

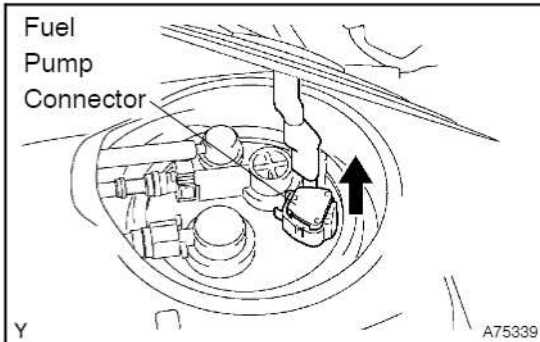
FUEL SYSTEM (2AZ-FSE)

PRECAUTION

11110-01

1. PRECAUTION

- Before working on the fuel system, disconnect the engine wire No. 3 (battery negative terminal).
- Do not smoke or work near fire when handling the fuel system.
- Keep gasoline away from any rubber or leather parts.

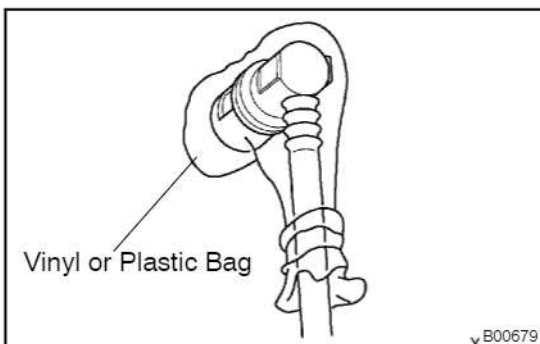


2. DISCHARGE FUEL SYSTEM PRESSURE

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.

- Disconnect the fuel pump connector.
- Start the engine. After the engine stopped, turn the ignition switch OFF.
- Disconnect the engine wire No. 3 (battery negative terminal).
- Connect the fuel pump connector.



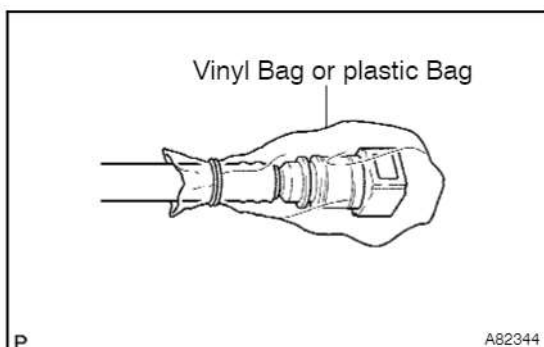
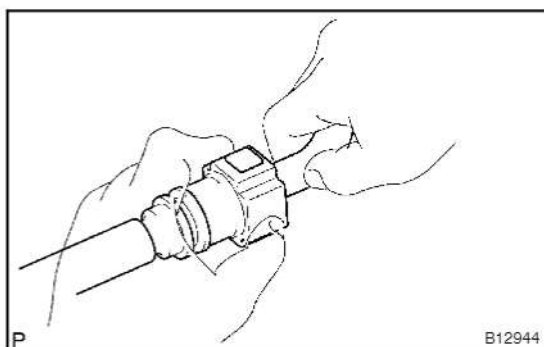
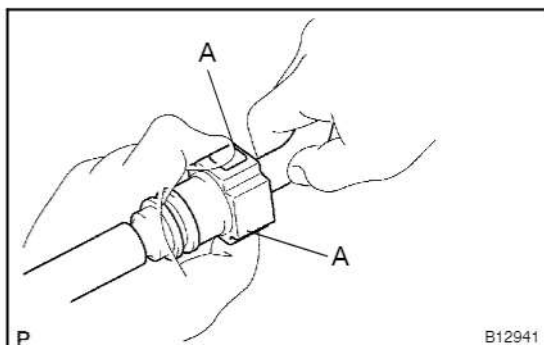
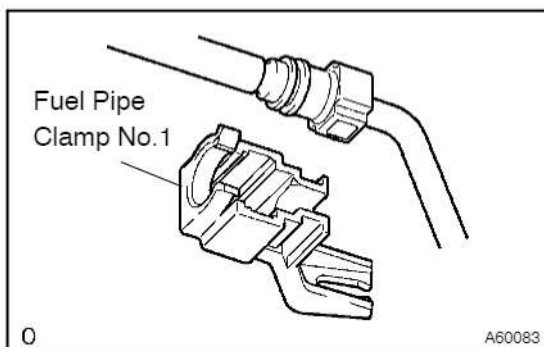
3. FUEL SYSTEM

- When disconnecting the high fuel pressure line, a large amount of gasoline will spill out, so observe the following procedure:
 - Discharge fuel system pressure (see step 2).
 - Disconnect the fuel pump tube ([see page 11-29](#)).
 - Drain the remaining fuel inside the fuel pump tube.
 - Cover the disconnected fuel pump tubes with a vinyl or a plastic bag to prevent any damage and dirt.
 - Place a tray under the vehicle or point of disconnection to catch any fuel that may spill.
- Take the following precautions when removing and installing the fuel injectors.

NOTICE:

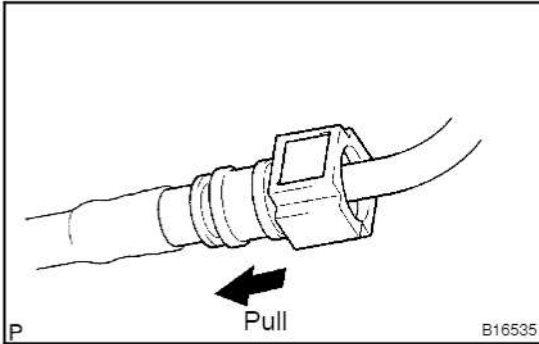
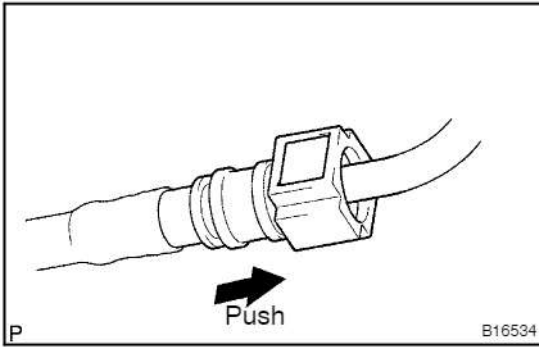
Never reuse the O-ring.

- When installing a new O-ring to the injector, be careful not to damage the injector.
- Coat the new O-ring with grease or gasoline before installing. Never use engine oil, gear oil or brake oil.



(c) Take the following precautions when disconnecting the fuel tube connector (quick type).

- (1) Remove the fuel pipe clamp No.1.
- (2) Check the pipe and around the connector for dirt or mud before disconnecting them. Clean them if necessary.
- (3) Disconnect the connector from the hose while pinching portion A with fingers as shown in the illustration.
- (4) When the connector and the pipe are stuck, push and pull the connector to release and pull the connector out from the pipe carefully.
- (5) Check the sealing surface of the disconnected pipe for dirt or mud. Clean it away if necessary.
- (6) To prevent the disconnected pipe and connector from being damaged and foreign objects from being introduced, cover them with a vinyl or plastic bag.



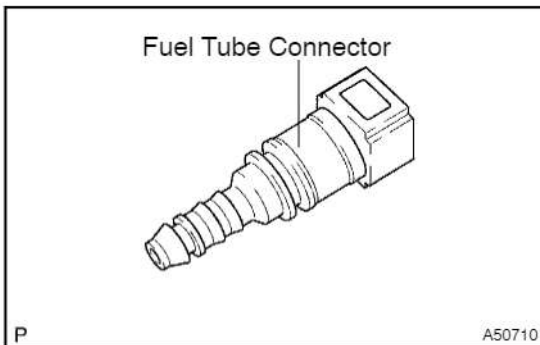
(d) Take the precautions when connecting the fuel tube connectors (Quick Type):

- (1) Check the connected part of the pipe for any damage or foreign objects.
- (2) Align the axis of the connector with the axis of the pipe, then push into the connector until the connector makes a "click" sound. If the connection is tight, apply a little amount of fresh engine oil on the tip of the pipe.
- (3) After finishing the connection, check if the pipe and the connector are securely connected by pulling on them.
- (4) Check for fuel leaks.

4. CHECK FOR FUEL LEAKS

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

ON-VEHICLE INSPECTION

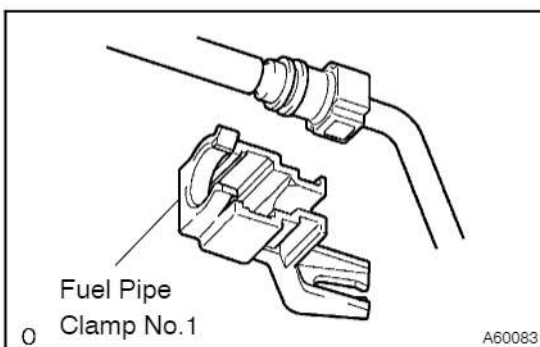


1. CHECK FUEL PRESSURE

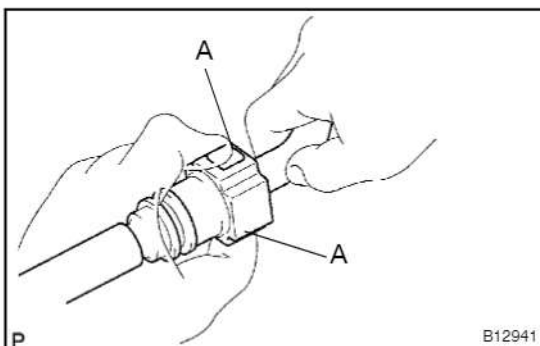
- Discharge the pressure in the fuel system and take precautions for possible fuel spillage ([see page 11-1](#)).
- Check that the battery voltage is above 12 V.
- Disconnect the negative (–) battery cable.
- Pull out the connector from a new fuel tube.

HINT:

Part No. 23901–28160



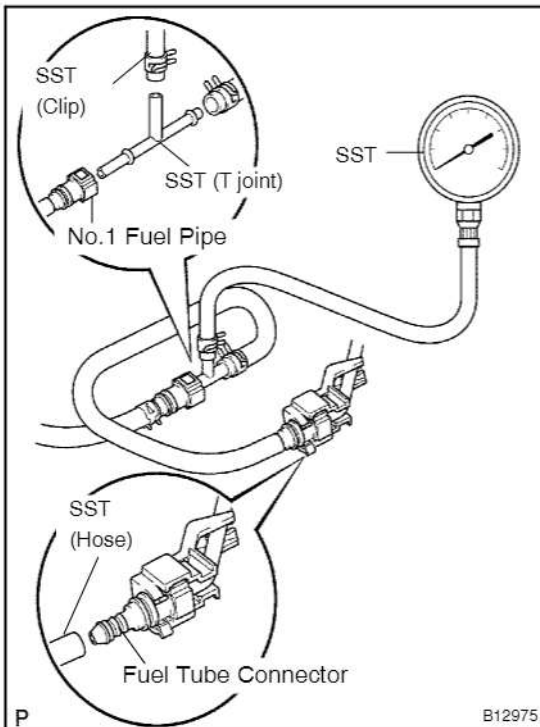
- Detach the fuel tube clamp from the fuel tube connector.



- Disconnect the fuel tube connector from the fuel pipe while pinching portion A with your fingers as shown in the illustration.

CAUTION:

- Do not disconnect the fuel tube connector (quick type) until you have discharged the fuel system pressure and taken appropriate steps to prevent fuel spillage.**
- There may be some pressure remained in the fuel lines after discharging the pressure. Take precautions to prevent fuel from spraying on you, your clothing or inside the engine compartment.**



- (g) Install SST (pressure gauge) and the fuel tube connector using SST as shown in the illustration.
 SST 09268-41047(95336-08070), 09268-45014
 (09268-41250, 09268-41200, 09268-41220)

- (h) Wipe up any gasoline.
 (i) Reconnect the negative (-) battery cable.
 (j) Connect the hand-held tester to the DLC3.
 (k) Measure the fuel pressure.

Fuel pressure:

196 to 588 kPa (2 to 6 kgf/cm², 28 to 85 psi)

If pressure is high, replace the fuel pressure regulator.

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

- (l) Disconnect the hand-held tester from the DLC3.
 (m) Start the engine.
 (n) Measure the fuel pressure at idle.

Fuel pressure:

196 to 588 kPa (2 to 6 kgf/cm², 28 to 85 psi)

- (o) Stop the engine.
 (p) 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) or more

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

- (q) After checking the fuel pressure, disconnect the negative (-) battery cable and carefully remove SST and the fuel tube connector to prevent gasoline splash.
 (r) Reconnect the No. 1 fuel pipe (fuel tube connector).

CAUTION:

After taking the precautions, connect the fuel tube connector (quick type).

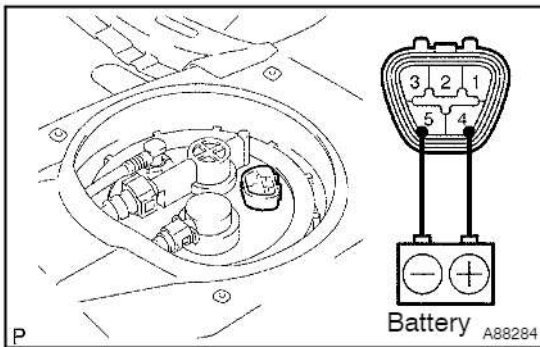
2. CHECK FUEL PUMP OPERATION AND CHECK FOR FUEL LEAKS

- (a) When using the hand-held tester.
 (1) Connect the hand-held tester to the DLC3.
 (2) Turn the ignition switch ON and the hand-held tester main switch ON.

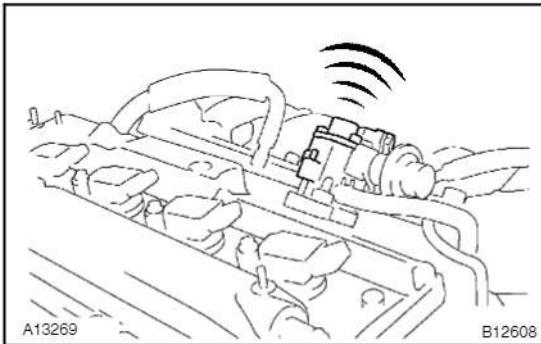
NOTICE:

Do not start the engine.

- (3) Select the ACTIVE TEST mode on the hand-held tester.
 (4) Perform the active test. Check that the fuel pump operates and check for fuel leaks.



- (b) When not using the hand-held tester.
- (1) Connect the positive (+) lead from the battery to terminal 4 of the connector, and connect the negative (-) lead to terminal 5.
 - (2) Check that the pump operates.

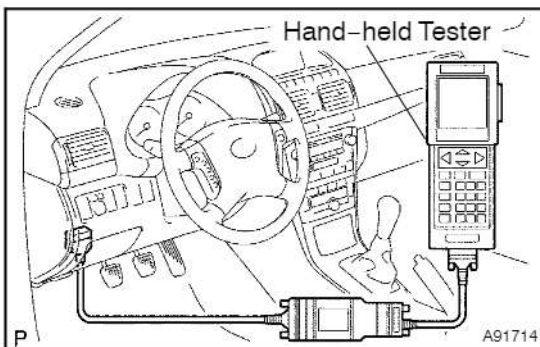


3. CHECK FUEL PUMP OPERATION (HIGH PRESSURE)

- (a) Remove the engine cover No. 1 (see page 10-8).
- (b) Start the engine.
- (c) Using a sound scope, hear the operating sound of the pump.

If there is no sound, replace the fuel pump.

- (d) Stop the engine.
- (e) Reinstall the engine cover No. 1 (see page 10-8).



4. CHECK FUEL HIGH PRESSURE

- (a) Connect the hand-held tester to the DLC3.
- (b) Start the engine.
- (c) Select the ACTIVE TEST mode on the hand-held tester.
- (d) Perform the ACTIVE TEST check the fuel high pressure at idle to 3,000 rpm.

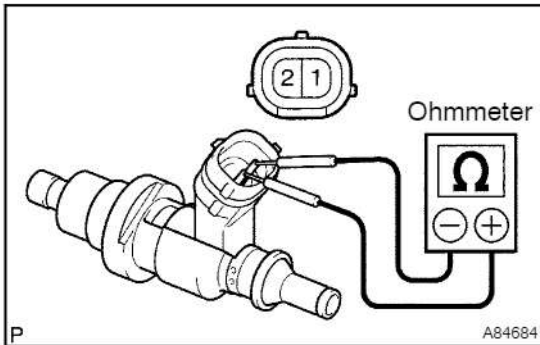
Fuel high pressure:

9.5 to 10.5 Mpa (97 to 107 kgf/cm², 1,380 to 1,520 psi)

If the pressure is not as specified, check the fuel pump, high pressure fuel pump, fuel pressure sensor, wiring and fuel leakage.

- (e) Stop the engine.
- (f) Disconnect the hand-held tester.

INSPECTION



1. INSPECT FUEL INJECTOR ASSY

NOTICE:

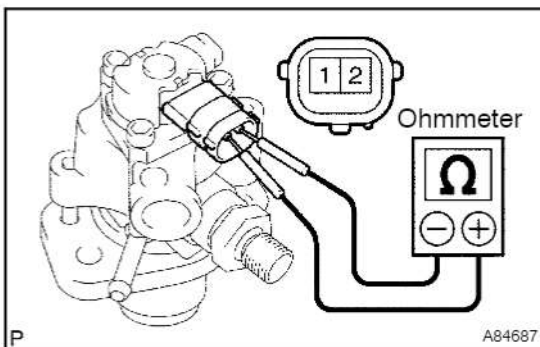
This inspection aims at inspecting the fuel injectors for open or short, because the fuel injectors of this vehicle are high-pressure type and do not allow to inspect fuel injection volume.

- (a) Inspect the resistance.
 - (1) Using an ohmmeter, measure the resistance between the terminals.

Standard:

Tester Connection	Specified Condition
1 - 2	2.55 to 2.85 Ω at 20°C (68°F)

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



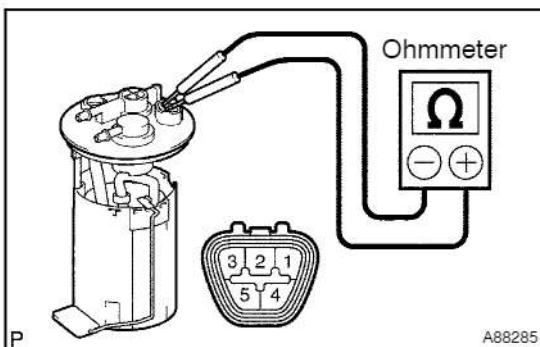
2. INSPECT FUEL PUMP ASSY

- (a) Inspect the resistance.
 - (1) Using an ohmmeter, measure the resistance between the terminals.

Standard:

Tester Connection	Specified Condition
1 - 2	1.19 to 1.39 Ω at 20°C (68°F)

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



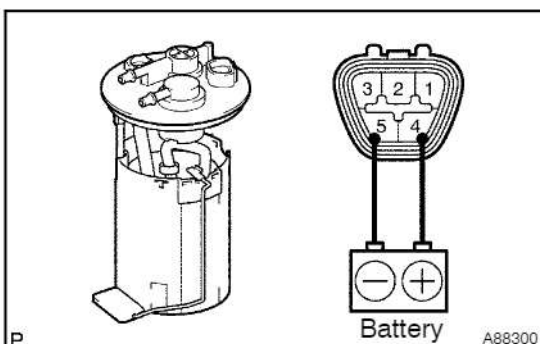
3. INSPECT FUEL PUMP ASSY

- (a) Inspect the resistance.
 - (1) Using an ohmmeter, measure the resistance between the terminals.

Standard:

Tester Connection	Specified Condition
4 - 5	0.2 to 3.0 Ω at 20°C (68°F)

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



- (b) Check the operation.
 - (1) Apply battery voltage across the terminals. Check that the fuel pump operates.

NOTICE:

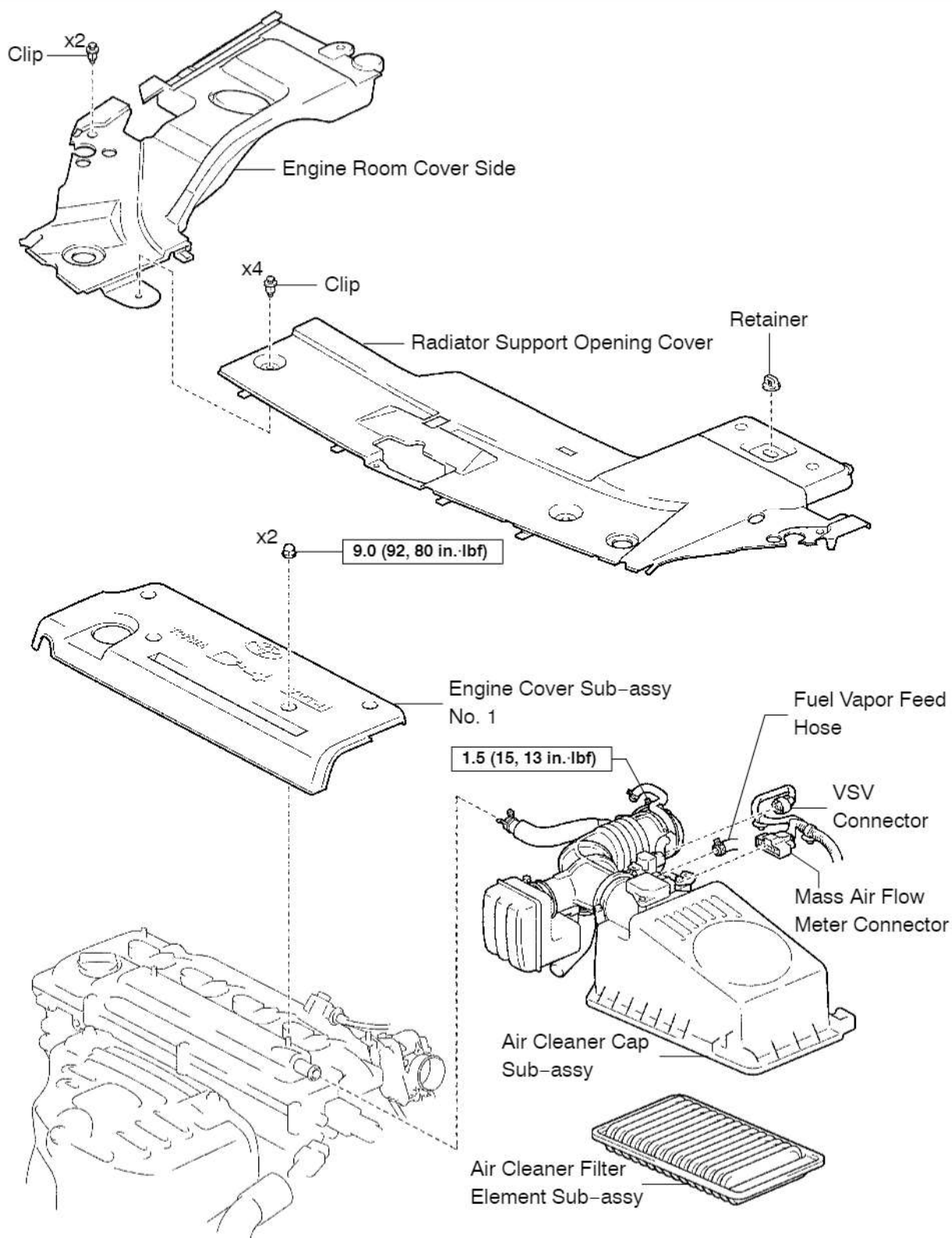
- These tests must be performed quickly (within 10 seconds) to prevent burnout of the coil.
- Keep fuel pump as far away from the battery as possible.
- Always do the switching at the battery side.

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

FUEL INJECTOR ASSY (2AZ-FSE)

