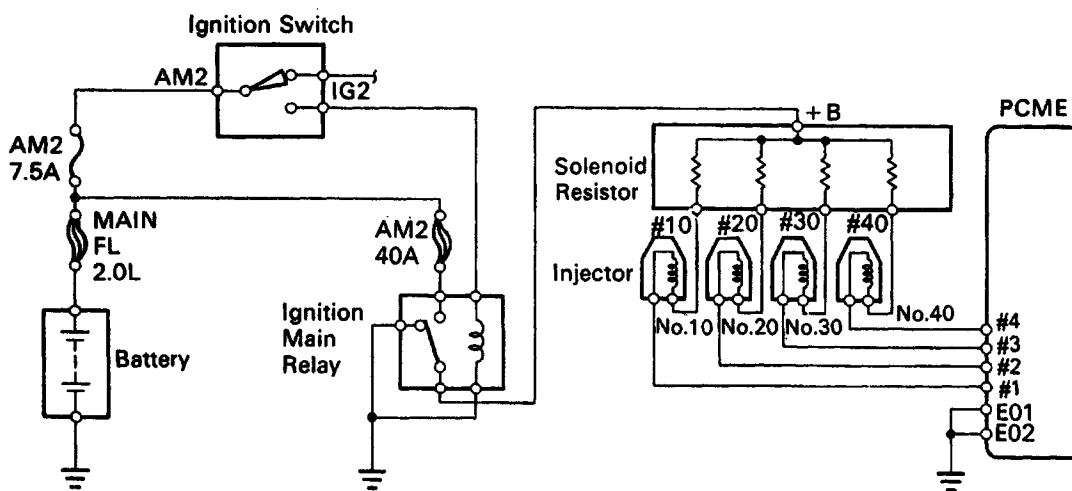
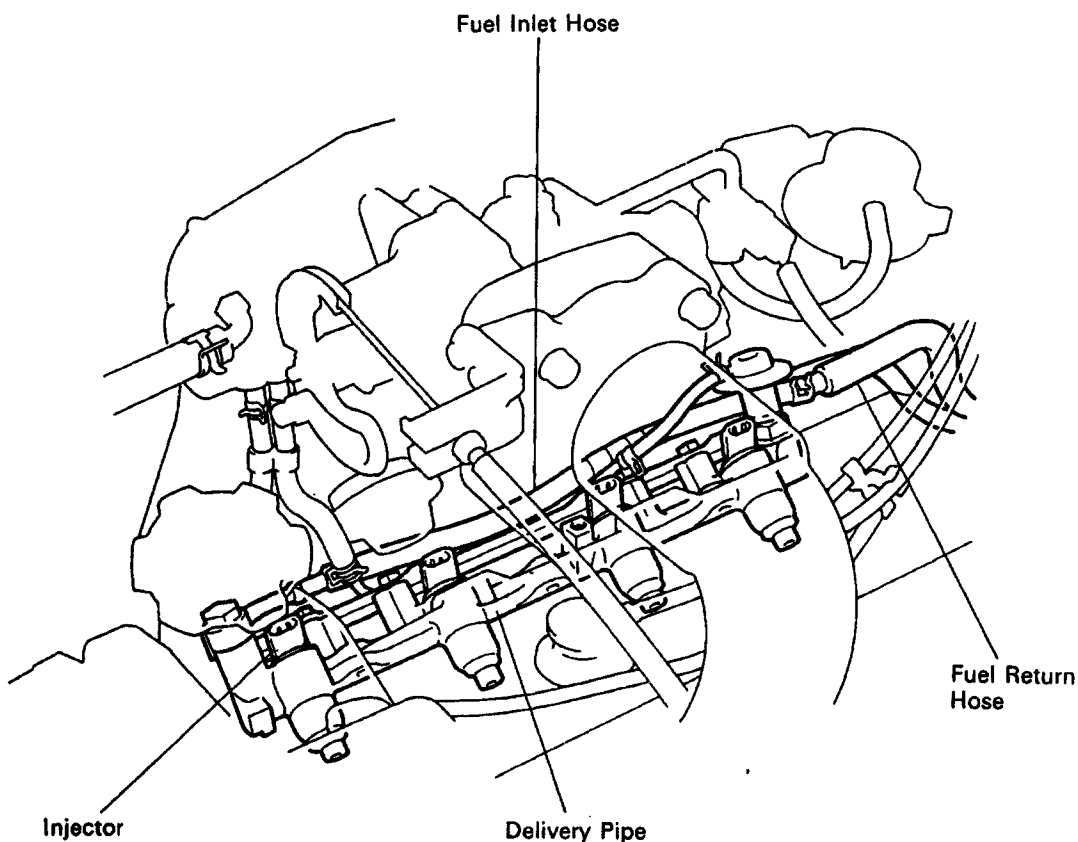
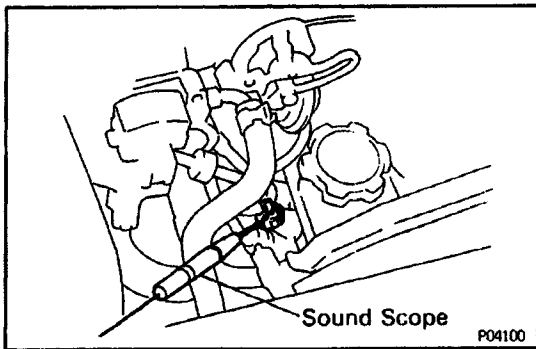


