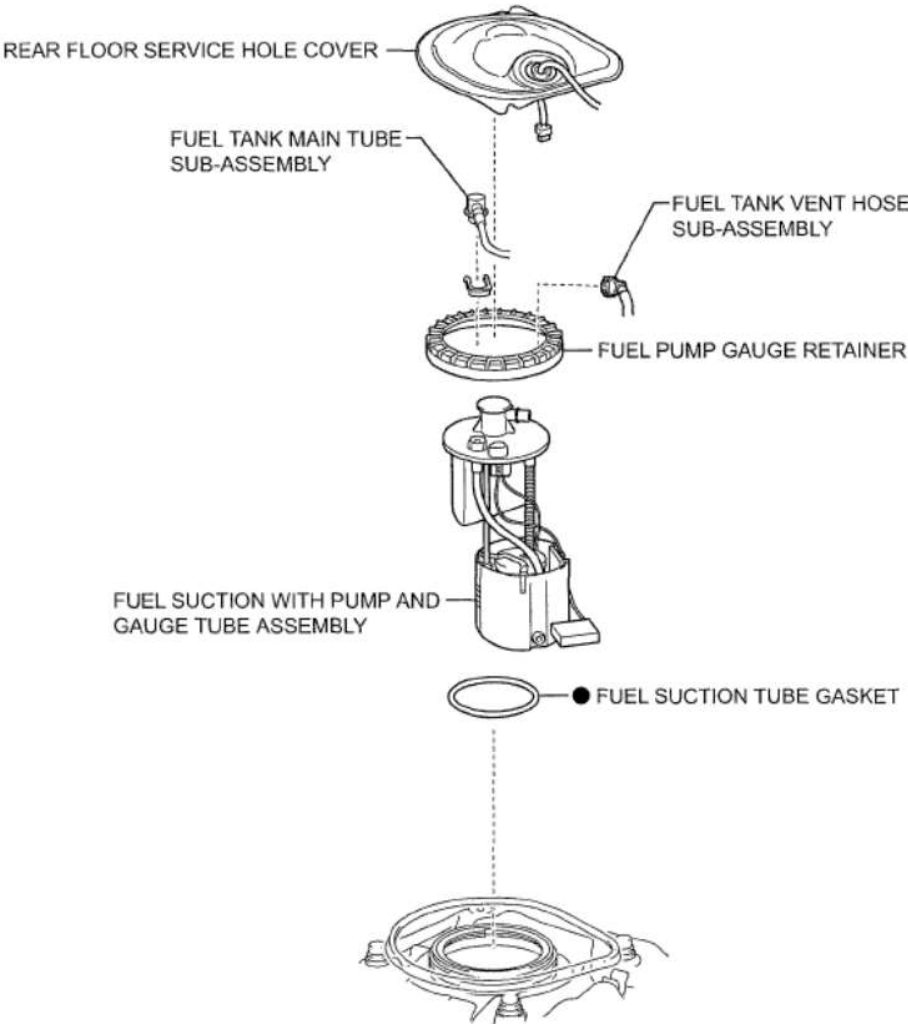
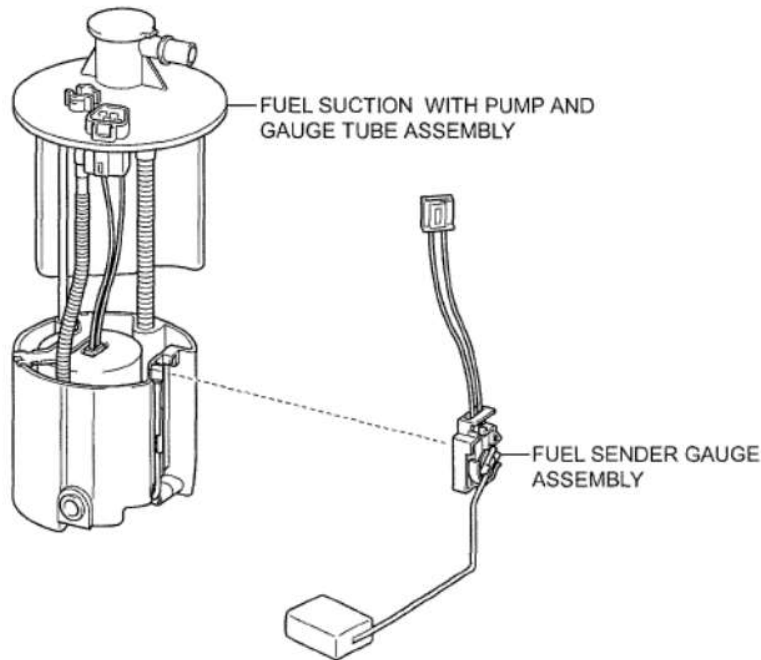