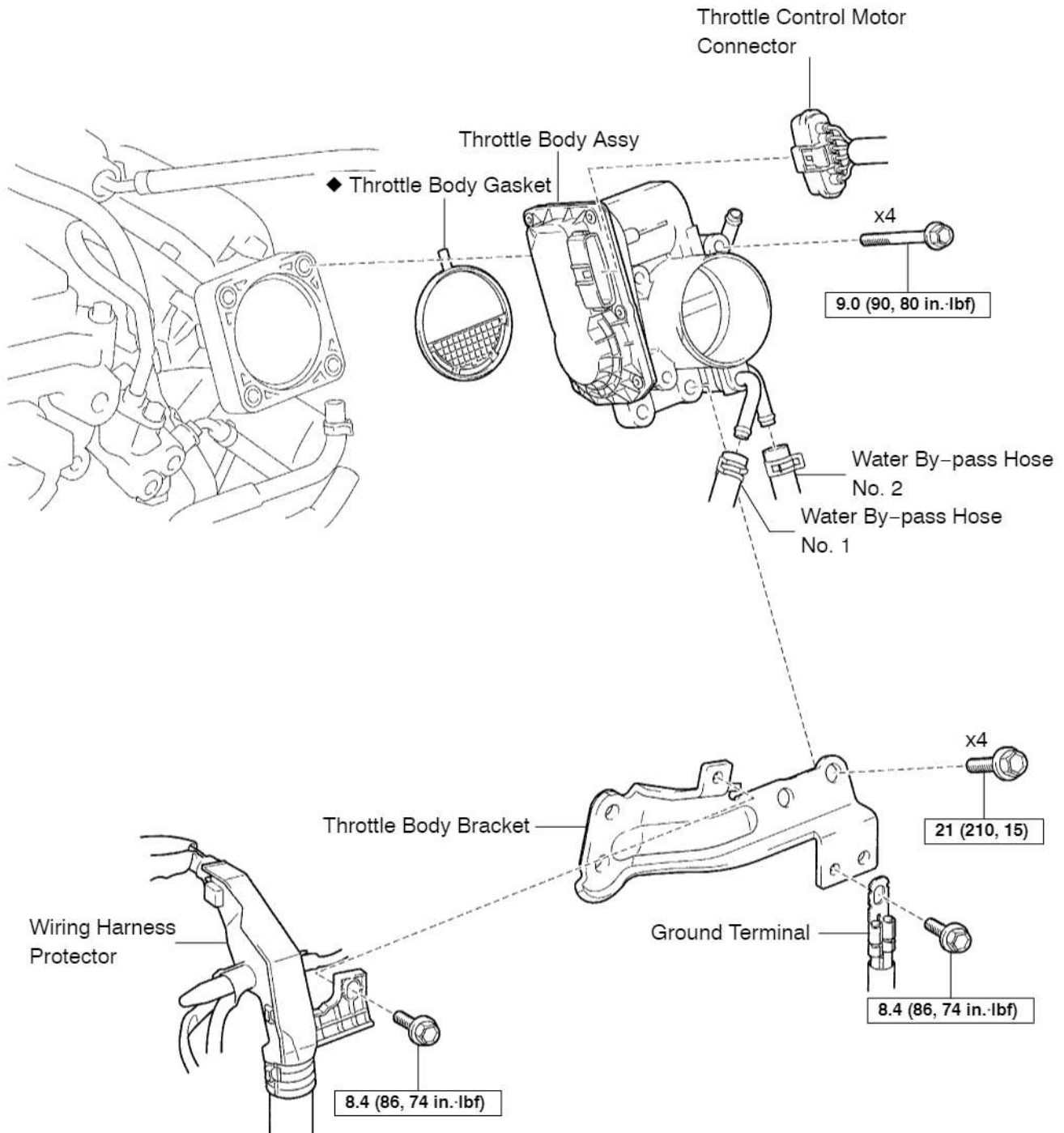
COMPONENTS

11113-01



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

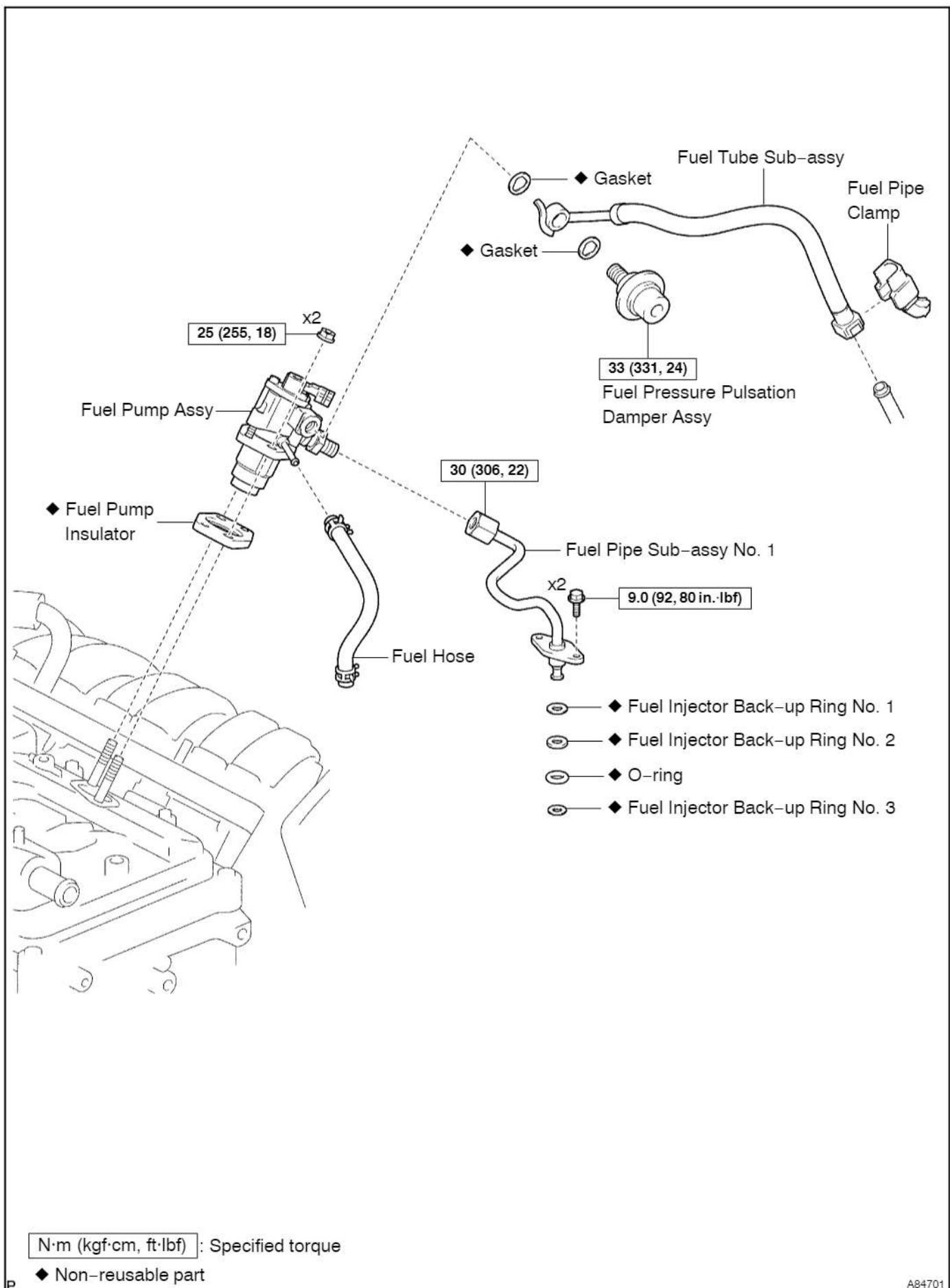
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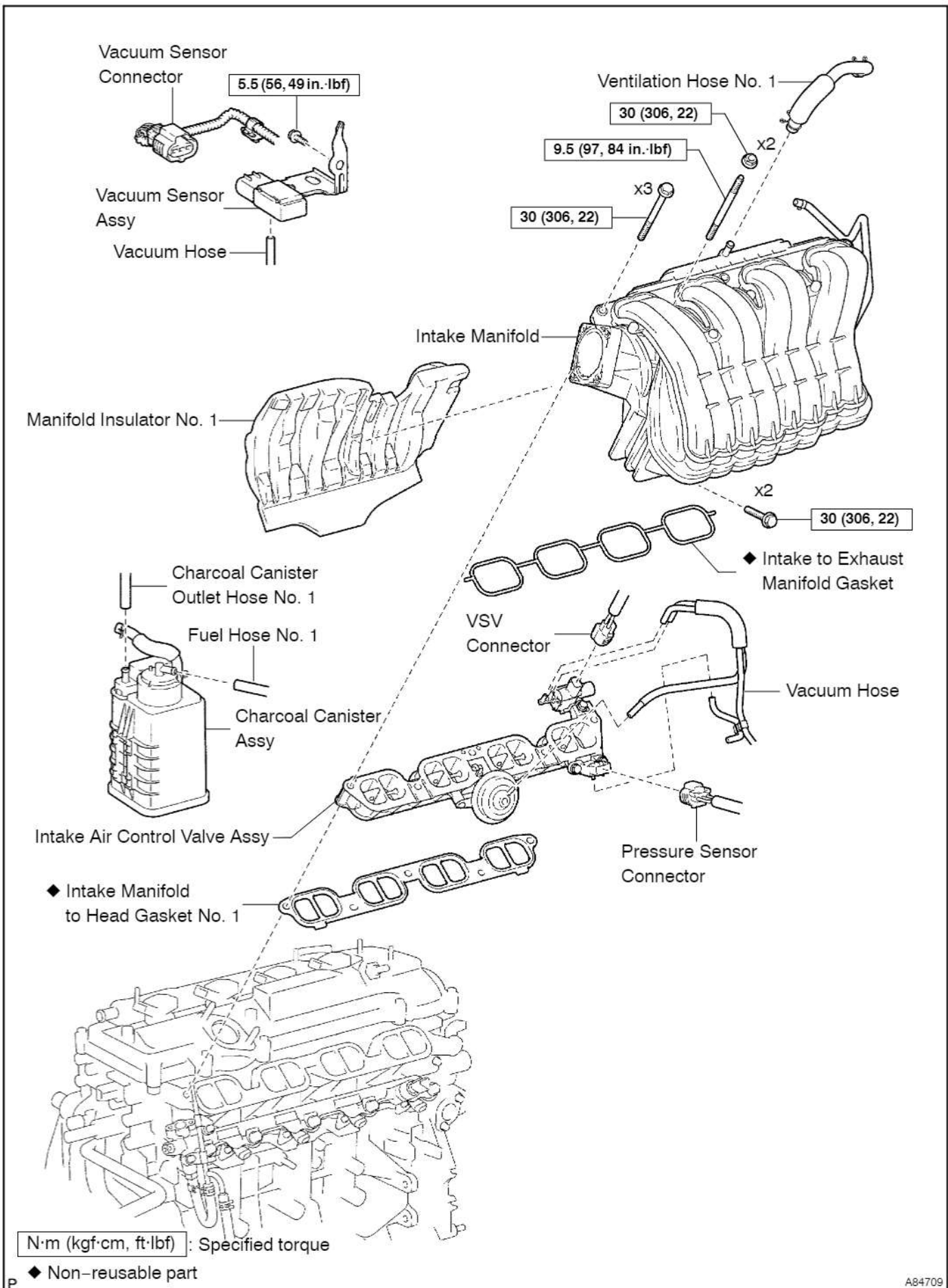
N·m (kgf·cm, ft·lbf) : Specified torque

◆ Non-reusable part

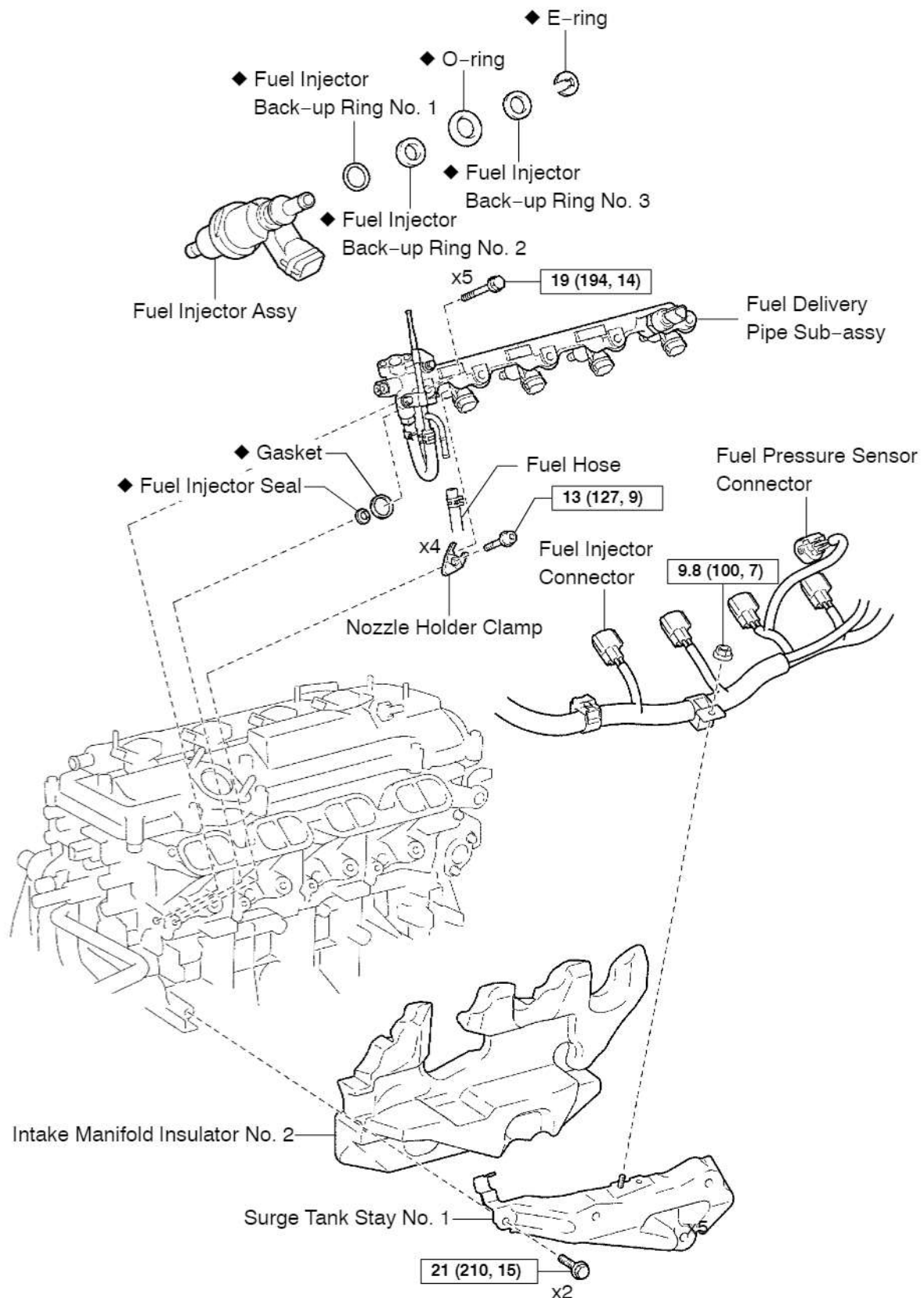
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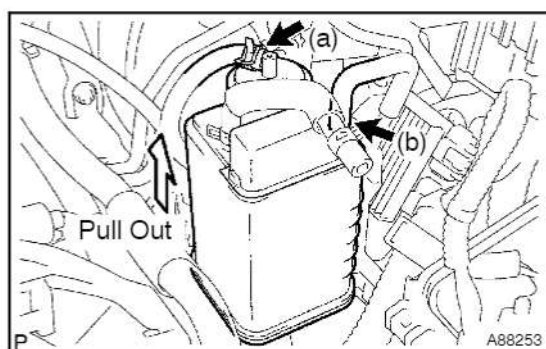


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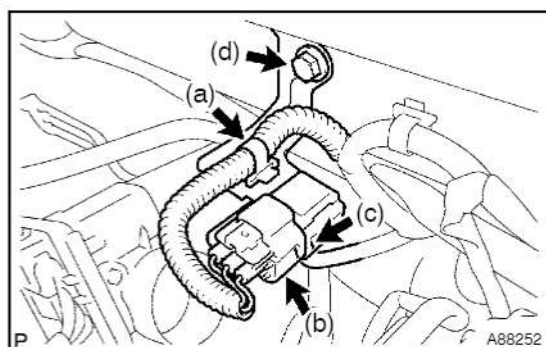
REPLACEMENT

1. DISCHARGE FUEL SYSTEM PRESSURE (See page 11-1)
2. REMOVE RADIATOR SUPPORT OPENING COVER (See page 10-8)
3. REMOVE ENGINE ROOM COVER SIDE (See page 10-8)
4. DISCONNECT ENGINE WIRE NO.3 (BATTERY NEGATIVE TERMINAL)
5. DRAIN ENGINE COOLANT (See page 16-7)
6. REMOVE ENGINE COVER SUB-ASSY NO.1 (See page 10-8)
7. REMOVE AIR CLEANER CAP SUB-ASSY (See page 10-8)
8. REMOVE THROTTLE BODY ASSY (See page 10-8)
9. REMOVE FUEL TUBE SUB-ASSY (See page 11-24)
SST 09617-24011
10. REMOVE FUEL HOSE (See page 11-24)
11. REMOVE FUEL PIPE SUB-ASSY NO.1 (See page 11-24)
SST 09023-12900
12. REMOVE FUEL PUMP ASSY (See page 11-24)



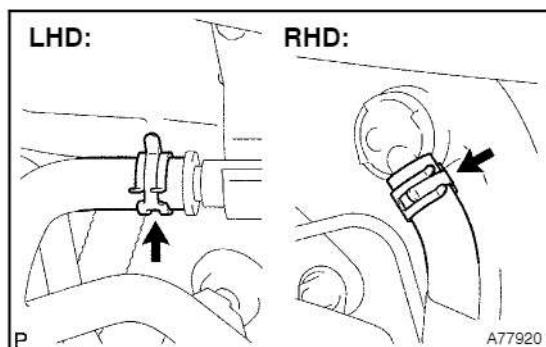
13. REMOVE CHARCOAL CANISTER ASSY

- (a) Disconnect the fuel hose from the charcoal canister hose.
- (b) Disconnect the charcoal canister outlet hose No. 1 from the charcoal canister.
- (c) Pull out the charcoal canister from the charcoal canister base bracket.



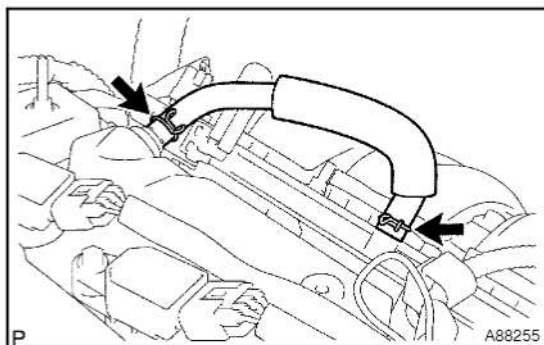
14. REMOVE VACUUM SENSOR ASSY (LHD STEERING POSITION TYPE)

- (a) Remove the wiring harness clamp.
- (b) Disconnect the vacuum sensor connector.
- (c) Disconnect the vacuum hose from the vacuum sensor.
- (d) Remove the bolt, then remove the vacuum sensor.

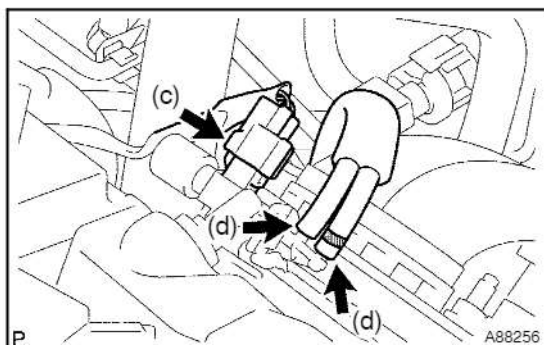


15. REMOVE INTAKE MANIFOLD

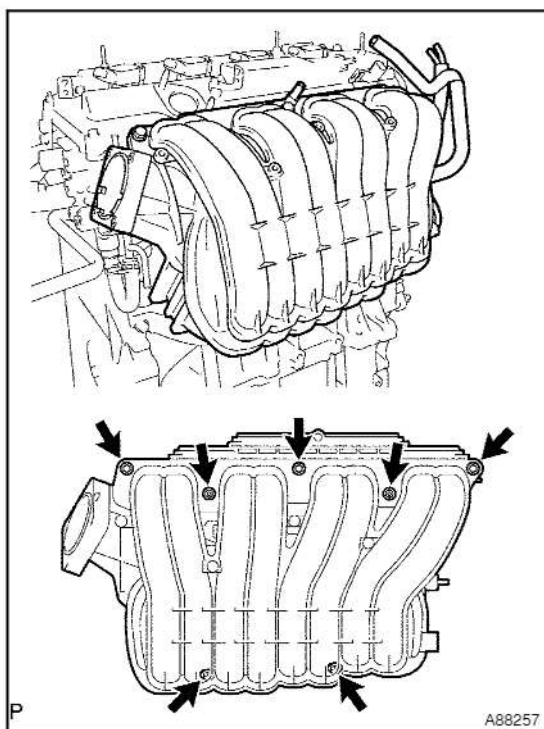
- (a) Disconnect the union to connector tube hose from the brake booster.



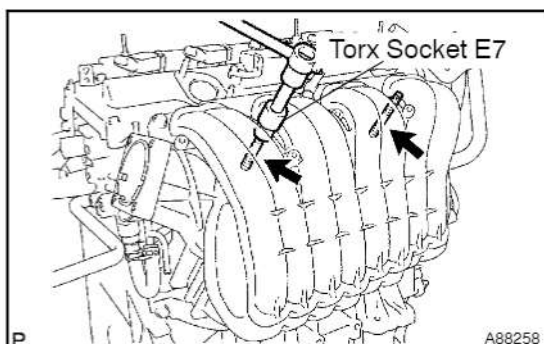
- (b) Remove the ventilation hose No. 1 from the ventilation valve and intake manifold.



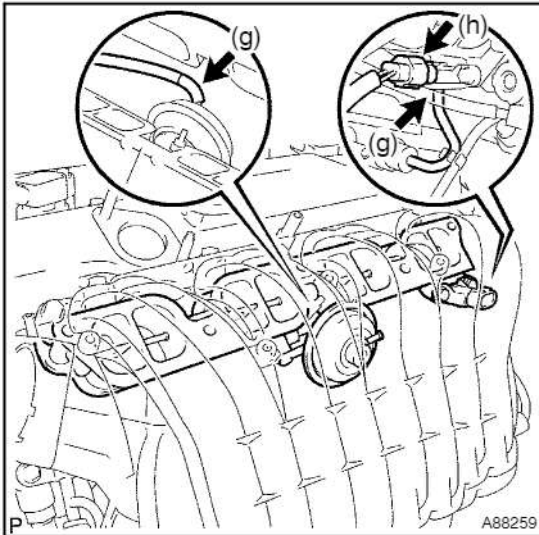
- (c) Disconnect the VSV connector.
(d) Disconnect the 2 vacuum hoses from the VSV.



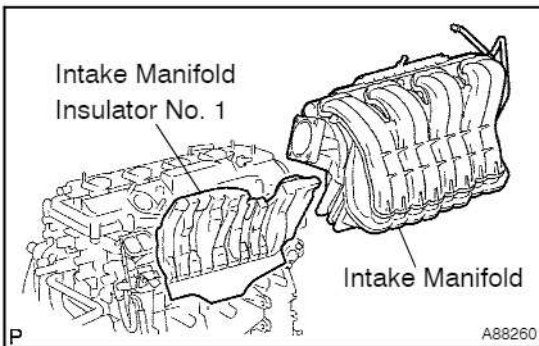
- (e) Remove the 5 bolts and 2 nuts.



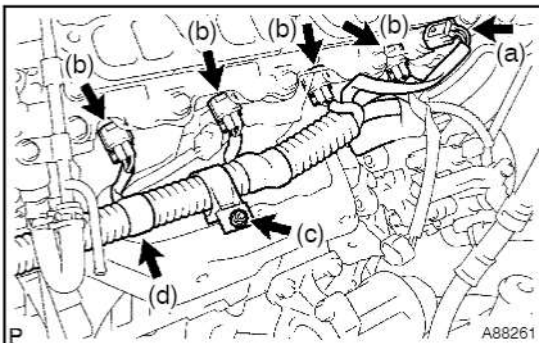
- (f) Using a Torx socket E7, remove the 2 stud bolts.



- (g) Disconnect the 2 vacuum hoses from the intake air control valve and pressure sensor.
- (h) Disconnect the pressure sensor connector.
- (i) Remove the intake air control valve and gasket from the cylinder head.

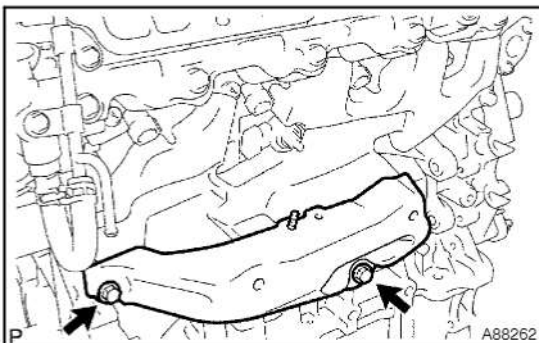


- (j) Remove the intake manifold insulator No. 1 from the intake manifold.
- (k) Remove the intake manifold from the vehicle.

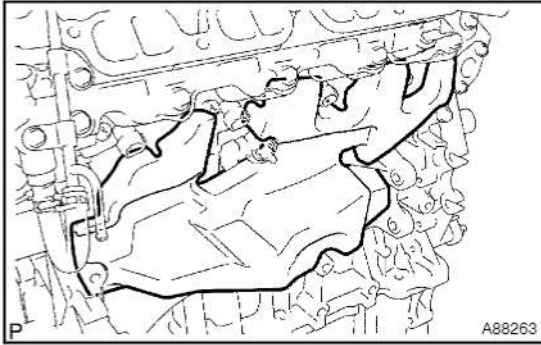


16. REMOVE SURGE TANK STAY NO.1

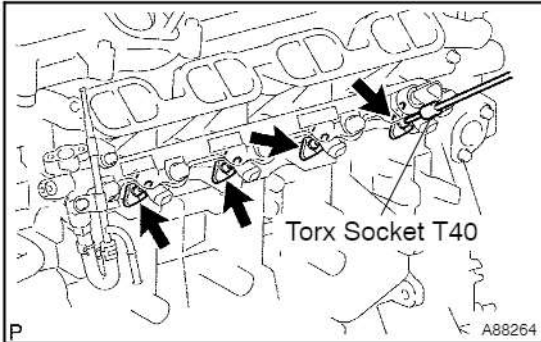
- (a) Disconnect the fuel pressure sensor connector.
- (b) Disconnect the 4 fuel injector connectors.
- (c) Remove the nut.
- (d) Remove the wiring harness clamp, then remove the engine wire.



- (e) Remove the 2 bolts, then remove the surge tank stay No. 1.

**17. REMOVE INTAKE MANIFOLD INSULATOR NO.2**

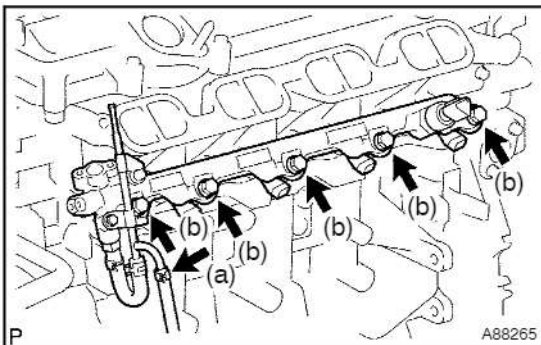
- (a) Remove the intake manifold insulator No. 2 from the cylinder block.

**18. REMOVE NOZZLE HOLDER CLAMP**

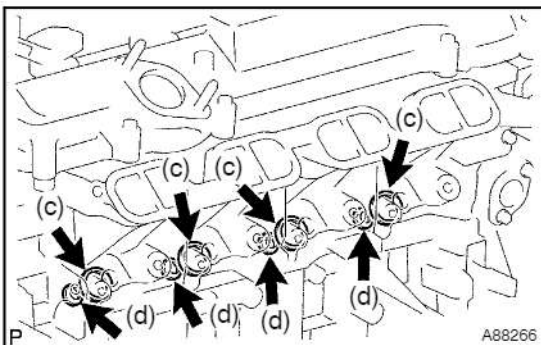
- (a) Using a Torx socket T40, remove the 4 bolts, then remove the 4 nozzle holder clamps.

HINT:

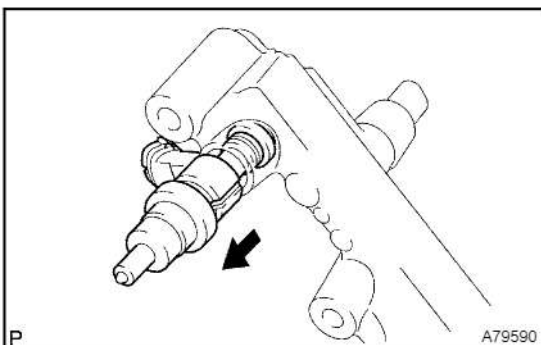
The nozzle holder clamp is installed with a bolt.

**19. REMOVE FUEL DELIVERY PIPE SUB-ASSY**

- (a) Disconnect the fuel hose from the fuel pipe No. 2.
(b) Remove the 5 bolts, then remove the fuel delivery pipe together with the 4 fuel injectors.



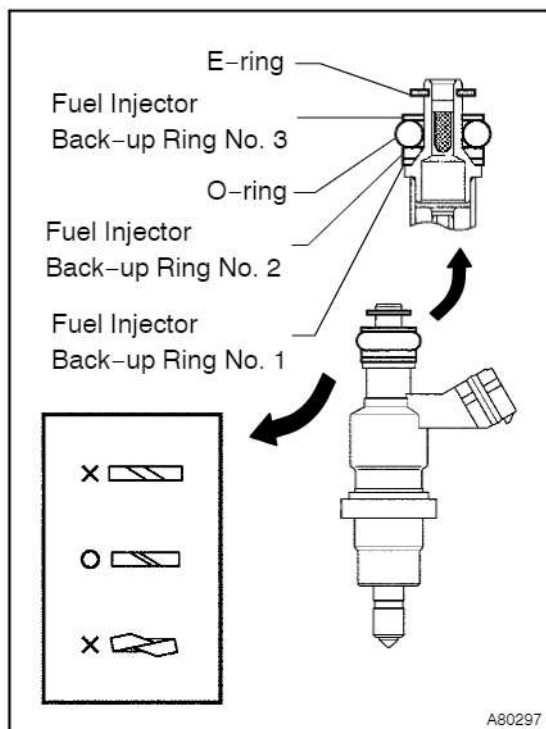
- (c) Remove the 4 gaskets from the cylinder head.
(d) Remove the 4 seals from the cylinder head.

**20. REMOVE FUEL INJECTOR ASSY**

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

NOTICE:

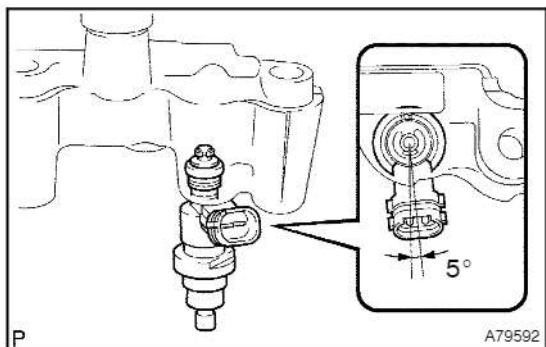
Be careful not to damage the sealing surface of the fuel delivery pipe when removing the fuel injector.

**21. INSTALL FUEL INJECTOR ASSY**

- (a) Install new fuel injector back-up ring No. 1, No. 2, No. 3, a new O-ring and a new E-ring to each fuel injector.

NOTICE:

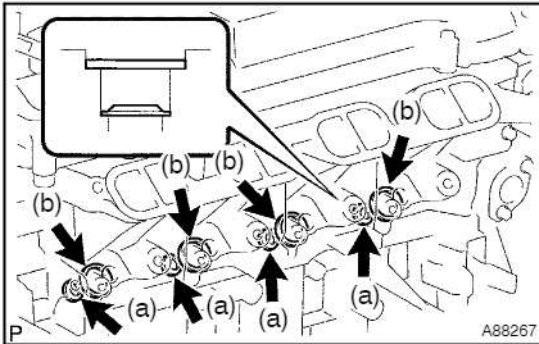
- There is a draft angle inside the back-up ring No. 1 and No. 2. Put the draft angle downward when installing those rings to the fuel injector.
 - The back-up ring No. 1 and No. 2 have a diagonal slit. Pay attention to the splice of the slits after installing them.
 - After installation of these 5 rings to the fuel injector, check that there are no damages and foreign objects on them.
- (b) Apply a light coat of spindle oil or gasoline to the O-ring on the fuel injector and the mounting hole on the fuel delivery pipe.



- (c) Install the fuel injector to the fuel delivery pipe as shown in the illustration.

NOTICE:

- Be careful not to damage the sealing surface of the fuel delivery pipe when installing the injector.
- Check that there are no damages and foreign objects in the fuel injector mounting hole of the fuel delivery pipe sub-assy.
- In order to avoid any damage, be sure to apply fuel to both the O-ring and the mounting hole before installing the fuel injector to the fuel delivery pipe.

**22. INSTALL FUEL DELIVERY PIPE SUB-ASSY**

- (a) Install the 4 new seals to the cylinder head.

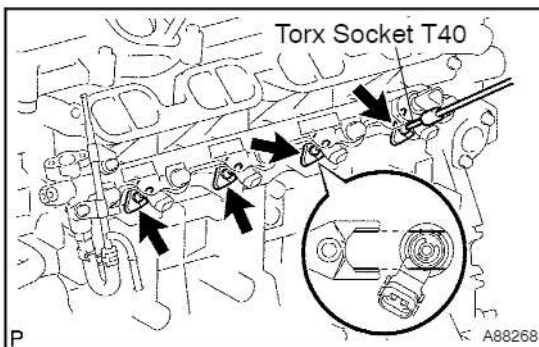
NOTICE:

Pay attention the mounting orientation of the seal.

