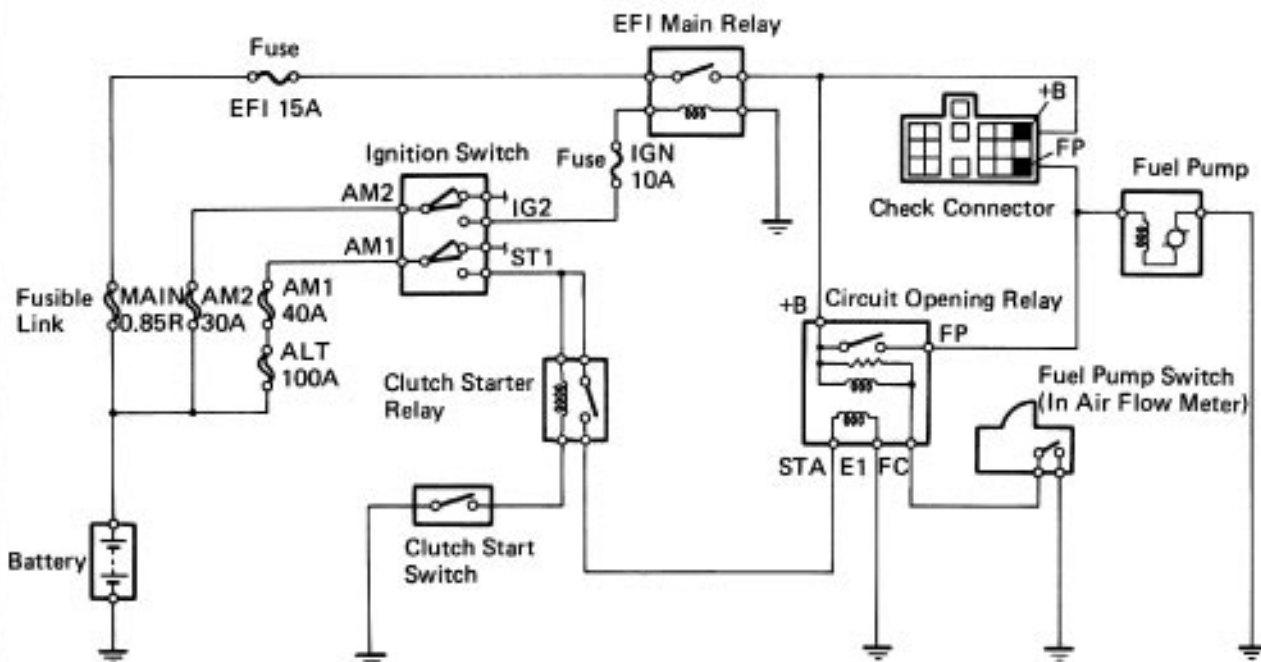
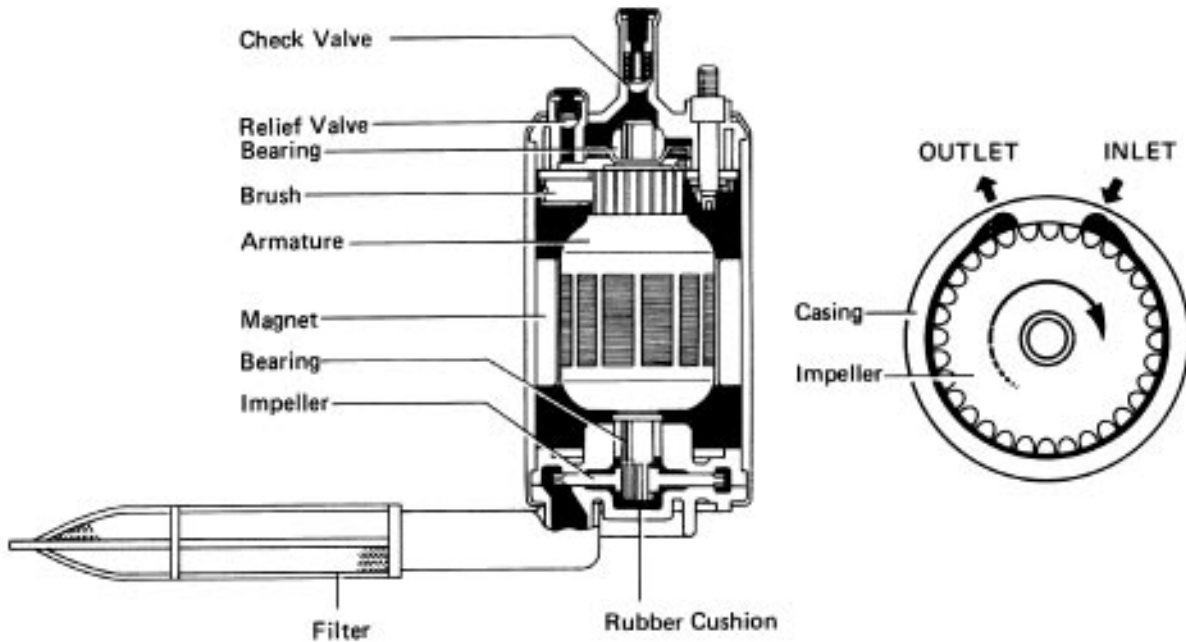
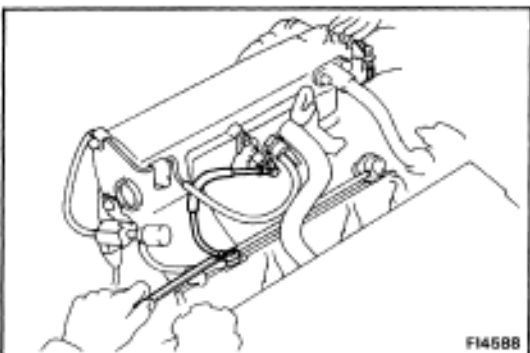
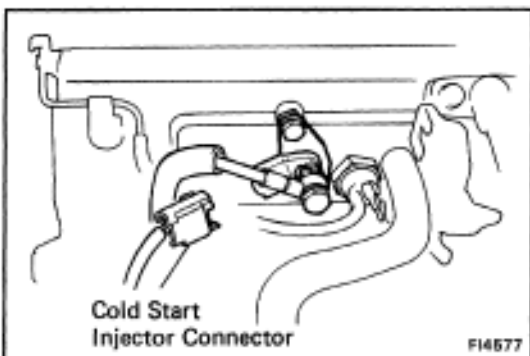
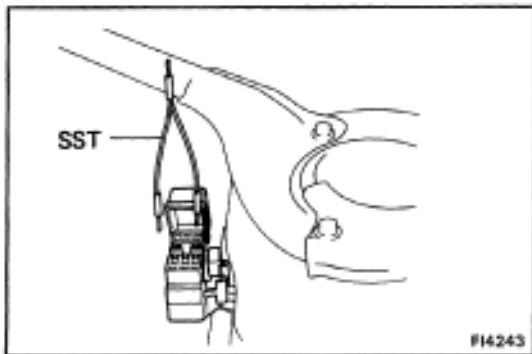
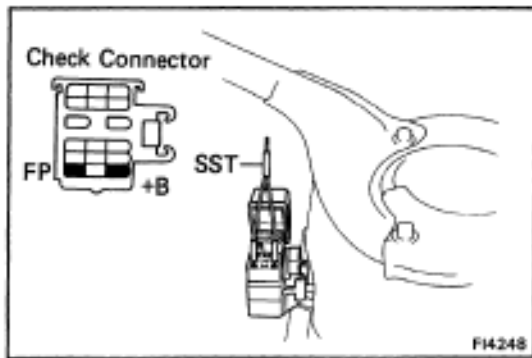


FUEL SYSTEM

Fuel Pump





ON-VEHICLE INSPECTION

1. CHECK FUEL PUMP OPERATION

(a) Turn the ignition switch ON.

NOTICE: Do not start the engine.

(b) Using SST, connect +B and FP terminals of the fuel pump check connector.

SST 09843-18020

HINT: The check connector is located near the air flow meter.

(c) Check that there is pressure in the hose from the fuel filter.

HINT: At this time, you will hear fuel pressure noise.

(d) Remove SST from the check connector.

(e) Turn the ignition switch OFF.

If there is no pressure, check the following parts.

