

FUEL SYSTEM (2AZ-FE)(From July, 2003)

110XE-02

PRECAUTION

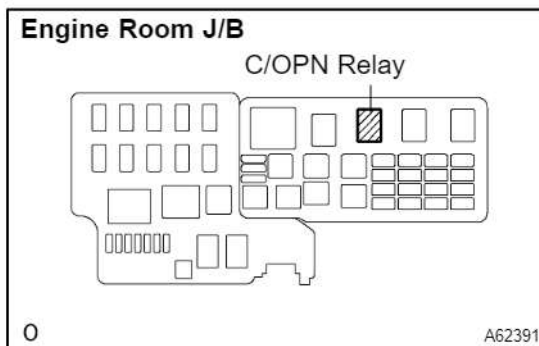
1. PRECAUTION

- Before working on the fuel system, disconnect the negative (-) terminal cable from the battery.
- Do not smoke or be near an open flame when working on the fuel system.
- Keep gasoline away from rubber or leather parts.

2. DISCHARGE FUEL SYSTEM PRESSURE

CAUTION:

- Do not disconnect any part of the fuel system until you have discharged the fuel system pressure.
- Even after discharging the fuel pressure, place a shop rag over fittings as you separate them to reduce risk of fuel spray on yourself or in the engine compartment.



- Remove the C/OPN relay from the engine room J/B.
- Start the engine. After the engine has stopped, turn the ignition switch OFF.

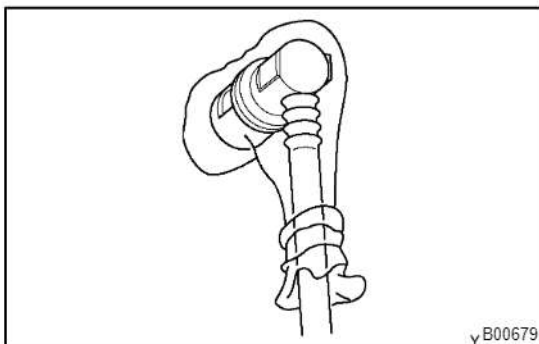
HINT:

There is a case that DTC P0171 (system too lean) is output.

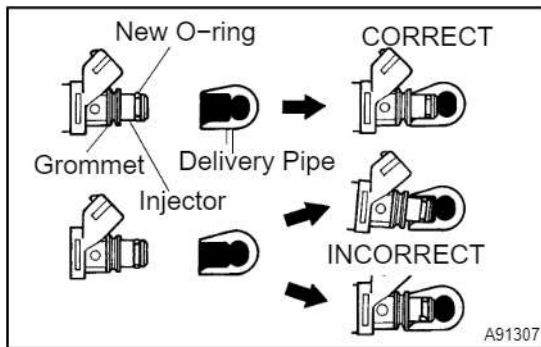
- Check that the engine does not start.
- Remove the fuel tank cap, and let the air out of the fuel tank.
- Disconnect the negative (-) terminal cable from the battery.
- Reinstall the C/OPN relay.

3. FUEL SYSTEM

- When disconnecting the high fuel pressure line, a large amount of gasoline will spill out, so observe these procedures.
 - Try to prevent gasoline from spilling out.
 - Disconnect the fuel pump tube (see page 11-14).
 - Drain the fuel remained inside the fuel pump tube.

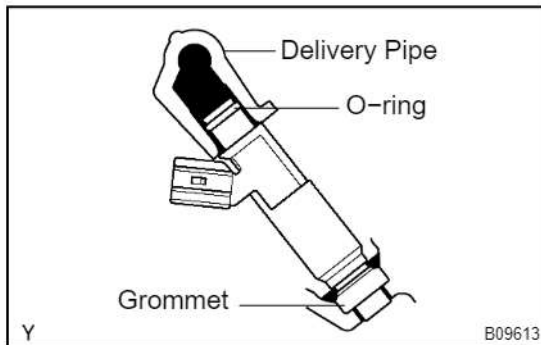


- To protect the disconnected fuel pump tube from damage and contamination, cover it with a vinyl bag.
- Put a container under the connection.

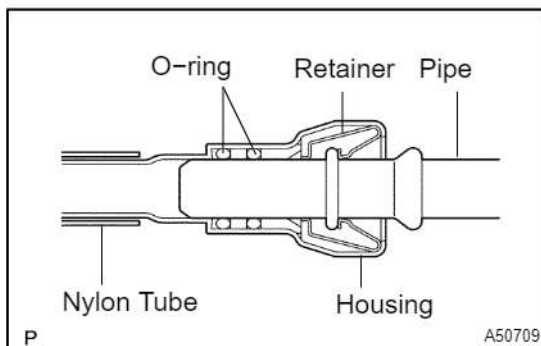


(b) Observe these precautions when removing and installing the injector.

- (1) Never reuse the O-rings.
- (2) When placing a new O-ring on the injector, take care not to damage it in any way.
- (3) Coat a new O-rings with grease or gasoline before installing. Never use engine, gear or brake oil.



(c) Install the injector to the delivery pipe and cylinder head, as shown in the illustration. Before installing the injector, be sure to apply grease or gasoline on the place where the delivery pipe touches the O-ring of the injector.

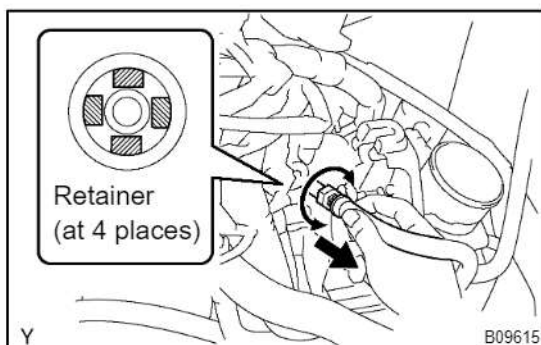
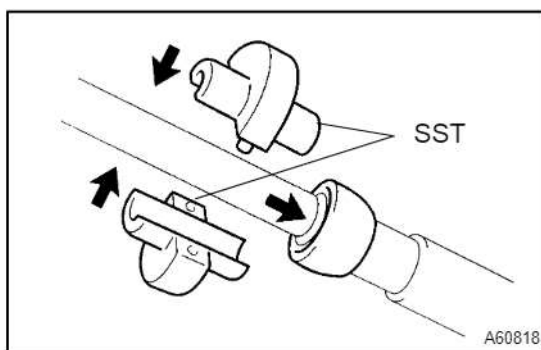


(d) Observe these precautions when disconnecting the fuel delivery pipe.

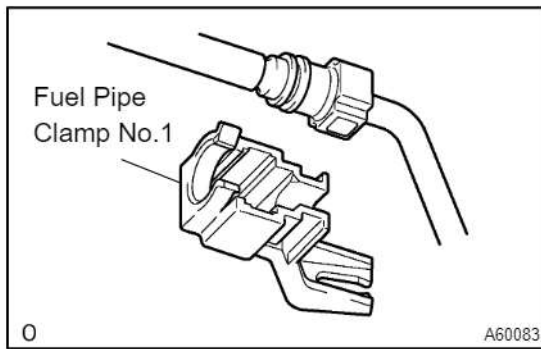
HINT:

The structure of the metallic connector is shown as left.

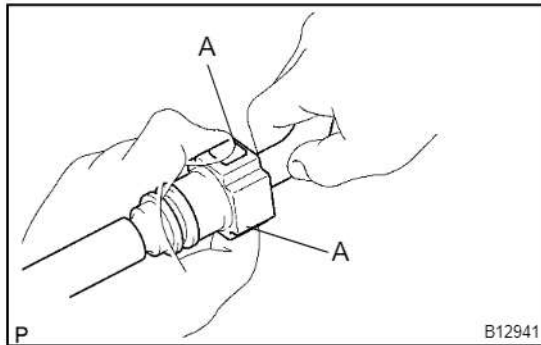
- (1) Remove the fuel pipe clamp No.2.
- (2) Find the metallic connector of the fuel tube assembly, pull vehicle's and hold it as it is.
- (3) Assemble SST to the connection as shown.
SST 09268-21010



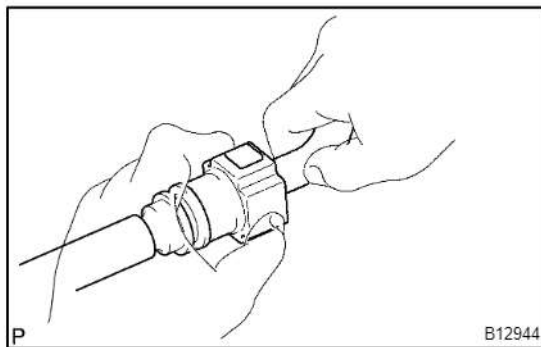
- (4) Turn SST, align the retainers inside the connector with SST chamfered parts and insert SST into the connector.
- (5) Slide SST and the connector together towards the fuel tube assembly.



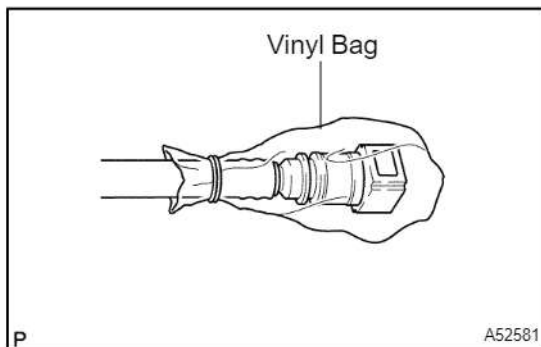
- (e) Observe these following precautions when disconnecting the fuel tube connector (quick type).
- (1) Remove the fuel pipe clamp No. 1.
 - (2) Check for dirt or mud on the pipe and around the connector before disconnection. Clean if necessary.



- (3) Disconnect the connector from the hose while pinching part A with fingers as shown in the illustration.



- (4) If the connector and the pipe are stuck, pinch the fuel pipe, push and pull the connector to disconnect and pull it out. Do not use any tools.
- (5) Inspect for dirt or mud on the seal surface of the disconnected pipe. Clean if necessary.



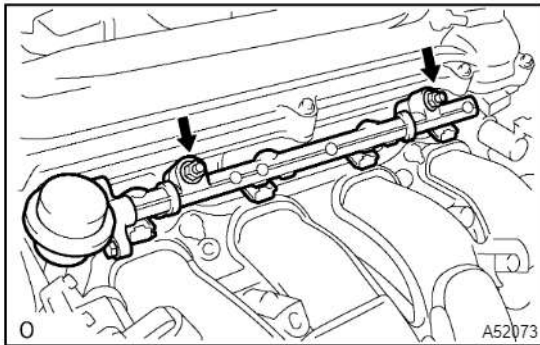
- (6) To protect the disconnected pipe and connector from damage and contamination, cover it with a vinyl bag.

4. CHECK FUEL LEAK

- (a) Check that there are no fuel leaks after doing maintenance anywhere on the fuel system (see page 11-4).

REPLACEMENT

1. WORK FOR PREVENTING GASOLINE FROM SPILLING OUT (See page 11-1)
2. REMOVE AIR CLEANER CAP WITH AIR CLEANER HOSE (See page 10-7)
3. REMOVE ENGINE COVER SUB-ASSY NO.1 (See page 10-7)
4. DISCONNECT FUEL TUBE SUB-ASSY (See page 11-1)



5. REMOVE FUEL DELIVERY PIPE W/INJECTOR

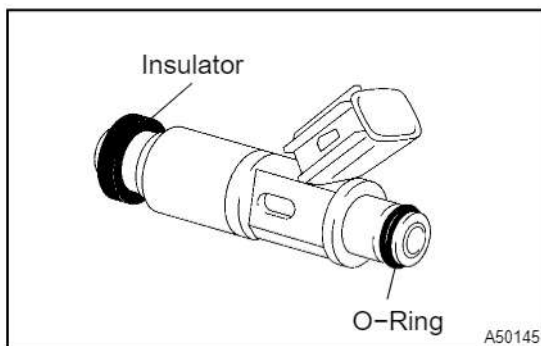
NOTICE:

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

- (a) Remove the ventilation hose No. 2.
- (b) Disconnect the 4 injector connectors from the injector.
- (c) Remove the 2 clamps and wire harnesses from the delivery pipe.
- (d) Remove the 2 bolts and the delivery pipe together with the 4 injectors.
- (e) Remove the 2 spacers from the cylinder head.

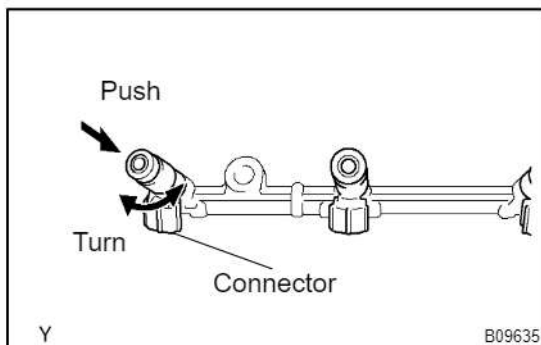
6. REMOVE FUEL INJECTOR ASSY

- (a) Pull out the 4 injectors from the delivery pipe.



7. INSTALL FUEL INJECTOR ASSY

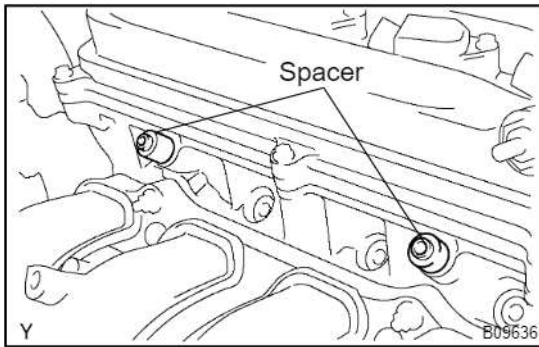
- (a) Install a new insulator to each injector.
- (b) Apply a light coat of grease or gasoline to a new O-ring and install to each injector.



- (c) Apply a light coat of grease or gasoline on the place where a delivery pipe touches the O-ring.
- (d) To install the fuel injector into the fuel delivery pipe, push the fuel injector while twisting it back and forth.
- (e) Install the 4 injectors.

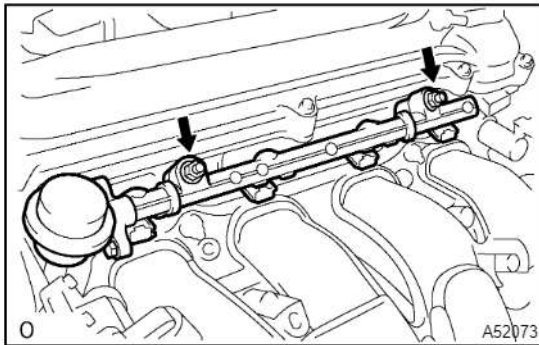
NOTICE:

- Be careful not to twist the O-ring.
 - After installing the fuel injector, check that it turns smoothly. If not, reinstall it with a new O-ring.
- (f) Position the injector connector downward.



8. INSTALL FUEL DELIVERY PIPE W/INJECTOR

- (a) Place the 2 spacers in position on the cylinder head.
- (b) Place the delivery pipe together with the 4 injectors in position on the cylinder head.



- (c) Temporarily install the 2 bolts holding the delivery pipe to the cylinder.

NOTICE:

After installing the fuel injector, check that it turns smoothly. If not, reinstall it with a new O-ring.

- (d) Position the injector connector outward.
- (e) Tighten the 2 bolts holding the delivery pipe to the cylinder head.

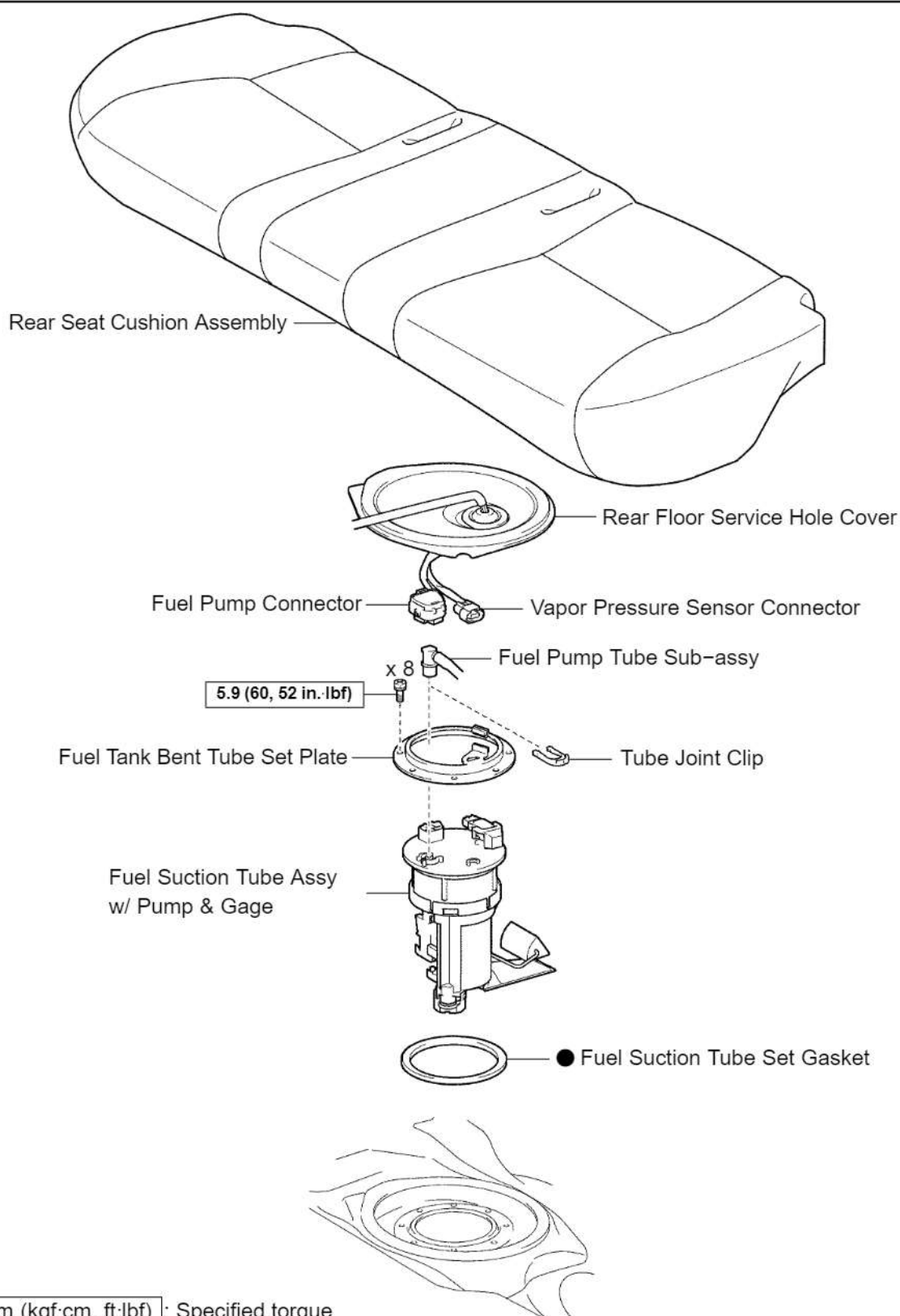
Torque: 20 N·m (204 kgf·cm, 15 ft·lbf)

9. CONNECT FUEL TUBE SUB-ASSY (See page 11-1)
10. INSPECT FOR FUEL LEAKS (See page 11-4)
11. INSTALL ENGINE COVER SUB-ASSY NO.1 (See page 10-7)
12. INSTALL AIR CLEANER CAP WITH AIR CLEANER HOSE (See page 10-7)

FUEL PUMP ASSY (2AZ-FE)(From July, 2003)

COMPONENTS

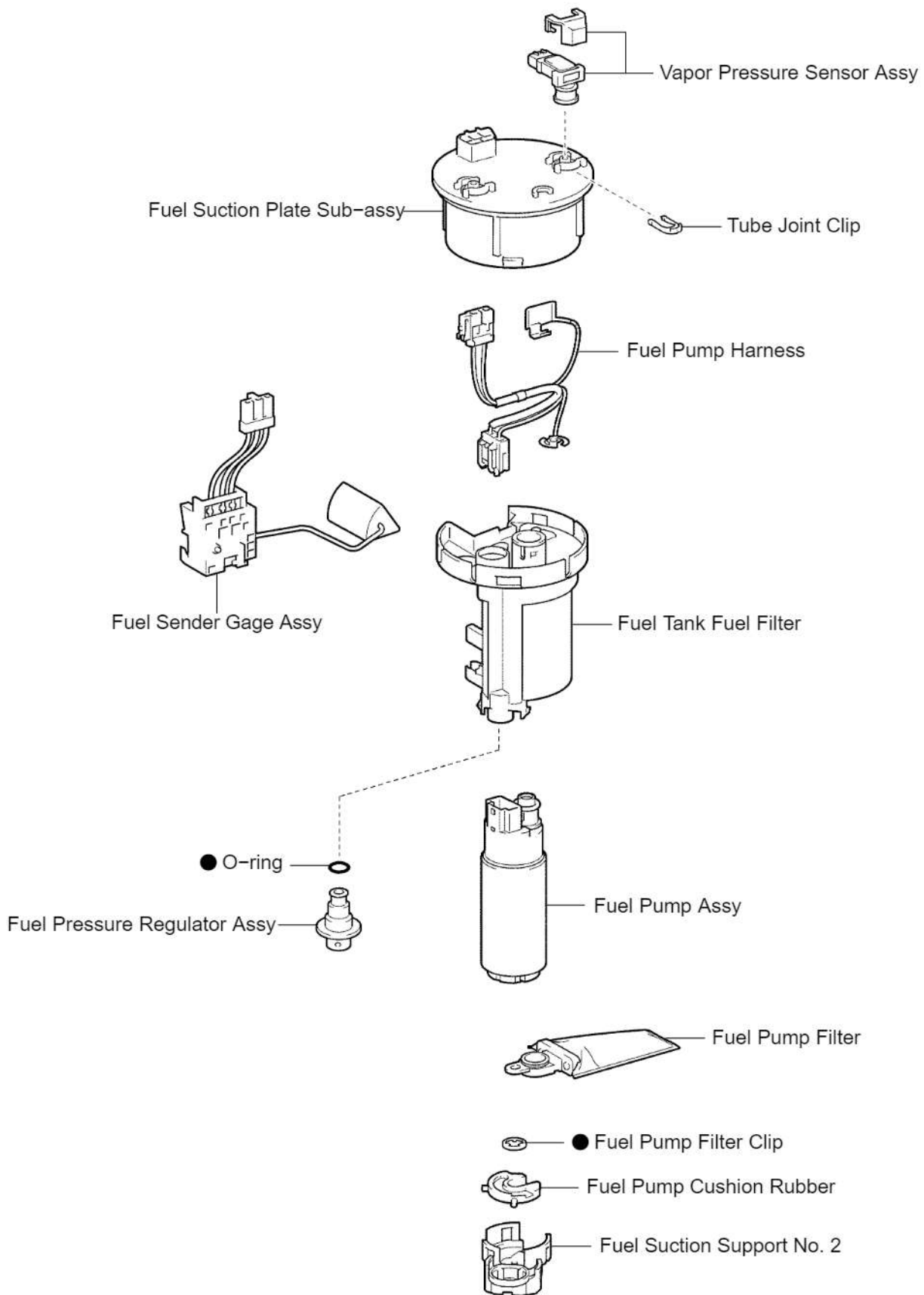
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N·m (kgf·cm, ft·lbf) : Specified torque

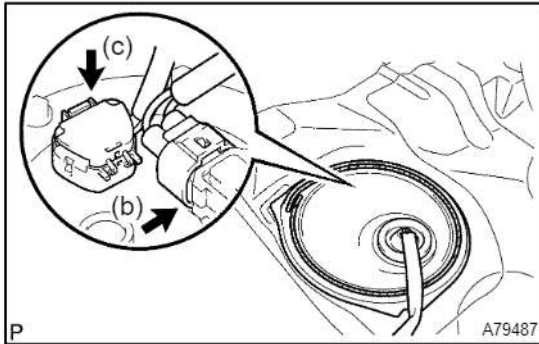
P ● Non-reusable part

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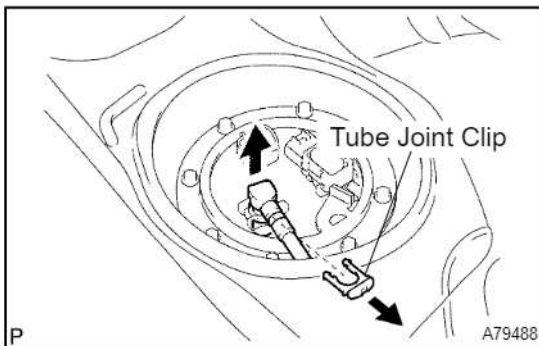
REPLACEMENT

1. DISCHARGE FUEL SYSTEM PRESSURE (See page 11-1)
2. REMOVE REAR SEAT CUSHION ASSEMBLY (See page 72-32)



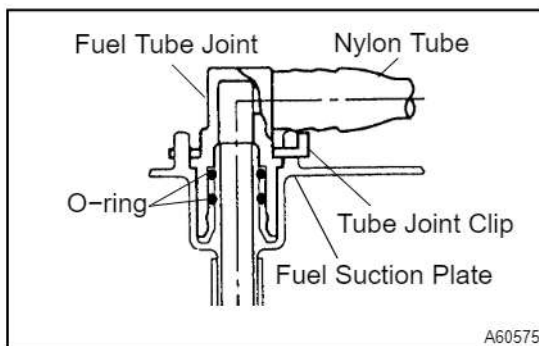
3. REMOVE REAR FLOOR SERVICE HOLE COVER

- (a) Remove the rear floor service hole cover.
- (b) Disconnect the vapor pressure sensor connector.
- (c) Disconnect the fuel pump connector.