- (b) Install the 4 new gaskets to the cylinder head.
 (c) Install the fuel delivery pipe together with the 4 fuel injectors to the cylinder head.

NOTICE:

- Remove any carbon from the tip of the fuel injector if necessary.
 - Do not give any physical impact on the tip because the fuel injector tip is sensitive.
 - If you drop the fuel injector by mistake, replace it with a new one.
 - Check that there are no damages and foreign objects on the fuel injector mounting area of the cylinder head.
- (d) Temporarily install the fuel delivery pipe with the 5 bolts.

**23. INSTALL NOZZLE HOLDER CLAMP**

- (a) Align the keyway of the fuel injector with the nozzle holder clamp, then fit them.
 (b) Using a Torx socket T40, install the 4 nozzle holder clamps with the 4 bolts.

Torque: 13 N·m (127 kgf·cm, 9 ft·lbf)

- (c) Tighten the 5 bolts until they reach the specified torque to secure the fuel delivery pipe.

Torque: 19 N·m (194 kgf·cm, 14 ft·lbf)

- (d) Connect the fuel hose to the fuel pipe No. 2.

24. INSTALL INTAKE MANIFOLD INSULATOR NO.2**25. INSTALL SURGE TANK STAY NO.1****Torque:**

21 N·m (210 kgf·cm, 15 ft·lbf) for surge tank stay No. 1 x cylinder block

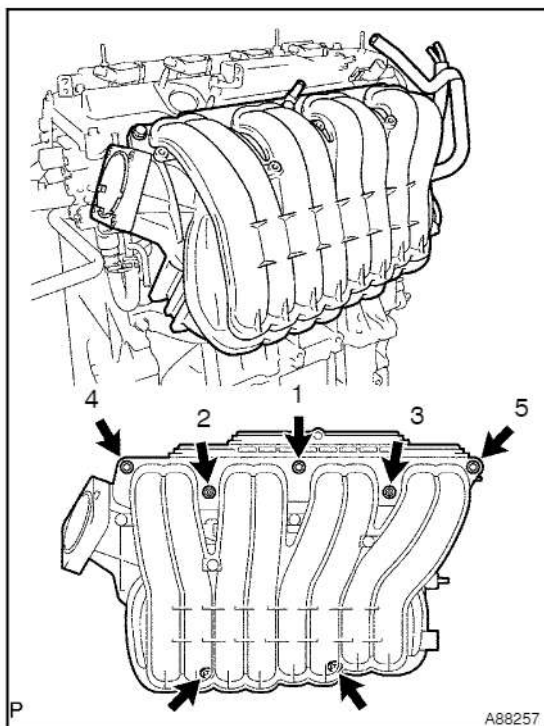
9.8 N·m (100 kgf·cm, 7 ft·lbf) for surge tank stay No. 1 x engine wire

26. INSTALL INTAKE MANIFOLD

- (a) Install a new gasket to the intake manifold.
 (b) Temporarily install the intake manifold to the cylinder head.
 (c) Install the intake manifold insulator No. 1 to the intake manifold.
 (d) Temporarily install the intake air control valve and a new gasket between the intake manifold and cylinder head, then check that the stud bolt holes are aligned.
 (e) Connect the 2 vacuum hoses to the intake air control valve and pressure sensor.
 (f) Connect the pressure sensor connector.

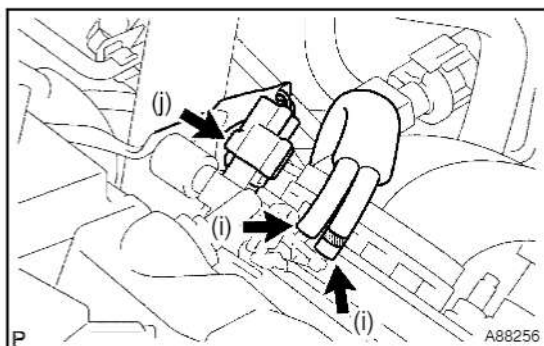
- (g) Using a Torx socket E7, install and tighten the 2 stud bolts to secure the intake manifold, intake air control valve and gasket.

Torque: 9.5 N·m (97 kgf·cm, 84 in·lbf)



- (h) In order to install the intake manifold to the cylinder head, tighten the 3 bolts and 2 nuts in the sequence shown in the illustration.

Torque: 30 N·m (306 kgf·cm, 22 ft·lbf)



- (i) Connect the 2 vacuum hoses to the VSV as shown in the illustration.
 (j) Connect the VSV connector.
 (k) Install the ventilation hose No. 1 to the ventilation valve and intake manifold.
 (l) Connect the union to connector tube hose to the brake booster.

27. INSTALL VACUUM SENSOR ASSY (LHD STEERING POSITION TYPE)

Torque: 5.5 N·m (56 kgf·cm, 49 in·lbf)

28. INSTALL CHARCOAL CANISTER ASSY

29. INSTALL FUEL PUMP ASSY (See page 11-24)

30. INSTALL FUEL PIPE SUB-ASSY NO.1 (See page 11-24)

SST 09023-12900

31. INSTALL FUEL HOSE

32. INSTALL FUEL TUBE SUB-ASSY (See page 11-24)

SST 09617-24011

33. INSTALL THROTTLE BODY ASSY (See page 10-8)

34. INSTALL AIR CLEANER CAP SUB-ASSY (See page 10-8)

35. CONNECT ENGINE WIRE NO.3 (BATTERY NEGATIVE TERMINAL)

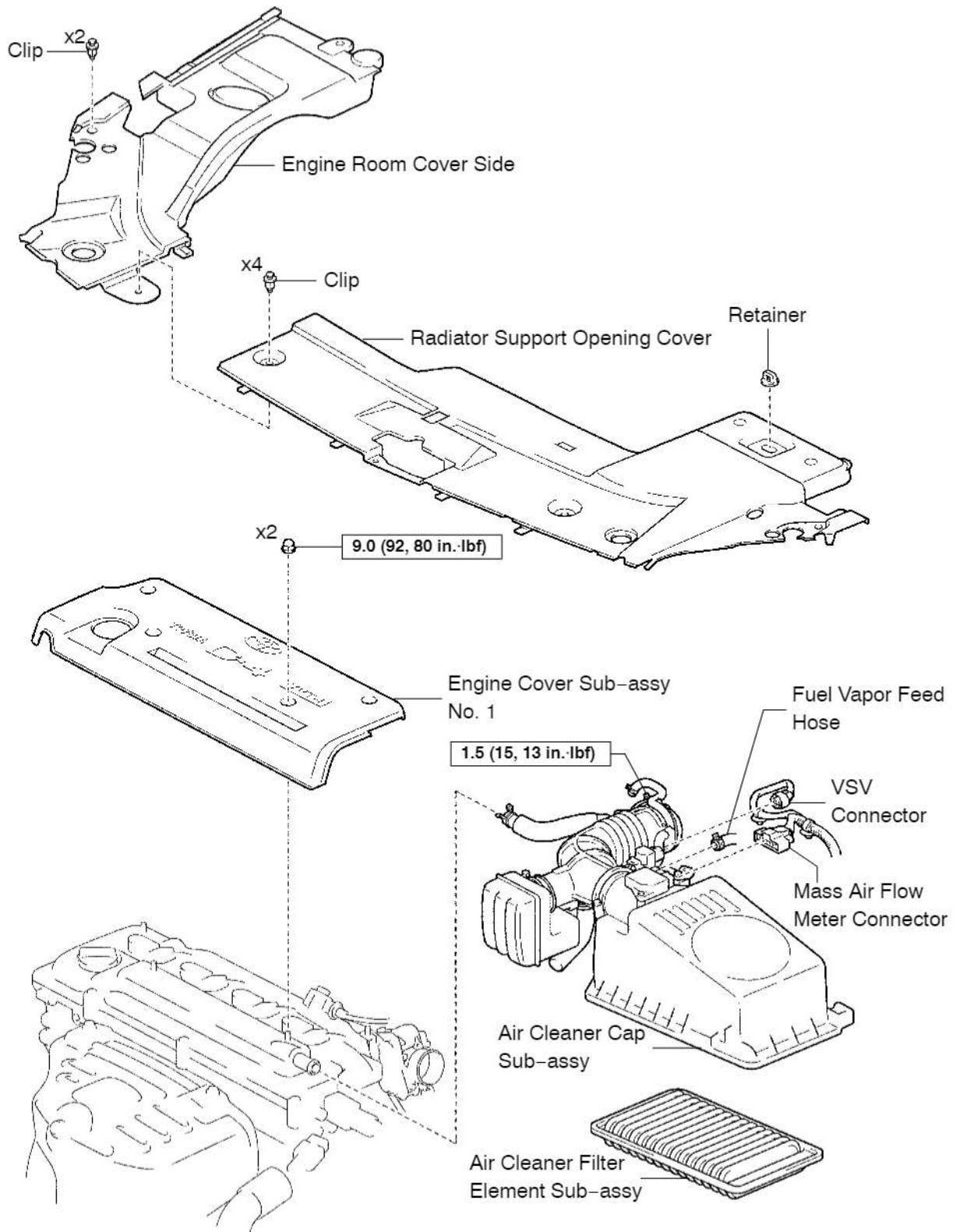
Torque: 5.4 N·m (55 kgf·cm, 48 in·lbf)

36. ADD ENGINE COOLANT ([see page 16-7](#))
37. CHECK FOR ENGINE COOLANT LEAKS ([See page 16-1](#))
38. CHECK FOR FUEL LEAKS ([See page 11-4](#))
39. CHECK FOR ENGINE OIL LEAKS
40. INSTALL ENGINE COVER SUB-ASSY NO.1 ([See page 10-8](#))
41. INSTALL ENGINE ROOM COVER SIDE
42. INSTALL RADIATOR SUPPORT OPENING COVER

FUEL PUMP ASSY (2AZ-FSE)

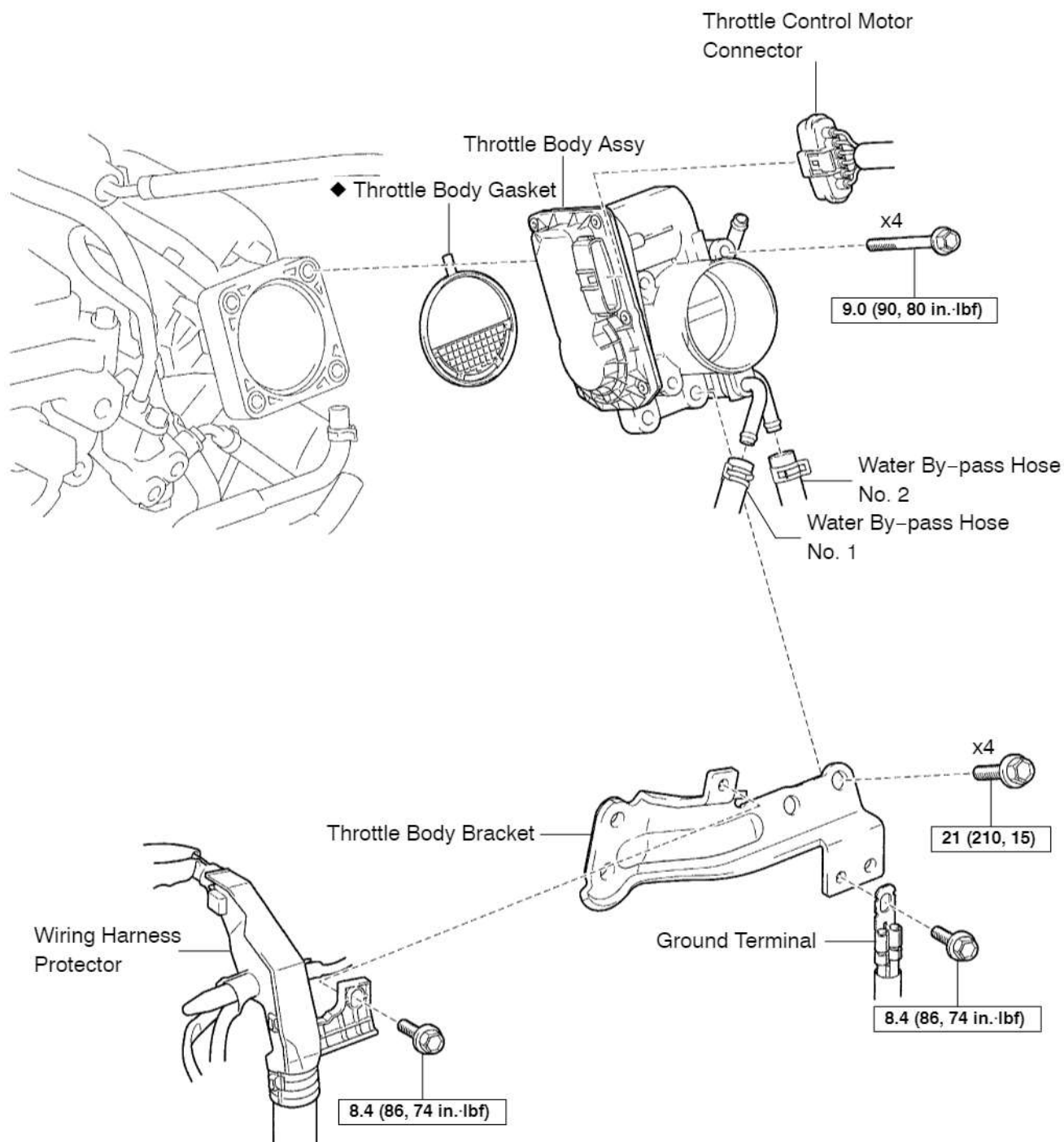
COMPONENTS

11115-01



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

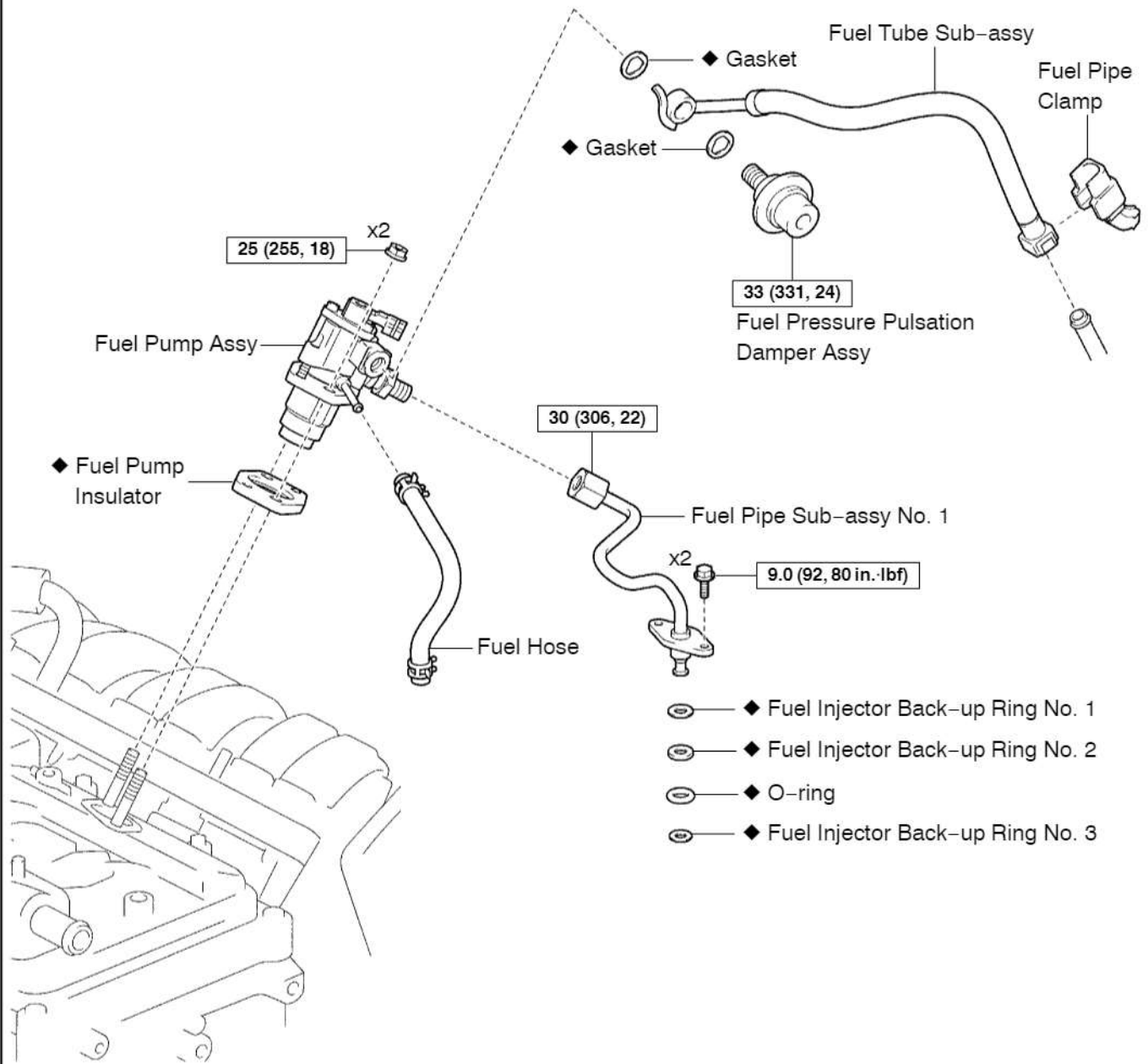
A84695



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

◆ Non-reusable part

A84696



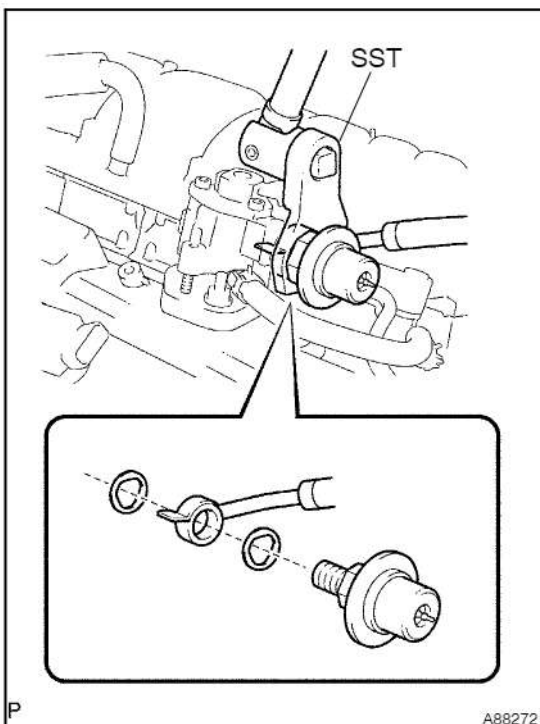
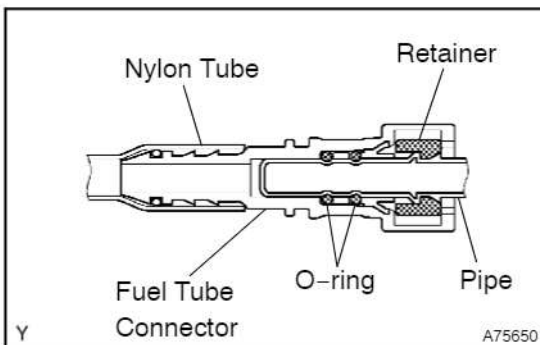
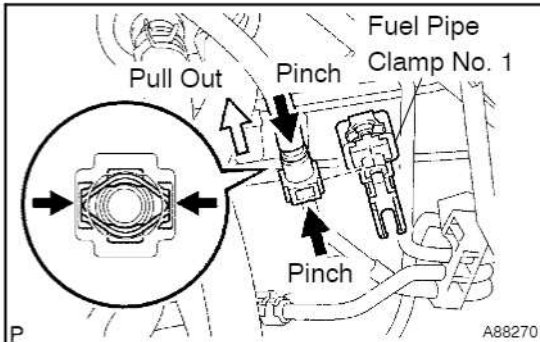
N·m (kgf·cm, ft·lbf) : Specified torque

◆ Non-reusable part

A84701

REPLACEMENT

1. DISCHARGE FUEL SYSTEM PRESSURE (See page 11-1)
2. REMOVE RADIATOR SUPPORT OPENING COVER (See page 10-8)
3. DISCONNECT ENGINE WIRE NO.3 (BATTERY NEGATIVE TERMINAL)
4. REMOVE ENGINE COVER SUB-ASSY NO.1 (See page 10-8)
5. REMOVE AIR CLEANER CAP SUB-ASSY (See page 10-8)
6. REMOVE THROTTLE BODY ASSY (See page 10-8)



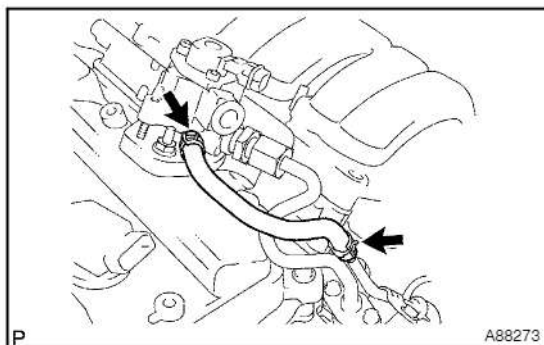
7. REMOVE FUEL TUBE SUB-ASSY

- (a) Remove the fuel pipe clamp No. 1.
- (b) Pinch the retainer, then pull out the fuel tube connector.

NOTICE:

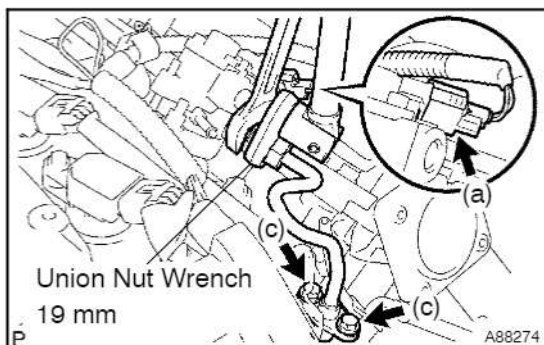
- Check around the fuel tube connector for any dirt or mud before this operation, and remove it if necessary.
- Be careful of mud because the fuel tube connector has an O-ring which seals the fuel tube connector and pipe that can be contaminated.
- Do not use any tool in this operation.
- Do not bend or twist the nylon tube. Protect the fuel tube connector by covering it with a vinyl or plastic bag.
- When the fuel tube connector and pipe are stuck, push and pull the fuel tube connector to release, then pull the fuel tube connector out carefully.

- (c) Using SST, remove the fuel pressure pulsation damper, fuel tube and 2 gaskets.
SST 09617-24011



8. REMOVE FUEL HOSE

- (a) Remove the fuel hose from the fuel pump and fuel pipe No. 2.



9. REMOVE FUEL PIPE SUB-ASSY NO.1

- (a) Disconnect the fuel pump connector.
- (b) Clamp the union bolt on the fuel pump with a 21 mm wrench, then remove the fuel pipe No. 1 from the fuel pump using a union nut wrench 19mm.

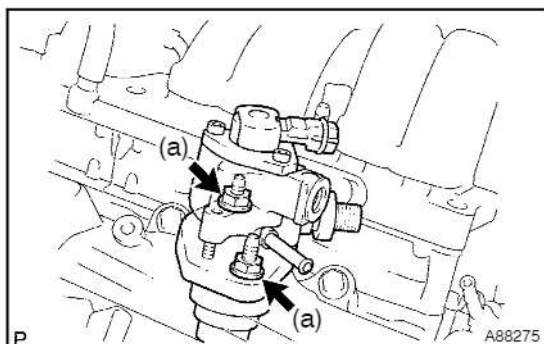
NOTICE:

Do not loosen the union bolt on the fuel pump. If it becomes loose, replace the fuel pump with a new fuel pump.

- (c) Remove the 2 bolts, then remove the fuel pipe No. 1.

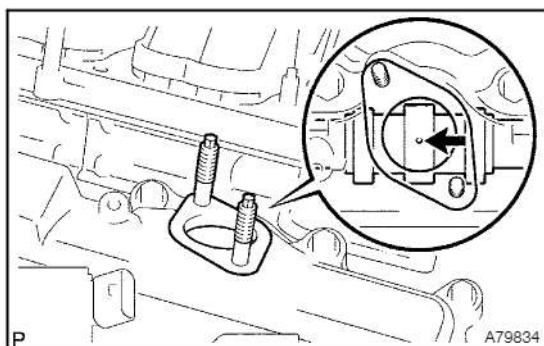
NOTICE:

Be careful not to damage both the sealing surfaces of the fuel delivery pipe and fuel pump when removing the fuel pipe No. 1.



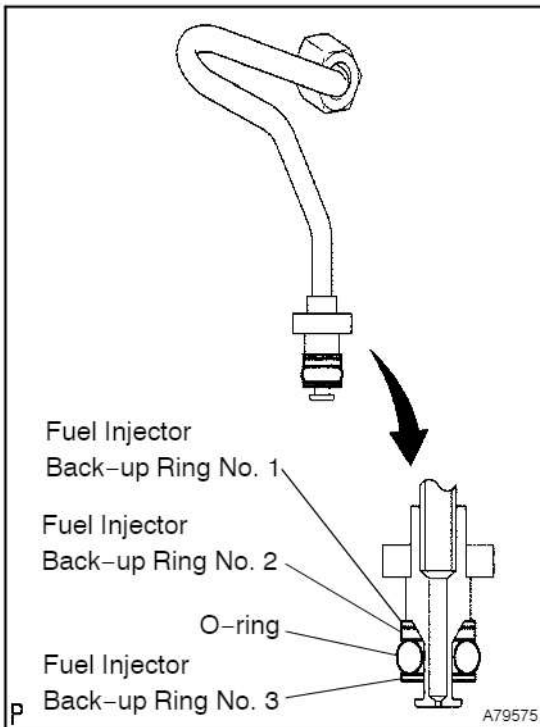
10. REMOVE FUEL PUMP ASSY

- (a) Remove the 2 nuts, then remove the fuel pump.
- (b) Remove the insulator from the cylinder head.



11. INSTALL FUEL PUMP ASSY

- (a) Turn the crankshaft, then set the camshaft to the position where the oil port of the camshaft can be seen from the fuel pump mounting hole.
- (b) From the fuel pump mounting hole of the cylinder head, pour 35 to 45cc (2.14 to 2.75 cu in) engine oil into the cylinder head.
- (c) For more smooth rotation, apply engine oil on the cam lobe which can be seen from the fuel pump mounting hole using fingers.
- (d) Install a new insulator and the fuel pump with the 2 nuts.
Torque: 25 N·m (255 kgf·cm, 18 ft·lbf)



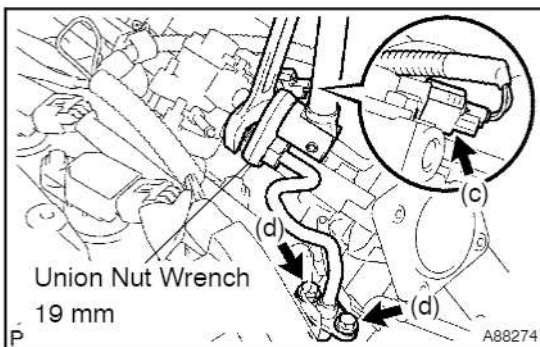
12. INSTALL FUEL PIPE SUB-ASSY NO.1

- Attach a new O-ring, fuel injector back-up ring No. 1, No. 2 and No. 3 to the fuel pipe No.1.
- Apply a small amount of fuel on the O-ring, then install the fuel pipe No. 1 to the fuel pump and fuel delivery pipe.

NOTICE:

Be careful not to damage both the sealing surfaces of the fuel delivery pipe and the fuel pump when installing the fuel pipe No.1.

- Tighten the nut by hand to attach the fuel pipe No. 1 to the fuel pump.



- In order to secure the fuel pipe No. 1, tighten the 2 bolts to the specified torque.

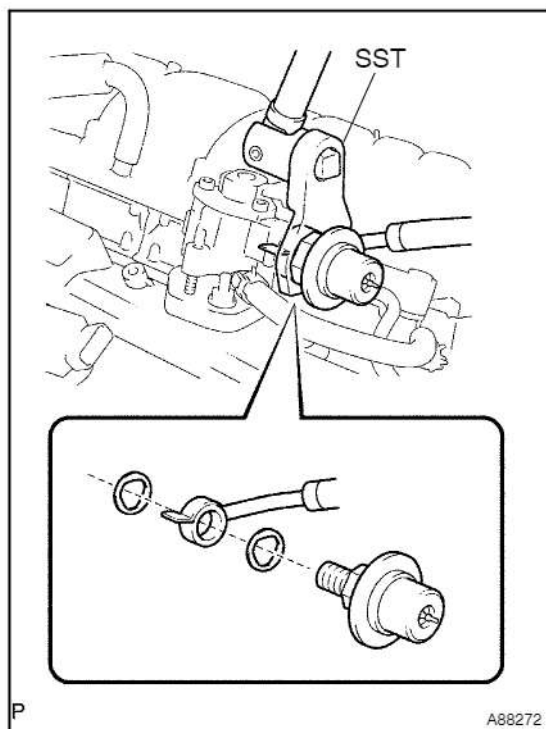
Torque: 9.0 N·m (92 kgf·cm, 80 in·lbf)

- Clamp the union bolt on the fuel pump with a 21 mm wrench, then tighten the nut with the specified torque to secure the fuel pipe No. 1 to the fuel pump using a union nut wrench 19 mm.