- Fusible link (0.85R, AM2 30 A)
- Fuse (EFI 15A, IGN 10 A)
- EFI main relay
- Circuit opening relay
- Fuel pump
- wiring connections

2. CHECK FUEL PRESSURE

(a) Check that the battery voltage is above 12 V.

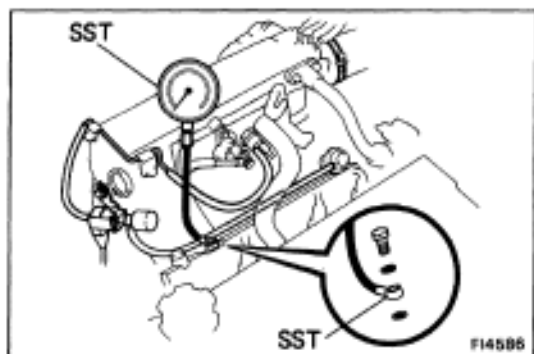
(b) Disconnect the battery ground cable.

(c) Disconnect the wiring connector from the cold start injector.

(d) Place a suitable container or shop towel under the cold start injector pipe.

(e) Slowly loosen the union bolt of the cold start injector pipe and remove the bolt and two gaskets from the delivery pipe.

(f) Drain the fuel in the delivery pipe.

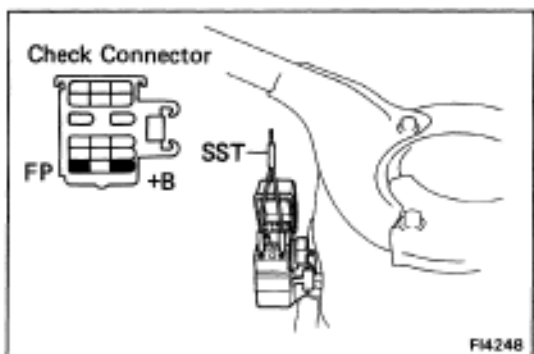


(g) Install a gasket, SST, another gasket and union bolt to the delivery pipe as shown in the illustration.

SST 09268-45012

(h) Wipe off any splattered gasoline.

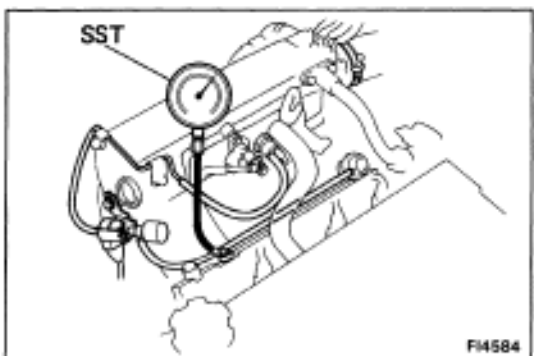
(i) Reconnect the battery cable.



Using SST, connect terminals FP and + B of the check connector.

SST 09843-18020

HINT: The check connector is located near the air flow meter.



(k) Turn the ignition switch ON.

(l) Measure the fuel pressure.

Fuel pressure: 2.7 – 3.1 kg/cm²

(38 – 44 psi, 265 – 304 kPa)

If pressure is high, replace the fuel pressure regulator.

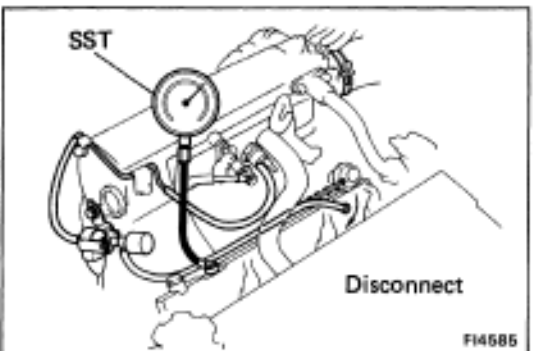
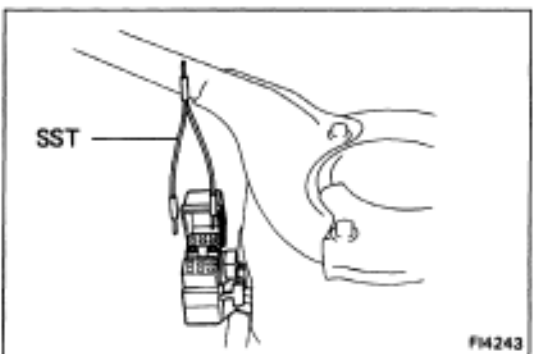
If pressure is low, check the following parts.

- Fuel hoses and connection
- Fuel pump
- Fuel filter
- Pressure regulator

(m) Remove SST from the check connector.

SST 09843-18020

(n) Start the engine.

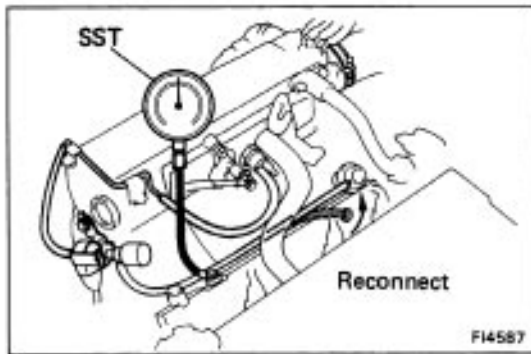


(o) Disconnect the vacuum sensing hose from the pressure regulator and pinch it closed.

(p) Measure the fuel pressure at idling.

Fuel pressure: 2.7 – 3.1 kg/cm²

(38 – 44 psi, 265 – 304 kPa)



(q) Reconnect the vacuum sensing hose to the pressure regulator.

(r) Measure the fuel pressure at idling after 90 seconds.

Fuel pressure: 2.1 – 2.6 kg/cm²

(30 – 37 psi, 206 – 265 kPa)

If no pressure, check the vacuum sensing hose and pressure regulator.

(s) Stop the engine. Check that the fuel pressure remains above 1.5 kg/cm² (21 psi, 147 kPa) for 5 minutes after the engine is turned off.

If not within specification, check the fuel pump, pressure regulator and/or injectors.

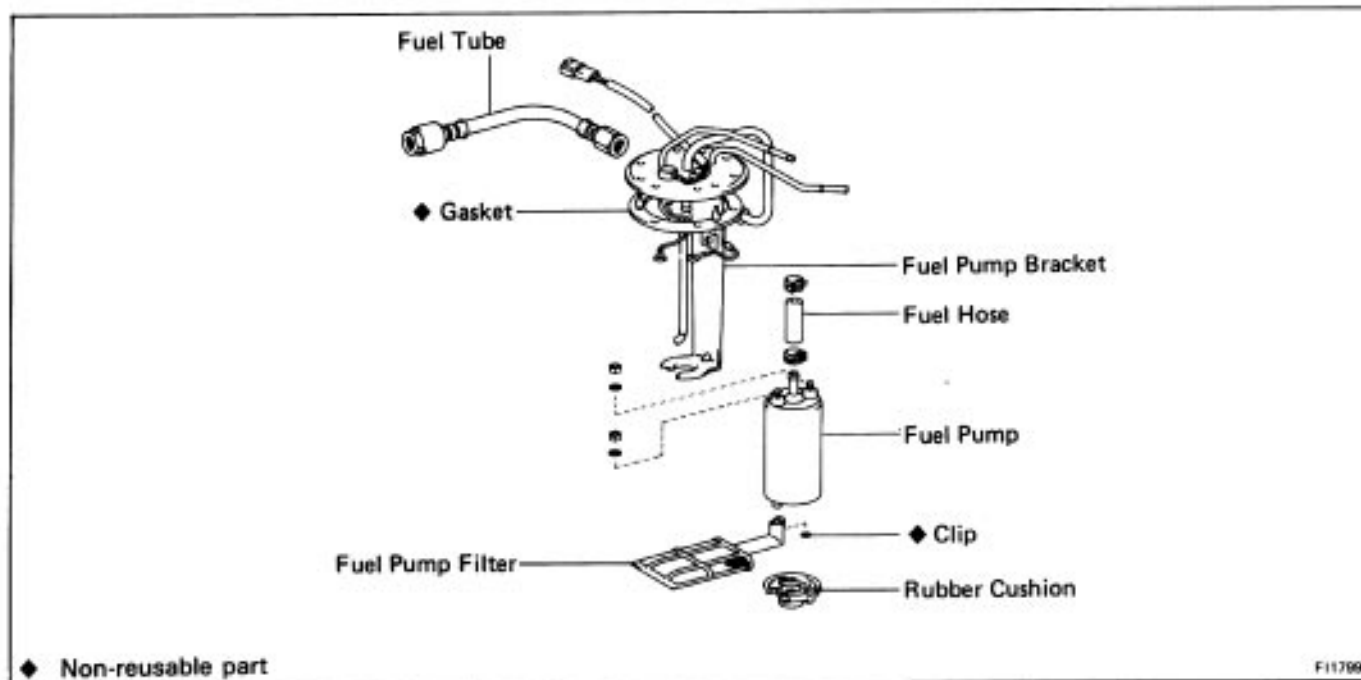
(t) After checking fuel pressure, disconnect the battery ground cable and carefully remove the SST to prevent gasoline from splashing.