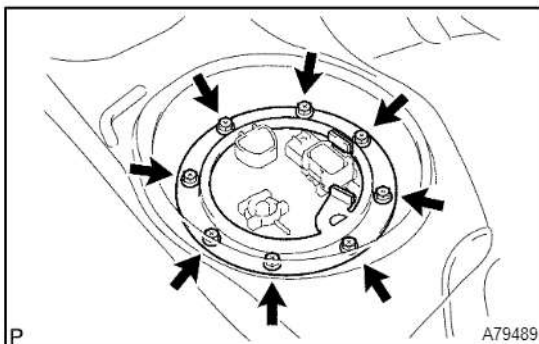
4. SEPARATE FUEL PUMP TUBE SUB-ASSY

- (a) Remove the tube joint clip, and pull out the fuel pump tube.



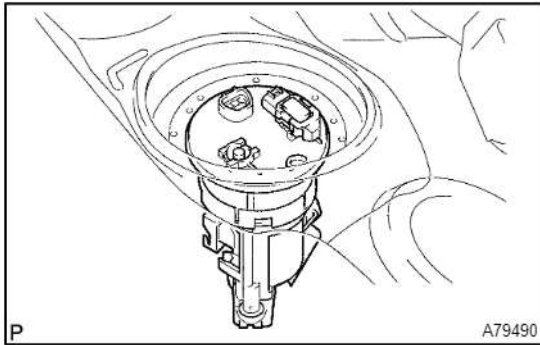
NOTICE:

- Before this operation, check the connector for dirt, mud or other contamination.
- Be careful of mud. The connector's O-ring, which seals the pipe and connector, becomes contaminated easily.
- Do not use any tool in this operation.
- Do not bend or twist the nylon tube. Protect the connector by covering it with a vinyl or plastic bag.
- When the pipe and the connector are stuck, push and pull the connector to release it. Then pull out the connector from the pipe.



5. REMOVE FUEL TANK VENT TUBE SET PLATE

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



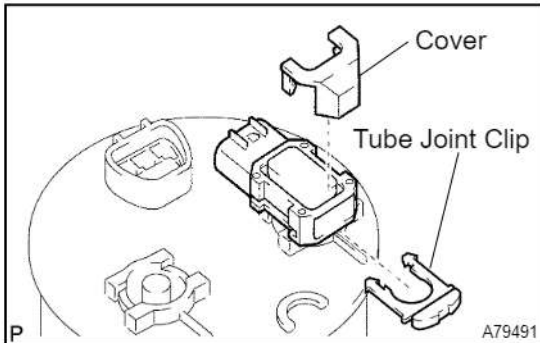
6. REMOVE FUEL SUCTION TUBE ASSY W/ PUMP & GAGE

- (a) Remove the fuel suction tube from the fuel tank.

NOTICE:

- Do not damage the fuel pump filter.
- Do not bend the arm of the fuel sender gage.

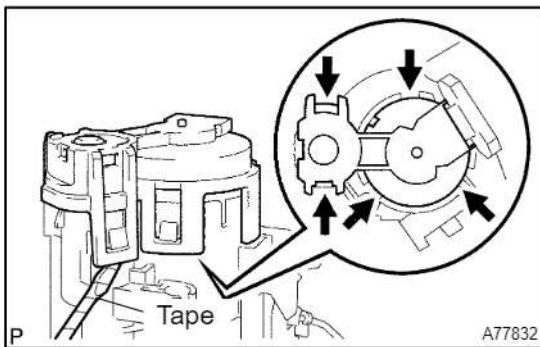
- (b) Remove the gasket from the fuel suction tube.



7. REMOVE VAPOR PRESSURE SENSOR ASSY

- (a) Remove the cover.

- (b) Remove the tube joint clip, and pull out the vapor pressure sensor.

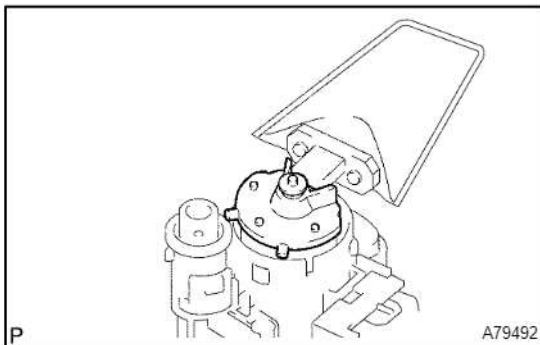


8. REMOVE FUEL SUCTION SUPPORT NO.2

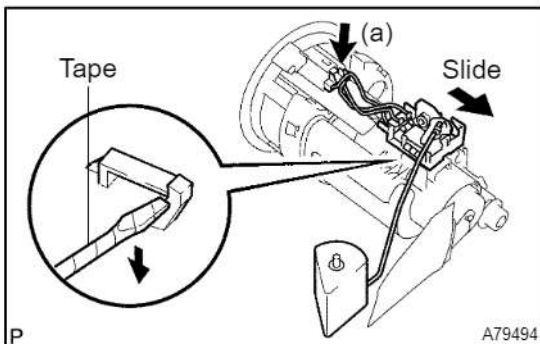
- (a) Using a screwdriver with its tip wrapped in tape, detach the 5 snap claws from the claw holes, and remove the fuel suction support.

NOTICE:

Do not damage the fuel suction support.



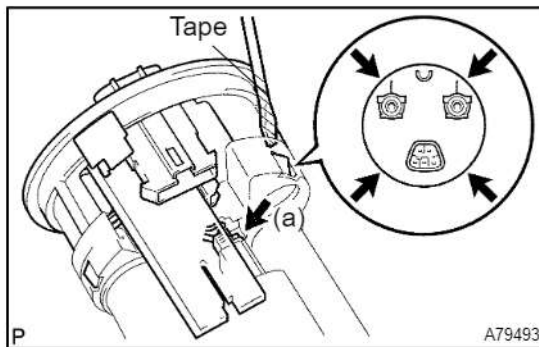
9. REMOVE FUEL PUMP CUSHION RUBBER



10. REMOVE FUEL SENDER GAGE ASSY

- (a) Disconnect the fuel sender gage connector.

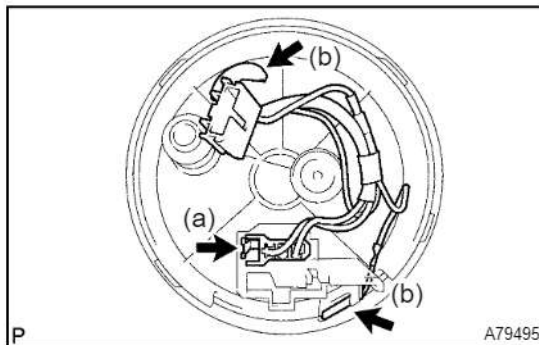
- (b) Using a screwdriver with its tip wrapped in tape, unfasten the clamp to release the fuel sender gage. Slide the fuel sender gage to remove it from the fuel pump.

**11. REMOVE FUEL SUCTION PLATE SUB-ASSY**

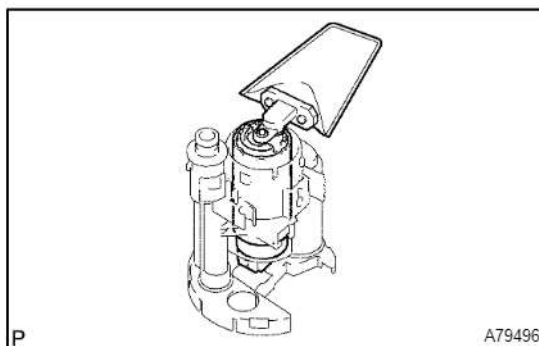
- (a) Disconnect the fuel pump connector.
- (b) Using a screwdriver with its tip wrapped in tape, detach the 4 snap claws from the claw holes, and pull out the fuel suction plate.

NOTICE:

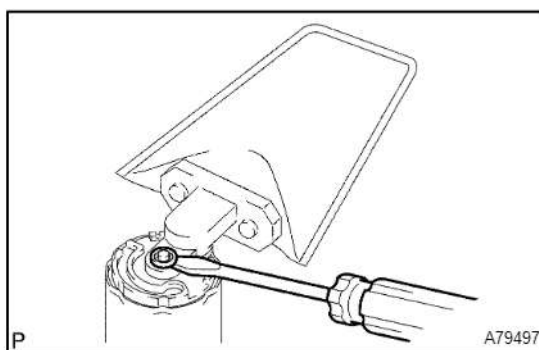
Do not damage the fuel suction support.

**12. REMOVE FUEL PUMP HARNESS**

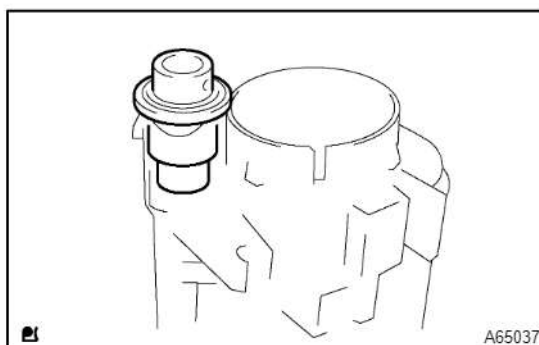
- (a) Disconnect the connector.
- (b) Using a small screwdriver, pry out the fuel pump harness.

**13. REMOVE FUEL PUMP**

- (a) Pull out the fuel pump from the fuel tank fuel filter.

**14. REMOVE FUEL PUMP FILTER**

- (a) Using a small screwdriver, pry out the clip.
- (b) Pull out the fuel pump filter from the fuel pump.

**15. REMOVE FUEL PRESSURE REGULATOR ASSY**

- (a) Pull out the fuel pressure regulator from the fuel tank fuel filter.
- (b) Remove the O-ring from the fuel pressure regulator.

16. INSTALL FUEL PRESSURE REGULATOR ASSY

- (a) Apply a light coat of gasoline or grease to a new O-ring, and install it to the fuel pressure regulator.
- (b) Push in the fuel pressure regulator to the fuel tank fuel filter.

17. INSTALL FUEL PUMP FILTER

- (a) Install the fuel pump filter with a new clip.

18. INSTALL FUEL PUMP

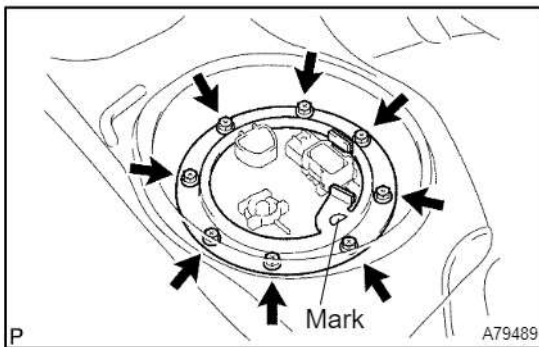
- (a) Apply a light coat of gasoline or grease to the O-ring of the fuel pump.
- (b) Push in the fuel pump to the fuel tank fuel filter.

19. INSTALL FUEL PUMP HARNESS**20. INSTALL FUEL SUCTION PLATE SUB-ASSY****21. INSTALL FUEL SENDER GAGE ASSY****22. INSTALL FUEL PUMP CUSHION RUBBER****23. INSTALL FUEL SUCTION SUPPORT NO.2****24. INSTALL VAPOR PRESSURE SENSOR ASSY****25. INSTALL FUEL SUCTION TUBE ASSY W/ PUMP & GAGE**

- (a) Install a new gasket to the fuel suction tube.
- (b) Install the fuel suction tube.

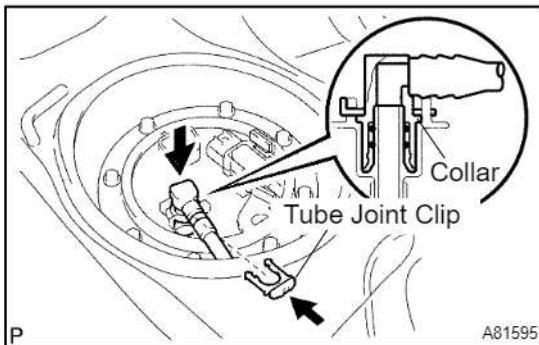
NOTICE:

- Do not damage the fuel pump filter.
- Do not bend the arm of the fuel sender gage.

**26. INSTALL FUEL TANK VENT TUBE SET PLATE**

- (a) Align the mark of the set plate with the fuel suction tube.
- (b) Install the set plate with the 8 bolts.

Torque: 5.9 N·m (60 kgf·cm, 52 in·lbf)

**27. CONNECT FUEL PUMP TUBE SUB-ASSY**

- (a) Install the fuel pump tube with the tube joint clip.

NOTICE:

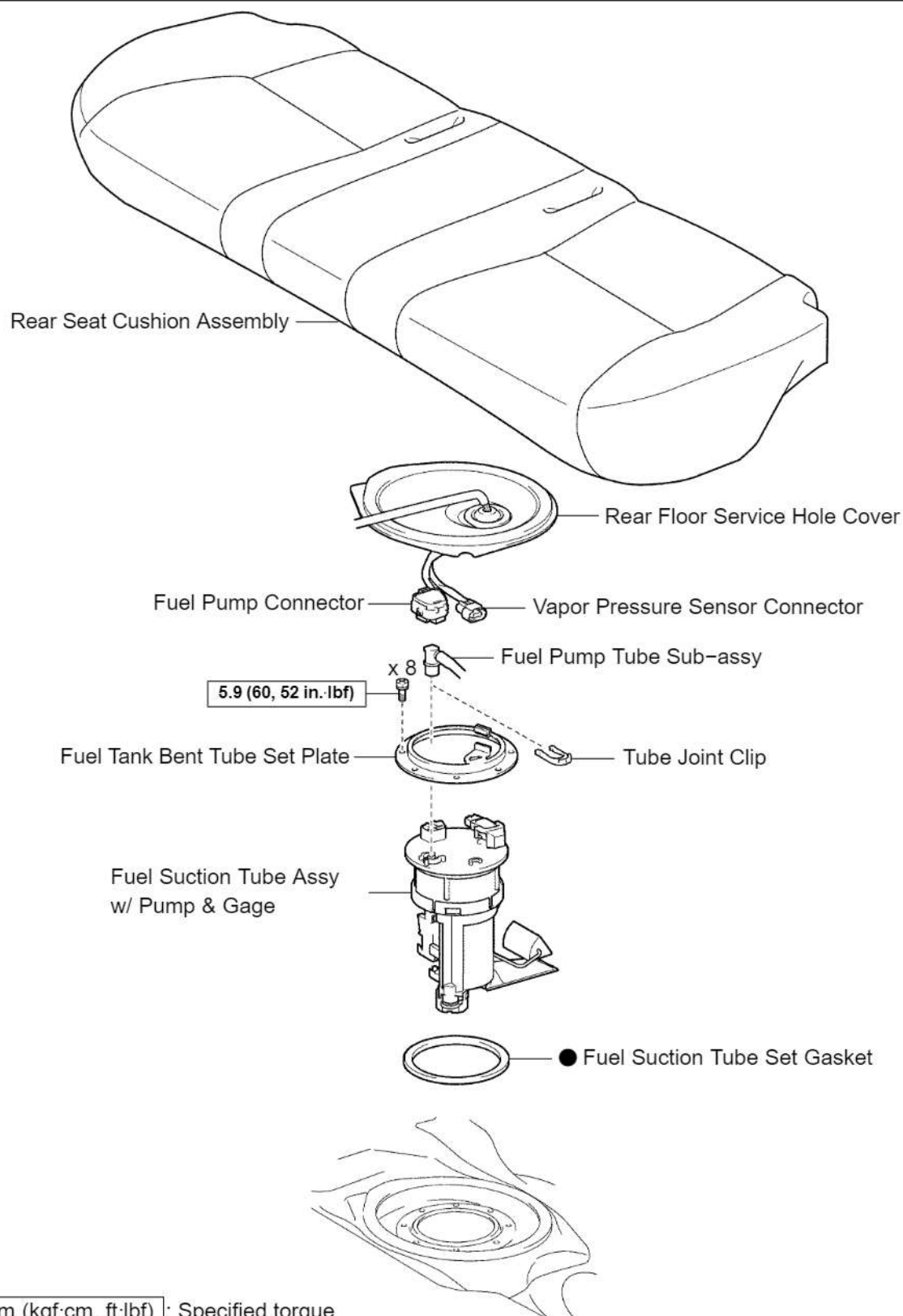
- Check that there are no scratches or foreign objects on the connecting part.
- Check that the fuel tube joint is inserted securely.
- Check that the tube joint clip is on the collar of the fuel tube joint.
- After installing the tube joint clip, check that the fuel tube joint has not been pulled off.

28. CHECK FOR FUEL LEAKS (See page 11-4)**29. INSTALL REAR FLOOR SERVICE HOLE COVER****30. INSTALL REAR SEAT CUSHION ASSEMBLY (See page 72-32)**

FUEL TANK ASSY (2AZ-FE)(From July, 2003)

COMPONENTS

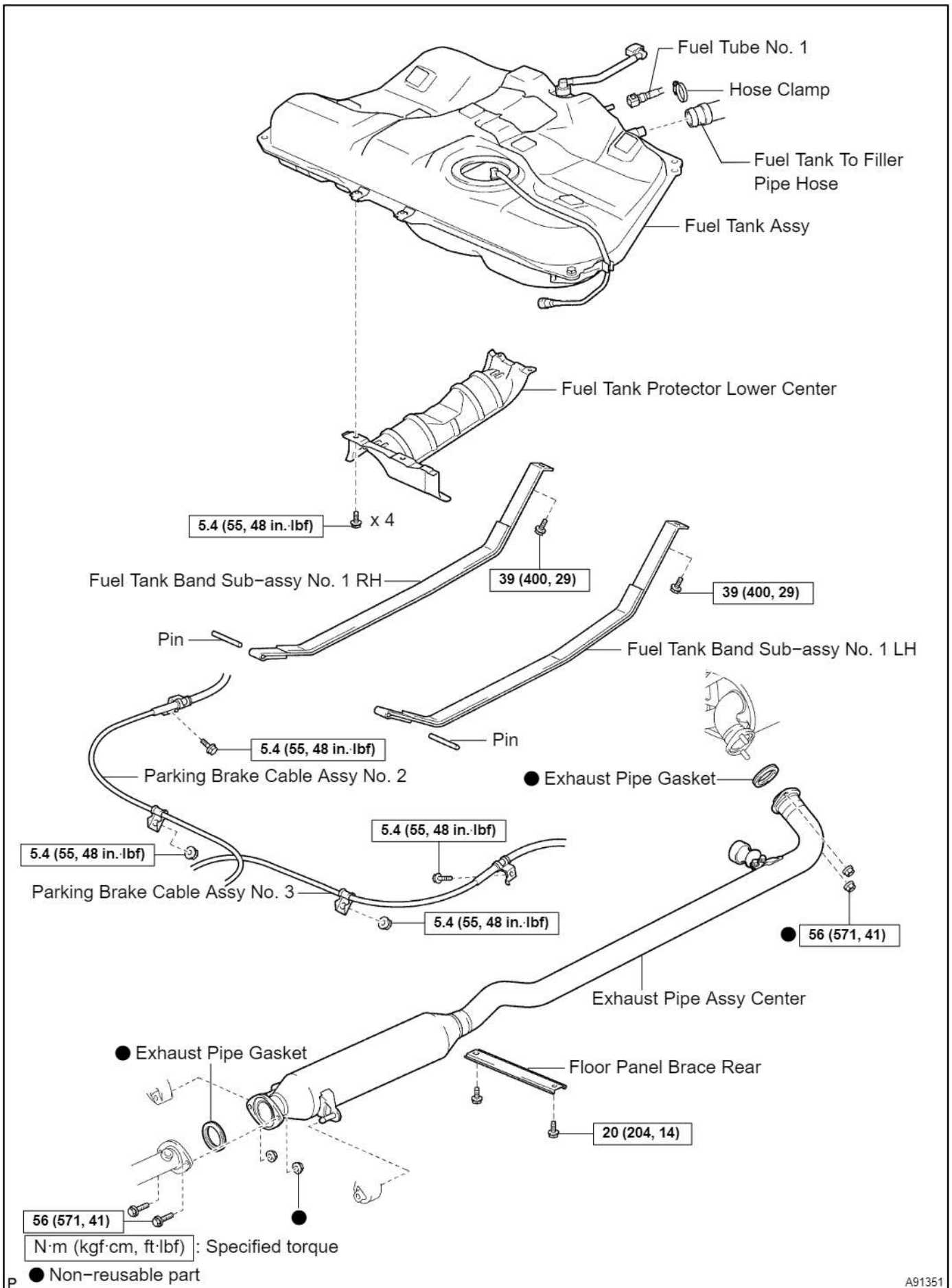
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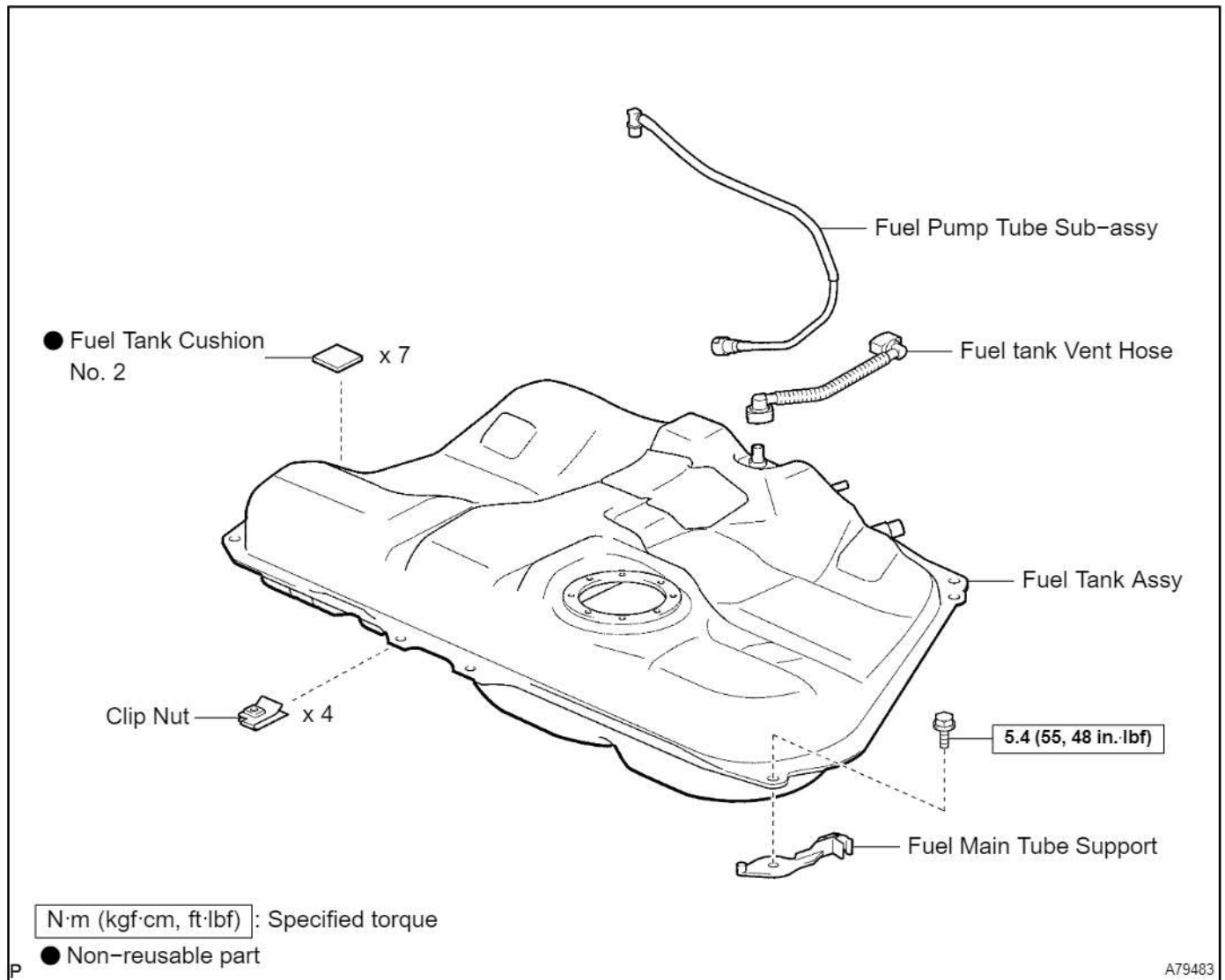