INJECTOR

EG026-01



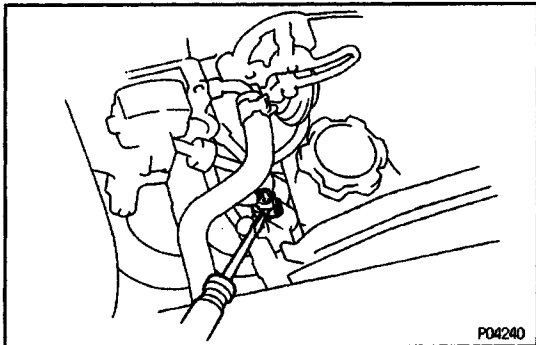


ON-VEHICLE INSPECTION

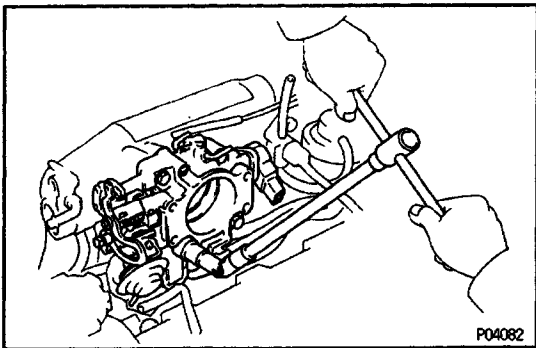
1. INSPECT INJECTOR OPERATION

Check operation 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.

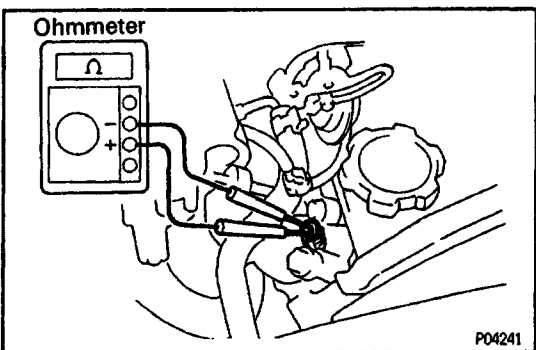


- (b) If you have no sound scope, you can check the injector transmission operation with a screwdriver. If no sound or unusual sound is heard, check the wiring connector, injector or injection signal from the PCME.



2. INSPECT INJECTOR RESISTANCE

- (a) Remove the throttle body.
(See Throttle Body Removal)
- (b) Disconnect the four injector connectors.



- (c) Using an ohmmeter, measure the resistance between the terminals.

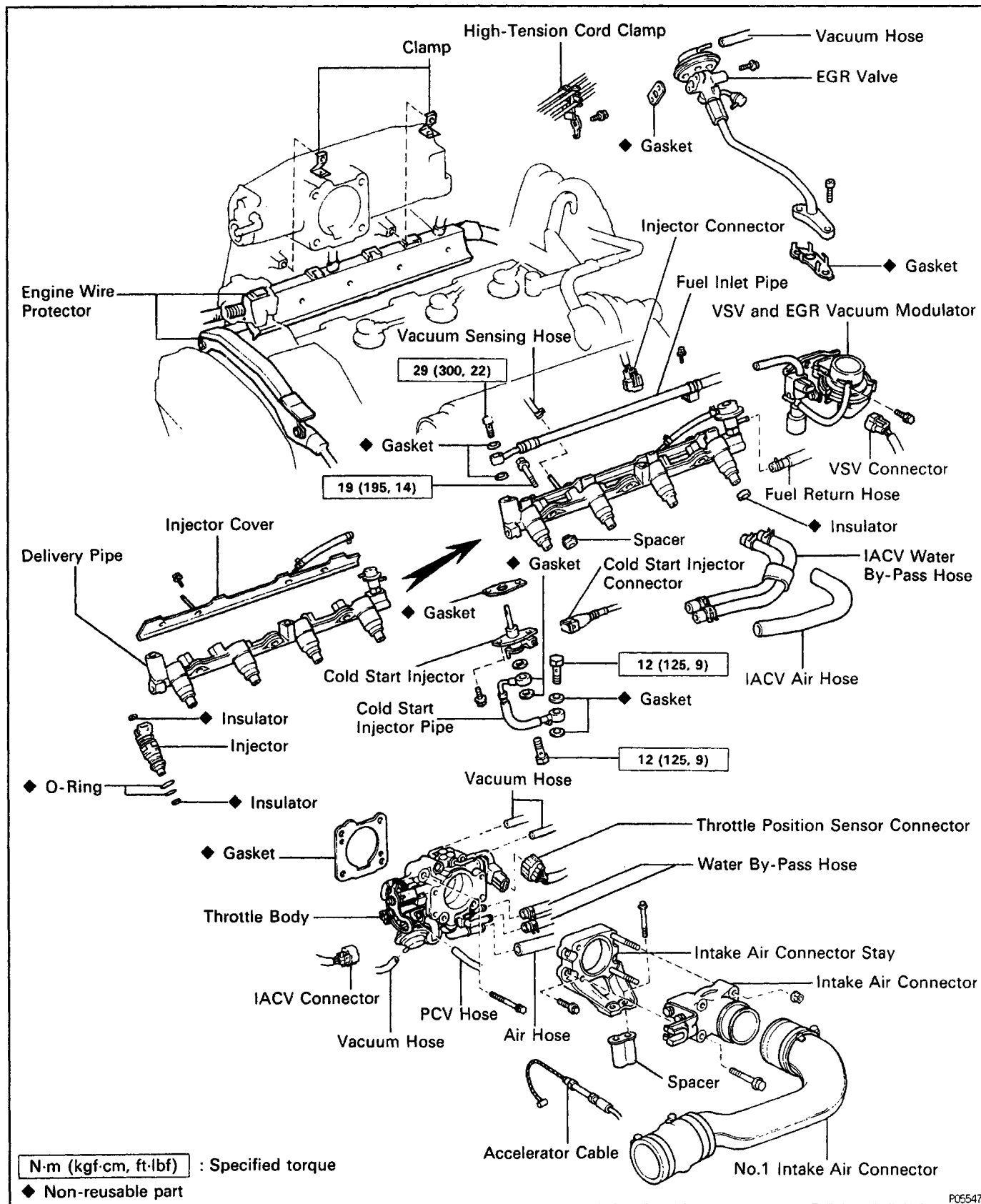
Resistance:

Approx. 2 – 4Ω

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

- (d) Reconnect the four injector connectors.
- (e) Reinstall the throttle body.
(See Throttle Body Installation)