(u) Using new gaskets, reconnect the cold start injector hose to the delivery pipe.

(v) Connect the wiring connector to the cold start injector.

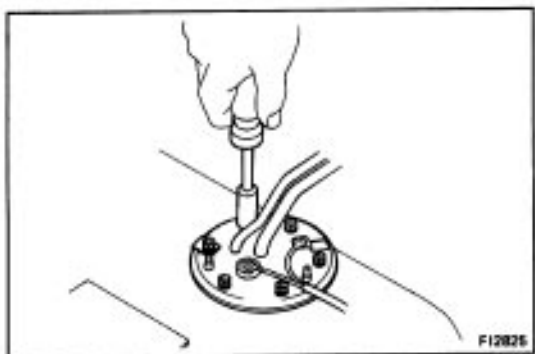
(w) Check for fuel leakage.

REMOVAL OF FUEL PUMP



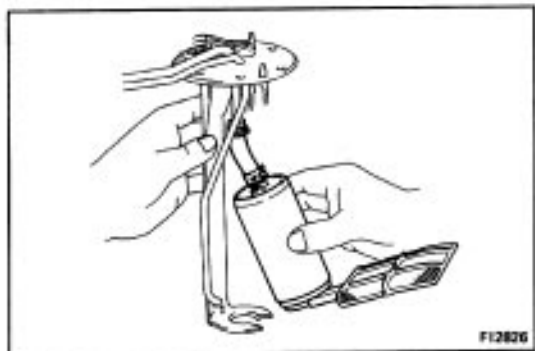
CAUTION: Do not smoke or work near an open flame when working on the fuel pump.

1. DRAIN GASOLINE FROM FUEL TANK
2. REMOVE FUEL TANK



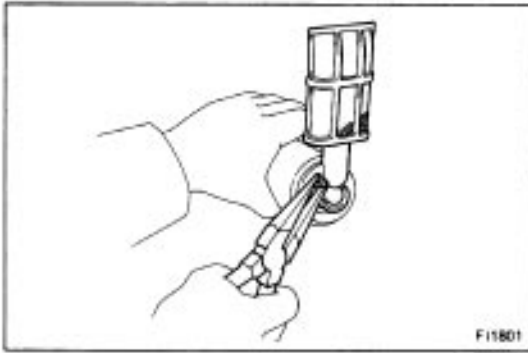
3. REMOVE FUEL PUMP BRACKET FROM FUEL TANK

- (a) Remove the six bolts.
- (b) Pull out the fuel pump bracket.



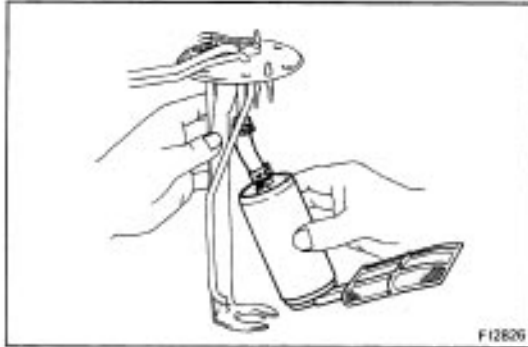
4. REMOVE FUEL PUMP FROM FUEL PUMP BRACKET

- (a) Remove the two nuts and disconnect the wires from the fuel pump.
- (b) Pull off the lower side of the fuel pump from the bracket.
- (c) Remove the fuel pump from the fuel hose.



5. REMOVE FUEL PUMP FILTER FROM FUEL PUMP

- (a) Remove the rubber cushion.
- (b) Remove the clip and pull out the filter.



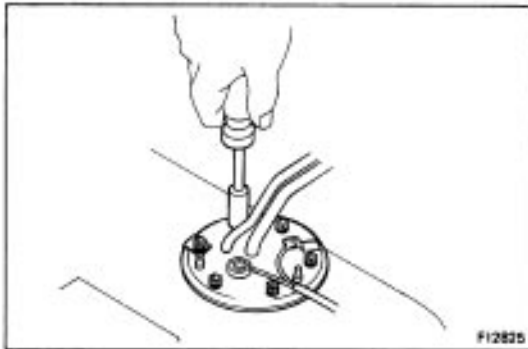
INSTALLATION OF FUEL PUMP

(See page [FI-133](#))

1. INSTALL FUEL PUMP FILTER TO FUEL PUMP

2. INSTALL FUEL PUMP TO FUEL PUMP BRACKET

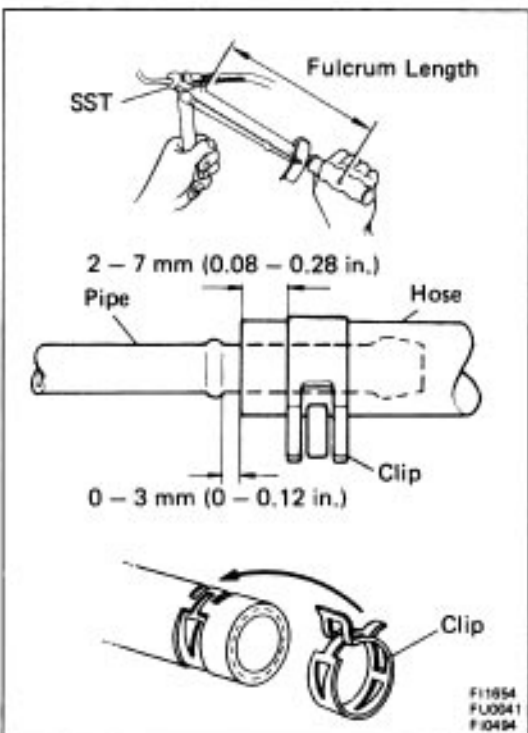
- (a) Insert the outlet port of the fuel pump into the fuel hose.
- (b) Install the rubber cushion to the lower side of the fuel pump.
- (c) Push the lower side of the fuel pump, together with the rubber cushion, into the fuel pump bracket.



3. INSTALL FUEL PUMP BRACKET

- (a) Place the bracket with a new gasket on the fuel tank.
- (b) Install and torque the six screws.

Torque: 35 kg-cm (30 in.-lb, 3.4 N-m)



4. INSTALL FUEL TANK

- (a) Apply a light coat of oil to the flare and tighten the flare nut.

- (b) Then using SST, tighten the nut to the specified torque.
SST 09631-22020

Torque: 310 kg-cm (22 ft-lb, 30 N-m)

