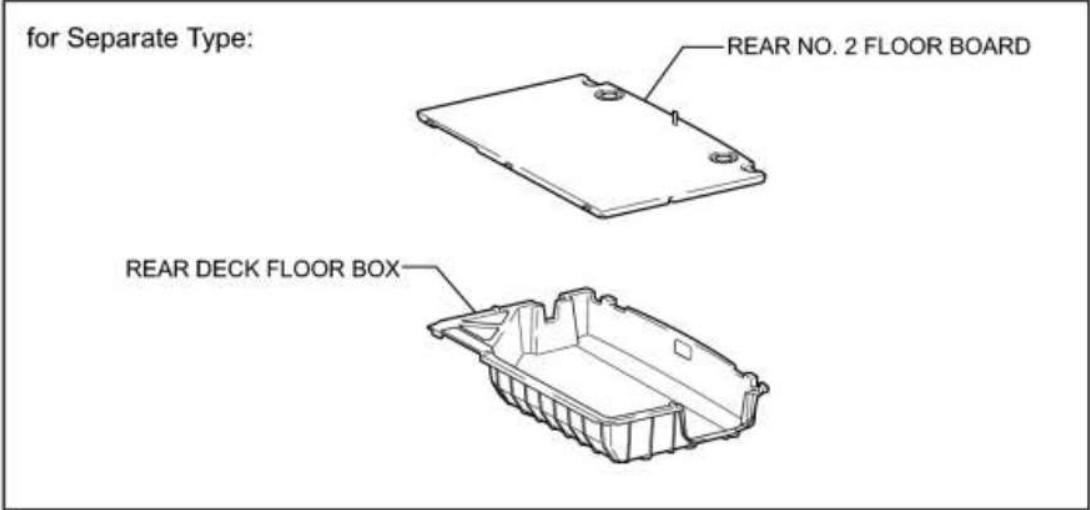
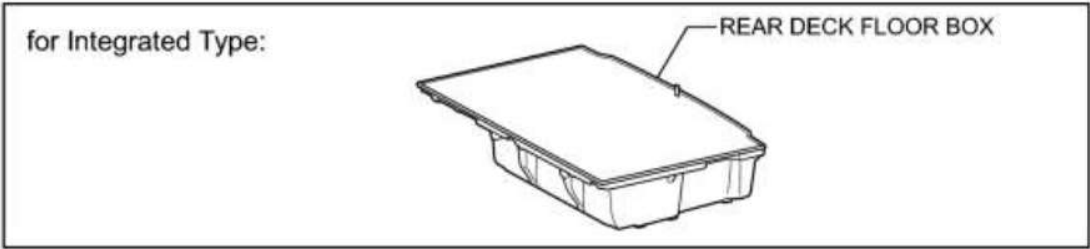


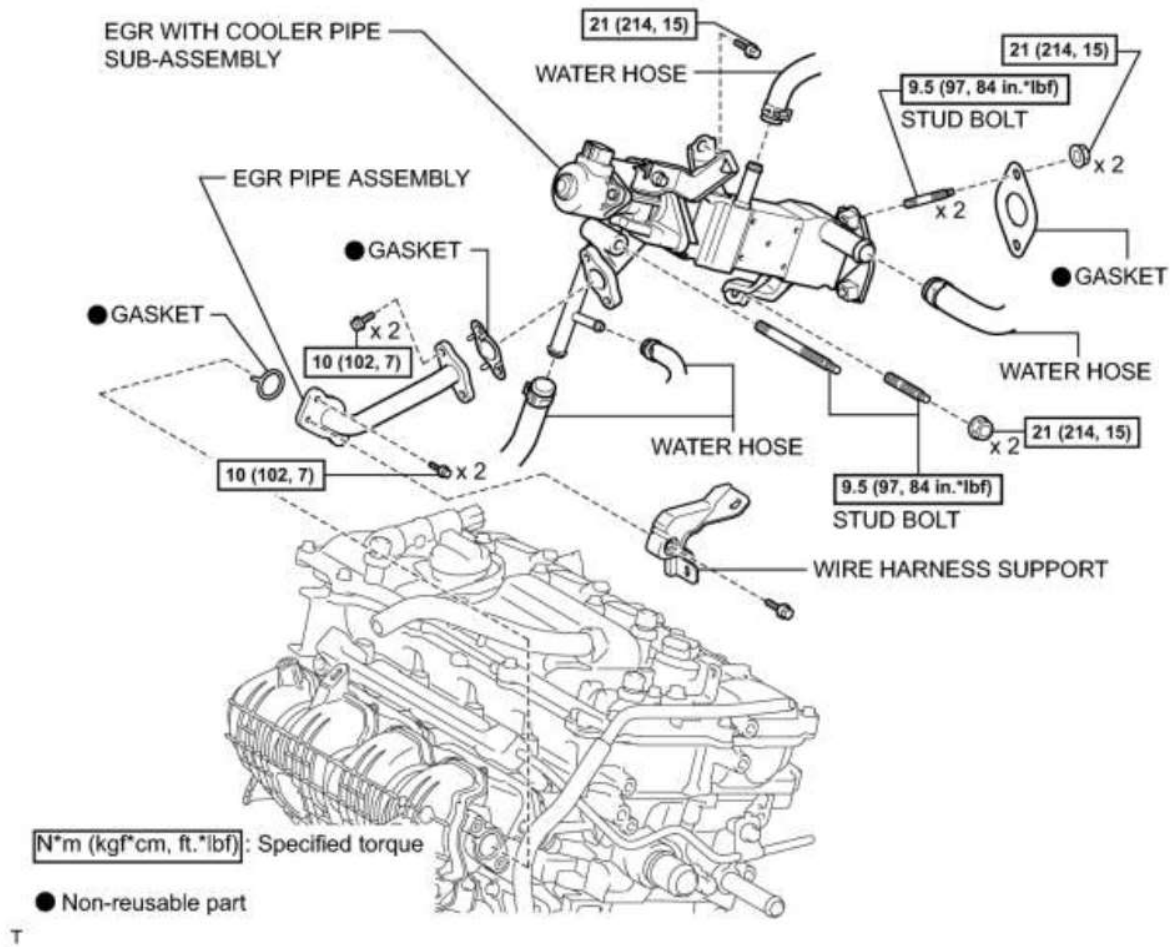
COMPONENTS

ILLUSTRATION

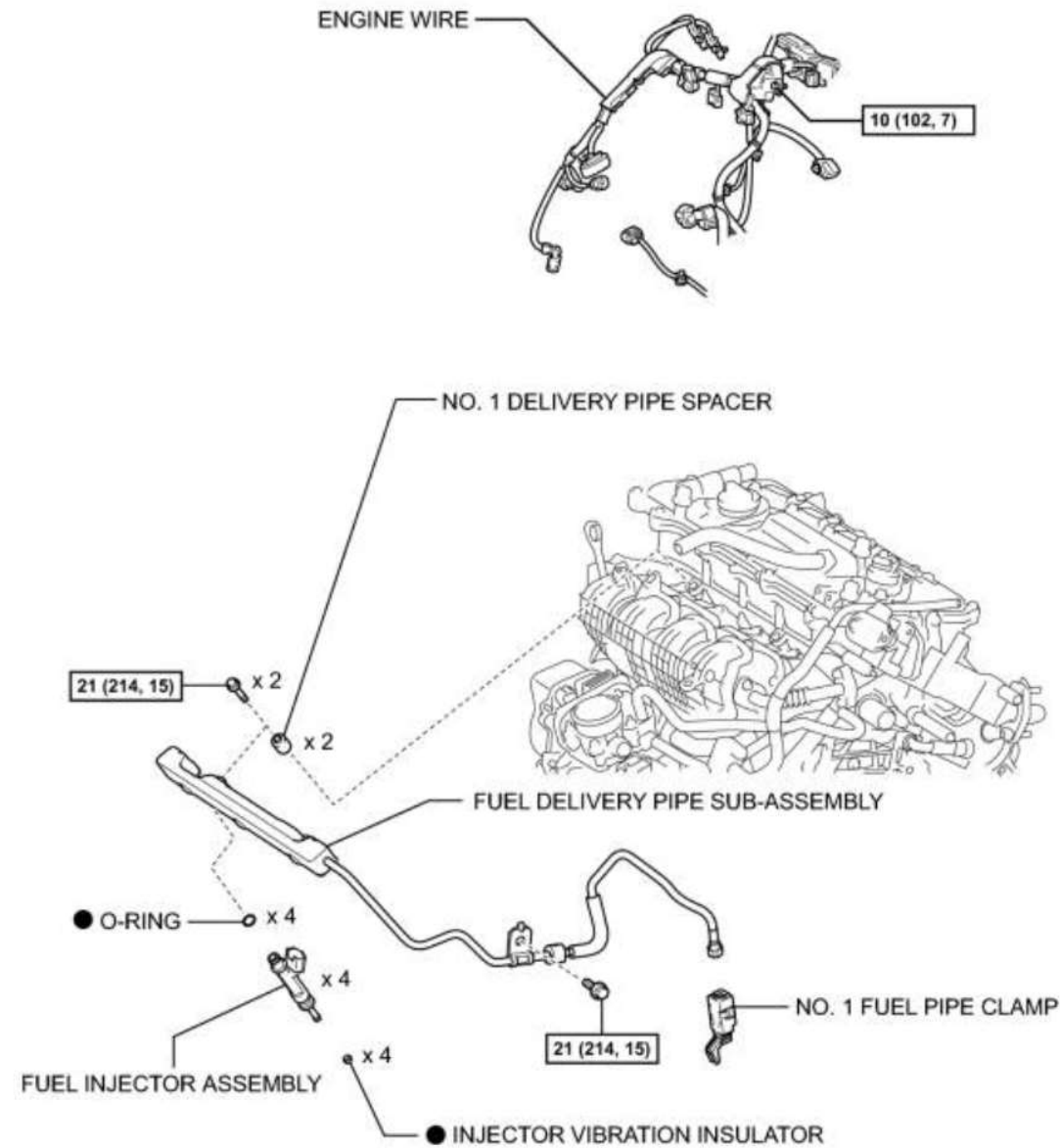


P

ILLUSTRATION



## ILLUSTRATION



[N\*m (kgf\*cm, ft.\*lbf)]: Specified torque

● Non-reusable part

c

## REMOVAL

### 1. DISCHARGE FUEL SYSTEM PRESSURE

(a) Discharge fuel system pressure INFO.

### 2. REMOVE REAR NO. 2 FLOOR BOARD (for Separate Type) INFO

### 3. REMOVE REAR DECK FLOOR BOX INFO

### 4. REMOVE REAR NO. 3 FLOOR BOARD INFO

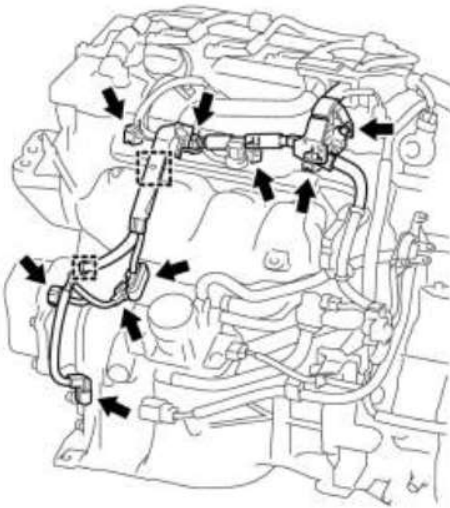
### 5. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

#### NOTICE:

When disconnecting the cable, some systems need to be initialized after the cable is reconnected INFO.

### 6. REMOVE EGR WITH COOLER PIPE SUB-ASSEMBLY

HINT: INFO



### 7. DISCONNECT ENGINE WIRE

(a) Disconnect the 4 fuel injector connectors.

(b) Disconnect the 4 connectors.

(c) Remove the bolt.

(d) Detach the 2 clamps to disconnect the wire harness.

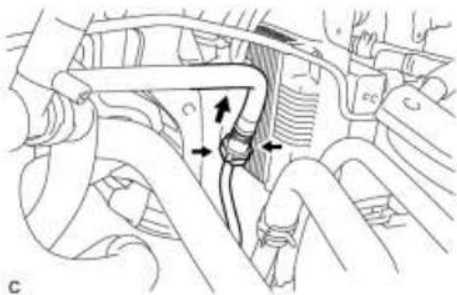
c

### 8. DISCONNECT FUEL TUBE SUB-ASSEMBLY

(a) Release the claw and remove the No. 1 fuel pipe clamp.

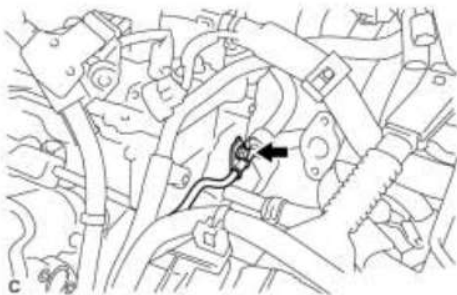


(b) Pinch the tube connector, and then pull the tube connector off of the pipe.

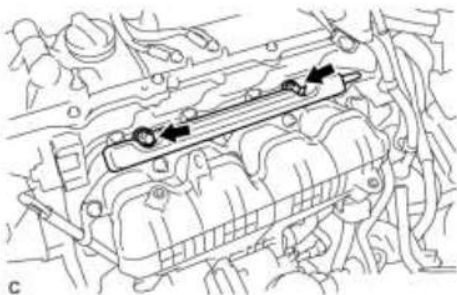


- Check for foreign matter in the fuel tube around the fuel tube connector. Clean it if necessary. Foreign matter can affect the ability of the O-ring to seal the connector and fuel pipe.
- Do not use any tools to separate the connector and pipe.
- Do not forcefully bend, kink or twist the hose.
- Keep the connector and pipe free from foreign matter.
- If the connector and pipe are stuck together, pinch the connector and turn it carefully to disconnect it.
- Put the connector in a plastic bag to prevent damage and contamination.

## 9. REMOVE FUEL DELIVERY PIPE SUB-ASSEMBLY



(a) Remove the bolt.



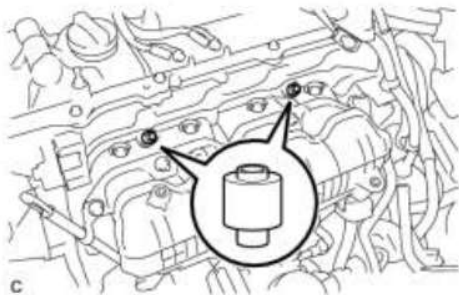
(b) Remove the 2 bolts and the fuel delivery pipe sub-assembly.

### NOTICE:

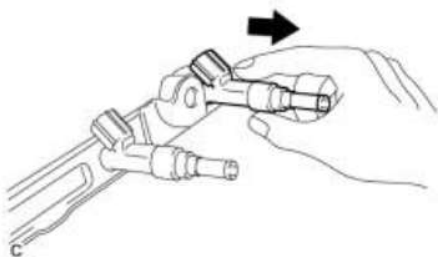
Be careful not to drop the fuel injectors when removing the fuel delivery pipe.

## 10. REMOVE NO. 1 DELIVERY PIPE SPACER

(a) Remove the 2 delivery pipe spacers from the cylinder head.

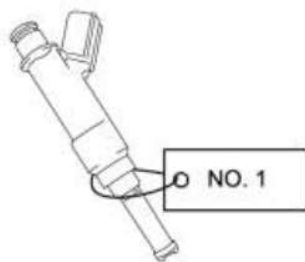


## 11. REMOVE FUEL INJECTOR ASSEMBLY



(a) Pull the 4 fuel injector assemblies out of the fuel delivery pipe sub-assembly.

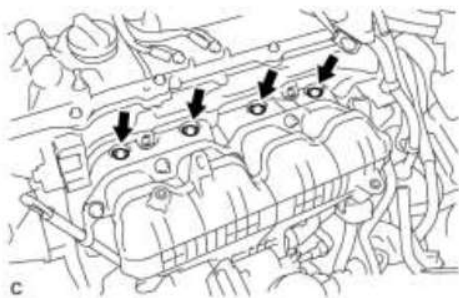
(b) Remove the O-ring from each fuel injector.



(c) For reinstallation, attach a tag or label to each injector shaft.

### NOTICE:

Prevent entry of foreign objects by covering the fuel injectors with plastic bags.



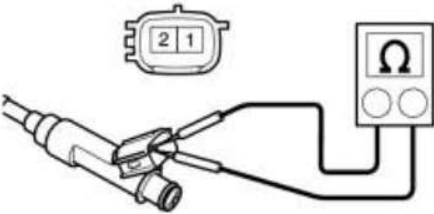
(d) Remove the 4 injector vibration insulators.

INSPECTION

1. INSPECT FUEL INJECTOR ASSEMBLY

(a) Check the resistance.

(1) Using an ohmmeter, measure the resistance according to the value(s) in the table below.



Standard Resistance:

| Tester Connection | Condition   | Specified Condition |
|-------------------|-------------|---------------------|
| 1 - 2             | 20°C (68°F) | 11.6 to 12.4 Ω      |

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

(b) Check the operation.

Inspect the injector injection volume.

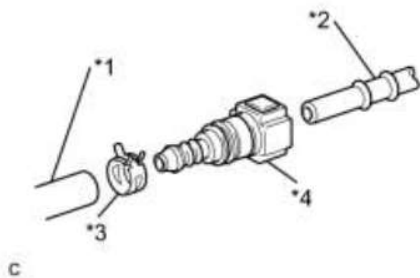
CAUTION:

Perform the inspection in a well-ventilated area.

