EFI SYSTEM

PRECAUTION

F000P–01

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

HINT:

Any diagnostic trouble code retained by the ECU will be erased when the battery negative (–) terminal cable is removed from the battery.

Therefore, if necessary, read the diagnostic trouble code(s) before removing the negative (–) terminal cable from the battery.

2. DO NOT SMOKE OR WORK NEAR AN OPEN FLAME WHEN WORKING ON FUEL SYSTEM

3. KEEP GASOLINE AWAY FROM RUBBER OR LEATHER PARTS

4. MAINTENANCE PRECAUTIONS

(a) Precaution when the connecting gauge.

(1) 2RZ–FE:, 3RE–FE:
Use battery as the power source for the timing light, etc.

(2) 1RZ–E:
Use battery as the power source for the timing light, tachometer, etc.

(3) 1RZ–E:
Connect the tester probe of a tachometer to the terminal IG ⊖ of the check connector.

(b) In the 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.

(c) Precautions when the handling heated oxygen sensors.

(1) Do not allow oxygen sensor to drop or hit against an object.

(2) Do not allow the sensor to come into contact with water.

2RZ–FE:, 3RZ–FE:

If Vehicle is Equipped with Mobile Radio System (ham, cb, etc.)

2RZ–FE:, 3RZ–FE:

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

5. 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.

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(b) Disconnection, looseness or cracks in the parts of the air induction system between the throttle body and cylinder head will cause air suction and cause the engine to run out of tune.

(c) Before removing EFI wiring connectors, terminals, etc., first disconnect the power by either turning the ignition switch to OFF or disconnecting the negative (–) terminal cable from the battery.

HINT:
Always check the diagnostic trouble code before disconnecting the battery terminal cable.

(d) When installing the battery, be especially careful not to incorrectly connect the positive (+) and negative (–) cable terminals.

(e) Do not permit parts to receive a severe impact during removal or installation. Handle all EFI parts carefully, especially the ECU.

(f) Do not be careless during troubleshooting as there are numerous transistor circuits and even slight terminal contact can further troubles.

(g) Do not open the ECU cover.

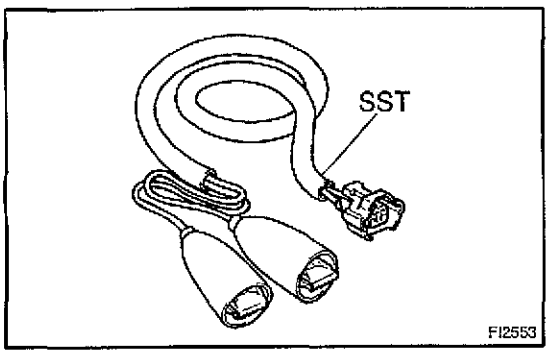
(h) When inspecting during rainy weather, take care to prevent entry of water. Also, when washing the engine compartment, prevent water from getting on the EFI parts and wiring connectors.

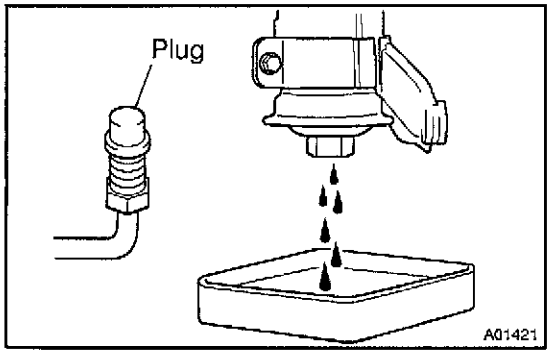
(i) Parts should be replaced as an assembly.

(j) 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.

(k) 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 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.

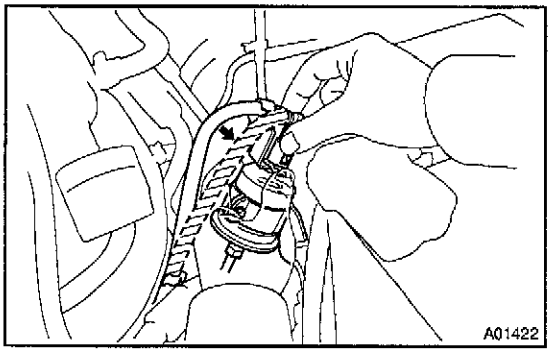
(l) Use SST for inspection or test of the injector or its wiring connector.
  SST 09842–30070





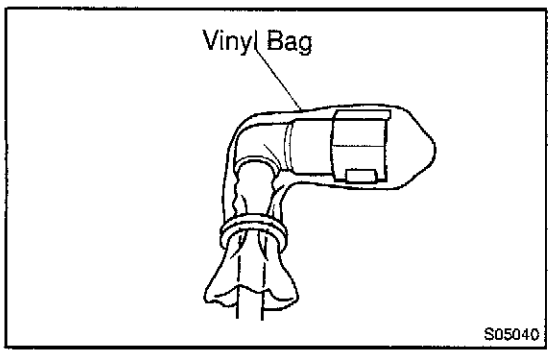
6. FUEL SYSTEM

(a) When disconnecting the high pressure fuel line, a large amount of gasoline will spill out, so observe these procedures:
  (1) Put a container under the connector.
  (2) Slowly loosen the connection.
  (3) Disconnect the connection.
  (4) Plug the connection with a rubber plug.