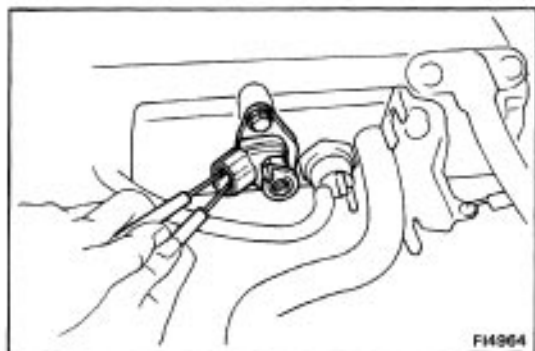
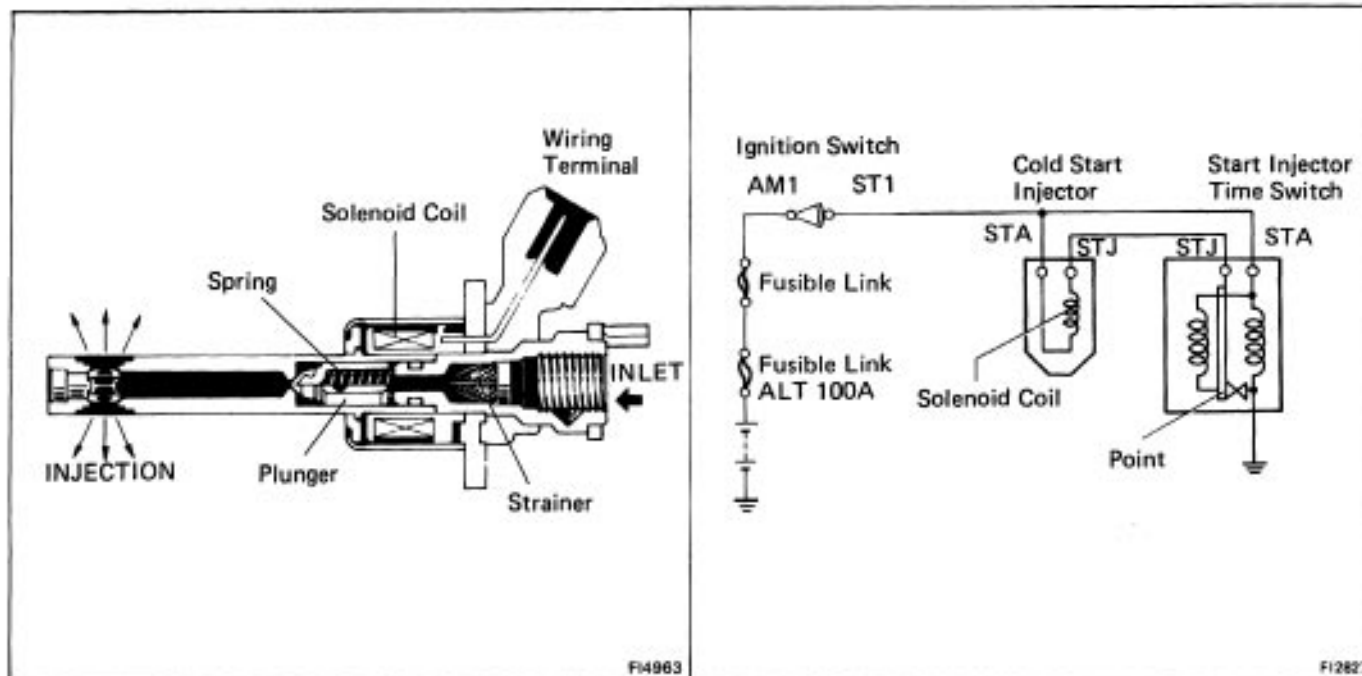
HINT: Use a torque wrench with a fulcrum length of 30 cm (11.81 in.)

NOTICE:

- Tighten the fuel tank mounting bolts, etc. to the specified torque.
- Push in the pipe and insert-type hose to the specified position, and install the clip to the specified location.
- If reusing the hose, reinstall the clip at its original location.

5. REFILL GASOLINE

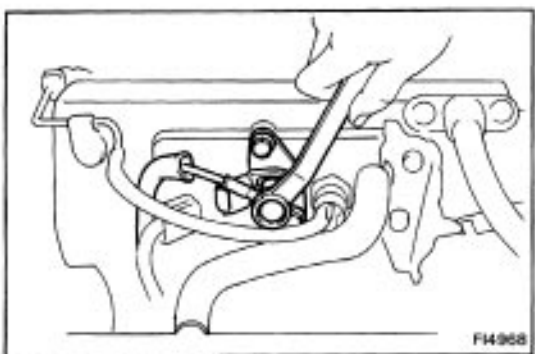
Cold Start Injector



ON-VEHICLE INSPECTION

MEA

- Disconnect the cold start injector connector.
- Using an ohmmeter, check the resistance of the injector.
Resistance: 3 – 5Ω
- Connect the cold start injector connector.



REMOVAL OF COLD START INJECTOR

1. DISCONNECT CABLE FROM NEGATIVE TERMINAL OF BATTERY

2. DISCONNECT COLD START INJECTOR CONNECTOR

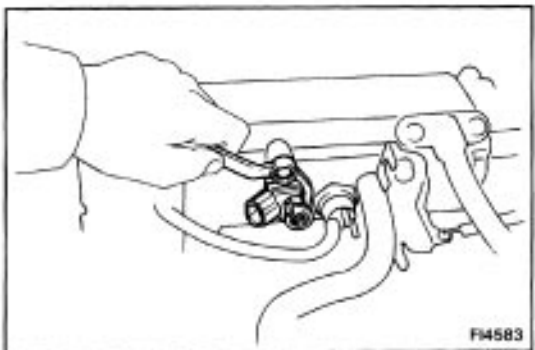
3. REMOVE COLD START INJECTOR PIPE

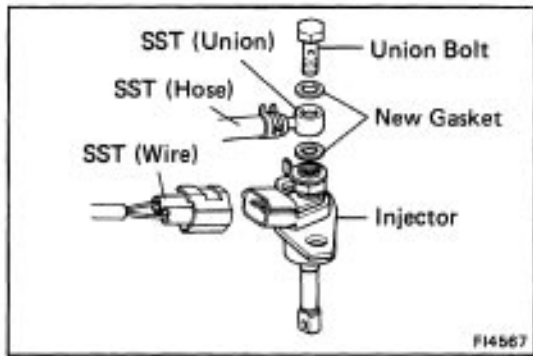
- Put a suitable container or shop towel under the cold start injector pipe.
- Remove the two union bolts and the cold start injector pipe with the gaskets.

HINT: Slowly loosen the union bolts.

4. REMOVE COLD START INJECTOR

Remove the two bolts and cold start injector with the gasket.





INSPECTION OF COLD START INJECTOR

(a) Install the gasket, SST (two unions), another gaskets and two union bolts to the delivery pipe and injector.

(b) Connect the SST (Hose) to the unions.

SST 09268-41045 (09268-41080)

(c) Connect the SST (Wire) to the injector.

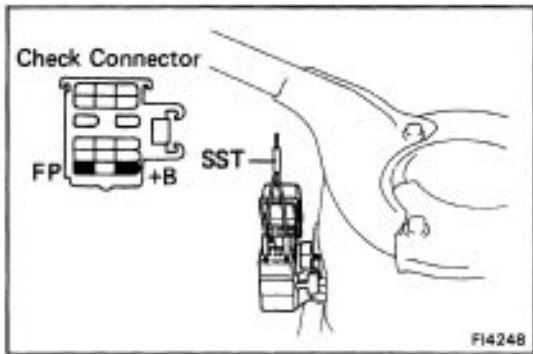
SST 09842-30055

CAUTION: Position the injector as far away from the battery as possible.

(d) Put a container under the injector.

(e) Turn the ignition switch ON.

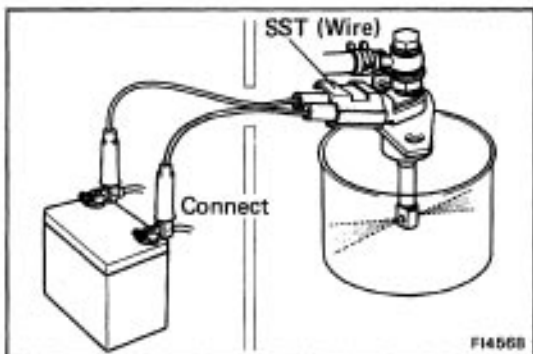
NOTICE: Do not start the engine.



(f) Using SST, connect terminals FP and + B of the fuel pump check connector.

SST 09843-18020

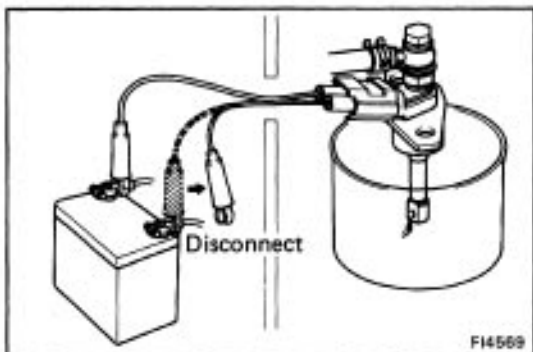
HINT: The check connector is located near the air flow meter.



(g) Connect the test probes of the SST to the battery and check that the fuel spray is as shown.