COMPONENTS FOR REMOVAL AND INSTALLATION

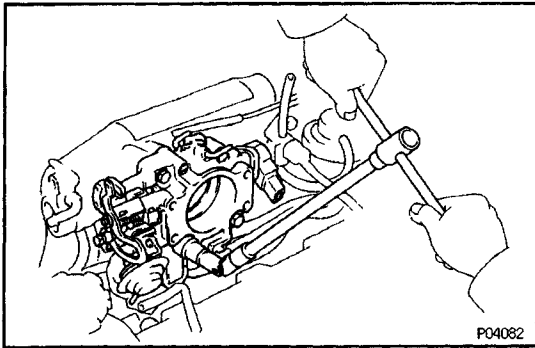


INJECTORS REMOVAL

(See Components for Removal and Installation)

1. REMOVE THROTTLE BODY

(See Throttle Body Removal)



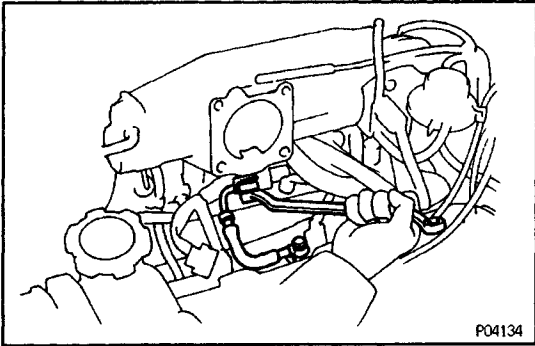
P04082

2. REMOVE COLD START INJECTOR PIPE

Remove the two union bolts, four gaskets and cold start injector pipe.

CAUTION:

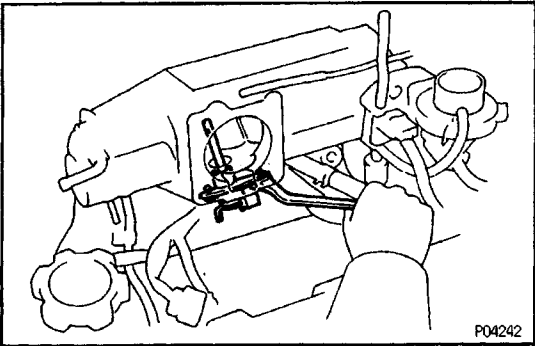
- Put a suitable container or shop towel under the injector pipe.
- Slowly loosen the union bolts.



P04134

3. REMOVE COLD START INJECTOR

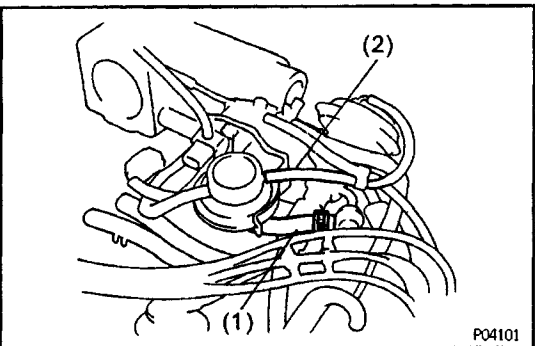
- Disconnect the cold start injector connector.
- Remove the two bolts, cold start injector and gasket.



P04242

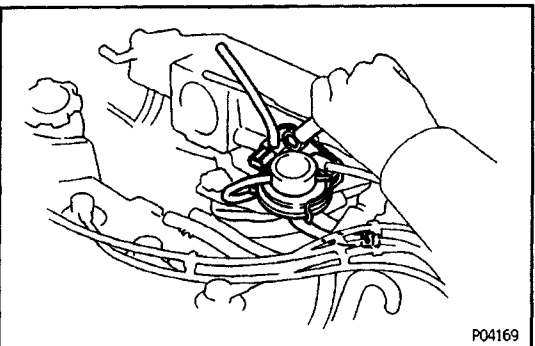
4. REMOVE VSV AND EGR VACUUM MODULATOR

- Disconnect the VSV connector.
- Remove the following hoses from the vacuum modulator:
 - EGR hose (from EGR valve)
 - Vacuum hose (from EGR valve)

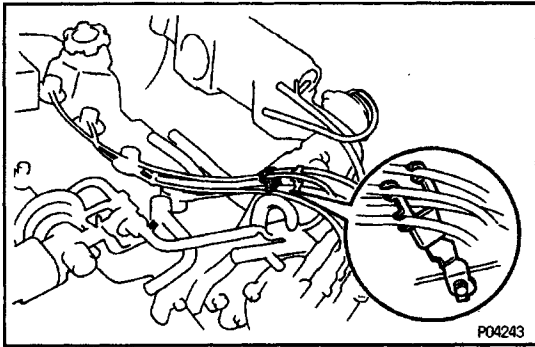


P04101

- Remove the bolt, the VSV and vacuum modulator assembly.

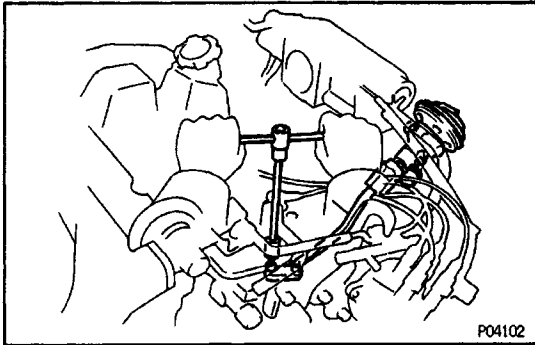


P04169

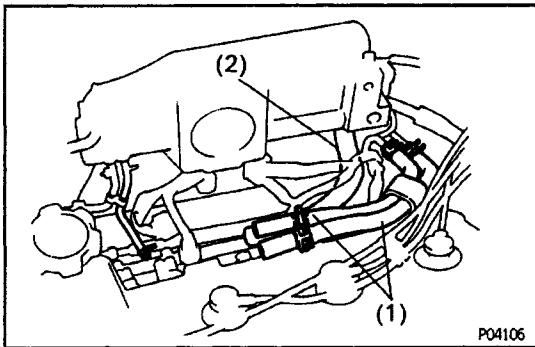


5. REMOVE EGR VALVE

- (a) Disconnect the vacuum hose from the EGR valve.
- (b) Remove the bolt, and disconnect the high-tension cord clamp from the LH engine hanger.