Do not perform the inspection near a naked flame.

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

Text in Illustration



|    |                           |
|----|---------------------------|
| *1 | SST (Hose)                |
| *2 | Fuel Pipe (Vehicle Side)  |
| *3 | SST (Clip)                |
| *4 | SST (Fuel Tube Connector) |

SST: 09268-31012

90467-13001

95336-08070

09268-41500

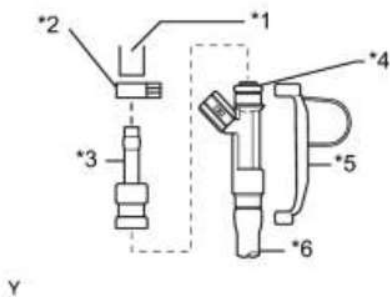
NOTICE:

Ensure that the SST connector O-rings are not damaged and are free of

foreign objects as they are used to seal the connections between the fuel tube connector and pipe.

(2) Install a new O-ring onto the fuel injector assembly.

Text in Illustration



|    |               |
|----|---------------|
| *1 | SST (Hose)    |
| *2 | SST (Clip)    |
| *3 | SST (Adapter) |
| *4 | O-ring        |
| *5 | SST (Clamp)   |
| *6 | Vinyl Tube    |

(3) Connect SST (adapter and hose) to the injector assembly, and hold the injector assembly and union with SST (clamp).

SST: 09268-31012

09268-41110

09268-41300

90467-13001

95336-08070

(4) Set the injector assembly in a graduated cylinder.

CAUTION:

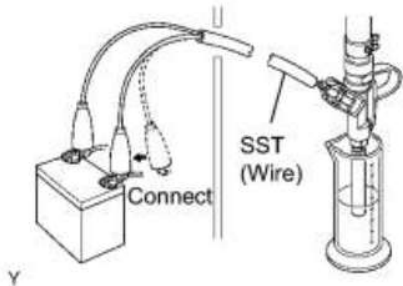
Install a suitable vinyl tube onto the injector assembly to prevent gasoline from spraying.

(5) Operate the fuel pump INFO.

(6) Connect SST (wire) to the injector assembly 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

Standard Injection Volume:



| Tester Connection                   | Condition      | Specified Condition             |
|-------------------------------------|----------------|---------------------------------|
| Positive terminal - Ground terminal | Per 15 seconds | 60 to 73 cc (3.7 to 4.5 cu.in.) |

Difference between each injector:

13 cc (0.8 cu.in.) or less

NOTICE:

Always do the switching on the battery side.

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

(c) Inspect for leaks.

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

Standard fuel drop:

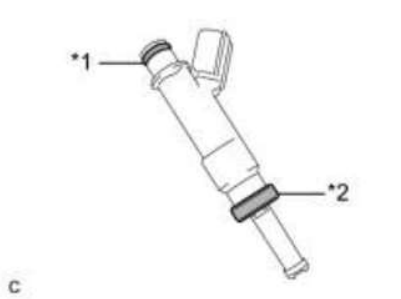
1 drop or less every 25 minutes

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



INSTALLATION

1. INSTALL FUEL INJECTOR ASSEMBLY

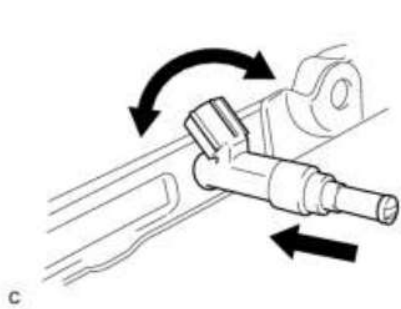


(a) Install a new insulator and O-ring to each fuel injector assembly.

Text in Illustration

|    |           |
|----|-----------|
| *1 | O-ring    |
| *2 | Insulator |

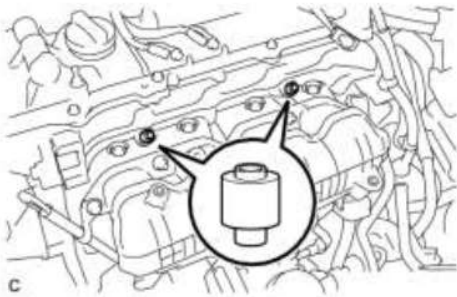
(b) Apply a light coat of gasoline or spindle oil to the contact surfaces of the new O-ring on each fuel injector assembly.



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

- Do not damage the fuel injector assembly or O-ring.
- Do not twist the O-ring.
- After installing each fuel injector, check that it turns smoothly. If not, replace the O-ring with a new one.

2. INSTALL NO. 1 DELIVERY PIPE SPACER



(a) Install the 2 No. 1 delivery pipe spacers onto the cylinder head.

NOTICE:

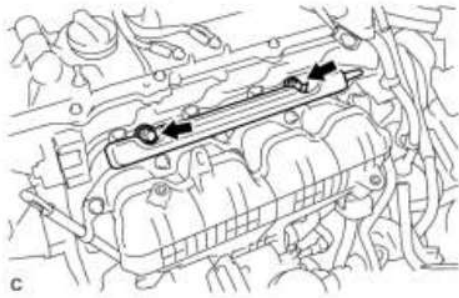
Install the No. 1 delivery pipe spacers in the correct direction.

3. INSTALL FUEL DELIVERY PIPE SUB-ASSEMBLY

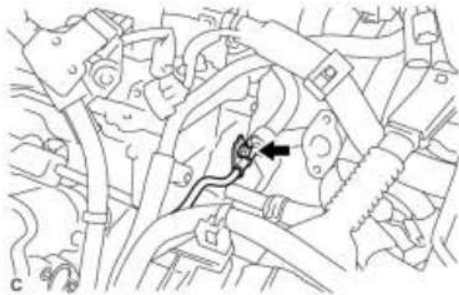
(a) Install the fuel delivery pipe sub-assembly with the 4 fuel injector assemblies and install the 2 bolts.

Torque: 21 N·m (214 kgf·cm, 15ft·lbf)

- Do not drop the fuel injectors when installing the fuel delivery pipe sub-assembly.



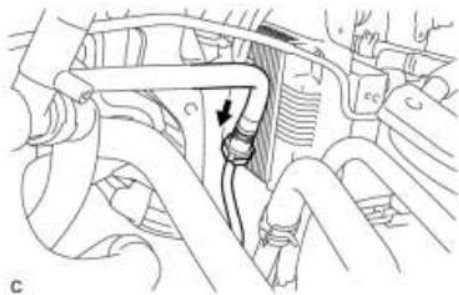
- Check that the fuel injector assemblies rotate smoothly after installing the fuel delivery pipe sub-assembly.



(b) Install the bolt to secure the fuel delivery pipe sub-assembly.

Torque: **21 N·m (214 kgf·cm, 15ft·lbf)**

#### 4. CONNECT FUEL TUBE SUB-ASSEMBLY



(a) Push the tube connector to the pipe until the tube connector makes a "click" sound.

- Before connecting the connector and fuel pipe, check that there is no damage or foreign matter on the connecting part of the fuel pipe.
- After connecting the fuel tube connector and pipe, check that they are securely connected by trying to pull them apart.



(b) Engage the lock claw to install the No. 1 fuel pipe clamp.

#### 5. CONNECT ENGINE WIRE

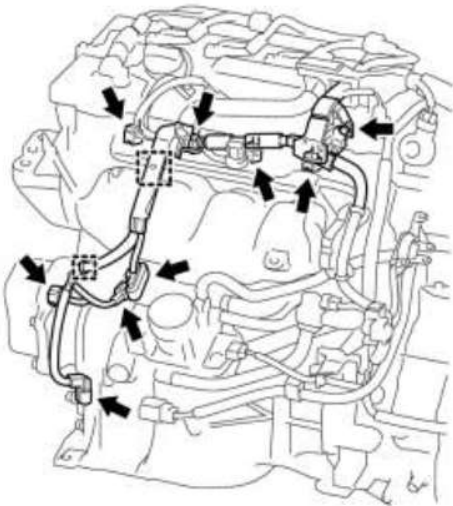
(a) Install the bolt.

Torque: **10 N·m (102 kgf·cm, 7ft·lbf)**

(b) Connect the 4 fuel injector connectors.

(c) Connect the 4 connectors.

(d) Attach the 2 clamps to connect the wire harness.



C

#### 6. INSTALL EGR WITH COOLER PIPE SUB-ASSEMBLY

HINT: INFO

#### 7. INSTALL REAR NO. 3 FLOOR BOARD INFO

#### 8. INSTALL REAR DECK FLOOR BOX INFO

#### 9. INSTALL REAR NO. 2 FLOOR BOARD (for Separate Type) INFO

#### 10. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

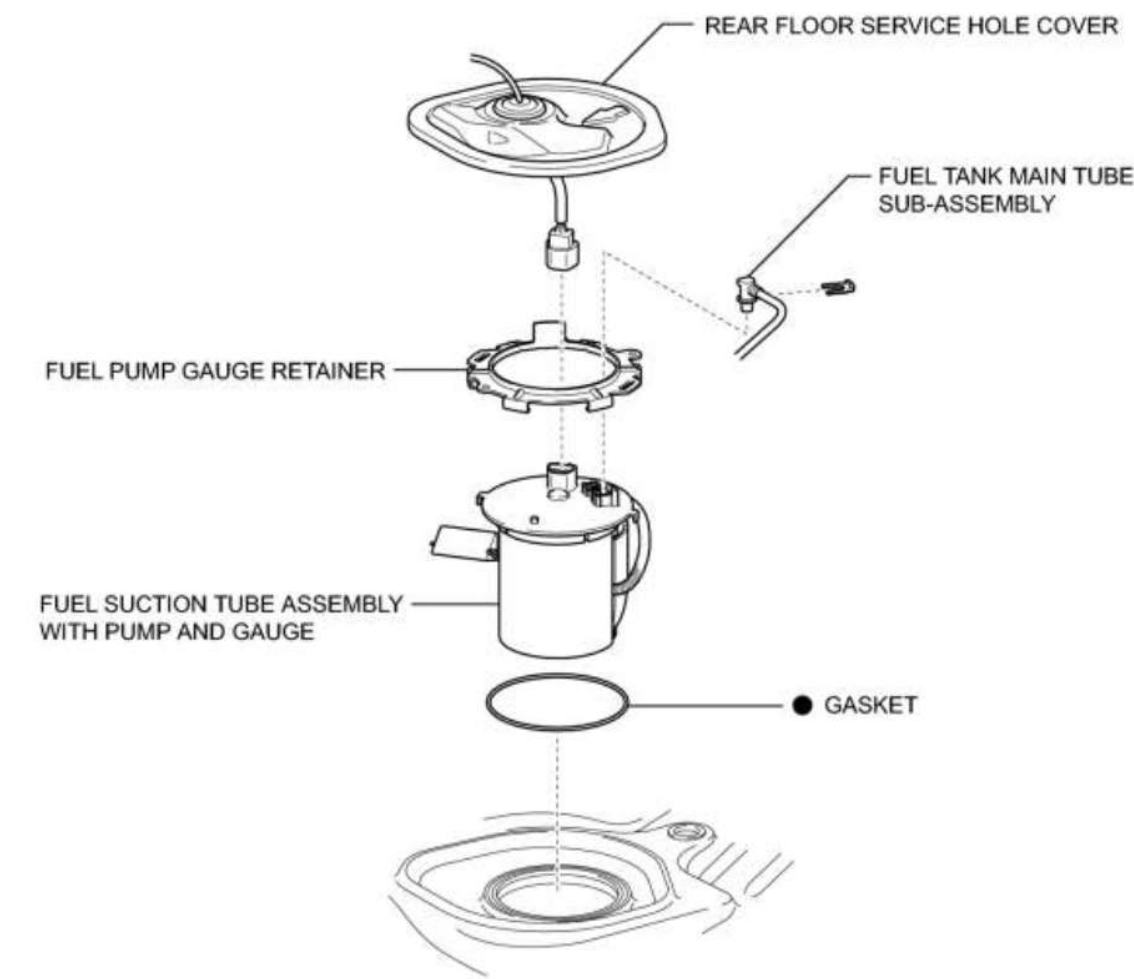
NOTICE:

When disconnecting the cable, some systems need to be initialized after the cable is reconnected INFO.

#### 11. INSPECT FOR FUEL LEAK INFO

COMPONENTS

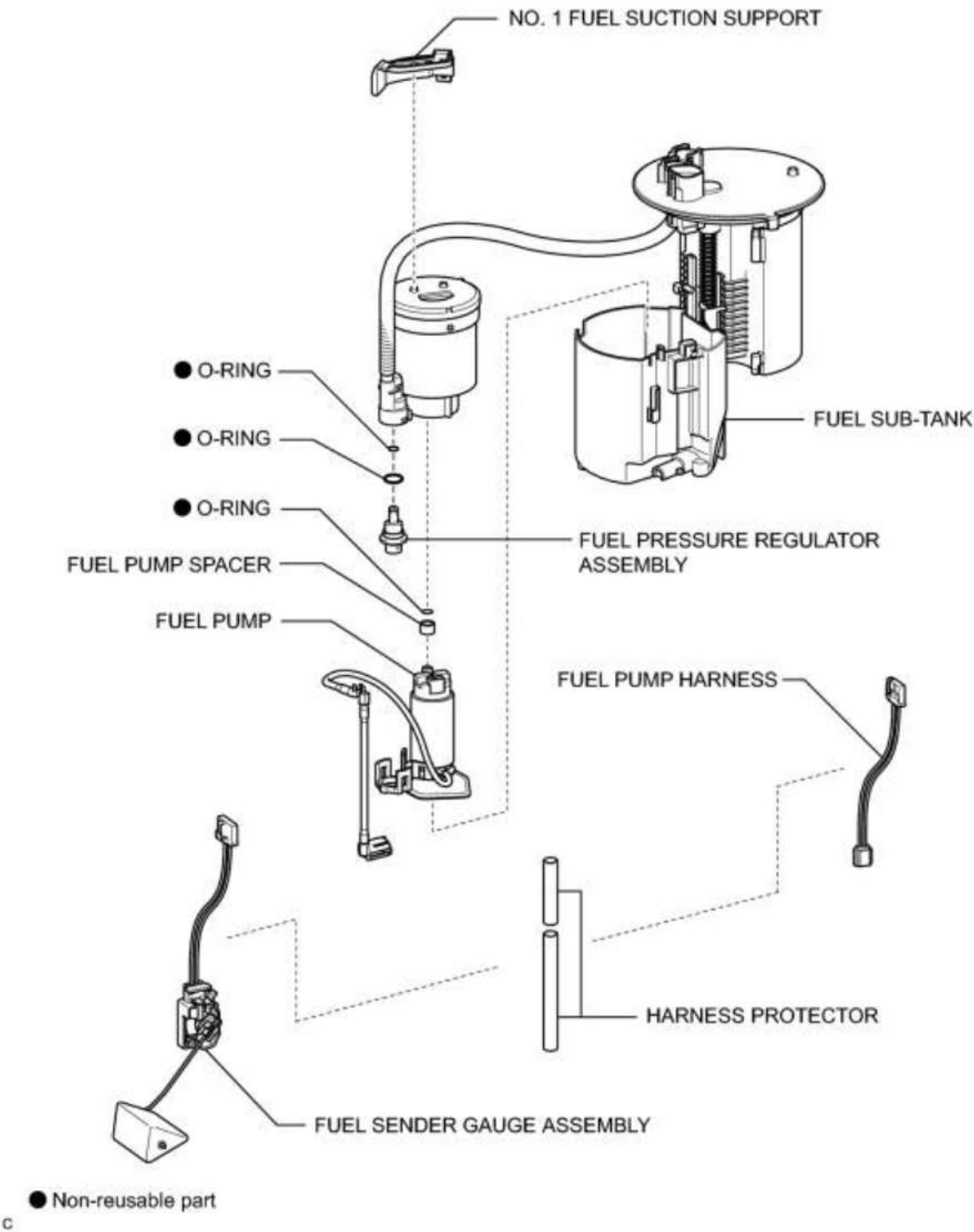
ILLUSTRATION



● Non-reusable part

c

ILLUSTRATION



REMOVAL

1. REMOVE FUEL SUCTION TUBE ASSEMBLY WITH PUMP AND GAUGE

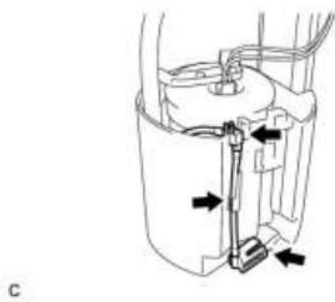
(a) Remove the fuel suction tube assembly with pump and gauge INFO.

2. REMOVE FUEL SENDER GAUGE ASSEMBLY INFO

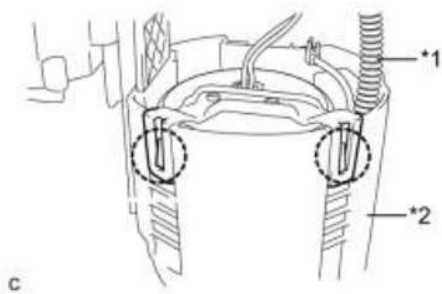
3. REMOVE FUEL PUMP



(a) Disconnect the connector of the fuel pump harness.



(b) Disconnect the fuel pump filter hose.



(c) Using a screwdriver with its tip wrapped in protective tape, disengage the 2 claws, and remove the fuel filter and fuel pump from the fuel sub-tank.