Fig. 113: Identifying Fuel Sender Gauge Assembly Components (2 Of 3)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

2008 Scion xD

2008 ENGINE 2ZR-FE Fuel - xD



Y

A171370E01

Fig. 114: Identifying Fuel Sender Gauge Assembly Components (3 Of 3)

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

REMOVAL

1. REMOVE NO. 1 SEAT LEG COVER (See REMOVAL)
2. REMOVE NO. 2 SEAT LEG COVER (See REMOVAL)
3. REMOVE REAR SEAT ASSEMBLY (See REMOVAL)
4. REMOVE REAR FLOOR SERVICE HOLE COVER (See REMOVAL)
5. DISCHARGE FUEL SYSTEM PRESSURE (See FUEL SYSTEM)
6. DISCONNECT FUEL TANK MAIN TUBE SUB-ASSEMBLY (See REMOVAL)
7. DISCONNECT FUEL TANK VENT HOSE (See REMOVAL)
8. REMOVE FUEL PUMP GAUGE RETAINER (See REMOVAL)
9. REMOVE FUEL SUCTION WITH PUMP AND GAUGE TUBE ASSEMBLY (See REMOVAL)
10. REMOVE FUEL SENDER GAUGE ASSEMBLY

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2008 ENGINE 2ZR-FE Fuel - xD

NOTE: Do not separate the tube indicated in the illustration.

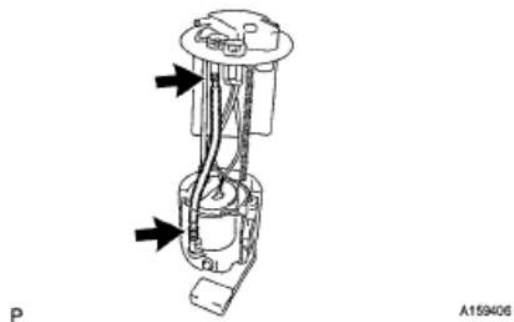


Fig. 115: Locating Fuel Sender Gauge Assembly
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- a. Disconnect the fuel sender gauge connector.

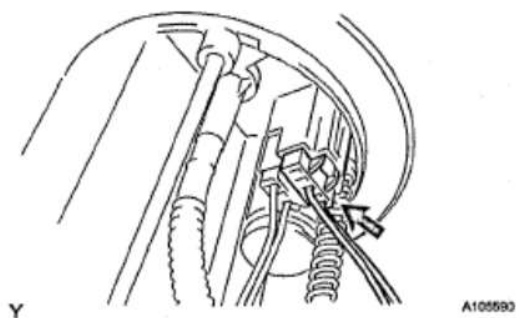
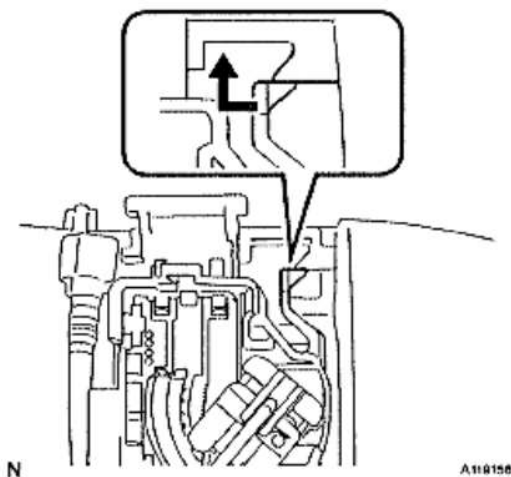


Fig. 116: Locating Fuel Sender Gauge Connector
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- b. Release the lock by sliding the fuel sender gauge upward, as shown in the illustration.



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Fig. 117: Sliding Fuel Sender Gauge
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

INSPECTION

1. INSPECT FUEL SENDER GAUGE ASSEMBLY

- a. Check the fuel sender gauge resistance.
 - 1. Check that the float moves smoothly between the F level (upper end) and E level (lower end).
 - 2. Using an ohmmeter, measure the resistance.