- (c) Remove the four bolts, EGR valve and two gaskets.

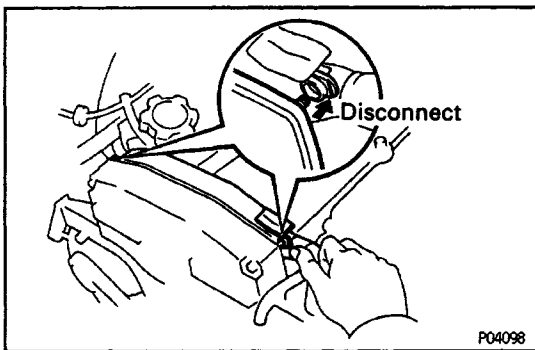


6. REMOVE WATER BY-PASS HOSE AND AIR HOSE

Remove the following hoses:

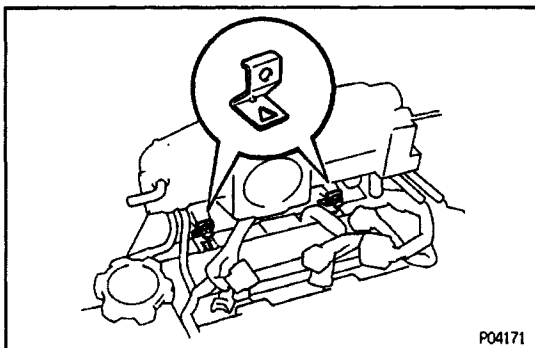
- (1) Two IACV water by-pass hoses from No.1 air tube
- (2) IACV air hose from No.1 air tube

7. DISCONNECT VACUUM SENSING HOSE FROM VACUUM PIPE (ON INJECTOR COVER)

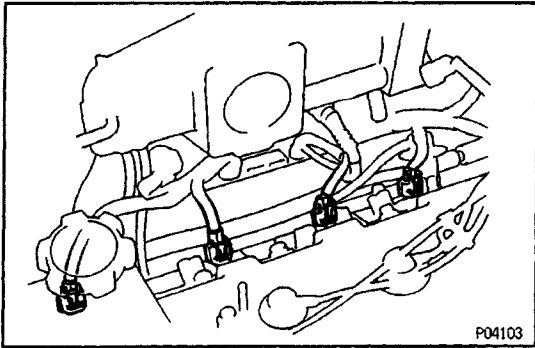


8. DISCONNECT ENGINE WIRE PROTECTORS

- (a) Disconnect the engine wire protector between the No. 3 timing belt cover and cylinder head cover.

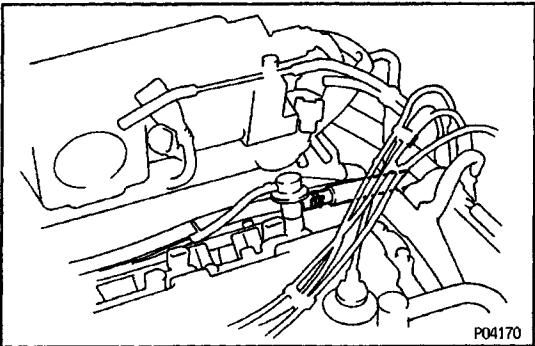


- (b) Disconnect the engine wire protector from the clamp, and remove the bolt and clamp. Remove the two clamps.

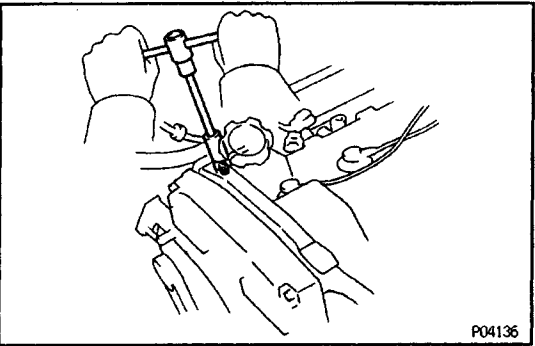


9. REMOVE DELIVERY PIPE ASSEMBLY

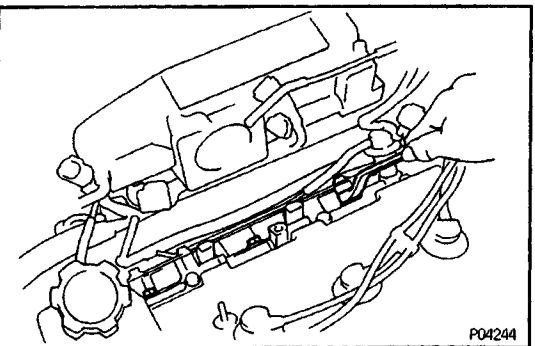
(a) Disconnect the four injector connectors.



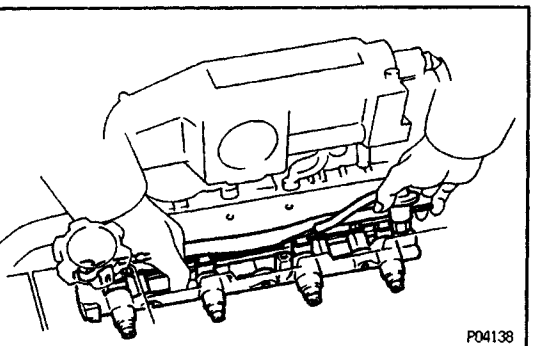
(b) Disconnect the fuel return hose from the fuel pressure regulator.