N·m (kgf·cm, ft·lbf) : Specified torque

P ● Non-reusable part

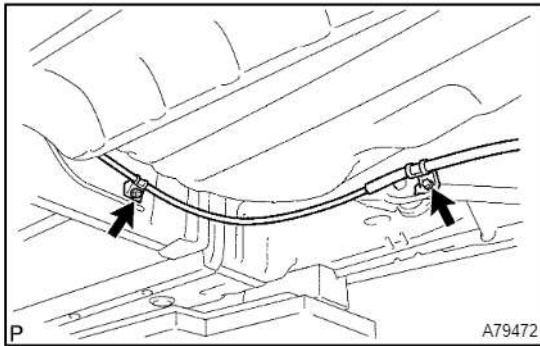
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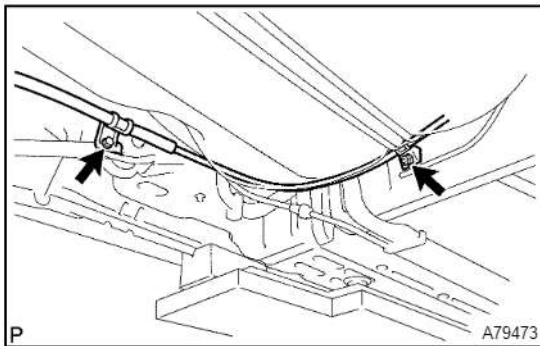


REPLACEMENT

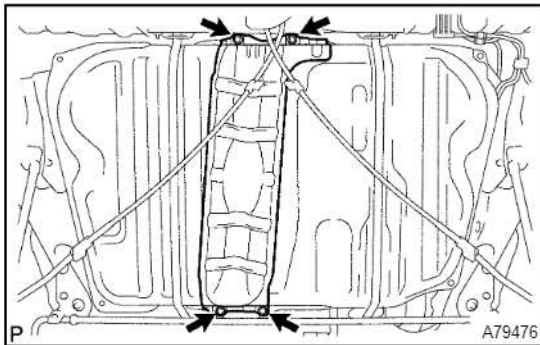
1. DISCHARGE FUEL SYSTEM PRESSURE (See page 11-1)
2. REMOVE REAR SEAT CUSHION ASSEMBLY (See page 72-32)
3. REMOVE REAR FLOOR SERVICE HOLE COVER (See page 11-14)
4. SEPARATE FUEL PUMP TUBE SUB-ASSY (See page 11-14)
5. REMOVE FUEL TANK VENT TUBE SET PLATE (See page 11-14)
6. REMOVE FUEL SUCTION TUBE ASSY W/ PUMP & GAGE (See page 11-14)
7. DRAIN FUEL
8. REMOVE FLOOR PANEL BRACE REAR (See page 15-3)
9. REMOVE EXHAUST PIPE ASSY CENTER
 - (a) Remove the 2 bolts, 4 nuts, exhaust pipe and 2 gaskets.



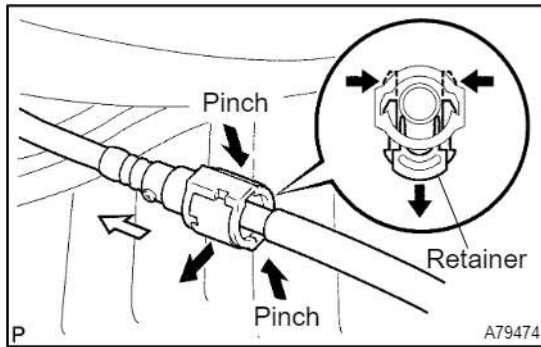
10. DISCONNECT PARKING BRAKE CABLE ASSY NO.2
 - (a) Remove the set bolt and the set nut of the parking brake cable.



11. DISCONNECT PARKING BRAKE CABLE ASSY NO.3
 - (a) Remove the set bolt and the set nut of the parking brake cable.

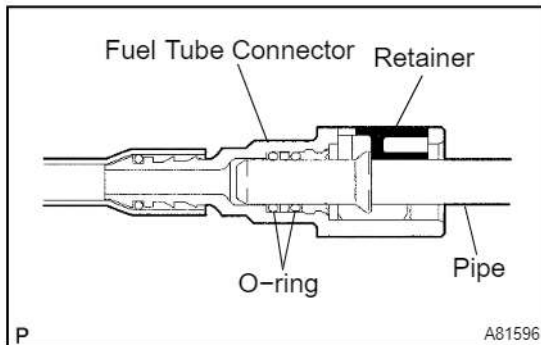


12. REMOVE FUEL TANK PROTECTOR LOWER CENTER
 - (a) Remove the 4 bolts and fuel tank protector.



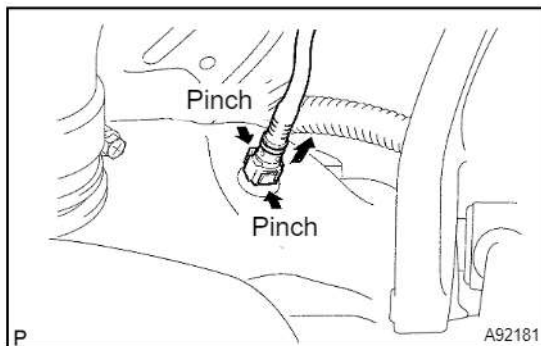
13. REMOVE FUEL TANK ASSY

- (a) Disconnect the fuel pump tube.
 - (1) Pinch the tab of the retainer to remove the lock claws and pull down it as shown in the illustration.
 - (2) Pull out the fuel tank main tube.

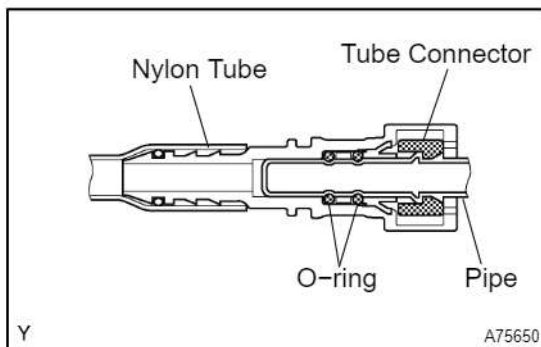


NOTICE:

- Before this operation, check the connector for dirt, mud or other contamination.
- Be careful of mud. The connector's O-ring, which seals the pipe and connector, becomes contaminated easily.
- Do not use any tools in this operation.
- Do not bend or twist the nylon tube. Protect the connector by covering it with a vinyl or plastic bag.
- When the pipe and connector are stuck, push and pull the connector to release it. Then pull out the connector from the pipe.

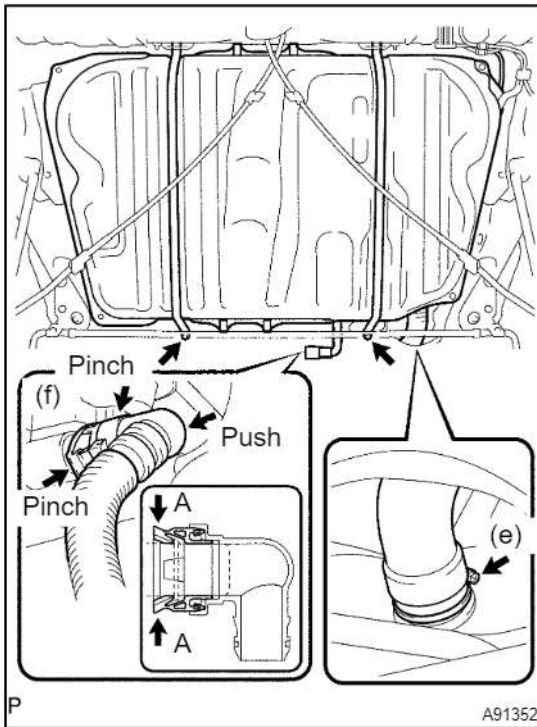


- (b) Disconnect the fuel tube No. 1.
 - (1) Pinch the tube connector and then pull out the fuel tube No. 1.

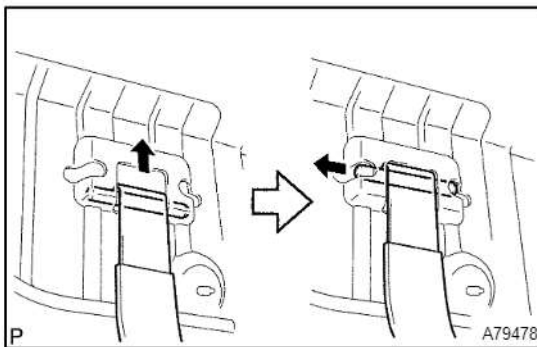


NOTICE:

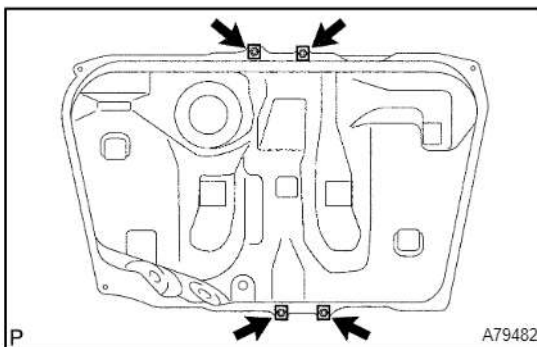
- Before this operation, check the connector for dirt, mud or other contamination.
- Be careful of mud. The connector's O-ring, which seals the pipe and connector, becomes contaminated easily.
- Do not use any tools in this operation.
- Do not bend or twist the nylon tube. Protect the connector by covering it with a vinyl or plastic bag.
- When the pipe and connector are stuck, push and pull the connector to release it. Then pull out the connector from the pipe.



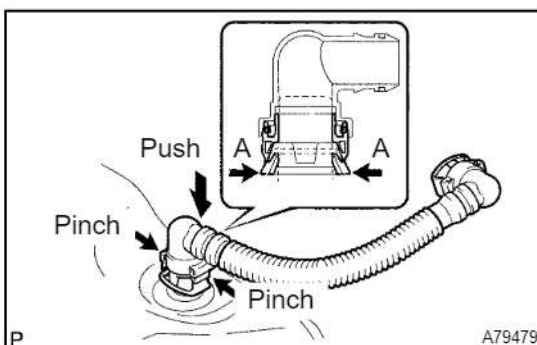
- (c) Set up a transmission jack underneath the fuel tank.
- (d) Remove the 2 set bolts of the fuel tank bands.
- (e) Remove the hose clamp and disconnect the fuel tank to filler pipe hose.
- (f) Disconnect the fuel tank vent hose from the charcoal canister.
 - (1) Push the connector deep into the charcoal canister to release the locking pin.
 - (2) Pinch portion A.
 - (3) Pull out the connector.
- (g) Remove the fuel tank.



- (h) Remove the 2 pins and 2 fuel tank bands as shown in the illustration.

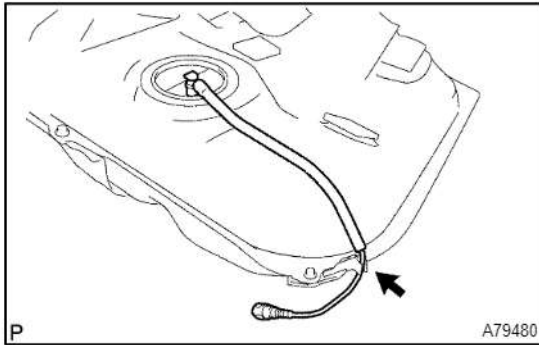


- (i) Remove the 4 clip nuts.

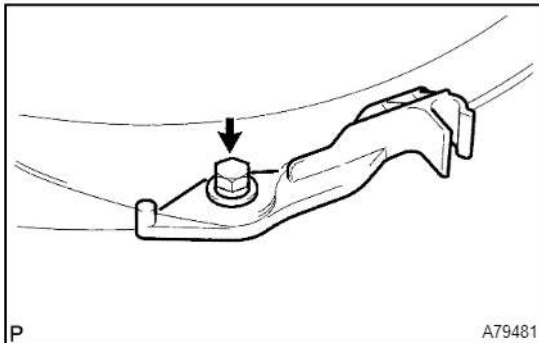


14. REMOVE FUEL TANK VENT HOSE

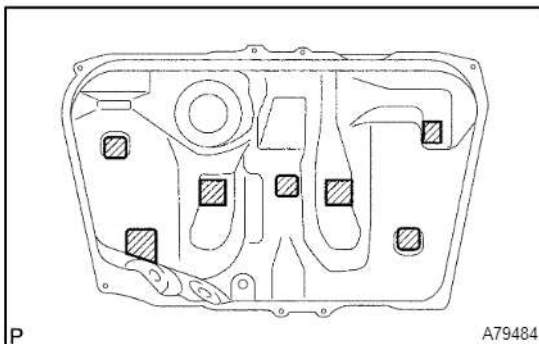
- (a) Push the connector deep into the charcoal canister to release the locking pin.
- (b) Pinch portion A.
- (c) Pull out the connector.

**15. REMOVE FUEL PUMP TUBE SUB-ASSY**

- (a) Remove the fuel pump tube from the fuel main tube support.

**16. REMOVE FUEL MAIN TUBE SUPPORT**

- (a) Remove the bolt and tube support.

**17. REMOVE FUEL TANK CUSHION NO.2****18. INSTALL FUEL TANK CUSHION NO.2**

- (a) Install 7 new fuel tank cushions to the fuel tank.

19. INSTALL FUEL MAIN TUBE SUPPORT

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

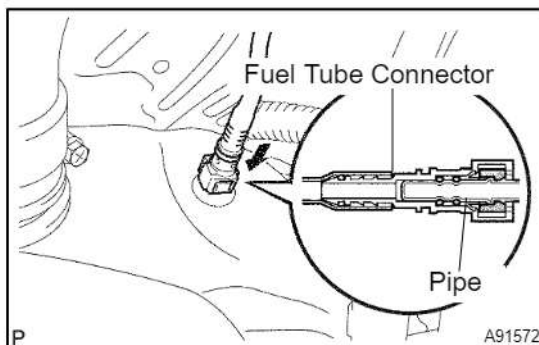
20. INSTALL FUEL PUMP TUBE SUB-ASSY**21. INSTALL FUEL TANK VENT HOSE****22. INSTALL FUEL TANK ASSY**

- (a) Install the 4 clip nuts.
 (b) Install the 2 fuel tank bands with the 2 pins.
 (c) Connect the fuel tank vent hose.
 (d) Connect the fuel tank inlet pipe with the fuel filler pipe clamp.
 (e) Tighten the set 2 bolts of the fuel tank bands.

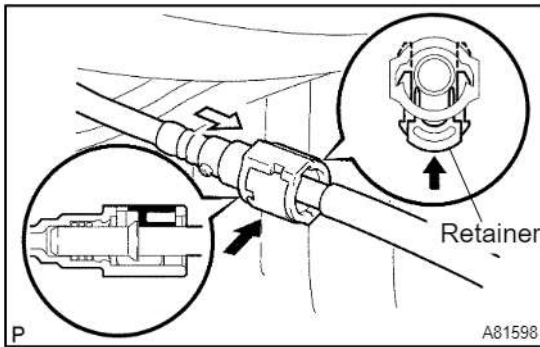
Torque: 39 N·m (400 kgf·cm, 29 ft·lbf)

- (f) Connect the fuel tube No. 1.

- (1) Push the fuel tube connector into the pipe until fuel tube connector makes "click" sound.

**NOTICE:**

- Check if there is any damage or foreign objects on the connected part.
- After connecting, check if the fuel tube connector and the pipe are securely connected by trying to pull them apart.



(g) Connect the fuel pump tube.

- (1) Push in the fuel tube connector to the pipe until, and push up retainer to the claws lock.

NOTICE:

- Check if there is any damage or foreign objects on the connected part.
- After connecting, check if the fuel tube connector and the pipe are securely connected by trying to pull them apart.

23. INSTALL FUEL TANK PROTECTOR LOWER CENTER

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

24. INSTALL PARKING BRAKE CABLE ASSY NO.3

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

25. INSTALL PARKING BRAKE CABLE ASSY NO.2

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

26. INSTALL EXHAUST PIPE ASSY CENTER

- (a) Install 2 new gaskets and the exhaust pipe with the 2 bolts and 4 new nuts.

Torque: 56 N·m (571 kgf·cm, 41 ft·lbf)

27. INSTALL FUEL SUCTION TUBE ASSY W/ PUMP & GAGE (See page 11-14)

28. INSTALL FUEL TANK VENT TUBE SET PLATE (See page 11-14)

29. CONNECT FUEL PUMP TUBE SUB-ASSY (See page 11-14)

30. ADD FUEL

31. CHECK FOR FUEL LEAKS (See page 11-4)

32. CHECK FOR EXHAUST GAS LEAKS

33. INSTALL REAR FLOOR SERVICE HOLE COVER (See page 11-14)

34. INSTALL REAR SEAT CUSHION ASSEMBLY (See page 72-32)

35. INSTALL FLOOR PANEL BRACE REAR (See page 15-3)

FUEL SYSTEM (1MZ-FE/3MZ-FE)

110UM-03

PRECAUTION

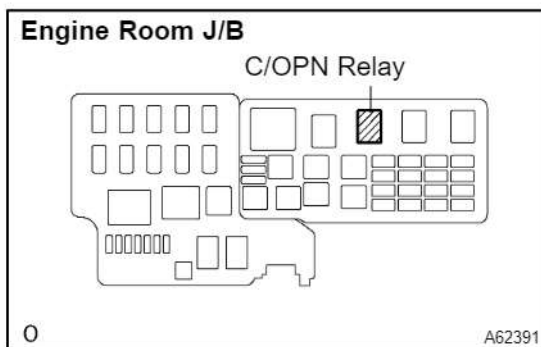
1. PRECAUTION

- Before working on the fuel system, disconnect the negative (-) terminal cable from the battery.
- Do not smoke or be near an open flame when working on the fuel system.
- Keep gasoline away from rubber or leather parts.

2. DISCHARGE FUEL SYSTEM PRESSURE

CAUTION:

- Do not disconnect any part of the fuel system until you have discharged the fuel system pressure.
- Even after discharging the fuel pressure, place a shop rag over fittings as you separate them to reduce risk of fuel spray on yourself or in the engine compartment.



- Remove the C/OPN relay from the engine room J/B.
- Start the engine. After the engine has stopped, turn the ignition switch OFF.

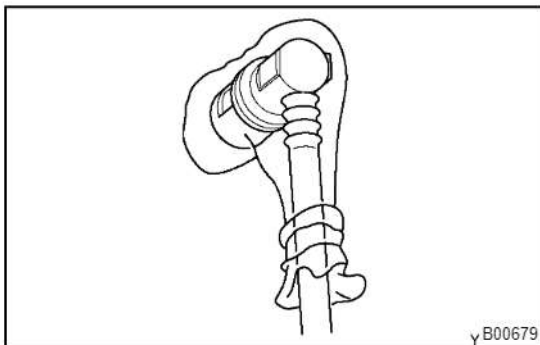
HINT:

There is a case that DTC P0171 (system too lean) is output.

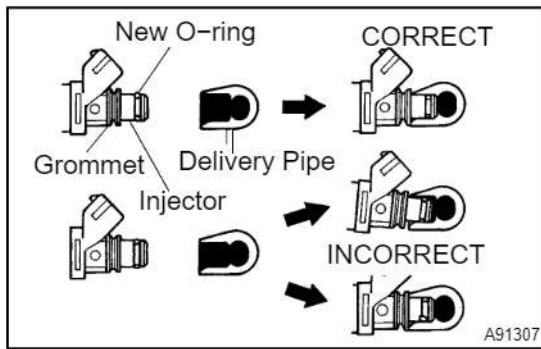
- Check that the engine does not start.
- Remove the fuel tank cap, and allow the air out of the fuel tank.
- Disconnect the negative (-) terminal cable from the battery.
- Reinstall the C/OPN relay.

3. FUEL SYSTEM

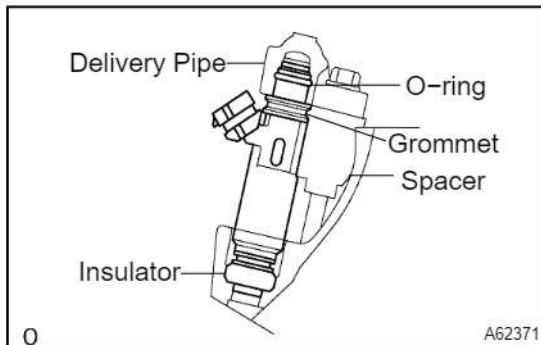
- When disconnecting the high fuel pressure line, a large amount of gasoline will spill out, so observe these procedures.
 - Try to prevent gasoline from spilling out.
 - Disconnect the fuel pump tube (see page 11-45).
 - Drain the fuel remaining inside the fuel pump tube.



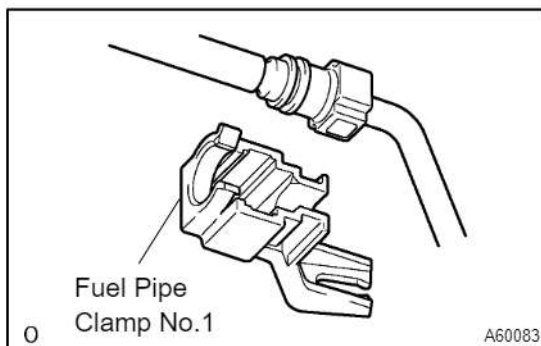
- To protect the disconnected fuel pump tube from damage and contamination, cover it with a vinyl bag.
- Put a container under the connection.



