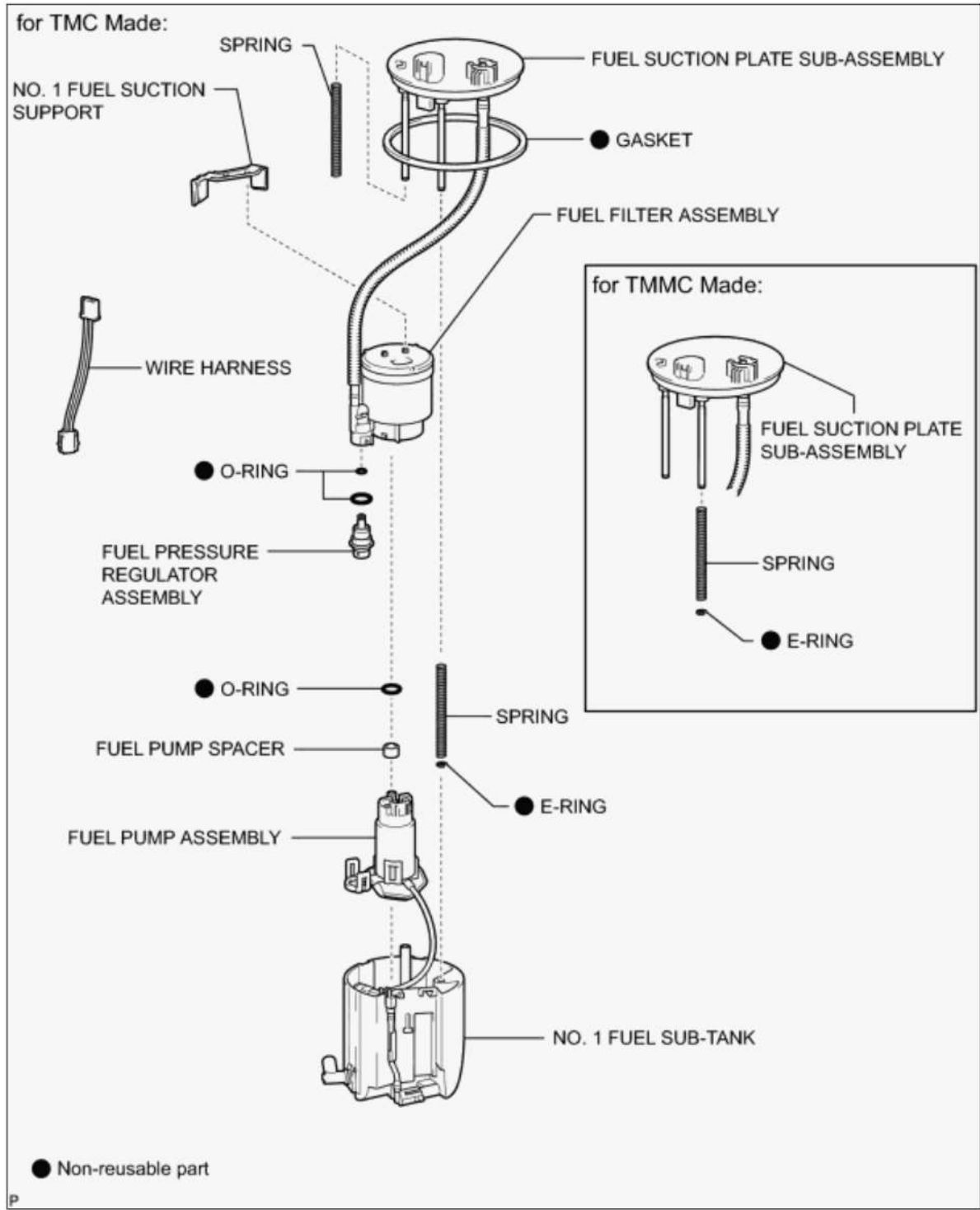
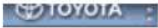


Last Modified: 9-7-2011	6.4 K	From: 201008
Model Year: 2011	Model: RAV4	Doc ID: RM000003PEW003X
Title: 2AR-FE FUEL: FUEL FILTER: COMPONENTS (2011 RAV4)		

COMPONENTS

ILLUSTRATION





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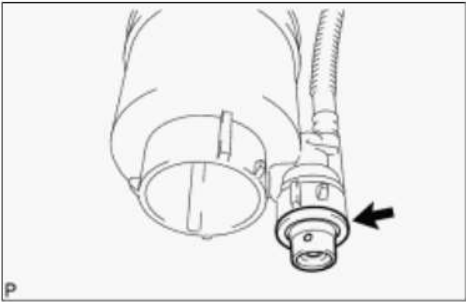
Last Modified: 9-7-2011	6.4 A	From: 201008
Model Year: 2011	Model: RAV4	Doc ID: RM000003PEV003X
Title: 2AR-FE FUEL: FUEL FILTER: REPLACEMENT (2011 RAV4)		

REPLACEMENT

1. REMOVE FUEL PUMP ASSEMBLY

(a) Remove the fuel pump assembly INFO .

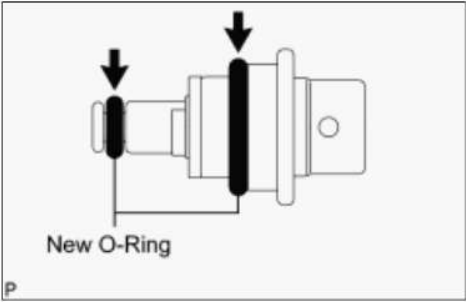
2. REMOVE FUEL FILTER ASSEMBLY



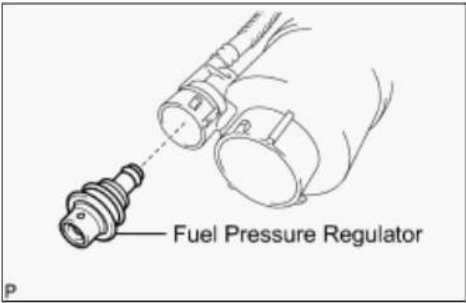
(a) Remove the fuel pressure regulator from the fuel filter.

(b) Remove the 2 O-rings.

3. INSTALL FUEL FILTER ASSEMBLY



(a) Apply a light coat of gasoline to 2 new O-rings and install them onto the fuel pressure regulator.



(b) Install the fuel pressure regulator to the fuel filter.

4. INSTALL FUEL PUMP ASSEMBLY

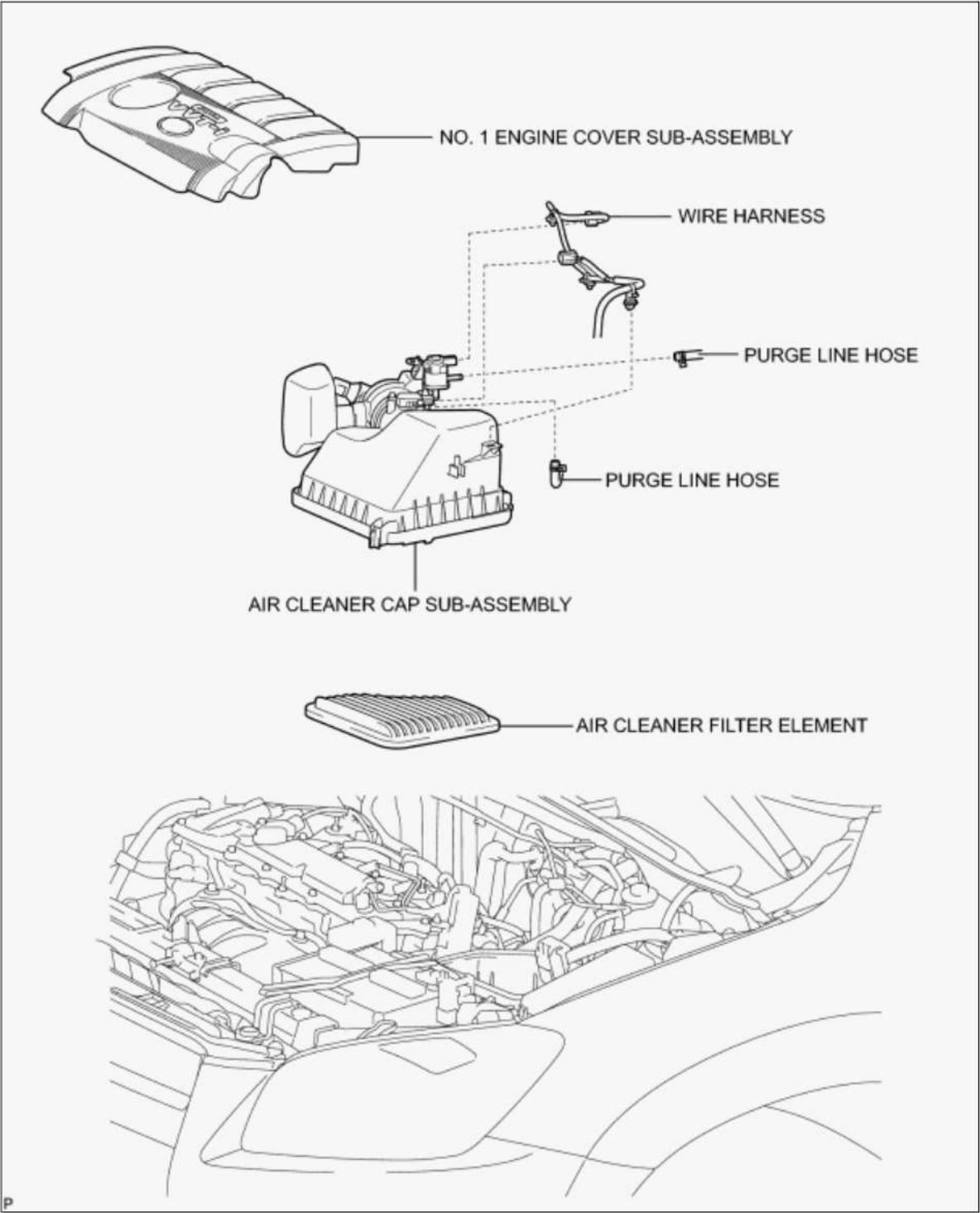
(a) Install the fuel pump assembly  .



Last Modified: 9-7-2011	6.4 K	From: 201008
Model Year: 2011	Model: RAV4	Doc ID: RM0000017R7015X
Title: 2AR-FE FUEL: FUEL INJECTOR: COMPONENTS (2011 RAV4)		

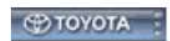
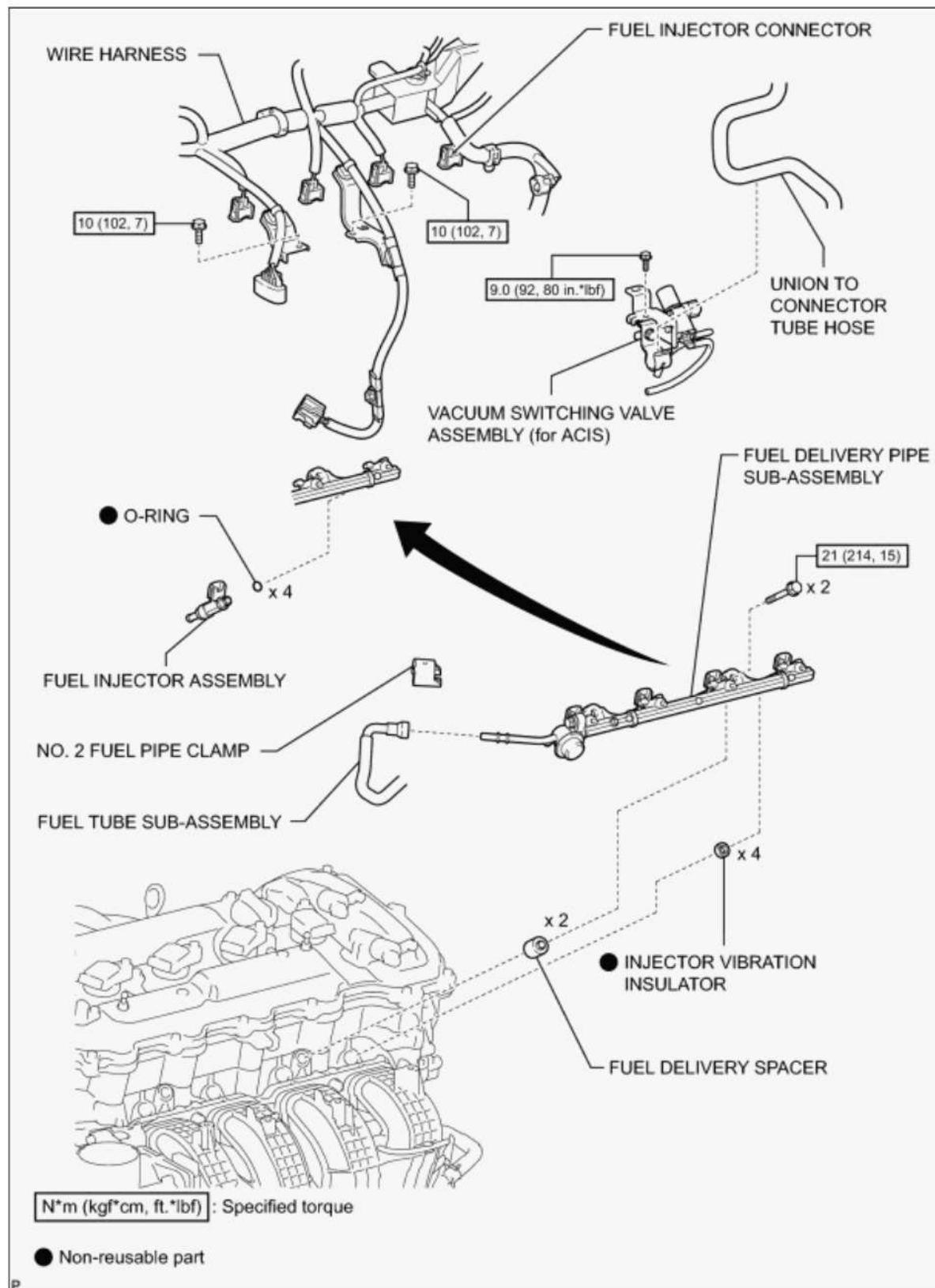
COMPONENTS

ILLUSTRATION



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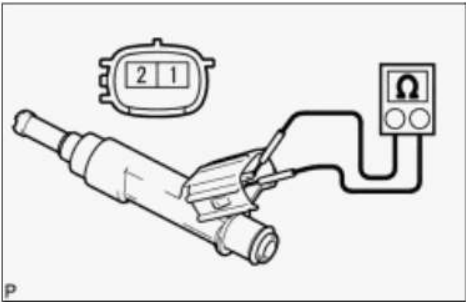
ILLUSTRATION



Last Modified: 9-7-2011	6.4 G	From: 201008
Model Year: 2011	Model: RAV4	Doc ID: RM000000VZW01QX
Title: 2AR-FE FUEL: FUEL INJECTOR: INSPECTION (2011 RAV4)		

INSPECTION

1. INSPECT FUEL INJECTOR ASSEMBLY



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

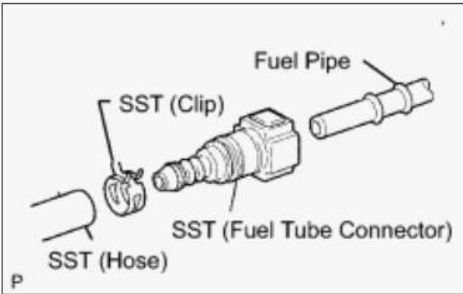
Standard Resistance:

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 fuel injector assembly.

(b) Inspect the injector injection.

CAUTION:
Keep the injector away from sparks during the test.

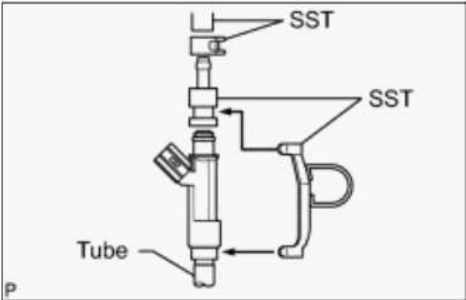


(1) Connect SST (fuel tube connector) to SST (hose) with SST (clip), and then connect them to the fuel pipe (vehicle side).

SST: 09268-31012

09268-41500
90467-13001
95336-08070

(2) Install the O-ring to the fuel injector.



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

SST: 09268-31012

09268-41110
09268-41300
90467-13001
95336-08070

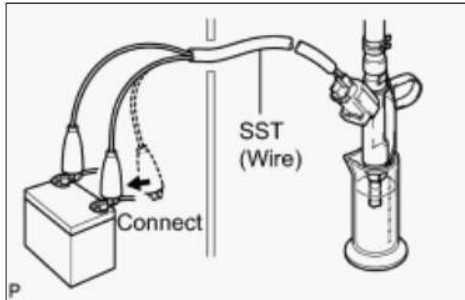
SST: 09842-30080

(4) Install a vinyl tube onto the injector.

CAUTION:

Install a suitable vinyl tube onto the injector to contain any gasoline spray.

- (5) Put the injector into the graduated cylinder.
- (6) Operate the fuel pump.



- (7) Connect SST (wire) to the 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

Standard injection volume:

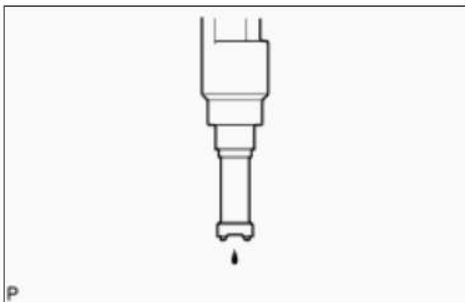
88 to 106 cc (5.4 to 6.5 cu in.) per 15 seconds

Standard difference between each injector:

16 cc (1.0 cu in.) or less

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

- (c) Check for fuel drop.

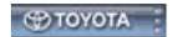


- (1) In the condition above, disconnect the tester probes of SST (wire) from the battery and check for fuel drop from the injector.