Torque: 30 N·m (306 kgf·cm, 22 ft·lbf)

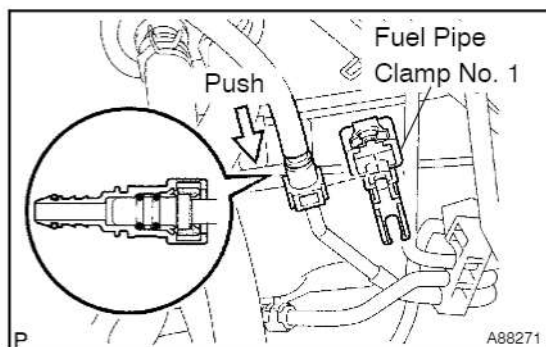
- Connect the fuel pump connector.

13. INSTALL FUEL HOSE

**14. INSTALL FUEL TUBE SUB-ASSY**

- (a) Install the fuel pulsation damper to the fuel pump after fitting the 2 new gaskets and fuel tube between those as-sys.
- (b) Using SST, install the fuel pressure pulsation damper to the fuel pump.

SST 09617-24011

Torque: 33 N·m (331 kgf·cm, 24 ft·lbf)

- (c) Push in the fuel tube connector to the pipe until fuel tube connector makes "click" sound.

NOTICE:

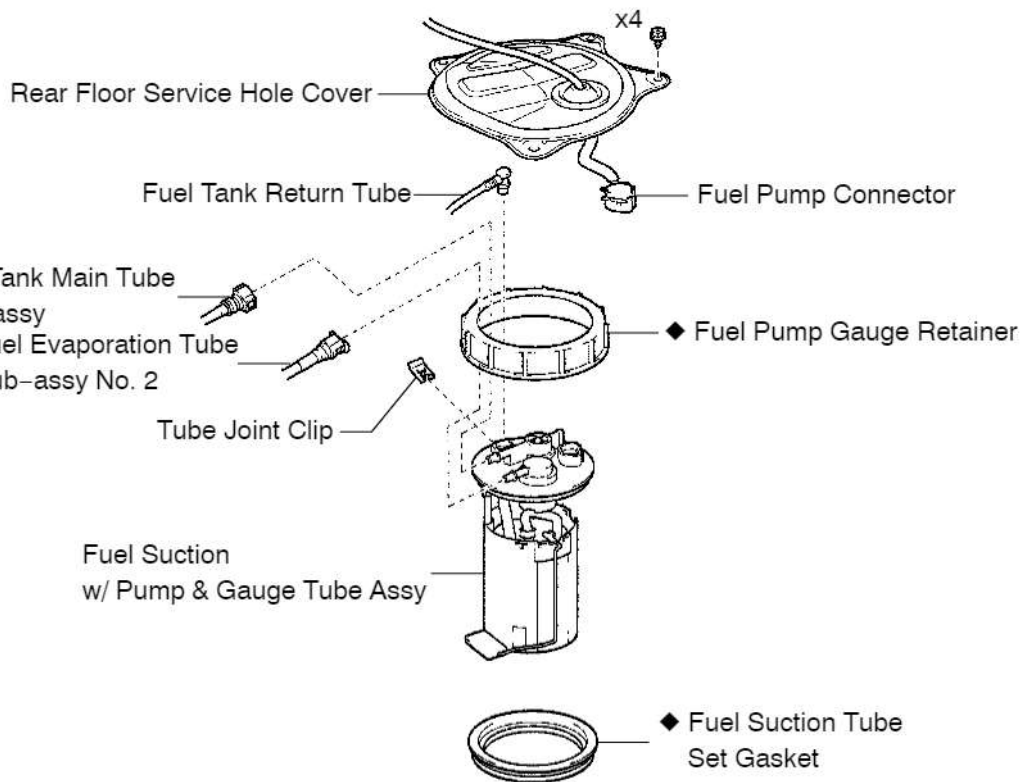
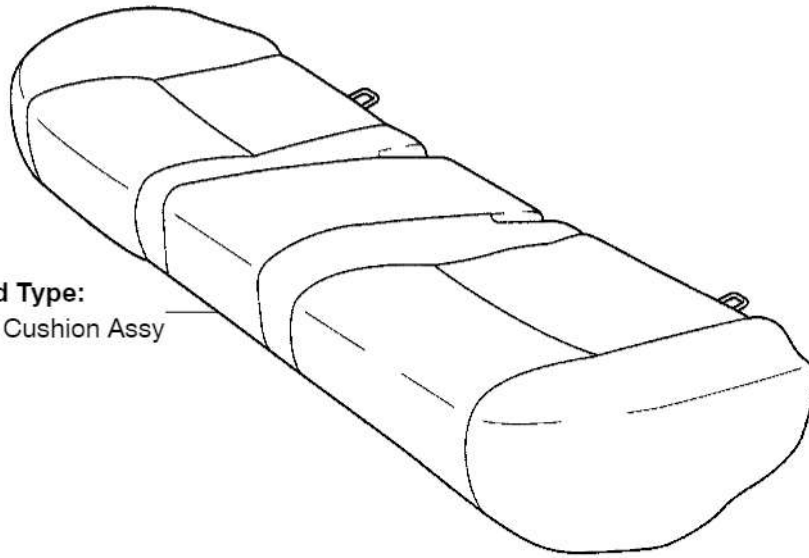
- Check the connected part for any damage or foreign objects.
- After connecting, check if the fuel tube connector and pipe are securely connected by pulling on them.

15. INSTALL THROTTLE BODY ASSY (See page 10-8)**16. INSTALL AIR CLEANER CAP SUB-ASSY (See page 10-8)****17. CONNECT ENGINE WIRE NO.3 (BATTERY NEGATIVE TERMINAL)****Torque: 5.4 N·m (55 kgf·cm, 48 in·lbf)****18. CHECK FOR FUEL LEAKS (See page 11-4)****19. CHECK FOR ENGINE OIL LEAKS****20. INSTALL ENGINE COVER SUB-ASSY NO.1 (See page 10-8)****21. INSTALL RADIATOR SUPPORT OPENING COVER**

FUEL SUCTION W/ PUMP & GAUGE TUBE ASSY (2AZ-FSE) COMPONENTS

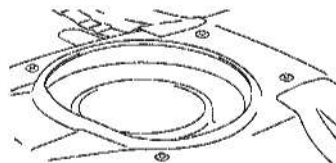
11117-01

Seat Fixed Type:
Rear Seat Cushion Assy



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

◆ Non-reusable part

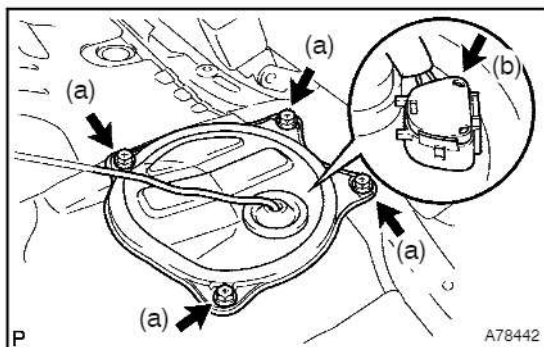


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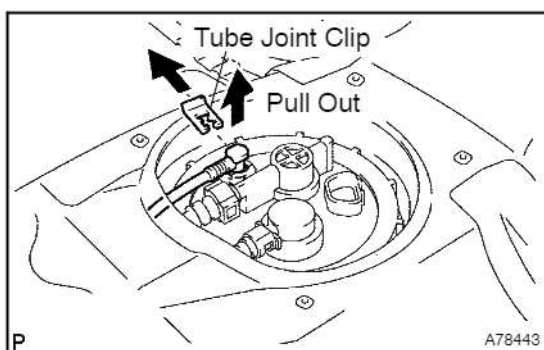
REPLACEMENT

1. DISCHARGE FUEL SYSTEM PRESSURE (See page 11-1)
2. DISCONNECT ENGINE WIRE NO.3 (BATTERY NEGATIVE TERMINAL)
3. REMOVE REAR SEAT CUSHION ASSY (SEAT FIXED TYPE)
(See Pub. No. RM1018E, page 72-32)



4. REMOVE REAR FLOOR SERVICE HOLE COVER

- (a) Remove the 4 screws, then remove the rear floor service hole cover.
- (b) Disconnect the fuel pump connector.

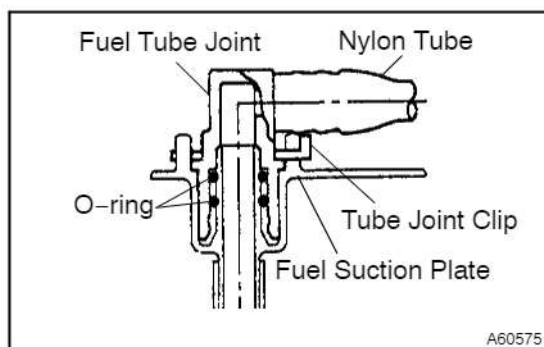


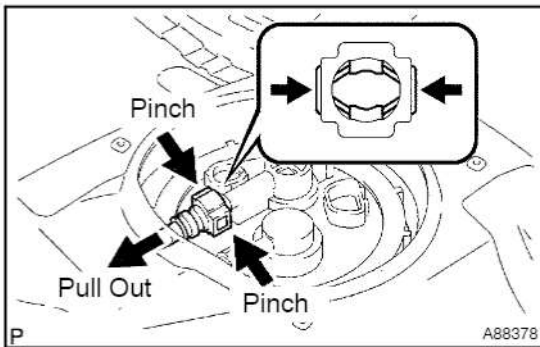
5. REMOVE FUEL SUCTION W/ PUMP & GAUGE TUBE ASSY

- (a) Disconnect the fuel tank return tube.
 - (1) Remove the tube joint clip, then pull out the fuel tank return tube.

NOTICE:

- Check around the fuel tube joint for any dirt or mud before this operation, then remove it if necessary.
- Be careful of mud because the fuel tube joint has an O-ring which seals the fuel tube joint and pipe that can be contaminated.
- Do not use any tool in this operation.
- Do not bend or twist the nylon tube. Protect the fuel tube joint by covering it with a vinyl or plastic bag.
- When the fuel tube joint and pipe are stuck, push and pull the fuel tube joint to release, then pull the fuel tube joint out carefully.



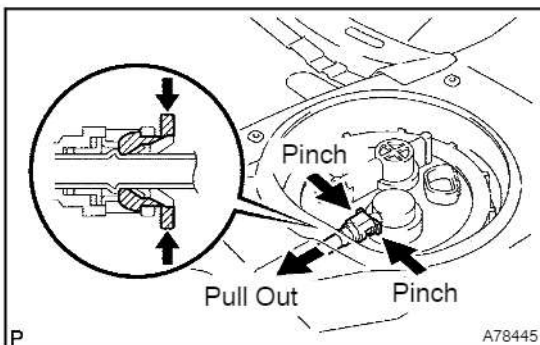
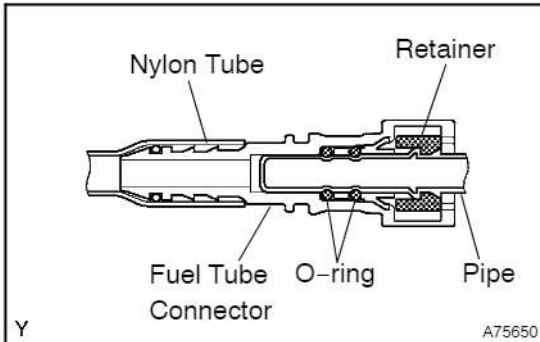


(b) Disconnect the fuel tank main tube.

- (1) Pinch the retainer, then pull out the fuel tank main tube.

NOTICE:

- Check around the fuel tube connector for any dirt or mud before this operation, then remove it if necessary.
- Be careful of mud because the fuel tube connector has an O-ring which seals the fuel tube connector and pipe that can be contaminated.
- Do not use any tool in this operation.
- Do not bend or twist the nylon tube. Protect the fuel tube connector by covering it with a vinyl or plastic bag.
- When the fuel tube connector and pipe are stuck, push and pull the fuel tube connector to release, then pull the fuel tube connector out carefully.

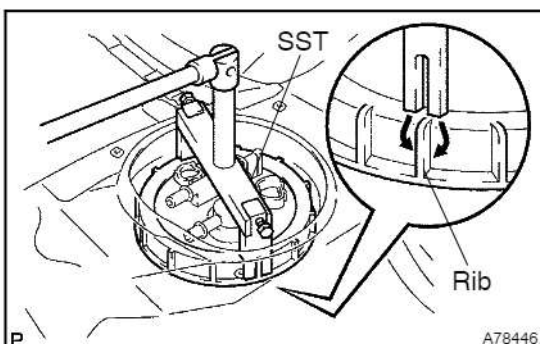
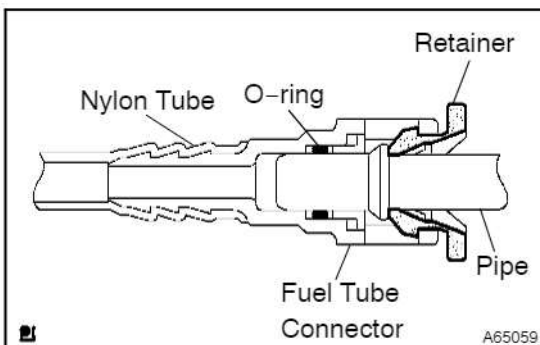


(c) Disconnect the fuel evaporation tube No. 2.

- (1) Pinch the retainer, then pull out the fuel evaporation tube No. 2.

NOTICE:

- Check around the fuel tube connector for any dirt or mud before this operation, then remove it if necessary.
- Be careful of mud because the fuel tube connector has an O-ring which seals the fuel tube connector and pipe that can be contaminated.
- Do not use any tool in this operation.
- Do not bend or twist the nylon tube. Protect the fuel tube connector by covering it with a vinyl or plastic bag.
- When the fuel tube connector and pipe are stuck, push and pull the fuel tube connector to release, then pull the fuel tube connector out carefully.



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

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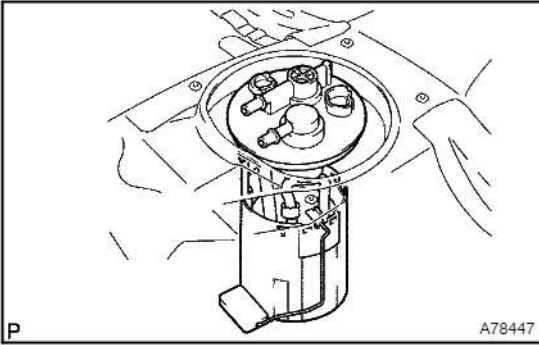
NOTICE:

Do not use other tools in this operation. Damage to the fuel pump gauge retainer and the fuel tank may result.

HINT:

A rib on the fuel pump gauge retainer can be fitted into a tip of the SST.

(e) Remove the fuel pump gauge retainer.

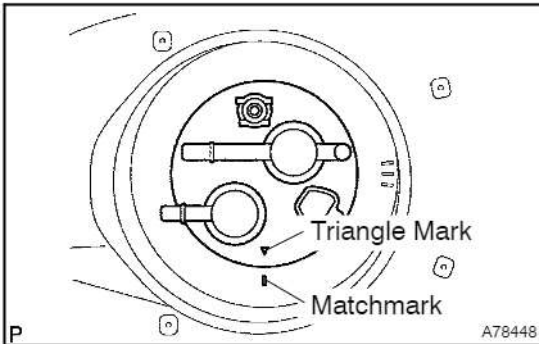


- (f) Remove the fuel suction w/ pump & gauge tube.

NOTICE:

Be careful that the arm of the fuel sender gauge should not be bent.

- (g) Remove the gasket from the fuel tank.



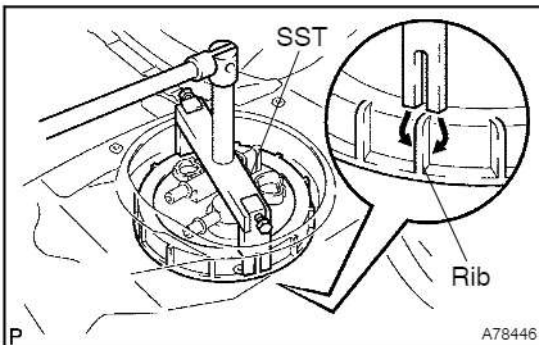
6. INSTALL FUEL SUCTION W/ PUMP & GAUGE TUBE ASSY

- (a) Install a new gasket to the fuel tank.
(b) Install the fuel suction w/ pump & gauge tube.

NOTICE:

Be careful that the arm of the fuel sender gauge should not be bent.

- (c) Align the triangle mark of the fuel suction w/ pump & gauge tube with the matchmark location of the fuel tank.



- (d) Temporarily install the fuel pump gauge retainer.

- (e) Using SST, tighten the fuel pump gauge retainer until the arrow mark is aligned with the center mark on the fuel tank.

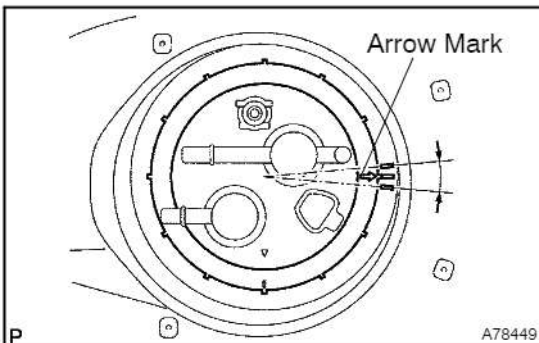
SST 09808-14010

NOTICE:

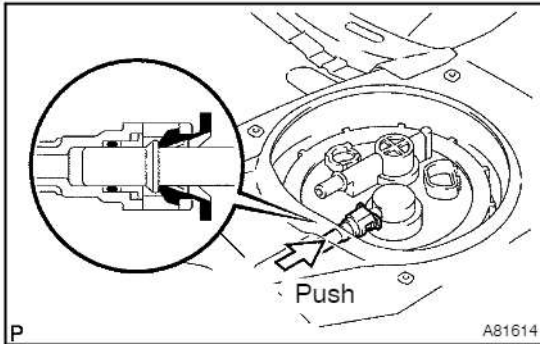
Do not use other tools in this operation. Damage to the fuel pump gauge retainer and the fuel tank may result.

HINT:

A rib on the fuel pump gauge retainer can be fitted into a tip of the SST.



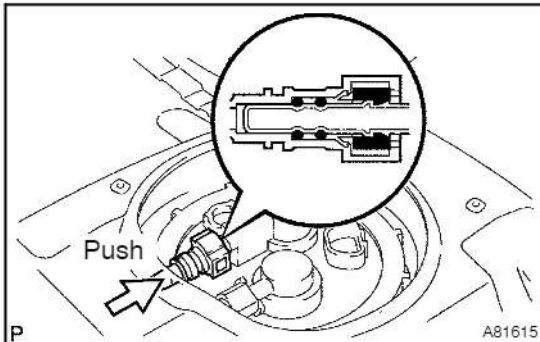
- (f) Check that the arrow mark and center mark are aligned as shown in the illustration.



- (g) Connect the fuel tank evaporation tube No. 2.
(1) Push in the fuel tube connector to the pipe until fuel tube connector makes "click" sound.

NOTICE:

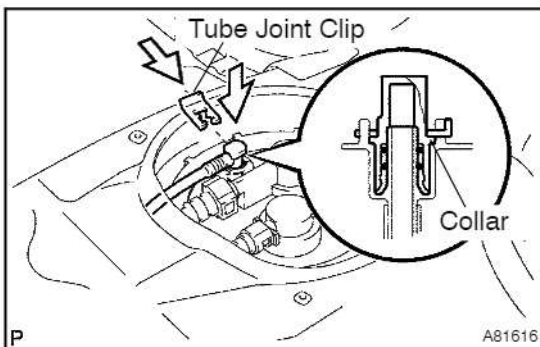
- Check the connected part for any damage or foreign objects.
- After connecting, check if the fuel tube connector and pipe are securely connected by pulling on them.



- (h) Connect the fuel tank main tube.
(1) Push in the fuel tube connector to the pipe until fuel tube connector makes "click" sound.

NOTICE:

- Check the connected part for any damage or foreign objects.
- After connecting, check if the fuel tube connector and pipe are securely connected by pulling on them.



- (i) Connect the fuel tank return tube.
(1) Install the fuel tube joint to the plug with the tube joint clip.

NOTICE:

- Check the connecting part for scratch or foreign objects.
- 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.

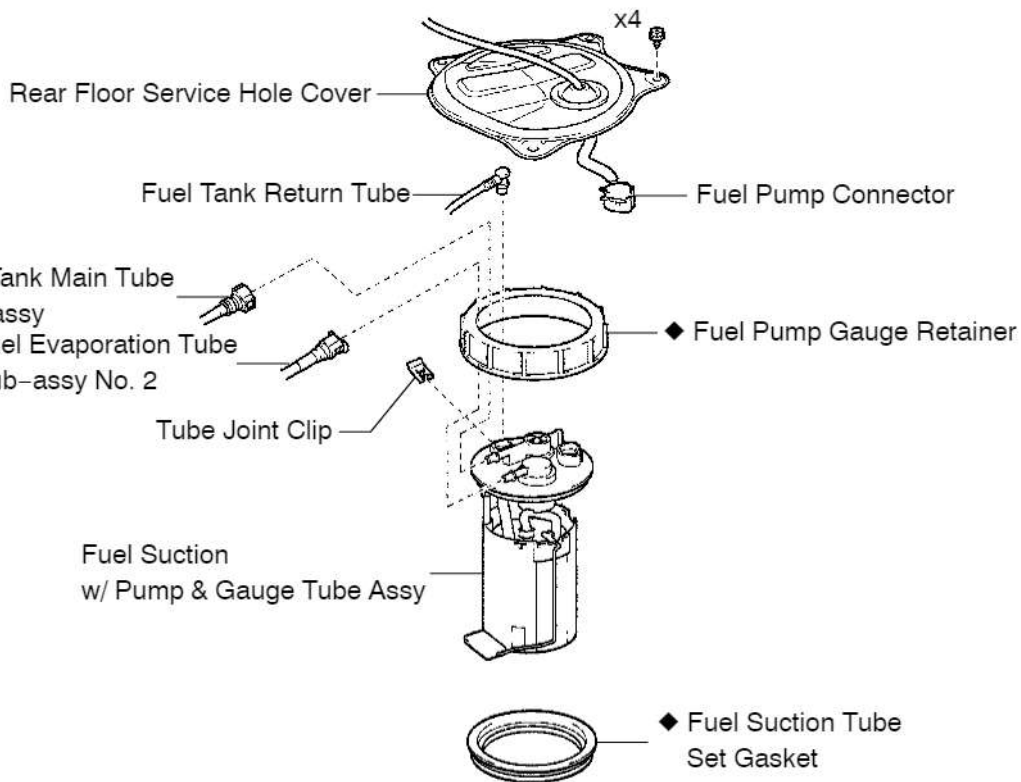
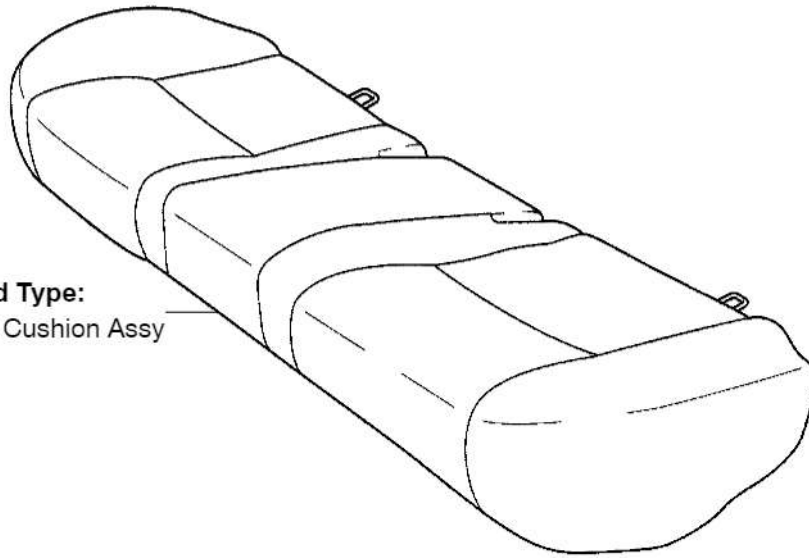
7. CONNECT ENGINE WIRE NO.3 (BATTERY NEGATIVE TERMINAL)
Torque: 5.4 N·m (55 kgf·cm, 48 in·lbf)
8. CHECK FOR FUEL LEAKS (See page 11-4)
9. INSTALL REAR FLOOR SERVICE HOLE COVER
10. INSTALL REAR SEAT CUSHION ASSY (SEAT FIXED TYPE) (See Pub. No. RM1018E, page 72-32)

FUEL TANK ASSY (2AZ-FSE)