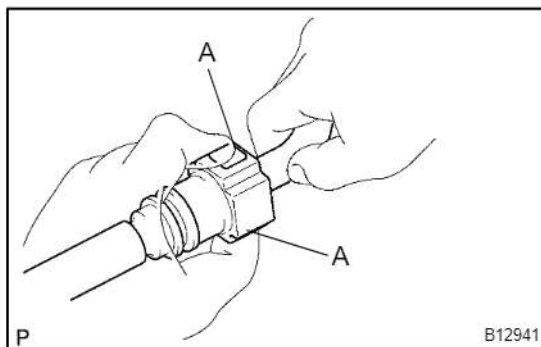
- (b) Observe the following precautions when removing and installing the fuel injectors.
- (1) Never reuse O-rings.
 - (2) When installing a new O-ring on the injector, be careful not to damage it.
 - (3) Coat new O-rings with grease or gasoline before installing. Never use engine oil, gear oil or brake oil.



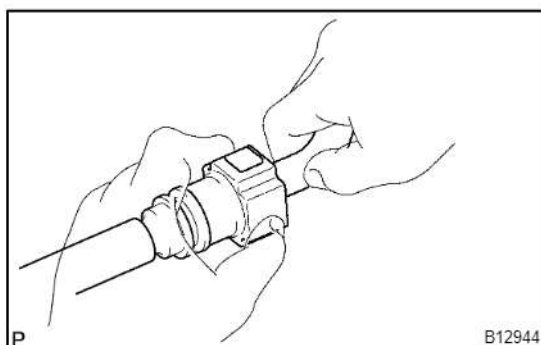
- (c) Install the injector to the delivery pipe and cylinder head, as shown in the illustration. Before installing the injector, be sure to apply grease or gasoline on the place where the delivery pipe contacts the O-ring of the injector.



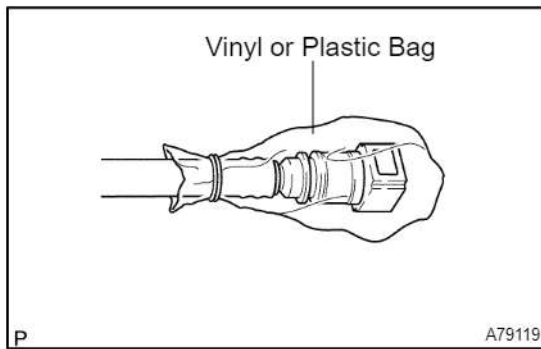
- (d) Observe these precautions when disconnecting the fuel tube connectors.
- (1) Remove the fuel pipe clamp from the connector.
 - (2) Check for dirt or mud on the pipe and around the connector before disconnection. Clean if necessary.



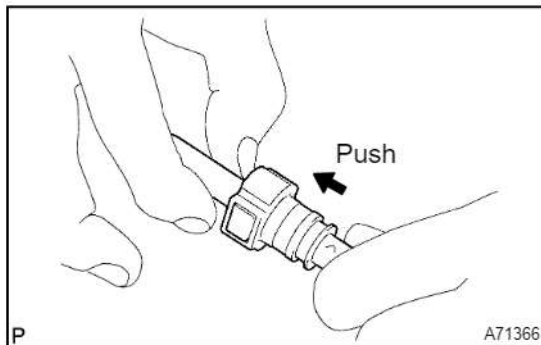
- (3) Disconnect the connector from the hose while pinching part A with your fingers, as shown in the illustration.



- (4) If the connector and the pipe are stuck, pinch the fuel pipe, push and pull the connector to disconnect it and pull it out. Do not use any tools.
- (5) If dirt or any other substance is found on the sealing surface that might interfere with the seal, clean the area thoroughly before assembly.

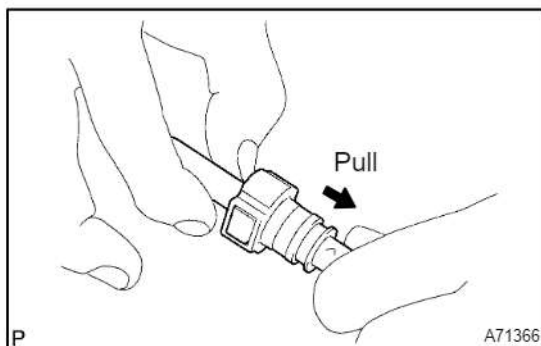


- (6) To protect the disconnected pipe and connector from damage and contamination, cover it with a vinyl bag.



- (e) Observe these precautions when connecting the fuel tube connector.

- (1) Check that there is no damage or contamination in the connected part of the pipe.
- (2) Align the axis of the connector with the axis of the pipe. Push the pipe into the connector until the connector makes a "click" sound. If the connection is tight, apply little amount of fresh engine oil on the tip of the pipe.



- (3) After having finished the connection, check if the pipe and the connector are securely connected by trying to pull them apart.
- (4) Install the fuel pipe clamp to the connector.
- (5) Check if there is any fuel leakage.

4. CHECK FOR FUEL LEAKS

- (a) Check that there are no fuel leaks after doing maintenance anywhere on the fuel system (see page 11-29).

ON-VEHICLE INSPECTION

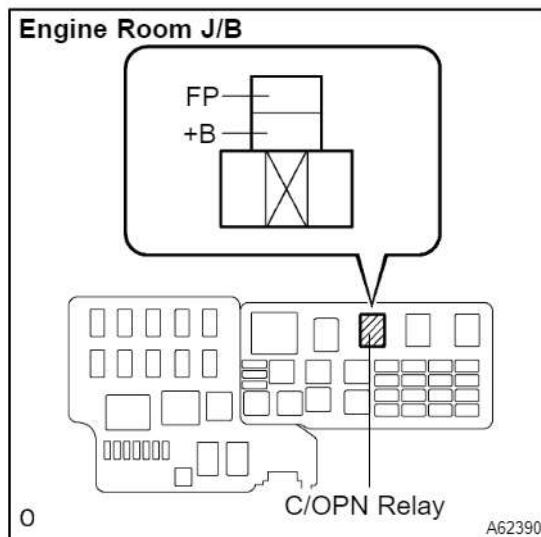
1. CHECK FUEL PUMP OPERATION AND FUEL LEAKS

- (a) When using the hand-held tester:
Check fuel pump operation.
- (1) Connect the hand-held tester to the DLC3.
 - (2) Turn the ignition switch ON and push the hand-held tester main switch ON.

NOTICE:

Do not start the engine.

- (3) Select the ACTIVE TEST mode on the hand-held tester.
- (4) If you need help to select active test on the hand-held tester, refer to the hand-held tester instruction manual.
- (5) Turn the ignition switch OFF.
- (6) Disconnect the hand-held tester from the DLC3.



- (b) When not using the hand-held tester:
Check fuel pump operation.
- (1) Remove the C/OPN relay from the engine room J/B.
 - (2) Using a service wire, connect terminals FP and +B of the engine room J/B.

NOTICE:

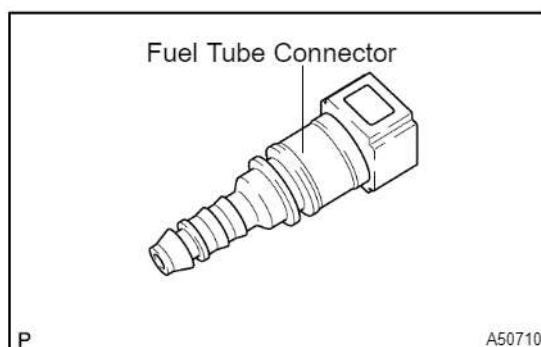
Pay close attention to the terminal connecting position to avoid a malfunction.

- (3) Turn the ignition switch ON, and check that the fuel pump operates.

NOTICE:

Do not start the engine.

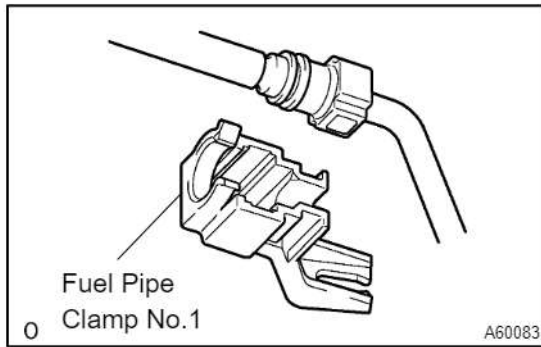
- (c) Check that there are no fuel leaks after doing maintenance anywhere on the fuel system.
- (d) Turn the ignition switch OFF.
- (e) Remove the service wire from the engine room J/B.
- (f) Install the C/OPN relay to the engine room J/B.



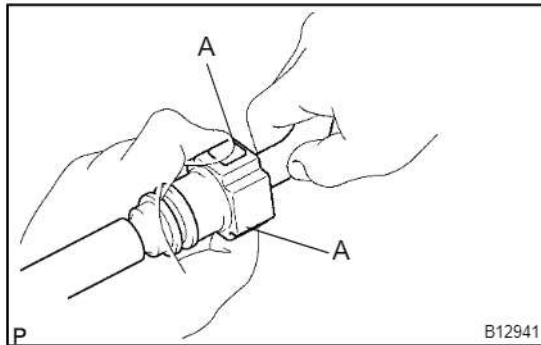
2. CHECK FUEL PRESSURE

- (a) Check that the battery positive voltage is above 12 V.
- (b) Disconnect the negative (-) terminal cable from the battery.
- (c) Purchase a new fuel tube and take out the fuel tube connector from its pipe.

Fuel tube: Part No. 23801-20190



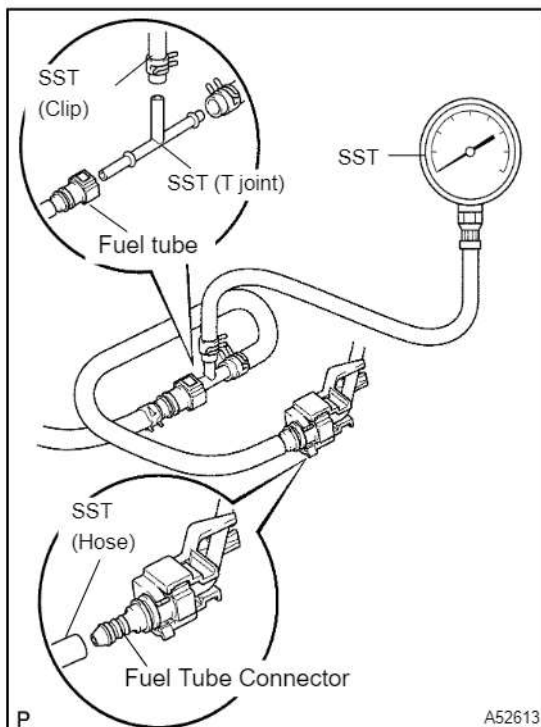
- (d) Remove the fuel pipe clamp from the fuel tube connector.



- (e) Disconnect the fuel tube connector from the fuel pipe by pinching part A with your fingers, as shown in the illustration.

CAUTION:

- Always read the precautions (see page 11-26) before disconnecting the fuel tube connector (quick type).
- The fuel pipe line may spray fuel as a result of retained pressure that remains in it. Do not allow fuel to be sprayed in the engine compartment.



- (f) Install SST (pressure gauge) and fuel tube connector using SST as shown in the illustration.

SST 09268-41047 (90467-13001, 95336-08070),
09268-45014 (09268-41200, 09268-41220,
09268-41250)

- (g) Wipe off any gasoline.
- (h) Reconnect the negative (-) battery cable.
- (i) When using hand-held tester:
Operate the fuel pump (see step 1 (a)).
- (j) When not using hand-held tester:
Operate the fuel pump (see step 1 (b)).
- (k) Measure the fuel pressure.

Fuel pressure:

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

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

If the pressure is low, check the fuel hoses and connections, fuel pump, fuel filter and fuel pressure regulator.

- (l) Start the engine.
- (m) Measure the fuel pressure at idle.

Fuel pressure:

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

- (n) Stop the engine.

- (o) Check that the fuel pressure remains as specified for 5 minutes after the engine has stopped.

Fuel pressure: 147 kPa (1.5 kgf/cm², 21 psi)

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

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

CAUTION:

Always read the precautions (see page 11-26) before connecting the fuel tube connector (quick type).

INSPECTION

1. INSPECT FUEL INJECTOR ASSY

(a) Check the injector resistance.

(1) Measure the resistance between the terminals.

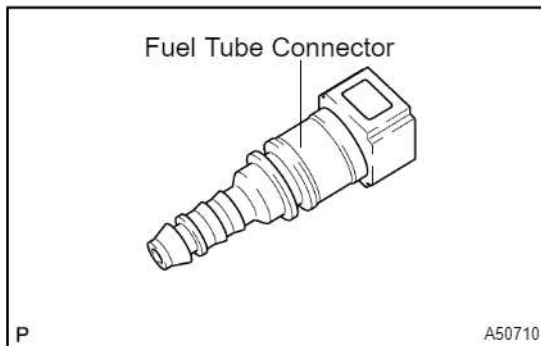
Standard: 13.4 to 14.2 Ω at 20°C (68°F)

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

(b) Check the injector injection.

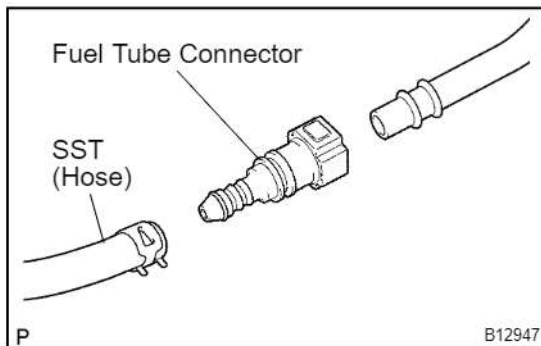
CAUTION:

- This test involves high-pressure fuel and electricity.
- Take every precaution regarding safe handling of both the fuel and the electricity.
- Perform this test in a safe area, and avoid any sparks or flame.
- Do not smoke.



(1) Purchase the new fuel tube and take out the fuel tube connector from its pipe.

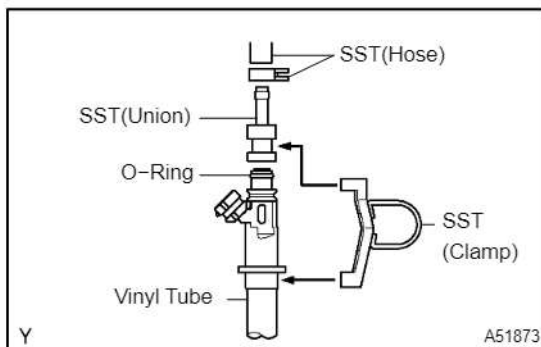
Fuel tube: Parts No. 23801-20190



(2) Connect SST and the fuel tube connector to the fuel pipe.

CAUTION:

Always read the precautions (see page 11-26) before connecting the fuel tube connector (quick type).



(3) Install the O-ring to the injector.

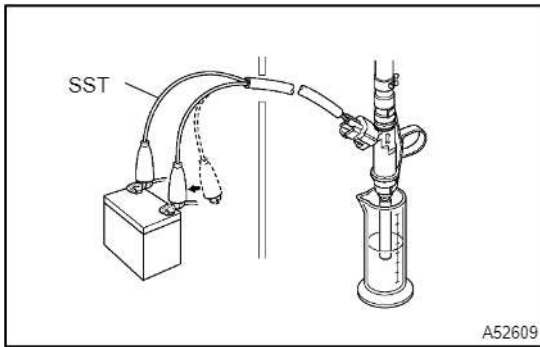
(4) Connect SST (union and hose) to the injector, and hold the injector and the union with SST (clamp)

(5) Put the injector into a graduated cylinder.

HINT:

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

(6) Operate the fuel pump (see page 11-29).



- (7) Connect SST (wire) to the injector and the battery for 15 seconds, and measure the injection volume with a graduated cylinder. Test each injector 2 or 3 times.

SST 09842-30070

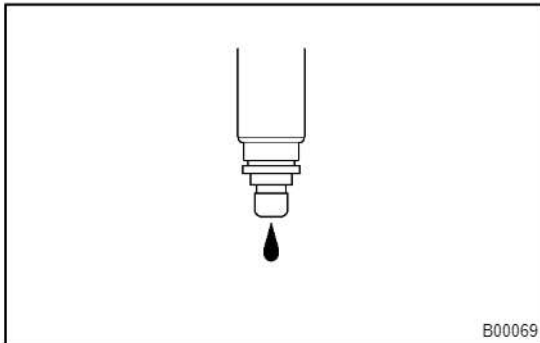
Standard:

Injection Volume	Difference Between Each Injector
60 to 73 cm ³ (3.7 to 4.5 cu in.) per 15 seconds	13 cm ³ (0.8 cu in.) or less

NOTICE:

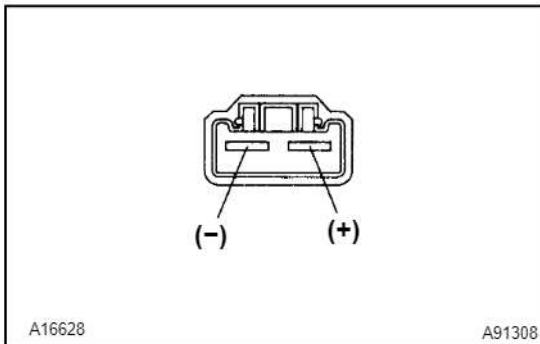
Always turn on and off the voltage on the battery side, not the fuel pump side.

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



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

Fuel drop: 1 drop or less per 12 minutes



2. INSPECT FUEL PUMP

- (a) Check the fuel pump resistance.
- (1) Measure the resistance between the terminals.
Standard: 0.2 to 3.0 Ω at 20°C (68°F)
- (b) Check fuel pump operation.
- (1) Apply battery voltage to both the terminals. Check that the pump operates.

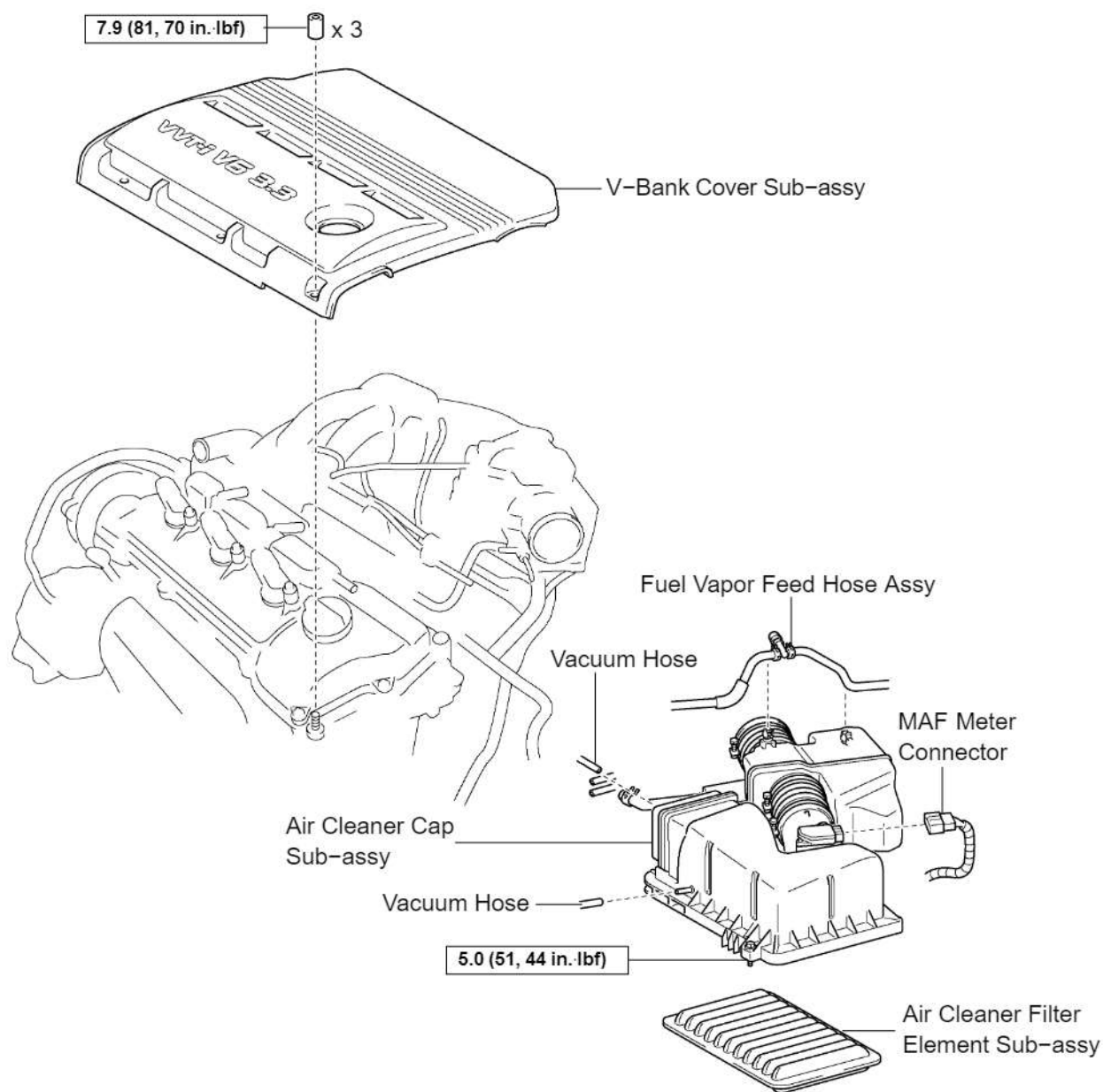
NOTICE:

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

FUEL INJECTOR ASSY (1MZ-FE/3MZ-FE)