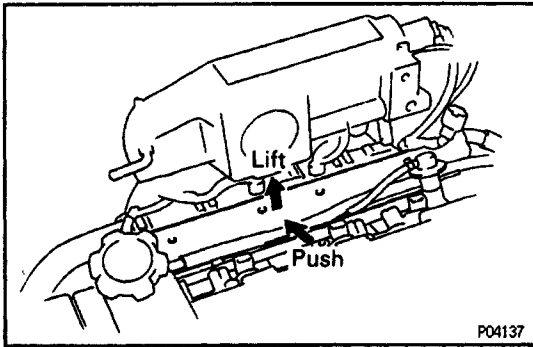
(c) Loosen the union bolt holding the fuel inlet hose to the delivery pipe.



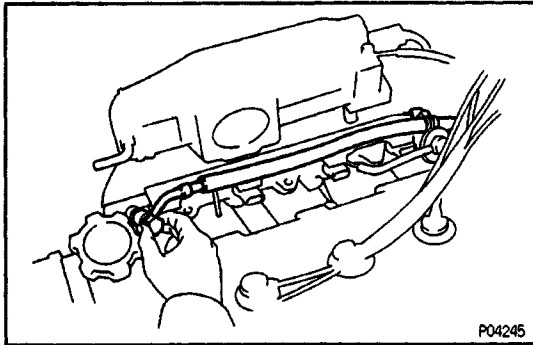
(d) Loosen the three bolts holding the delivery pipe to the cylinder head.



(e) Disconnect the delivery pipe assembly from the cylinder head.



HINT: Move the engine wire protector toward the direction shown, in the illustration.

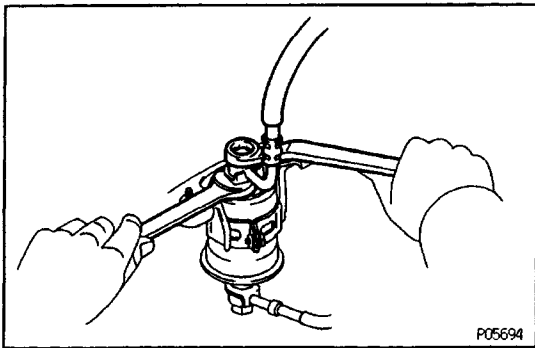
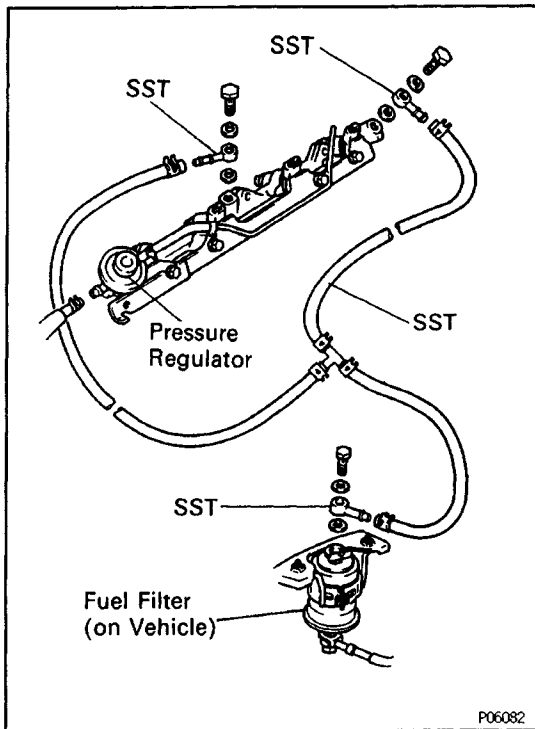


- (f) Remove the union bolt, two gaskets and bolt, and disconnect the fuel inlet hose from the delivery pipe. Remove the delivery pipe assembly.
- (g) Remove the four insulators and three spacers.

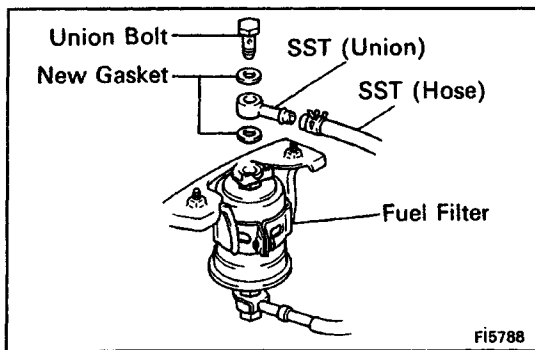
INJECTORS INSPECTION

1. INSPECT INJECTOR INJECTION

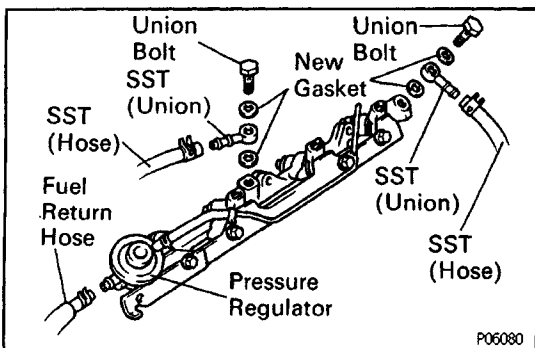
CAUTION: Keep injector clean of sparks during the test.



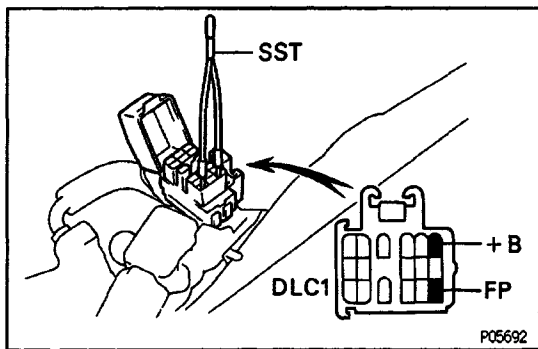
- (a) Remove the union bolt and two gaskets, and disconnect the fuel inlet hose from the fuel filter outlet.