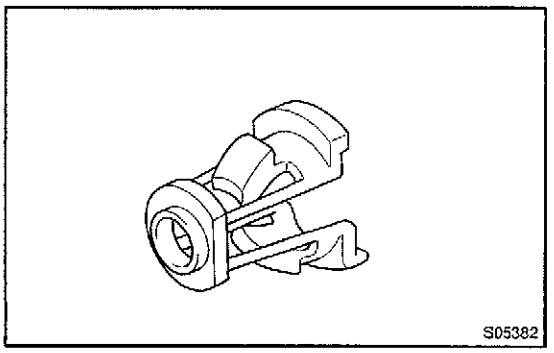


  (5) When the connector and the pipe are stuck, pinch the retainer between the hands, push and pull the connector to free to disconnect and pull it out. Do not use any tool at this time.
  (6) Inspect if these is any dirt or the likes on the seal surface of the disconnected pipe and clean it away.

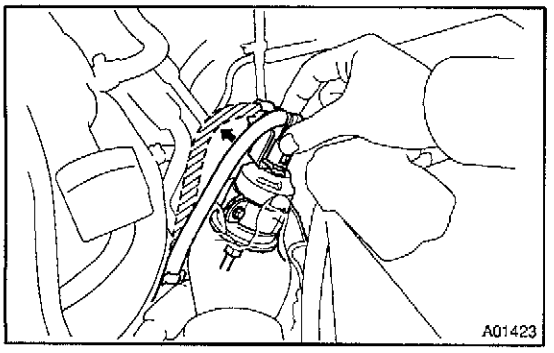
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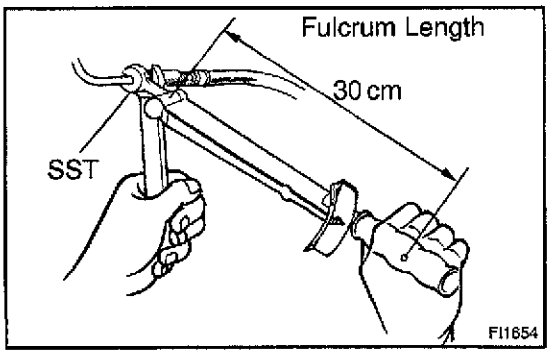
  (7) Prevent the disconnected pipe and connector from damagiing and mixing foreing objects by covering them with a vinyl bag.



  (8) Do not reuse the retainer removed from the pipe.
  (9) Must use hands without using tools when to remove the retainer from the pipe.
  (10) Check if these is any damage or foreing objects on the connected part of the pipe.



  (11) Match the axis of the connector with axis of the pipe, and push in the connector until retainer markes a "click" sounnd. In case that the connections is tight, apply little amount of new engine oil on the tip of the pipe.
  (12) After having finished the connection, check if the pipe and the connector are securely connected by pulling them.
  (13) Check if these is any fuel leakage.



(14) (Flare Nut Type)
Apply a light coat of engine oil to the flare and tighten the flare nut by hand.

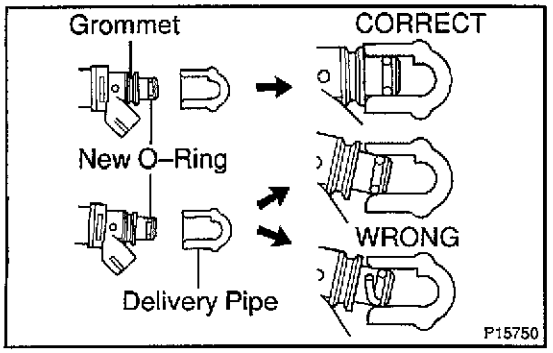
(15) (Flare Nut Type)
Using SST, tighten the flare nut to the specified torque.