Standard fuel drop:

1 drop or less per 20 minutes

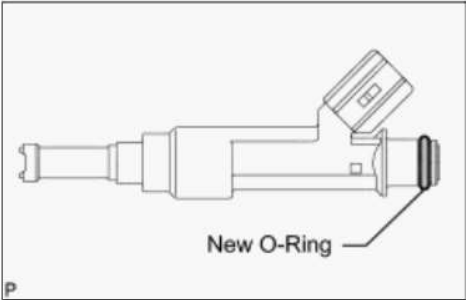
If fuel drop is not as specified, replace the fuel injector assembly.



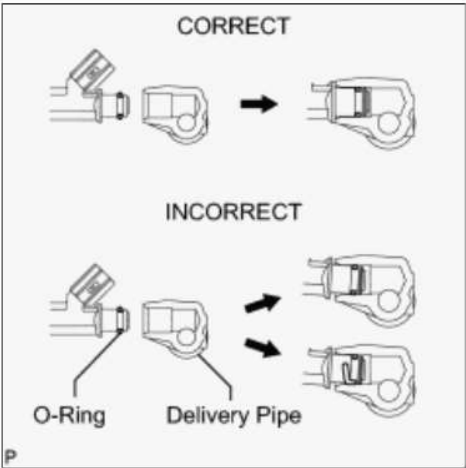
Last Modified: 9-7-2011	6.4 A	From: 201008
Model Year: 2011	Model: RAV4	Doc ID: RM0000017R5019X
Title: 2AR-FE FUEL: FUEL INJECTOR: INSTALLATION (2011 RAV4)		

INSTALLATION

1. INSTALL FUEL INJECTOR ASSEMBLY



(a) Apply a light coat of gasoline or spindle oil to new O-rings, and then install one onto each fuel injector.



(b) Apply a light coat of gasoline or spindle oil to the part of the fuel delivery pipe which comes into contact with the O-ring of the fuel injector.

(c) Apply a light coat of gasoline or spindle oil to the O-ring again, and then install the fuel injectors onto the fuel delivery pipe.

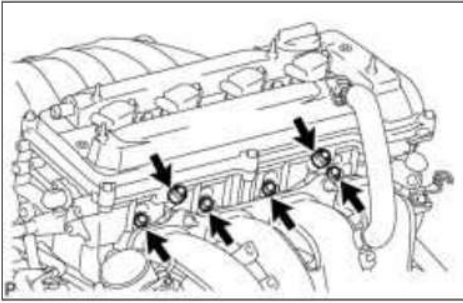
NOTICE:

Make sure that the O-ring is not cracked or jammed when installing the injector.

(d) Check that the fuel injector rotates smoothly. If the fuel injector does not rotate, replace the O-ring.

2. INSTALL FUEL DELIVERY PIPE SUB-ASSEMBLY

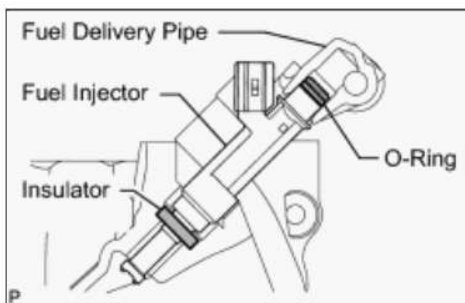
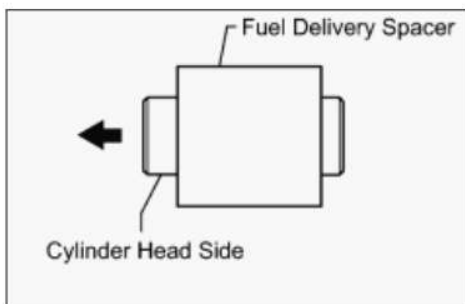
(a) Install 4 new injector vibration insulators to the cylinder head.



(b) Install the 2 fuel delivery spacers onto the cylinder head.

HINT:

Install the fuel delivery spacer so that the longer protrusion is on the cylinder head side.



(c) Install the fuel delivery pipe together with the 4 fuel injectors to the cylinder head, and then temporarily install the 2 bolts.

NOTICE:

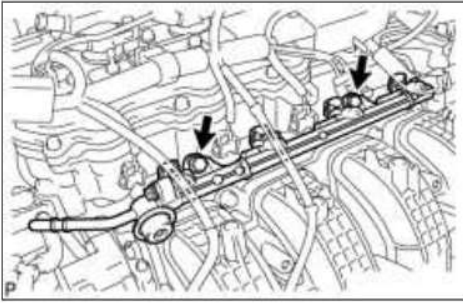
Be careful not to drop the fuel injectors when installing the fuel delivery pipe.

(d) Check that the fuel injector rotates smoothly.

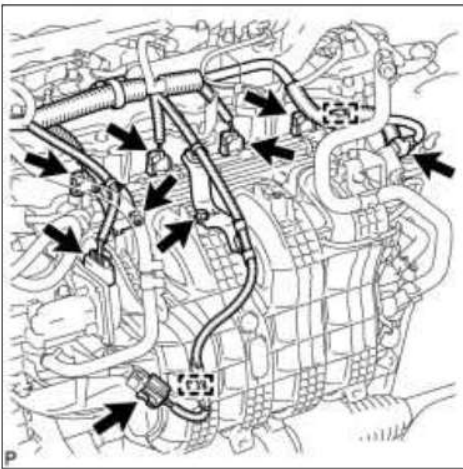
If the fuel injector does not rotate, replace the O-ring.

(e) Tighten the 2 bolts to the specified torque.

Torque: 21 N·m (214 kgf·cm, 15ft·lbf)



3. CONNECT WIRE HARNESS



(a) Install the 2 wire harness brackets with the 2 bolts.

Torque: 10 N·m (102 kgf·cm, 7ft·lbf)

(b) Connect the 3 connectors.

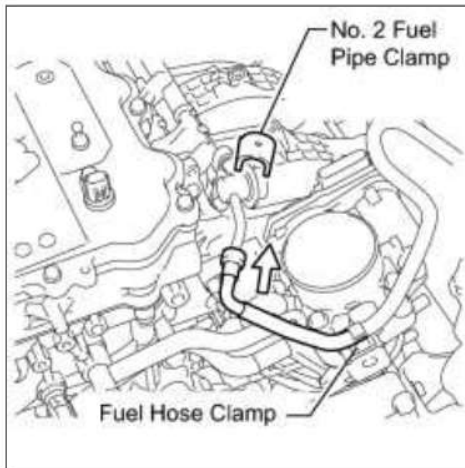
(c) Connect the 4 fuel injector connectors.

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

4. INSTALL VACUUM SWITCHING VALVE ASSEMBLY (for ACIS) INFO

5. CONNECT FUEL TUBE SUB-ASSEMBLY

(a) Connect the fuel tube.



- (b) Push the fuel tube connector until it makes a "click" sound.
- (c) Install the No. 2 fuel pipe clamp.
- (d) Install the fuel tube to the fuel hose clamp.

6. INSTALL AIR CLEANER CAP SUB-ASSEMBLY INFO

7. INSTALL NO. 1 ENGINE COVER SUB-ASSEMBLY INFO

8. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

9. INSPECT FOR FUEL LEAK

- (a) Make sure that there are no fuel leaks after performing maintenance on the fuel system.
 - (1) Connect the Techstream to the DLC3.
 - (2) Turn the ignition switch to ON, and turn the Techstream main switch on.

NOTICE:

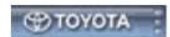
Do not start the engine.

- (3) Select the Active Test mode on the Techstream.

HINT:

Refer to the Techstream operator's manual for further details.

- (4) Check that there are no leaks from the fuel system.
- (5) Turn the ignition switch off.
- (6) Disconnect the Techstream from the DLC3.



Last Modified: 9-7-2011	6.4 A	From: 201008
Model Year: 2011	Model: RAV4	Doc ID: RM0000017R801CX
Title: 2AR-FE FUEL: FUEL INJECTOR: REMOVAL (2011 RAV4)		

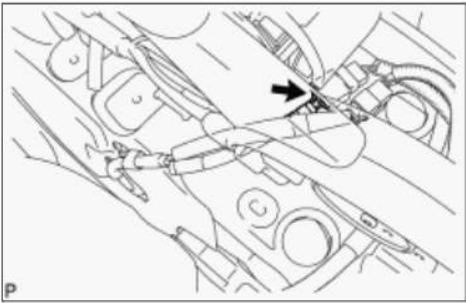
REMOVAL

1. 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 console box sub-assembly INFO .



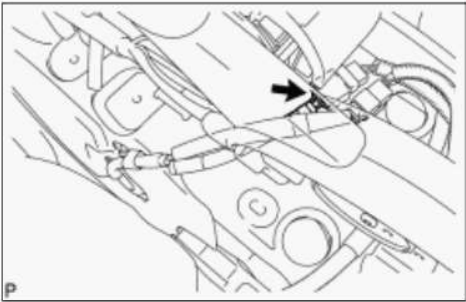
(b) Disconnect the fuel pump and sender gauge connector.

(c) Start the engine. After the engine has stopped, turn the ignition switch off.

HINT:

If DTC P0171 (system too lean) is output, clear the DTC INFO .

- (d) Check that the engine does not start.
- (e) Remove the fuel tank cap, and let the air out of the fuel tank.



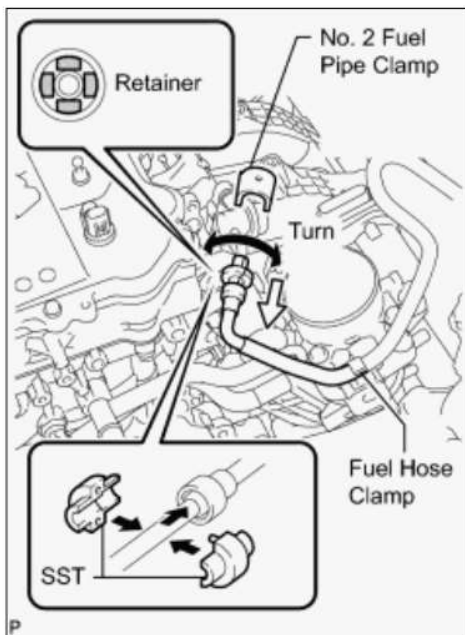
(f) Connect the fuel pump and sender gauge connector.

(g) Install the rear console box sub-assembly INFO .

2. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

CAUTION:

Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

3. REMOVE NO. 1 ENGINE COVER SUB-ASSEMBLY INFO**4. REMOVE AIR CLEANER CAP SUB-ASSEMBLY** INFO**5. DISCONNECT FUEL TUBE SUB-ASSEMBLY****NOTICE:**

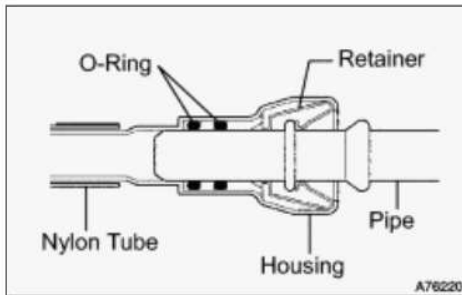
Do not forcibly bend, kink or twist the fuel tube.

- (a) Remove the fuel tube from the fuel hose clamp.
- (b) Remove the No. 2 fuel pipe clamp.
- (c) Wipe off any dirt on the fuel tube connector.
- (d) Hold the fuel tube connector, and then install SST.

SST: 09268-21010

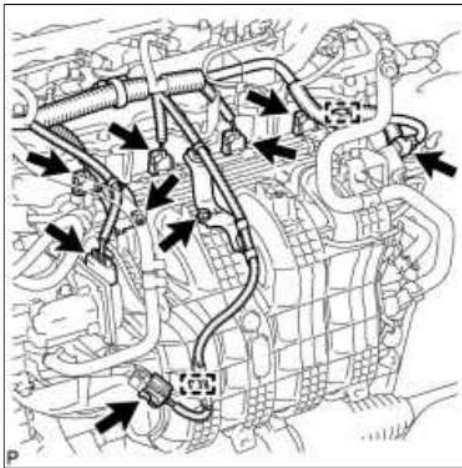
- (e) Turn SST to align the retainer inside the fuel tube connector with the chamfered part of SST.
- (f) Insert SST into the fuel tube and hold it. Then push the fuel tube connector toward SST.
- (g) Mount the retainer of the fuel tube connector onto the chamfered part of SST.

- (h) Slide SST and the fuel tube connector together towards the fuel tube until they make a "click" sound, and then disconnect the fuel tube.



- (i) Drain the fuel remaining inside the fuel tube.
- (j) Cover the fuel tube and fuel pipe with a plastic bag to protect the disconnected part.

6. DISCONNECT WIRE HARNESS

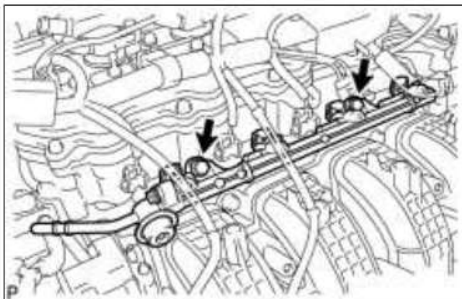


- (a) Disconnect the 4 fuel injector connectors.

- (b) Disconnect the 3 connectors.
- (c) Remove the 2 bolts and 2 wire harness brackets.
- (d) Detach the 2 clamps to disconnect the wire harness.

7. REMOVE VACUUM SWITCHING VALVE ASSEMBLY (for ACIS) INFO

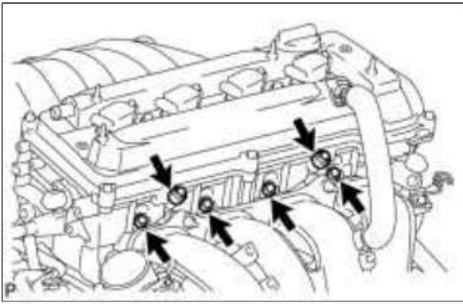
8. REMOVE FUEL DELIVERY PIPE SUB-ASSEMBLY



- (a) Remove the 2 bolts, and then remove the fuel delivery pipe together with the 4 fuel injectors.

NOTICE:

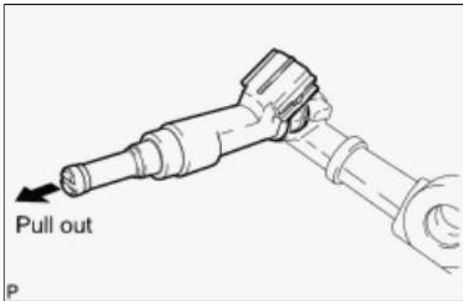
Be careful not to drop the fuel injectors when removing the fuel delivery pipe.



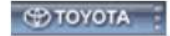
(b) Remove the 2 fuel delivery spacers from the cylinder head.

(c) Remove the 4 injector vibration insulators from the cylinder head.

9. REMOVE FUEL INJECTOR ASSEMBLY



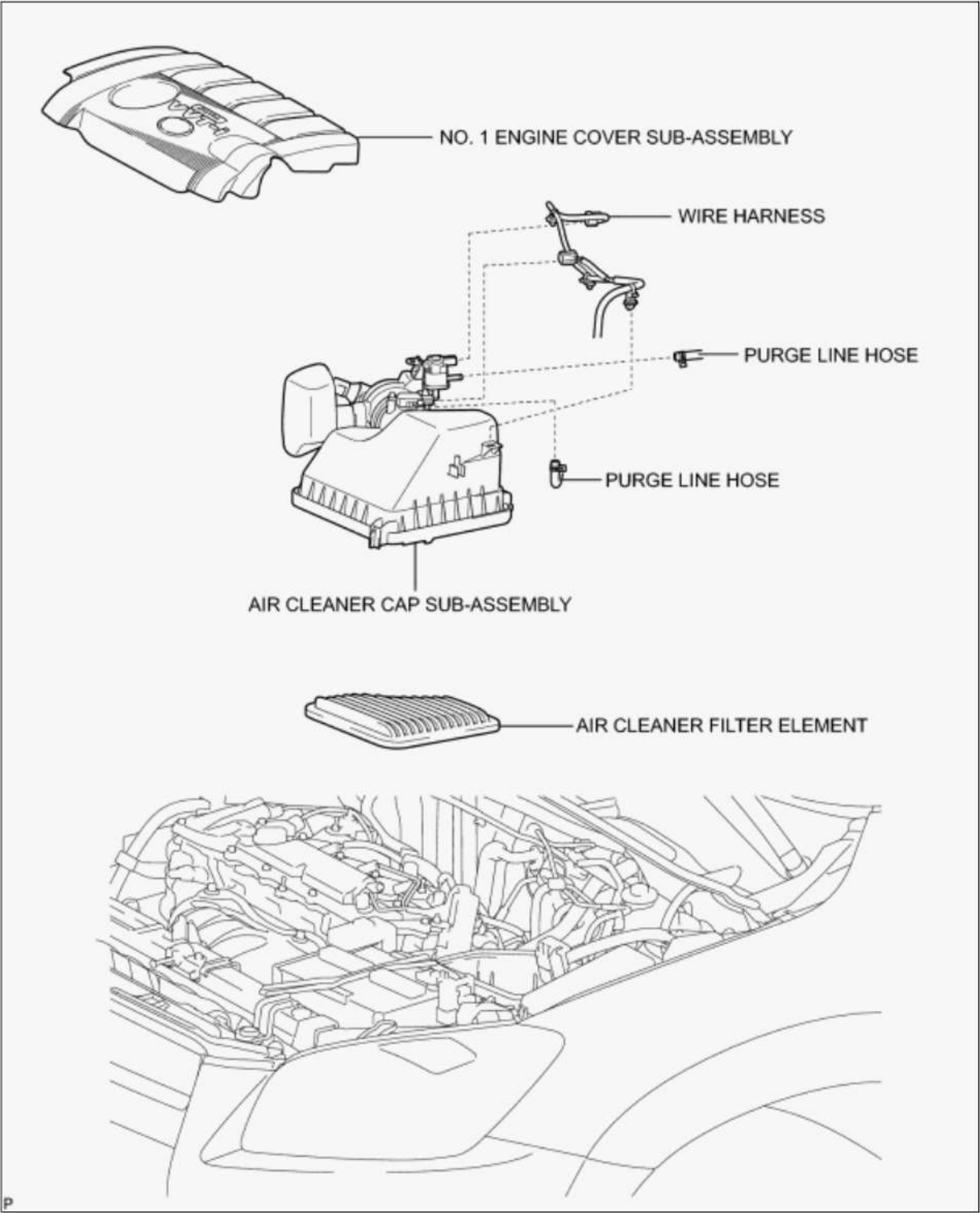
(a) Pull the 4 fuel injectors out of the fuel delivery pipe.