COMPONENTS

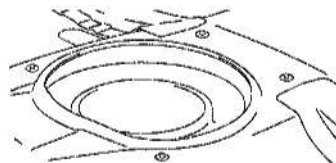
11119-01

Seat Fixed Type:
Rear Seat Cushion Assy

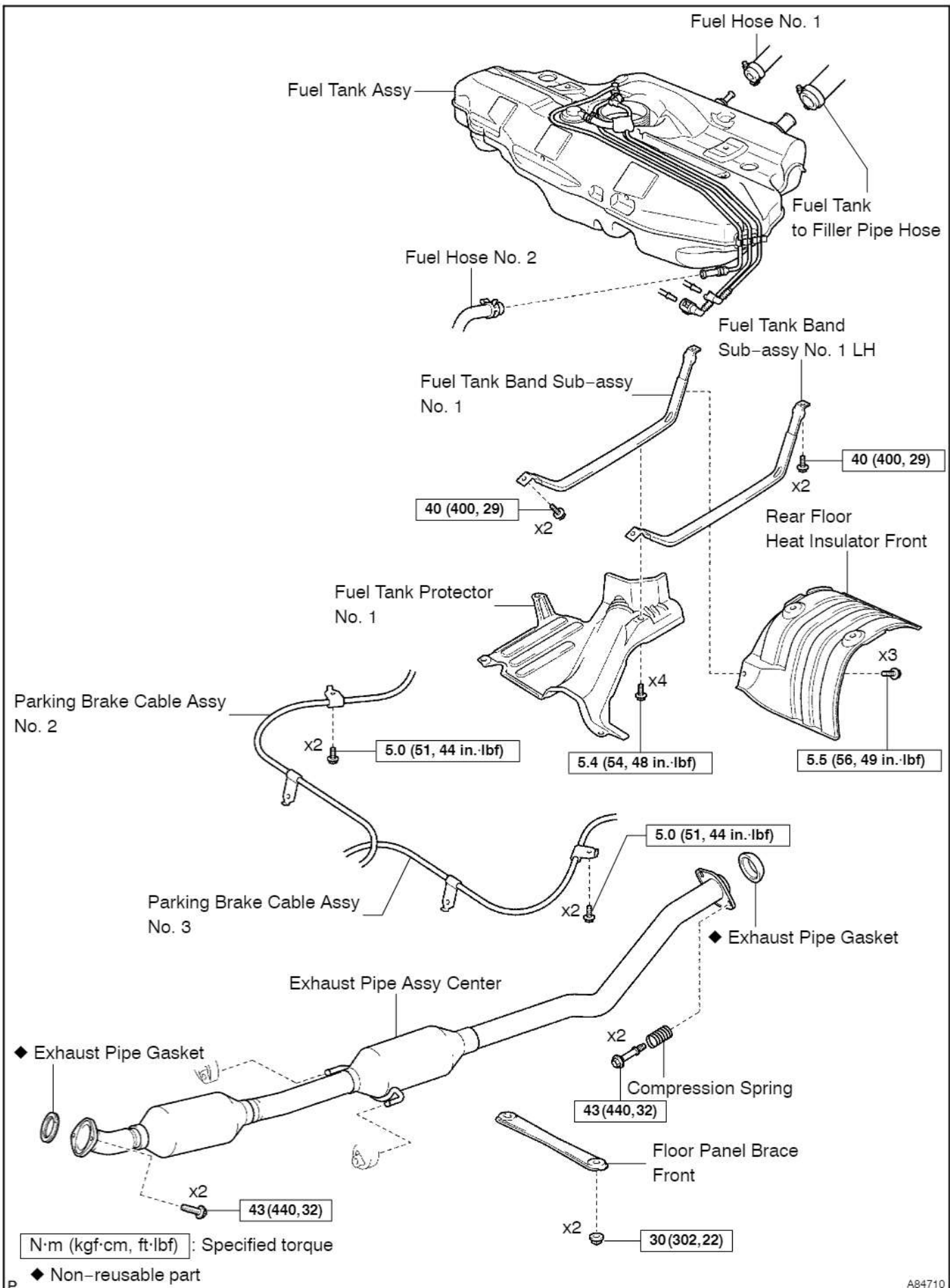


N·m (kgf·cm, ft·lbf) : Specified torque

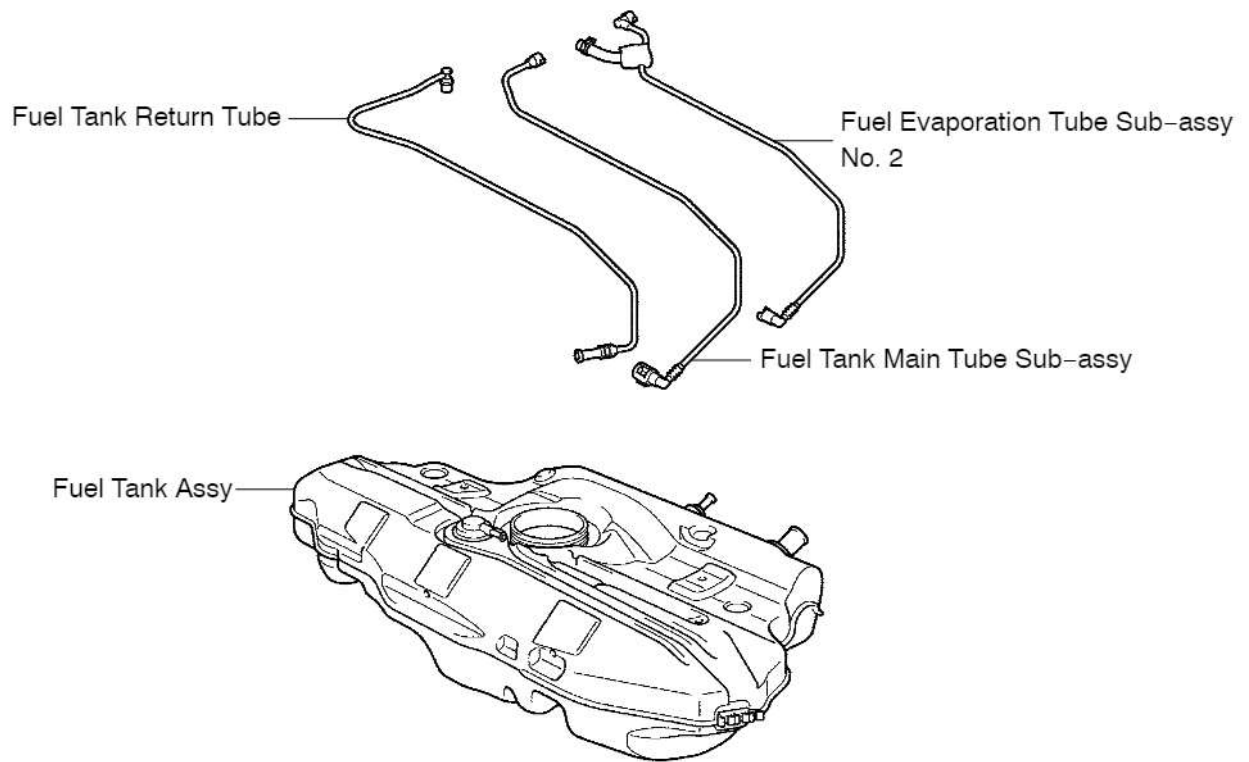
◆ Non-reusable part



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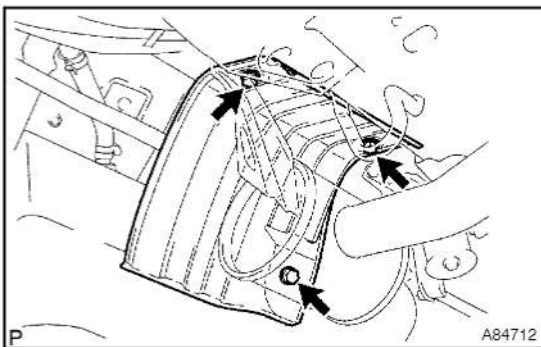
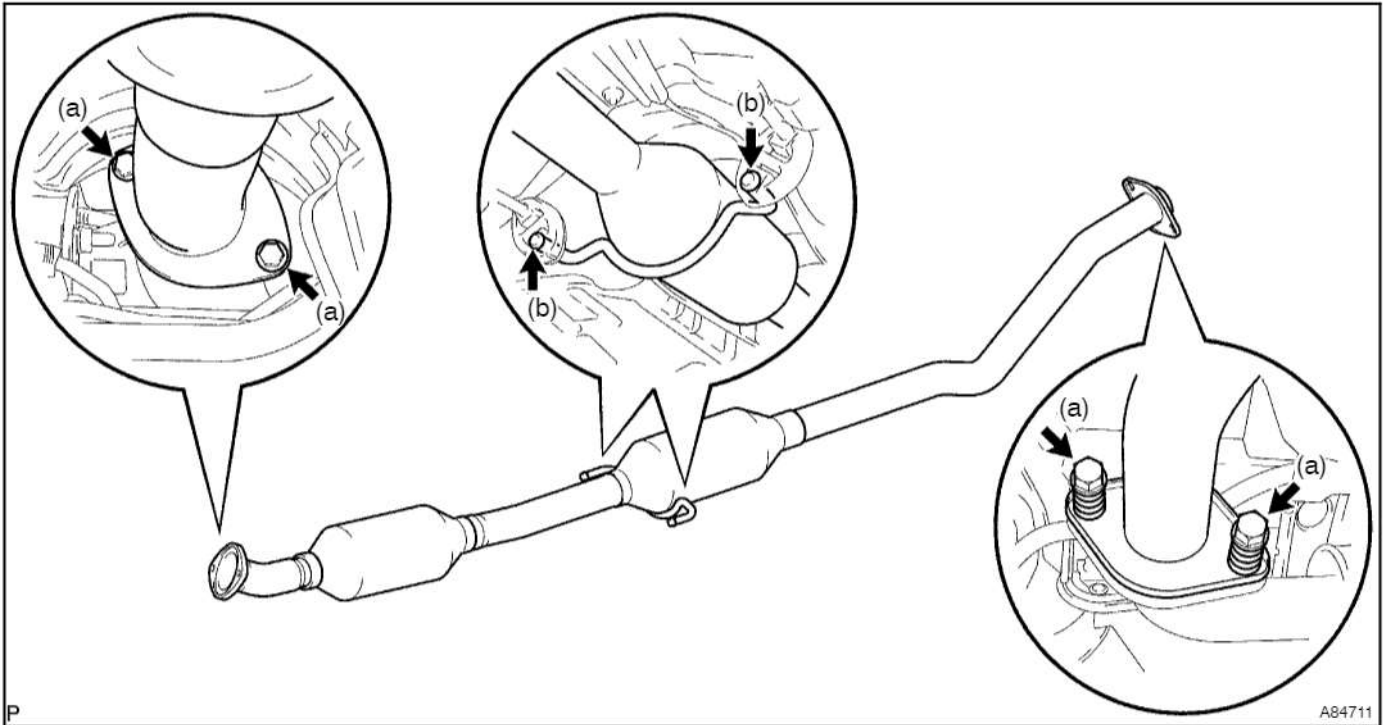
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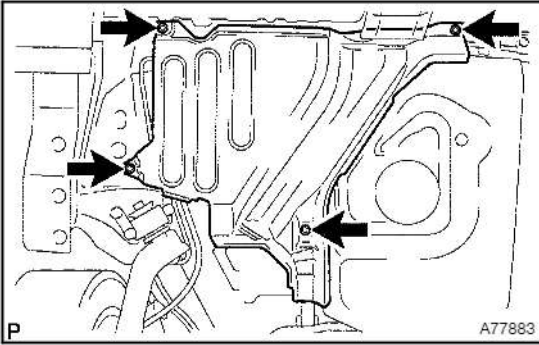
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Removal & Installation and Disassembly & Reassembly

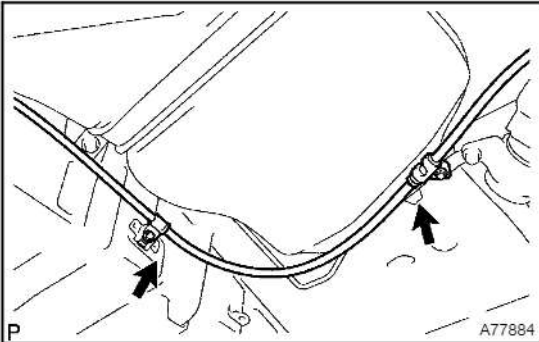
1. DISCHARGE FUEL SYSTEM PRESSURE (See page 11-1)
2. DISCONNECT ENGINE WIRE NO.3 (BATTERY NEGATIVE TERMINAL)
3. REMOVE REAR SEAT CUSHION ASSY (SEAT FIXED TYPE)
(See Pub. No. RM1018E, page 72-32)
4. REMOVE REAR FLOOR SERVICE HOLE COVER (See page 11-29)
5. REMOVE FUEL SUCTION W/ PUMP & GAUGE TUBE ASSY (See page 11-29)
SST 09808-14010
6. DRAIN FUEL
7. REMOVE FLOOR PANEL BRACE FRONT (See page 15-2)
8. REMOVE EXHAUST PIPE ASSY CENTER
 - (a) Remove the 4 bolts and 2 compression springs.
 - (b) Remove the exhaust pipe center and gasket from the 2 exhaust pipe supports.
 - (c) Remove the gasket from the exhaust pipe center.



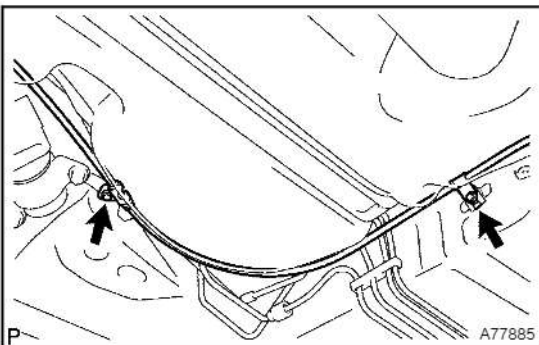
9. REMOVE REAR FLOOR HEAT INSULATOR FRONT
 - (a) Remove the 3 bolts, then remove the rear floor heat insulator front.

**10. REMOVE FUEL TANK PROTECTOR NO.1**

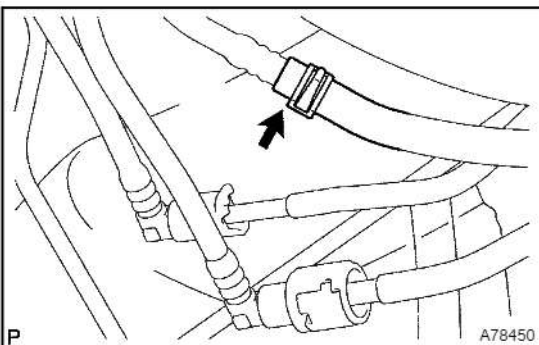
- (a) Remove the 4 bolts, then remove the fuel tank protector.

**11. DISCONNECT PARKING BRAKE CABLE ASSY NO.2**

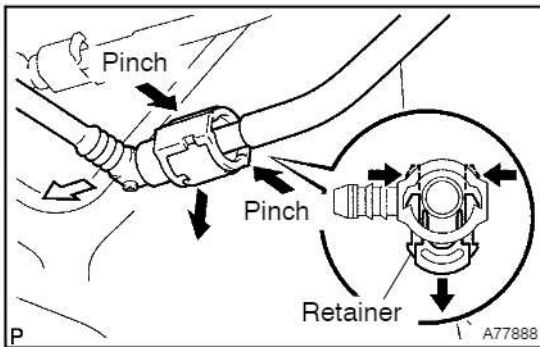
- (a) Remove the 2 bolts, then disconnect the parking brake cable No. 2.

**12. DISCONNECT PARKING BRAKE CABLE ASSY NO.3**

- (a) Remove the 2 bolts, then disconnect the parking brake cable No. 3.

**13. REMOVE FUEL TANK ASSY**

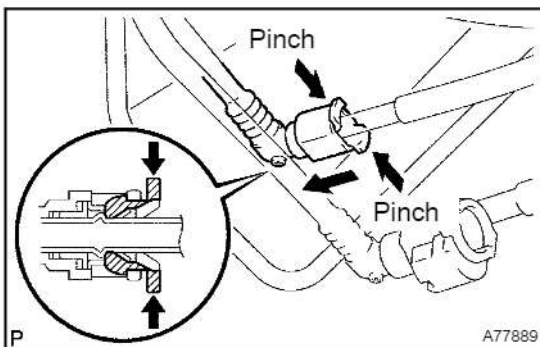
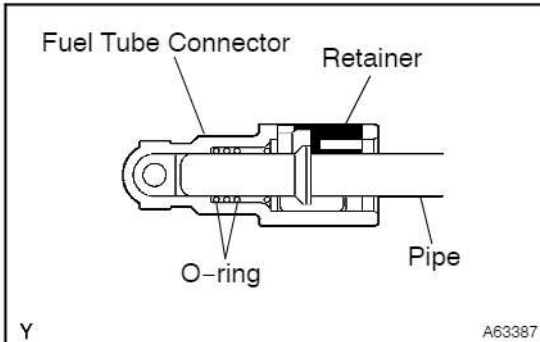
- (a) Disconnect the fuel hose No. 2 from the fuel tank return tube.



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

NOTICE:

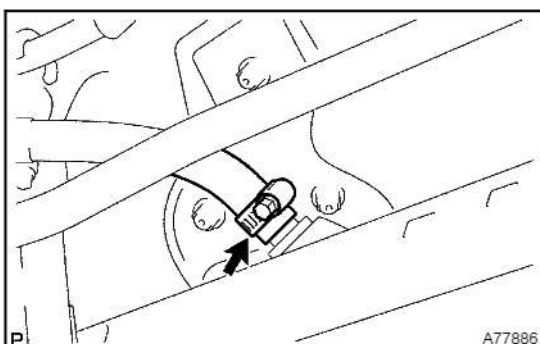
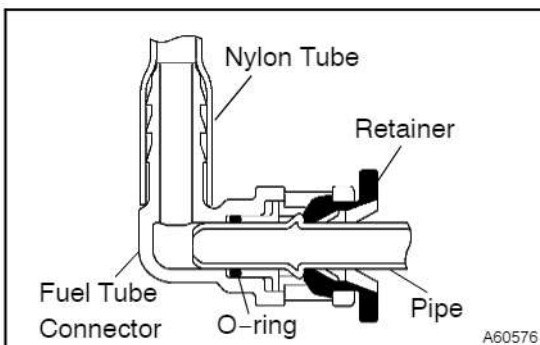
- Check around the fuel tube connector for any dirt or mud before this operation, then remove it if necessary.
- Be careful of mud because the fuel tube connector has an O-ring which seals the fuel tube connector and pipe that can be contaminated.
- Do not use any tool in this operation.
- Do not bend or twist the nylon tube. Protect the fuel tube connector by covering it with a vinyl or plastic bag.
- When the fuel tube connector and pipe are stuck, push and pull the fuel tube connector to release, then pull out the fuel tube connector from the pipe.



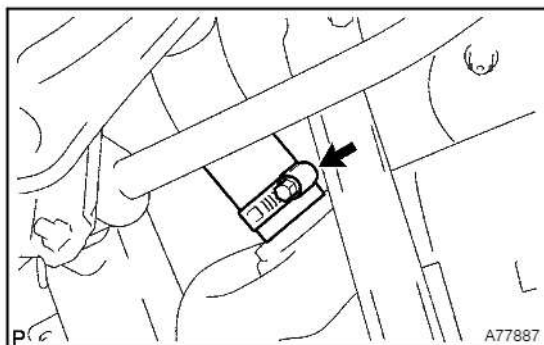
- (c) Disconnect the fuel evaporation tube No. 2
- (1) Pinch the retainer of the fuel tube connector, then pull out the fuel evaporation tube No. 2.

NOTICE:

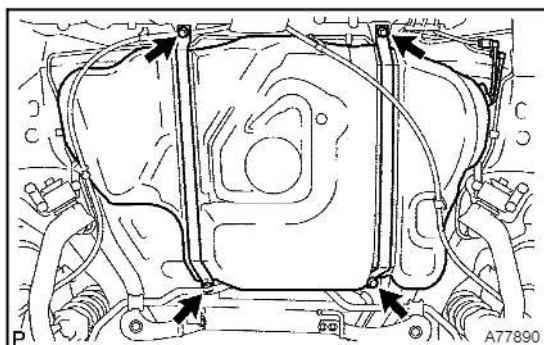
- Check around the fuel tube connector for any dirt or mud before this operation, then remove it if necessary.
- Be careful of mud because the fuel tube connector has an O-ring which seals the fuel tube connector and pipe that can be contaminated.
- Do not use any tool in this operation.
- Do not bend or twist the nylon tube. Protect the fuel tube connector by covering it with a vinyl or plastic bag.
- When the fuel tube connector and pipe are stuck, push and pull the fuel tube connector to release, then pull out the fuel tube connector from the pipe.



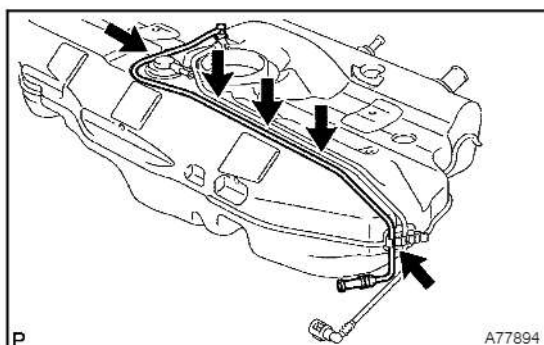
- (d) Loosen the hose clamp, then disconnect the breather tube fuel hose.



- (e) Loosen the hose clamp, then disconnect the fuel tank to filler pipe hose.

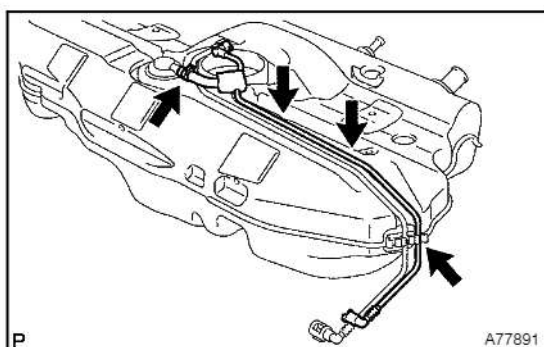


- (f) Set a transmission jack to the fuel tank.
 (g) Remove the 4 bolts, then remove the 2 fuel tank bands.
 (h) Operate the transmission jack, then remove the fuel tank.



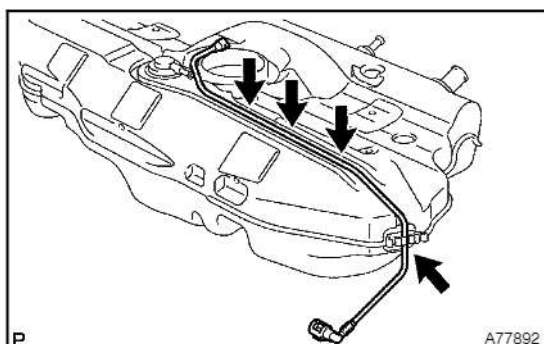
14. REMOVE FUEL TANK RETURN TUBE

- (a) Unfasten the 5 claws, then remove the fuel tank return tube.



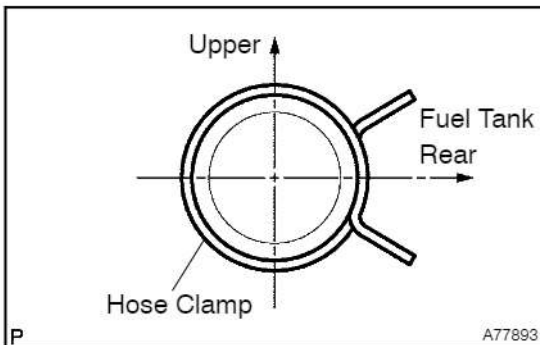
15. REMOVE FUEL EVAPORATION TUBE SUB-ASSY NO.2

- (a) Unfasten the 3 claws and disconnect the fuel hose, then remove the fuel evaporation tube.



16. REMOVE FUEL TANK MAIN TUBE SUB-ASSY

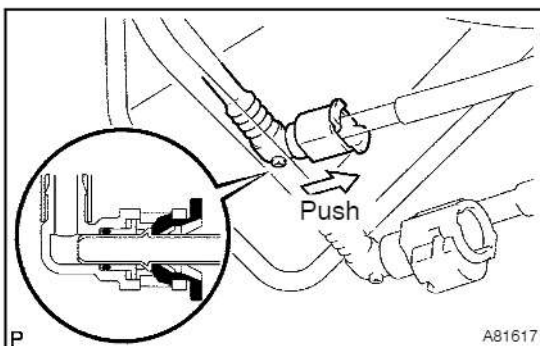
- (a) Unfasten the 4 claws, then remove the fuel tank main tube from the fuel tank.

17. INSTALL FUEL TANK MAIN TUBE SUB-ASSY**18. INSTALL FUEL EVAPORATION TUBE SUB-ASSY NO.2**

- (a) Install the hose clamp as shown in the illustration.

19. INSTALL FUEL TANK RETURN TUBE**20. INSTALL FUEL TANK ASSY**

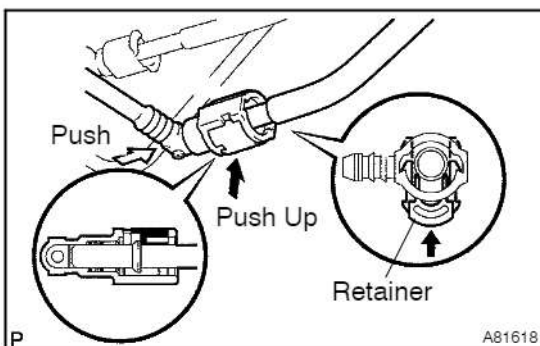
- (a) Set the fuel tank to a transmission jack.
 (b) Operate the transmission jack, then install the fuel tank.
 (c) Install the 2 fuel tank bands with the 4 bolts.
Torque: 40 N·m (400 kgf·cm, 29 ft·lbf)
 (d) Connect the fuel tank to filler pipe hose to the fuel tank.
 (e) Connect the breather tube fuel hose to the fuel tank.



- (f) Connect the fuel evaporation tube No. 2.
 (1) Push in the fuel tube connector to the pipe until fuel tube connector makes "click" sound.

NOTICE:

- Check the connected part for any damage or foreign objects.
- After connecting, check that the fuel tube connector and pipe are securely connected by pulling on them.



- (g) Connect the fuel tank main tube.
 (1) Push in the fuel tube connector to the pipe until fuel tube connector makes "click" sound, then push up the retainer to the claws lock.

NOTICE:

- Check the connected part for any damage or foreign objects.
- After connecting, check that the fuel tube connector and pipe are securely connected by pulling on them.

- (h) Connect the fuel hose No. 2 to the fuel tank return tube.

21. CONNECT PARKING BRAKE CABLE ASSY NO.3

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

22. CONNECT PARKING BRAKE CABLE ASSY NO.2

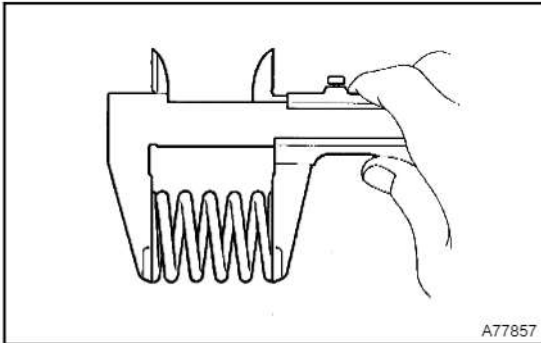
Torque: 5.0 N·m (51 kgf·cm, 44 in·lbf)

23. INSTALL FUEL TANK PROTECTOR NO.1

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

24. INSTALL REAR FLOOR HEAT INSULATOR FRONT

Torque: 5.5 N·m (56 kgf·cm, 49 in·lbf)



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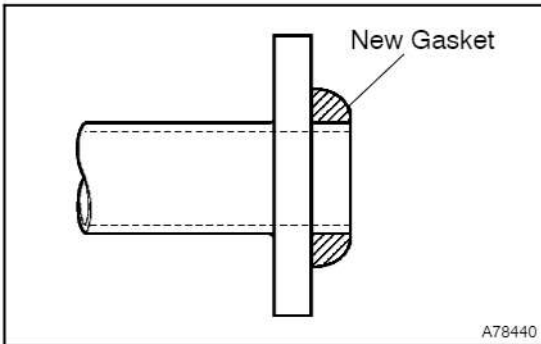
25. INSTALL EXHAUST PIPE ASSY CENTER

(a) Inspect the free length.

(1) Using vernier calipers, measure the free length of the compression spring.

Minimum length: 38.5 mm (1.516 in.)

If the free length is less than minimum, replace the compression spring.



A78440

(b) Install a new gasket to the exhaust pipe center (exhaust pipe tail side) as shown in the illustration.

(c) Install a new gasket (exhaust pipe front side) and the exhaust pipe center to the 2 exhaust pipe supports.

(d) Tighten the 2 compression springs and 4 bolts.

Torque: 43 N·m (440 kgf·cm, 32 ft·lbf)**26. ADD FUEL****27. INSTALL FUEL SUCTION W/ PUMP & GAUGE TUBE ASSY (See page 11-29)**

SST 09808-14010

28. CONNECT ENGINE WIRE NO.3 (BATTERY NEGATIVE TERMINAL)

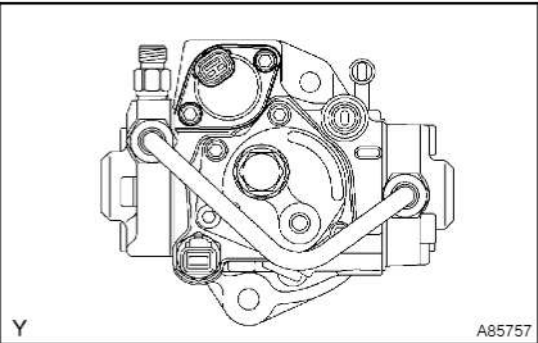
Torque: 5.4 N·m (55 kgf·cm, 48 in·lbf)

29. CHECK FOR FUEL LEAKS (See page 11-4)**30. CHECK FOR EXHAUST GAS LEAKS****31. INSTALL FLOOR PANEL BRACE FRONT (See page 15-2)****32. INSTALL REAR FLOOR SERVICE HOLE COVER (See page 11-29)****33. INSTALL REAR SEAT CUSHION ASSY (SEAT FIXED TYPE) (See Pub. No. RM1018E, page 72-32)**

FUEL SYSTEM (1CD–FTV)(From September, 2003)

INSPECTION

1111C-01



1. INSPECT INJECTION OR SUPPLY PUMP ASSY

- (a) Inspect the resistance.
 - (1) Using an ohmmeter, measure the resistance between the terminals.

Resistance: 1.6 to 2.6 Ω at 20°C (68°F)

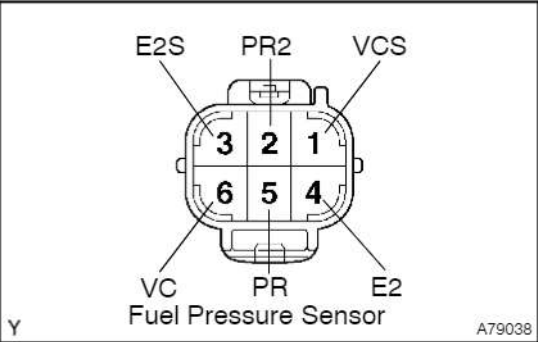
If the result is not as specified, replace the supply pump assembly.

2. INSPECT INJECTOR ASSY

- (a) Inspect the resistance.
 - (1) Using an ohmmeter, measure the resistance between the terminals.

Resistance: 0.45 to 1.45 Ω at 20°C (68°F)

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



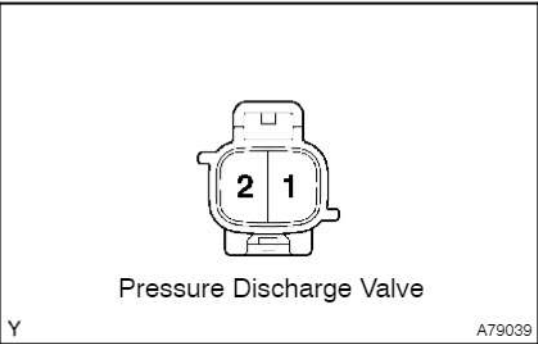
3. INSPECT COMMON RAIL ASSY

- (a) Inspect the resistance of the fuel pressure sensor.
 - (1) Using an ohmmeter, measure the resistance between the terminals.

Resistance:

Tester Connection	Specified Condition
5 (PR) – 4 (E2)	16.4 kΩ or less
2 (PR2) – 3 (E2S)	16.4 kΩ or less
6 (VC) – 5 (PR)	3 kΩ or less
1 (VCS) – 2 (PR2)	3 kΩ or less

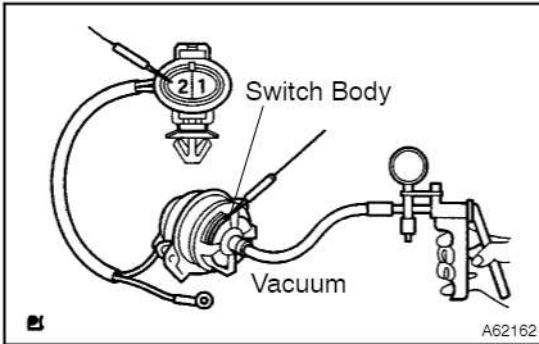
If the result is not as specified, replace the common rail assembly.