COMPONENTS

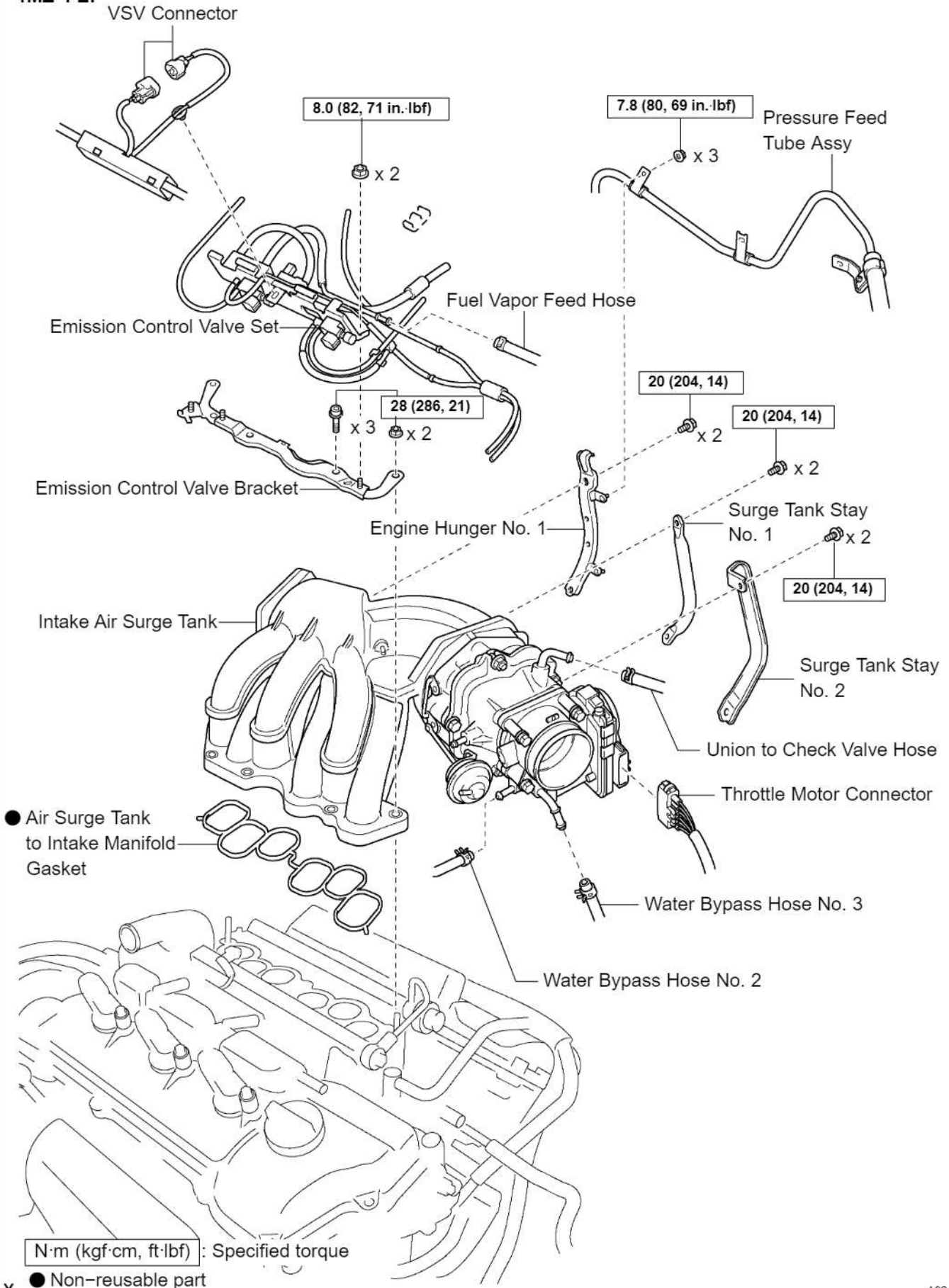
11028-02

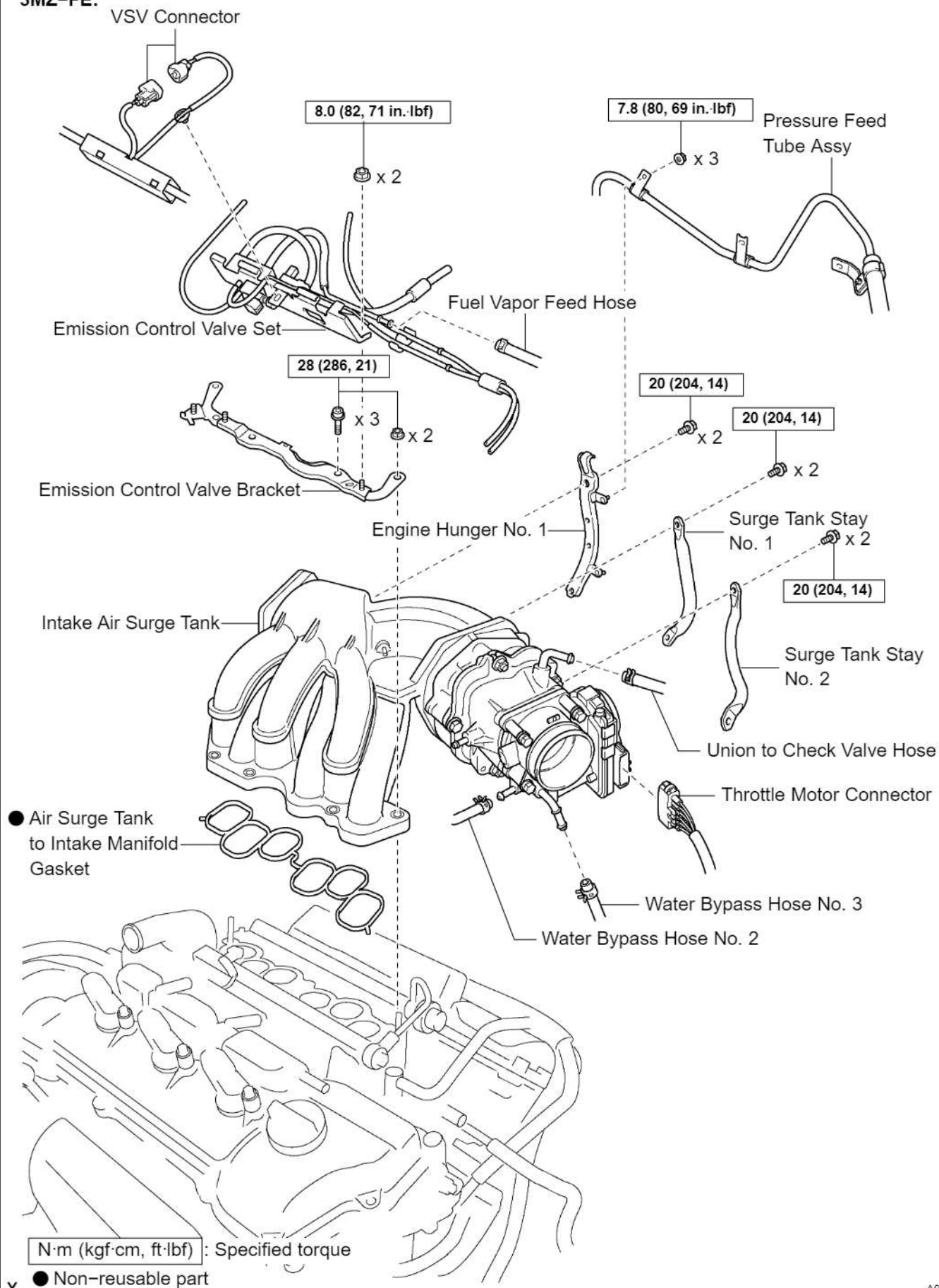


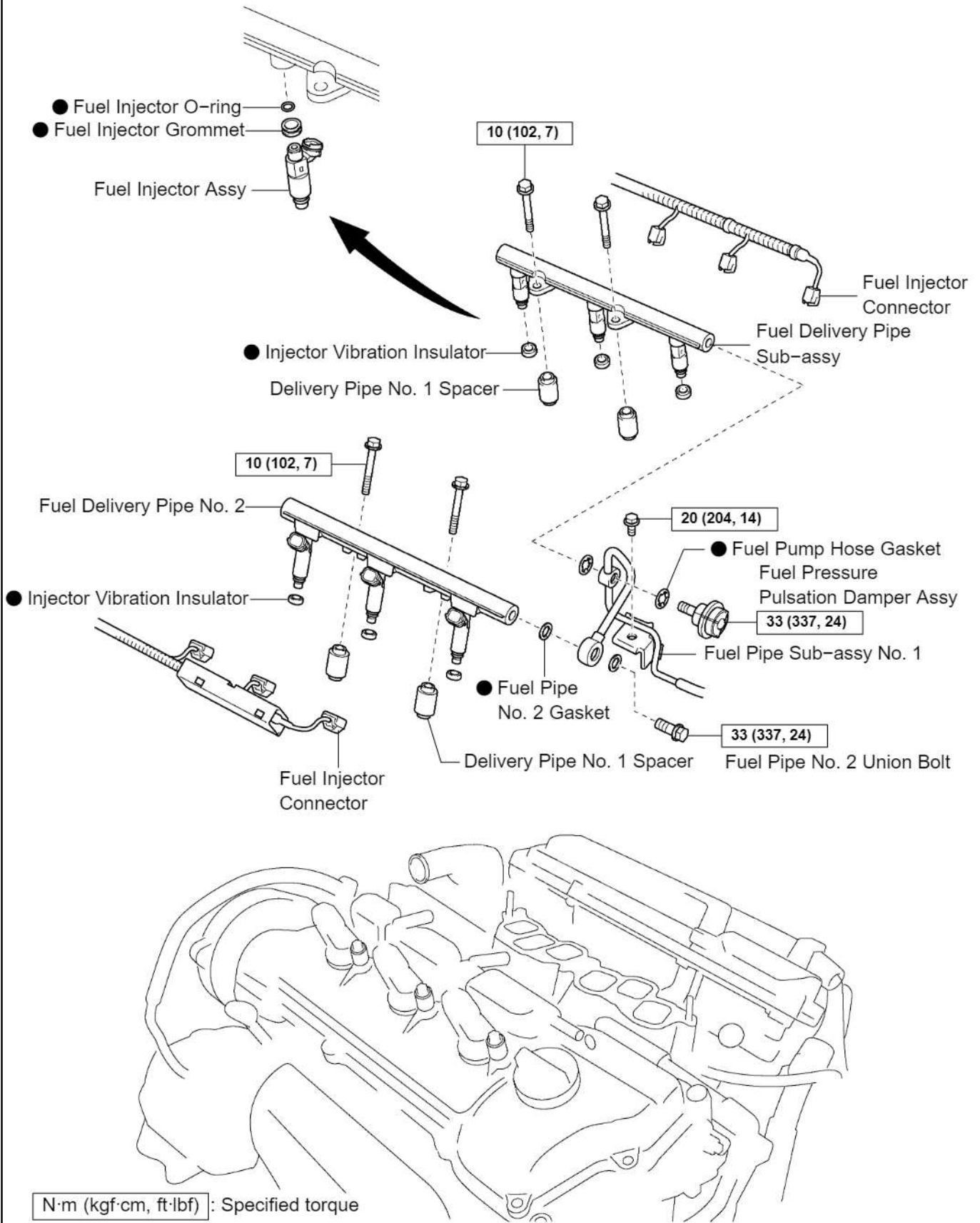
N·m (kgf·cm, ft·lbf) : Specified torque

A88626

1MZ-FE:

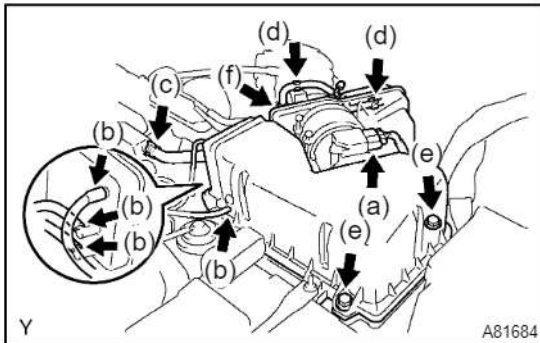


3MZ-FE:



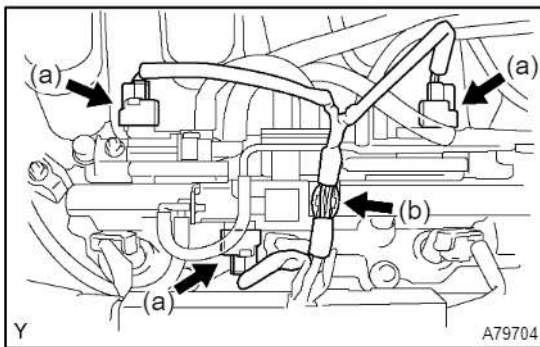
REPLACEMENT

1. DISCHARGE FUEL SYSTEM PRESSURE (See page 11-26)
2. DRAIN ENGINE COOLANT (See page 16-27)
3. REMOVE FRONT SUSPENSION UPPER BRACE CENTER
 - (a) Remove the 2 nuts and upper brace.
4. REMOVE V-BANK COVER SUB-ASSY (See page 10-18)



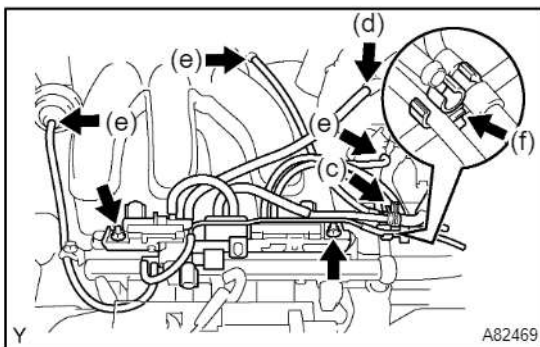
5. REMOVE AIR CLEANER CAP SUB-ASSY

- (a) Disconnect the MAF meter connector.
- (b) Disconnect the 4 vacuum hoses.
- (c) Disconnect the ventilation hose No. 2.
- (d) Remove the fuel vapor feed hose from the 2 hose clamps.
- (e) Loosen the 2 air cleaner cap bolts.
- (f) Loosen the air cleaner hose clamp bolt, and remove the air cleaner cap.
- (g) Remove the air cleaner filter element.

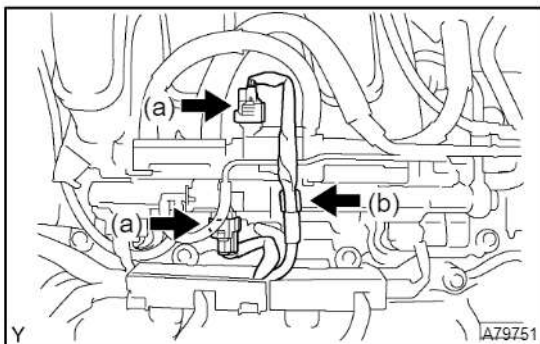


6. REMOVE EMISSION CONTROL VALVE SET (1MZ-FE ENGINE TYPE)

- (a) Disconnect the 3 VSV connectors.
- (b) Remove the wire harness clamp.

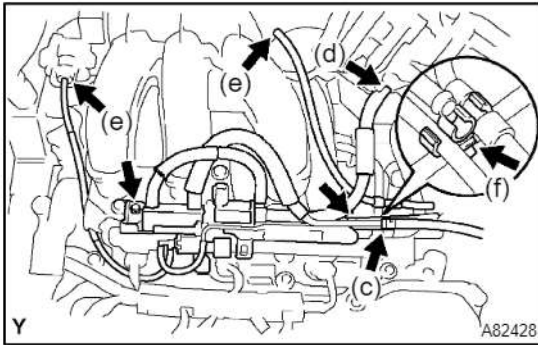


- (c) Disconnect the fuel vapor feed hose No. 1.
- (d) Disconnect the fuel vapor feed hose No. 2.
- (e) Disconnect the 3 vacuum hoses.
- (f) Remove the clamp.
- (g) Remove the 2 nuts, and then remove the emission control valve set.

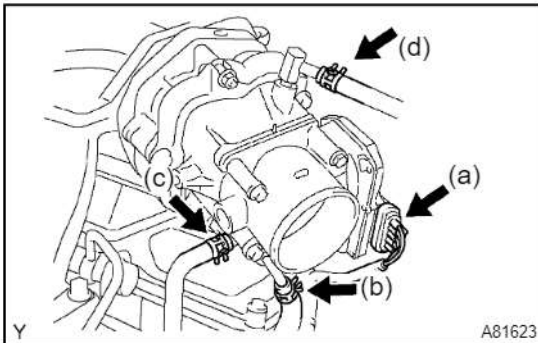


7. REMOVE EMISSION CONTROL VALVE SET (3MZ-FE ENGINE TYPE)

- (a) Disconnect the 2 VSV connectors.
- (b) Remove the wire harness clamp.

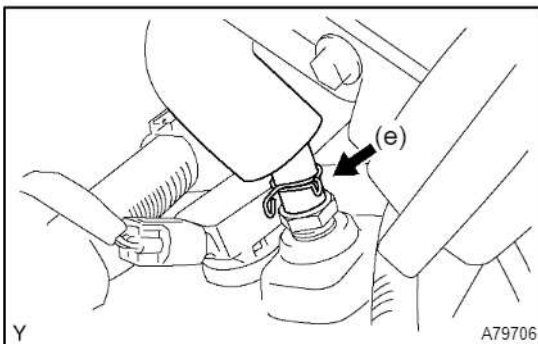


- (c) Disconnect the fuel vapor feed hose No. 1.
- (d) Disconnect the fuel vapor feed hose No. 2.
- (e) Disconnect the 2 vacuum hoses.
- (f) Remove the clamp.
- (g) Remove the 2 nuts and the emission control valve set.

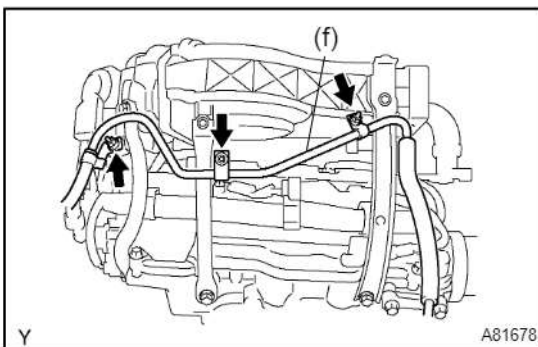


8. REMOVE INTAKE AIR SURGE TANK

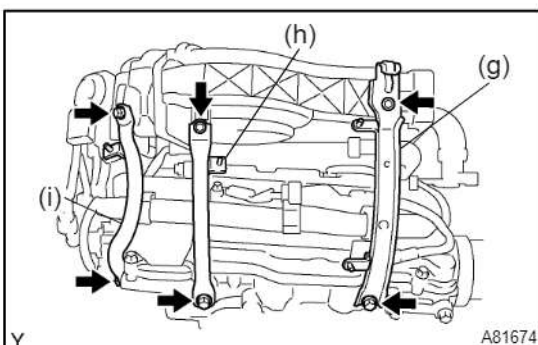
- (a) Disconnect the throttle motor connector.
- (b) Disconnect the water bypass hose No. 3.
- (c) Disconnect the water bypass hose No. 2.
- (d) Disconnect the union to check valve hose.



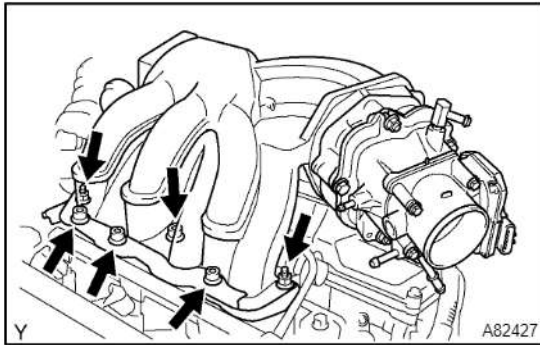
- (e) Disconnect the ventilation hose.



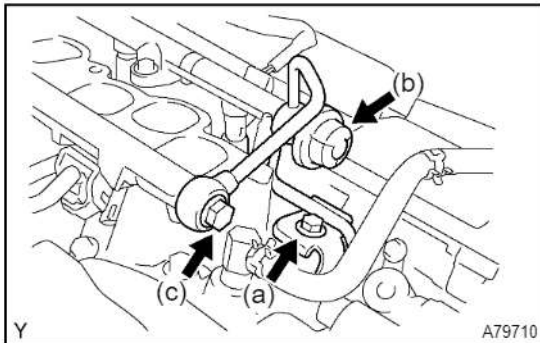
- (f) Remove the 3 nuts and separate the pressure feed tube.



- (g) Remove the 2 bolts and engine hanger No. 1.
- (h) Remove the 2 bolts and surge tank stay No. 1.
- (i) Remove the 2 bolts and surge tank stay No. 2.

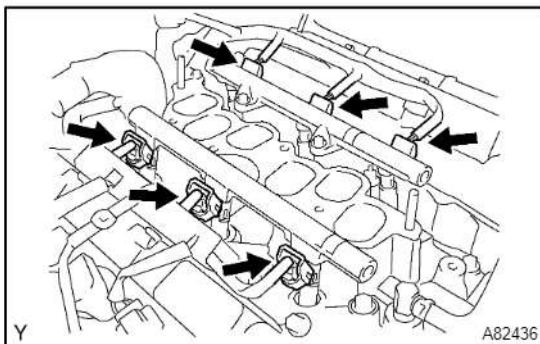


- (j) Using a socket hexagon wrench 8, remove the 4 bolts.
- (k) Remove the 2 nuts, emission control valve bracket and intake air surge tank.
- (l) Remove the gasket from the intake air surge tank.



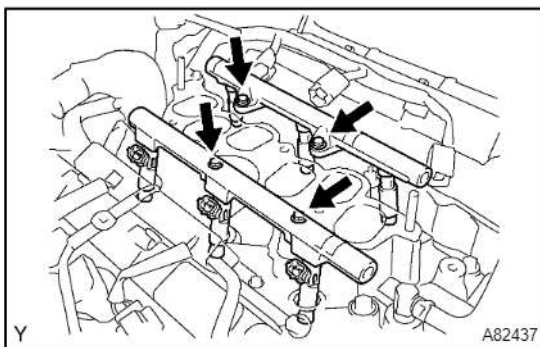
9. SEPARATE FUEL PIPE SUB-ASSY NO.1

- (a) Remove the bolt and disconnect the fuel pipe No. 1.
- (b) Remove the fuel pressure pulsation damper and 2 gaskets.
- (c) Remove the fuel pipe No. 2 union bolt and 2 gaskets.



10. REMOVE FUEL INJECTOR ASSY

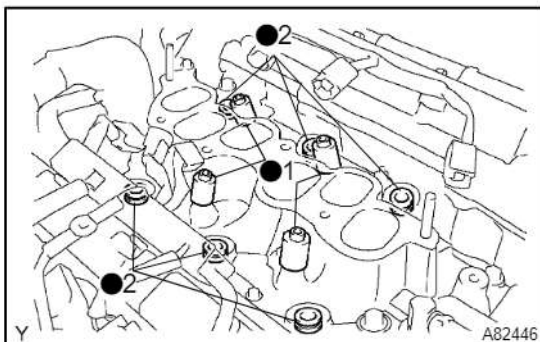
- (a) Disconnect the 6 fuel injector connectors.



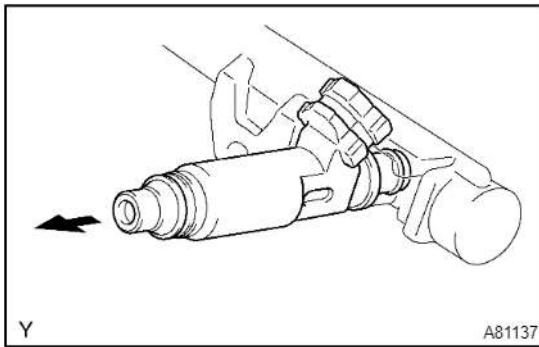
- (b) Remove the 4 bolts and 2 fuel delivery pipes together with the 6 fuel injectors.

NOTICE:

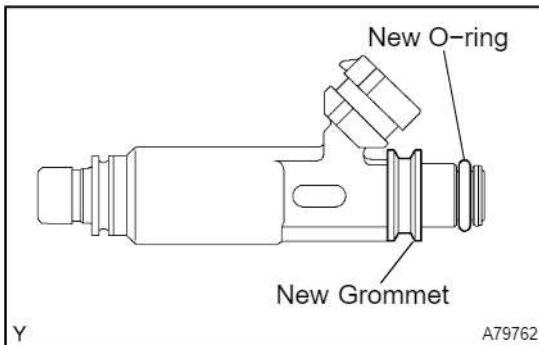
Be careful not to drop the fuel injectors when removing the fuel delivery pipe.



- (c) Remove the 4 delivery pipe No. 1 spacers (●1) and 6 insulators (●2) from the intake manifold.

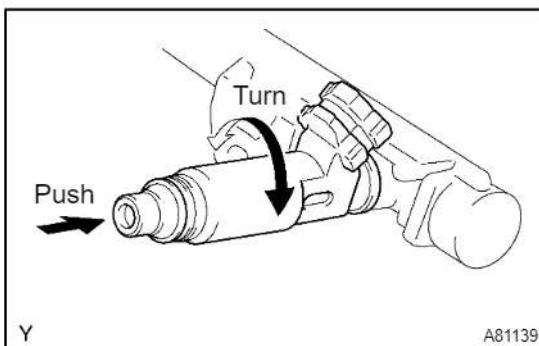


- (d) Pull out the fuel injector from the fuel delivery pipe.



11. INSTALL FUEL INJECTOR ASSY

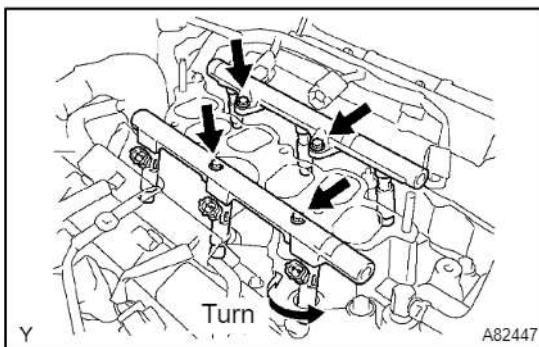
- (a) Install a new grommet to each injector.
(b) Apply a light coat of grease or gasoline to a new O-ring, and install it to each injector.



