

SFI SYSTEM

PRECAUTION

SF1ED-03

1. **BEFORE WORKING ON THE FUEL SYSTEM, DISCONNECT THE NEGATIVE (-) TERMINAL CABLE FROM THE BATTERY.**

HINT:

Any diagnostic trouble code retained by the computer will be erased when the negative (-) terminal cable is disconnected. Therefore, if necessary, read the diagnosis before disconnecting the negative (-) terminal cable from the battery.

2. **DO NOT SMOKE OR WORK NEAR AN OPEN FLAME WHEN WORKING ON THE FUEL SYSTEM**
3. **KEEP GASOLINE AWAY FROM RUBBER OR LEATHER PARTS**
4. **MAINTENANCE PRECAUTIONS**

- (a) In event of engine misfire, these precautions should be taken.
 - (1) Check proper connection of battery terminals, etc.
 - (2) Handle high-tension cords carefully.
 - (3) After repair work, check that the ignition coil terminals and all other ignition system lines are reconnected securely.
 - (4) When cleaning the engine compartment, be especially careful to protect the electrical system from water.
- (b) Precautions when handling the oxygen sensor.
 - (1) Do not allow the oxygen sensor to drop or hit against an object.
 - (2) Do not allow the sensor to come in contact with water.

5. **IF VEHICLE IS EQUIPPED WITH MOBILE RADIO SYSTEM (HAM, CB, ETC.)**

If the vehicle is equipped with a mobile communication system, refer to the precaution in the IN section.

6. **AIR INDUCTION SYSTEM**

- (a) Separation of the engine oil dipstick, oil filler cap, PCV hose, etc. may cause the engine to run out of tune.
- (b) Disconnection, looseness or cracks in the parts of the air induction system between the throttle body and cylinder head will allow air suction and cause the engine to run out of tune.

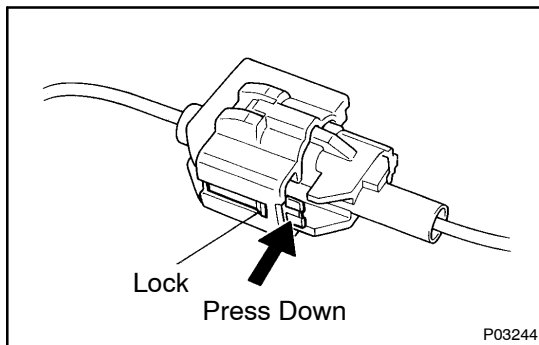
7. **ELECTRONIC CONTROL SYSTEM**

- (a) Before removing SFI wiring connectors, terminals, etc., first disconnect the power by either turning the ignition switch OFF or disconnecting the negative (-) terminal cable from the battery.

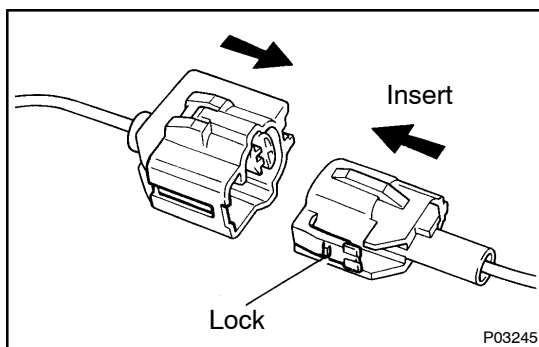
HINT:

Always check the diagnostic trouble code before disconnecting the negative (-) terminal cable from the battery.

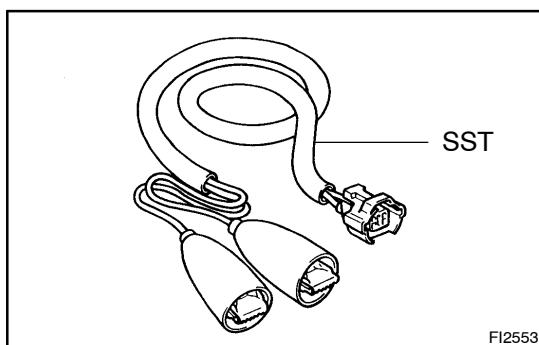
- (b) When installing the battery, be especially careful not to incorrectly connect the positive (+) and negative (-) cables.
- (c) Do not permit parts to receive a severe impact during removal or installation. Handle all SFI parts carefully, especially the ECM.
- (d) Do not be careless during troubleshooting as there are numerous transistor circuits and even slight terminal contact can further troubles.
- (e) Do not open the ECM cover.