Last Modified: 9-7-2011	6.4 K	From: 201008
Model Year: 2011	Model: RAV4	Doc ID: RM0000017RQ01XX
Title: 2AR-FE FUEL: FUEL PRESSURE PULSATION DAMPER: COMPONENTS (2011 RAV4)		

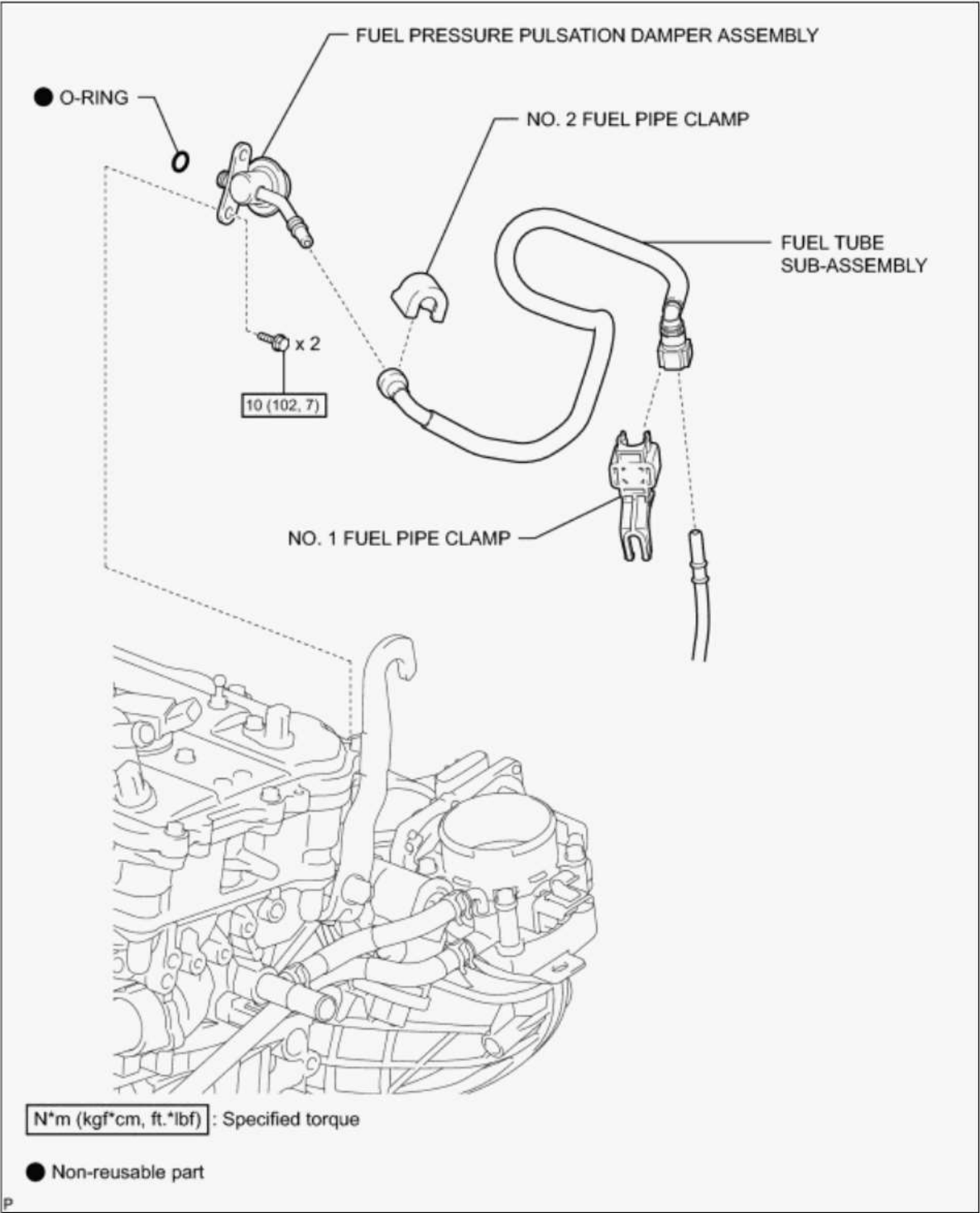
COMPONENTS

ILLUSTRATION



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ILLUSTRATION

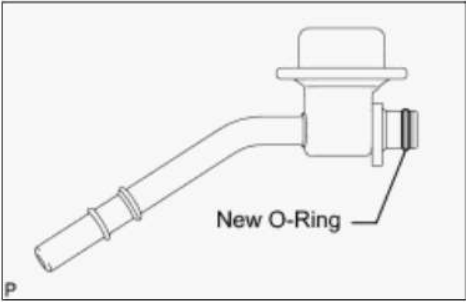


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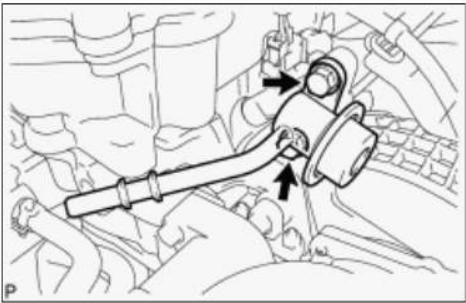
Last Modified: 9-7-2011	6.4 A	From: 201008
Model Year: 2011	Model: RAV4	Doc ID: RM0000017RP02QX
Title: 2AR-FE FUEL: FUEL PRESSURE PULSATION DAMPER: INSTALLATION (2011 RAV4)		

INSTALLATION

1. INSTALL FUEL PRESSURE PULSATION DAMPER ASSEMBLY



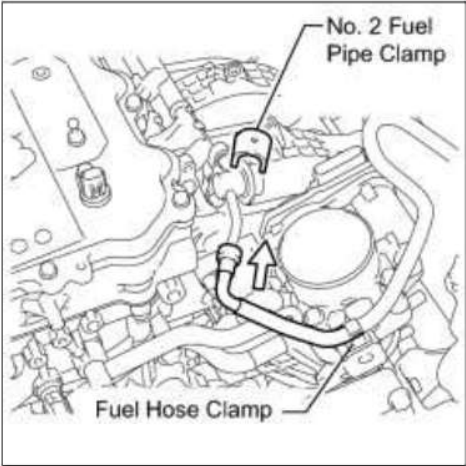
(a) Apply a light coat of gasoline or spindle oil to the new O-ring of the fuel pressure pulsation damper.



(b) Install the fuel pressure pulsation damper with the 2 bolts.
Torque: 10 N·m (102 kgf·cm, 7ft·lbf)

NOTICE:
Make sure that the O-ring is not cracked or jammed when installing the damper.

2. INSTALL FUEL TUBE SUB-ASSEMBLY

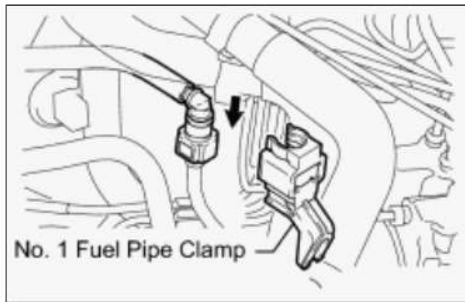


(a) Connect the fuel tube.

(b) Push the fuel tube connector until it makes a "click" sound.

(c) Install the No. 2 fuel pipe clamp.

(d) Install the fuel tube to the fuel hose clamp.



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

NOTICE:

- 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.

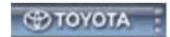
(f) Install the No. 1 fuel pipe clamp.

3. INSTALL AIR CLEANER CAP SUB-ASSEMBLY INFO

4. INSTALL NO. 1 ENGINE COVER SUB-ASSEMBLY INFO

5. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

6. INSPECT FOR FUEL LEAK INFO



Last Modified: 9-7-2011	6.4 A	From: 201008
Model Year: 2011	Model: RAV4	Doc ID: RM0000017RR02SX
Title: 2AR-FE FUEL: FUEL PRESSURE PULSATION DAMPER: REMOVAL (2011 RAV4)		

REMOVAL

1. DISCHARGE FUEL SYSTEM PRESSURE INFO

2. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

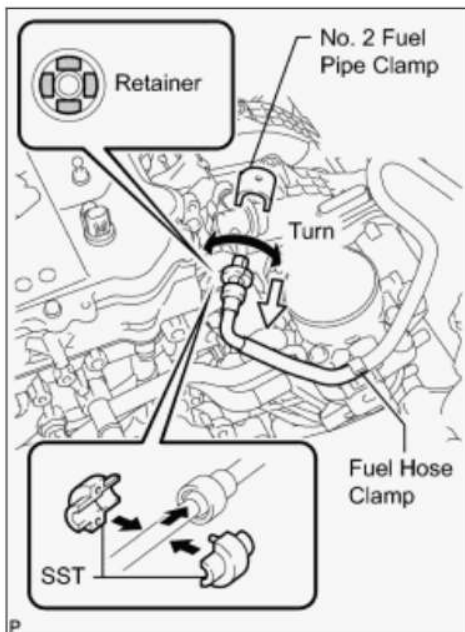
CAUTION:

Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

3. REMOVE NO. 1 ENGINE COVER SUB-ASSEMBLY INFO

4. REMOVE AIR CLEANER CAP SUB-ASSEMBLY INFO

5. REMOVE FUEL TUBE SUB-ASSEMBLY



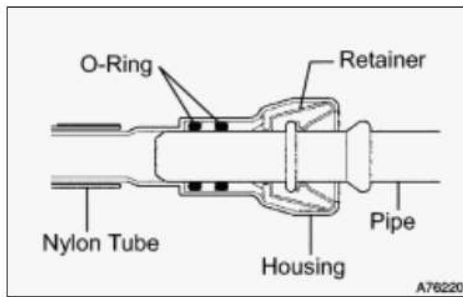
NOTICE:

Do not forcibly bend, kink or twist the fuel tube.

- Remove the fuel tube from the fuel hose clamp.
- Remove the No. 2 fuel pipe clamp.
- Wipe off any dirt on the fuel tube connector.
- Hold the fuel tube connector, and then install SST.

SST: 09268-21010

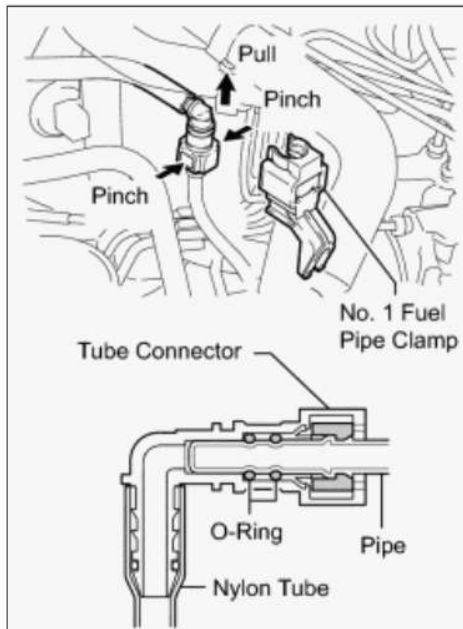
- Turn SST to align the retainer inside the fuel tube connector with the chamfered part of SST.
- Insert SST into the fuel tube and hold it. Then push the fuel tube connector toward SST.
- Mount the retainer of the fuel tube connector onto the chamfered part of SST.



- (h) Slide SST and the fuel tube connector together towards the fuel tube until they make a "click" sound, and then disconnect the fuel tube.

- (i) Drain the fuel remaining inside the fuel tube.

- (j) Cover the fuel tube and fuel pipe with a plastic bag to protect the disconnected part.



- (k) Remove the No. 1 fuel pipe clamp.

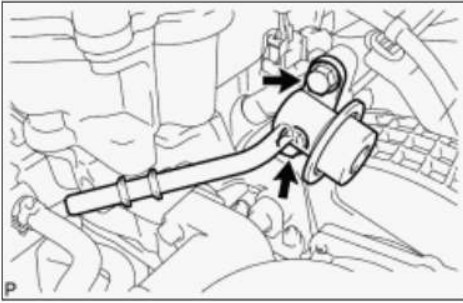
- (l) Pinch the tube connector, and then pull the tube connector off of the pipe.

NOTICE:

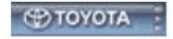
- Check for foreign matter in the fuel tube around the fuel tube connector. Clean it if necessary. Foreign matter can affect the ability of the O-ring to seal the connector and fuel pipe.
- Do not use any tools to separate the connector and pipe.
- Do not forcefully bend, kink or twist the hose.
- Keep 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.

6. REMOVE FUEL PRESSURE PULSATION DAMPER ASSEMBLY

- (a) Remove the 2 bolts and fuel pressure pulsation damper.



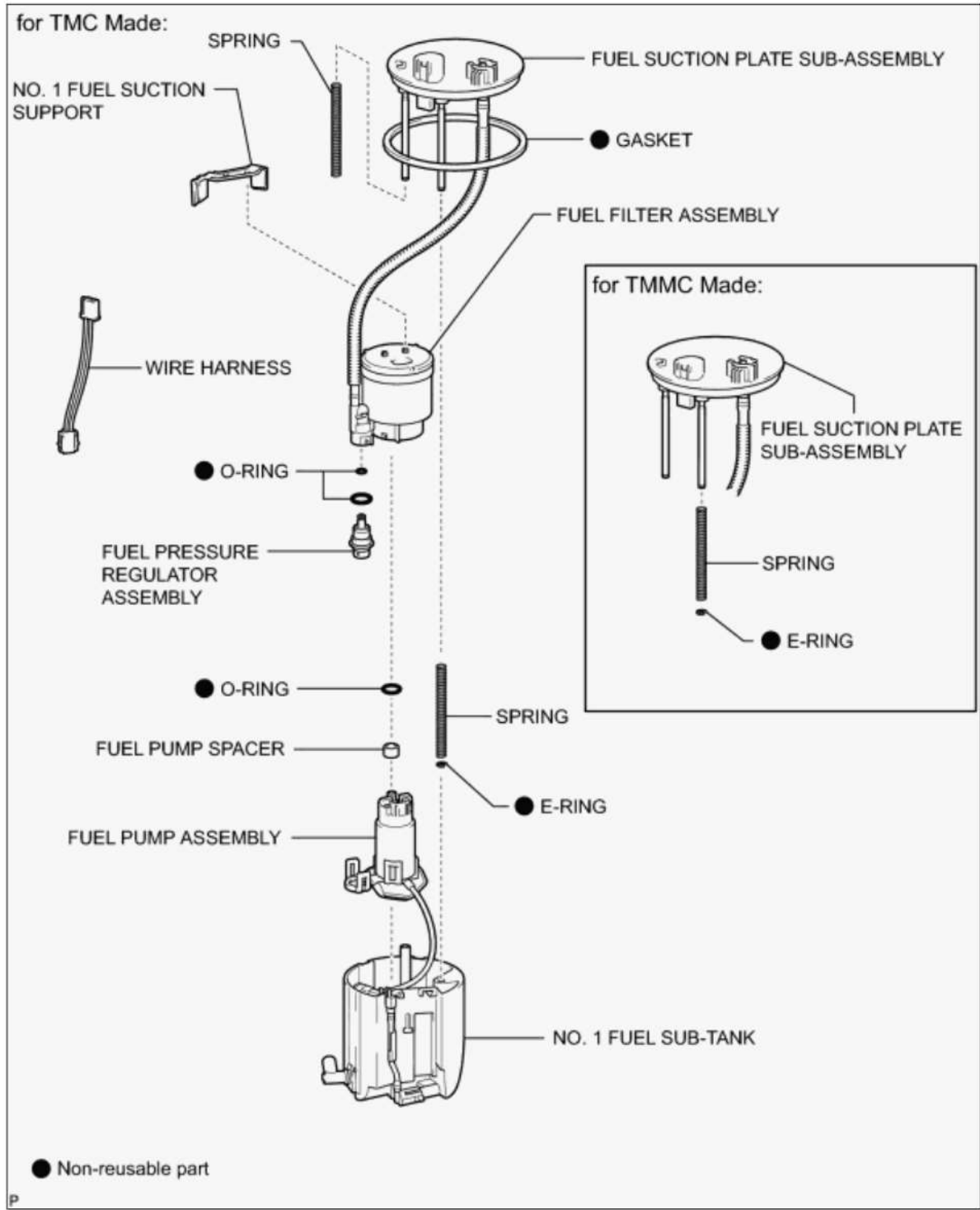
(b) Remove the O-ring from the fuel pressure pulsation damper.

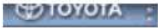


Last Modified: 9-7-2011	6.4 K	From: 201008
Model Year: 2011	Model: RAV4	Doc ID: RM0000017RI03TX
Title: 2AR-FE FUEL: FUEL PRESSURE REGULATOR: COMPONENTS (2011 RAV4)		

COMPONENTS

ILLUSTRATION



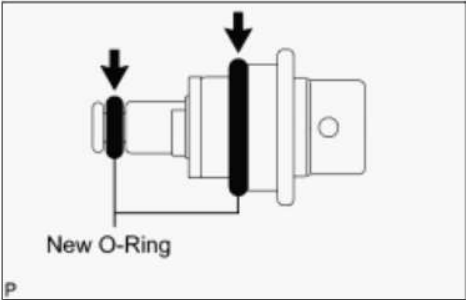


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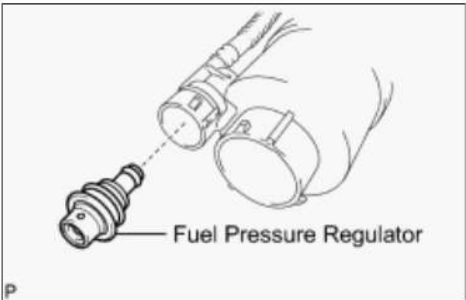
Last Modified: 9-7-2011	6.4 A	From: 201008
Model Year: 2011	Model: RAV4	Doc ID: RM0000017RG05UX
Title: 2AR-FE FUEL: FUEL PRESSURE REGULATOR: INSTALLATION (2011 RAV4)		

INSTALLATION

1. INSTALL FUEL PRESSURE REGULATOR ASSEMBLY



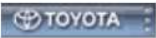
(a) Apply a light coat of gasoline to 2 new O-rings and install them onto the fuel pressure regulator.