- (b) Inspect the resistance of the pressure discharge valve.
 - (1) Using an ohmmeter, measure the resistance between the terminals.

Resistance: 0.45 to 1.45 Ω at 20°C (68°F)

If the result is not as specified, replace the common rail assembly.



4. INSPECT FUEL HEATER ASSY

- (a) Inspect the resistance.
- (1) Apply vacuum of 34.7 ± 5.3 kPa (260 ± 40 mmHg, 10.24 ± 1.57 in Hg) to the vacuum switch port.
 - (2) Using an ohmmeter, measure the resistance between terminal 2 and the switch body.

Resistance: 0.5 to 20Ω at 20°C (68°F)

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

5. INSPECT LEVEL WARNING SWITCH

- (a) Inspect the resistance.
- (1) Using an ohmmeter, measure the resistance between the terminals.

Specified condition:

When raising the float: Below 1Ω

When letting the float down: $10 \text{ k}\Omega$ or higher

If the result is not as specified, replace the level warning switch.

6. INSPECT FUEL TEMPERATURE SENSOR

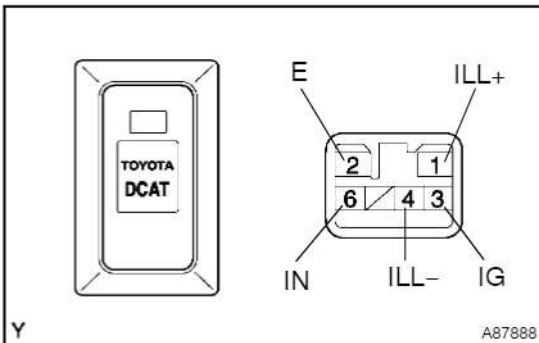
- (a) Inspect the resistance.
- (1) Using an ohmmeter, measure the resistance between the terminals.

Resistance:

2.21 to 2.69Ω at 20°C (68°F)

0.287 to 0.349Ω at 80°C (176°F)

If the result is not as specified, replace the fuel temperature sensor.



7. INSPECT FUEL CONTROL SWITCH

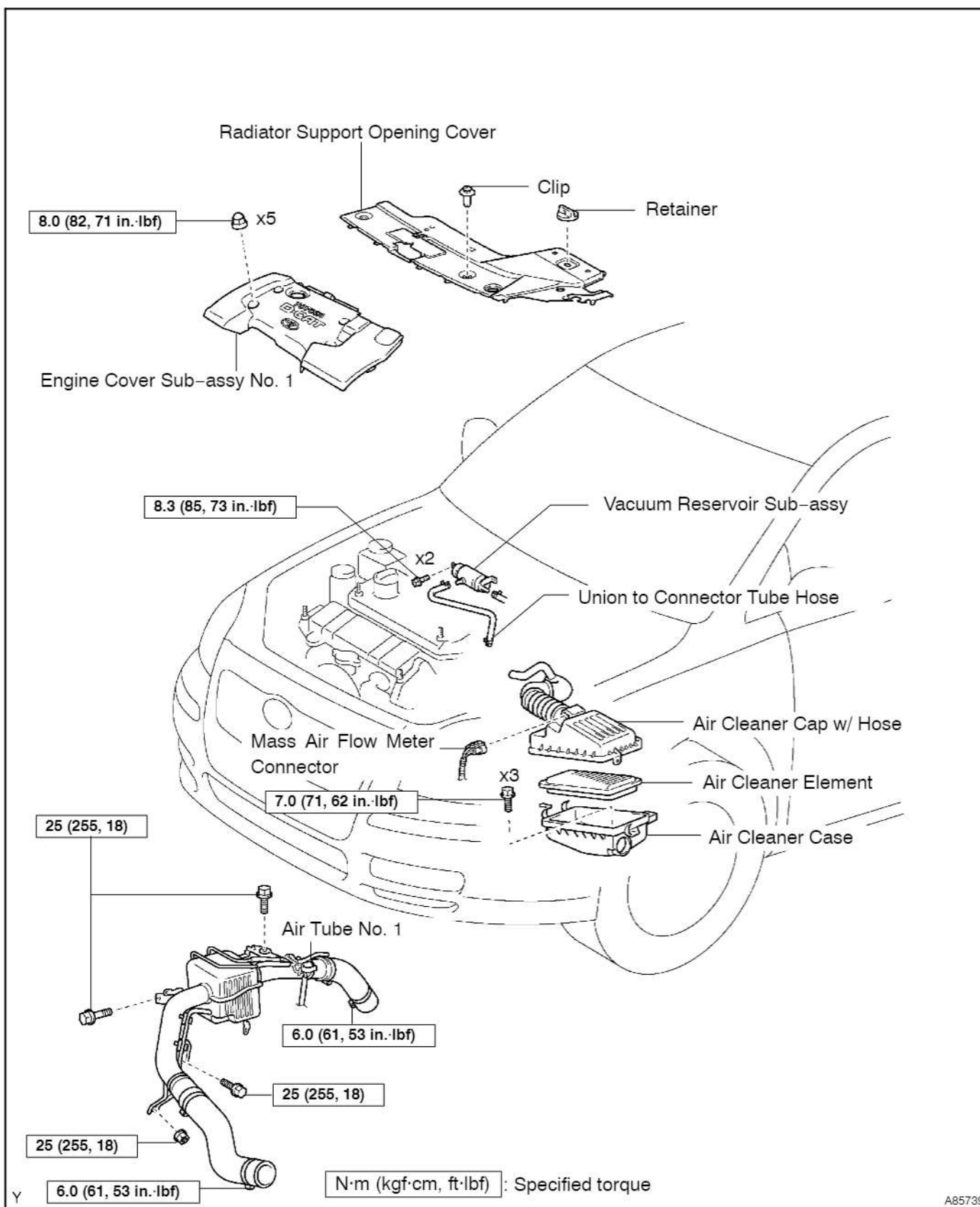
- (a) Inspect the resistance.

Switch Position	Tester Connection	Specified Condition
Switch OFF	2 - 6	Below 1Ω
Switch ON	2 - 3 - 6	Below 1Ω
Illumination circuit	1 - 4	Below 1Ω

If the result is not as specified, replace the fuel control switch.

INJECTOR ASSY (1CD-FTV)(From September, 2003) COMPONENTS

110U7-02



A85739



REPLACEMENT

NOTICE:

If an incorrect injector compensation code was registered with the ECM, it may rattle the engine assembly or the engine idling may become rough. In addition, it may become a cause of engine failure or shorten the life of the engine.

HINT:

- In order to optimize the injector's fuel injection characteristic, the ECM compensates the injection duration by each cylinder. The ECM stores and uses compensating data in the form of a 30-digit-alphanumeric value that is imprinted on the head portion of each injector as the injector compensation code.
- If you installed a new injector, its own injector compensation code is needed to register with the ECM. Also, if you replaced the ECM, the compensation codes of all the injectors are needed to register because the new ECM does not have the codes until they are registered.
- Once the ECM is replaced, DTC P1601 will be present when turning the ignition switch to ON. This is to inform you that the injector compensation codes are required to register with the ECM. In order to clear the DTC, register the compensation codes first, then turn the ignition switch to OFF and wait for 30 seconds or longer.

1. REMOVE VACUUM RESERVOIR SUB-ASSY

- Disconnect the 2 vacuum hoses and connector.
- Remove the 2 bolts and vacuum reservoir.

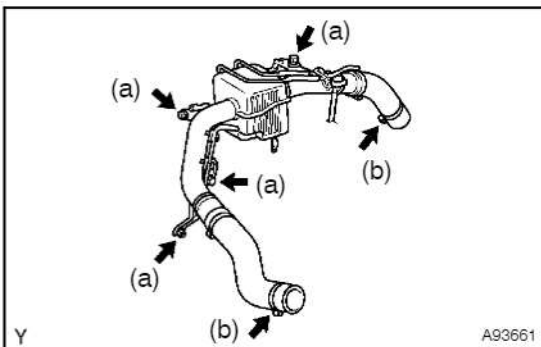
2. REMOVE RADIATOR SUPPORT OPENING COVER

3. REMOVE ENGINE COVER SUB-ASSY NO.1

- Remove the 5 nuts and engine cover.

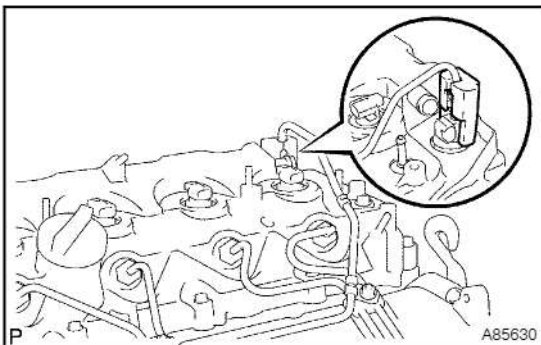
4. REMOVE AIR CLEANER ASSY

- Disconnect the connector.
- Remove the air cleaner cap together with the air cleaner hose.
- Remove the air cleaner filter element.
- Remove the 3 bolts and air cleaner case.



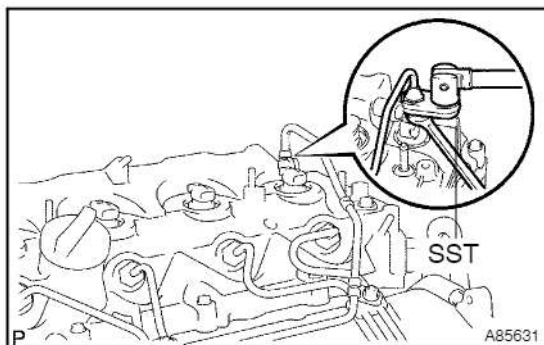
5. REMOVE AIR TUBE NO.1

- Remove the 3 bolts and nut, then separate the air tube No. 1.
- Loosen the hose clamp bolts.

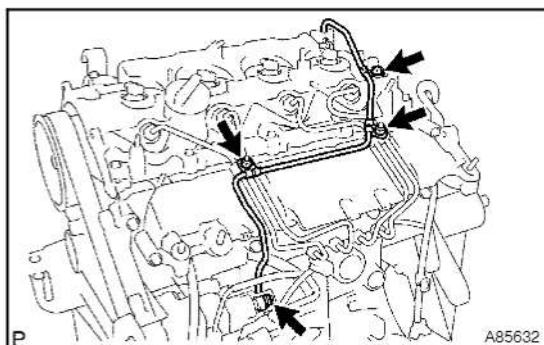


6. REMOVE FUEL PIPE NO.3

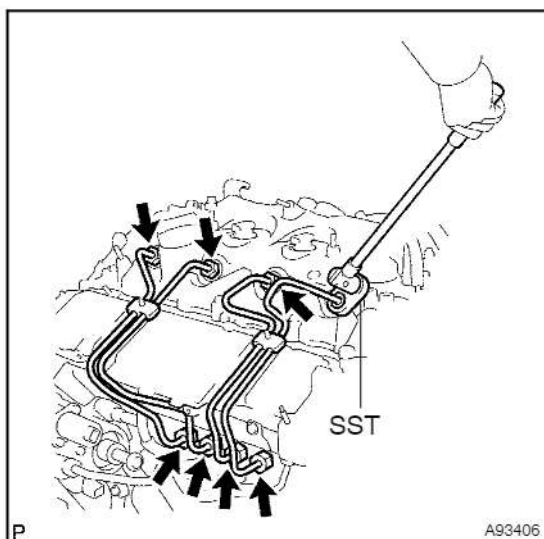
- Remove the fuel pipe insulator.



- (b) Hold the hexagonal lobe of the exhaust fuel addition injector assembly first. Using SST, remove the fuel pipe No. 3 from the injector side.
SST 09023-12700



- (c) Remove the bolt and 3 nuts, then remove the fuel pipe No. 3 and 2 gaskets.



7. REMOVE INJECTION PIPE SUB-ASSY NO.1

- (a) Remove the 2 nuts and 2 upper infection pipe clamps from the intake manifold.
(b) Using SST, remove the injection pipe from the common rail side.
SST 09023-12700
(c) Using SST, remove the injection pipe from the injector side.
SST 09023-12700
(d) After removing the fuel pipe, to prevent dust or foreign objects from being introduced, cover the common rail with vinyl tape and protect the injector inlet with a vinyl or plastic bag.

8. REMOVE INJECTION PIPE SUB-ASSY NO.2

SST 09023-12700

HINT:

Perform the same procedures as the injection pipe No. 1.

9. REMOVE INJECTION PIPE SUB-ASSY NO.3

SST 09023-12700

HINT:

Perform the same procedures as the injection pipe No. 1.

10. REMOVE INJECTION PIPE SUB-ASSY NO.4

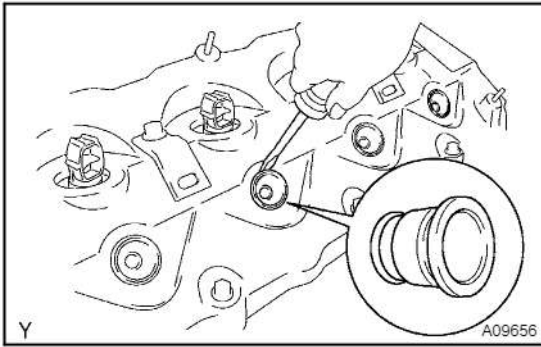
SST 09023-12700

HINT:

Perform the same procedures as the injection pipe No. 1.

11. REMOVE TIMING BELT NO.2 COVER

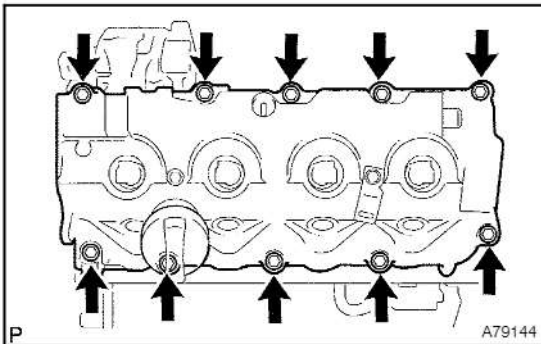
- (a) Remove the 7 bolts and 7 seal washers, then remove the timing belt cover.

**12. REMOVE NOZZLE HOLDER SEAL**

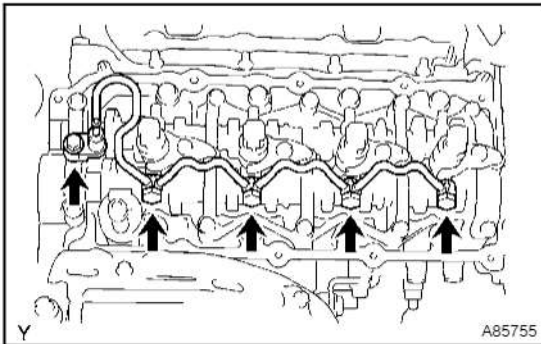
- (a) Using a screwdriver, pry out the 4 nozzle holder seals.

13. REMOVE NOZZLE LEAKAGE PIPE NO.2

- (a) Disconnect the 2 fuel hoses from the nozzle leakage pipe No. 2.
 (b) Remove the 2 bolts and nozzle leakage pipe No. 2.

**14. REMOVE CYLINDER HEAD COVER SUB-ASSY**

- (a) Remove the 10 bolts and cylinder head cover.

**15. REMOVE NOZZLE LEAKAGE PIPE ASSY**

- (a) Remove the bolt and 4 hollow screws, then remove the nozzle leakage pipe and 4 gaskets.

NOTICE:

When removing the nozzle leakage pipe, place a shop rag under the pipe to protect the cylinder head from the fuel remaining inside the pipe.

16. REMOVE NOZZLE HOLDER CLAMP

- (a) Remove the 4 bolts, 4 washers and 4 nozzle holder clamps.

17. REMOVE INJECTOR ASSY**HINT:**

Each injector assembly has its own fuel injection characteristic. When replacing the injector assembly, store them in the correct order so that they can be returned to the original locations when reassembling.

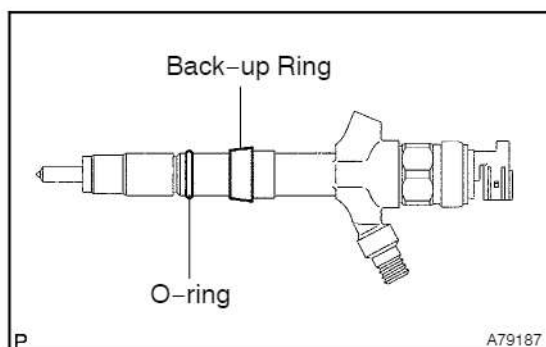
- (a) Remove the 4 injectors from the cylinder head.
 (b) Remove the O-rings and back-up rings from each injector.
 (c) Remove the 4 nozzle seats from the cylinder head.

18. REGISTRATION OF INJECTOR COMPENSATION CODE (REPLACEMENT OF THE NEW INJECTORS) (See page 05-277)**HINT:**

Each injector assembly has characteristic fuel injecting behavior. When replacing the injector assembly, store them in the correct order so that they can be returned to the original locations when reassembling.

19. INSTALL INJECTOR ASSY

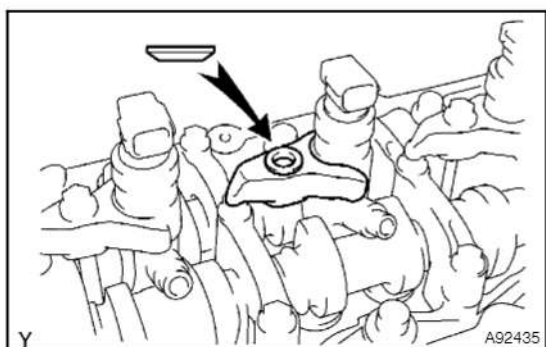
- (a) Install the 4 new nozzle seats to the cylinder head.



- (b) Install new back-up rings and O-rings to each injector.
 (c) Apply a light coat of engine oil to the O-rings on each injector.
 (d) Install the injector to the cylinder head.

NOTICE:

Fit the injectors to the nozzle seat.



- (e) Install the nozzle holder clamp as shown in the illustration. Tighten the camshaft bearing cap bolt by hand to fix the nozzle holder clamp.

NOTICE:

- **Pay attention to the mounting orientation of the washer.**
- **When temporarily attaching the nozzle holder clamp and mounting bolt, be careful not to orient them at an angle.**

HINT:

Apply a light coat of engine oil to the threads of the nozzle holder clamp bolts.

- (f) Install the injection pipe No. 1, No. 2, No. 3 and No. 4, then tighten the nuts by hand.
 (g) Install new 4 gaskets and the leakage pipe No. 1. Tighten the 4 hollow screws by hand.
 (h) Tighten the 4 nozzle holder clamp bolts.
Torque: 27 N·m (270 kgf·cm, 20 ft·lbf)
 (i) Remove the 4 injection pipes.

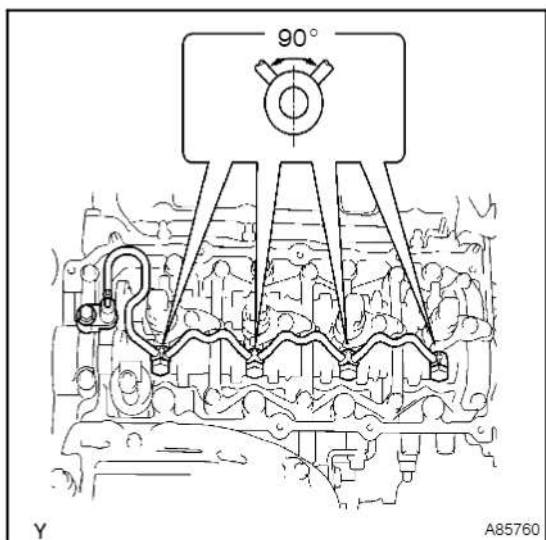
20. INSTALL NOZZLE LEAKAGE PIPE ASSY

- (a) Install the nozzle leakage pipe and 4 new gaskets.

NOTICE:

When installing the gaskets, pay attention to the mounting orientation. Install the gasket so that the joint of the gasket comes within the range shown in the illustration.

- (b) Apply a light coat of engine oil to the 4 hollow screws and the bolt.



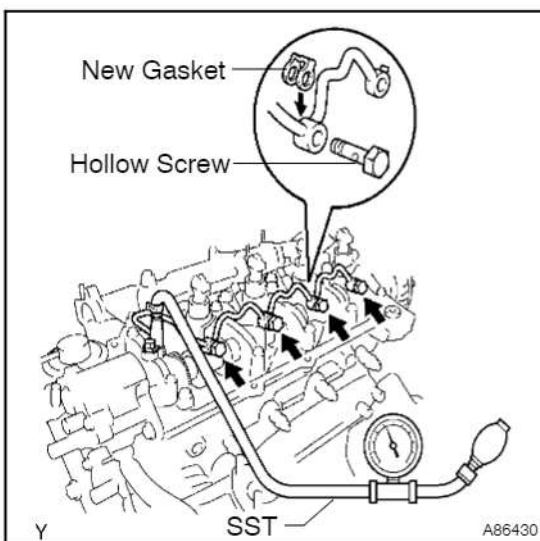
- (c) Tighten the 4 hollow screws and bolt by hand.
- (d) Tighten the 4 hollow screws and bolt.

Torque:**16 N·m (163 kgf·cm, 12 ft·lbf) for hollow screw****20 N·m (204 kgf·cm, 15 ft·lbf) for flange bolt****NOTICE:**

In any case, when the torque exceeds the upper limit, replace the leakage pipe hollow screw and gaskets with new ones.

- (e) Check that there are no leaks from the nozzle leakage pipe connection.

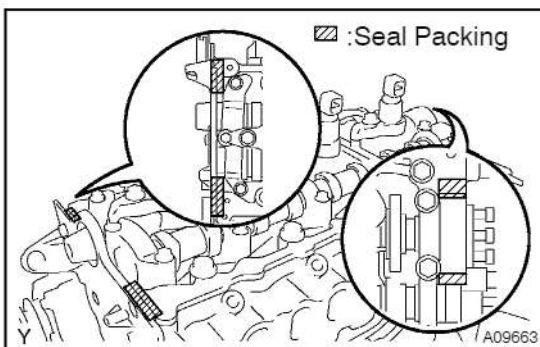
- (1) Apply a light coat of soapy water (any fluid to detect fuel leaks) to the nozzle leakage pipe connection.



- (2) Using SST (a turbocharger pressure gauge), attach SST to the fuel return side of the nozzle leakage pipe, then maintain 100 kPa (1.0 kgf/cm², 14.5 psi) of pressure for 60 seconds to check that there are no bubbles from the pipe connection.

SST 09992-00242

- (3) After checking fuel leaks, wipe off soapy water from the pipe connection.

**21. INSTALL CYLINDER HEAD COVER SUB-ASSY**

- (a) Remove any old packing (FIPG) material.
- (b) Apply seal packing to the cylinder head.

Seal packing: Part No. 08826-00080 or equivalent

- (c) Install the gasket to the cylinder head cover.
- (d) Install the cylinder head cover with the 10 bolts.

Torque: 13 N·m (135 kgf·cm, 9.8 ft·lbf)**22. INSTALL NOZZLE LEAKAGE PIPE NO.2**

- (a) Install the nozzle leakage pipe No. 2 with the 2 bolts.

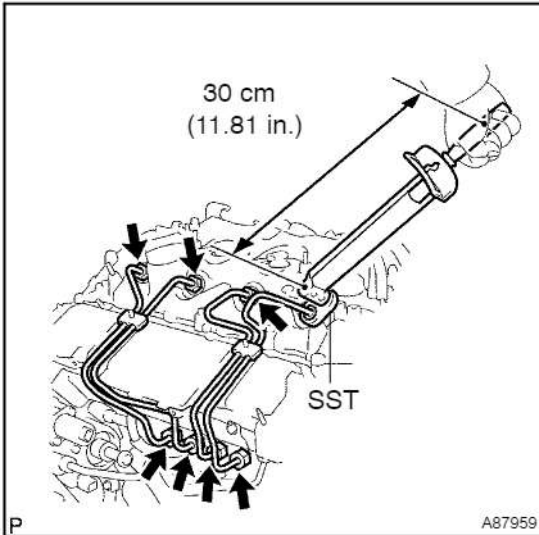
Torque: 8.8 N·m (90 kgf·cm, 78 in·lbf)

- (b) Connect the 2 fuel hoses.

23. INSTALL NOZZLE HOLDER SEAL

- (a) Install new 4 nozzle holder seals.

24. INSTALL TIMING BELT NO.2 COVER (See page 14-138)

**25. INSTALL INJECTION PIPE SUB-ASSY NO.1****NOTICE:**

- In case of replacing the injectors, the injection pipes must be replaced, too.
 - When assembling the pipes, perform the operation with the engine cold under room temperature.
- (a) Remove the vinyl or plastic bag from the injector and vinyl tape from the common rail.
 - (b) Temporarily install the injection pipe.
 - (c) Using SST, tighten the nut of the injection pipe to the common rail.

SST 09023-12700

Torque:**31 N·m (316 kgf·cm, 23 ft·lbf) with SST****34 N·m (347 kgf·cm, 25 ft·lbf) without SST****HINT:**

- Use a torque wrench with the fulcrum length of 30 cm (11.81 in.).
 - After the injection pipe is reassembled, check that the used pipe has no deflection and is installed properly. If it has deflection or could not be installed properly, replace the used pipe with a new pipe.
- (d) Using SST, tighten the nut of the injection pipe to the injector.

SST 09023-12700

Torque:**For used pipe:****36 N·m (372 kgf·cm, 27 ft·lbf) with SST****40 N·m (408 kgf·cm, 30 ft·lbf) without SST****For new pipe:****31 N·m (316 kgf·cm, 23 ft·lbf) with SST****34 N·m (347 kgf·cm, 25 ft·lbf) without SST****HINT:**

- Use a torque wrench with the fulcrum length of 30 cm (11.81 in.).
- After the injection pipe is reassembled, check that the used pipe has no deflection and is installed properly. If it has deflection or could not be installed properly, replace the used pipe with a new pipe.

26. INSTALL INJECTION PIPE SUB-ASSY NO.2

SST 09023-12700

HINT:

Perform the same procedures as the injection pipe No. 1.

27. INSTALL INJECTION PIPE SUB-ASSY NO.3

SST 09023-12700

HINT:

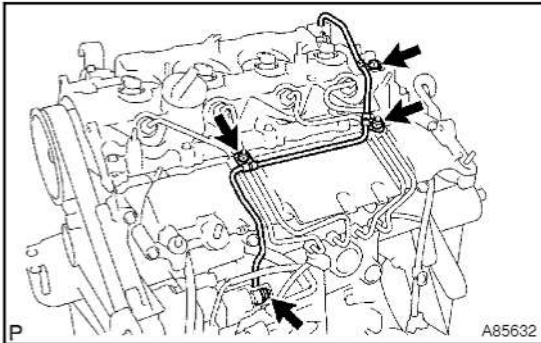
Perform the same procedures as the injection pipe No. 1.

28. INSTALL INJECTION PIPE SUB-ASSY NO.4

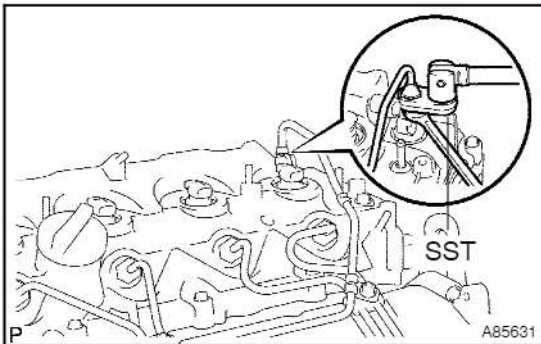
SST 09023-12700

HINT:

Perform the same procedures as the injection pipe No. 1.

**29. INSTALL FUEL PIPE NO.3**

- (a) Install 2 new gaskets, then temporarily install the bolt, 3 nuts and fuel pipe No. 3.



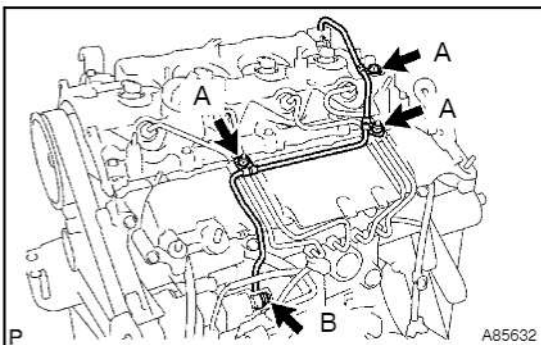
- (b) Hold the hexagonal lobe of the exhaust fuel addition injector assembly first. Using SST, tighten the nut of the fuel pipe No. 3 to the injector side.