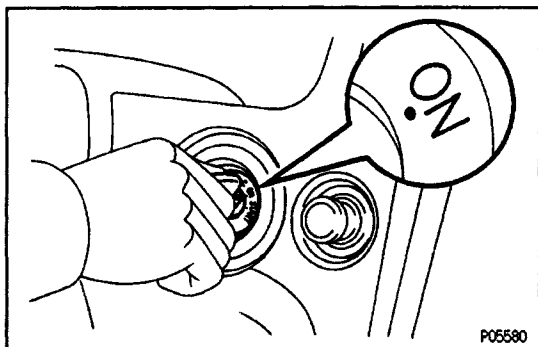
- (b) Connect SST (union and hose) to the fuel filter outlet with two new gaskets and union bolts.
SST 09268-41045 (90405-09015)
Torque: 29 N-m (300 kgf-cm, 22 ft-lbf)



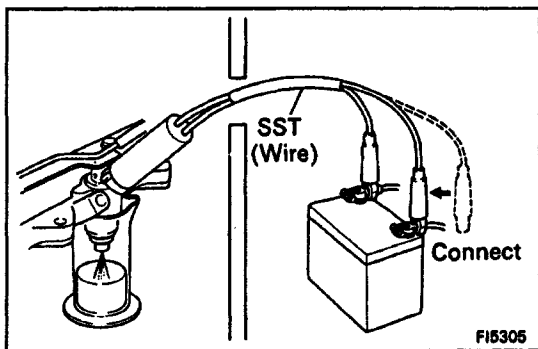
- (c) Connect the fuel return hose to the fuel outlet of the pressure regulator on the delivery pipe.
(d) Connect SST (union and hose) to the delivery pipe with four new gaskets and the two union bolts.
SST 09268-41045 (09268-41080, 90405-09015)
Torque:
12 N-m (125 kgf-cm, 9 ft-lbf) for 12 mm head
29 N-m (300 kgf-cm, 22 ft-lbf) for 17 mm head
(e) Put the injector into the graduated cylinder.



- (f) Using SST, connect terminals +B and FP of the data link connector.
SST 09843-18020
- (g) Reconnect the battery negative (-) cable.



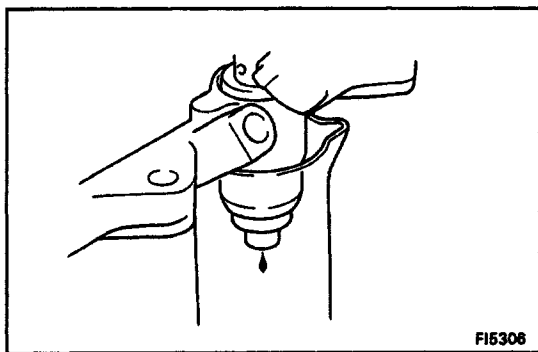
- (h) Turn the ignition switch ON.
NOTICE: Do not start the engine.



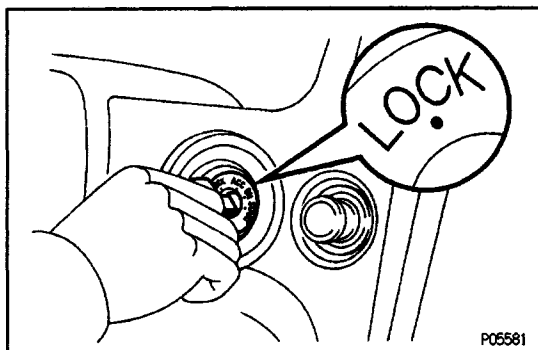
- (i) Connect SST (wire) to the injector and battery for 15 seconds, and measure the injection volume with a graduated cylinder. Test each injector two or three times.
SST 09842-30060
- Volume:**
95 – 120 cm² (5.8 – 7.3 cu in.) per 15 second
- Difference between each injector:**
5 cm² (0.3 cu in.) or less

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

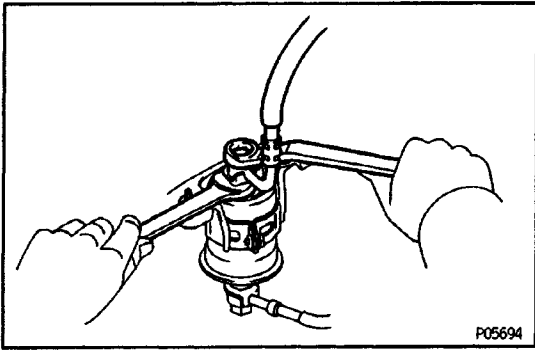
2. INSPECT LEAKAGE



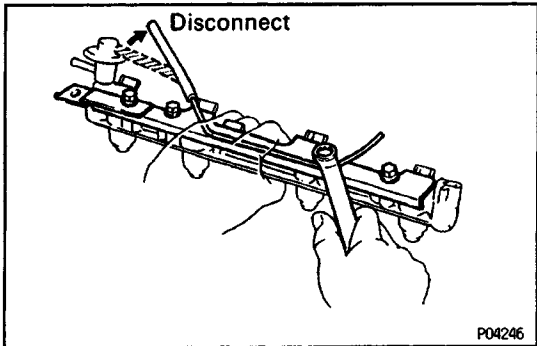
- (a) In the condition above, disconnect the test probes of SST (wire) from the battery and check and check for fuel leakage from the injector.
SST 09842-30060
- Fuel drop:**
One drop or less per minute



- (b) Turn the ignition switch OFF.
- (c) Disconnect the battery negative (-) cable.
- (d) Remove the SST.
SST 09268-41045, 09843-18020



- (e) Reinstall the fuel inlet hose to the fuel filter outlet with the two new gaskets and the union bolt.
Torque: 29 N-m (300 kgf-cm, 22 ft-lbf)