(b) Install the fuel pressure regulator to the fuel filter.

2. INSTALL FUEL PUMP ASSEMBLY

(a) Install the fuel pump assembly [INFO](#) .



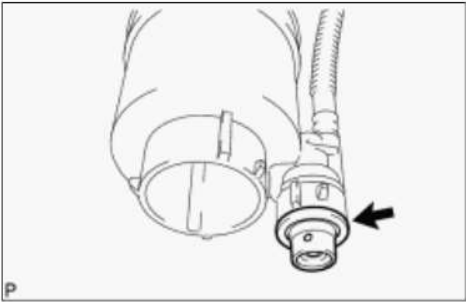
Last Modified: 9-7-2011	6.4 A	From: 201008
Model Year: 2011	Model: RAV4	Doc ID: RM0000017RJ05XX
Title: 2AR-FE FUEL: FUEL PRESSURE REGULATOR: REMOVAL (2011 RAV4)		

REMOVAL

1. REMOVE FUEL PUMP ASSEMBLY

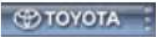
(a) Remove the fuel pump assembly  .

2. REMOVE FUEL PRESSURE REGULATOR ASSEMBLY



(a) Remove the fuel pressure regulator from the fuel filter.

(b) Remove the 2 O-rings.

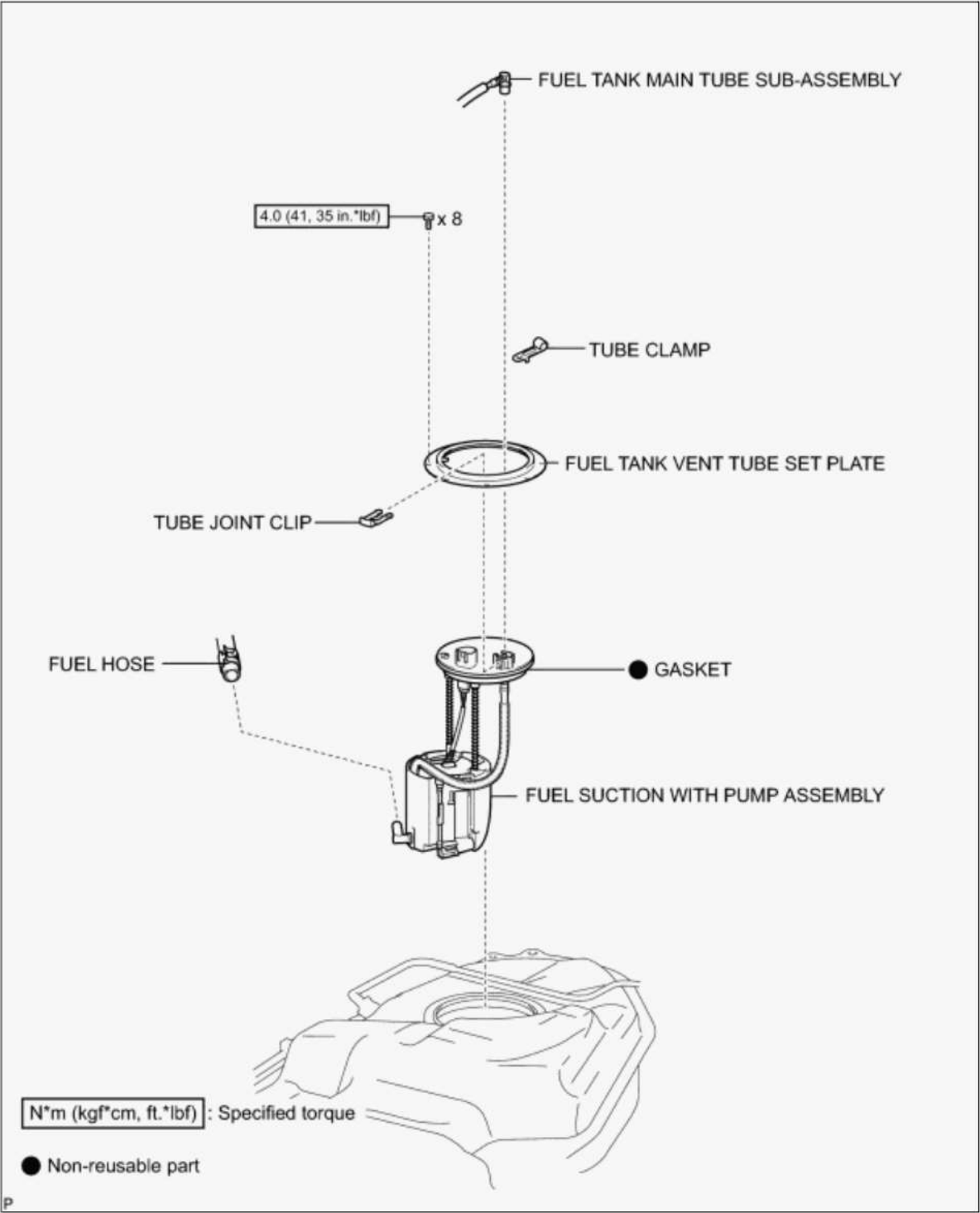


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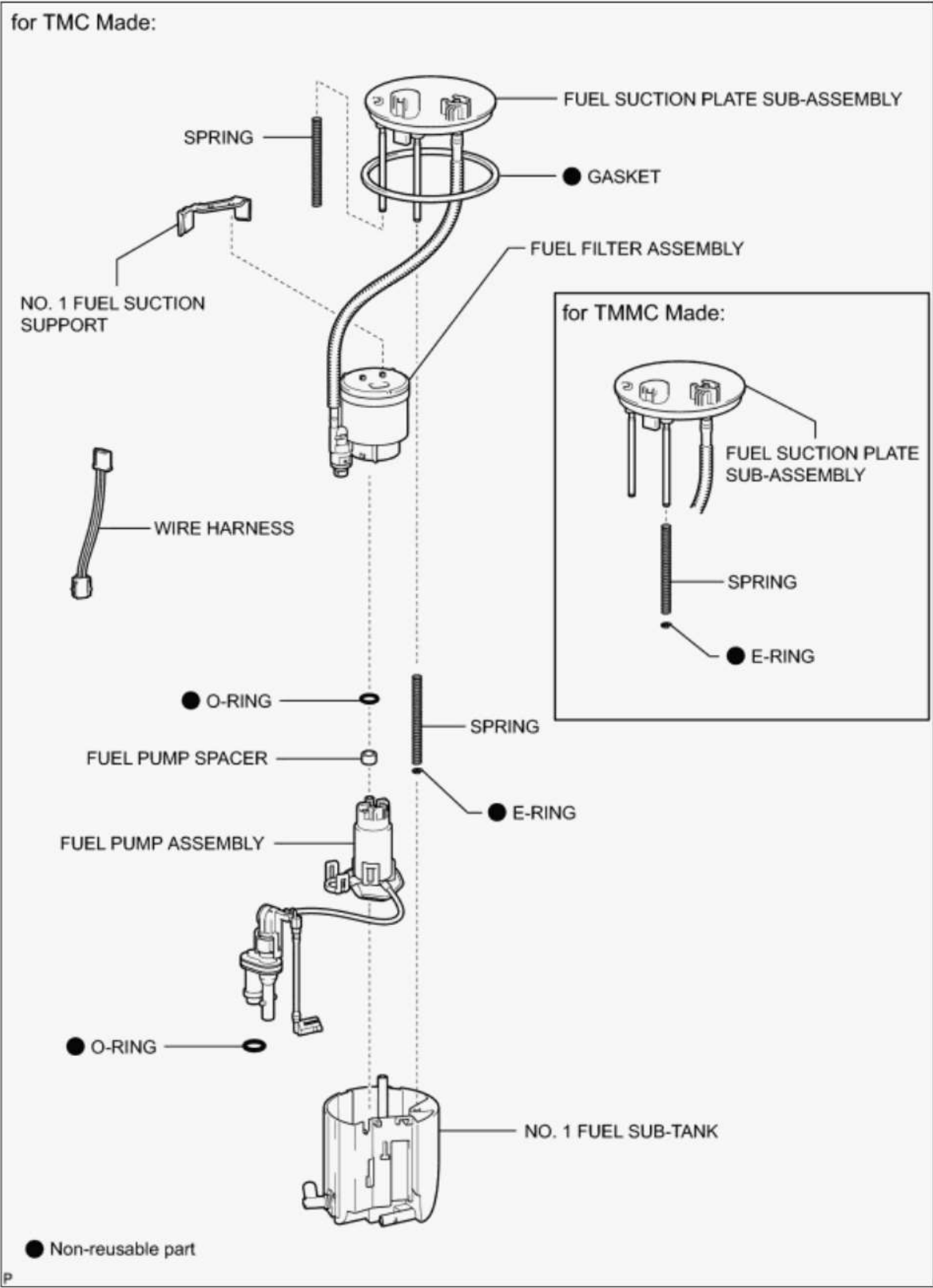
Last Modified: 9-7-2011	6.4 K	From: 201008
Model Year: 2011	Model: RAV4	Doc ID: RM0000017RI03UX
Title: 2AR-FE FUEL: FUEL PUMP: COMPONENTS (2011 RAV4)		

COMPONENTS

ILLUSTRATION



ILLUSTRATION

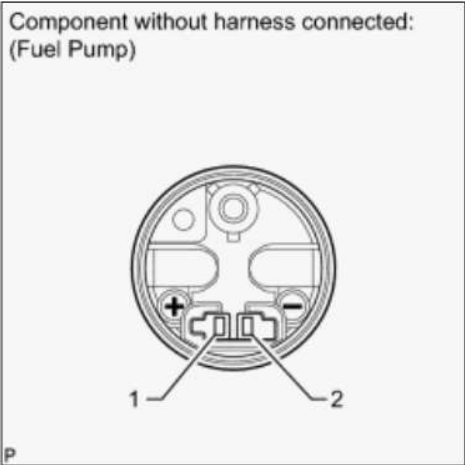


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Last Modified: 9-7-2011	6.4 G	From: 201008
Model Year: 2011	Model: RAV4	Doc ID: RM0000017RH02UX
Title: 2AR-FE FUEL: FUEL PUMP: INSPECTION (2011 RAV4)		

INSPECTION

1. INSPECT FUEL PUMP ASSEMBLY



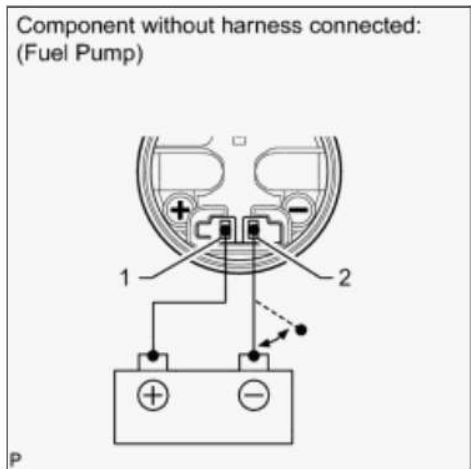
(a) Measure the resistance according to the value(s) in the table below.

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 assembly.

(b) Inspect the operation of the fuel pump.

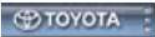


(1) Connect the positive (+) lead of the battery to terminal 1 of the connector, and the negative (-) lead to terminal 2. Check that the fuel pump operates.

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

NOTICE:

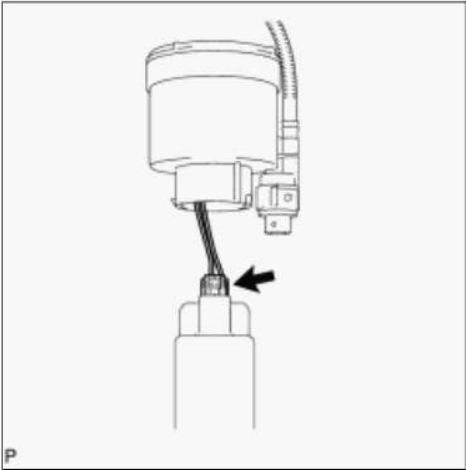
- This test must be performed within 10 seconds to prevent the coil from burning out.
- Keep the fuel pump as far away from the battery as possible.
- Always turn the voltage on and off on the battery side, not the fuel pump side.



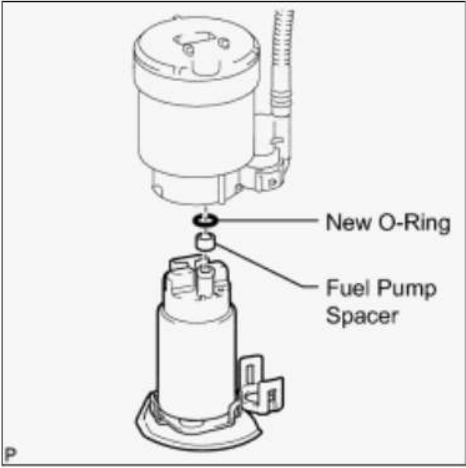
Last Modified: 9-7-2011	6.4 A	From: 201008
Model Year: 2011	Model: RAV4	Doc ID: RM0000017RG05VX
Title: 2AR-FE FUEL: FUEL PUMP: INSTALLATION (2011 RAV4)		

INSTALLATION

1. INSTALL FUEL PUMP ASSEMBLY



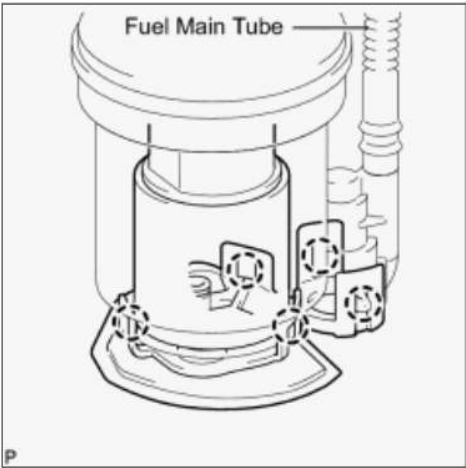
(a) Connect the fuel pump connector.



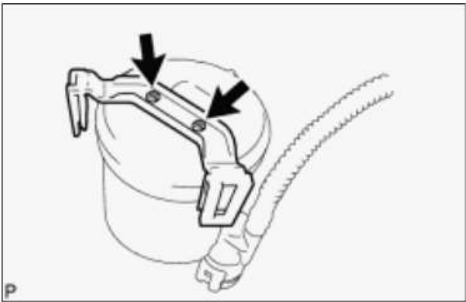
(b) Install the fuel pump spacer to the fuel pump assembly.

(c) Apply gasoline to a new O-ring and install the O-ring to the fuel filter.

(d) Attach the 5 claws to the holes to install the fuel pump.

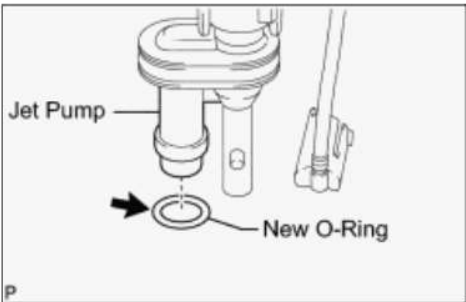


2. INSTALL NO. 1 FUEL SUCTION SUPPORT



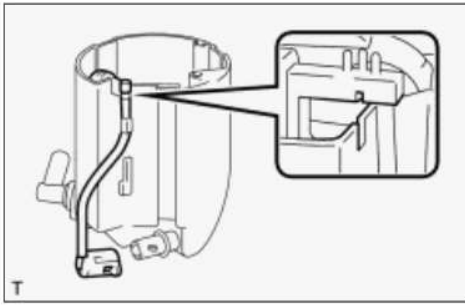
(a) Attach the 2 claws to the holes to install the No. 1 fuel suction support.

3. INSTALL NO. 1 FUEL SUB-TANK

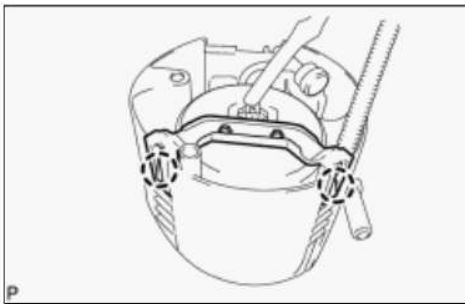


(a) Apply gasoline to a new O-ring and install it to the jet pump.

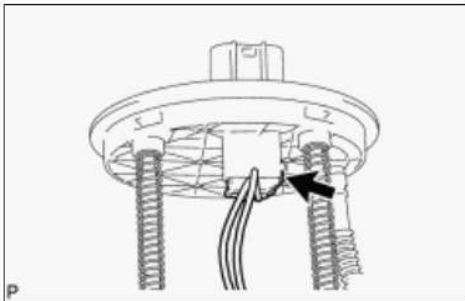
(b) Install the jet pump while aligning it with the installation position on the No. 1 fuel sub-tank.



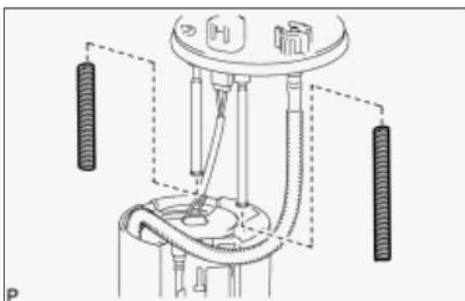
(c) Install the jet pump nozzle.



(d) Attach the 2 claws to the holes to install the No. 1 fuel sub-tank.



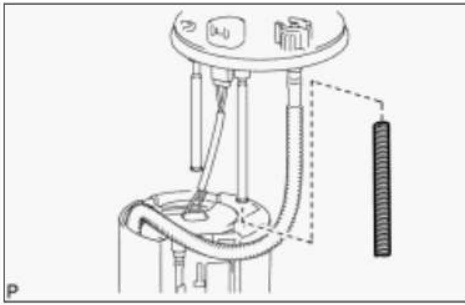
(e) Connect the wire harness.