SST 09023-12700

Torque:**22 N·m (223 kgf·cm, 16 ft·lbf) with SST****24 N·m (240 kgf·cm, 17 ft·lbf) without SST**

HINT:

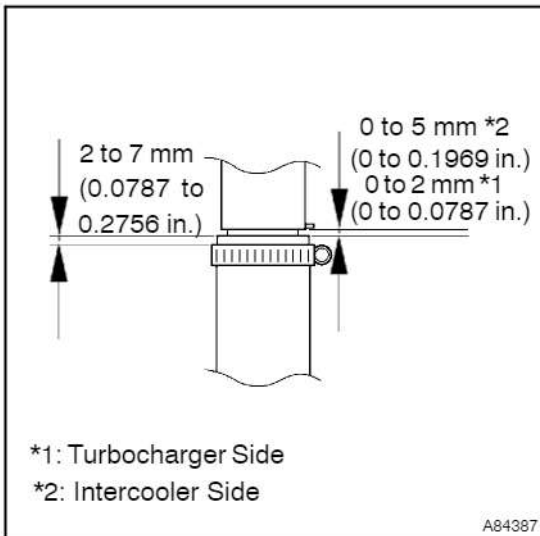
- Use a torque wrench with the fulcrum length of 30 cm (11.81 in.).
- After the injection pipe is reassembled, check that the used pipe has no deflection and is installed properly. If it has deflection or could not be installed properly, replace the used pipe with a new pipe.



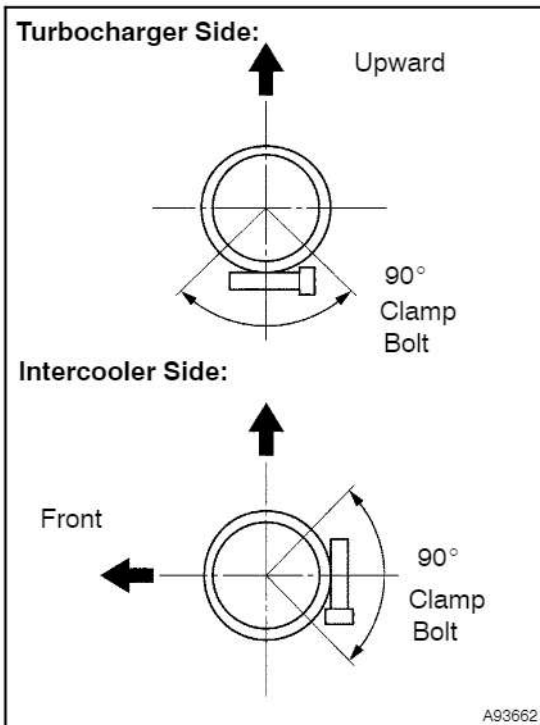
- (c) Tighten the bolt and 3 nuts.

Torque:**5.0 N·m (51 kgf·cm, 44 in·lbf) for bolt and nut A****27 N·m (275 kgf·cm, 20 ft·lbf) for nut B**

- (d) Install the fuel pipe insulator.

**30. INSTALL AIR TUBE NO.1**

- (a) Install the air hose and hose clamps as shown in the illustration.



- (b) Tighten the hose clamps as shown in the illustration.

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

- (c) Install the air tube No. 1 with the 3 bolts and nut.

Torque: 25 N·m (255 kgf·cm, 18 ft·lbf)

31. INSTALL AIR CLEANER ASSY

Torque: 7.0 N·m (71 kgf·cm, 62 in·lbf)

32. INSTALL ENGINE COVER SUB-ASSY NO.1

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

33. INSTALL VACUUM RESERVOIR SUB-ASSY

Torque: 8.3 N·m (85 kgf·cm, 73 in·lbf)

34. CHECK FOR FUEL LEAKS

NOTICE:

Under the ACTIVE TEST mode, the fuel pressure increases. Take precautions to prevent fuel from spraying on you or inside the engine compartment.

HINT:

During the ACTIVE TEST mode, engine speed goes high and combustion noise becomes loud.

- (a) Check that there are no fuel leaks from any parts of the fuel system when the engine is not running.

HINT:

If fuel leakage could be found on specific parts, replace them with new parts.

- (b) While cranking or when starting the engine, check that there is no leaks from any parts of the fuel system.

HINT:

If fuel leakage could be found on specific parts, replace them with new parts.

- (c) Disconnect the fuel hose from the common rail.
(d) While cranking the engine, check fuel leaks from the return pipe.

HINT:

If there is fuel leakage, replace the common rail.

- (e) Connect the hand-held tester to the DLC3.
(f) Start the engine, then turn the hand-held tester ON.
(g) Select the FUEL LEAK test of the ACTIVE TEST mode on the hand-held tester.
(h) If you do not have the hand-held tester, depress the accelerator pedal quickly and fully to increase the engine speed to its maximum, then keep it for 2 seconds. Repeat this operation several times.
(i) Check that there are no leaks from any parts of the fuel system.

NOTICE:

If the leakage from the return pipe is less than 10 cc (0.6 cu in.) in a minute, it is acceptable.

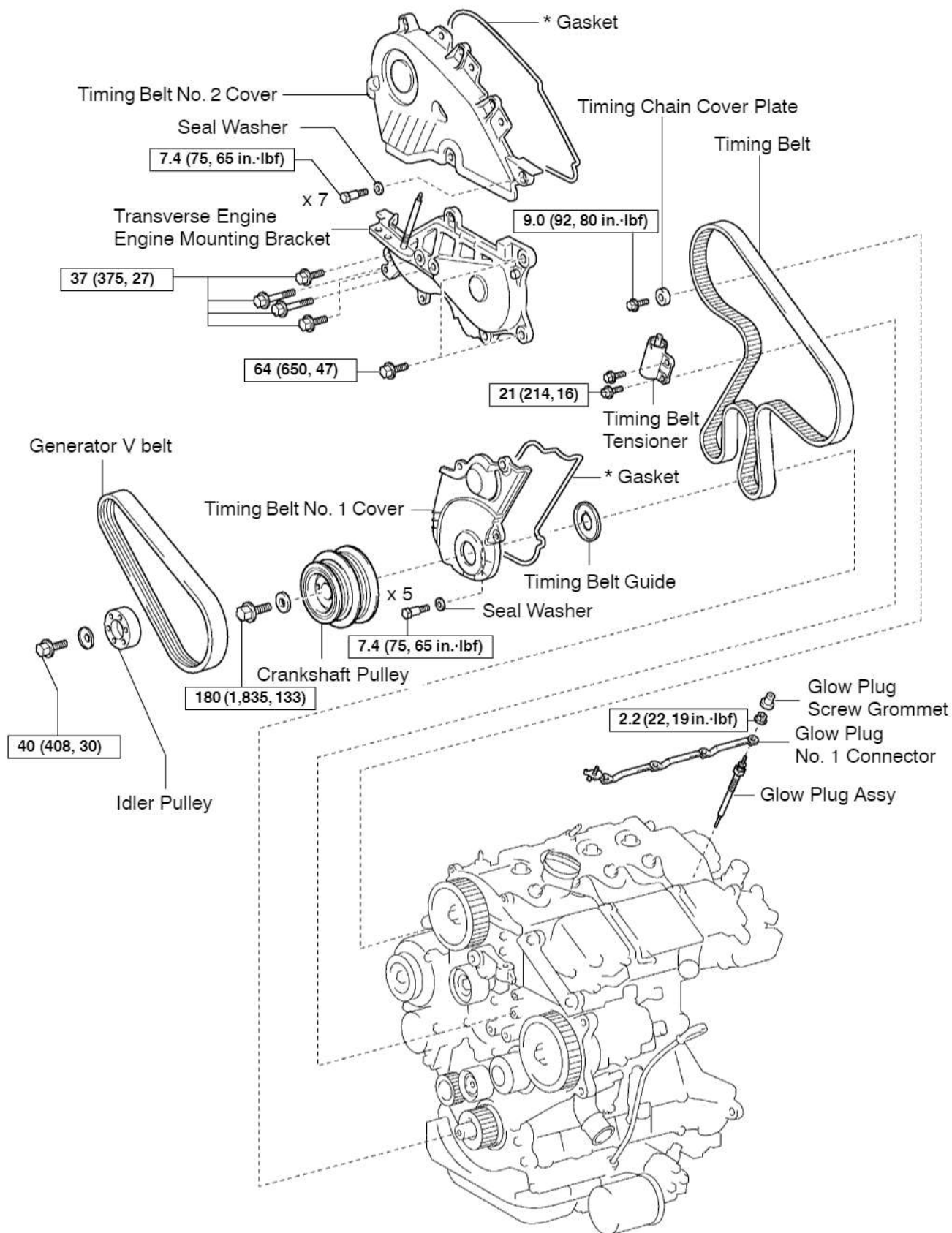
HINT:

If fuel leakage could be found on specific parts, replace them with new parts.

- (j) Reconnect the fuel hose to the common rail.

110U9-02



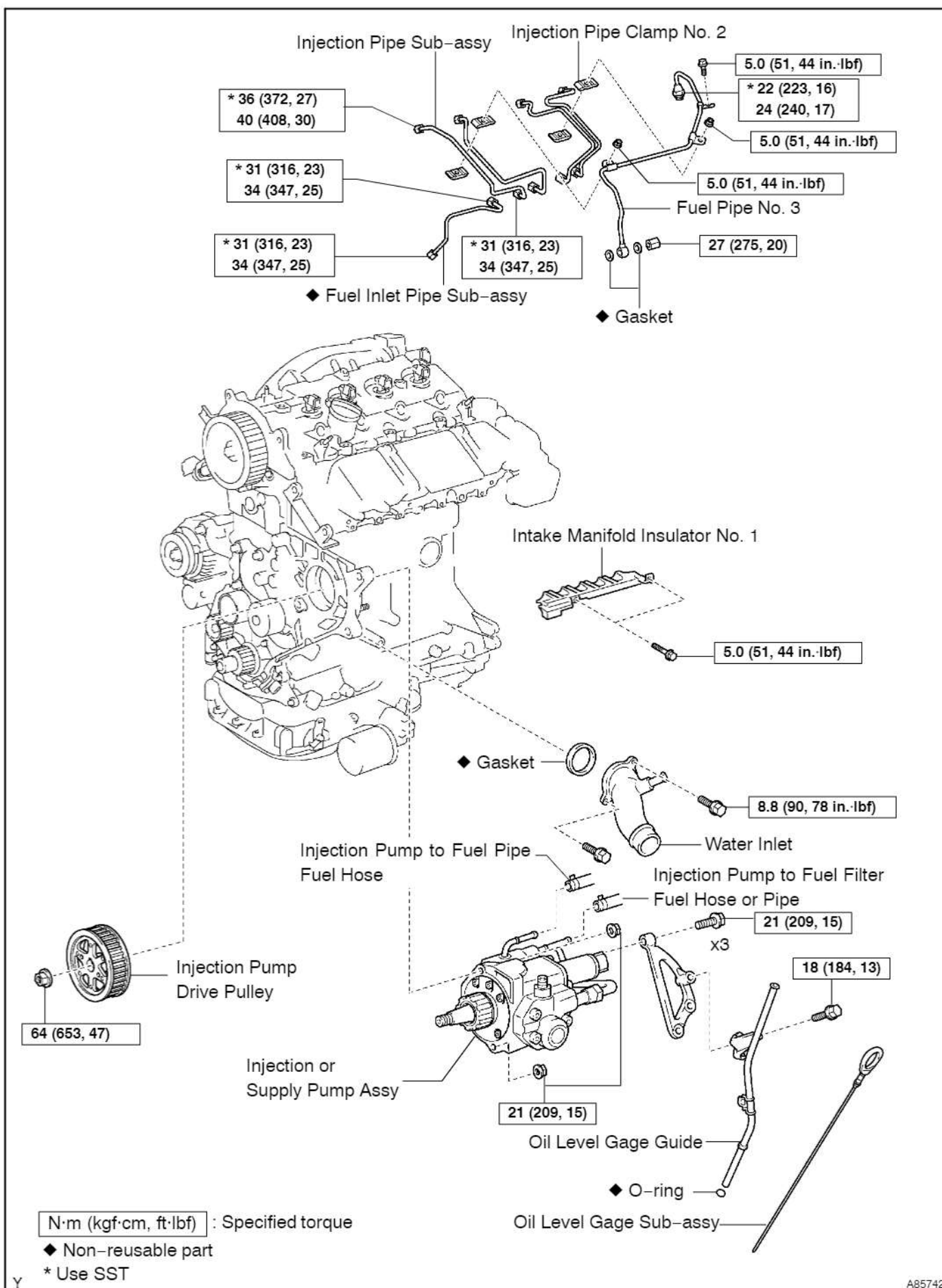


N·m (kgf·cm, ft·lbf) : Specified torque

* Replace only if damaged

Y

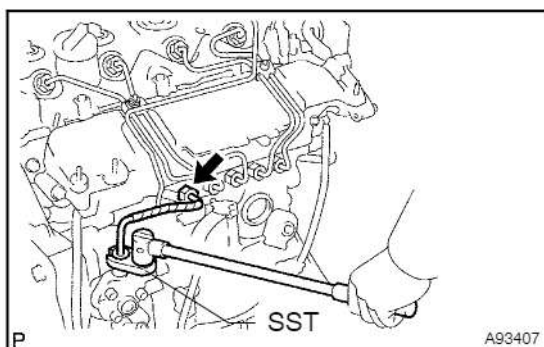
A85610



A85742

REPLACEMENT

1. REMOVE FRONT WHEEL RH
2. DRAIN ENGINE COOLANT (See page 16-19)
3. REMOVE ENGINE UNDER COVER SUB-ASSY NO.1
4. REMOVE ENGINE UNDER COVER RH
5. REMOVE RADIATOR SUPPORT OPENING COVER
6. REMOVE ENGINE ROOM COVER SIDE
7. REMOVE AIR CLEANER ASSY (See page 11-46)
8. REMOVE ENGINE COVER SUB-ASSY NO.1
 - (a) Remove the 5 nuts and engine cover.
9. REMOVE RADIATOR RESERVE TANK SUB-ASSY (See Pub. No. RM1018E on page 16-50)
10. DISCONNECT RADIATOR HOSE OUTLET
 - (a) Disconnect the radiator hose outlet from the water inlet.
11. REMOVE V (COOLER COMPRESSOR TO CRANKSHAFT PULLEY) BELT NO.1
(See Pub. No. RM1018E on page 14-269)
12. REMOVE GENERATOR V BELT (See Pub. No. RM1018E on page 14-269)
13. REMOVE INJECTOR DRIVER
 - (a) Remove the 2 nuts which are used to secure the injector driver.
 - (b) Disconnect the injector driver connector and harness clamp.
 - (c) Remove the injector driver.
14. SEPARATE POWER STEERING IDLE PULLEY BRACKET (See page 14-138)
15. DISCONNECT ENGINE WIRE (See page 14-138)
16. DISCONNECT VACUUM HOSE (See page 14-108)
17. REMOVE ENGINE MOUNTING INSULATOR SUB-ASSY RH (See page 14-138)
18. REMOVE CRANKSHAFT PULLEY (See page 14-138)
SST 09213-54015 (90105-08076), 09330-00021, 09950-50013 (09951-05010, 09952-05010, 09953-05020, 09954-05031)
19. REMOVE IDLER PULLEY SUB-ASSY (See page 14-138)
20. REMOVE TIMING BELT NO.2 COVER (See page 14-138)
21. REMOVE TIMING BELT NO.1 COVER (See page 14-138)
22. REMOVE TIMING BELT GUIDE
23. REMOVE TRANSVERSE ENGINE ENGINE MOUNTING BRACKET (See page 14-138)
24. SET NO. 1 CYLINDER TO TDC/COMPRESSION (See page 14-138)
25. REMOVE TIMING CHAIN COVER PLATE (See page 14-138)
26. REMOVE TIMING BELT (See page 14-138)



27. REMOVE FUEL INLET PIPE SUB-ASSY

NOTICE:

After removing the fuel inlet pipe, cover the common rail and injection pump with vinyl tape to prevent dust from being introduced.

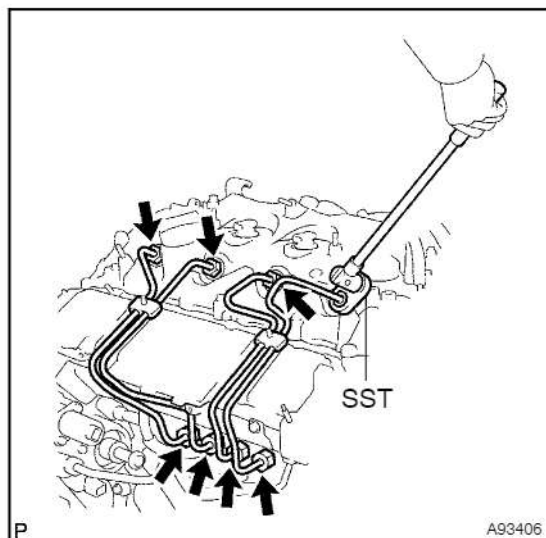
- (a) Remove the wire bracket, then slide the engine wire.
- (b) Using SST, remove the fuel inlet pipe from the common rail.

SST 09023-12700

- (c) Using SST, remove the fuel inlet pipe from the injection pump.
SST 09023-12700

28. REMOVE FUEL PIPE NO.3 (See page 11-46)

SST 09023-12700



29. REMOVE INJECTION PIPE SUB-ASSY NO.1

- (a) Remove the 2 nuts, then remove the 2 upper injection pipe clamps from the intake manifold.
(b) Using SST, remove the injection pipe from the common rail side.
SST 09023-12700
(c) Using SST, remove the injection pipe from the injector side.
SST 09023-12700
(d) After removing the fuel pipe, to prevent dust or foreign objects from being introduced, cover the common rail with vinyl tape and protect the injector inlet with a vinyl or plastic bag.

30. REMOVE INJECTION PIPE SUB-ASSY NO.2

SST 09023-12700

HINT:

Perform the same procedures as the injection pipe No. 1.

31. REMOVE INJECTION PIPE SUB-ASSY NO.3

SST 09023-12700

HINT:

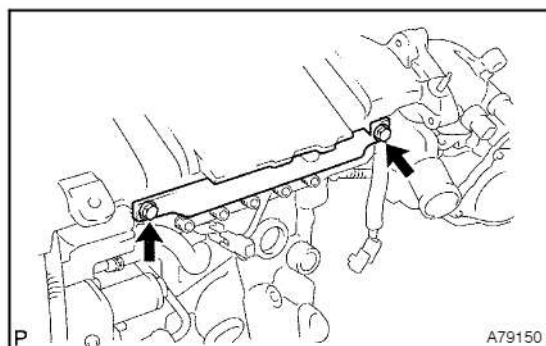
Perform the same procedures as the injection pipe No. 1.

32. REMOVE INJECTION PIPE SUB-ASSY NO.4

SST 09023-12700

HINT:

Perform the same procedures as the injection pipe No. 1.



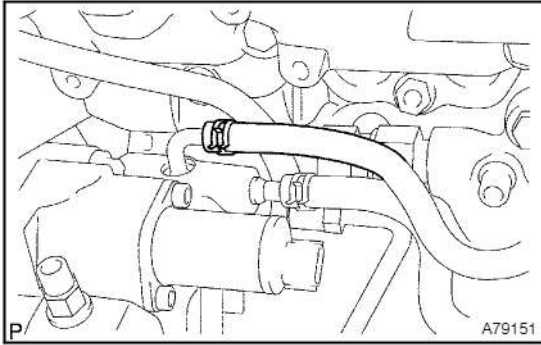
33. REMOVE INTAKE MANIFOLD INSULATOR NO.1

- (a) Remove the 2 bolts and intake manifold insulator.

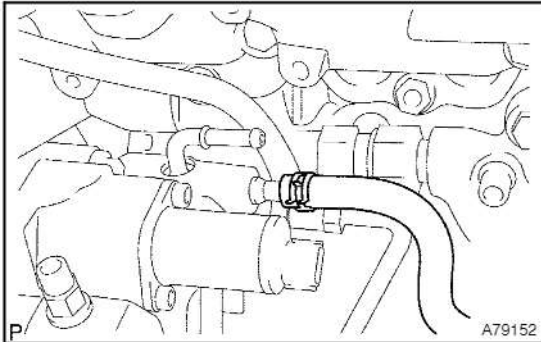
34. REMOVE OIL LEVEL GAGE SUB-ASSY

35. REMOVE OIL LEVEL GAGE GUIDE (See page 17-11)

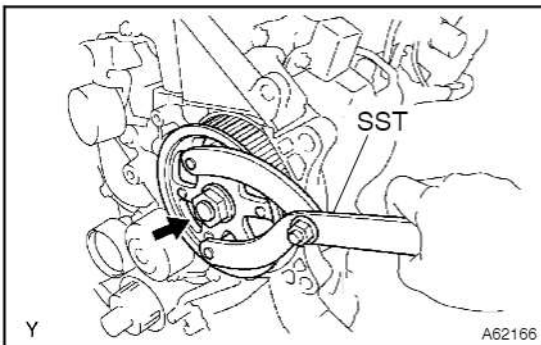
36. REMOVE WATER INLET (See Pub. No. RM1018E on page 16-50)

**37. DISCONNECT INJECTION PUMP TO FUEL PIPE FUEL HOSE**

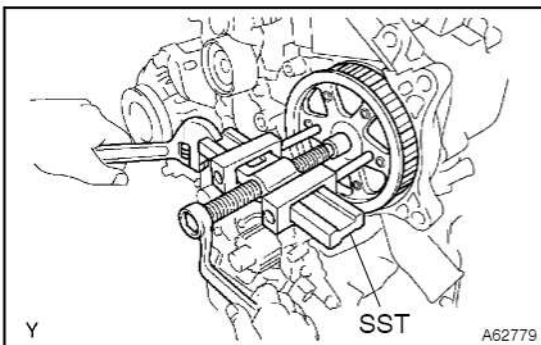
- (a) Disconnect the injection pump to fuel pipe fuel hose from the supply pump.

**38. DISCONNECT INJECTION PUMP TO FUEL FILTER FUEL HOSE OR PIPE**

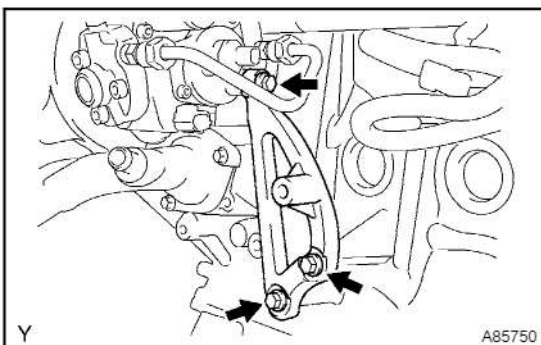
- (a) Disconnect the injection pump to fuel filter fuel hose or pipe from the supply pump.

**39. REMOVE INJECTION PUMP DRIVE PULLEY**

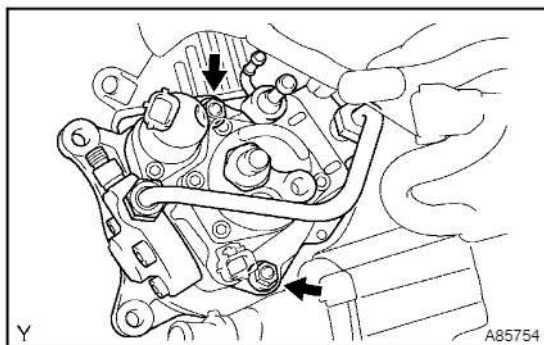
- (a) Using SST, remove the pulley nut.
SST 09960-10010 (09962-01000, 09963-01000)



- (b) Using SST, remove the injection pump drive pulley.
SST 09950-50013 (09951-05010, 09952-05010, 09953-05020, 09954-05021)

**40. REMOVE INJECTION PUMP STAY NO.1**

- (a) Remove the 3 bolts and injection pump stay No. 1.



41. REMOVE INJECTION OR SUPPLY PUMP ASSY

- (a) Remove the 2 nuts and injection pump.

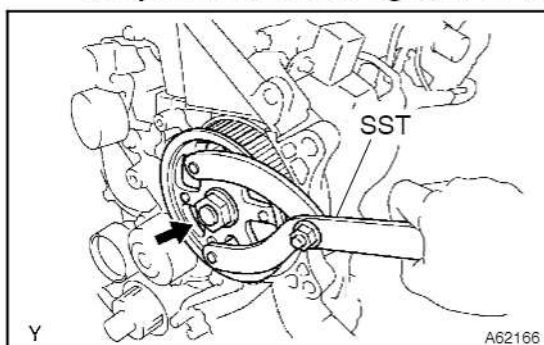
42. INSTALL INJECTION OR SUPPLY PUMP ASSY

Torque: 21 N·m (209 kgf·cm, 15 ft·lbf)

43. INSTALL INJECTION PUMP STAY NO.1

- (a) Install the injection pump stay No. 1 with the 3 bolts.

Torque: 21 N·m (209 kgf·cm, 15 ft·lbf)



44. INSTALL INJECTION PUMP DRIVE PULLEY

- (a) Using SST, install the pulley nut.

SST 09960-10010 (09962-01000, 09963-01000)

Torque: 64 N·m (653 kgf·cm, 47 ft·lbf)

45. INSTALL WATER INLET (See Pub. No. RM1018E on page 16-50)

46. INSTALL OIL LEVEL GAGE GUIDE (See page 17-11)

47. INSTALL INTAKE MANIFOLD INSULATOR NO.1

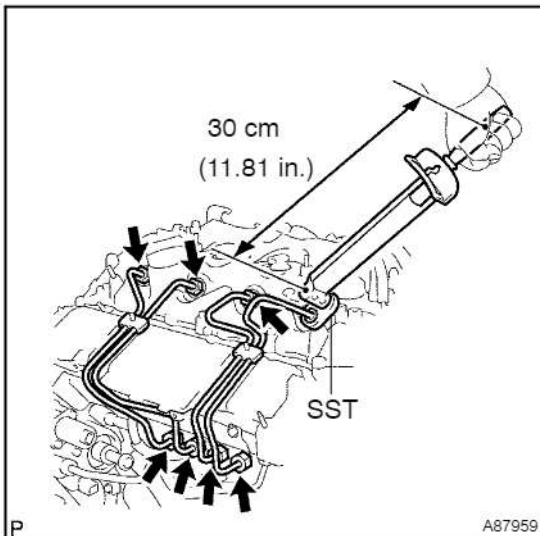
Torque: 5.0 N·m (51 kgf·cm, 44 in·lbf)

48. INSTALL INJECTION PIPE SUB-ASSY NO.1

NOTICE:

When assembling the pipes, perform the operation with the engine cold under room temperature.

- (a) Remove the vinyl or the plastic bag from the injector and the vinyl tape from the common rail.
- (b) Temporarily install the injection pipe.



- (c) Using SST, tighten the nut of the injection pipe to the common rail side.

SST 09023-12700

Torque:

31 N·m (316 kgf·cm, 23 ft·lbf) with SST

34 N·m (347 kgf·cm, 25 ft·lbf) without SST

HINT:

- Use a torque wrench with the fulcrum length of 30 cm (11.81 in.).
 - After the injection pipe is reassembled, check that the used pipe has no deflection and is installed properly. If it has deflection or could not be installed properly, replace the used pipe with a new pipe.
- (d) Using SST, tighten the nut of the injection pipe to the injector side.

SST 09023-12700

Torque:

For used pipe:

36 N·m (372 kgf·cm, 27 ft·lbf) with SST

40 N·m (408 kgf·cm, 30 ft·lbf) without SST

For new pipe:

31 N·m (316 kgf·cm, 23 ft·lbf) with SST

34 N·m (347 kgf·cm, 25 ft·lbf) without SST

HINT:

- Use a torque wrench with the fulcrum length of 30 cm (11.81 in.).
- After the injection pipe is reassembled, check that the used pipe has no deflection and is installed properly. If it has deflection or could not be installed properly, replace the used pipe with a new pipe.

49. INSTALL INJECTION PIPE SUB-ASSY NO.2

SST 09023-12700

HINT:

Perform the same procedures as the injection pipe No. 1.

50. INSTALL INJECTION PIPE SUB-ASSY NO.3

SST 09023-12700

HINT:

Perform the same procedures as the injection pipe No. 1.

51. INSTALL INJECTION PIPE SUB-ASSY NO.4

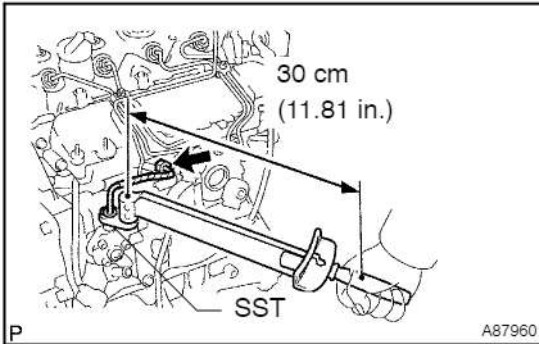
SST 09023-12700

HINT:

Perform the same procedures as the injection pipe No. 1.

52. INSTALL FUEL PIPE NO.3 (See page 11-46)

SST 09023-12700



53. INSTALL FUEL INLET PIPE SUB-ASSY

NOTICE:

- In case of replacing the injection pump, the fuel inlet pipe must be replaced, too.
 - When assembling the pipe, perform the operation with the engine cold under room temperature.
- (a) Temporarily install the fuel inlet pipe.
 - (b) Using SST, tighten the nut of the fuel inlet pipe to the common rail side.