- (c) Apply a light coat of grease or gasoline on the place where the fuel delivery pipe contacts the O-ring.
(d) Push the fuel injector while twisting it back and forth to install it in the fuel delivery pipe.

NOTICE:

- Be careful not to twist the O-ring.
- After installing the fuel injector, check that it turns smoothly. If not, reinstall it with a new O-ring.



- (e) Install 6 new insulators and the 4 delivery pipe No. 1 spacers to the intake manifold.
(f) Place the 2 fuel delivery pipes and the 6 fuel injectors together on the intake manifold.

NOTICE:

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

- (g) Temporarily install the 4 bolts which are used to attach the fuel delivery pipe to the intake manifold.

NOTICE:

After installing the fuel injector, check that it turns smoothly. If not, reinstall it with a new O-ring.

- (h) Tighten the 4 bolts.
Torque: 10 N·m (102 kgf·cm, 7 ft·lbf)
(i) Connect the 6 fuel injector connectors.

12. INSTALL FUEL PIPE SUB-ASSY NO.1

- (a) Install 2 new gaskets and the fuel pipe No. 2 union bolt.
Torque: 33 N·m (337 kgf·cm, 24 ft·lbf)
(b) Install 2 new gaskets and the fuel pressure pulsation damper.
Torque: 33 N·m (337 kgf·cm, 24 ft·lbf)

- (c) Install the fuel pipe No. 1 with the bolt.

Torque: 20 N·m (204 kgf·cm, 14 ft·lbf)

13. INSTALL INTAKE AIR SURGE TANK

- (a) Install a new gasket to the intake air surge tank.

- (b) Install the intake air surge tank and emission control valve bracket with the 2 nuts.

Torque: 28 N·m (286 kgf·cm, 21 ft·lbf)

- (c) Using a socket hexagon wrench 8, tighten the 4 bolts.

Torque: 28 N·m (286 kgf·cm, 21 ft·lbf)

- (d) Install the surge tank stay No. 2 with the 2 bolts.

Torque: 20 N·m (204 kgf·cm, 14 ft·lbf)

- (e) Install the surge tank stay No. 1 with the 2 bolts.

Torque: 20 N·m (204 kgf·cm, 14 ft·lbf)

- (f) Install the engine hunger No. 1 with the 2 bolts.

Torque: 20 N·m (204 kgf·cm, 14 ft·lbf)

- (g) Install the pressure feed tube with the 3 nuts.

Torque: 7.8 N·m (80 kgf·cm, 69 in·lbf)

- (h) Connect the ventilation hose.

- (i) Connect the union to check valve hose.

- (j) Connect the water bypass hose No. 2.

- (k) Connect the water bypass hose No. 3.

- (l) Connect the throttle motor connector.

14. INSTALL EMISSION CONTROL VALVE SET (1MZ-FE ENGINE TYPE)

Torque: 8.0 N·m (82 kgf·cm, 71 in·lbf)

15. INSTALL EMISSION CONTROL VALVE SET (3MZ-FE ENGINE TYPE)

Torque: 8.0 N·m (82 kgf·cm, 71 in·lbf)

16. INSTALL AIR CLEANER CAP SUB-ASSY

Torque: 5.0 N·m (51 kgf·cm, 44 in·lbf)

17. CHECK CONNECTION OF VACUUM HOSE

18. ADD ENGINE COOLANT (See page 16-27)

19. CHECK FOR ENGINE COOLANT LEAKS (See page 16-21)

20. CHECK FOR FUEL LEAKS (See page 11-29)

21. INSTALL V-BANK COVER SUB-ASSY (See page 10-18)

22. INSTALL FRONT SUSPENSION UPPER BRACE CENTER

- (a) Install the upper brace with the 2 nuts.

Torque: 80 N·m (815 kgf·cm, 59 ft·lbf)

ON-VEHICLE INSPECTION

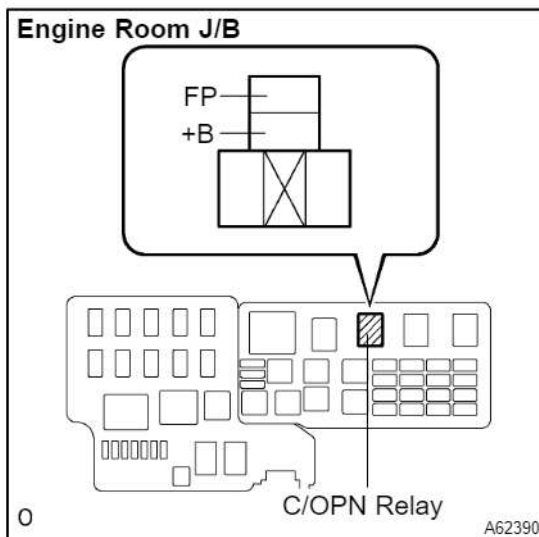
1. CHECK FUEL PUMP OPERATION AND FUEL LEAKS

- (a) When using the hand-held tester:
Check fuel pump operation.
- (1) Connect the hand-held tester to the DLC3.
 - (2) Turn the ignition switch ON and push the hand-held tester main switch ON.

NOTICE:

Do not start the engine.

- (3) Select the ACTIVE TEST mode on the hand-held tester.
- (4) If you need help to select active test on the hand-held tester, refer to the hand-held tester instruction manual.
- (5) Turn the ignition switch OFF.
- (6) Disconnect the hand-held tester from the DLC3.



- (b) When not using the hand-held tester:
Check fuel pump operation.
- (1) Remove the C/OPN relay from the engine room J/B.
 - (2) Using a service wire, connect terminals FP and +B of the engine room J/B.

NOTICE:

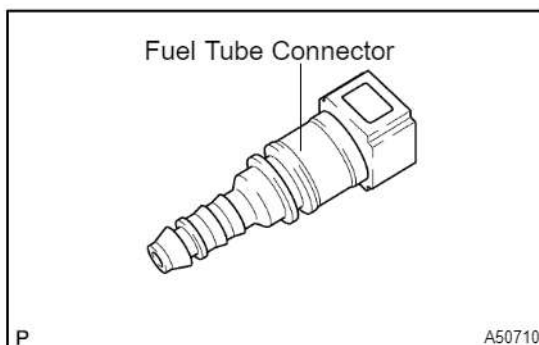
Pay close attention to the terminal connecting position to avoid a malfunction.

- (3) Turn the ignition switch ON, and check that the fuel pump operates.

NOTICE:

Do not start the engine.

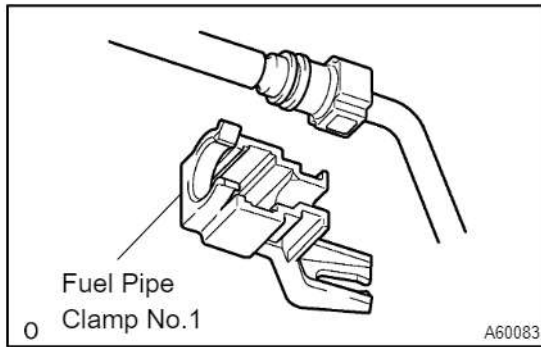
- (c) Check that there are no fuel leaks after doing maintenance anywhere on the fuel system.
- (d) Turn the ignition switch OFF.
- (e) Remove the service wire from the engine room J/B.
- (f) Install the C/OPN relay to the engine room J/B.



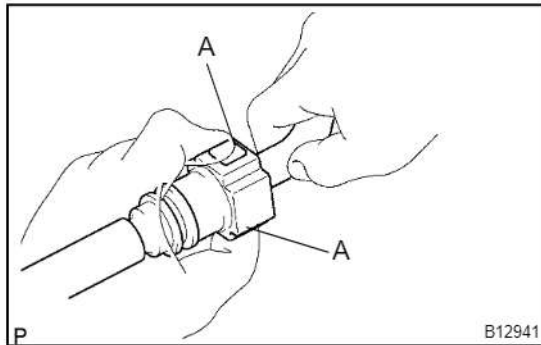
2. CHECK FUEL PRESSURE

- (a) Check that the battery positive voltage is above 12 V.
- (b) Disconnect the negative (-) terminal cable from the battery.
- (c) Purchase a new fuel tube and take out the fuel tube connector from its pipe.

Fuel tube: Part No. 23801-20190



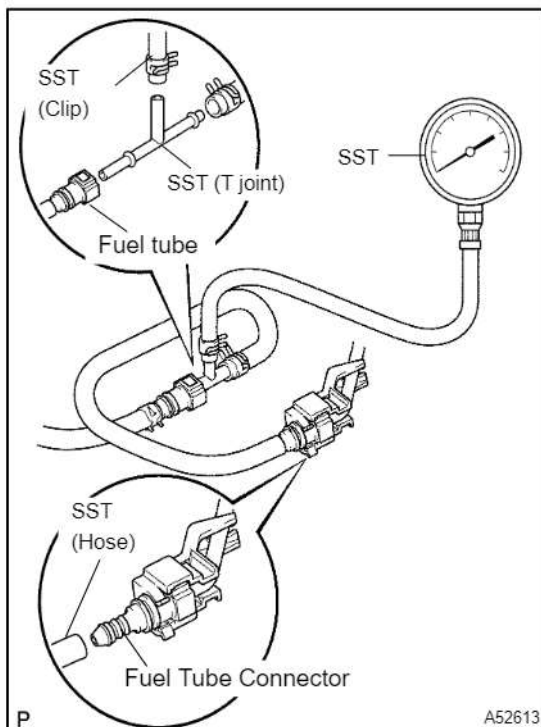
- (d) Remove the fuel pipe clamp from the fuel tube connector.



- (e) Disconnect the fuel tube connector from the fuel pipe by pinching part A with your fingers, as shown in the illustration.

CAUTION:

- Always read the precautions (see page 11-1) before disconnecting the fuel tube connector (quick type).
- The fuel pipe line may spray fuel as a result of retained pressure that remains in it. Do not allow fuel to be sprayed in the engine compartment.



- (f) Install SST (pressure gauge) and fuel tube connector using SST as shown in the illustration.

SST 09268-41047 (90467-13001, 95336-08070),
09268-45014 (09268-41200, 09268-41220,
09268-41250)

- (g) Wipe off any gasoline.
(h) Reconnect the negative (-) battery cable.
(i) When using hand-held tester:
Operate the fuel pump (see step 1 (a)).
(j) When not using hand-held tester:
Operate the fuel pump (see step 1 (b)).
(k) Measure the fuel pressure.

Fuel pressure:

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

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

If the pressure is low, check the fuel hoses and connections, fuel pump, fuel filter and fuel pressure regulator.

- (l) Start the engine.
(m) Measure the fuel pressure at idle.

Fuel pressure:

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

- (n) Stop the engine.

- (o) Check that the fuel pressure remains as specified for 5 minutes after the engine has stopped.

Fuel pressure: 147 kPa (1.5 kgf/cm², 21psi)

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

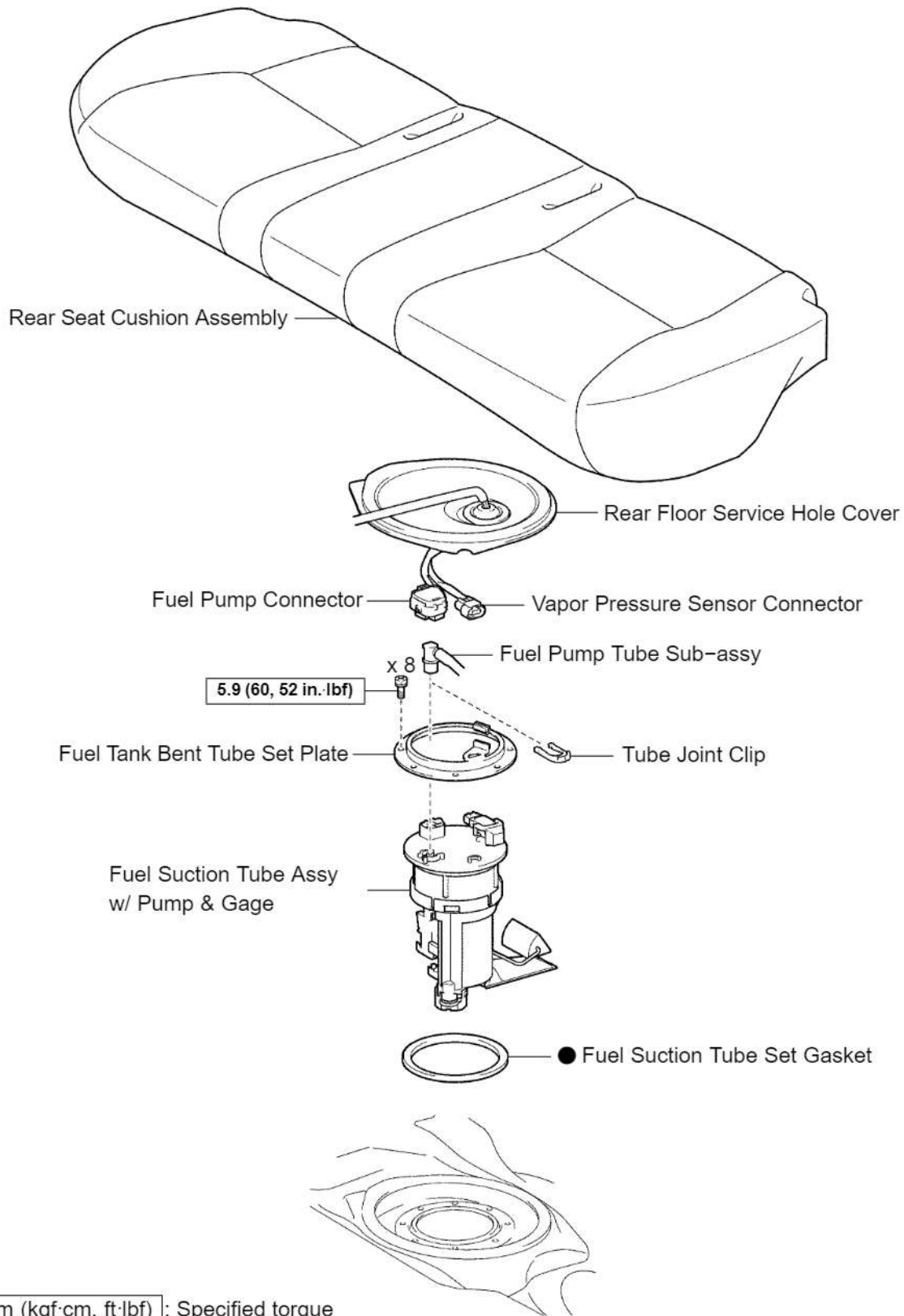
- (p) After checking the fuel pressure, disconnect the negative (-) battery cable and carefully remove SST and fuel tube connector to prevent gasoline from spraying.
- (q) Reconnect the fuel inlet tube (fuel tube connector).

CAUTION:

Always read the precautions (see page 11-1) before connecting the fuel tube connector (quick type).

FUEL PUMP ASSY (1MZ-FE/3MZ-FE) COMPONENTS

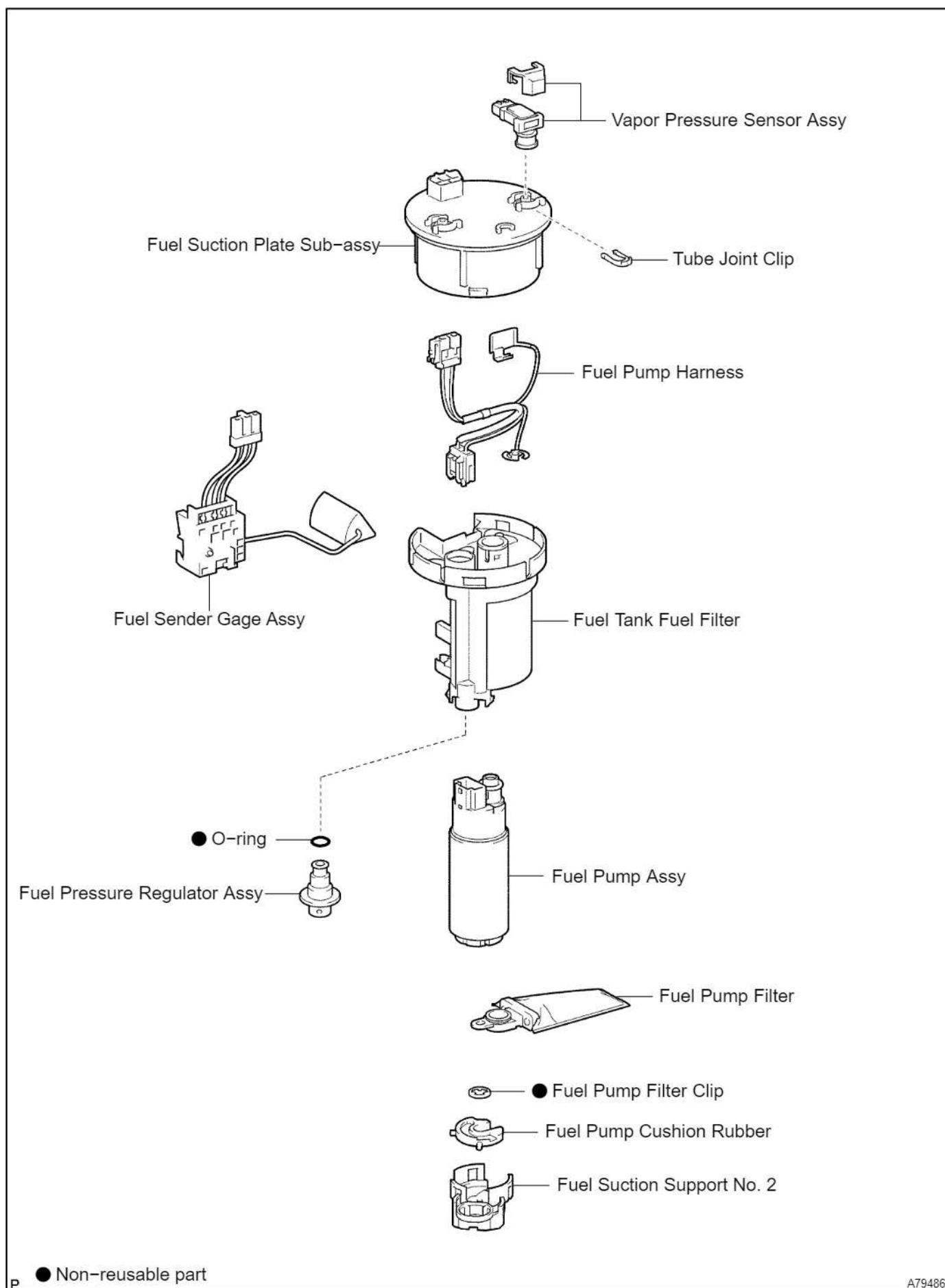
110XL-02



N·m (kgf·cm, ft·lbf) : Specified torque

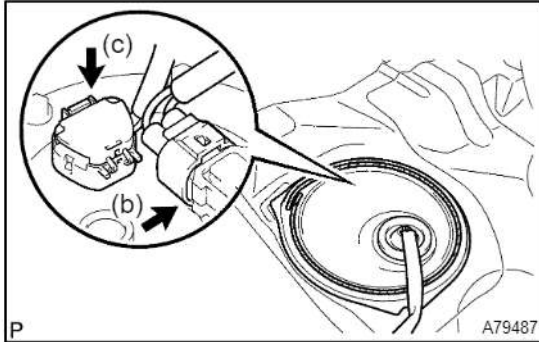
● Non-reusable part

A79485



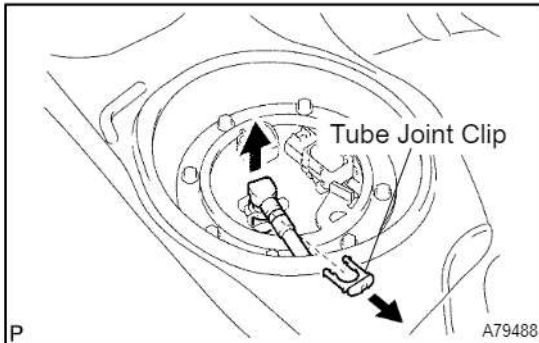
REPLACEMENT

1. DISCHARGE FUEL SYSTEM PRESSURE (See page 11-26)
2. REMOVE REAR SEAT CUSHION ASSEMBLY (See page 72-32)



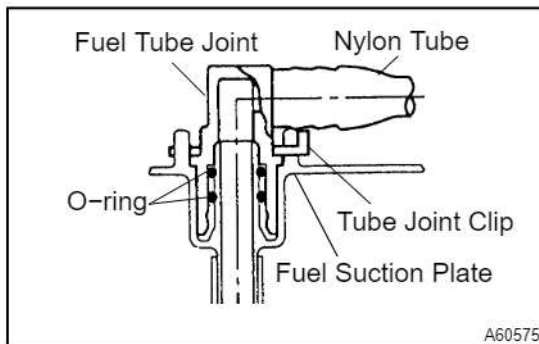
3. REMOVE REAR FLOOR SERVICE HOLE COVER

- (a) Remove the rear floor service hole cover.
- (b) Disconnect the vapor pressure sensor connector.
- (c) Disconnect the fuel pump connector.



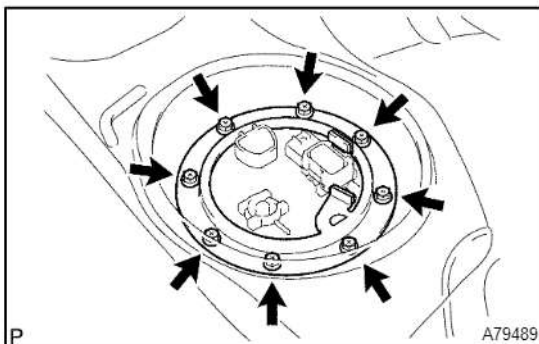
4. SEPARATE FUEL PUMP TUBE SUB-ASSY

- (a) Remove the tube joint clip, and pull out the fuel pump tube.



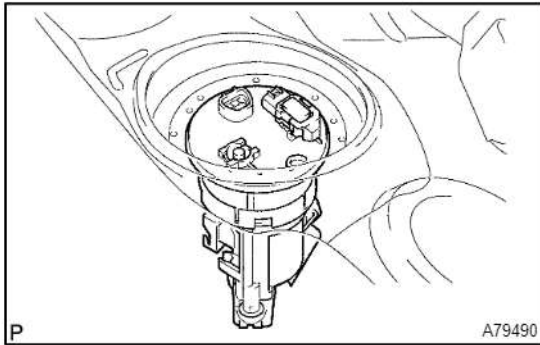
NOTICE:

- Before this operation, check the connector for dirt, mud or other contamination.
- Be careful of mud. The connector's O-ring, which seals the pipe and connector, becomes contaminated easily.
- Do not use any tools in this operation.
- Do not bend or twist the nylon tube. Protect the connector by covering it with a vinyl or plastic bag.
- When the pipe and the connector are stuck, push and pull the connector to release it. Then pull out the connector from the pipe.



5. REMOVE FUEL TANK VENT TUBE SET PLATE

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

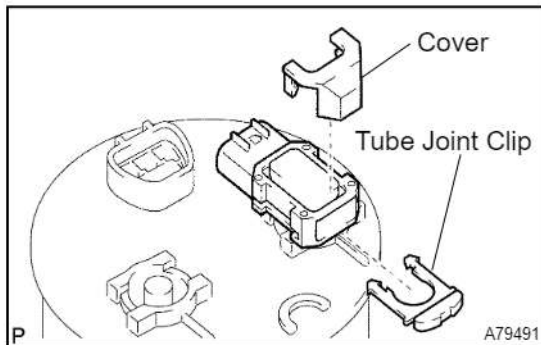


6. REMOVE FUEL SUCTION TUBE ASSY W/ PUMP & GAGE

- (a) Remove the fuel suction tube from the fuel tank.