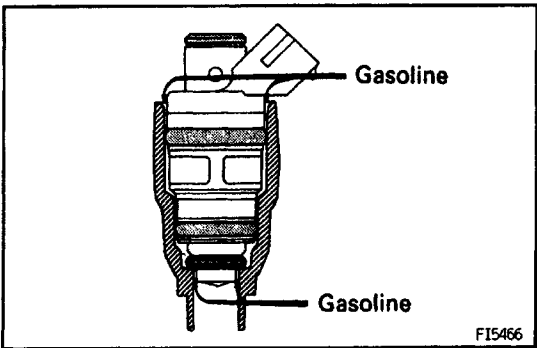
INJECTORS REPLACEMENT

E00VE-0

(See Components for Removal and Installation)

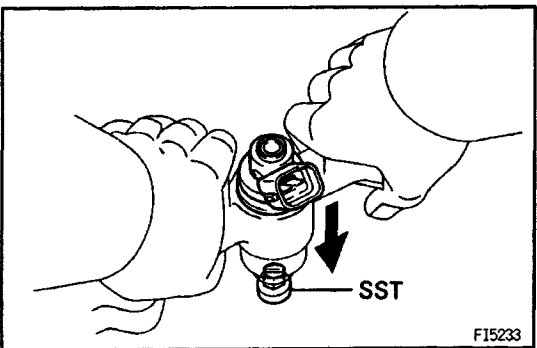
1. REMOVE INJECTOR COVER

- (a) Disconnect the vacuum sensing hose from the fuel pressure regulator.
 (b) Remove the four bolts and injector cover.
 (c) Remove the four insulators from the injectors.

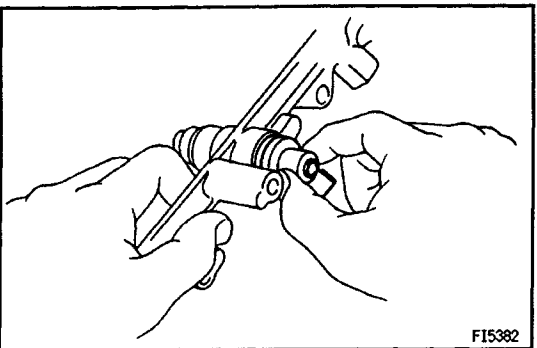


2. REMOVE INJECTORS

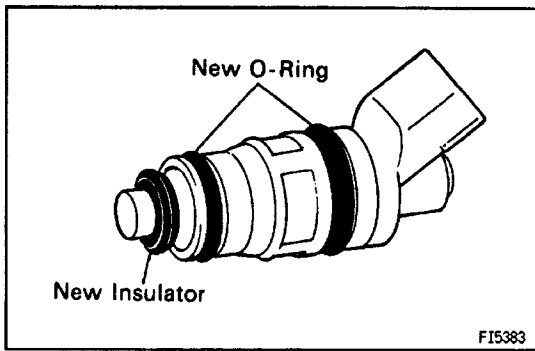
- (a) Apply gasoline between the delivery pipe and injectors.



- (b) Using SST, lift up the four injectors.
 SST 09268-74010

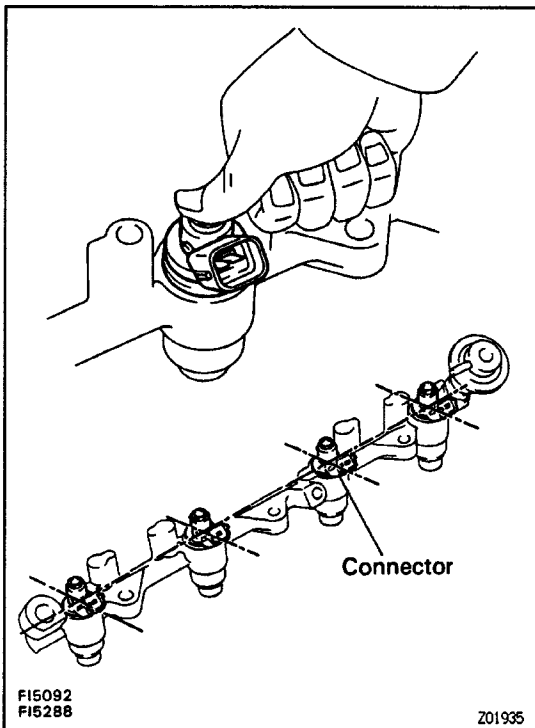


- (c) Pull out the four injectors from the delivery pipe.
 (d) Remove the insulator and two O-rings from each injector.

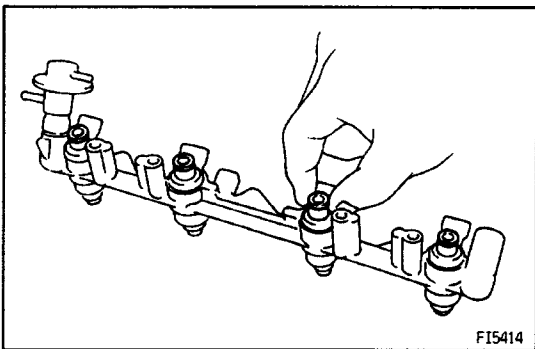


3. INSTALL INJECTORS

- (a) Apply a light coat of gasoline to two new O-rings.
- (b) Install the two O-rings and new insulator to each injector.

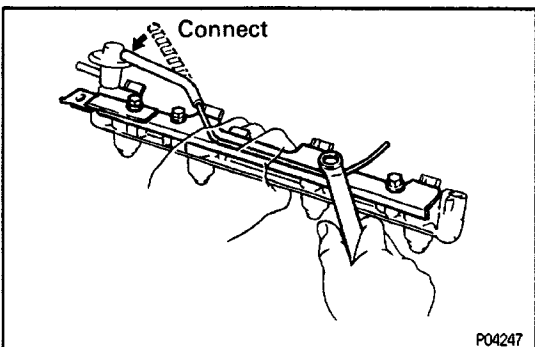


- (c) Push in the four injectors so that the injector connectors are positioned as shown in the illustration.



4. INSTALL INJECTOR COVER

- (a) Install a new insulator on each injector.