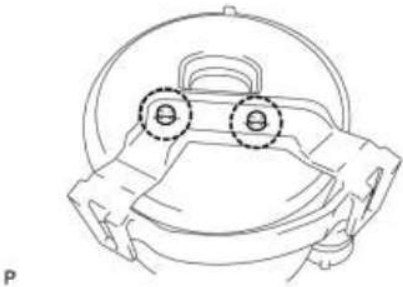
Text in Illustration

|    |               |
|----|---------------|
| *1 | Fuel Tube     |
| *2 | Fuel Sub-tank |

NOTICE:

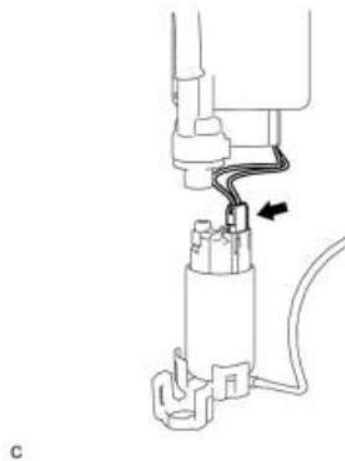
Do not do anything which may separate the fuel tube from either the fuel suction plate or fuel filter assembly, such as applying excessive force to the tube INFO.

(d) Using a screwdriver with its tip wrapped in protective tape, disengage the 2 claws and remove the No. 1 fuel suction support.



(e) 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.

- 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.



(f) Disconnect the fuel pump harness connector.

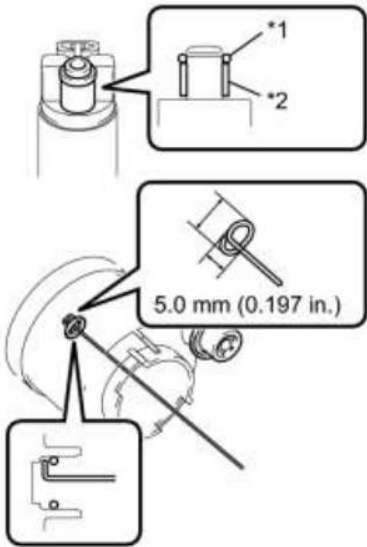
(g) Remove the O-ring and spacer from the fuel pump.

**Text in Illustration**

|    |        |
|----|--------|
| *1 | O-ring |
| *2 | Spacer |

NOTICE:

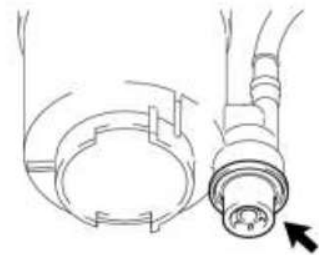
Be careful not to damage the sealing surface.



HINT:  
If the O-ring still remains in the fuel filter, remove it using a wire tip (1 mm diameter) that is formed as shown in the illustration.

C

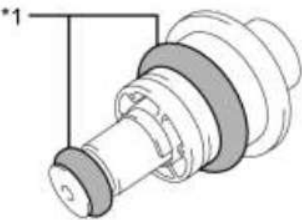
4. REMOVE FUEL PRESSURE REGULATOR ASSEMBLY



P

(a) Using a screwdriver with its tip wrapped in protective tape, remove the fuel pressure regulator assembly.

NOTICE:  
Slowly pull out the fuel pressure regulator assembly because the O-ring is firmly installed between the regulator and the fuel filter.



C

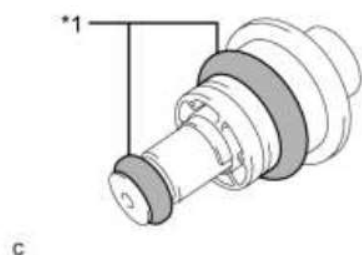
(b) Remove the 2 O-rings from the pressure regulator assembly.

Text in Illustration

|    |        |
|----|--------|
| *1 | O-ring |
|----|--------|

# INSTALLATION

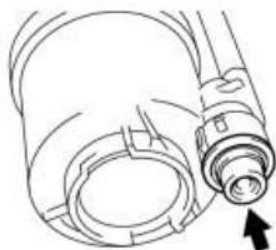
## 1. INSTALL FUEL PRESSURE REGULATOR ASSEMBLY



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

### Text in Illustration

|    |        |
|----|--------|
| *1 | O-ring |
|----|--------|



(b) Install the fuel pressure regulator assembly.

## 2. INSTALL FUEL PUMP INFO

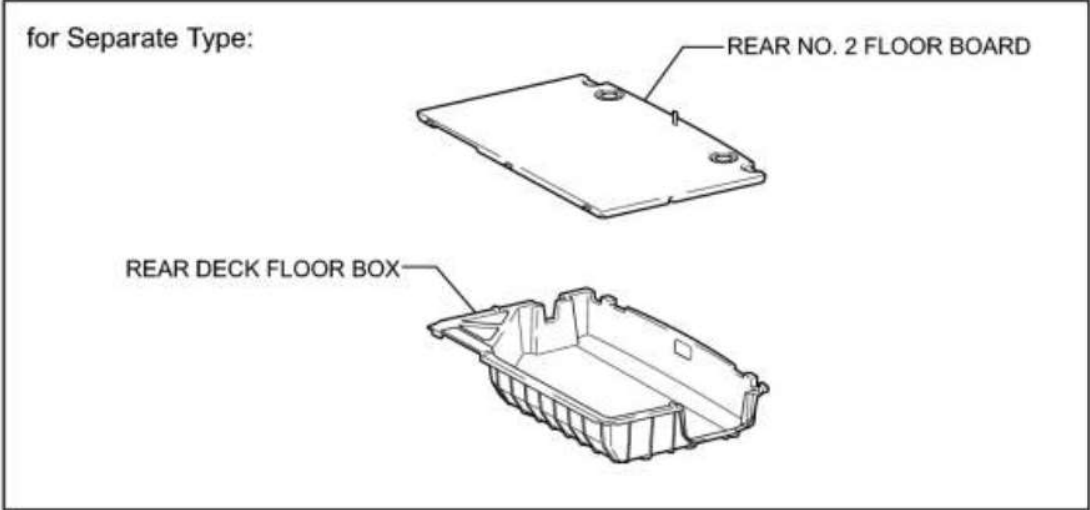
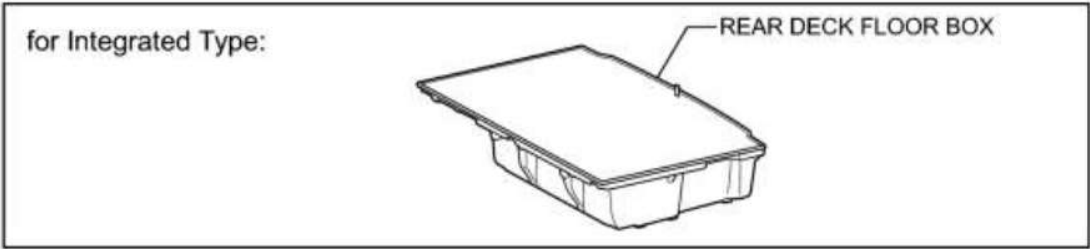
## 3. INSTALL FUEL SENDER GAUGE ASSEMBLY INFO

## 4. INSTALL FUEL SUCTION TUBE ASSEMBLY WITH PUMP AND GAUGE

(a) Install the fuel suction tube assembly with pump and gauge INFO.

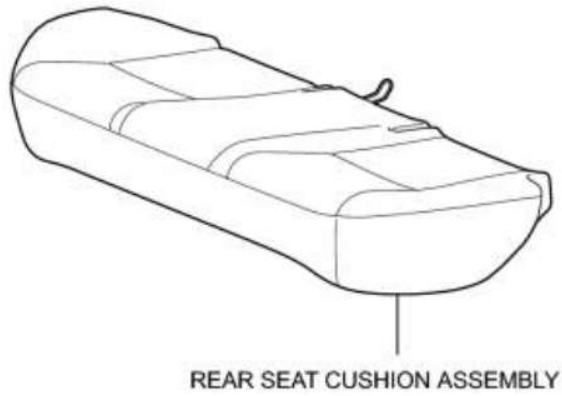
COMPONENTS

ILLUSTRATION

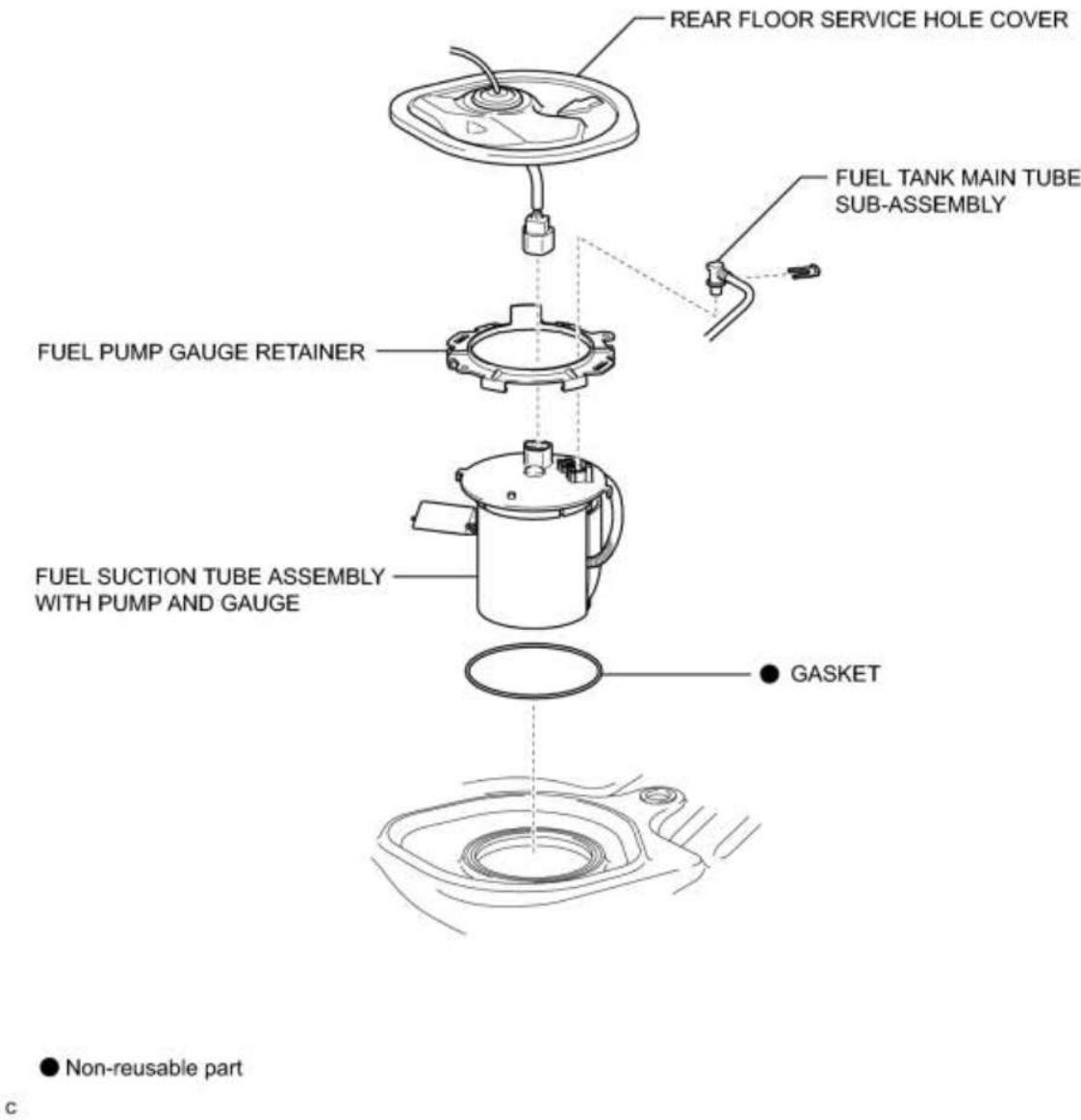


P

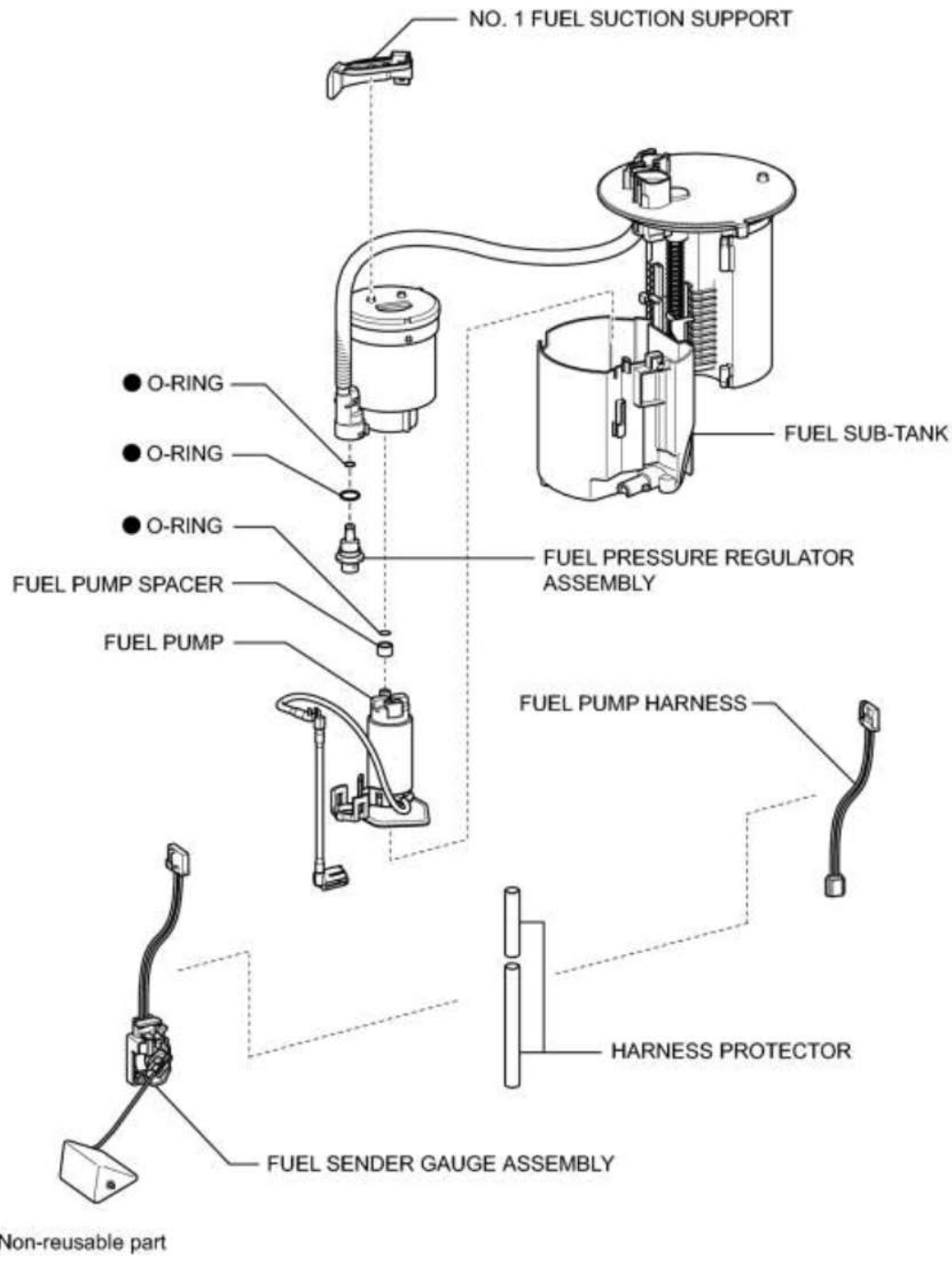
ILLUSTRATION



## ILLUSTRATION



ILLUSTRATION



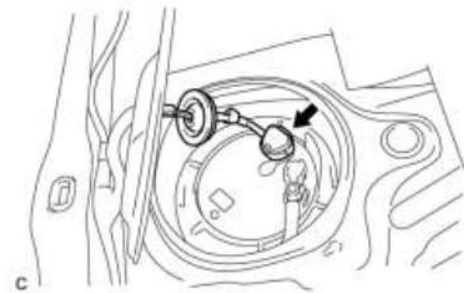
## REMOVAL

1. REMOVE REAR SEAT CUSHION ASSEMBLY\_ [INFO](#)

2. REMOVE REAR FLOOR SERVICE HOLE COVER



(a) Remove the rear floor service hole cover.



(b) Disconnect the fuel pump connector.

3. DISCHARGE FUEL SYSTEM PRESSURE

HINT: [INFO](#)

4. REMOVE REAR NO. 2 FLOOR BOARD (for Separate Type)\_ [INFO](#)

5. REMOVE REAR DECK FLOOR BOX\_ [INFO](#)

6. REMOVE REAR NO. 3 FLOOR BOARD\_ [INFO](#)

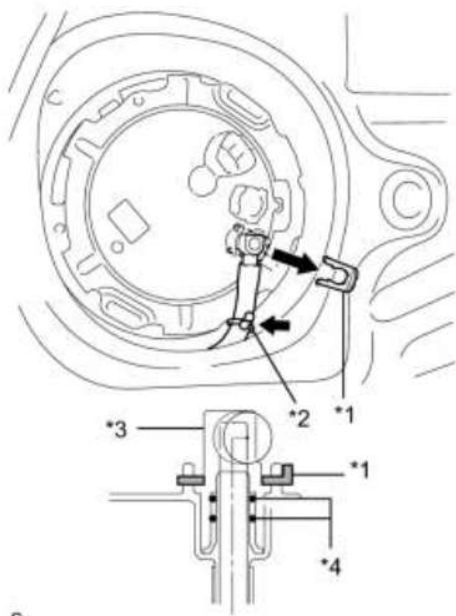
7. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

NOTICE:

When disconnecting the cable, some systems need to be initialized after the cable is reconnected [INFO](#).