SST 09023-12700

Torque:

31 N·m (316 kgf·cm, 23 ft·lbf) with SST

34 N·m (347 kgf·cm, 25 ft·lbf) without SST

HINT:

- Use a torque wrench with the fulcrum length of 30 cm (11.81 in.).
- After the inlet pipe is reassembled, check that the used pipe has no deflection and is installed properly. If it has deflection or could not be installed properly, replace the used pipe with a new pipe.

- (c) Using SST, tighten the nut of the fuel inlet pipe to the injection pump side.

SST 09023-12700

Torque:

31 N·m (316 kgf·cm, 23 ft·lbf) with SST

34 N·m (347 kgf·cm, 25 ft·lbf) without SST

HINT:

- Use a torque wrench with the fulcrum length of 30 cm (11.81 in.).
- After the inlet pipe is reassembled, check that the used pipe has no deflection and is installed properly. If it has deflection or could not be installed properly, replace the used pipe with a new pipe.

54. SET NO. 1 CYLINDER TO TDC/COMPRESSION (See page 14-138)

SST 09960-10010 (09962-01000, 09963-01000)

55. INSTALL TIMING BELT (See page 14-138)

56. CHECK VALVE TIMING (See page 14-138)

57. INSTALL TIMING CHAIN COVER PLATE (See page 14-138)

58. INSTALL TRANSVERSE ENGINE ENGINE MOUNTING BRACKET (See page 14-138)

59. INSTALL TIMING BELT GUIDE (See page 14-138)

60. INSTALL TIMING BELT NO.1 COVER (See page 14-138)

61. INSTALL TIMING BELT NO.2 COVER (See page 14-138)

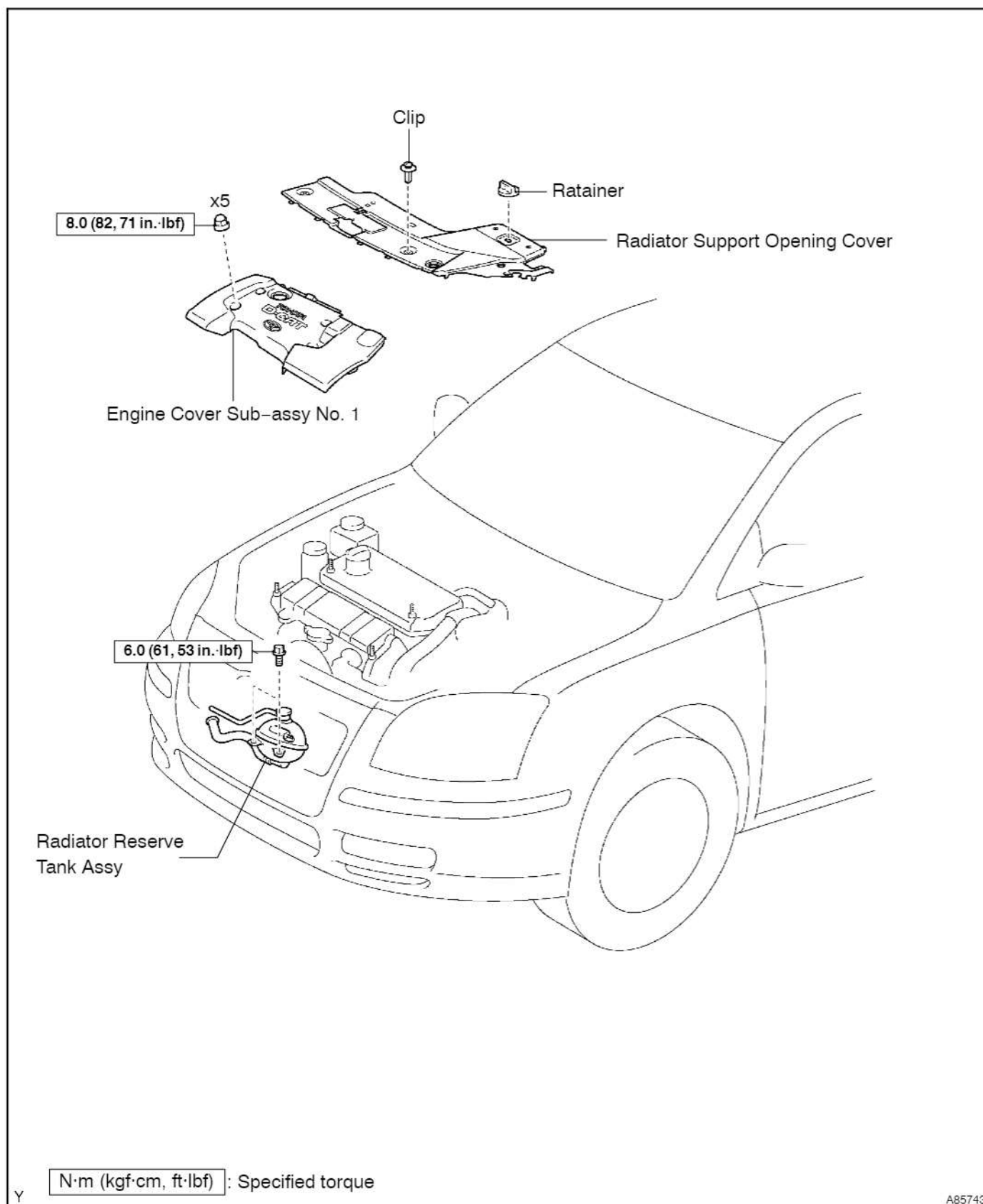
62. INSTALL IDLER PULLEY SUB-ASSY (See page 14-138)

63. INSTALL CRANKSHAFT PULLEY ([See page 14-138](#))
SST 09213-54015 (90105-08076), 09330-00021
64. INSTALL ENGINE MOUNTING INSULATOR SUB-ASSY RH ([See page 14-138](#))
65. INSTALL POWER STEERING IDLE PULLEY BRACKET ([See page 14-108](#))
66. INSTALL INJECTOR DRIVER
Torque: 5.5 N·m (56 kgf·cm, 49 in·lbf)
67. ADJUST V (COOLER COMPRESSOR TO CRANKSHAFT PULLEY) BELT NO.1
([See Pub. No. RM1018E on page 14-269](#))
68. INSTALL RADIATOR RESERVE TANK SUB-ASSY ([See Pub. No. RM1018E on page 16-50](#))
69. INSTALL ENGINE COVER SUB-ASSY NO.1
Torque: 8.0 N·m (82 kgf·cm, 71 in·lbf)
70. INSTALL AIR CLEANER ASSY ([See page 11-46](#))
71. INSTALL FRONT WHEEL RH
Torque: 103 N·m (1,050 kgf·cm, 76 ft·lbf)
72. ADD ENGINE COOLANT ([See page 16-19](#))
73. CHECK FOR ENGINE COOLANT LEAKS ([See page 16-15](#))
74. CHECK FOR FUEL LEAKS ([See page 11-46](#))

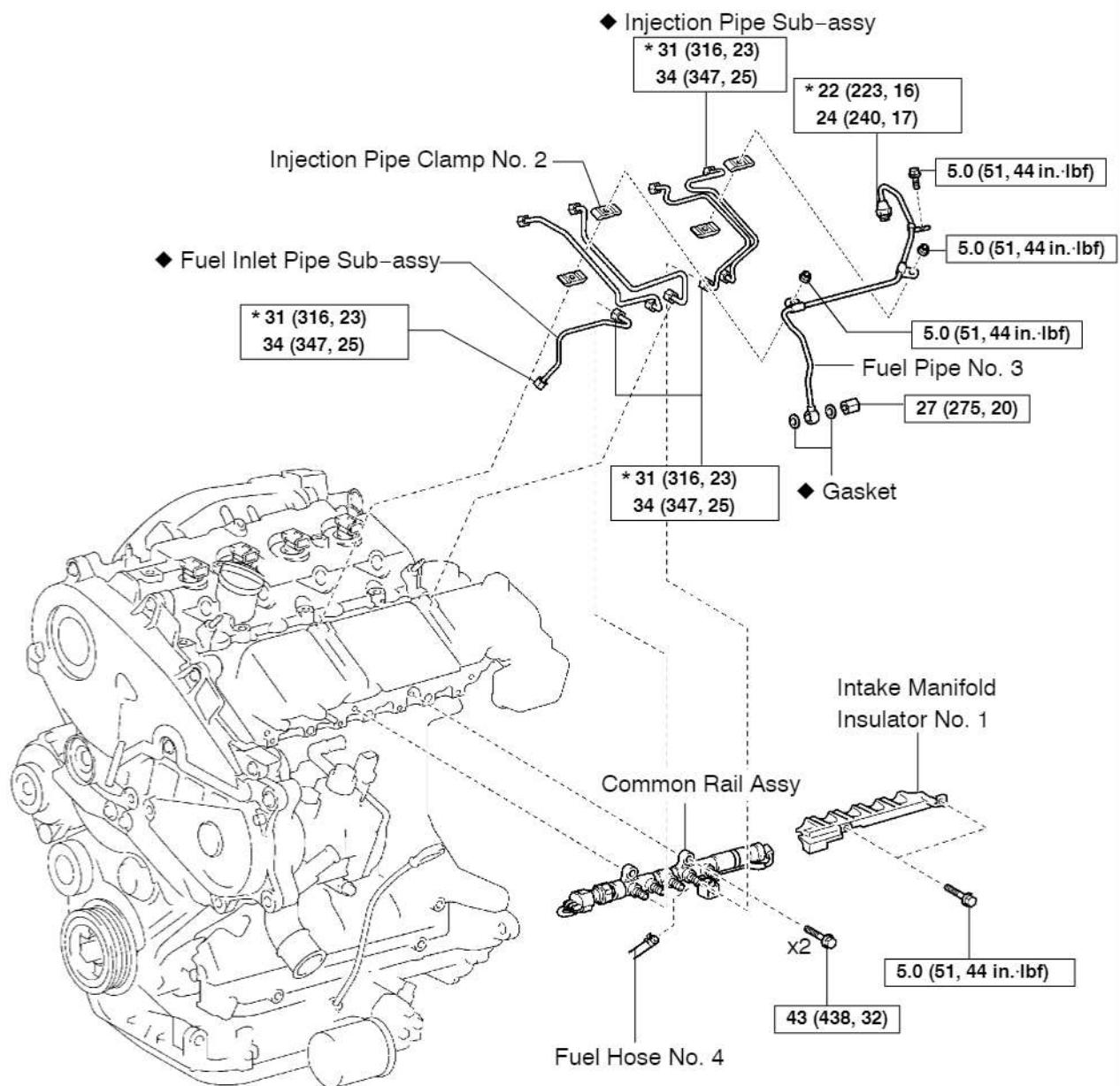
COMMON RAIL ASSY (1CD-FTV)(From September, 2003)

COMPONENTS

110UB-02



A85743



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

◆ Non-reusable part

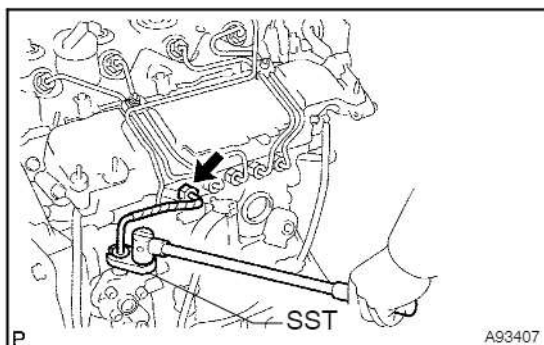
* Use SST

Y

A85744

REPLACEMENT

1. DRAIN ENGINE COOLANT (See page 16-19)
2. REMOVE RADIATOR SUPPORT OPENING COVER
3. REMOVE ENGINE COVER SUB-ASSY NO.1
 - (a) Remove the 5 nuts and engine cover.
4. REMOVE RADIATOR RESERVE TANK SUB-ASSY (See Pub.No. RM1018E on page 16-50)



5. REMOVE FUEL INLET PIPE SUB-ASSY

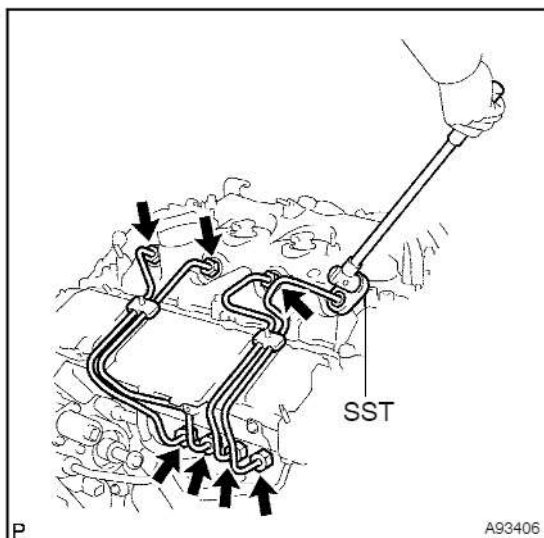
NOTICE:

After removing the fuel inlet pipe, cover the common rail and injection pump with vinyl tape to prevent dust from being introduced.

- (a) Using SST, remove the fuel inlet pipe from the common rail.
SST 09023-12700
- (b) Using SST, remove the fuel inlet pipe from the injection pump.
SST 09023-12700

6. REMOVE FUEL PIPE NO.3 (See page 11-46)

SST 09023-12700



7. REMOVE INJECTION PIPE SUB-ASSY NO.1

- (a) Remove the 2 nuts and 2 upper injection pipe clamps from the intake manifold.
- (b) Using SST, remove the injection pipe from the common rail side.
SST 09023-12700
- (c) Using SST, remove the injection pipe from the injector side.
SST 09023-12700
- (d) After removing the fuel pipe, to prevent dust or foreign objects from being introduced, cover the common rail with vinyl tape and protect the injector inlet with a vinyl or plastic bag.

8. REMOVE INJECTION PIPE SUB-ASSY NO.2

SST 09023-12700

HINT:

Perform the same procedures as the injection pipe No. 1.

9. REMOVE INJECTION PIPE SUB-ASSY NO.3

SST 09023-12700

HINT:

Perform the same procedures as the injection pipe No. 1.

10. REMOVE INJECTION PIPE SUB-ASSY NO.4

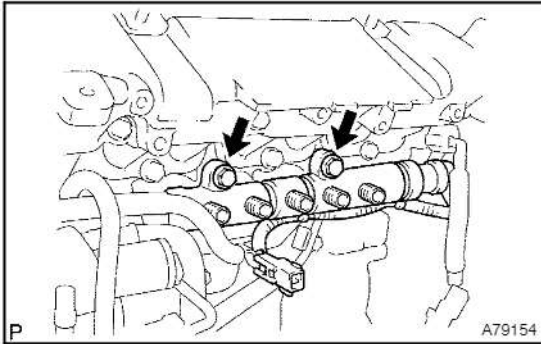
SST 09023-12700

HINT:

Perform the same procedures as the injection pipe No. 1.

11. DISCONNECT FUEL HOSE NO.4

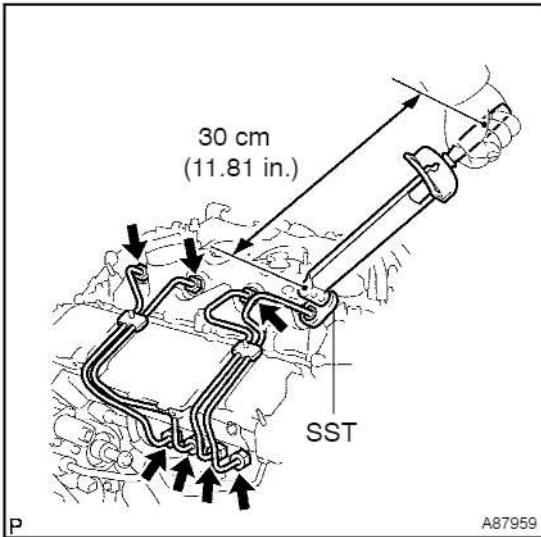
(a) Disconnect the fuel hose from the common rail.

12. REMOVE INTAKE MANIFOLD INSULATOR NO.1 (See page 11-58)**13. REMOVE COMMON RAIL ASSY**

- (a) Disconnect the engine wire connector from the bracket.
- (b) Remove the 2 bolts and common rail.

14. INSTALL COMMON RAIL ASSY

Torque: 43 N·m (438 kgf·cm, 32 ft·lbf)

15. INSTALL INTAKE MANIFOLD INSULATOR NO.1 (See page 11-58)**16. INSTALL INJECTION PIPE SUB-ASSY NO.1****NOTICE:**

- In case of replacing the common rail, the injector pipes must be replaced, too.
 - When assembling the pipes, perform the operation with the engine cold under room temperature.
- (a) Remove the vinyl or the plastic bag from the injector and the vinyl tape from the common rail.
 - (b) Temporarily install the injection pipe.

- (c) Using SST, tighten the nut of the injection pipe to the common rail side.

SST 09023-12700

Torque:

31 N·m (316 kgf·cm, 23 ft·lbf) with SST

34 N·m (347 kgf·cm, 25 ft·lbf) without SST

HINT:

- Use a torque wrench with the fulcrum length of 30 cm (11.81 in.).
 - After the injection pipe is reassembled, check that the used pipe has no deflection and is installed properly. If it has deflection or could not be installed properly, replace the used pipe with a new pipe.
- (d) Using SST, tighten the nut of the injection pipe to the injector side.

SST 09023-12700

Torque:

For used pipe:

36 N·m (372 kgf·cm, 27 ft·lbf) with SST

40 N·m (408 kgf·cm, 30 ft·lbf) without SST

For new pipe:

31 N·m (316 kgf·cm, 23 ft·lbf) with SST

34 N·m (347 kgf·cm, 25 ft·lbf) without SST

HINT:

- Use a torque wrench with the fulcrum length of 30 cm (11.81 in.).
- After the injection pipe is reassembled, check that the used pipe has no deflection and is installed properly. If it has deflection or could not be installed properly, replace the used pipe with a new pipe.

17. INSTALL INJECTION PIPE SUB-ASSY NO.2

SST 09023-12700

HINT:

Perform the same procedures as the injection pipe No. 1.

18. INSTALL INJECTION PIPE SUB-ASSY NO.3

SST 09023-12700

HINT:

Perform the same procedures as the injection pipe No. 1.

19. INSTALL INJECTION PIPE SUB-ASSY NO.4

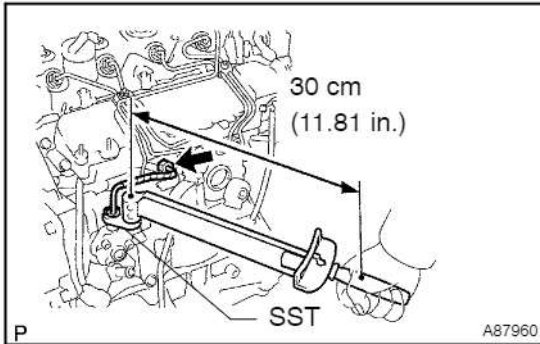
SST 09023-12700

HINT:

Perform the same procedures as the injection pipe No. 1.

20. INSTALL FUEL PIPE NO.3 (See page 11-46)

SST 09023-12700

**21. INSTALL FUEL INLET PIPE SUB-ASSY****NOTICE:**

- In case of replacing the common rail, the fuel inlet pipe must be replaced, too.
 - When assembling the pipe, perform the operation with the engine cold under room temperature.
- (a) Temporarily install the fuel inlet pipe.
 - (b) Using SST, tighten the nut of the fuel inlet pipe to the common rail side.

SST 09023-12700

Torque:**31 N·m (316 kgf·cm, 23 ft·lbf) with SST****34 N·m (347 kgf·cm, 25 ft·lbf) without SST****HINT:**

- Use a torque wrench with the fulcrum length of 30 cm (11.81 in.).
 - After the inlet pipe is reassembled, check that the used pipe has no deflection and is installed properly. If it has deflection or could not be installed properly, replace the used pipe with a new pipe.
- (c) Using SST, tighten the nut of the fuel inlet pipe to the injection pump side.

SST 09023-12700

Torque:**31 N·m (316 kgf·cm, 23 ft·lbf) with SST****34 N·m (347 kgf·cm, 25 ft·lbf) without SST****HINT:**

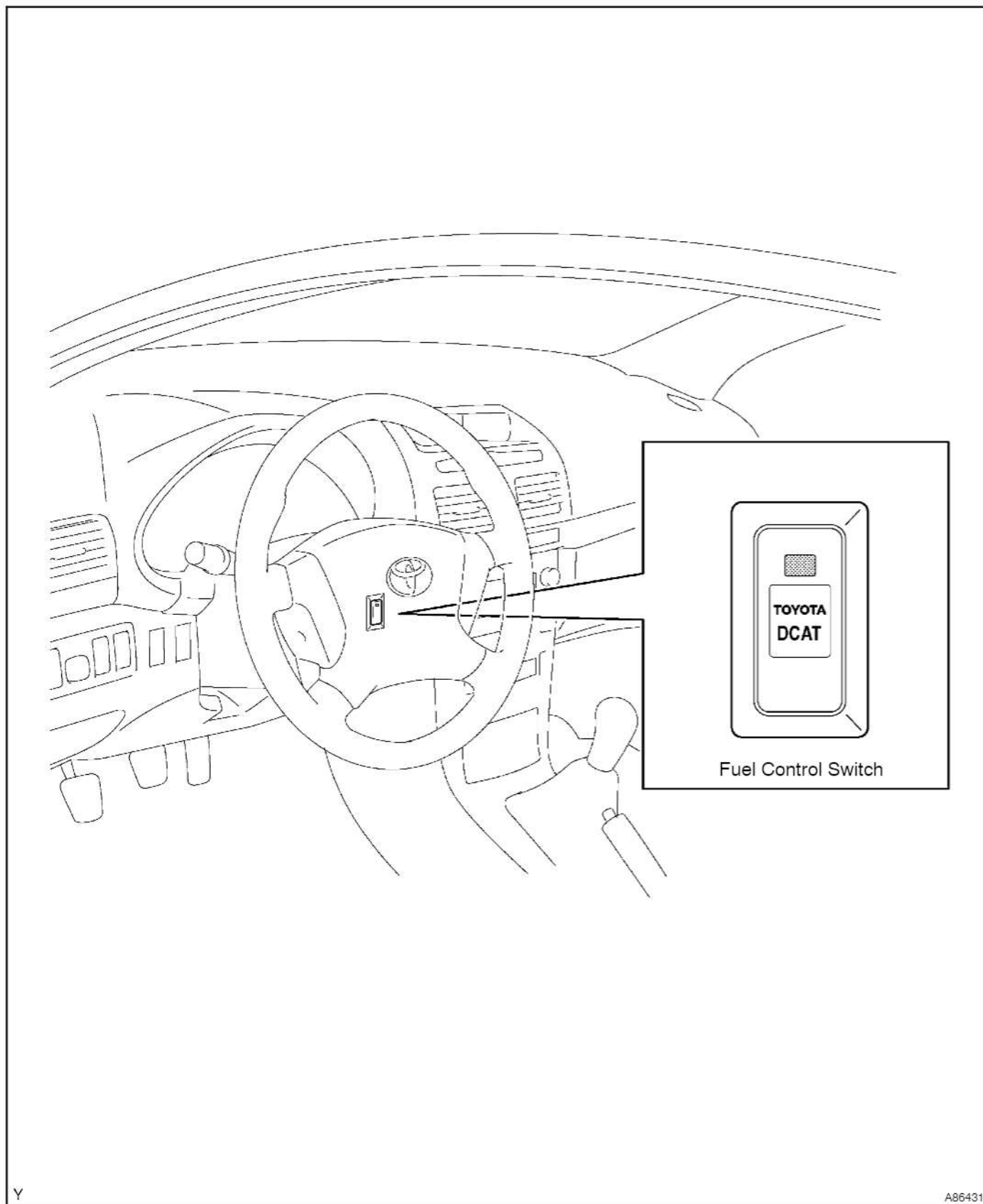
- Use a torque wrench with the fulcrum length of 30 cm (11.81 in.).
- After the inlet pipe is reassembled, check that the used pipe has no deflection and is installed properly. If it has deflection or could not be installed properly, replace the used pipe with a new pipe.

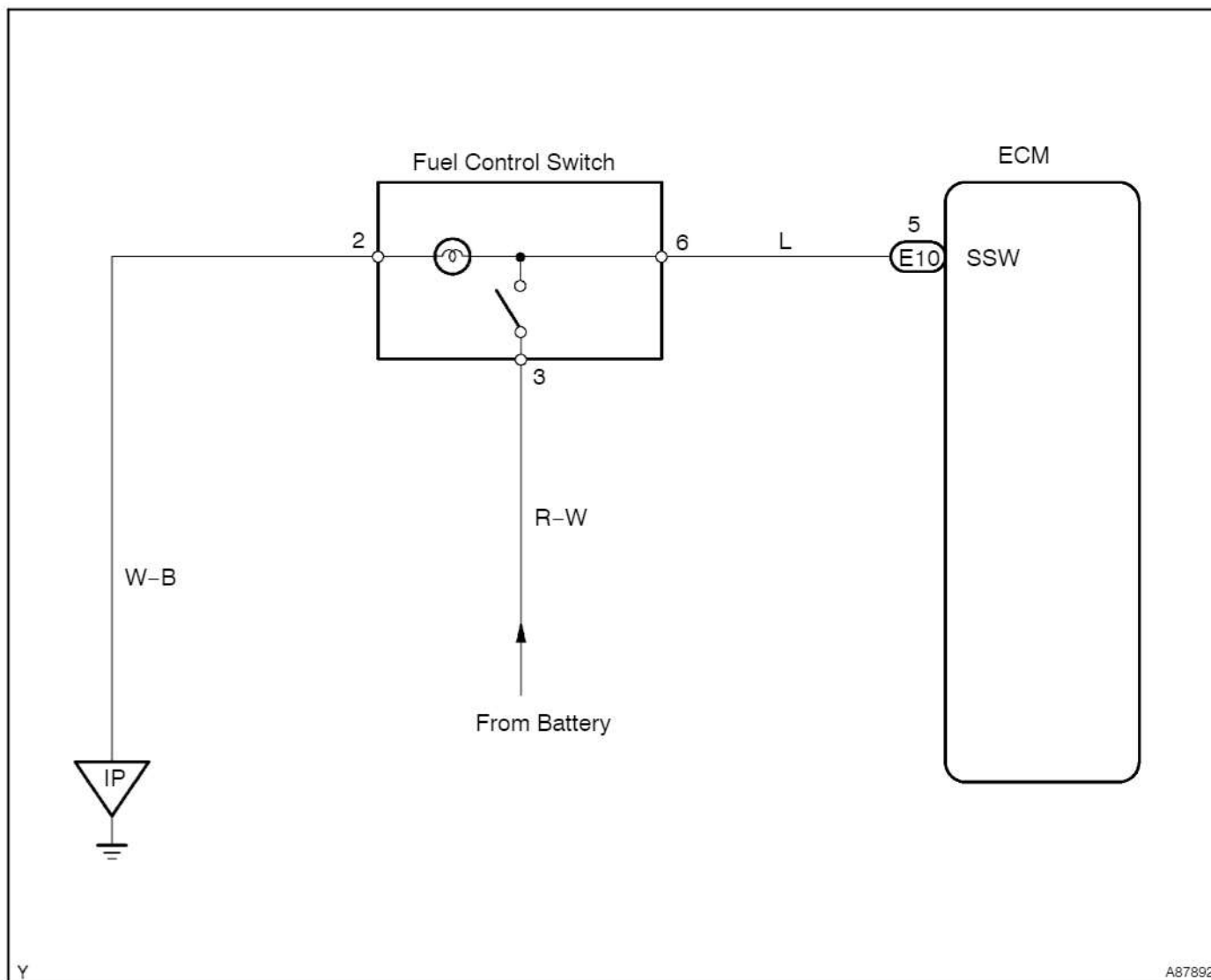
22. INSTALL RADIATOR RESERVE TANK SUB-ASSY (See Pub. No. RM1018E on page 16-50)**23. INSTALL ENGINE COVER SUB-ASSY NO.1****Torque: 8.0 N·m (82 kgf·cm, 71 in·lbf)****24. ADD ENGINE COOLANT (See page 16-19)****25. CHECK FOR ENGINE COOLANT LEAKS (See page 16-15)****26. CHECK FOR FUEL LEAKS (See page 11-46)**

FUEL CONTROL SWITCH (1CD-FTV)(From September, 2003)

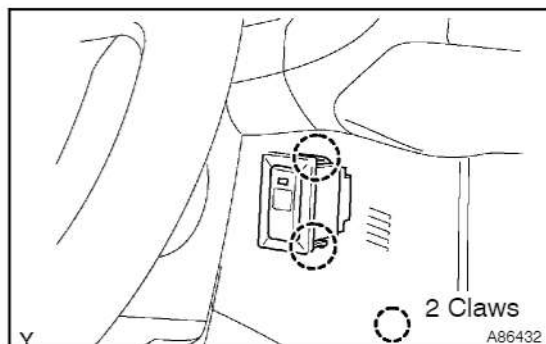
LOCATION

1111E-01





REPLACEMENT



1. REMOVE FUEL CONTROL SWITCH

- (a) Separate the 2 claw fittings, then remove the fuel control switch.
- (b) Disconnect the fuel control switch connector.

2. INSTALL FUEL CONTROL SWITCH

HINT:

The installation is in the reverse order of the removal.