SST 09842-30055

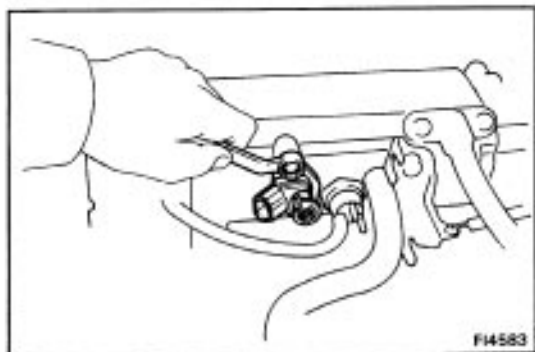
NOTICE: Perform this check within the shortest possible time.



(h) Disconnect the test probes from the battery and check that there is less than one drop of fuel per minute from the injector.

(i) After checking, remove SST and restore the following parts to their original condition.

- Fuel pump check connector
- Ignition switch OFF
- Cold start injector
- Injector wiring

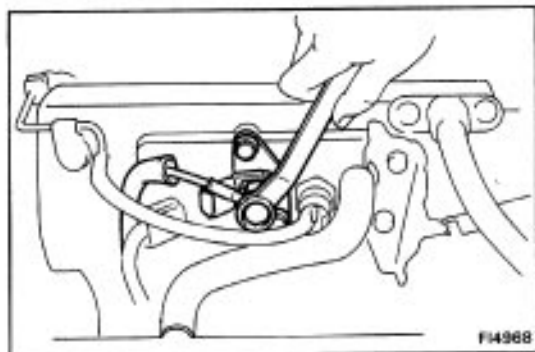


INSTALLATION OF COLD START INJECTOR

1. INSTALL COLD START INJECTOR

Place on a new gasket and install the cold start injector with the two bolts.

Torque: 75 kg-cm (82 in-lb, 9.3 N-m)



2. INSTALL COLD START INJECTOR PIPE

Using new gaskets, connect the cold start injector pipe to the delivery pipe and cold start injector. Install the union bolts.

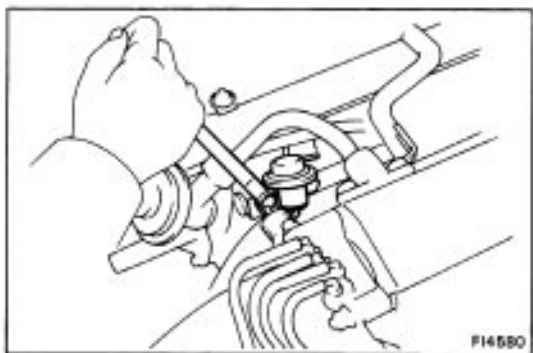
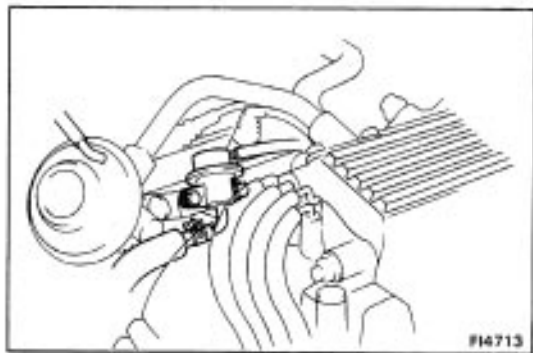
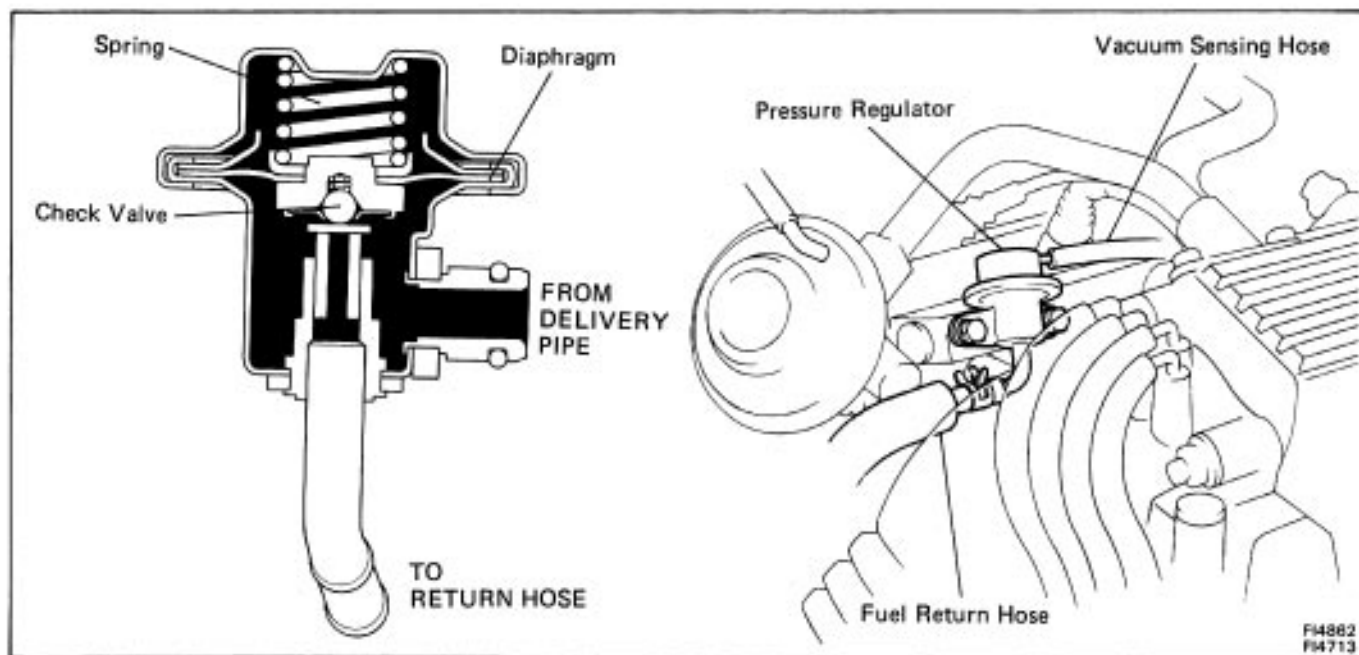
Torque: 180 kg-cm (13 ft-lb, 18 N-m)

3. CONNECT COLD START INJECTOR CONNECTOR

4. CONNECT CABLE TO NEGATIVE TERMINAL OF BATTERY

5. CHECK FOR FUEL LEAKAGE (See page [FI-92](#))

Pressure Regulator



ON-VEHICLE INSPECTION

CHECK FUEL PRESSURE (See page [FI-130](#))

REMOVAL OF PRESSURE REGULATOR

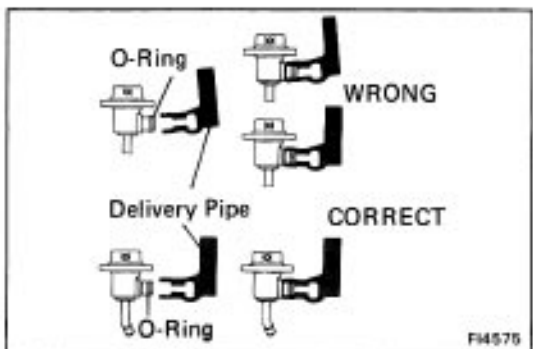
1. DISCONNECT VACUUM SENSING HOSE FROM PRESSURE REGULATOR
2. DISCONNECT FUEL HOSE FROM PRESSURE REGULATOR

(a) Put a suitable container or shop towel under the pressure regulator.

(b) Disconnect the fuel hose from the pressure regulator.

3. REMOVE PRESSURE REGULATOR

Remove the two bolts and pull out the pressure regulator from the delivery pipe.



INSTALLATION OF PRESSURE REGULATOR

1. INSTALL PRESSURE REGULATOR

Install the pressure regulator and torque the two bolts.