8. REMOVE FUEL TANK MAIN TUBE SUB-ASSEMBLY

(a) Remove the tube joint clip and disengage the fuel tank main tube clamp, then pull the fuel tube joint out of the plug of the fuel suction tube assembly.



Text in Illustration

|    |                           |
|----|---------------------------|
| *1 | Tube Joint Clip           |
| *2 | Fuel Tank Main Tube Clamp |
| *3 | Fuel Tube Joint           |
| *4 | O-ring                    |

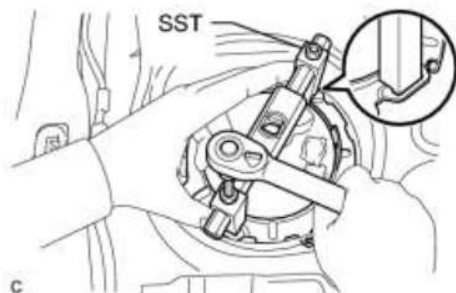
- Check that there is no dirt or other foreign objects around the fuel tube joint before disconnecting it. Clean the joint if necessary.
- It is necessary to prevent mud or dirt from entering the joint. If mud or dirt gets in the joint, the O-rings may not seal properly.
- Only disconnect the joint by hand.
- Do not bend, kink or twist the nylon tubes.
- Protect the contact surfaces by covering it with a plastic bag.

c

9. REMOVE FUEL PUMP GAUGE RETAINER

(a) Using a 6 mm socket hexagon wrench, set SST to the fuel pump gauge retainer.

SST: 09808-14020

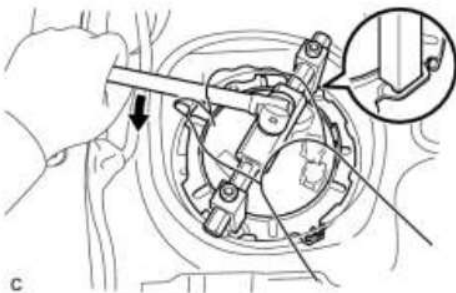


- 09808-01410
- 09808-01420
- 09808-01430

- Engage the SST claws securely with the fuel pump gauge retainer holes to secure SST.
- Install SST while pressing the SST claws toward the fuel pump gauge retainer (towards the center of SST).

(b) Using SST, loosen the fuel pump gauge retainer.

SST: 09808-14020



- 09808-01410
- 09808-01420
- 09808-01430

- Do not use any tools other than specified in this operation. Damage to the fuel pump gauge retainer or the fuel tank may result.

- Loosen the retainer by turning it counterclockwise while holding SST down. Do not allow the claw of the tank suction tube support to slip out of its groove on the fuel tank.

HINT:

The holes on the fuel pump gauge retainer can be fitted into the tips of SST.

(c) Remove the fuel pump gauge retainer while holding the fuel suction tube assembly by hand.

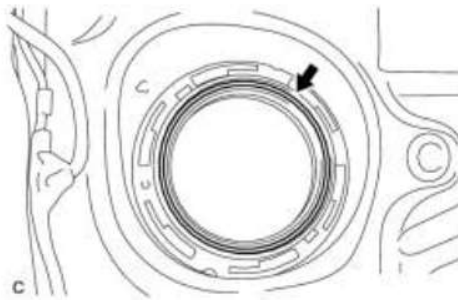
#### 10. REMOVE FUEL SUCTION TUBE ASSEMBLY WITH PUMP AND GAUGE



(a) Remove the fuel suction tube assembly with pump and gauge from the fuel tank.

NOTICE:

Make sure that the fuel sender gauge arm does not bend.

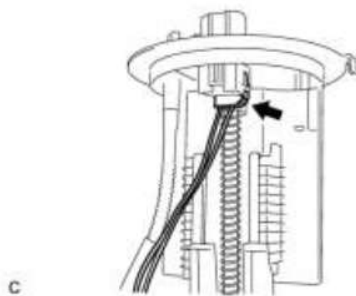


(b) Remove the gasket from the fuel tank.

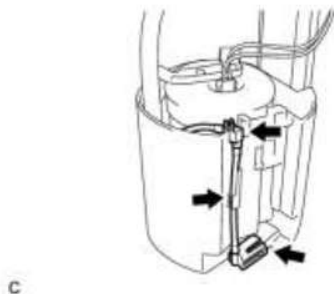
DISASSEMBLY

1. REMOVE FUEL SENDER GAUGE ASSEMBLY\_ INFO

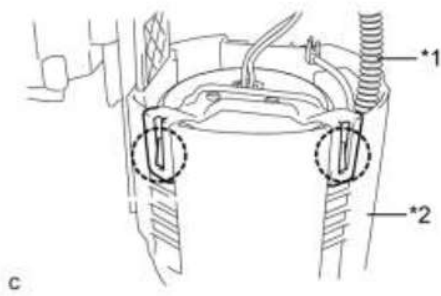
2. REMOVE FUEL PUMP



(a) Disconnect the connector of the fuel pump harness.



(b) Disconnect the fuel pump filter hose.



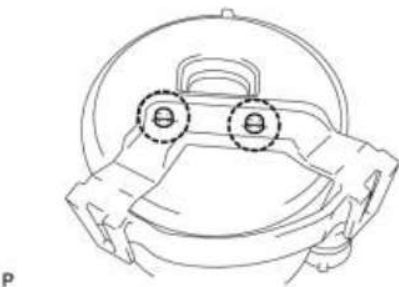
(c) Using a screwdriver with its tip wrapped in protective tape, disengage the 2 claws, and remove the fuel filter and fuel pump from the fuel sub-tank.

Text in Illustration

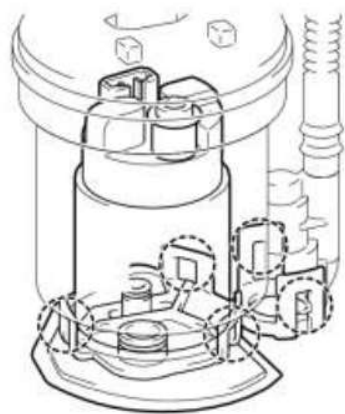
|    |               |
|----|---------------|
| *1 | Fuel Tube     |
| *2 | Fuel Sub-tank |

NOTICE:

Do not do anything which may separate the fuel tube from either the fuel suction plate or fuel filter assembly, such as applying excessive force to the tube INFO.



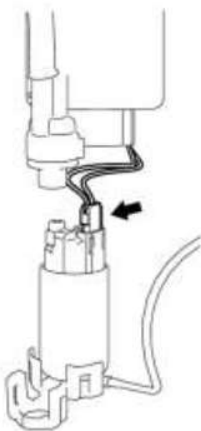
(d) Using a screwdriver with its tip wrapped in protective tape, disengage the 2 claws and remove the No. 1 fuel suction support.



c

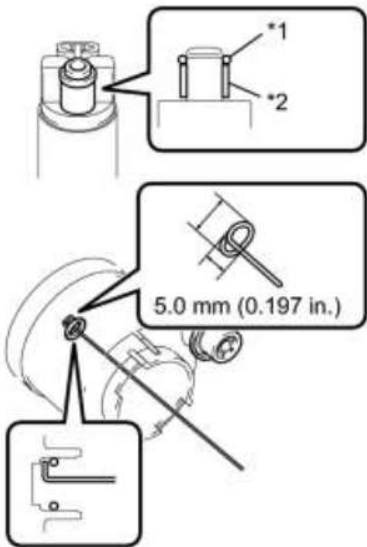
(e) Using a screwdriver with its tip wrapped in protective tape, disengage the 5 claws, and remove the fuel pump filter and fuel pump from the fuel filter.

- 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.



c

(f) Disconnect the fuel pump harness connector.



c

(g) Remove the O-ring and spacer from the fuel pump.

### Text in Illustration

|    |        |
|----|--------|
| *1 | O-ring |
| *2 | Spacer |

#### NOTICE:

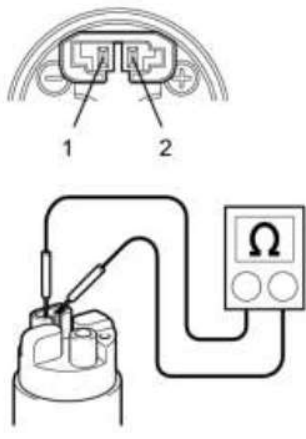
Be careful not to damage the sealing surface.

#### HINT:

If the O-ring still remains in the fuel filter, remove it using a wire tip (1 mm diameter) that is formed as shown in the illustration.

INSPECTION

1. INSPECT FUEL PUMP



(a) Check the resistance.

(1) Using an ohmmeter, measure the resistance according to the value(s) in the table below.

Standard Resistance:

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

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

(b) Check fuel pump operation.

(1) Apply battery voltage between terminals 1 and 2. Check that the pump operates.

NOTICE:

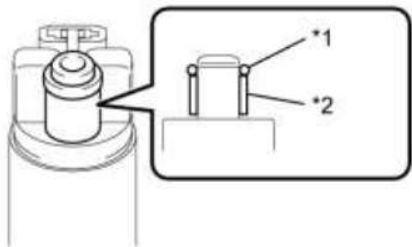
- These tests must be done quickly (within 10 seconds) to prevent the coil from burning out.
- Keep the fuel pump as far away from the battery as possible.
- Always switch the voltage on and off on the battery side, not the fuel pump side. If the pump does not operate, replace the fuel pump.

If the pump does not operate, replace the fuel pump.

REASSEMBLY

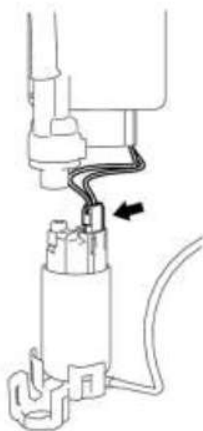
1. INSTALL FUEL PUMP

(a) Apply gasoline to a new O-ring. Then install the O-ring and spacer to the fuel pump.

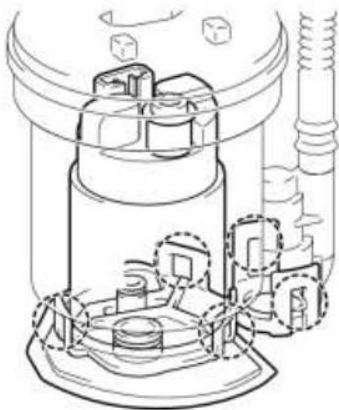


Text in Illustration

|    |        |
|----|--------|
| *1 | O-ring |
| *2 | Spacer |



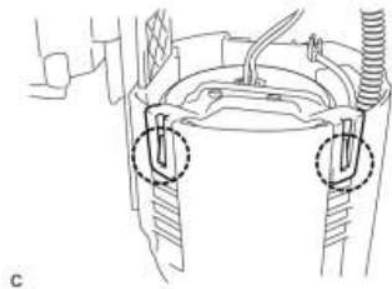
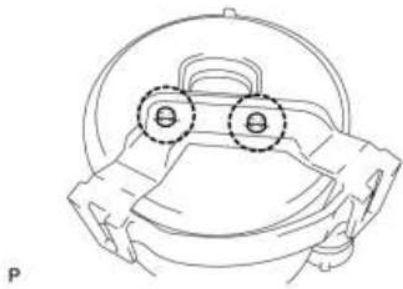
(b) Connect the fuel pump harness connector.



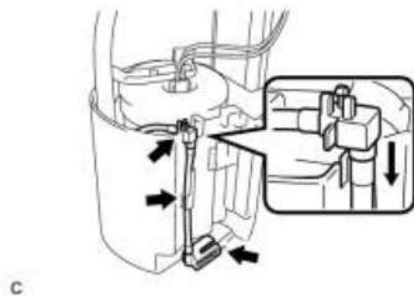
(c) Engage the 5 claws of the fuel pump.

- Make sure that the O-ring is not cut or pinched during the installation.
- Engage the claws securely.
- Do not remove the fuel filter.

(d) Engage the 2 claws of the No. 1 fuel suction support.



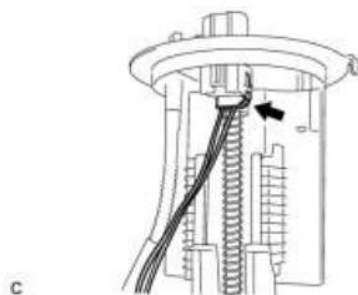
(e) Engage the 2 claws of the fuel suction support and install the fuel filter and the fuel pump onto the fuel sub-tank.



(f) Align the groove of the fuel pump filter hose with the cutout of the fuel sub-tank and install the hose.

NOTICE:

Do not apply excessive force to the fuel tube or the suction support.

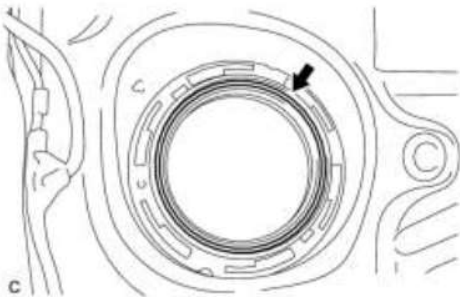


(g) Connect the connector of the fuel pump harness.

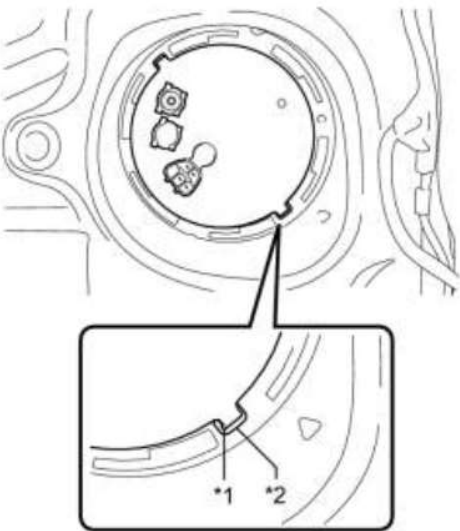
## 2. INSTALL FUEL SENDER GAUGE ASSEMBLY\_ INFO

INSTALLATION

1. INSTALL FUEL SUCTION TUBE ASSEMBLY WITH PUMP AND GAUGE



(a) Install a new gasket onto the fuel tank.



(b) Install the fuel suction tube assembly with pump and gauge to the fuel tank.

Text in Illustration

|    |            |
|----|------------|
| *1 | Protrusion |
| *2 | Notch      |

NOTICE:

Make sure that the fuel sender gauge arm does not bend.

(c) Align the protrusions of the fuel suction tube assembly with pump and gauge with the notches of the fuel tank.

NOTICE:

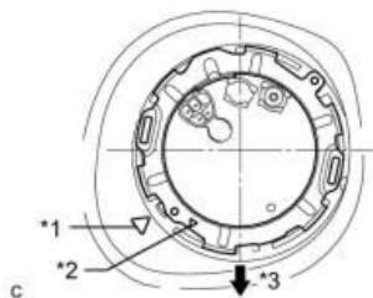
Ensure that the fuel suction tube gasket is in the correct position.

2. INSTALL FUEL PUMP GAUGE RETAINER

(a) While holding the fuel suction tube assembly with pump and gauge by hand, position the fuel pump gauge retainer and tighten it lightly by hand.

Text in Illustration

|    |            |
|----|------------|
| *1 | Lock Point |
|----|------------|



|    |                  |
|----|------------------|
| *2 | Mark             |
| *3 | Front of Vehicle |

NOTICE:

Check that the contact surface of the fuel tank retainer is not scratched or damaged, and prevent the entry of foreign objects.

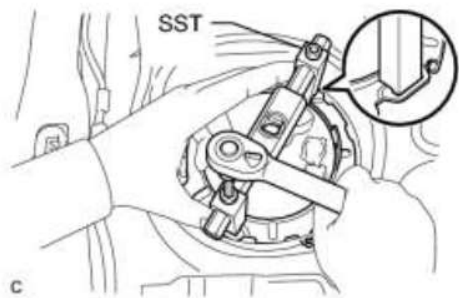
(b) Using a 6 mm socket hexagon wrench, set SST to the fuel pump gauge retainer.

SST: 09808-14020

09808-01410

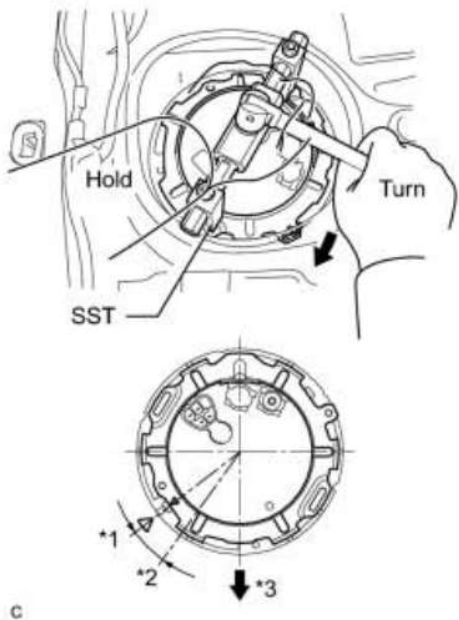
09808-01420

09808-01430



- Hold the fuel suction tube assembly upright by hand to ensure that the fuel suction tube gasket is not moved out of position.
- Engage the SST claws securely with the fuel pump gauge retainer holes to secure SST.
- Install SST while pressing the SST claws toward the fuel pump gauge retainer (toward the center of SST).