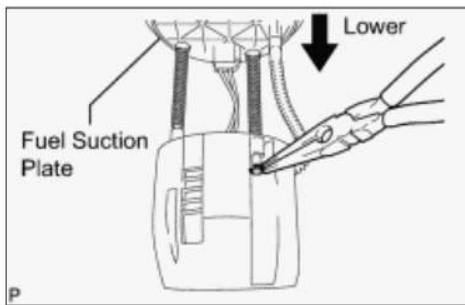
(f) for TMC Made:

Install the springs to the fuel suction plate shafts, and then install them to the No. 1 fuel sub-tank.

(g) for TMMC Made:



Install the spring to the fuel suction plate shaft, and then install it to the No. 1 fuel sub-tank.

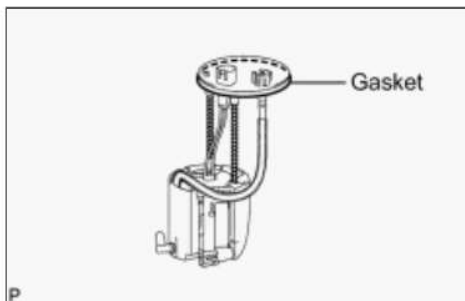


(h) Using needle-nose pliers, install a new E-ring.

HINT:

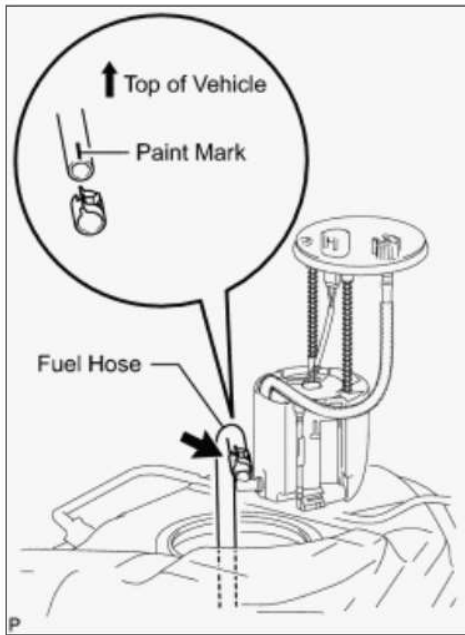
Slightly lower the fuel suction plate to install the E-ring.

4. INSTALL FUEL SUCTION WITH PUMP ASSEMBLY



(a) Install a new gasket onto the fuel suction plate.

(b) Connect the fuel hose with the paint mark facing towards the top of the vehicle, and then secure the clip.

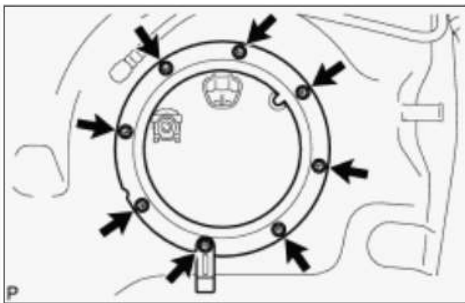


(c) Install the fuel suction with pump into the fuel tank.

NOTICE:

Do not damage the fuel suction with pump.

5. INSTALL FUEL TANK VENT TUBE SET PLATE

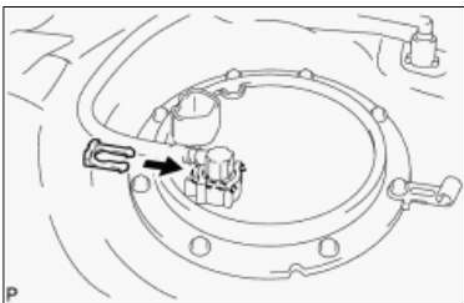


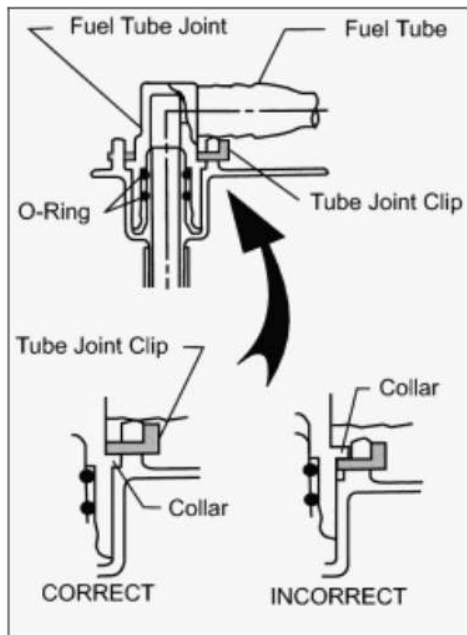
(a) Install the set plate and tube clamp with the 8 bolts.

Torque: 4.0 N·m (41 kgf·cm, 35in·lbf)

6. CONNECT FUEL TANK MAIN TUBE SUB-ASSEMBLY

(a) Connect the fuel main tube with the tube joint clip.

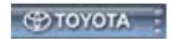




- Check that there are no scratches or foreign matter on the connecting parts.
- Check that the fuel tube joint is inserted securely.
- Check that the fuel tube joint clip is on the collar of the fuel tube joint.
- After installing the tube joint clip, check that the fuel tube joint cannot be pulled off.
- Be careful not to damage the clip. If the clip is damaged, replace it.

7. INSTALL FUEL TANK ASSEMBLY

(a) Install the fuel tank assembly INFO.

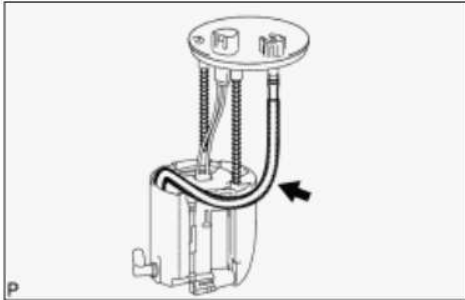


Last Modified: 9-7-2011	6.4 A	From: 201008
Model Year: 2011	Model: RAV4	Doc ID: RM0000017RJ05YX
Title: 2AR-FE FUEL: FUEL PUMP: REMOVAL (2011 RAV4)		

REMOVAL

NOTICE:

Do not disconnect the hose indicated in the illustration.



1. REMOVE FUEL TANK ASSEMBLY

- (a) Remove the fuel tank assembly [INFO](#).

2. DISCONNECT FUEL TANK MAIN TUBE SUB-ASSEMBLY

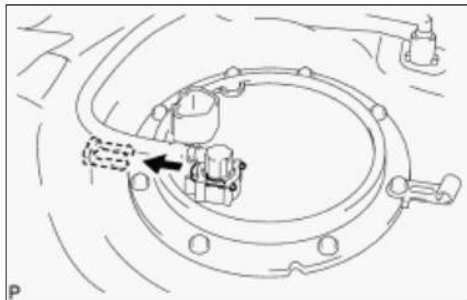
- (a) Remove the tube joint clip and disconnect the fuel tank main tube.

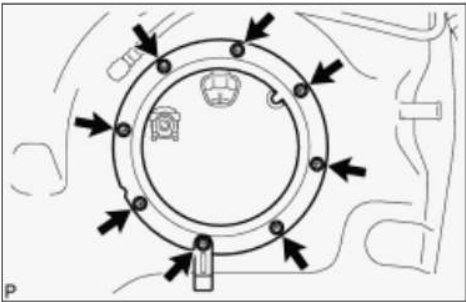
NOTICE:

- Before removing the tube joint clip, check for foreign matter around the clip. Clean if necessary.
- Keep the O-ring free of foreign matter, as it becomes contaminated easily.
- Do not use any tools in this procedure.
- Do not forcefully bend, kink or twist the tube.
- Put the end of 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 it.
- Be careful not to damage the clip. If the clip is damaged, replace it.

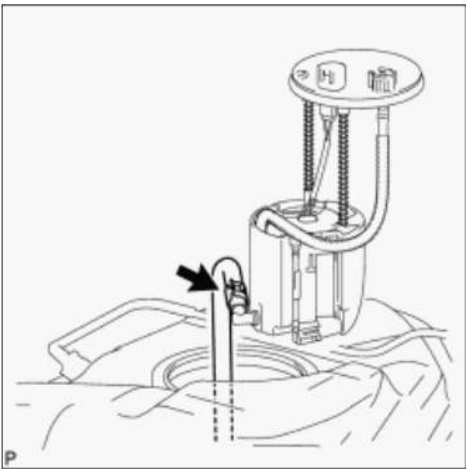
3. REMOVE FUEL TANK VENT TUBE SET PLATE

- (a) Remove the 8 bolts, tube clamp and set plate.



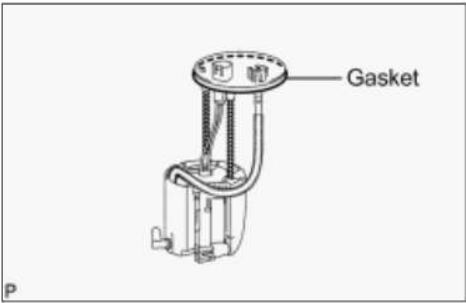


4. REMOVE FUEL SUCTION WITH PUMP ASSEMBLY



(a) Disconnect the fuel hose and remove the fuel suction with pump from the fuel tank.

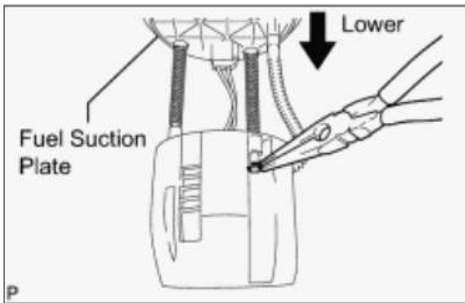
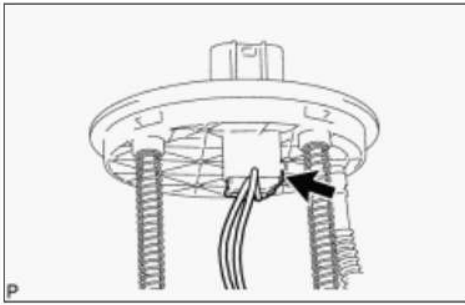
NOTICE:
Do not damage the fuel suction with pump.



(b) Remove the gasket from the fuel suction plate.

5. REMOVE NO. 1 FUEL SUB-TANK

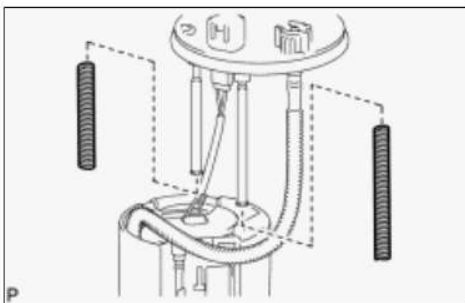
(a) Disconnect the wire harness.



(b) Using needle-nose pliers, remove the E-ring.

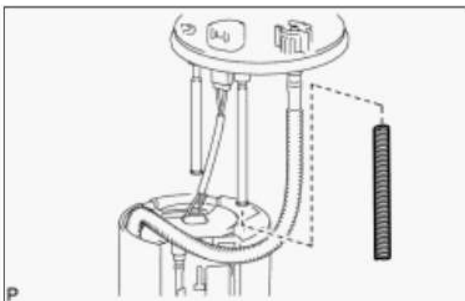
HINT:

Slightly lower the fuel suction plate to remove the E-ring.



(c) for TMC Made:

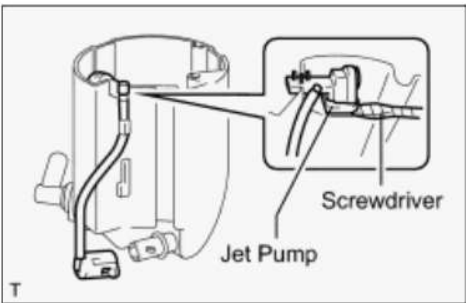
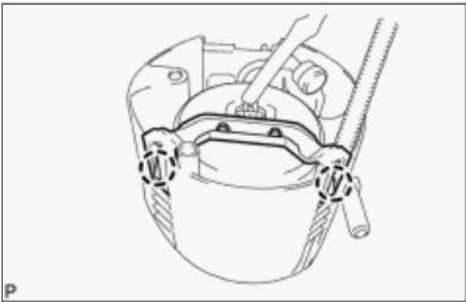
Remove the 2 springs from the 2 shafts.



(d) for TMMC Made:

Remove the spring from the shaft.

(e) Detach the 2 claws and remove the No. 1 fuel sub-tank.

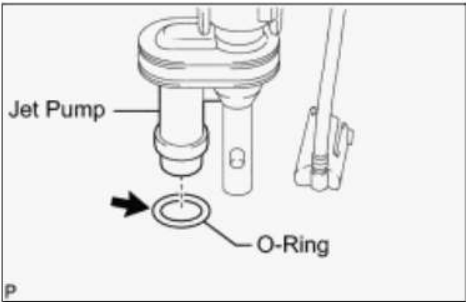


(f) Detach the claw of the jet pump nozzle and remove the jet pump nozzle.

(g) Using a screwdriver, remove the jet pump.

HINT:

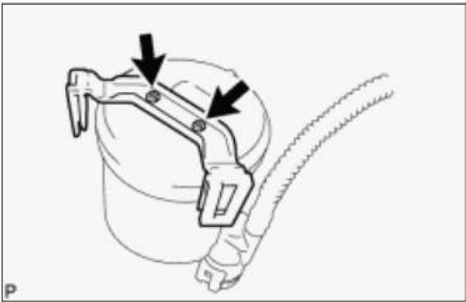
Tape the screwdriver tip before use.



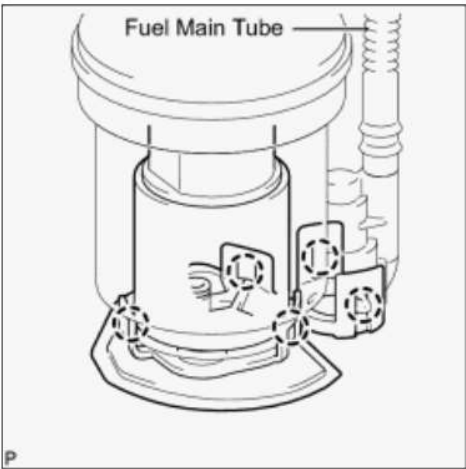
(h) Remove the O-ring from the jet pump.

6. REMOVE NO. 1 FUEL SUCTION SUPPORT

(a) Using needle-nose pliers, detach the 2 claws and remove the No. 1 fuel suction support.



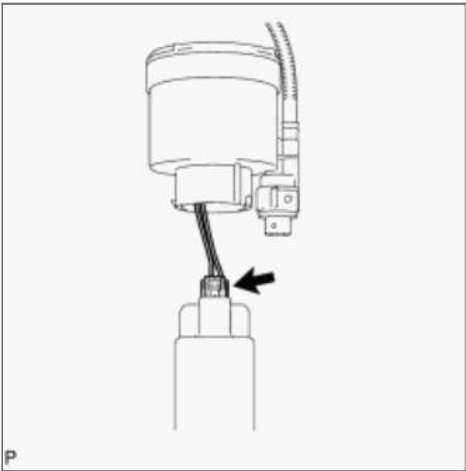
7. REMOVE FUEL PUMP ASSEMBLY



(a) Detach the 5 claws on the filter and remove the fuel pump from the fuel filter.

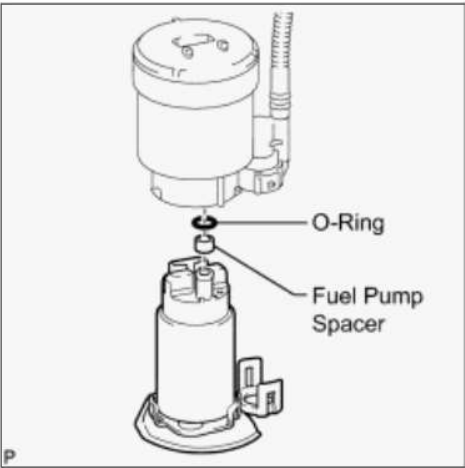
HINT:

When detaching the claws, do not disconnect the fuel main tube.

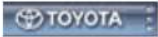


(b) Disconnect the fuel pump connector.

(c) Remove the O-ring from the fuel filter.



(d) Remove the fuel pump spacer from the fuel pump assembly.