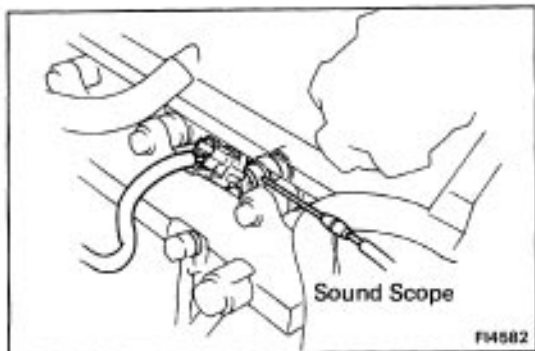
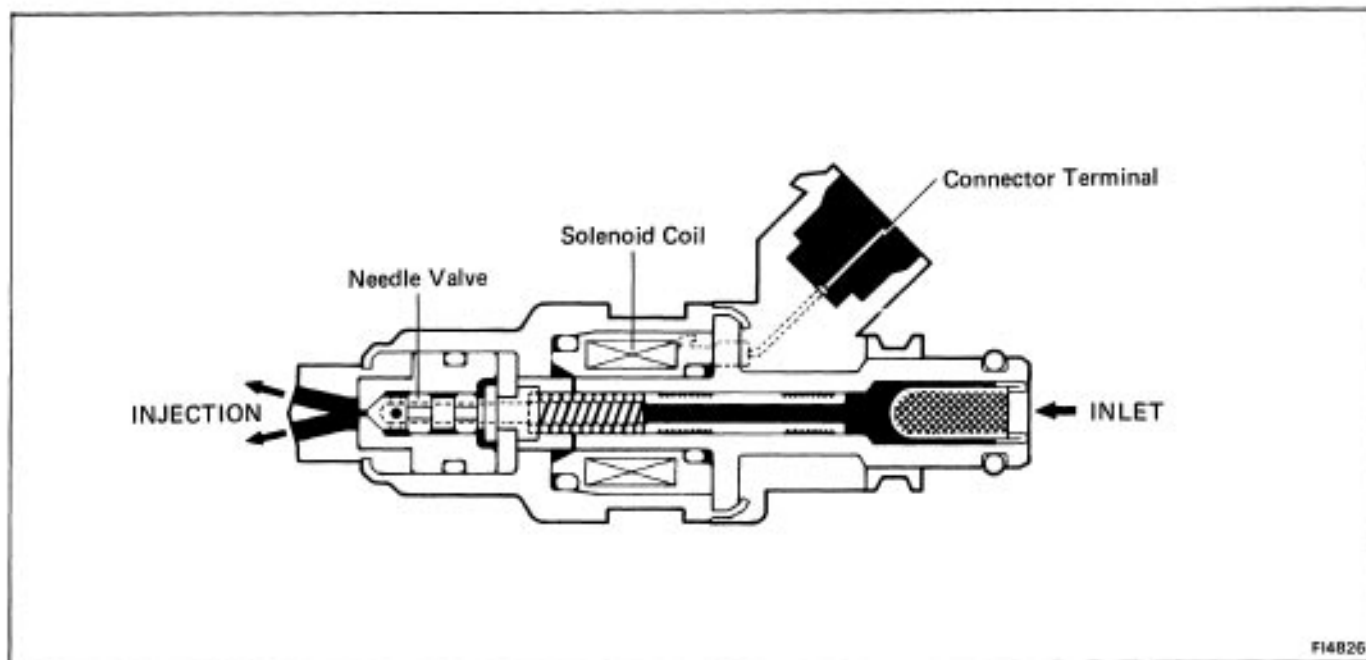
Torque: 75 kg-cm (65 in.-lb, 7.4 N-m)

2. CONNECT FUEL HOSE

3. CONNECT VACUUM SENSING HOSE

4. CHECK FOR FUEL LEAKAGE (See page [FI-92](#))

Injector

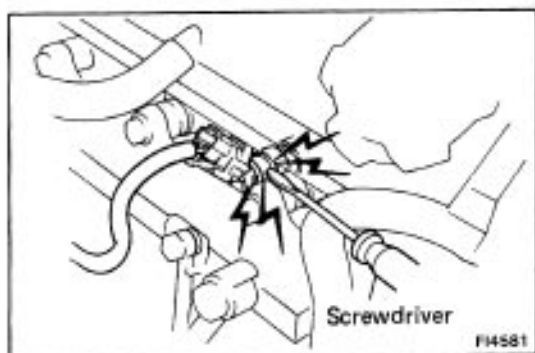


ON-VEHICLE INSPECTION

1. CHECK INJECTOR OPERATION

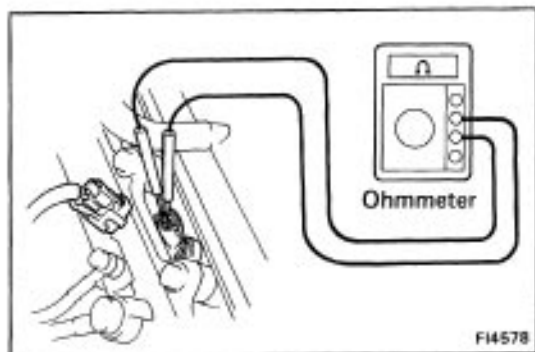
Check the operating sound from each injector.

- (a) With the engine running or cranking, use a sound scope to check that there is normal operating noise in proportion to engine rpm.



- (b) If you have no sound scope, you can check the injector transmission operation with screwdriver.

If no sound or an unusual sound is heard, check the wiring connector, injector, resistor or injection signal from the computer.



2. MEASURE RESISTANCE OF INJECTOR

- (a) Disconnect the injector connector.
- (b) Using an ohmmeter, check the resistance of both terminals.

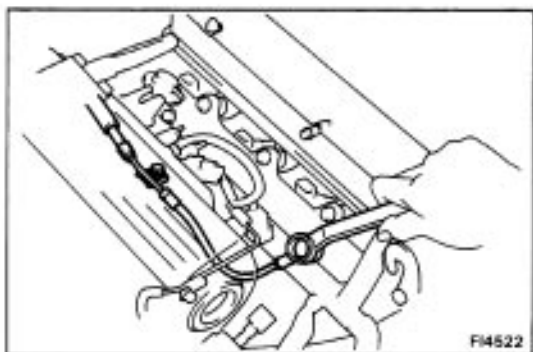
Resistance: Approx. 13.8Ω

REMOVAL OF INJECTOR

1. DISCONNECT CABLE FROM NEGATIVE TERMINAL OF BATTERY

2. DISCONNECT FOLLOWING HOSES:

- (a) PCV hose from cylinder head cover
- (b) Vacuum sensing hose from pressure regulator
- (c) Fuel return hose from pressure regulator



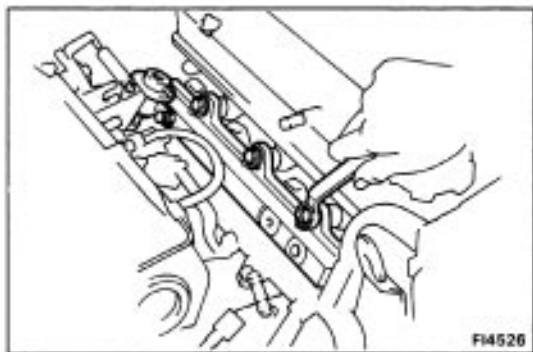
3. REMOVE COLD START INJECTOR PIPE

(See step 3 on page [FI-135](#))

4. DISCONNECT FUEL INLET HOSE

- (a) Remove the inlet pipe mounting bolt.
- (b) Remove the union bolt, two gaskets and inlet pipe.

5. DISCONNECT INJECTOR CONNECTORS



6. REMOVE DELIVERY PIPE

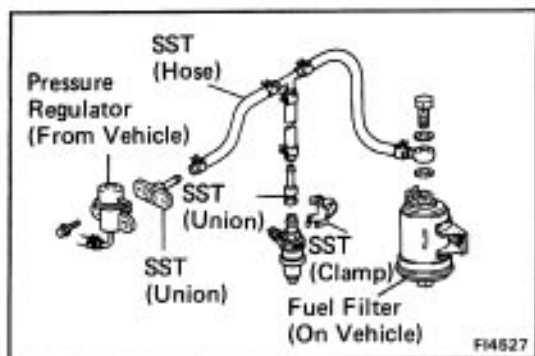
- (a) Remove the three bolts, and then remove the delivery pipe with the injectors.

HINT: When removing the delivery pipe, be careful not to drop the injectors.

- (b) Remove the four insulators and three collars from the cylinder head.