(c) Using SST, align the marks on the fuel tank and fuel pump gauge retainer.



Text in Illustration

|    |                  |
|----|------------------|
| *1 | Lock Point       |
| *2 | Starting Point   |
| *3 | Front of Vehicle |

SST: 09808-14020

09808-01410

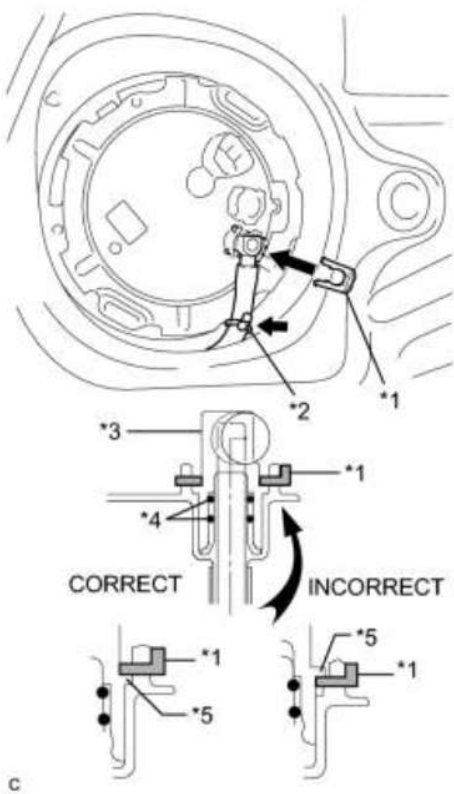
09808-01420

09808-01430

- Do not use any tools other than specified in this operation. Damage to the fuel pump gauge retainer or the fuel tank may result.
- Tighten the retainer by turning it clockwise while holding SST

down.

3. CONNECT FUEL TANK MAIN TUBE SUB-ASSEMBLY

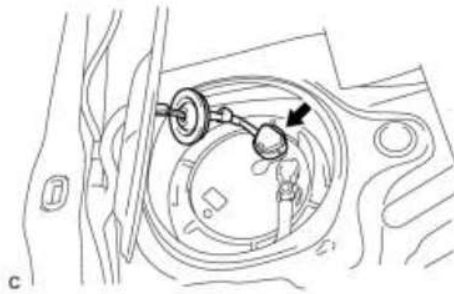


(a) Push the fuel tube joint in the plug of the fuel suction plate, then install the tube joint clip.

Text in Illustration

|    |                           |
|----|---------------------------|
| *1 | Tube Joint Clip           |
| *2 | Fuel Tank Main Tube clamp |
| *3 | Fuel Tube Joint           |
| *4 | O-ring                    |
| *5 | Collars                   |

- Check that there are no scratches or foreign objects around the connected part of the fuel tube joint and plug before performing this work.
- Check that the fuel tube joint is securely inserted to the end.
- Check that the tube joint clip is on the collar of the fuel tube joint.
- After installing the tube joint clip, check that the fuel tank main tube cannot be pushed out.



(b) Connect the fuel pump connector.

4. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

NOTICE:

When disconnecting the cable, some systems need to be initialized after the cable is reconnected INFO.

5. INSPECT FOR FUEL LEAK INFO

6. INSTALL REAR FLOOR SERVICE HOLE COVER

(a) Install the rear floor service hole cover with new butyl tape.



7. INSTALL REAR SEAT CUSHION ASSEMBLY\_ [INFO](#)

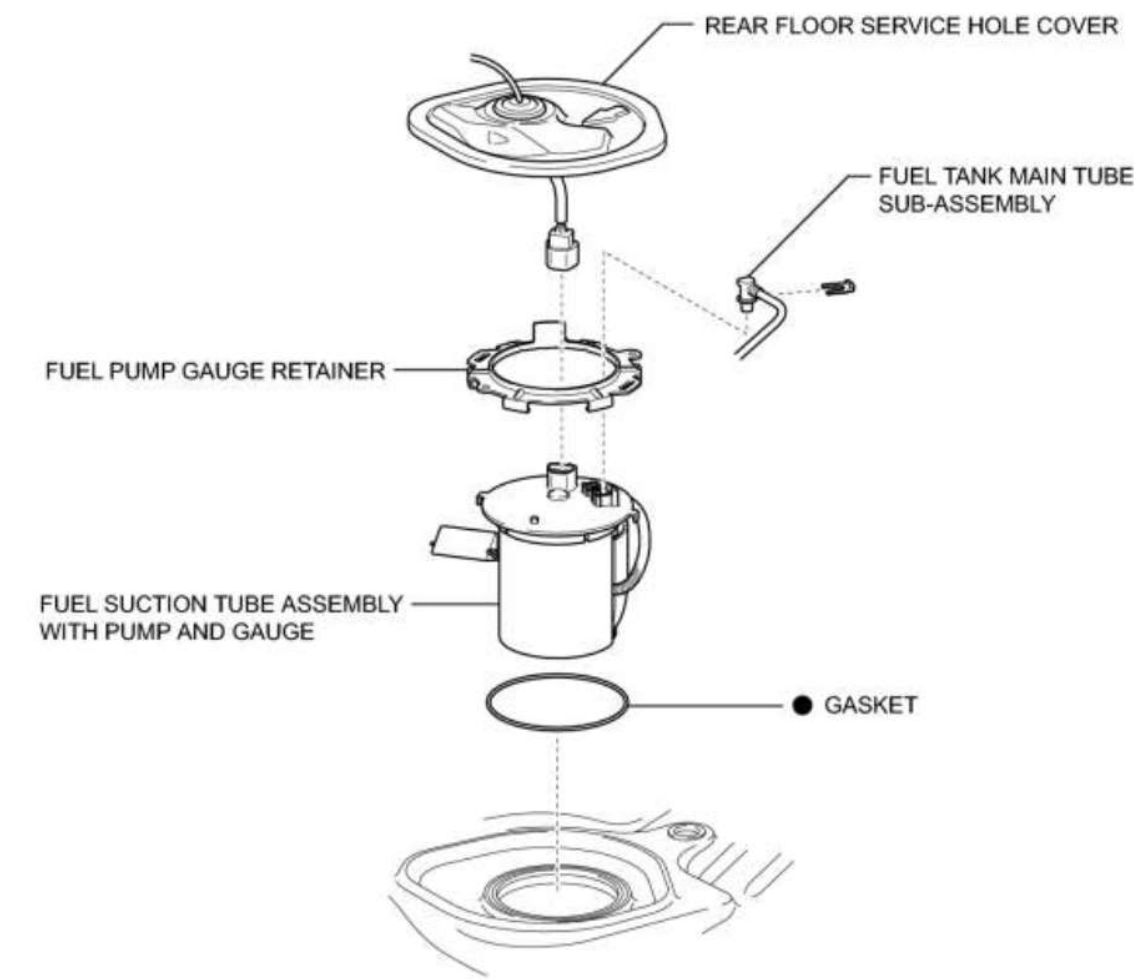
8. INSTALL REAR NO. 3 FLOOR BOARD\_ [INFO](#)

9. INSTALL REAR DECK FLOOR BOX\_ [INFO](#)

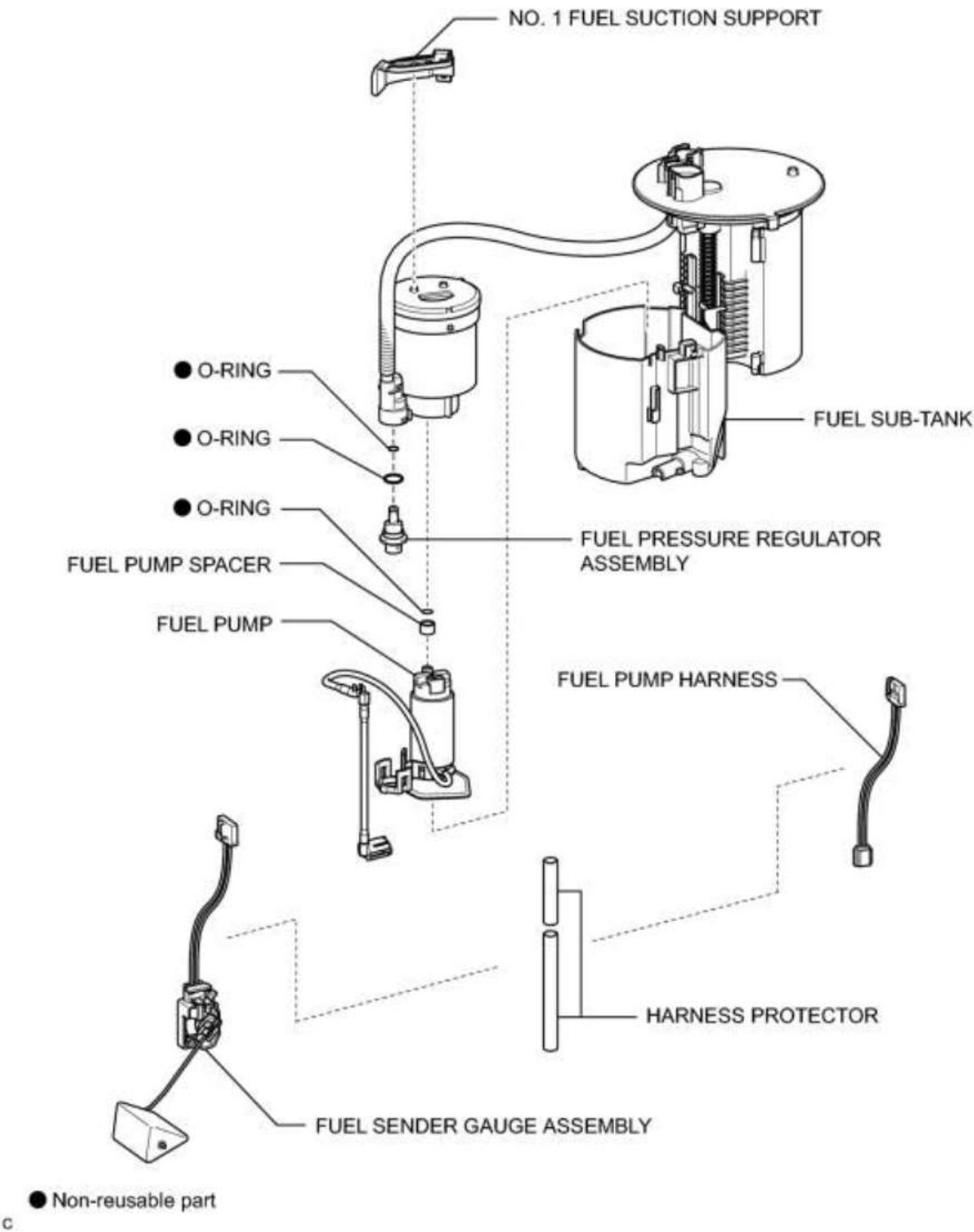
10. INSTALL REAR NO. 2 FLOOR BOARD (for Separate Type)\_ [INFO](#)

COMPONENTS

ILLUSTRATION



ILLUSTRATION

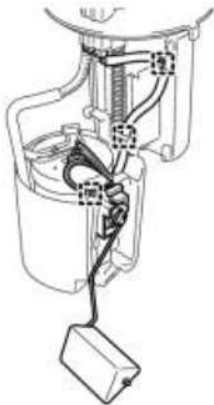


## REMOVAL

### 1. REMOVE FUEL SUCTION TUBE ASSEMBLY WITH PUMP AND GAUGE

(a) Remove the fuel suction tube assembly with pump and gauge .

### 2. REMOVE FUEL SENDER GAUGE ASSEMBLY

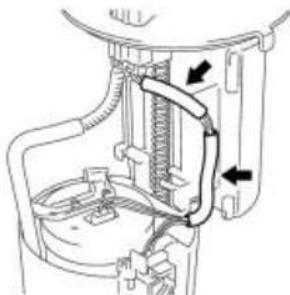


c

(a) Disconnect the 3 harness clamps.

NOTICE:

Do not damage the wire harness.



c

(b) Remove the 2 harness protectors from the wire harness.

NOTICE:

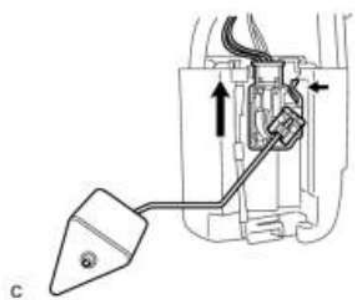
Do not damage the wire harness.



c

(c) Disconnect the connector of the fuel sender gauge assembly.

(d) Release the lock as shown in the illustration and slide the fuel sender gauge assembly to remove it.

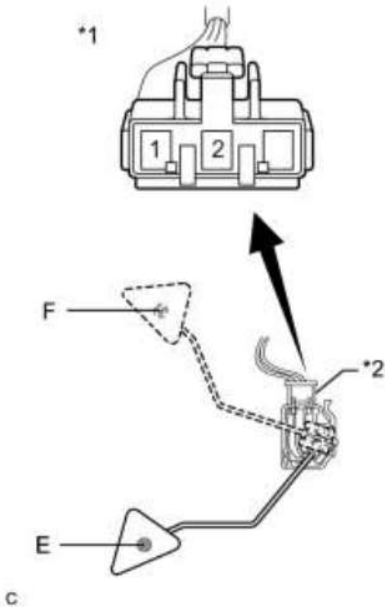


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INSPECTION

1. INSPECT FUEL SENDER GAUGE ASSEMBLY

- (a) Remove the fuel sender gauge assembly.
- (b) Check that the float moves smoothly between F and E.
- (c) Measure the resistance between terminals 1 and 2 of the connector according to the value(s) in the table below.



Standard Resistance:

| Float Level     | Resistance ( $\Omega$ )           |
|-----------------|-----------------------------------|
| F               | 12.0 to 18.0                      |
| Between E and F | 12.0 to 415.0 (Gradually changes) |
| E               | 405.0 to 415.0                    |

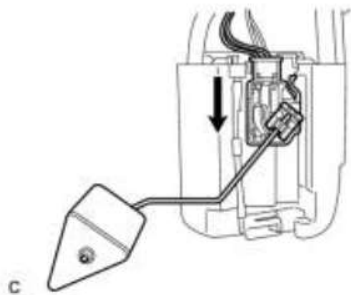
If the value is not as specified, replace the fuel sender gauge assembly.

Text in Illustration

|    |                                                                          |
|----|--------------------------------------------------------------------------|
| *1 | Front view of wire harness connector:<br>(to Fuel Sender Gauge Assembly) |
| *2 | Fuel Sender Gauge Assembly                                               |

# INSTALLATION

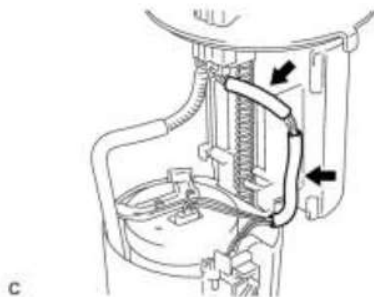
## 1. INSTALL FUEL SENDER GAUGE ASSEMBLY



(a) Install the fuel sender gauge assembly by sliding it downward.



(b) Connect the connector of the fuel sender gauge assembly.



(c) Install the 2 harness protectors.

NOTICE:

Do not damage the wire harness.

(d) Connect the 3 harness clamps.



c

## 2. INSTALL FUEL SUCTION TUBE ASSEMBLY WITH PUMP AND GAUGE

- (a) Install the fuel suction tube assembly with pump and gauge INFO.

## PRECAUTION

### 1. PRECAUTIONS

- (a) Before inspecting and repairing the fuel system, disconnect the cable from the negative (-) battery terminal.
- (b) Do not smoke or work near fire when handling the fuel system.
- (c) Keep gasoline away from rubber or leather parts.

### 2. DISCHARGE FUEL SYSTEM PRESSURE

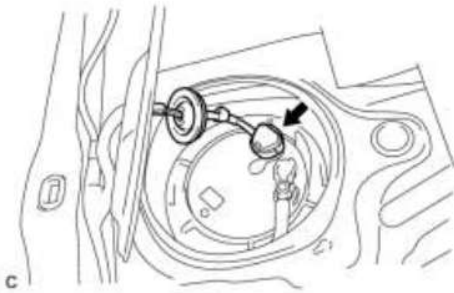
#### CAUTION:

- Perform the following procedure to prevent fuel from spilling out before removing any fuel system parts.
- Pressure will still remain in the fuel lines even after performing the following procedure. When disconnecting a fuel line, cover it with a piece of cloth to prevent fuel from spraying or coming out.

- (a) Remove the rear seat cushion assembly INFO.



- (b) Remove the rear floor service hole cover.



- (c) Disconnect the fuel pump connector.

- (d) Put the vehicle in the "inspection mode" INFO.

- (e) Start the engine.

- (f) After the engine has stopped on its own, turn the power switch off.

#### HINT:

DTCs P0171/25 may be detected.

2010 Toyota Prius

Repair Manual

- (g) Crank the engine again and make sure that the engine does not start.
- (h) Disconnect the cable from the negative (-) battery terminal.