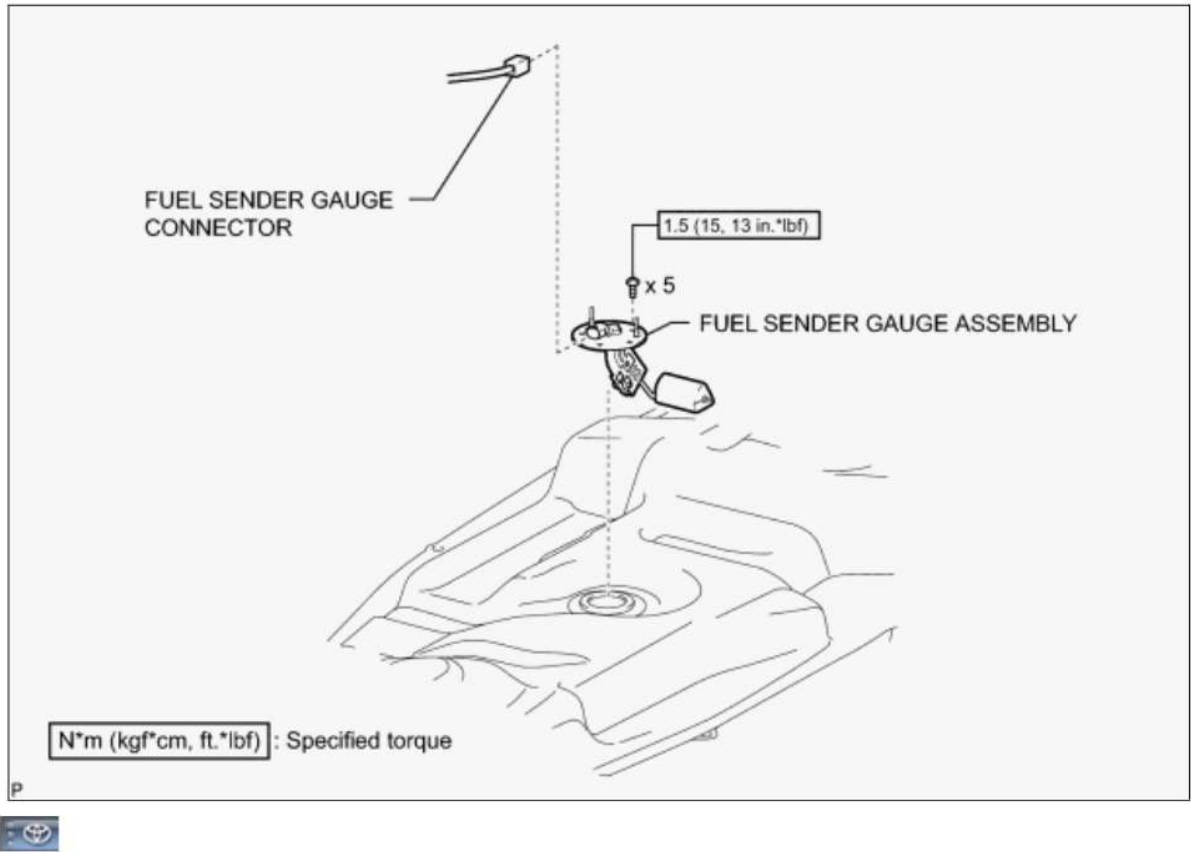


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Last Modified: 9-7-2011	6.4 K	From: 201008
Model Year: 2011	Model: RAV4	Doc ID: RM000003PEZ002X
Title: 2AR-FE FUEL: FUEL SENDER GAUGE ASSEMBLY: COMPONENTS (2011 RAV4)		

COMPONENTS

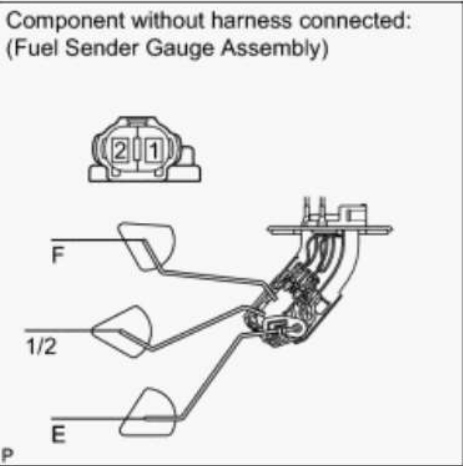
ILLUSTRATION



Last Modified: 9-7-2011	6.4 G	From: 201008
Model Year: 2011	Model: RAV4	Doc ID: RM000003OD0003X
Title: 2AR-FE FUEL: FUEL SENDER GAUGE ASSEMBLY: INSPECTION (2011 RAV4)		

INSPECTION

1. INSPECT FUEL SENDER GAUGE ASSEMBLY

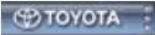


(a) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
1 - 2	F	13.5 to 16.5 Ω
1 - 2	1/2	200.2 to 224.8 Ω
1 - 2	E	405.5 to 414.5 Ω

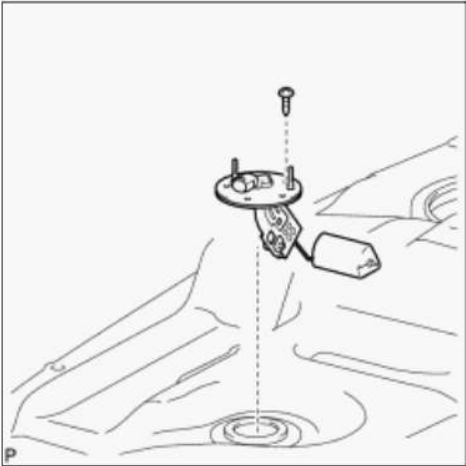
If the result is not as specified, replace the fuel sender gauge assembly.



Last Modified: 9-7-2011	6.4 A	From: 201008
Model Year: 2011	Model: RAV4	Doc ID: RM000000YLR049X
Title: 2AR-FE FUEL: FUEL SENDER GAUGE ASSEMBLY: INSTALLATION (2011 RAV4)		

INSTALLATION

1. INSTALL FUEL SENDER GAUGE ASSEMBLY



(a) Install the sender gauge with the 5 screws.
Torque: 1.5 N·m (15 kgf·cm, 13in·lbf)

2. INSTALL FUEL TANK ASSEMBLY

(a) Install the fuel tank assembly .



Last Modified: 9-7-2011	6.4 A	From: 201008
Model Year: 2011	Model: RAV4	Doc ID: RM000000YLT049X
Title: 2AR-FE FUEL: FUEL SENDER GAUGE ASSEMBLY: REMOVAL (2011 RAV4)		

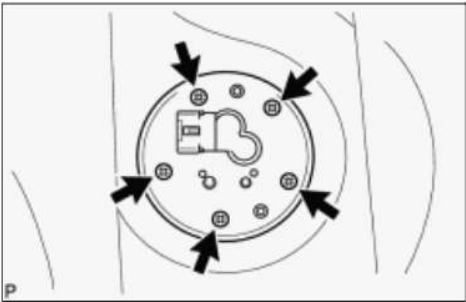
REMOVAL

1. REMOVE FUEL TANK ASSEMBLY

(a) Remove the fuel tank assembly  .

2. REMOVE FUEL SENDER GAUGE ASSEMBLY

(a) Disconnect the sender gauge connector.



(b) Remove the 5 screws and sender gauge.



Last Modified: 9-7-2011	6.4 G	From: 201008
Model Year: 2011	Model: RAV4	Doc ID: RM000000QE301JX
Title: 2AR-FE FUEL: FUEL SYSTEM: ON-VEHICLE INSPECTION (2011 RAV4)		

ON-VEHICLE INSPECTION

1. CHECK FUEL PUMP OPERATION

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

NOTICE:

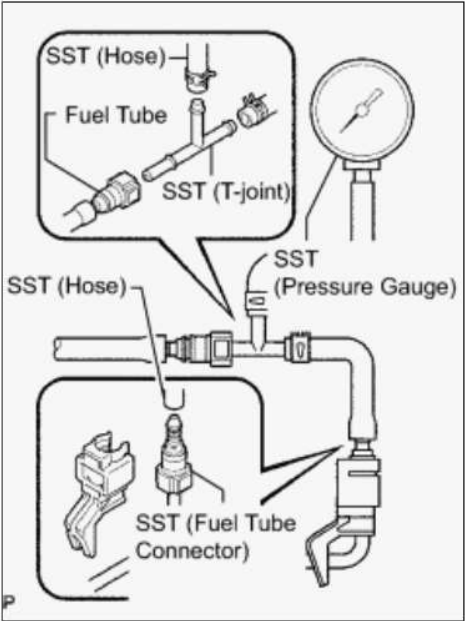
Do not start the engine.

- (c) Enter the following menus: Powertrain / Engine and ECT / Active Test / Control the Fuel Pump Speed.
- (d) 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.
- (e) Stop the fuel pump.

If there is no fuel flow, the fuel pump may not operate. Check the fuel pump circuit INFO.

2. CHECK FUEL PRESSURE

- (a) Using a voltmeter, measure the battery voltage.
Standard voltage:
11 to 14 V
- (b) Discharge the fuel system pressure INFO.
- (c) Disconnect the cable from the negative (-) battery terminal.
- (d) Disconnect the fuel tube INFO.



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

SST: 09268-31012

95336-08070
90467-13001
09268-41500

SST: 09268-45014

09268-41200
09268-41220
09268-41250

- (f) Wipe up any gasoline.

(g) Reconnect the cable to the negative (-) battery terminal.

(h) Start the engine.

(i) Measure the fuel pressure at idle.

Fuel pressure:

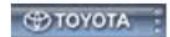
304 to 343 kPa (3.1 to 3.5 kgf/cm², 44 to 50 psi)

If the pressure is not as specified, check the fuel pump and injectors.

(j) 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.

(k) Reconnect the fuel tube  .

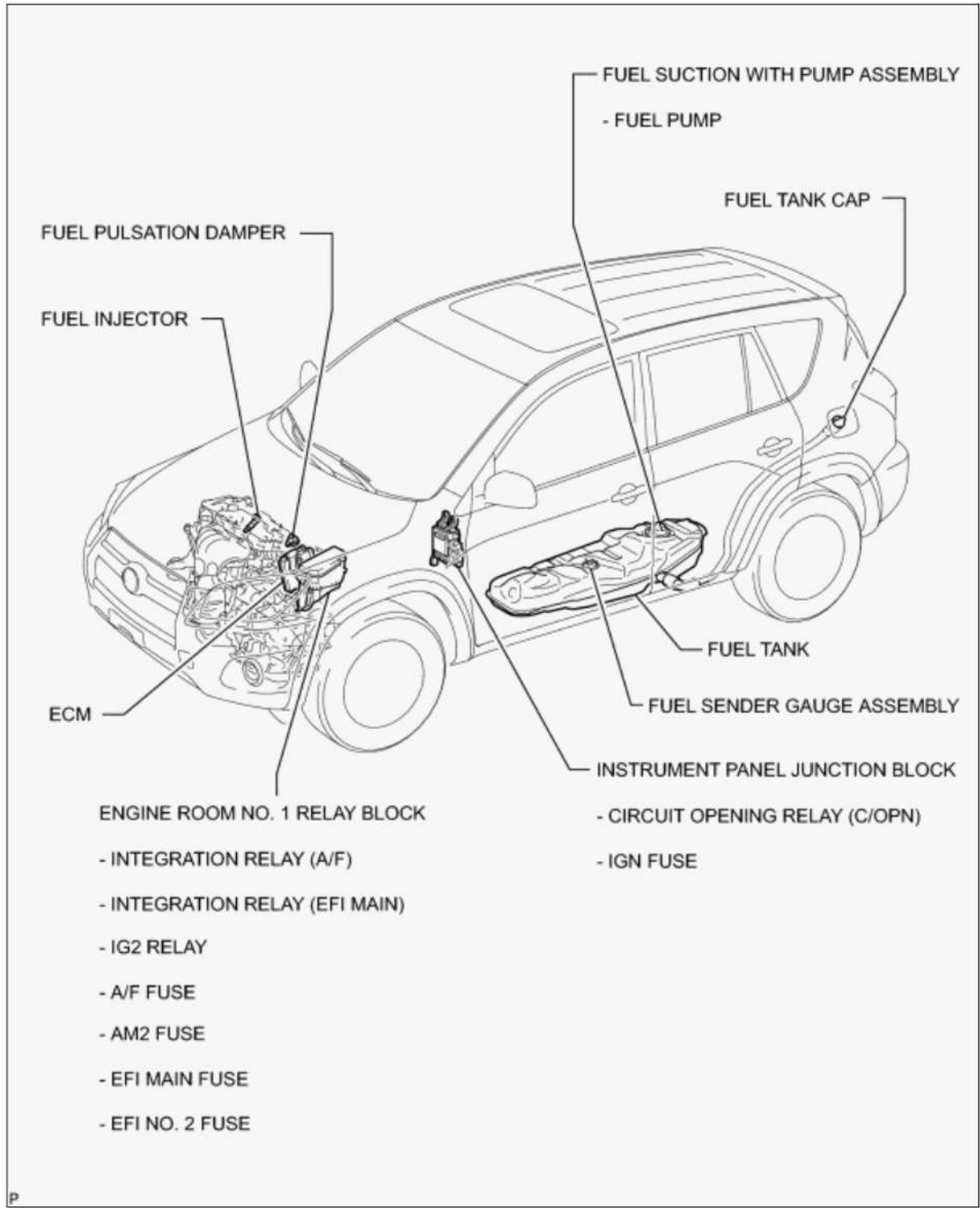
(l) Inspect for fuel leak  .



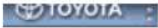
Last Modified: 9-7-2011	6.4 R	From: 201008
Model Year: 2011	Model: RAV4	Doc ID: RM000001ZF000DX
Title: 2AR-FE FUEL: FUEL SYSTEM: PARTS LOCATION (2011 RAV4)		

PARTS LOCATION

ILLUSTRATION



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Last Modified: 9-7-2011	6.4 L	From: 201008
Model Year: 2011	Model: RAV4	Doc ID: RM000000QE0015X
Title: 2AR-FE FUEL: FUEL SYSTEM: PRECAUTION (2011 RAV4)		

PRECAUTION

1. IGNITION SWITCH EXPRESSION

HINT:

The type of ignition switch used on this model differs according to the specifications of the vehicle. The expressions listed in the table below are used in this section.

EXPRESSION	IGNITION SWITCH (POSITION)	ENGINE SWITCH (CONDITION)
Ignition Switch off	Off	Off
Ignition Switch ON	ON	On (IG)
Ignition Switch ACC	ACC	On (ACC)
Engine Start	START	Start

2. BEFORE WORKING ON FUEL SYSTEM

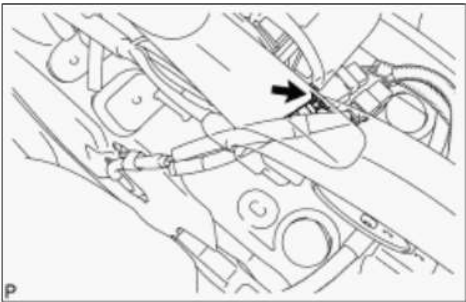
- (a) Do not work near an open flame.
- (b) Keep gasoline away from rubber and leather parts.
- (c) Discharge the fuel pressure before disconnecting the fuel line to prevent gasoline from spilling out. Refer to the following procedure.

3. 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 console box sub-assembly INFO .



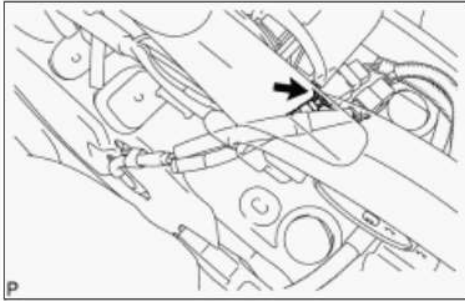
- (b) Disconnect the fuel pump and sender gauge connector.

- (c) Start the engine. After the engine has stopped, turn the ignition switch off.

HINT:

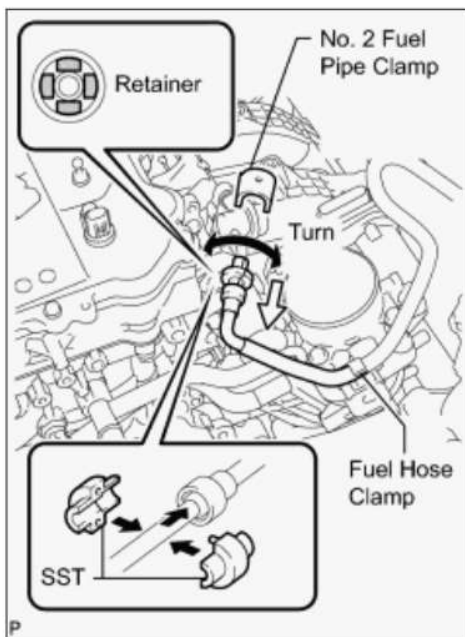
If DTC P0171 (system too lean) is output, clear the DTC INFO.

- (d) Check that the engine does not start.
- (e) Remove the fuel tank cap, and let the air out of the fuel tank.



(f) Connect the fuel pump and sender gauge connector.

- (g) Install the rear console box sub-assembly INFO.

4. DISCONNECT FUEL TUBE**NOTICE:**

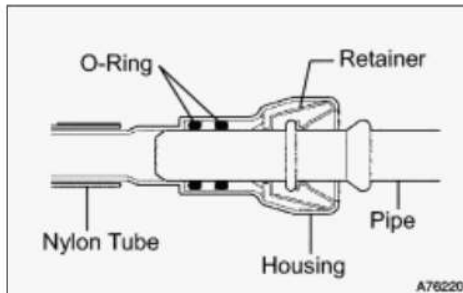
Do not forcibly bend, kink or twist the fuel tube.

- (a) Remove the fuel tube from the fuel hose clamp.
- (b) Remove the No. 2 fuel pipe clamp.
- (c) Wipe off any dirt on the fuel tube connector.
- (d) Hold the fuel tube connector, and then install SST.

SST: 09268-21010

- (e) Turn SST to align the retainer inside the fuel tube connector with the chamfered part of SST.

- (f) Insert SST into the fuel tube and hold it. Then push the fuel tube connector toward SST.
- (g) Mount the retainer of the fuel tube connector onto the chamfered part of SST.

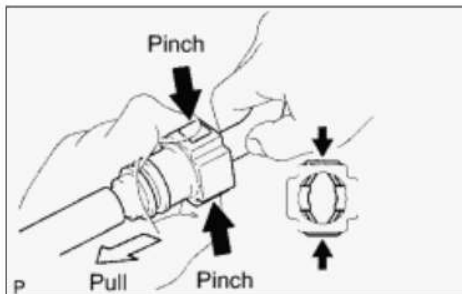


- (h) Slide SST and the fuel tube connector together towards the fuel tube until they make a "click" sound, and then disconnect the fuel tube.

- (i) Drain the fuel remaining inside the fuel tube.
- (j) Cover the fuel tube and fuel pipe with a plastic bag to protect the disconnected part.

5. CONNECT FUEL TUBE

- (a) Connect the fuel tube.
- (b) Push the fuel tube connector until it makes a "click" sound.
- (c) Install the No. 2 fuel pipe clamp.
- (d) Install the fuel tube to the fuel hose clamp.



6. DISCONNECT FUEL TUBE CONNECTOR

- (a) Wipe off any dirt on the fuel tube connector.
- (b) Pinch the fuel tube connector, and then disconnect the fuel tube.

NOTICE:

Do not use any tools.

- (c) Drain the fuel remaining inside the fuel tube.
- (d) Cover the fuel tube and fuel pipe with a plastic bag to protect the disconnected part.

7. CONNECT FUEL TUBE CONNECTOR

- (a) Connect the fuel tube connector to the fuel pipe.
- (b) Push the fuel connector until it makes a "click" sound.

HINT:

If it is difficult to connect the fuel tube connector, apply a small amount of new engine oil to the tip of the pipe.

8. INSPECT FOR FUEL LEAK

- (a) Make sure that there are no fuel leaks after performing maintenance on the fuel system.
 - (1) Connect the Techstream to the DLC3.
 - (2) Turn the ignition switch to ON and turn the Techstream main switch on.