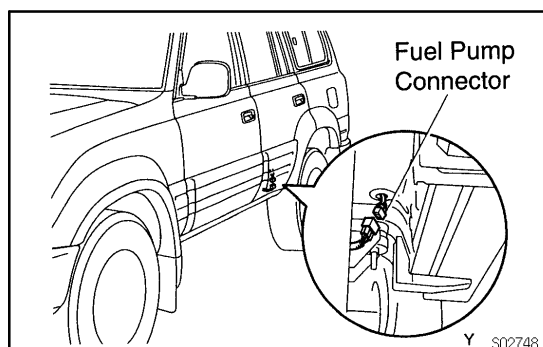
- (f) When inspecting during rainy weather, take care to prevent entry of water. Also, when washing the engine compartment, prevent water from getting on the SFI parts and wiring connectors.
- (g) Parts should be replaced as an assembly.
- (h) Care is required when pulling out and inserting wiring connectors.
 - (1) Release the lock and pull out the connector, pulling on the connectors.



- (2) Fully insert the connector and check that it is locked.
- (i) When inspecting a connector with a volt/ohmmeter
 - (1) Carefully take out the water-proofing rubber if it is a water-proof type connector.
 - (2) Insert the test probe into the connector from the wiring side when checking the continuity, amperage or voltage.
 - (3) Do not apply unnecessary force to the terminal.
 - (4) After checking, install the water-proofing rubber on the connector securely.



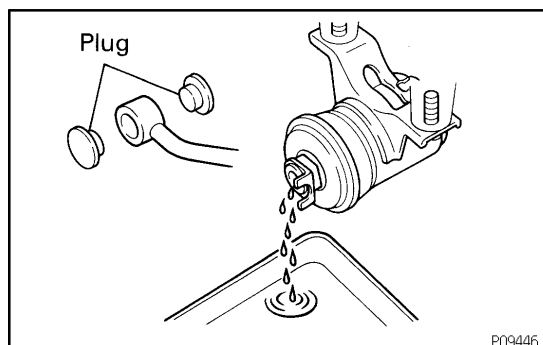
- (j) Use SST for inspection or test of the injector or its wiring connector.
SST 09842-30070



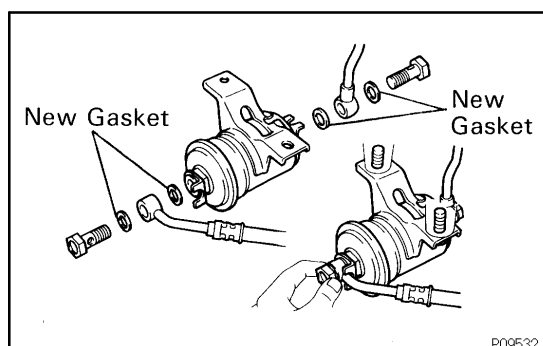
8. FUEL SYSTEM

(a) When disconnecting the high fuel pressure line, a large amount of gasoline will spill out, so observe the following procedures:

- (1) Disconnect the fuel pump connector.
- (2) Start the engine. After the engine has stopped on its own, turn off the ignition switch.



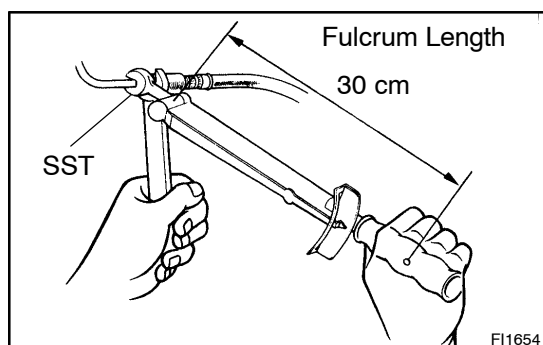
- (b) Put a container under the connection.
- (c) Slowly loosen the connection.
- (d) Disconnect the connection.
- (e) Plug the connection with 2 rubber plugs.
- (f) Reconnect the fuel pump connector.



(g) When connecting the flare nut or union bolt on the high pressure pipe union, observe the following procedures:

- (1) Union Bolt Type:
Always use a new gasket.
- (2) Union Bolt Type:
Tighten the union bolt by hand.
- (3) Union Bolt Type:
Tighten the union bolt to the specified torque.

Torque: 29 N·m (300 kgf·cm, 21 ft·lbf)



- (4) Flare Nut Type:
Apply a light coat of engine oil to the flare and tighten the flare nut by hand.
- (5) Flare Nut Type:
Using SST, tighten the flare nut to the specified torque.