NOTICE:

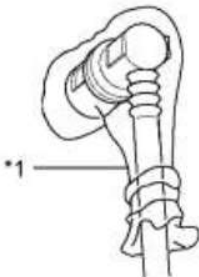
When disconnecting the cable, some systems need to be initialized after the cable is reconnected INFO.

- (i) Connect the fuel pump connector.
- (j) Loosen the fuel tank cap, then discharge the pressure in the fuel tank completely.

3. FUEL LINE

(a) When disconnecting a high-pressure fuel line, a large amount of gasoline will spray out. Perform the following procedure:

- (1) Discharge fuel system pressure.
- (2) Disconnect the fuel tube.
- (3) Drain the fuel remaining inside the fuel pump tube into a container.

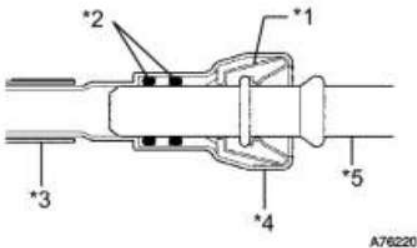


- (4) Cover the disconnected pipe and connector with a plastic bag to prevent damage and contamination.

Text in Illustration

|    |             |
|----|-------------|
| *1 | Plastic Bag |
|----|-------------|

(b) Perform the following procedure when disconnecting a fuel delivery pipe (metallic type):



Text in Illustration

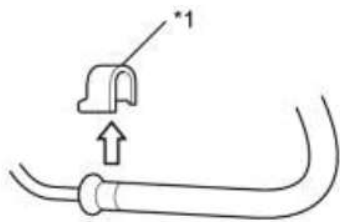
|    |          |
|----|----------|
| *1 | Retainer |
|----|----------|

|    |            |
|----|------------|
| *2 | O-ring     |
| *3 | Nylon Tube |
| *4 | Housing    |
| *5 | Pipe       |

HINT:

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

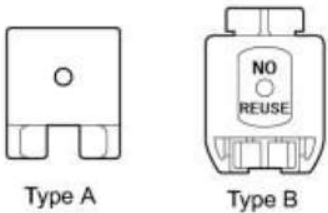
(1) Check if there is any damage or foreign objects on the pipe connections.



(2) Remove the No. 2 fuel pipe clamp.

Text in Illustration

|    |                       |
|----|-----------------------|
| *1 | No. 2 Fuel Pipe Clamp |
|----|-----------------------|

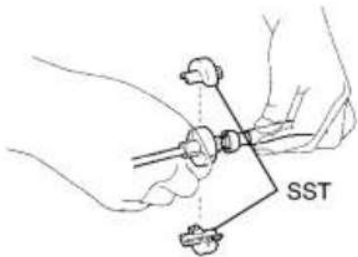


NOTICE:

Do not reuse the fuel pipe clamp.

c

(3) Find the metallic connector of the fuel tube assembly.

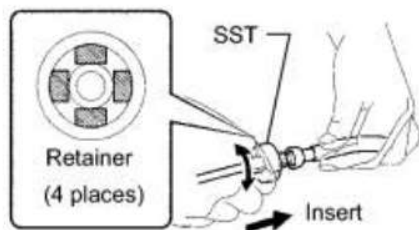


P

(4) Assemble SST to the connector as shown in the illustration.

SST: 09268-21010

(5) Turn SST, align the retainers inside the connector with the SST chamfers and insert SST into the connector.

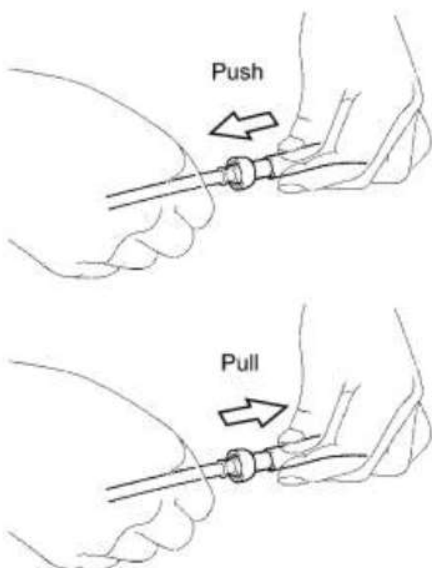


P

(6) Slide SST and the connector together towards the fuel tube assembly.

(c) Perform the following procedure when connecting a fuel tube connector (metallic type):

(1) Check if there is any damage or foreign objects on the pipe connections.



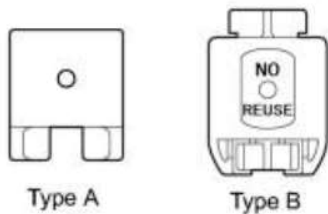
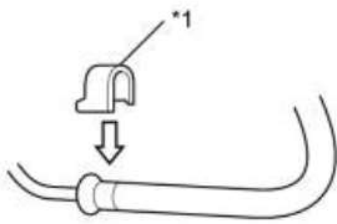
(2) Match the axis of the connector with the axis of the pipe, and push the pipe into the connector until the connector makes a "click" sound. If the pipe is difficult to push into the connector, apply a small amount of clean engine oil to the tip of the pipe.

(3) After connecting, check if the pipe and the connector are securely connected by pulling on them.

(4) Install a new No. 2 fuel pipe clamp.

### Text in Illustration

|    |                       |
|----|-----------------------|
| *1 | No. 2 Fuel Pipe Clamp |
|----|-----------------------|



c

(5) Check for fuel leaks.

(d) Perform the following procedure when disconnecting a fuel tube connector (quick type A):



c

(1) Release the claw and remove the No. 1 fuel pipe clamp.

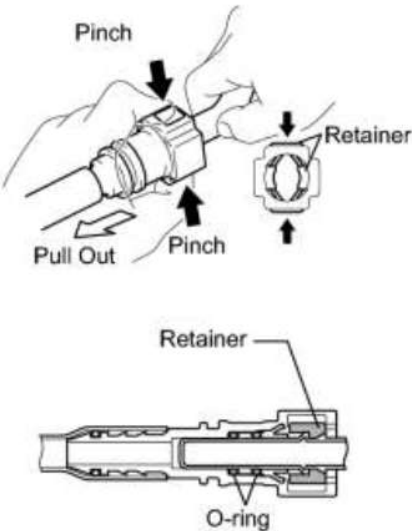
(2) Check that there is no dirt or other foreign objects on the pipe and contact surface before disconnecting them. Clean them if necessary.

(3) Disconnect the connector from the pipe by hand.

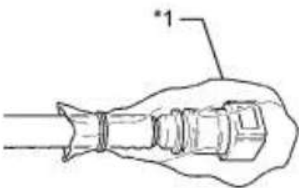
NOTICE:

Be sure to disconnect the connector by hand.

(4) If the connector and the pipe are stuck, push in and pull on the connector to release them. Pull the connector out of the pipe carefully.



(5) Check that there is no dirt or other foreign objects on the contact surface of the disconnected pipe. Clean them away if necessary.



(6) Cover the disconnected pipe and connector with a plastic bag to prevent damage and contamination.

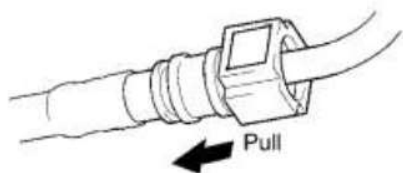
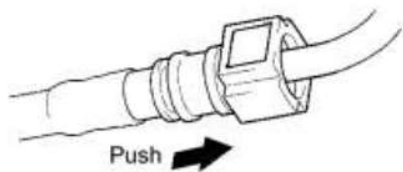
Text in Illustration

|    |             |
|----|-------------|
| *1 | Plastic Bag |
|----|-------------|

P

(e) Perform the following procedure when connecting a fuel tube connector (quick type A):

(1) Check if there is any damage or foreign objects on the pipe connections.



(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.

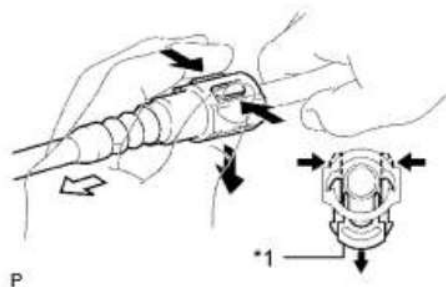
(3) After connecting the pipes, check that the pipe and connector are securely connected by pulling on them.

(4) Inspect for fuel leaks INFO.



(5) Engage the lock claw and install the No. 1 fuel pipe clamp.

(f) Perform the following procedure when disconnecting a fuel tube connector (quick type B):



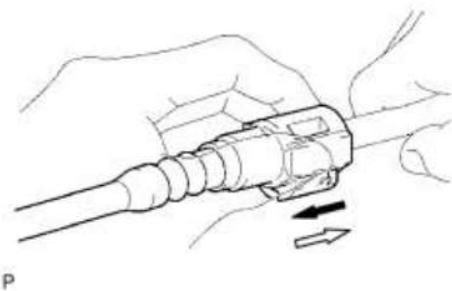
Text in Illustration

|    |          |
|----|----------|
| *1 | Retainer |
|----|----------|

- (1) Check that there is no damage or foreign matter on the part of the pipe that contacts the connector.
- (2) Detach the 2 claws of the connector retainer. Push down on the connector and disconnect it from the pipe.

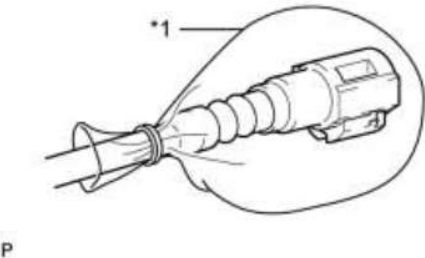
HINT:

Be sure to disconnect it by hand.



- (3) If the connector and pipe are stuck, pinch the fuel pipe by hand and push or pull the connector to disconnect it.

- (4) Check for foreign matter on the seal surface of the disconnected pipe. Clean it if necessary.

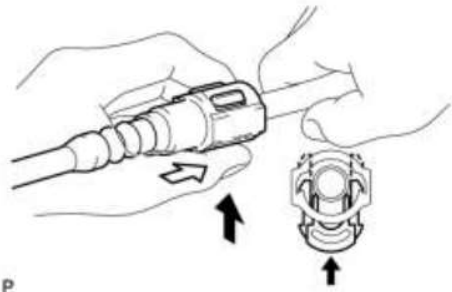


- (5) Cover the disconnected pipe and connector with a plastic bag to prevent damage and contamination.

Text in Illustration

|    |             |
|----|-------------|
| *1 | Plastic Bag |
|----|-------------|

- (g) Perform the following procedure when connecting a fuel tube connector (quick type B):



- (1) Line up the two parts of the pipes to be connected, and fully push the fuel tube connector and pipe together until they are fully seated. Next, push the retainer into the connector until its claws lock. 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.

- (2) After connecting the pipes, check that the pipe and connector are securely connected by pulling on them.

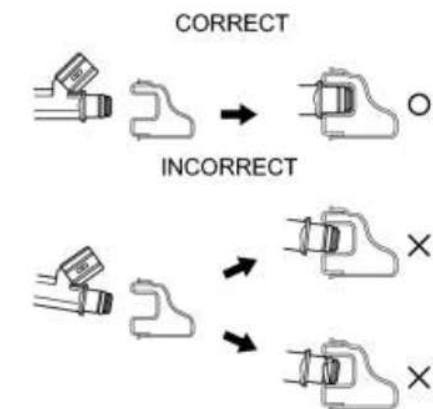
- (3) Inspect for fuel leaks INFO.

(h) Observe the following precautions when handling a nylon tube:

CAUTION:

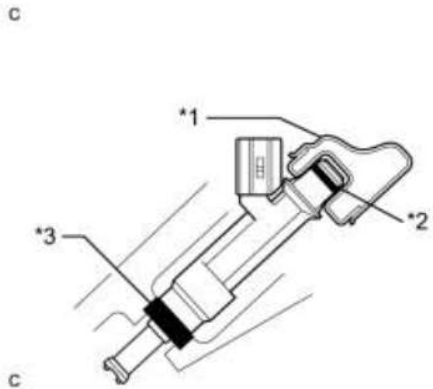
- Do not twist the connector part of the nylon tube or the quick connector when connecting them.
- Do not bend or twist the nylon tube.
- Do not remove the EPDM protector on the outside of the nylon tube.
- Do not pinch or kink the nylon tubes to prevent fuel leakage.

4. INJECTOR



(a) Observe the following precautions when removing and installing a fuel injector:

- (1) Do not reuse an 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 oil, gear oil or brake fluid.

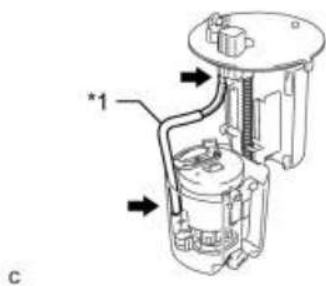


(b) Install the injector into the delivery pipe and cylinder head as shown in the illustration. Apply grease or gasoline to the contact surfaces of the injector before installing the injector.

Text in Illustration

|    |               |
|----|---------------|
| *1 | Delivery Pipe |
| *2 | O-ring        |
| 3  | Insulator     |

5. FUEL SUCTION TUBE ASSEMBLY WITH PUMP AND GAUGE



(a) Do not disconnect the tube shown in the illustration when disassembling the fuel suction tube assembly with pump and gauge. Doing so will cause reassembly of the fuel suction tube assembly with pump and gauge to be impossible as the tube is welded to the plate.

Text in Illustration

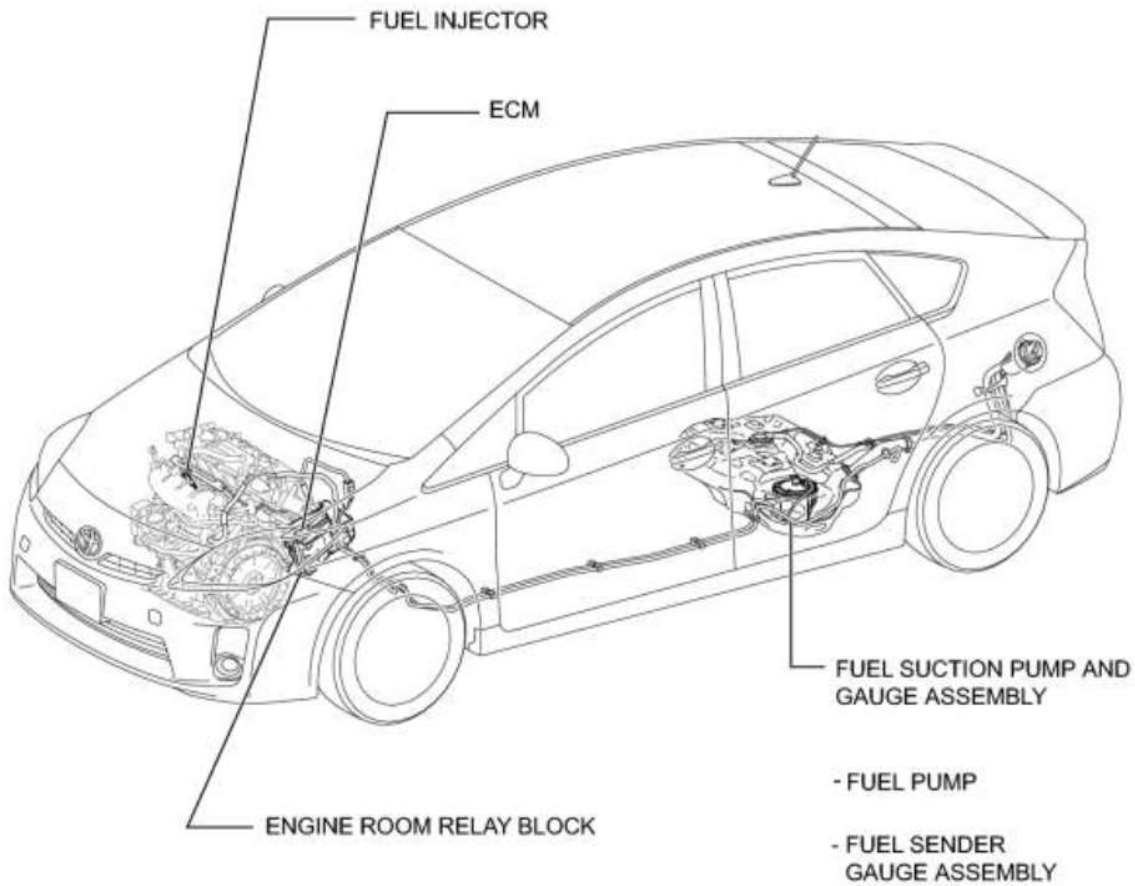
|    |      |
|----|------|
| *1 | Tube |
|----|------|

6. INSPECT FOR FUEL LEAK

(a) Check that there is no fuel leakage after performing maintenance anywhere on the fuel system .