SST 09631–22020

Torque: 28 N·m (285 kgf·cm, 21 ft·lbf)

HINT:

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

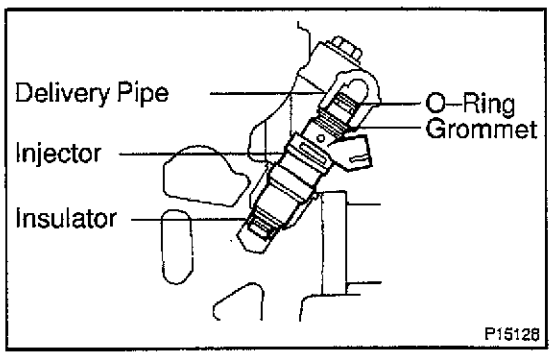


(b) Observe these precautions when removing and installing the injectors.

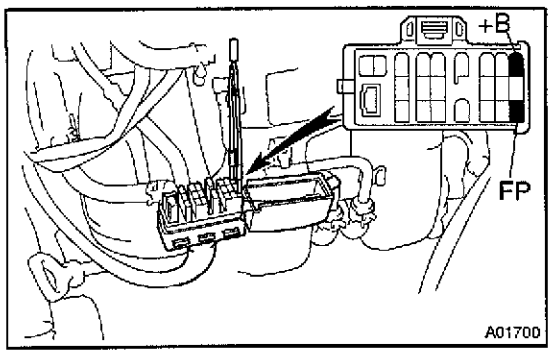
(1) Never reuse the O–ring.

(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.



(c) Install the injector to the delivery pipe and cylinder head as shown in the illustration.



(d) 1RZ–E:

Check that these are no fuel leaks after performing maintenance any where on the fuel system.

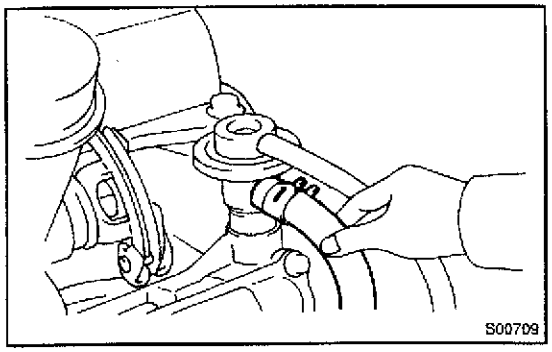
(1) Using SST, connect terminals +B and FP the check connector.

SST 09843–18020

(2) Turn the ignition switch ON.

NOTICE:

Do not start the engine.

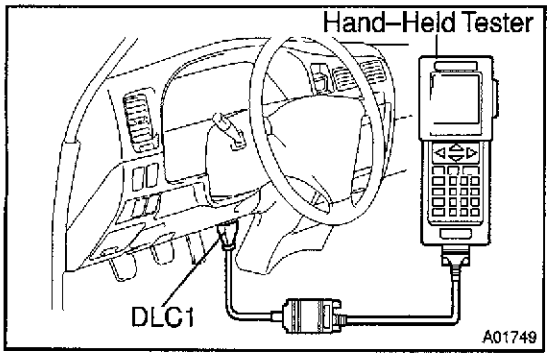


(3) Pinch the fuel return hose.
The pressure in the high pressure line will rise to approx. 400 kPa (4 kgf/cm^2, 57 psi). In this start, check to see that these are no leaks from any part of the fuel system.

NOTICE:

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

SST 09843–18020



(e) 2RZ–FE:, 3RZ–FE:

Check that there are no fuel leaks after doing maintenance anywhere on the fuel system.

(1) Connect the hand–held tester to the DLC3.

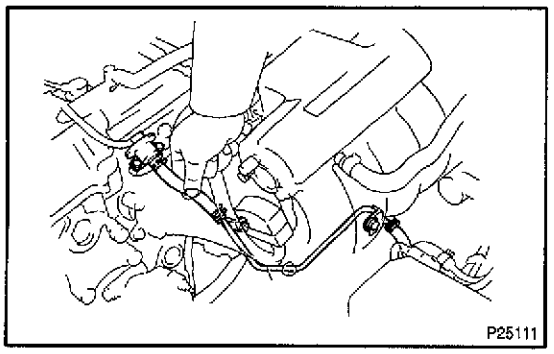
(2) Turn ignition switch ON and hand–held tester main switch ON.

NOTICE:

Do not start the engine

(3) Select the active test mode on the hand–held tester.

(4) Please refer to the hand–held tester operator's manual for further details.



(5) If you have no hand–held tester, connect the positive (+) and negative (–) leads from the battery to the fuel pump connector.
(See page FI–6)

(6) Pinch the fuel return hose. The pressure in high pressure line will rise to approx. 400 kPa (4 kgf/cm^2, 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 to hose to crack.

(7) Turn the ignition switch to LOCK.

(8) Disconnect the hand–held tester from the DLC3.