7. REMOVE INJECTORS

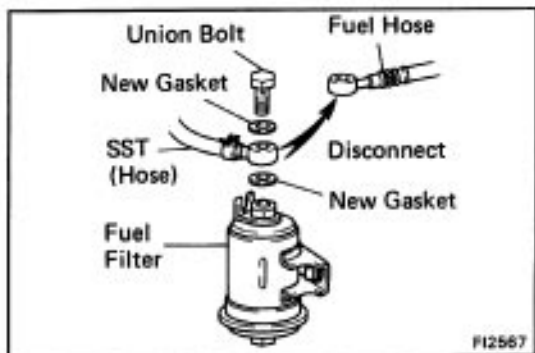
Pull out the injectors from the delivery pipe.



INSPECTION OF INJECTOR

1. TEST INJECTION OF INJECTORS

CAUTION: Keep injector clear of sparks during the test.

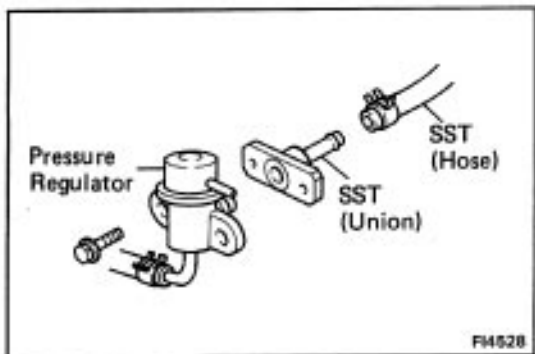


(a) Disconnect the fuel hose from the fuel filter outlet.

(b) Connect the SST (Union) to the fuel filter outlet.

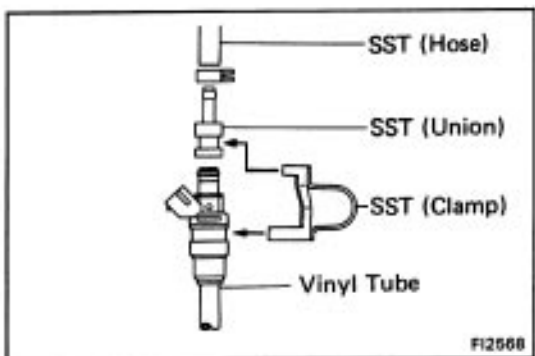
SST 09268-41045 (90405-09015)

HINT: Use the vehicle's fuel filter.



(c) Install SST (Union) to the removed pressure regulator with the two bolts.

SST 09268-41045 (09268-41090)



(d) Install SST (Union) to the injector and hold the injector and union with SST (Clamp).

SST 09268-41045

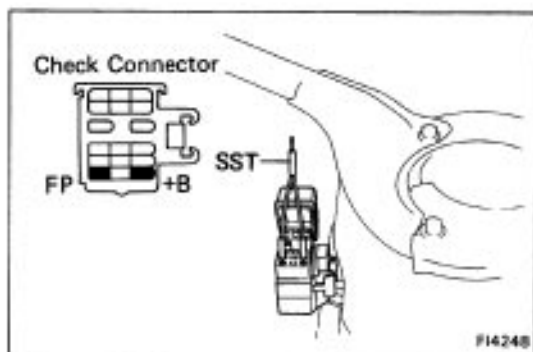
(e) Put the injector into the graduated cylinder.

HINT: Install a suitable vinyl tube onto the injector to prevent gasoline from splashing out.

(f) Connect the battery cable.

(g) Turn the ignition switch ON.

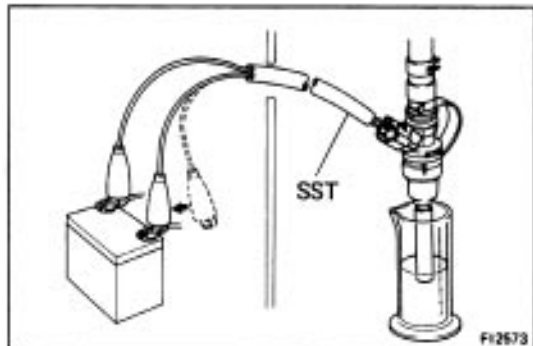
NOTICE: Do not start the engine.



(h) Using SST, connect terminals FP and +B of the fuel pump check connector.

SST 09843-18020

HINT: The check connector is located near the air flow meter.



(i) Connect SST (Resistor Wire) to the injector and battery for 15 seconds and measure the injection volume with a graduated cylinder.

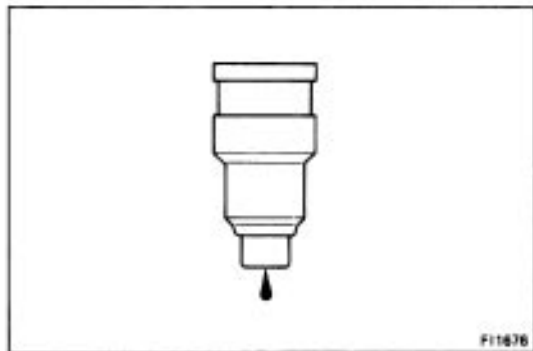
Test each injector two or three times. If not within specified volume, replace the injector.

SST 09842-30070

Volume: 45 – 55 cc/15 sec. (2.7 – 3.4 cu in.)

Difference between each injector:

5 cc (0.3 cu in.) or less



2. CHECK LEAKAGE

(a) In the condition above, disconnect SST from the battery and check for fuel leakage from the injector nozzle.

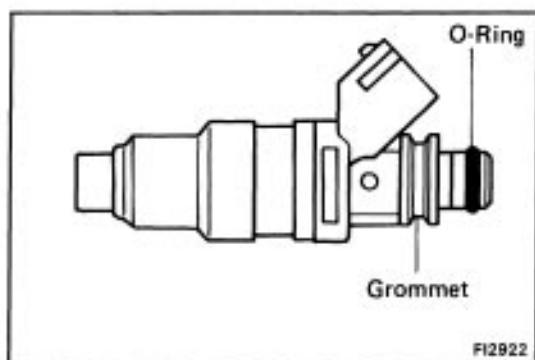
SST 09842-30070

Fuel drop: One drop or less per minute

(b) Disconnect the battery cable.

(c) Remove the SST and disconnect the service wire.

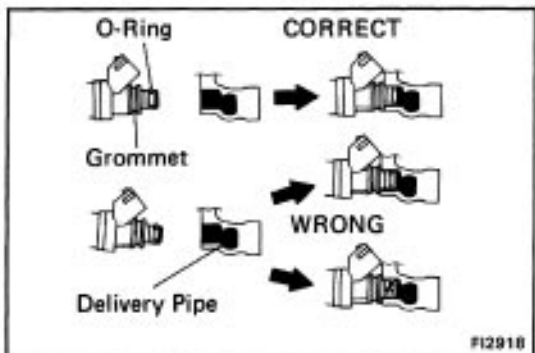
SST 09268-41045



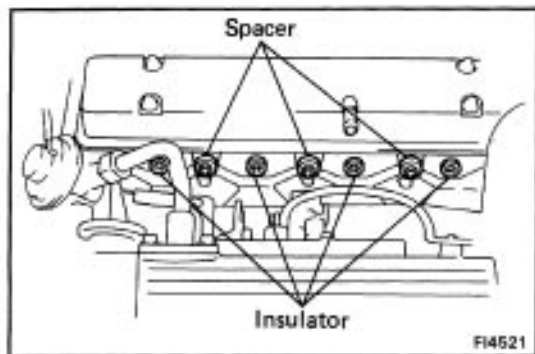
INSTALLATION OF INJECTORS

1. INSTALL INJECTORS INTO DELIVERY PIPE

(a) Replace a new O-ring onto the injector.



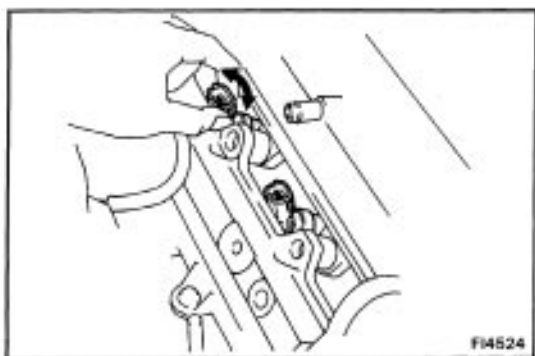
(b) Apply a light coat of gasoline to the O-rings, and install the injectors into the delivery pipe.