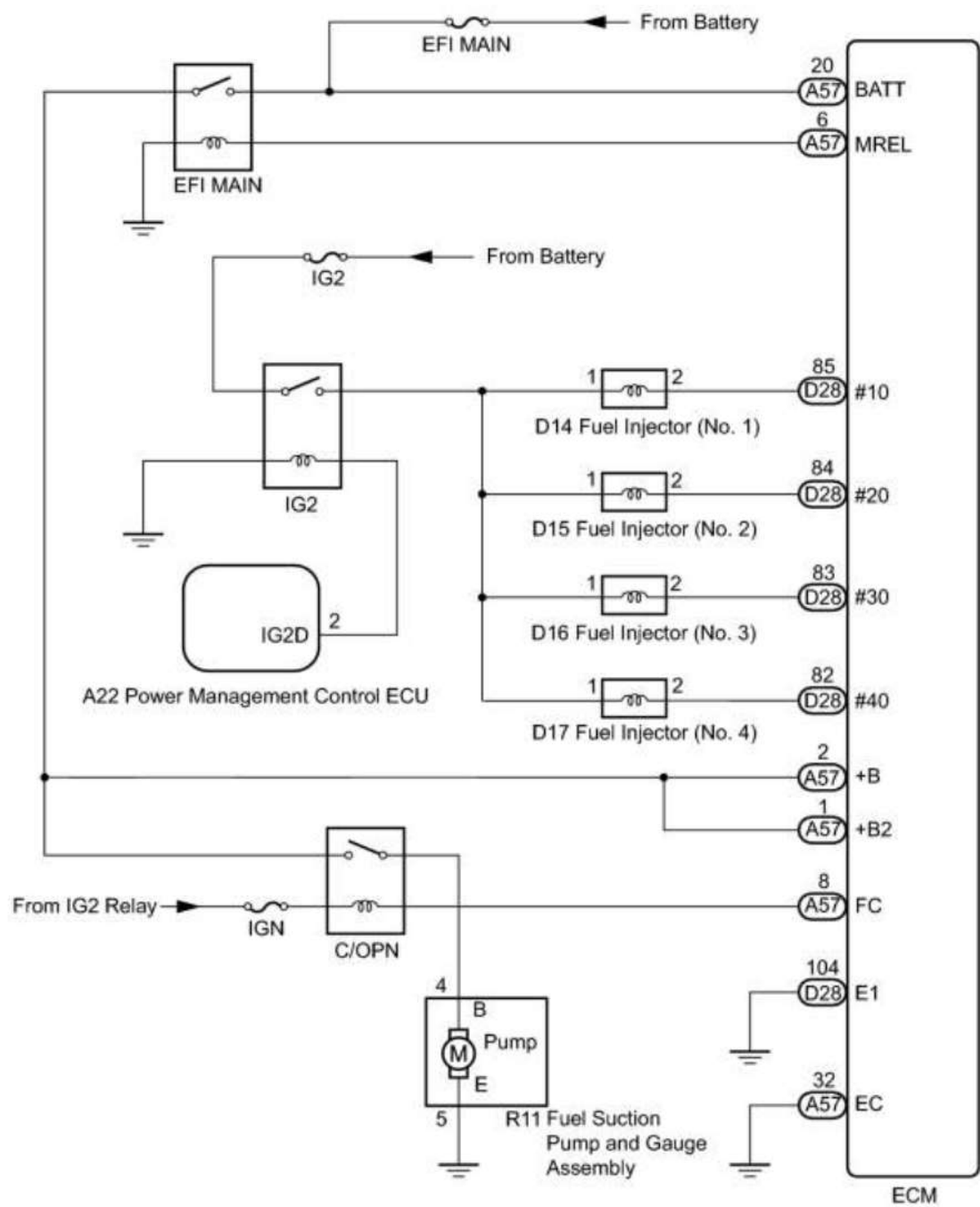
## PARTS LOCATION

### ILLUSTRATION



c

SYSTEM DIAGRAM



## ON-VEHICLE INSPECTION

### 1. CHECK FUEL PUMP OPERATION AND INSPECT FOR FUEL LEAK

(a) Check fuel pump operation.

(1) Connect the Techstream to the DLC3.

(2) Turn the power switch on (IG).

NOTICE:

Do not start the engine.

(3) Turn the Techstream on.

(4) Enter the following menus: Powertrain / Engine and ECT / Active Test / Control the Fuel Pump /Speed.

(5) Check for pressure in the fuel inlet tube from the fuel line. Check that sounds of fuel flowing from the fuel tank can be heard. If no sounds can be heard, check the integration relay, fuel pump, ECM and wiring connectors.

(b) Inspect for fuel leaks.

(1) Check that there is no fuel leakage after performing maintenance anywhere on the fuel system. If there is a fuel leak, repair or replace parts as necessary.

(c) Turn the power switch off.

(d) Disconnect the Techstream from the DLC3.

### 2. CHECK FUEL PRESSURE

(a) Discharge fuel system pressure .

(b) Using a voltmeter, measure the battery voltage according to the value(s) in the table below.

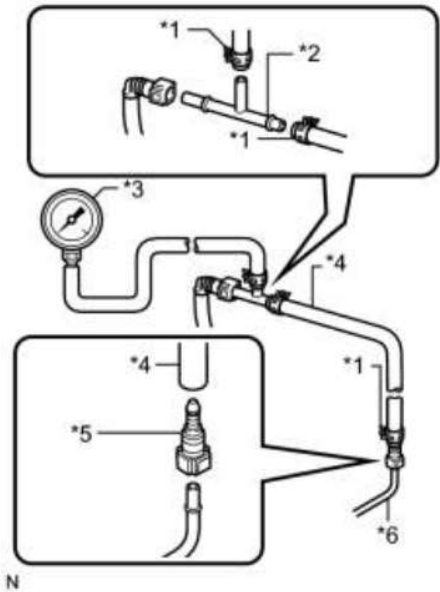
Standard Voltage:

| Tester Connection                     | Condition        | Specified Condition |
|---------------------------------------|------------------|---------------------|
| Positive terminal - Negative terminal | Power switch off | 11 to 14 V          |

(c) Disconnect the cable from the negative (-) battery terminal.

(d) Disconnect the fuel hose from the fuel main tube .

(e) Install SST (pressure gauge) using other SST as shown in the illustration.



Text in Illustration

|    |                      |
|----|----------------------|
| *1 | SST (Clip)           |
| *2 | SST (T-joint)        |
| *3 | SST (Pressure Gauge) |
| *4 | SST (Hose)           |
| *5 | SST (Tube Connector) |
| *6 | Fuel Tube            |

SST: 09268-31012  
09268-41500  
90467-13001  
95336-08070  
SST: 09268-45014  
09268-41200  
09268-41220  
09268-41250

- (f) Clean up any spilled gasoline.
- (g) Connect the cable to the negative (-) battery terminal.
- (h) Connect the Techstream to the DLC3.
- (i) Enter the following menus: Powertrain / Engine and ECT / Active Test / Control the Fuel Pump /Speed.
- (j) Measure the fuel pressure.
- Standard fuel pressure:
- 304 to 343 kPa (3.1 to 3.5 kgf/cm<sup>2</sup>, 44 to 50 psi)
- If the fuel pressure is greater than the standard value, replace the fuel pressure regulator.
  - If the fuel pressure is less than the standard value, check the fuel hoses and connections, fuel pump, fuel filter and fuel pressure regulator.
- (k) Disconnect the Techstream from the DLC3.
- (l) Put the vehicle in the "inspection mode" .
- (m) Start the engine.
- 2010 Toyota Prius

(n) Measure the fuel pressure at idle.

Standard fuel pressure:

304 to 343 kPa (3.1 to 3.5 kgf/cm<sup>2</sup>, 44 to 50 psi)

(o) Stop the engine.

(p) Check that the fuel pressure remains as specified for 5 minutes after the engine stops.

Standard fuel pressure:

147 kPa (1.5 kgf/cm<sup>2</sup>, 21 psi) or more

If the fuel pressure is not as specified, check the fuel pump or fuel injector.

(q) After checking the fuel pressure, disconnect the cable from the negative (-) battery terminal and carefully remove SST to prevent gasoline from spraying.

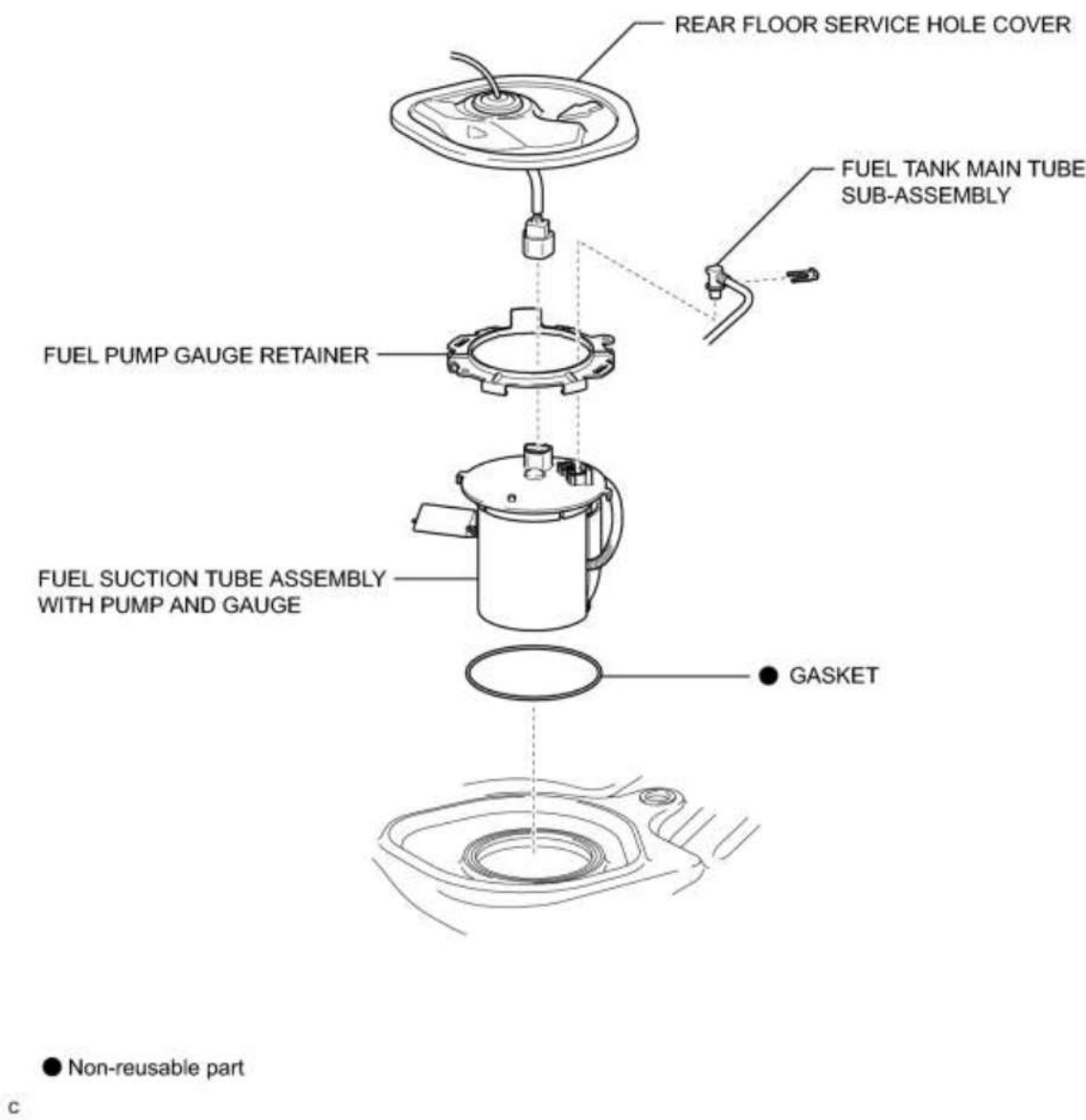
(r) Reconnect the fuel tube to the main fuel tube (fuel tube connector).

(s) Install the No. 1 fuel pipe clamp to the fuel tube connector.

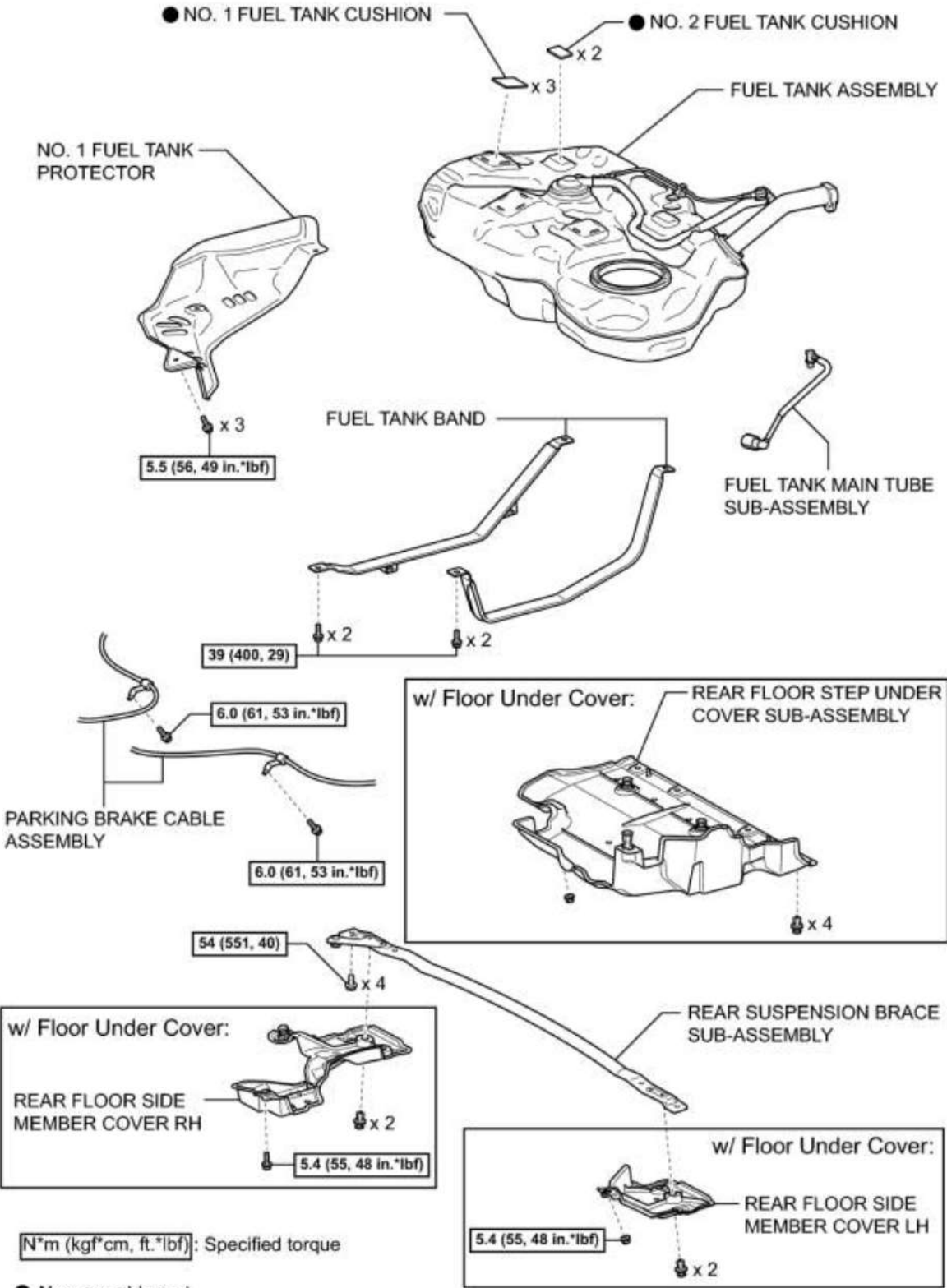
(t) Inspect for fuel leaks (Step 1).

COMPONENTS

ILLUSTRATION



ILLUSTRATION



## REMOVAL

### 1. REMOVE FUEL SUCTION TUBE ASSEMBLY WITH PUMP AND GAUGE

(a) Remove the fuel suction tube assembly with pump and gauge INFO.

### 2. DRAIN FUEL

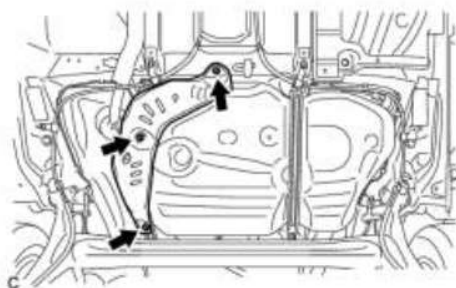
3. REMOVE REAR FLOOR SIDE MEMBER COVER LH (w/ Floor Under Cover) INFO

4. REMOVE REAR FLOOR SIDE MEMBER COVER RH (w/ Floor Under Cover) INFO

5. REMOVE REAR SUSPENSION BRACE SUB-ASSEMBLY INFO

6. REMOVE REAR FLOOR STEP UNDER COVER SUB-ASSEMBLY (w/ Floor Under Cover) INFO

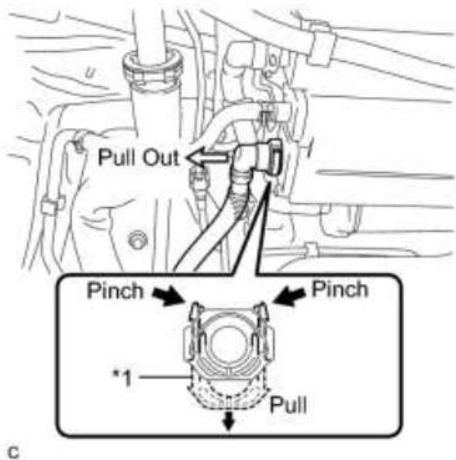
### 7. REMOVE NO. 1 FUEL TANK PROTECTOR



(a) Remove the 3 bolts and the No. 1 fuel tank protector.