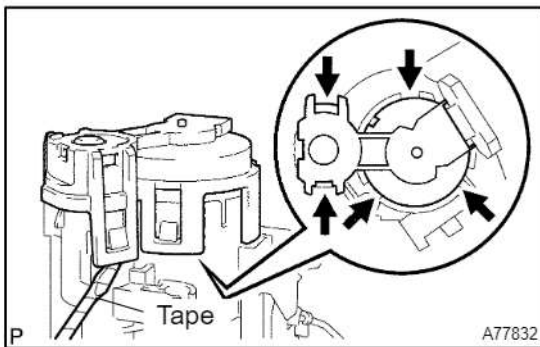
NOTICE:

- Do not damage the fuel pump filter.
 - Do not bend the arm of the fuel sender gage.
- (b) Remove the gasket from the fuel suction tube.



7. REMOVE VAPOR PRESSURE SENSOR ASSY

- (a) Remove the cover.
- (b) Remove the tube joint clip, and pull out the vapor pressure sensor.

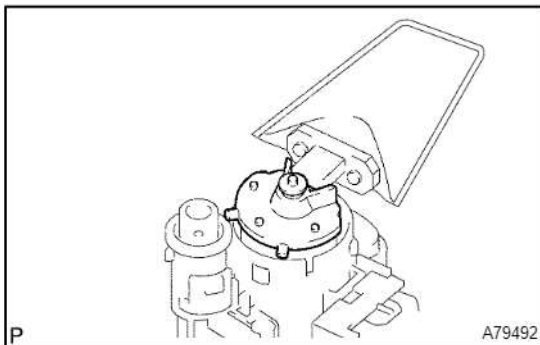


8. REMOVE FUEL SUCTION SUPPORT NO.2

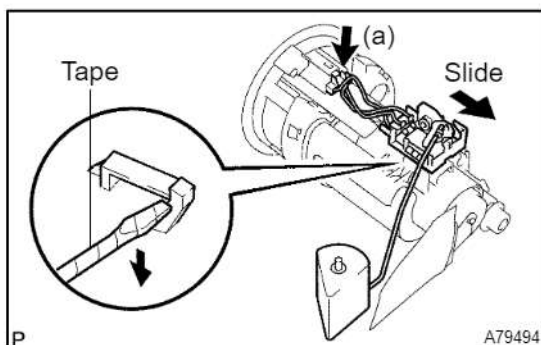
- (a) Using a screwdriver with its tip wrapped in tape, detach the 5 snap claws from the claw holes, and remove the fuel suction support.

NOTICE:

Do not damage the fuel suction support.

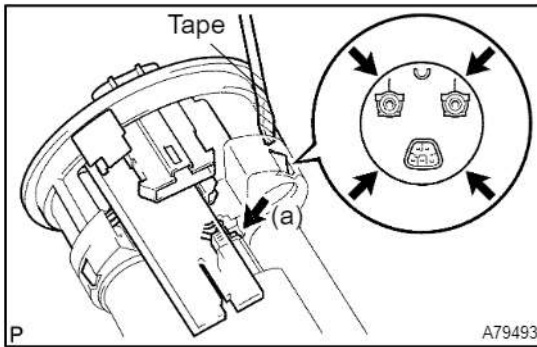


9. REMOVE FUEL PUMP CUSHION RUBBER



10. REMOVE FUEL SENDER GAGE ASSY

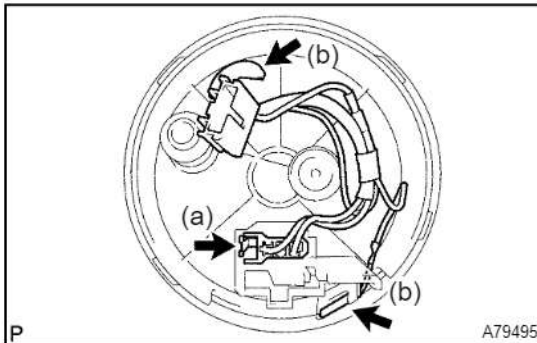
- (a) Disconnect the fuel sender gage connector.
- (b) Using a screwdriver with its tip wrapped in tape, unfasten the clamp to release the fuel sender gage. Slide the fuel sender gage to remove it from the fuel pump.

**11. REMOVE FUEL SUCTION PLATE SUB-ASSY**

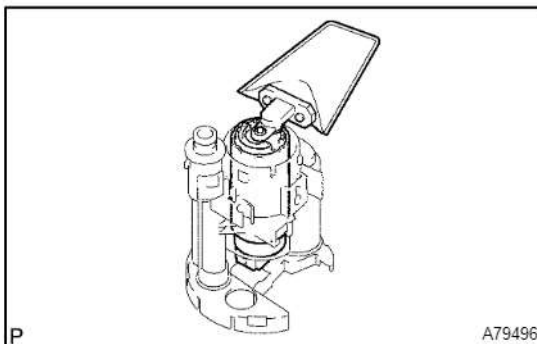
- (a) Disconnect the fuel pump connector.
- (b) Using a screwdriver with its tip wrapped in tape, detach the 4 snap claws from the claw holes, and pull out the fuel suction plate.

NOTICE:

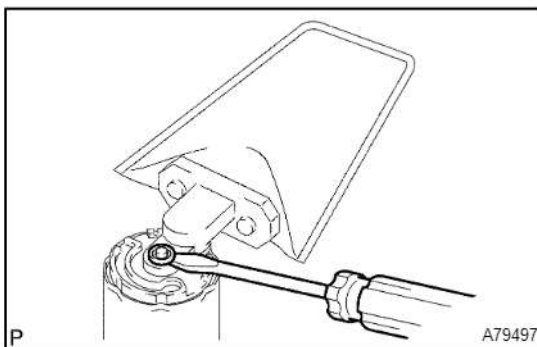
Do not damage the fuel suction support.

**12. REMOVE FUEL PUMP HARNESS**

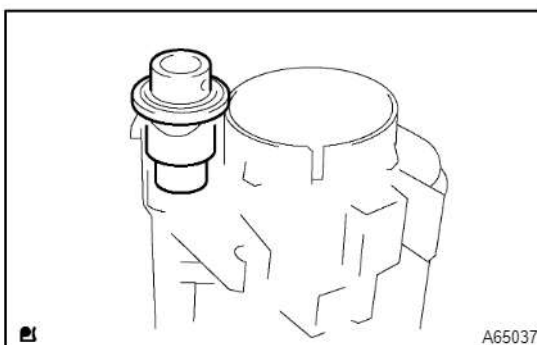
- (a) Disconnect the connector.
- (b) Using a small screwdriver, pry out the fuel pump harness.

**13. REMOVE FUEL PUMP**

- (a) Pull out the fuel pump from the fuel tank fuel filter.

**14. REMOVE FUEL PUMP FILTER**

- (a) Using a small screwdriver, pry out the clip.
- (b) Pull out the fuel pump filter from the fuel pump.

**15. REMOVE FUEL PRESSURE REGULATOR ASSY**

- (a) Pull out the fuel pressure regulator from the fuel tank fuel filter.
- (b) Remove the O-ring from the fuel pressure regulator.

16. INSTALL FUEL PRESSURE REGULATOR ASSY

- (a) Apply a light coat of gasoline or grease to a new O-ring, and install it to the fuel pressure regulator.
- (b) Push in the fuel pressure regulator to the fuel tank fuel filter.

17. INSTALL FUEL PUMP FILTER

- (a) Install the fuel pump filter with a new clip.

18. INSTALL FUEL PUMP

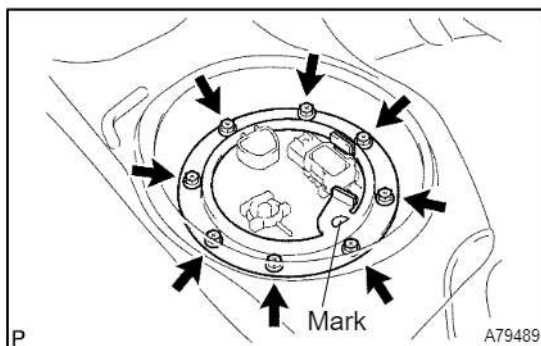
- (a) Apply a light coat of gasoline or grease to the O-ring of the fuel pump.
- (b) Push in the fuel pump to the fuel tank fuel filter.

19. INSTALL FUEL PUMP HARNESS**20. INSTALL FUEL SUCTION PLATE SUB-ASSY****21. INSTALL FUEL SENDER GAGE ASSY****22. INSTALL FUEL PUMP CUSHION RUBBER****23. INSTALL FUEL SUCTION SUPPORT NO.2****24. INSTALL VAPOR PRESSURE SENSOR ASSY****25. INSTALL FUEL SUCTION TUBE ASSY W/ PUMP & GAGE**

- (a) Install a new gasket to the fuel suction tube.
- (b) Install the fuel suction tube.

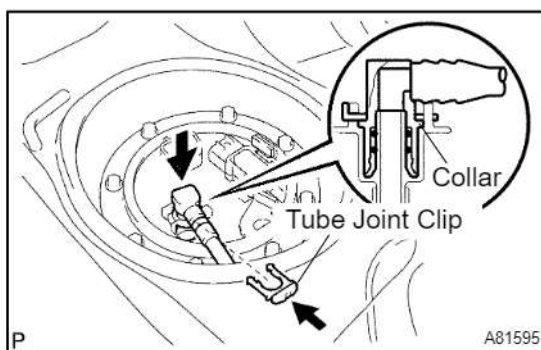
NOTICE:

- Do not damage the fuel pump filter.
- Do not bend the arm of the fuel sender gage.

**26. INSTALL FUEL TANK VENT TUBE SET PLATE**

- (a) Align the mark of the set plate with the fuel suction tube.
- (b) Install the set plate with the 8 bolts.

Torque: 5.9 N·m (60 kgf·cm, 52 in·lbf)

**27. CONNECT FUEL PUMP TUBE SUB-ASSY**

- (a) Install the fuel pump tube with the tube joint clip.

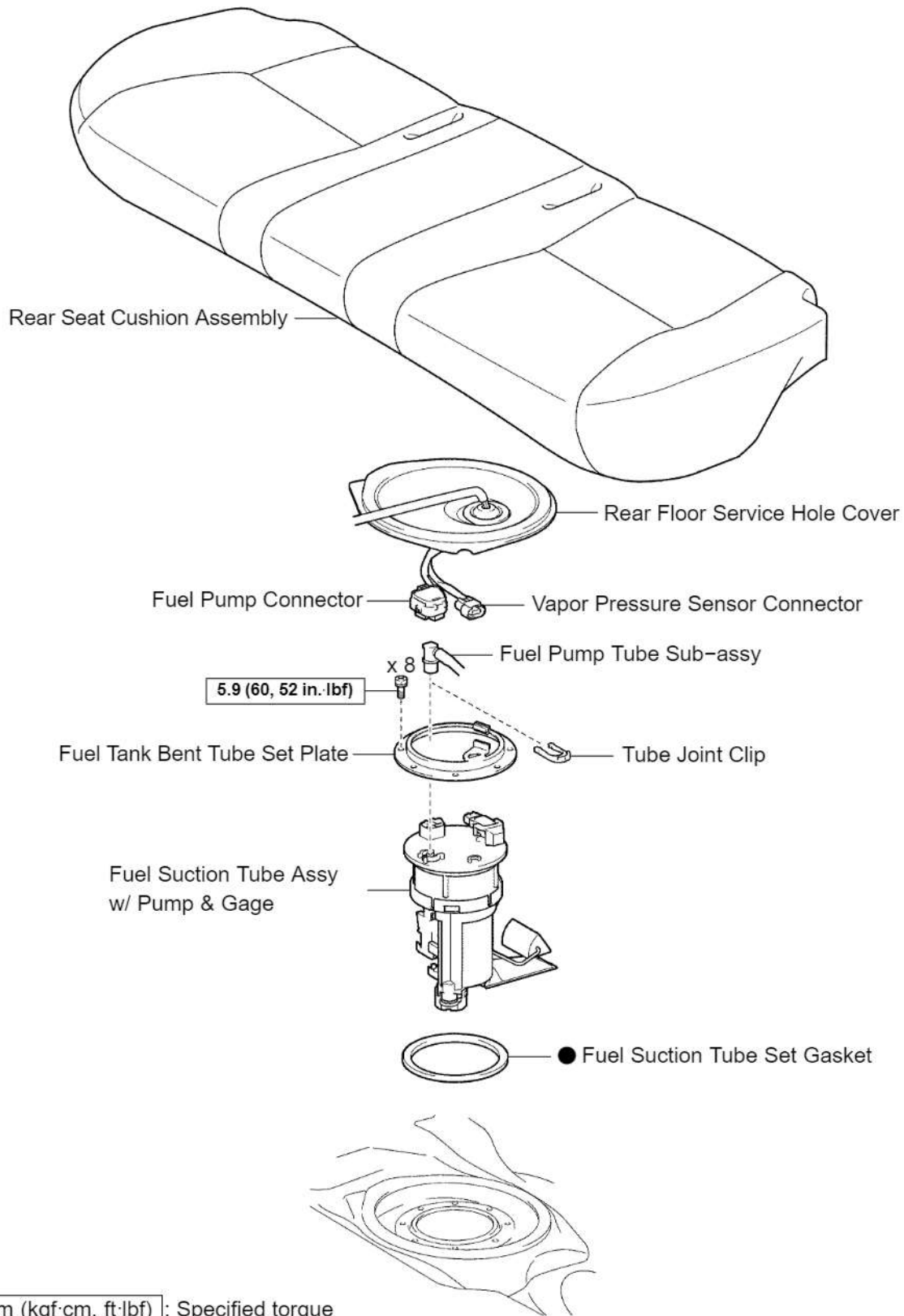
NOTICE:

- Check that there are no scratches or foreign objects on the connecting part.
- Check that the fuel tube joint is inserted securely.
- 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 tube joint has not been pulled off.

28. CHECK FOR FUEL LEAKS (See page 11-29)**29. INSTALL REAR FLOOR SERVICE HOLE COVER****30. INSTALL REAR SEAT CUSHION ASSEMBLY (See page 72-32)**

FUEL TANK ASSY (1MZ-FE/3MZ-FE) COMPONENTS

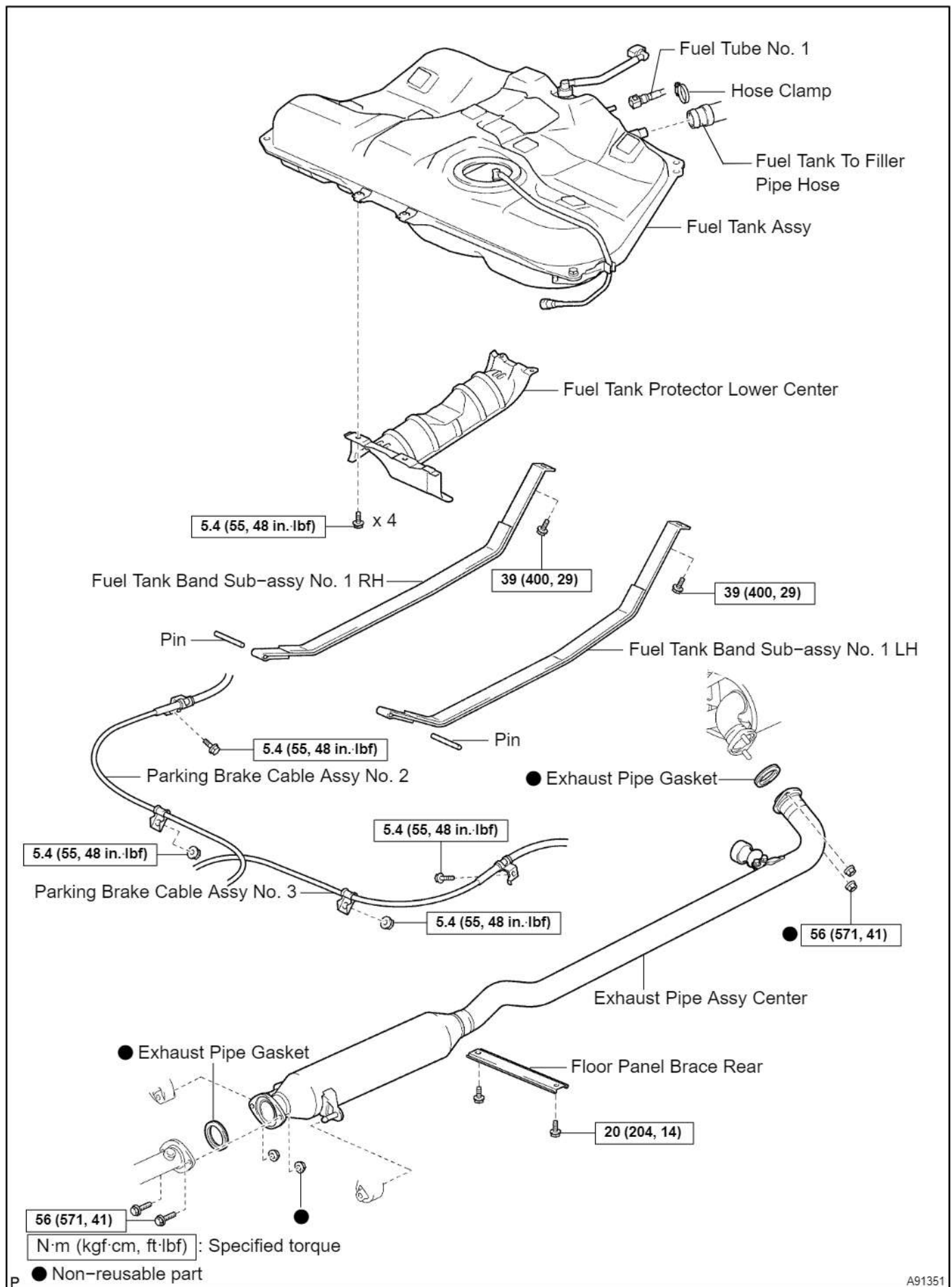
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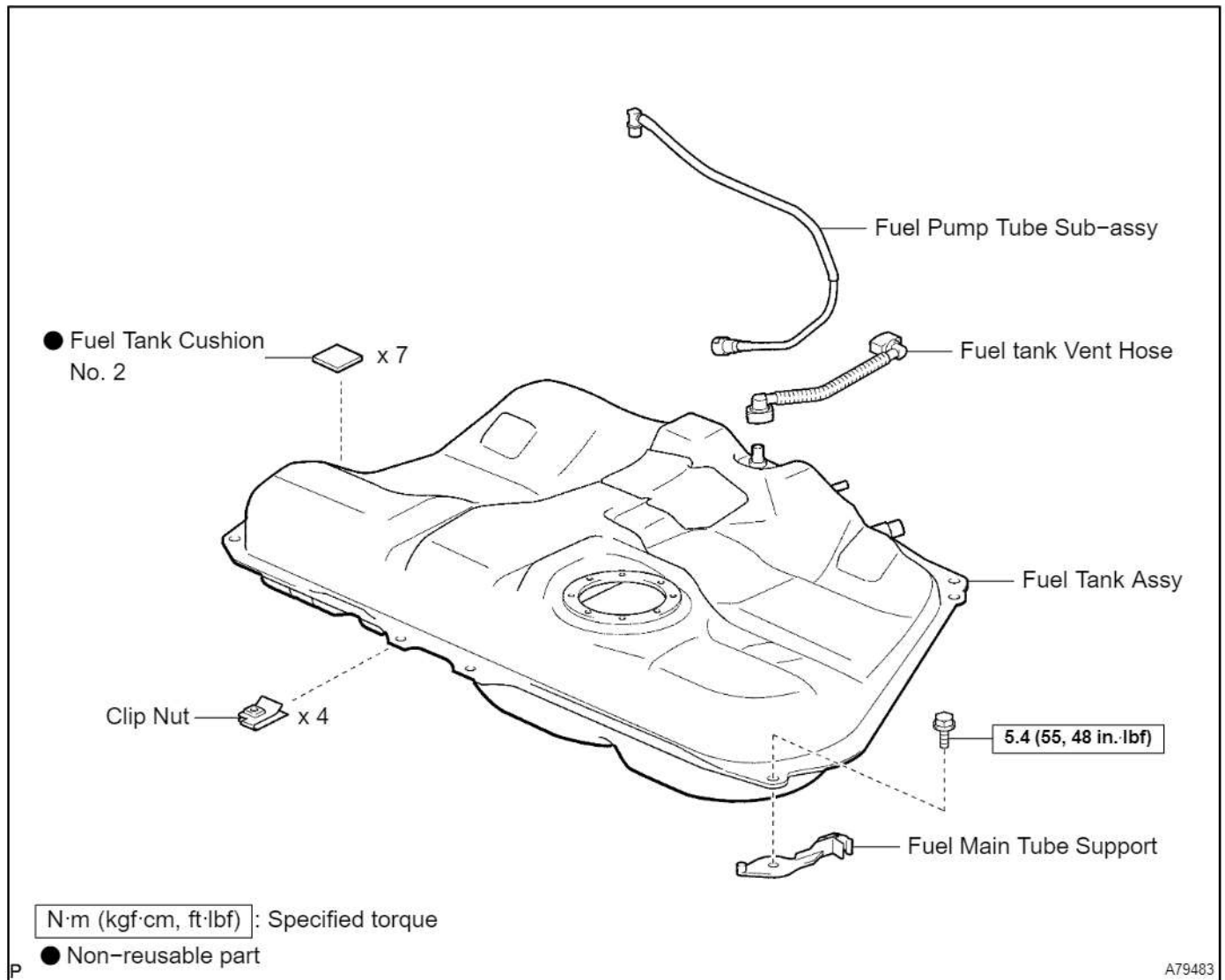


N·m (kgf·cm, ft·lbf) : Specified torque

● Non-reusable part

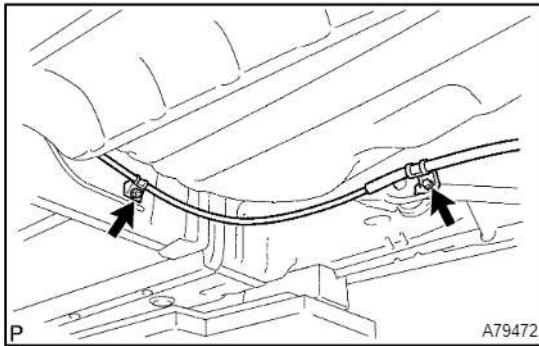
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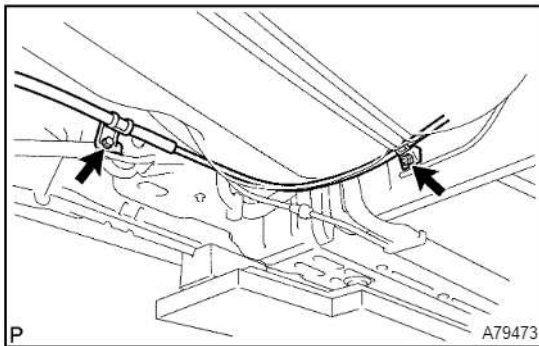


REPLACEMENT

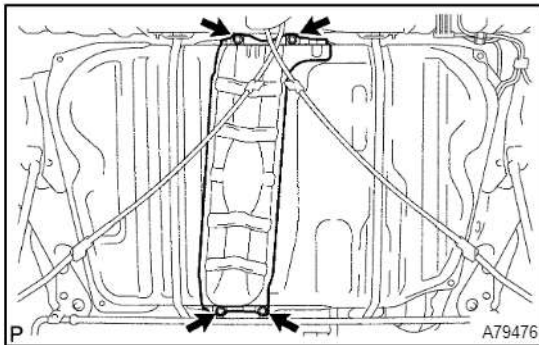
1. DISCHARGE FUEL SYSTEM PRESSURE (See page 11-26)
2. REMOVE REAR SEAT CUSHION ASSEMBLY (See page 72-32)
3. REMOVE REAR FLOOR SERVICE HOLE COVER (See page 11-45)
4. SEPARATE FUEL PUMP TUBE SUB-ASSY (See page 11-45)
5. REMOVE FUEL TANK VENT TUBE SET PLATE (See page 11-45)
6. REMOVE FUEL SUCTION TUBE ASSY W/ PUMP & GAGE (See page 11-45)
7. DRAIN FUEL
8. REMOVE FLOOR PANEL BRACE REAR (See page 15-7)
9. REMOVE EXHAUST PIPE ASSY CENTER
 - (a) Remove the 2 bolts, 4 nuts, exhaust pipe and 2 gaskets.