2. INSTALL DELIVERY PIPE WITH INJECTORS

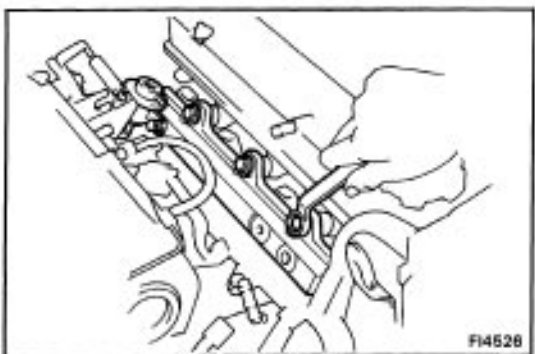
(a) Install the four insulators into the injector hole of the cylinder head.

(b) Install the three spacers on the delivery pipe mounting hole of the cylinder head.



(c) Place the injectors together with the delivery pipe on the cylinder head.

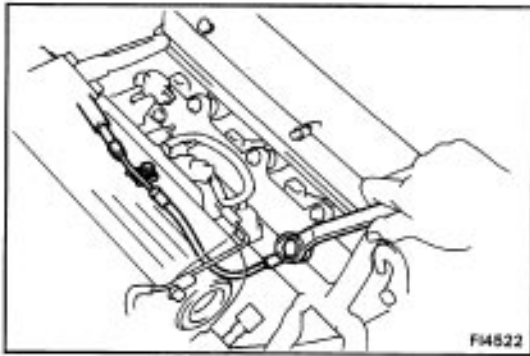
(d) Make sure that the injectors rotate smoothly.



(e) Install and torque the three bolts.

Torque: 175 kg-cm (13 ft-lb, 17 N-m)

3. CONNECT INJECTOR CONNECTORS

**4. CONNECT FUEL INLET HOSE**

(a) Install two new gaskets, the inlet pipe and union bolt.

Torque: 300 kg-cm (22 ft-lb, 29 N-m)

(b) Install the mounting bolt.

5. INSTALL COLD START INJECTOR PIPE

(See step 2 on page [FI-137](#))

6. CONNECT FOLLOWING HOSES:

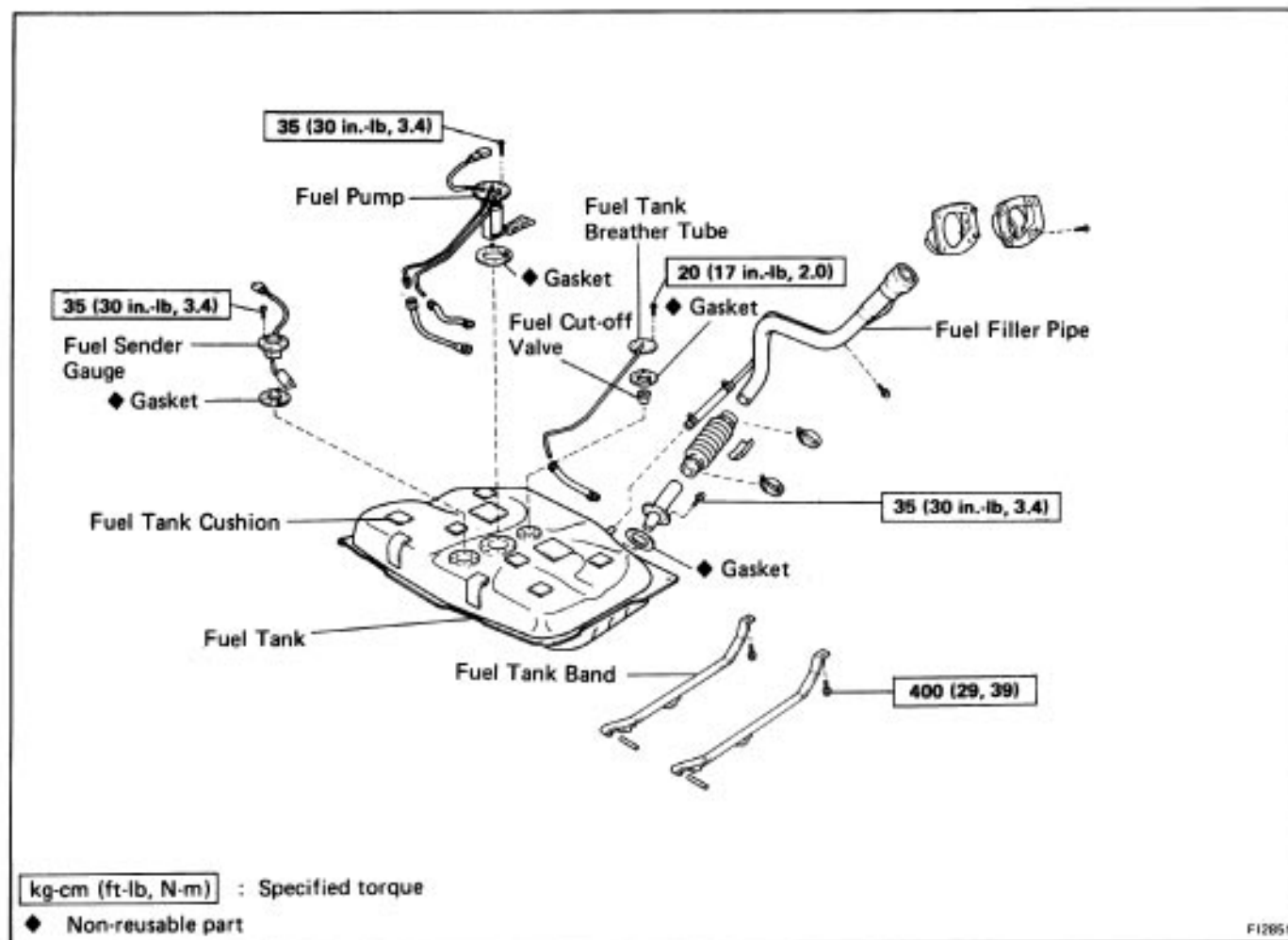
(a) Fuel return hose to the pressure regulator.

(b) Vacuum sensing hose to the pressure regulator.

(c) PCV hose to the cylinder head cover.

7. CONNECT CABLE TO NEGATIVE TERMINAL OF BATTERY**8. CHECK FOR FUEL LEAKAGE (See page [FI-92](#))**

Fuel Tank and Line COMPONENTS

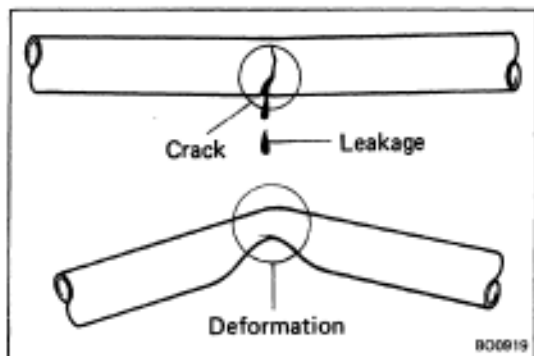


PRECAUTIONS

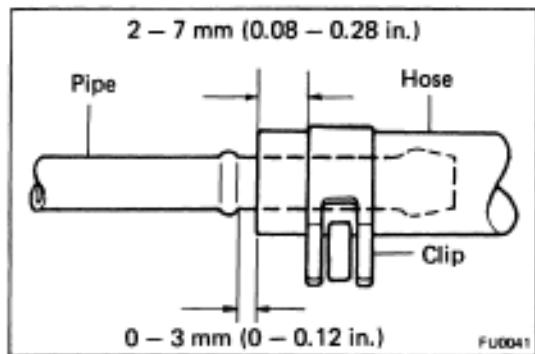
1. Always use new gaskets when replacing the fuel tank or component parts.
2. When reinstalling, be sure to include the rubber protectors on the upper surfaces of the fuel tank and tank band.
3. Apply the proper torque to all tightening parts.
Torque: 400 kg-cm (29 ft-lb, 39 N-m)

INSPECT FUEL LINES AND CONNECTIONS

- (a) Inspect the fuel lines and connections for cracks, leakage or deformation.
- (b) Inspect the fuel tank vapor vent system hoses and connections for looseness, sharp bends or damage.



- (c) Inspect the fuel tank for deformation, cracks, fuel leakage or tank band looseness.
- (d) Inspect the filler neck for damage or fuel leakage.



- (e) Hose and tube connections are as shown in the illustration.
- If a problem is found, repair or replace the parts as necessary.