### 8. DISCONNECT FUEL CUT-OFF TUBE

(a) Disconnect the fuel cut-off tube from the charcoal canister assembly.



#### Text in Illustration

|    |          |
|----|----------|
| *1 | Retainer |
|----|----------|

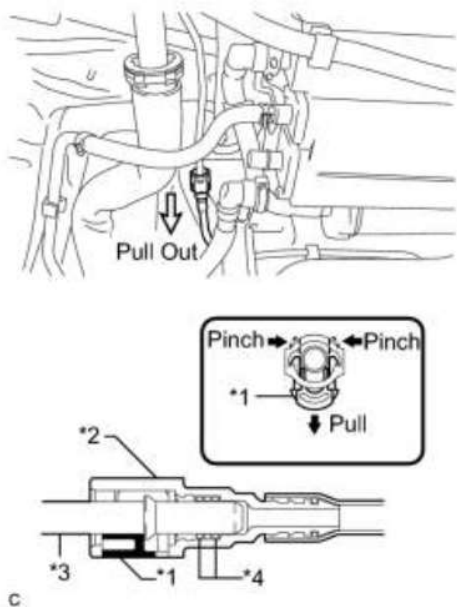
#### HINT:

Do not remove the retainer.

- Remove any dirt or foreign matter on the fuel cut-off tube connector before performing this work.
- Do not allow any scratches or foreign matter on the parts when disconnecting them as the fuel cut-off tube connector has an O-ring that seals the pipe.
- Perform this work by hand. Do not use any tools.
- Do not forcibly bend, twist or turn the fuel cut-off tube.

- Protect the disconnected part by covering it with a plastic bag after disconnecting the fuel cut-off tube.
- If the vent hose connector and pipe are stuck, push and pull to release them.

9. DISCONNECT FUEL TANK BREATHER TUBE



(a) Pinch the tabs of the retainer to remove the lock claws and pull it down as shown in the illustration.

Text in Illustration

|    |                 |
|----|-----------------|
| *1 | Retainer        |
| *2 | Quick Connector |
| *3 | Pipe            |
| *4 | O-ring          |

(b) Pull out the fuel tank breather tube.

NOTICE:

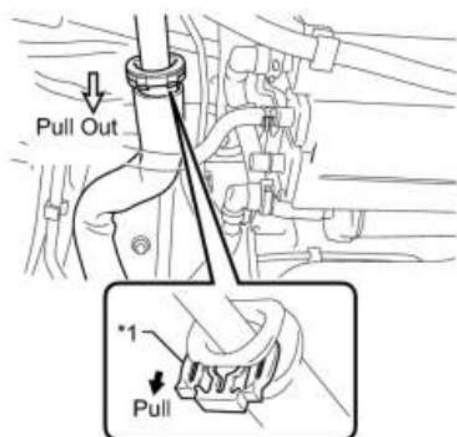
- Check that there is no dirt or other foreign objects around the connector before this operation and clean the connector as necessary.
- It is necessary to prevent mud or dirt from entering the connector. If mud or dirt gets in the connector, the O-rings may not seal properly.
- Do not use any tools in this operation.
- Do not bend, kink or twist the nylon tube. Protect the connector by covering it with a plastic bag.
- When the pipe and connector are stuck, push and pull the connector to release and pull the connector out carefully.

10. DISCONNECT FUEL TANK TO FILLER PIPE HOSE

(a) Pull the tabs of the retainer to disengage the lock claws and pull it down as shown in the illustration

Text in Illustration

|    |          |
|----|----------|
| *1 | Retainer |
|----|----------|



c

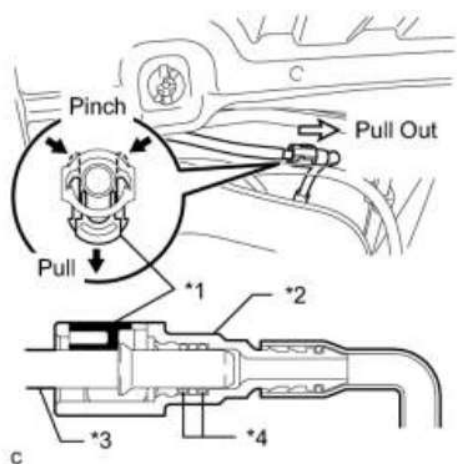
(b) Pull out the fuel tank to filler pipe hose.

#### NOTICE:

- Check that there is no dirt or other foreign objects around the connector before this operation and clean the connector as necessary.
- It is necessary to prevent mud or dirt from entering the connector. If mud or dirt gets in the connector, the O-rings may not seal properly.
- Do not use any tools in this operation.
- Do not bend, kink or twist the nylon tube. Protect the connector by covering it with a plastic bag.
- When the pipe and connector are stuck, push and pull the connector to release and pull the connector out carefully.

### 11. REMOVE FUEL TANK MAIN TUBE SUB-ASSEMBLY

#### Text in Illustration



c

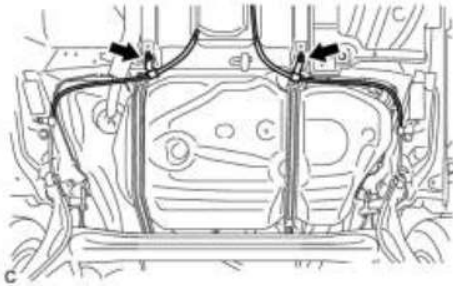
(a) Pinch the tabs of the retainer to remove the lock claws and pull it down as shown in the illustration.

(b) Pull out and remove the fuel tank main tube sub-assembly.

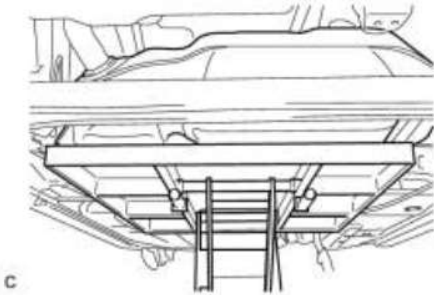
- Check that there is no dirt or other foreign objects around the connector before this operation and clean the connector as necessary.
- It is necessary to prevent mud or dirt from entering the connector. If mud or dirt gets in the connector, the O-rings may not seal properly.
- Do not use any tools in this operation.

- Do not bend, kink or twist the nylon tube. Protect the connector by covering it with a plastic bag.
- When the pipe and connector are stuck, push and pull the connector to release and pull the connector out carefully.

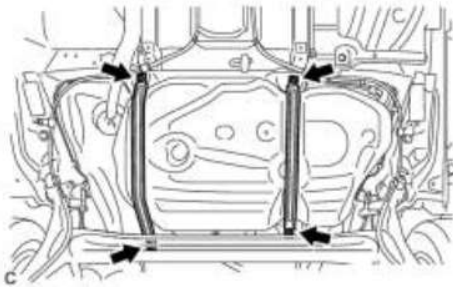
## 12. REMOVE FUEL TANK ASSEMBLY



(a) Remove the 2 bolts and disconnect the parking brake cable assembly.



(b) Support the fuel tank using an engine lifter.



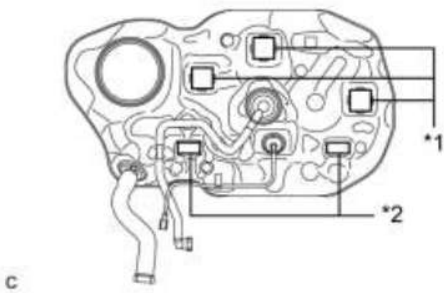
(c) Remove the 4 set bolts of the 2 fuel tank bands.

(d) Lower the engine lifter to remove the fuel tank.

### NOTICE:

- Slowly operate the engine lifter to lower the fuel tank.
- Do not drop the fuel tank.
- When removing the fuel tank, tilt it slightly to prevent it from interfering with the suspension arm or other surrounding parts.

## 13. REMOVE FUEL TANK CUSHION



(a) Remove the 3 No. 1 fuel tank cushions and 2 No. 2 fuel tank cushions.

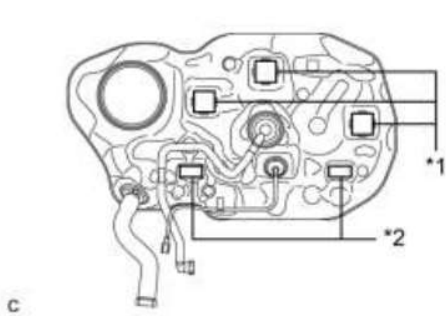
**Text in Illustration**

|    |                         |
|----|-------------------------|
| *1 | No. 1 Fuel Tank Cushion |
| *2 | No. 2 Fuel Tank Cushion |

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INSTALLATION

1. INSTALL FUEL TANK CUSHION



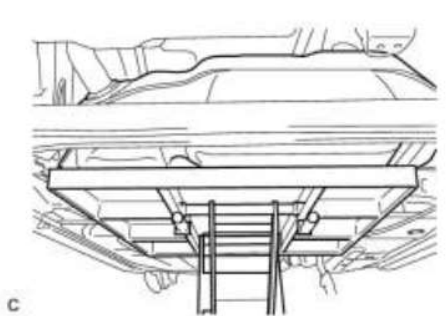
(a) Install 3 new No. 1 fuel tank cushions and 2 new No. 2 fuel tank cushions as shown in the illustration.

**Text in Illustration**

|    |                         |
|----|-------------------------|
| *1 | No. 1 Fuel Tank Cushion |
| *2 | No. 2 Fuel Tank Cushion |

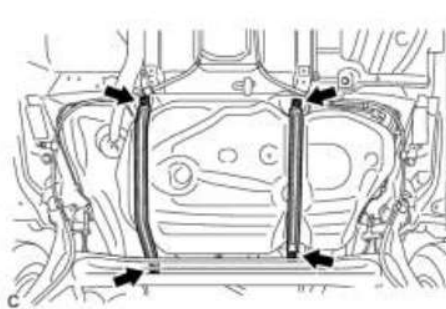
2. INSTALL FUEL TANK ASSEMBLY

(a) Support the fuel tank using an engine lifter.



(b) Raise the engine lifter, then install the fuel tank to the vehicle.

- Do not drop the fuel tank.
- When installing the fuel tank, tilt it slightly to prevent it from interfering with the suspension arm or other surrounding parts.

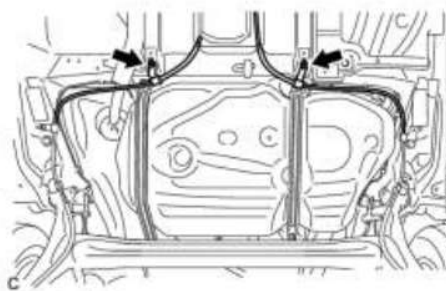


(c) Tighten the 4 set bolts of the 2 fuel tank bands.

Torque: **39 N·m (400 kgf·cm, 29ft·lbf)**

NOTICE:

First temporarily install the bolts of the tank bracket. Then temporarily install the bolts of the tank bands. Finally, tighten all of the bolts.



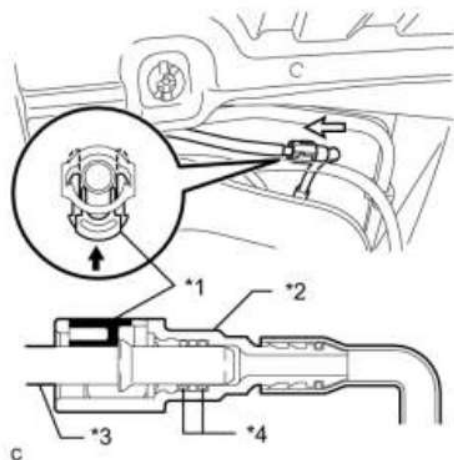
(d) Connect the parking brake cable assembly with the 2 bolts.

Torque: **6.0 N·m (61 kgf·cm, 53in·lbf)**

3. CONNECT FUEL TANK MAIN TUBE SUB-ASSEMBLY

(a) Push in the fuel tank main tube connector to the pipe and push up the retainer so that the claws engage.

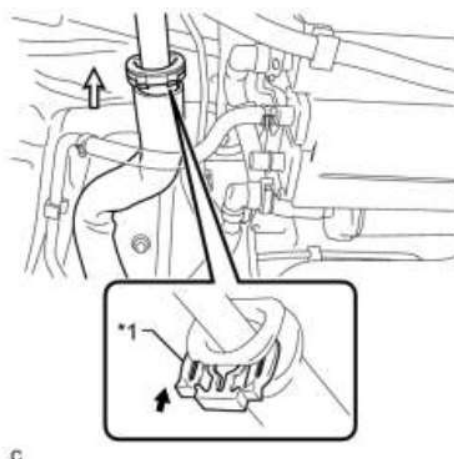
### Text in Illustration



|    |                 |
|----|-----------------|
| *1 | Retainer        |
| *2 | Quick Connector |
| *3 | Pipe            |
| *4 | O-ring          |

- Check that there are no scratches or foreign objects around the connected part of the fuel tube connector and pipe before starting this step.
- After connecting the fuel tank main tube sub-assembly, check that the fuel tank main tube sub-assembly is securely connected by pulling on the fuel tube connector.

#### 4. CONNECT FUEL TANK TO FILLER PIPE HOSE



(a) Push in the hose connector to the filler pipe and install the retainer.

### Text in Illustration

|    |          |
|----|----------|
| *1 | Retainer |
|----|----------|

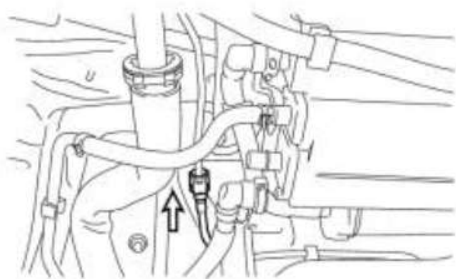
- Before connecting the tube, make sure that it is not damaged. Make sure that there is no dirt present on the connecting surfaces.
- After connecting, check if the fuel tube connector and the pipe are securely connected by pulling on them.

#### 5. CONNECT FUEL TANK BREATHER TUBE

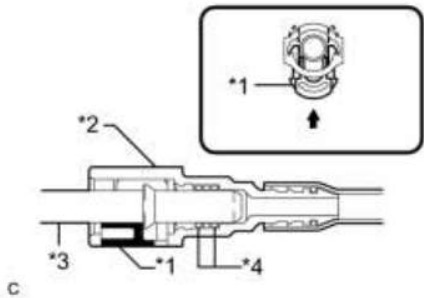
(a) Push in the fuel tank breather tube connector to the pipe and push up the retainer so that the claws engage.

### Text in Illustration

|    |                 |
|----|-----------------|
| *1 | Retainer        |
| *2 | Quick Connector |
| *3 | Pipe            |
| *4 | O-ring          |

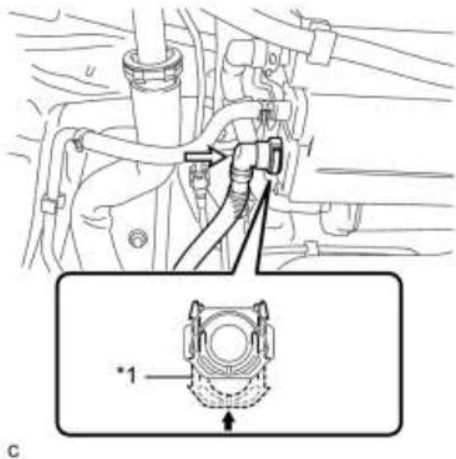


- Check that there are no scratches or foreign objects around the connected part of the fuel tube connector and pipe before starting this step.
- After connecting the fuel tank main tube sub-assembly, check that the fuel tank main tube sub-assembly is securely connected by pulling on the fuel tube connector.



6. CONNECT FUEL CUT-OFF TUBE

(a) Push in the fuel cut-off tube connector to the charcoal canister and push up the retainer so that the claws engage.

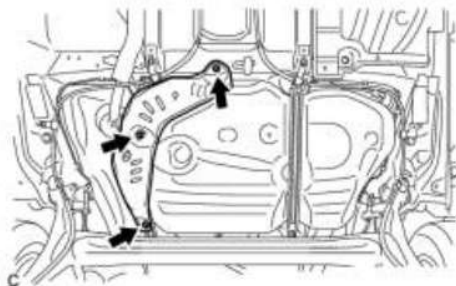


Text in Illustration

|    |          |
|----|----------|
| *1 | Retainer |
|----|----------|

- Check that there are no scratches or foreign matter around the connected part of the fuel cut-off tube connector and pipe before performing this work.
- After connecting the fuel cut-off tube, check that the fuel cut-off tube is securely connected by pulling the fuel cut-off tube connector and the charcoal canister.

7. INSTALL NO. 1 FUEL TANK PROTECTOR



(a) Install the No. 1 fuel tank protector with the 3 bolts.

Torque: 5.5 N·m (56 kgf·cm, 49in·lbf)

8. INSTALL REAR FLOOR STEP UNDER COVER SUB-ASSEMBLY (w/ Floor Under Cover) INFO

9. INSTALL REAR SUSPENSION BRACE SUB-ASSEMBLY\_ 

10. INSTALL REAR FLOOR SIDE MEMBER COVER LH (w/ Floor Under Cover)\_ 

11. INSTALL REAR FLOOR SIDE MEMBER COVER RH (w/ Floor Under Cover)\_ 

12. ADD FUEL

13. INSTALL FUEL SUCTION TUBE ASSEMBLY WITH PUMP AND GAUGE

(a) Install the fuel suction tube assembly with pump and gauge .