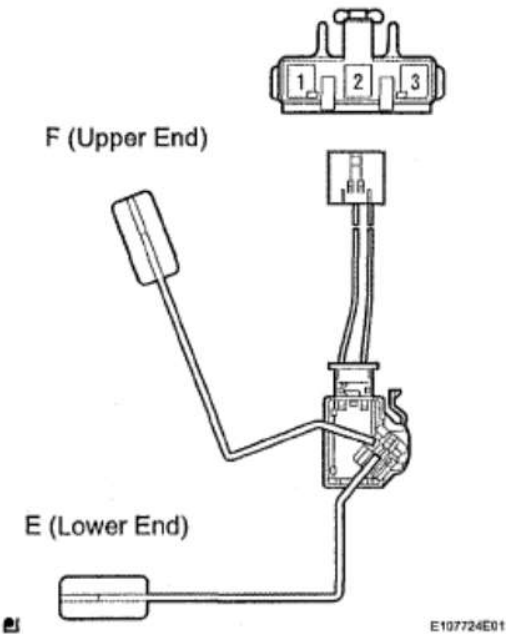


Fig. 118: Checking Fuel Sender Gauge Resistance
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

Standard resistance

RESISTANCE REFERENCE

Tester Connection	Condition	Specified Condition
1 - 2	F (Upper End)	12.0 to 18.0 ohms
1 - 2	E (Lower End)	405.0 to 415.0 ohms

If the result is not as specified, replace the fuel sender gauge assembly.

INSTALLATION

1. INSTALL FUEL SENDER GAUGE ASSEMBLY

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2008 ENGINE 2ZR-FE Fuel - xD

- a. Install the fuel sender gauge by sliding it downward.

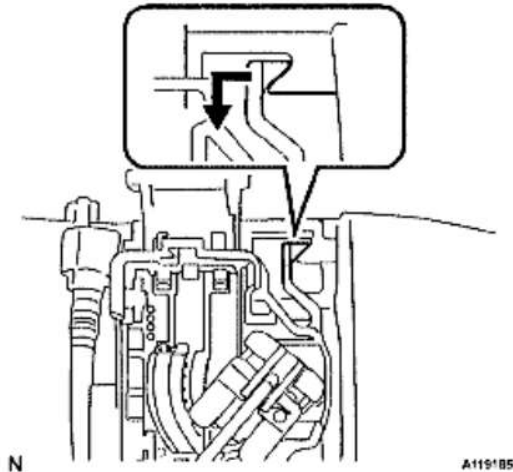


Fig. 119: Installing Fuel Sender Gauge
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- b. Connect the fuel sender gauge connector.

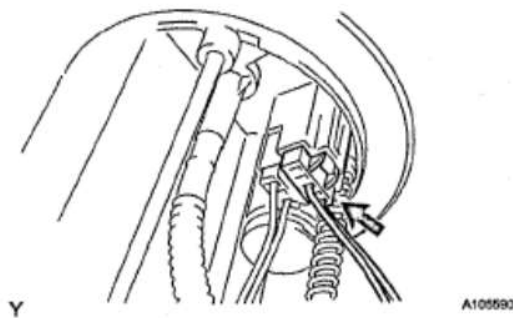


Fig. 120: Locating Fuel Sender Gauge Connector
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

2. **INSTALL FUEL SUCTION WITH PUMP AND GAUGE TUBE ASSEMBLY** (See **INSTALLATION**)
3. **INSTALL FUEL PUMP GAUGE RETAINER** (See **INSTALLATION**)
4. **CONNECT FUEL TANK VENT HOSE** (See **INSTALLATION**)
5. **CONNECT FUEL TANK MAIN TUBE SUB-ASSEMBLY** (See **INSTALLATION**)
6. **INSTALL REAR FLOOR SERVICE HOLE COVER** (See **INSTALLATION**)
7. **INSTALL REAR SEAT ASSEMBLY** (See **INSTALLATION**)
8. **INSTALL NO. 2 SEAT LEG COVER** (See **INSTALLATION**)
9. **INSTALL NO. 1 SEAT LEG COVER** (See **INSTALLATION**)
10. **INSPECT FOR FUEL LEAK** (See **FUEL SYSTEM**)