SST 09631-22020

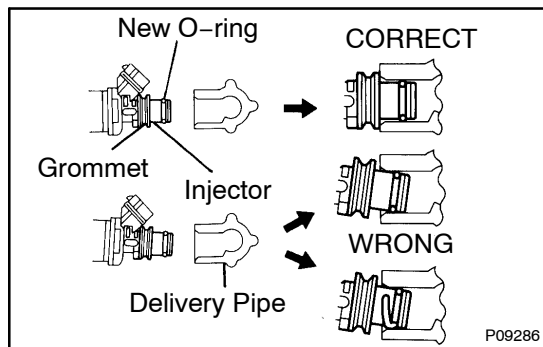
NOTICE:

Do not rotate the fuel pipe, when tightening the flare nut.

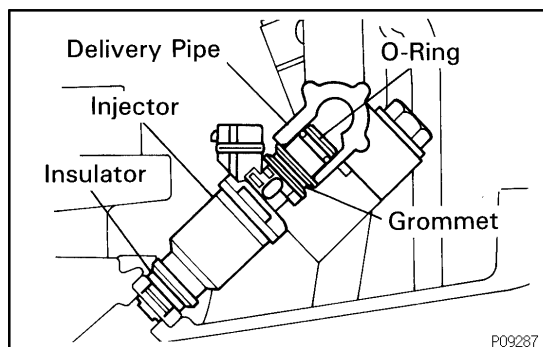
Torque: 30 N·m (310 kgf·cm, 22 ft·lbf)

HINT:

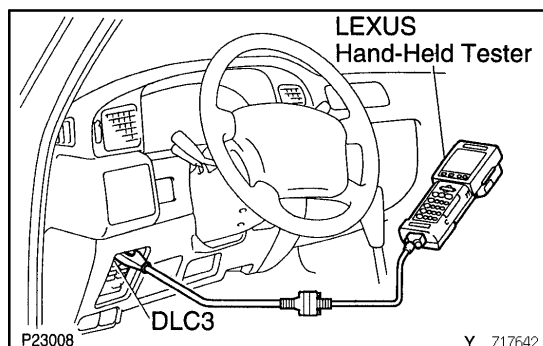
Use a torque wrench with a fulcrum length of 30 cm (11.81 in.).



- (h) Observe the following precautions when removing and installing the injectors.
- (1) Never reuse the O-ring.
 - (2) When placing a new O-ring on the injector, take care not to damage it in any way.
 - (3) Coat a new O-ring with spindle oil or gasoline before installing—never use engine, gear or brake oil.



- (i) Install the injector to the delivery pipe and intake manifold as shown in the illustration.



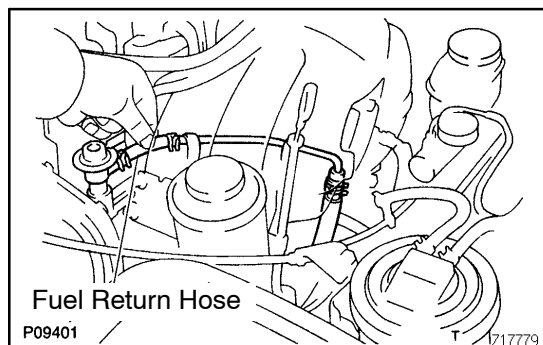
- (j) Check that there are no fuel leaks after doing maintenance anywhere on the fuel system.
- (1) Remove the fuse cover on the instrument panel.
 - (2) Connect the LEXUS hand-held tester to the DLC3.
 - (3) Turn the ignition switch ON and LEXUS hand-held tester main switch ON.

NOTICE:

Do not start the engine.

- (k) Select the active test mode on the LEXUS hand-held tester.
- (l) Please refer to the LEXUS hand-held tester operator's manual for further details.

If you have no LEXUS hand-held tester, connect the positive (+) and negative (-) leads from the battery to the fuel pump connector (See page [SF-13](#)).



- (m) Pinch the fuel return hose. The pressure in the high pressure line will rise to approx. 392 kPa (4 kgf/cm², 57 psi). In this state, check to see that there are no leaks from any part of the fuel system.

NOTICE:

Always pinch the hose. Avoid bending as it may cause the hose to crack.

- (n) Turn the ignition switch to LOCK.
- (o) Disconnect the LEXUS hand-held tester from the DLC3.

- (p) Install the fuse cover on the instrument panel.