NOTICE:

Do not start the engine.

(3) Select the Active Test mode on the Techstream.

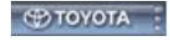
HINT:

Refer to the Techstream operator's manual for further details.

(4) Check that there are no leaks from the fuel system.

(5) Turn the ignition switch off.

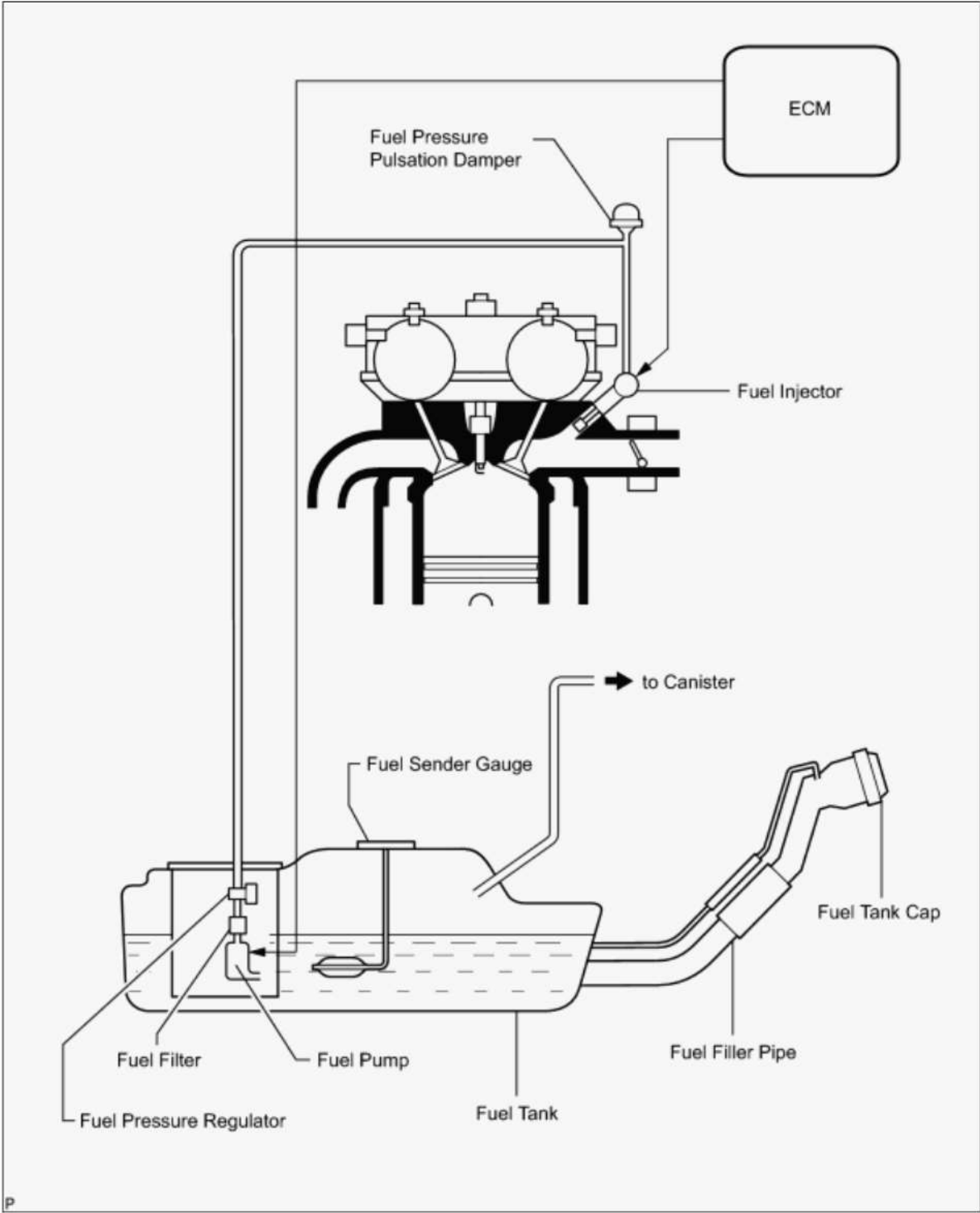
(6) Disconnect the Techstream from the DLC3.

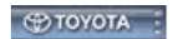
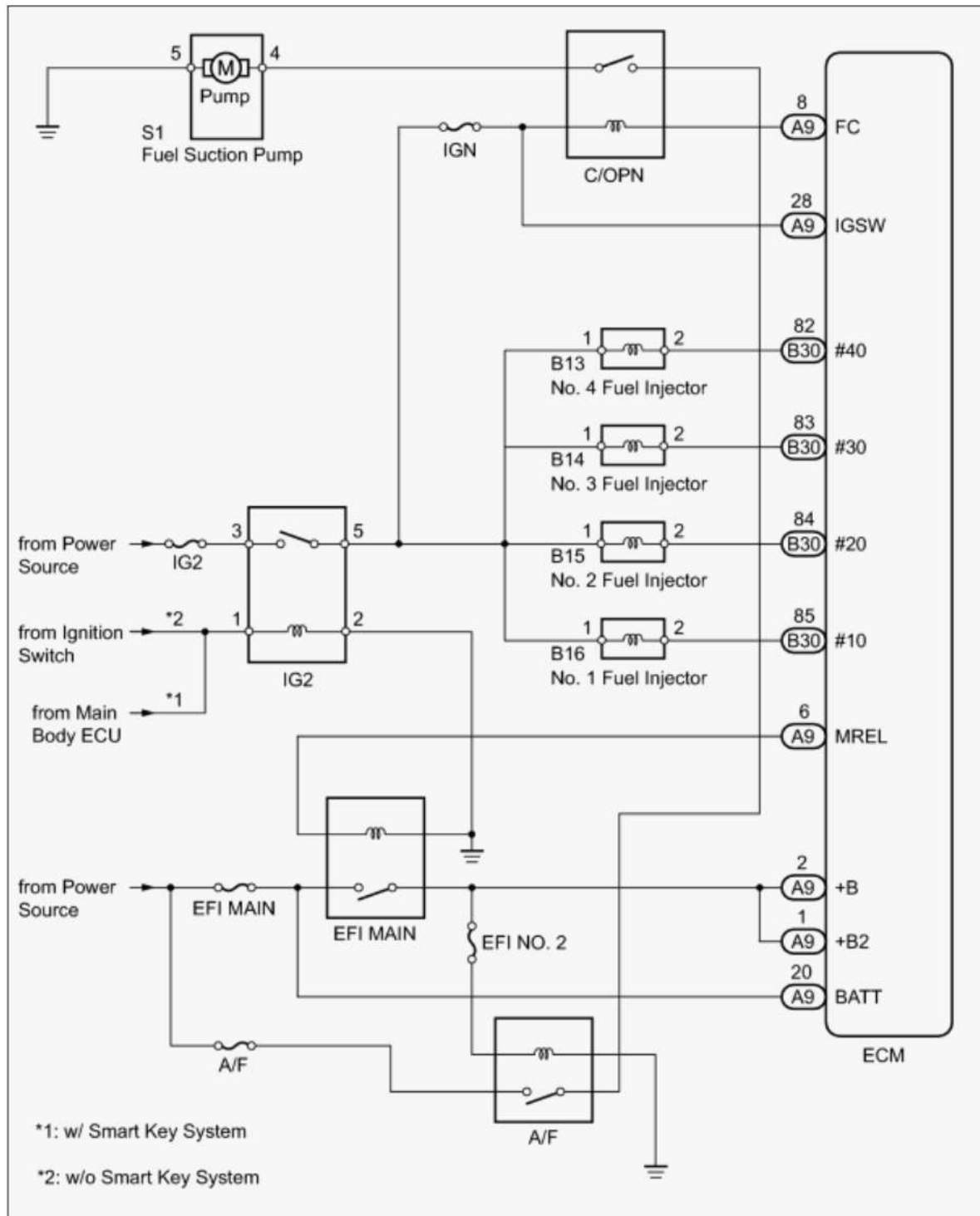


Last Modified: 9-7-2011	6.4 U	From: 201008
Model Year: 2011	Model: RAV4	Doc ID: RM000001XYT000X
Title: 2AR-FE FUEL: FUEL SYSTEM: SYSTEM DIAGRAM (2011 RAV4)		

SYSTEM DIAGRAM

1. FUEL FLOW DIAGRAM

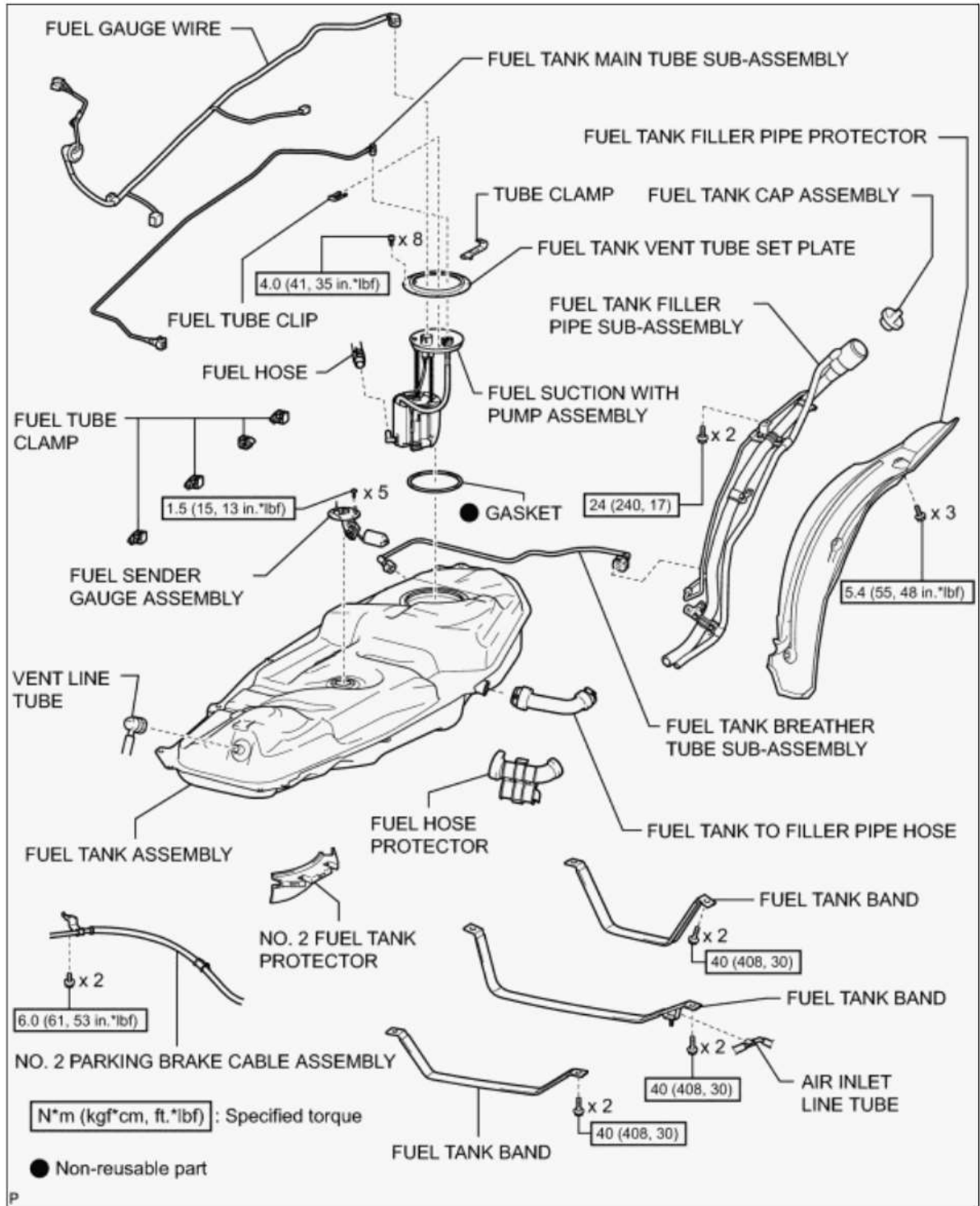


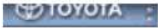
2. FUEL SYSTEM WIRING DIAGRAM

Last Modified: 9-7-2011	6.4 K	From: 201008
Model Year: 2011	Model: RAV4	Doc ID: RM0000017RN012X
Title: 2AR-FE FUEL: FUEL TANK: COMPONENTS (2011 RAV4)		

COMPONENTS

ILLUSTRATION



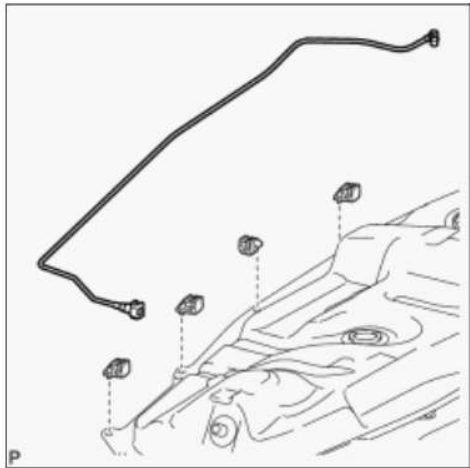


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Last Modified: 9-7-2011	6.4 A	From: 201008
Model Year: 2011	Model: RAV4	Doc ID: RM000001ADQ01CX
Title: 2AR-FE FUEL: FUEL TANK: DISASSEMBLY (2011 RAV4)		

DISASSEMBLY

1. DISCONNECT FUEL TANK MAIN TUBE SUB-ASSEMBLY
2. REMOVE FUEL TANK VENT TUBE SET PLATE
3. REMOVE FUEL SUCTION WITH PUMP ASSEMBLY
4. REMOVE FUEL TANK MAIN TUBE SUB-ASSEMBLY

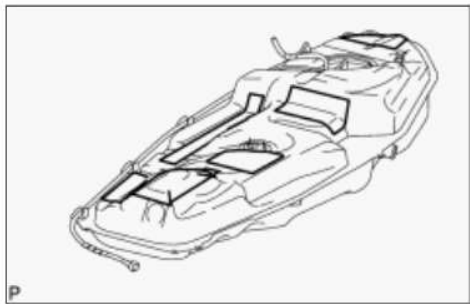


(a) Remove the tube from the fuel tube clamps.

5. REMOVE FUEL TUBE CLAMP

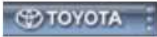
(a) Remove the 4 tube clamps from the fuel tank.

6. REMOVE FUEL TANK CUSHION



(a) Remove the 7 fuel tank cushions from the fuel tank.

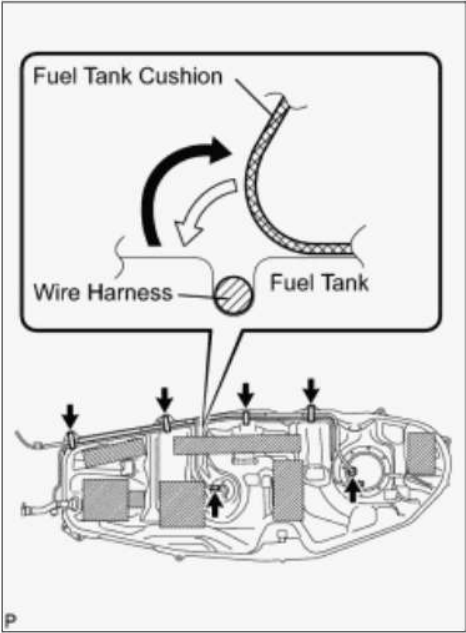
7. REMOVE FUEL SENDER GAUGE ASSEMBLY



Last Modified: 9-7-2011	6.4 A	From: 201008
Model Year: 2011	Model: RAV4	Doc ID: RM000000YLR048X
Title: 2AR-FE FUEL: FUEL TANK: INSTALLATION (2011 RAV4)		

INSTALLATION

1. INSTALL FUEL TANK ASSEMBLY



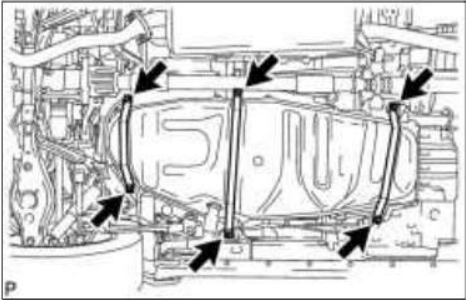
(a) Set the fuel tank on a transmission jack.

- (b) Lift up the transmission jack.
- (c) Fold back approximately half of any cushion rubber necessary for the attachment of the wire harness to the fuel tank.
- (d) Connect the fuel pump connector and sender gauge connector.

NOTICE:

Be careful not to cut the wiring.

- (e) Attach the wire harness to the 4 clamps.



(f) Install the 3 fuel tank bands with the 6 bolts.
Torque: 40 N·m (408 kgf·cm, 30ft·lbf)

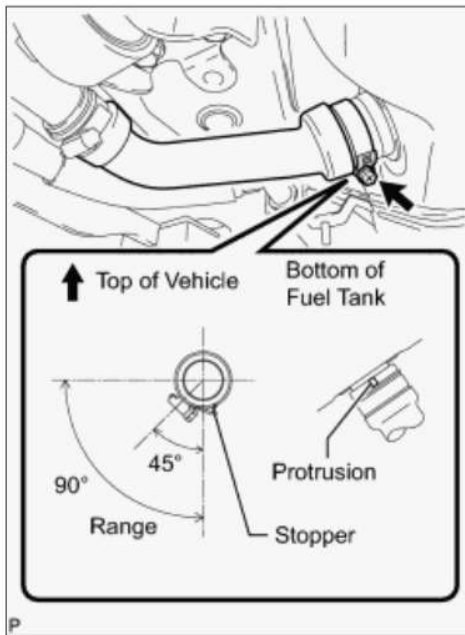
2. INSTALL FUEL TANK FILLER PIPE SUB-ASSEMBLY

(a) Install the filler pipe with the 2 bolts.

Torque: 24 N·m (240 kgf·cm, 17ft·lbf)

(b) Install the filler pipe protector with the 3 bolts.