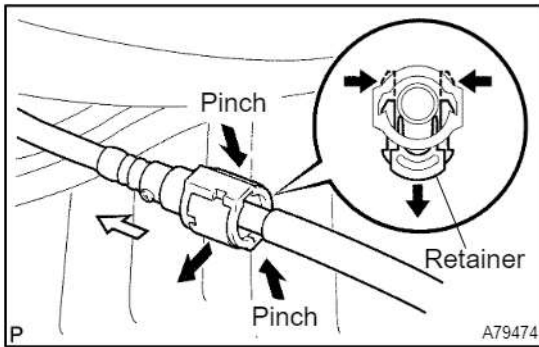
10. DISCONNECT PARKING BRAKE CABLE ASSY NO.2
 - (a) Remove the set bolt and the set nut of the parking brake cable.



11. DISCONNECT PARKING BRAKE CABLE ASSY NO.3
 - (a) Remove the set bolt and the set nut of the parking brake cable.

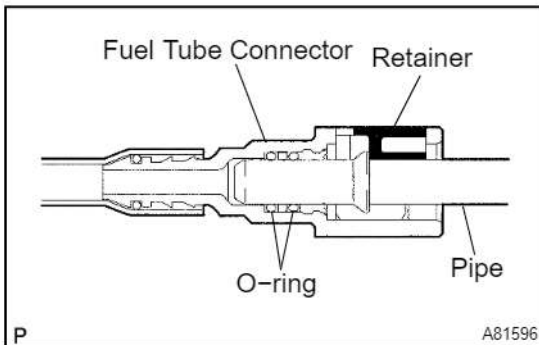


12. REMOVE FUEL TANK PROTECTOR LOWER CENTER
 - (a) Remove the 4 bolts and fuel tank protector.



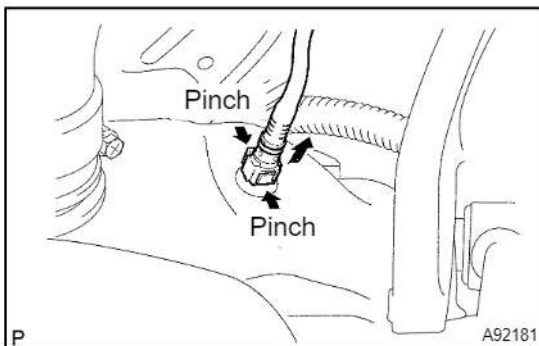
13. REMOVE FUEL TANK ASSY

- (a) Disconnect the fuel pump tube.
- (1) Pinch the tab of the retainer to remove the lock claws and pull down it as shown in the illustration.
 - (2) Pull out the fuel tank main tube.

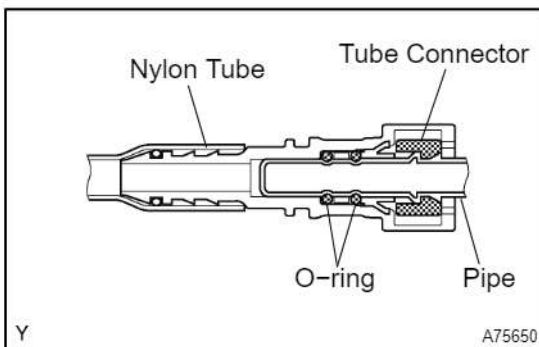


NOTICE:

- Before this operation, check the connector for dirt, mud or other contamination.
- Be careful of mud. The connector's O-ring, which seals the pipe and connector, becomes contaminated easily.
- Do not use any tools in this operation.
- Do not bend or twist the nylon tube. Protect the connector by covering it with a vinyl or plastic bag.
- When the pipe and connector are stuck, push and pull the connector to release it. Then pull out the connector from the pipe.

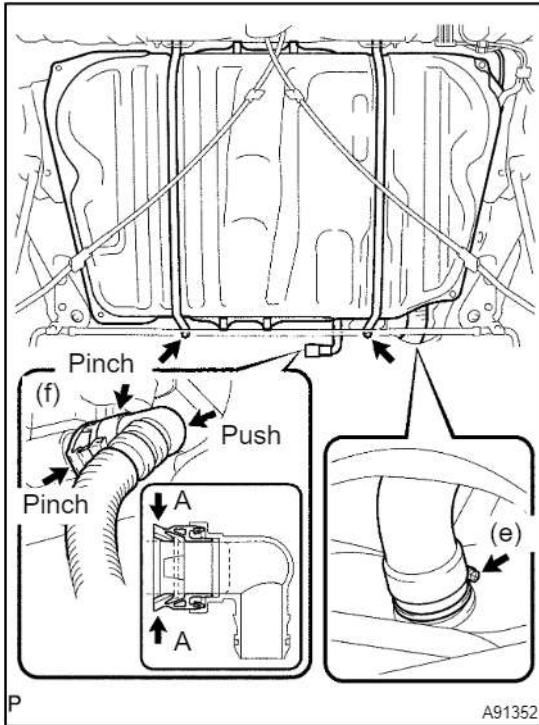


- (b) Disconnect the fuel tube No. 1.
- (1) Pinch the tube connector and then pull out the fuel tube No. 1.

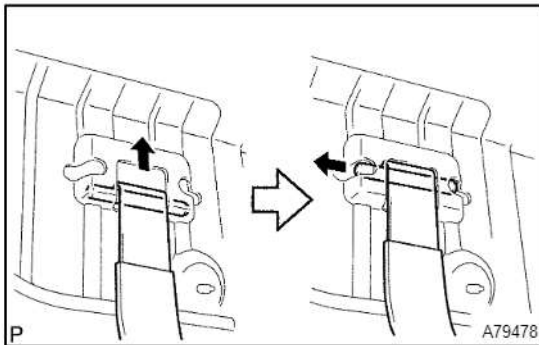


NOTICE:

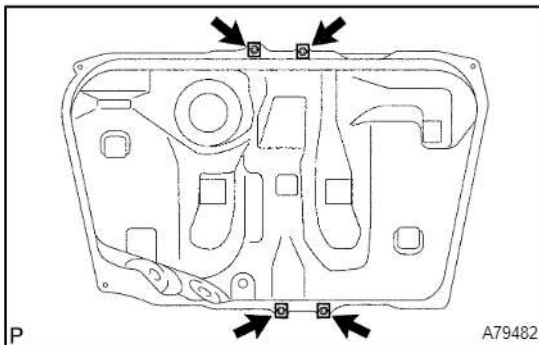
- Before this operation, check the connector for dirt, mud or other contamination.
- Be careful of mud. The connector's O-ring, which seals the pipe and connector, becomes contaminated easily.
- Do not use any tools in this operation.
- Do not bend or twist the nylon tube. Protect the connector by covering it with a vinyl or plastic bag.
- When the pipe and connector are stuck, push and pull the connector to release it. Then pull out the connector from the pipe.



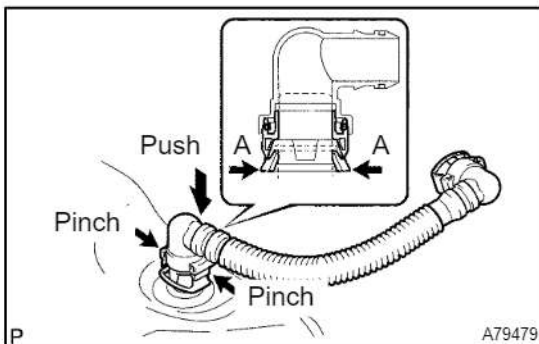
- (c) Set up a transmission jack underneath the fuel tank.
- (d) Remove the 2 set bolts of the fuel tank bands.
- (e) Remove the hose clamp and disconnect the fuel tank to filler pipe hose.
- (f) Disconnect the fuel tank vent hose from the charcoal canister.
 - (1) Push the connector deep into the charcoal canister to release the locking pin.
 - (2) Pinch portion A.
 - (3) Pull out the connector.
- (g) Remove the fuel tank.



- (h) Remove the 2 pins and 2 fuel tank bands as shown in the illustration.

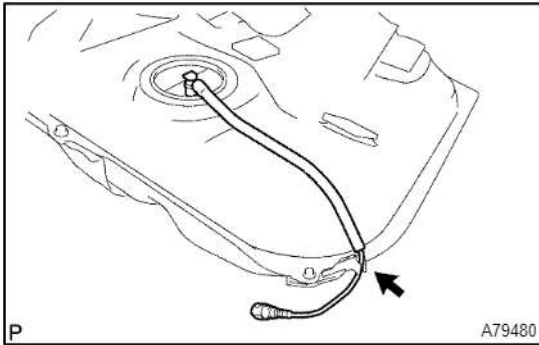


- (i) Remove the 4 clip nuts.

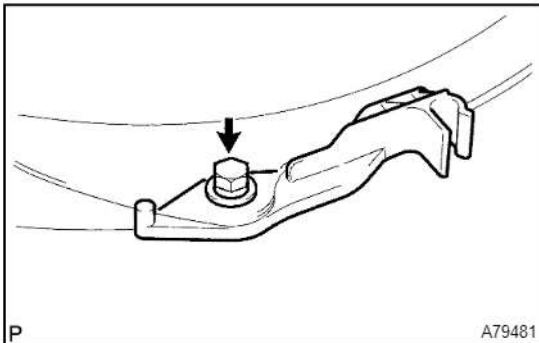


14. REMOVE FUEL TANK VENT HOSE

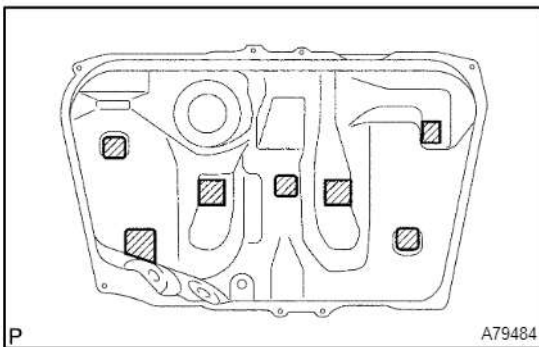
- (a) Push the connector deep into the charcoal canister to release the locking pin.
- (b) Pinch portion A.
- (c) Pull out the connector.

**15. REMOVE FUEL PUMP TUBE SUB-ASSY**

- (a) Remove the fuel pump tube from the fuel main tube support.

**16. REMOVE FUEL MAIN TUBE SUPPORT**

- (a) Remove the bolt and tube support.

**17. REMOVE FUEL TANK CUSHION NO.2****18. INSTALL FUEL TANK CUSHION NO.2**

- (a) Install 7 new fuel tank cushions to the fuel tank.

19. INSTALL FUEL MAIN TUBE SUPPORT

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

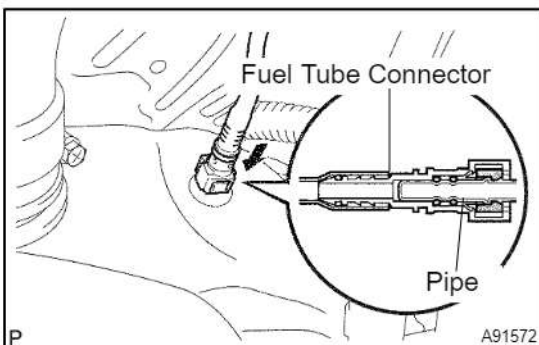
20. INSTALL FUEL PUMP TUBE SUB-ASSY**21. INSTALL FUEL TANK VENT HOSE****22. INSTALL FUEL TANK ASSY**

- (a) Install the 4 clip nuts.
 (b) Install the 2 fuel tank bands with the 2 pins.
 (c) Connect the fuel tank vent hose.
 (d) Connect the fuel tank inlet pipe with the fuel filler pipe clamp.
 (e) Tighten the set 2 bolts of the fuel tank bands.

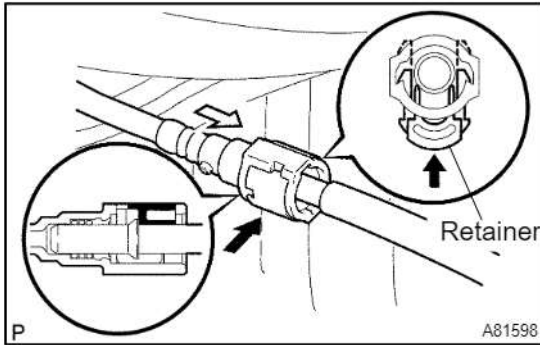
Torque: 39 N·m (400 kgf·cm, 29 ft·lbf)

- (f) Connect the fuel tube No. 1.

- (1) Push the fuel tube connector into the pipe until fuel tube connector makes "click" sound.

**NOTICE:**

- Check if there is any damage or foreign objects on the connected part.
- After connecting, check if the fuel tube connector and the pipe are securely connected by trying to pull them apart.



(g) Connect the fuel pump tube.

- (1) Push in the fuel tube connector to the pipe until, and push up retainer to the claws lock.

NOTICE:

- Check if there is any damage or foreign objects on the connected part.
- After connecting, check if the fuel tube connector and the pipe are securely connected by trying to pull them apart.

23. INSTALL FUEL TANK PROTECTOR LOWER CENTER

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

24. INSTALL PARKING BRAKE CABLE ASSY NO.3

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

25. INSTALL PARKING BRAKE CABLE ASSY NO.2

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

26. INSTALL EXHAUST PIPE ASSY CENTER

- (a) Install 2 new gaskets and the exhaust pipe with the 2 bolts and 4 new nuts.

Torque: 56 N·m (571 kgf·cm, 41 ft·lbf)

27. INSTALL FUEL SUCTION TUBE ASSY W/ PUMP & GAGE (See page 11-45)

28. INSTALL FUEL TANK VENT TUBE SET PLATE (See page 11-45)

29. CONNECT FUEL PUMP TUBE SUB-ASSY (See page 11-45)

30. ADD FUEL

31. CHECK FOR FUEL LEAKS (See page 11-29)

32. CHECK FOR EXHAUST GAS LEAKS

33. INSTALL REAR FLOOR SERVICE HOLE COVER (See page 11-45)

34. INSTALL REAR SEAT CUSHION ASSEMBLY (See page 72-32)

35. INSTALL FLOOR PANEL BRACE REAR (See page 15-7)

INSPECTION

1. FUEL INJECTOR ASSY

(a) Check the injector resistance.

(1) Measure the resistance between the terminals.

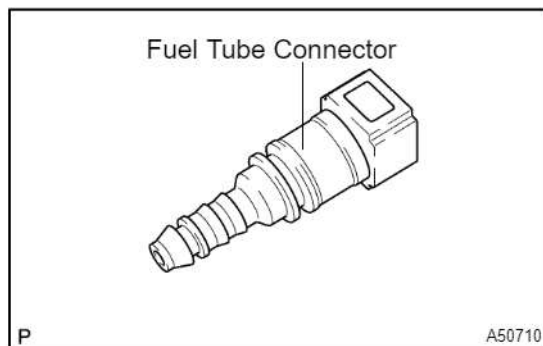
Standard: 11.6 to 12.4 Ω at 20°C (68°F)

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

(b) Check the injector injection.

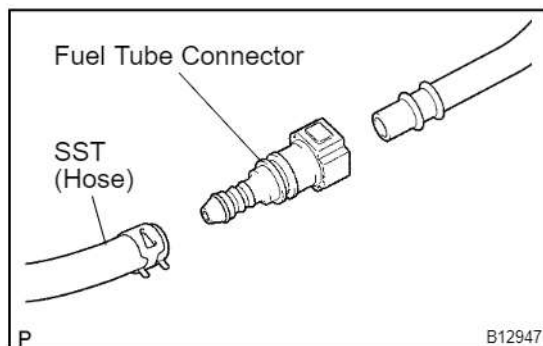
CAUTION:

- This test involves high-pressure fuel and electricity.
- Take every precaution regarding safe handling of both the fuel and the electricity.
- Perform this test in a safe area, and avoid any sparks or flame.
- Do not smoke.



(1) Purchase a new fuel tube and take out the fuel tube connector from its pipe.

Part No. 23801-20190

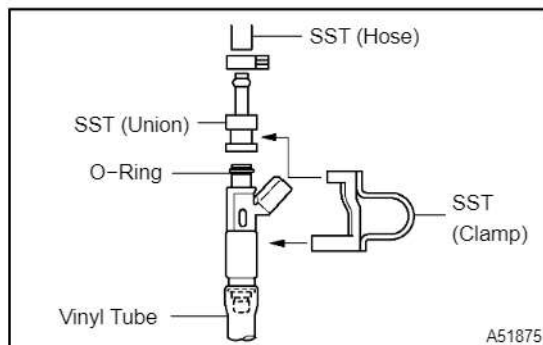


(2) Connect SST and fuel tube connector to the fuel pipe.

SST 09268-41047

CAUTION:

Always read the precautions (see page 11-1) before connecting the fuel tube connector (quick type).



(3) Install the O-ring to the injector.

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

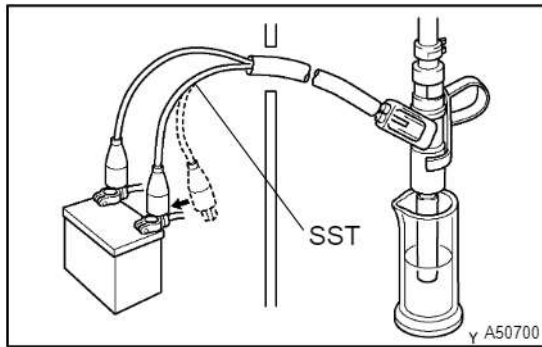
SST 09268-41047 (09268-41110, 09268-41300)

(5) Put the injector into a graduated cylinder.

HINT:

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

(6) Operate the fuel pump (see page 11-14).



- (7) Connect SST (wire) to the injector and the battery for 15 seconds, and measure the injection volume with a graduated cylinder. Test each injector 2 or 3 times.

SST 09842-30080

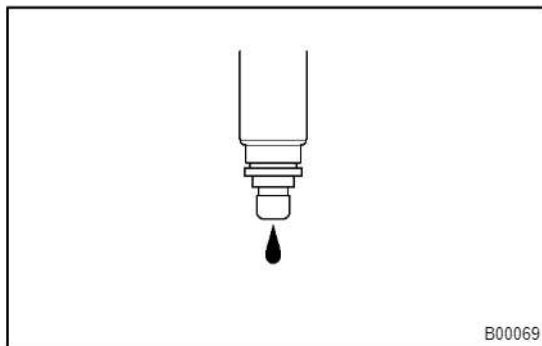
Standard:

Injection Volume	Difference Between Each Injector
76 to 91 cm ³ (4.6 to 5.6 cu in.) per 15 seconds	16 cm ³ (1.0 cu in.) or less

NOTICE:

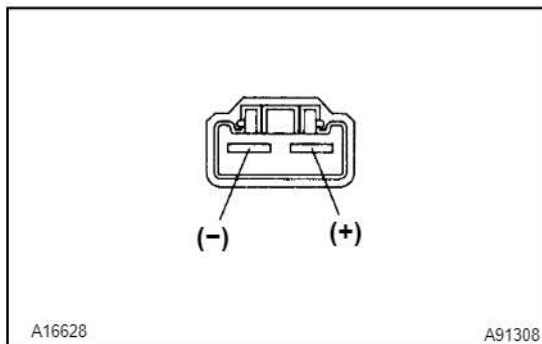
Always turn on and off the voltage on the battery side, not the fuel pump side.

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



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

Fuel drop: 1 drop or less per 12 minutes



2. FUEL PUMP

- (a) Check fuel pump resistance.
- (1) Measure the resistance between the terminals.
Resistance: 0.2 to 3.0 Ω at 20°C (68°F)
- (b) Check fuel pump operation.
- (1) Apply battery voltage to both terminals. Check that the pump operates.

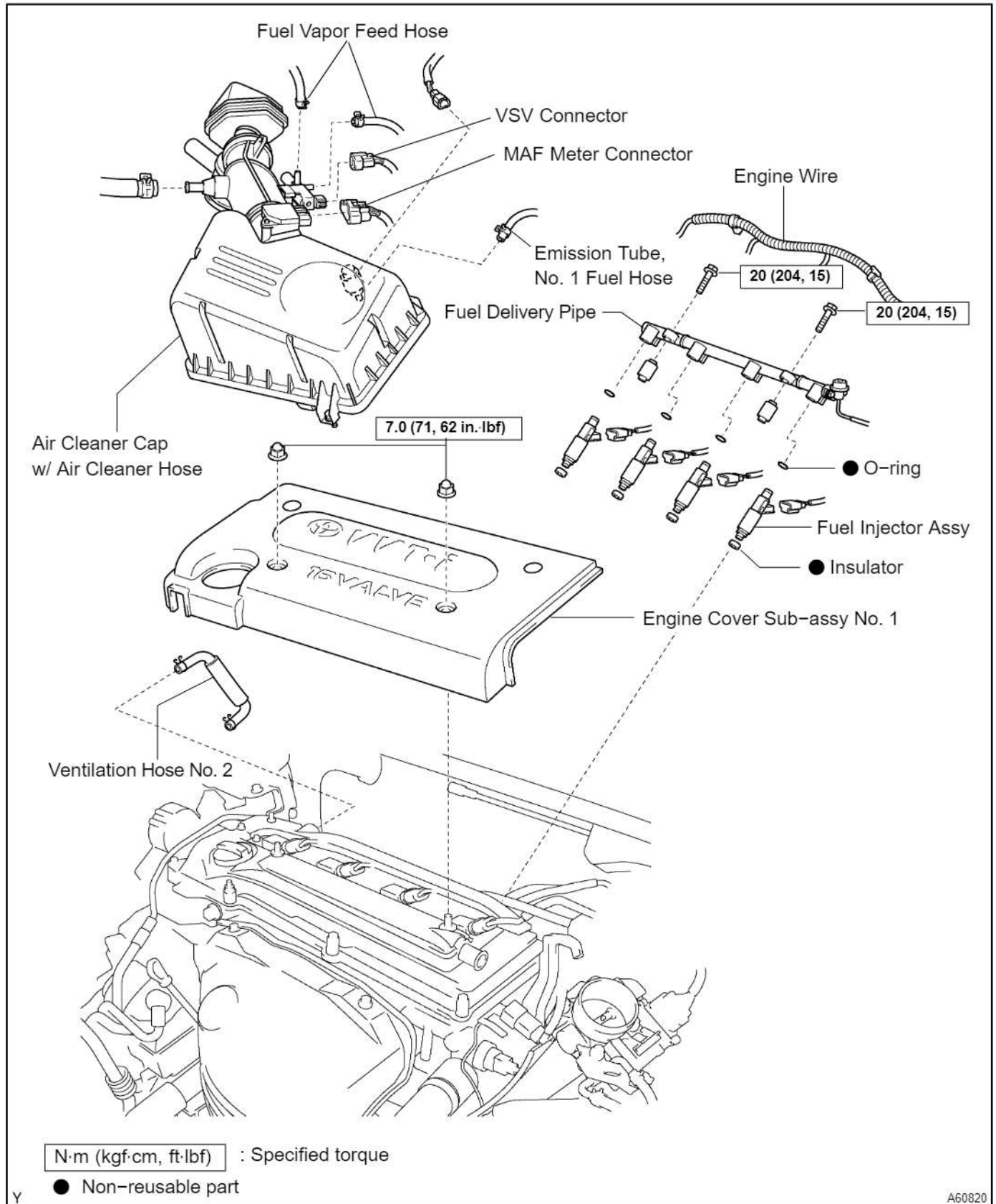
NOTICE:

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

FUEL INJECTOR ASSY (2AZ-FE)(From July, 2003)

COMPONENTS

1109L-04



A60820