Torque: 5.4 N·m (55 kgf·cm, 48in·lbf)



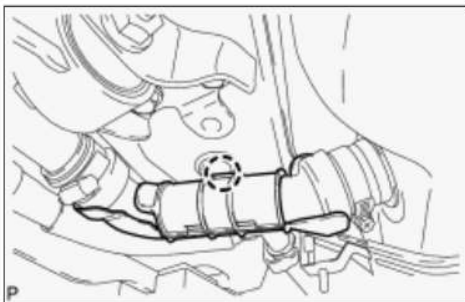
3. CONNECT FUEL TANK TO FILLER PIPE HOSE

(a) Connect the filler pipe hose to the fuel tank as shown in the illustration.

HINT:

- Position the fuel tank to filler pipe hose so that the protrusion faces towards the bottom of the fuel tank when connecting the hose.
- Tighten the hose clamp until the end of the hose clamp contacts the stopper as shown in the illustration.

4. INSTALL FUEL HOSE PROTECTOR



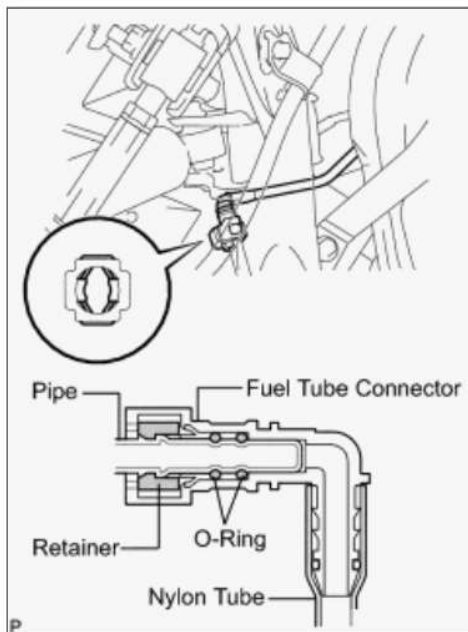
(a) Attach the claw to install the fuel hose protector to the filler pipe hose.

5. CONNECT FUEL TANK BREATHER TUBE SUB-ASSEMBLY

(a) Connect the fuel tank breather tube to the fuel filler pipe.

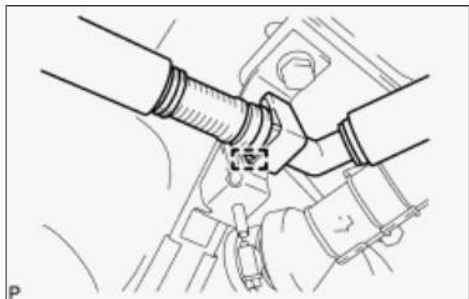
NOTICE:

- Before installing the tube connector to the pipe, check the connector for damage and foreign matter.



- Check that the connector and pipe are securely connected by trying to pull them apart.

6. CONNECT AIR INLET LINE TUBE



- (a) Attach the clamp to connect the air inlet line tube to the fuel tank band.

7. CONNECT FUEL TANK MAIN TUBE SUB-ASSEMBLY

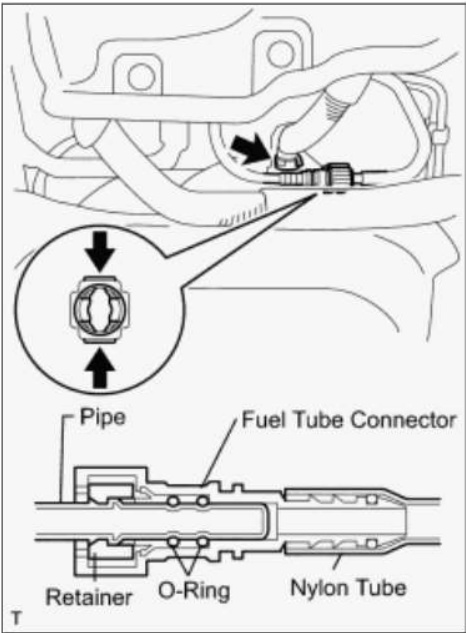
NOTICE:

Before installing the tube connector to the pipe, check the connector for damage and foreign matter.

- (a) Connect the main tube connector to the pipe. Push the 2 parts together firmly until a "click" sound is heard.

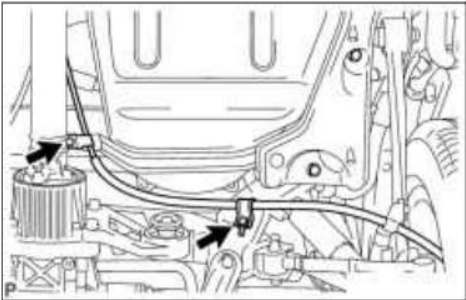
NOTICE:

Check that the connector and pipe are securely connected by trying to pull them apart.



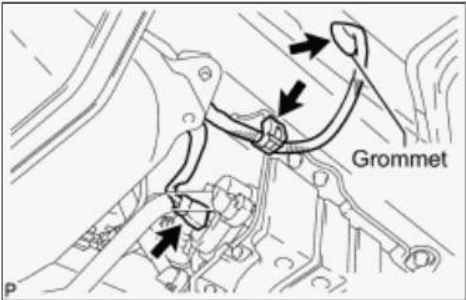
(b) Connect the vent line tube to the fuel tank.

8. CONNECT NO. 2 PARKING BRAKE CABLE ASSEMBLY



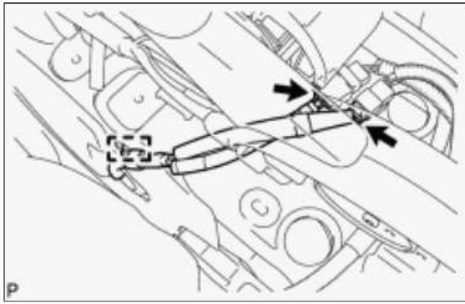
(a) Connect the parking brake cable with the 2 bolts.
Torque: 6.0 N·m (61 kgf·cm, 53in·lbf)

9. CONNECT FUEL GAUGE WIRE



(a) Pass the sensor connectors through the floor panel and install the grommet.

(b) Connect the connector and clamp.



(c) Connect the 2 connectors and attach the clamp.

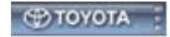
10. INSTALL FUEL TANK CAP ASSEMBLY

11. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

12. INSTALL REAR CONSOLE BOX SUB-ASSEMBLY

(a) Install the rear console box sub-assembly [INFO](#) .

13. INSPECT FOR FUEL LEAK [INFO](#)



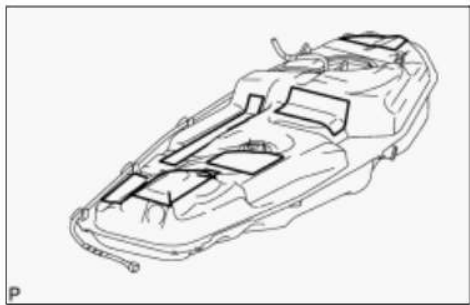
Last Modified: 9-7-2011	6.4 A	From: 201008
Model Year: 2011	Model: RAV4	Doc ID: RM000001ADR018X
Title: 2AR-FE FUEL: FUEL TANK: REASSEMBLY (2011 RAV4)		

REASSEMBLY

1. INSTALL FUEL SENDER GAUGE ASSEMBLY

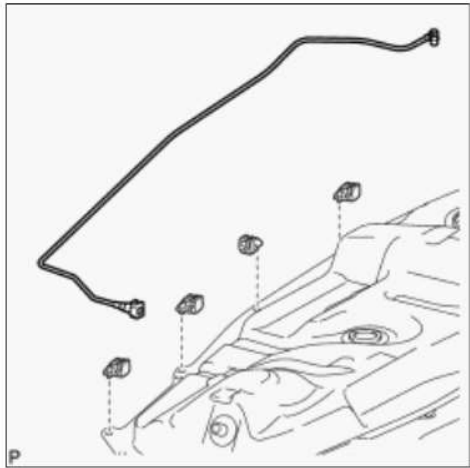
INFO

2. INSTALL FUEL TANK CUSHION



(a) Install 7 new fuel tank cushions onto the fuel tank as shown in the illustration.

3. INSTALL FUEL TUBE CLAMP



(a) Install the 4 tube clamps to the fuel tank.

4. INSTALL FUEL TANK MAIN TUBE SUB-ASSEMBLY

(a) Install the tube to the 4 fuel tube clamps.

5. INSTALL FUEL SUCTION WITH PUMP ASSEMBLY

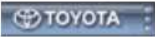
INFO

6. INSTALL FUEL TANK VENT TUBE SET PLATE

INFO

7. CONNECT FUEL TANK MAIN TUBE SUB-ASSEMBLY

INFO



Last Modified: 9-7-2011	6.4 A	From: 201008
Model Year: 2011	Model: RAV4	Doc ID: RM000000YLT048X
Title: 2AR-FE FUEL: FUEL TANK: REMOVAL (2011 RAV4)		

REMOVAL

1. REMOVE REAR CONSOLE BOX SUB-ASSEMBLY

(a) Remove the rear console box sub-assembly INFO .

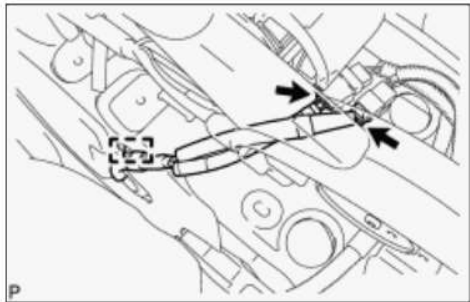
2. DISCHARGE FUEL SYSTEM PRESSURE INFO

3. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

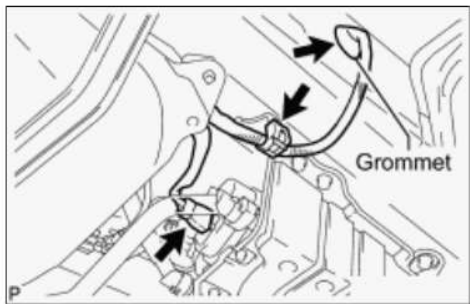
CAUTION:
Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to disable the SRS system.

4. REMOVE FUEL TANK CAP ASSEMBLY

5. DISCONNECT FUEL GAUGE WIRE



(a) Disconnect the 2 connectors and detach the clamp.

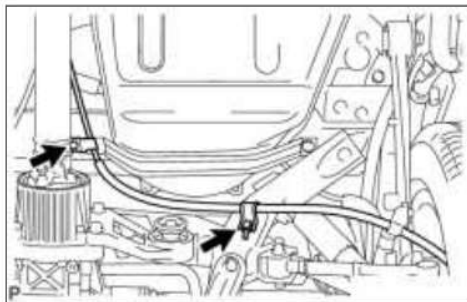


(b) Disconnect the connector and clamp.

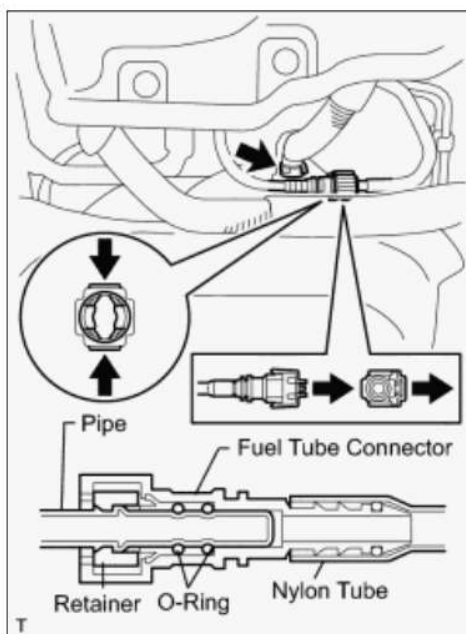
(c) Remove the grommet and pass the sensor connectors out of the cabin through the floor panel.

6. DISCONNECT NO. 2 PARKING BRAKE CABLE ASSEMBLY

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



7. DISCONNECT FUEL TANK MAIN TUBE SUB-ASSEMBLY



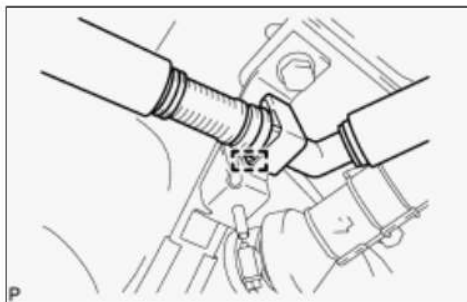
- (a) Pinch and pull the main tube connector to disconnect the connector from the pipe.

NOTICE:

- Check for foreign matter in the pipe and around the connector. Clean if necessary. Foreign matter may damage the O-rings or cause leaks in the seal between the pipe and connector.
- Do not use any tools to separate the pipe and connector.
- Do not forcefully bend, kink or twist the nylon tube.
- Check for foreign matter on the pipe seal surface. Clean if necessary.
- Put the pipe and connector ends in plastic bags to prevent damage and foreign matter contamination.
- If the pipe and connector are stuck together, pinch the connector between your fingers and turn it carefully to disconnect it.

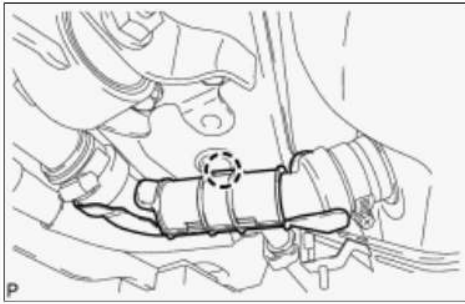
- (b) Disconnect the vent line tube from the fuel tank.

8. DISCONNECT AIR INLET LINE TUBE

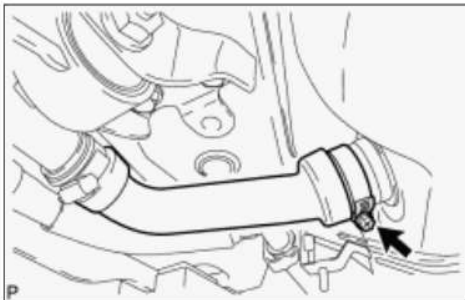


- (a) Detach the clamp and disconnect the air inlet line tube from the fuel tank band.

9. REMOVE FUEL HOSE PROTECTOR



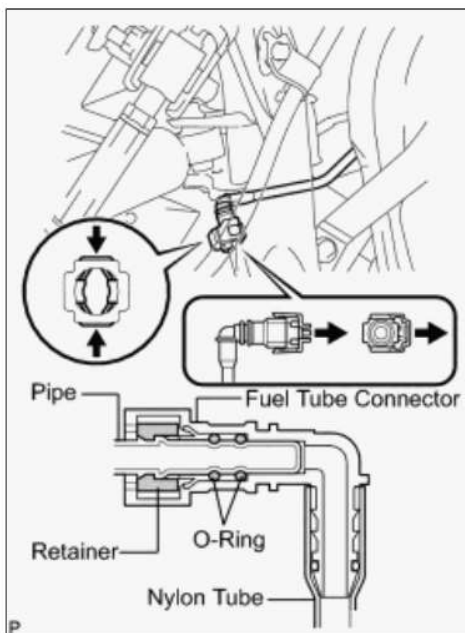
- (a) Detach the claw and remove the fuel hose protector from the filler pipe hose.



10. DISCONNECT FUEL TANK TO FILLER PIPE HOSE

- (a) Disconnect the filler pipe hose from the fuel tank.

11. DISCONNECT FUEL TANK BREATHING TUBE SUB-ASSEMBLY



- (a) Disconnect the breather tube from the fuel tank filler pipe.

NOTICE:

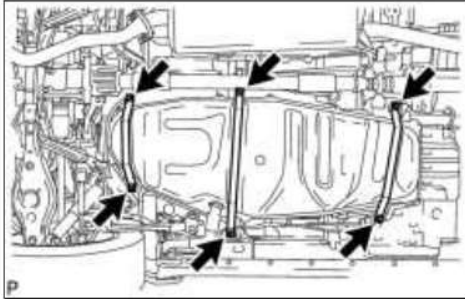
- Check for foreign matter in the pipe and around the connector. Clean if necessary. Foreign matter may damage the O-rings or cause leaks in the seal between the pipe and connector.
- Do not use any tools to separate the pipe and connector.
- Do not forcefully bend, kink or twist the nylon tube.
- Check for foreign matter on the pipe seal surface. Clean if necessary.
- Put the pipe and connector ends in plastic bags to prevent damage and foreign matter contamination.
- If the pipe and connector are stuck together, pinch the connector between your fingers and turn it carefully to disconnect it.

12. REMOVE FUEL TANK FILLER PIPE SUB-ASSEMBLY

- (a) Remove the 3 bolts and filler pipe protector.
(b) Remove the 2 bolts and filler pipe.

13. REMOVE FUEL TANK ASSEMBLY

(a) Set a transmission jack underneath the fuel tank.

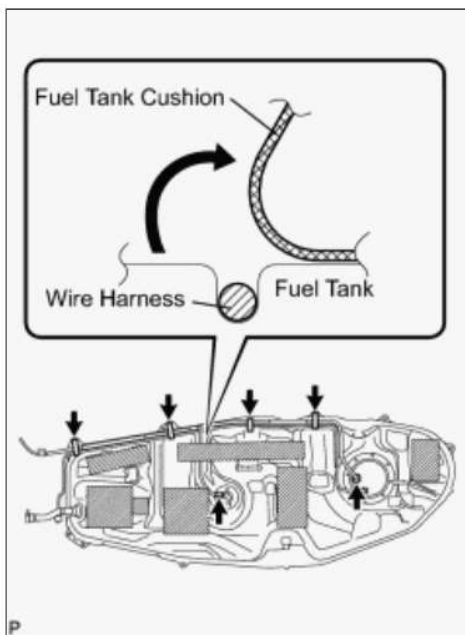


(b) Remove the 6 bolts and 3 fuel tank bands.

(c) Slightly lower the transmission jack.

NOTICE:

Be careful not to cut the wiring.



(d) Fold back approximately half of any cushion rubber necessary for the detachment of the wire harness from the fuel tank in the step below.

(e) Disconnect the fuel pump connector and sender gauge connector.

NOTICE:

- Before this procedure, check the connector for dirt, mud or other contamination.
- Do not use any tools in this procedure.

(f) Detach the wire harness from the 4 clamps and remove the fuel tank.