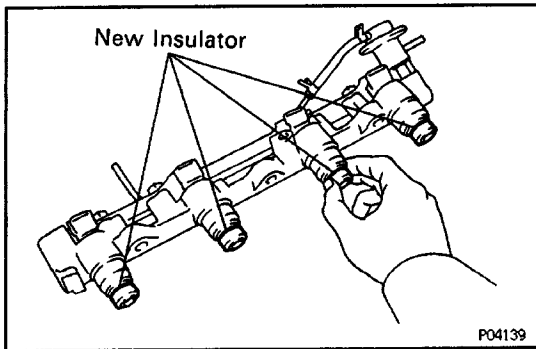
- (b) Install the injector cover with the four bolts.
Torque: 7.8 N-m (80 kgf-cm, 69 in.-lbf)
- (c) Connect the vacuum sensing hose to the fuel pressure regulator.

INJECTORS INSTALLATION

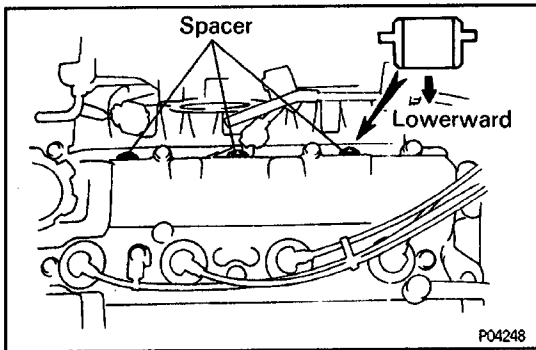
(See Components for Removal and Installation)

1. INSTALL DELIVERY PIPE ASSEMBLY

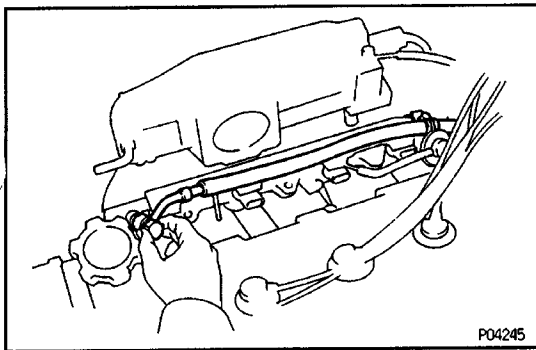
(a) Install four new insulators to the delivery pipe.



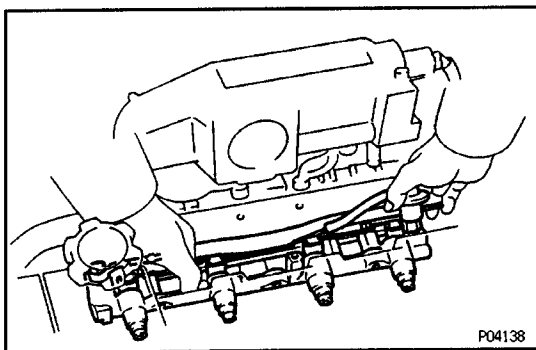
(b) Install the three spacers to the cylinder head.



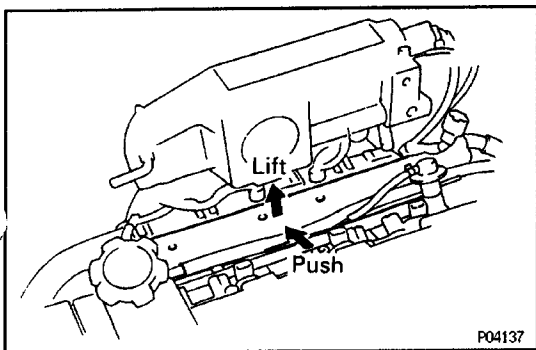
(c) Connect the fuel inlet pipe to the delivery pipe with the two gaskets, union bolt and bolt. Do not tighten the union bolt yet.

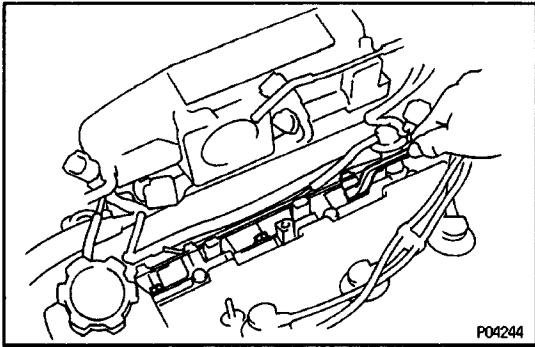


(d) Attach the delivery pipe assembly to the cylinder head.

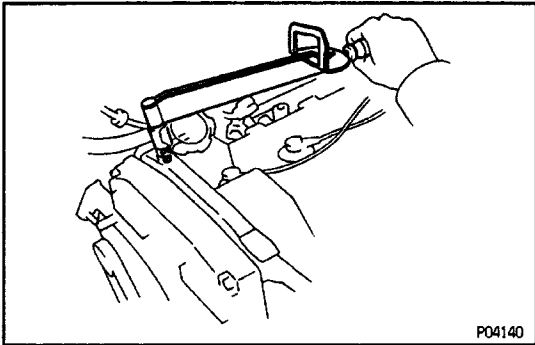


HINT: Move the engine wire protector toward the direction shown, in the illustration.

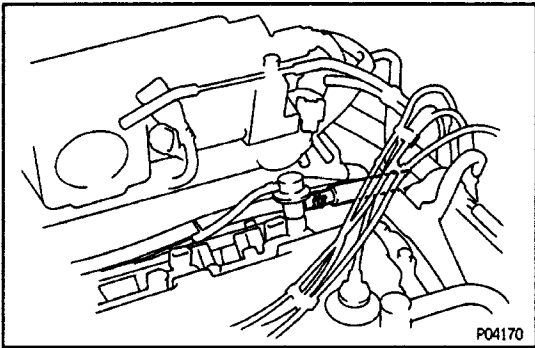




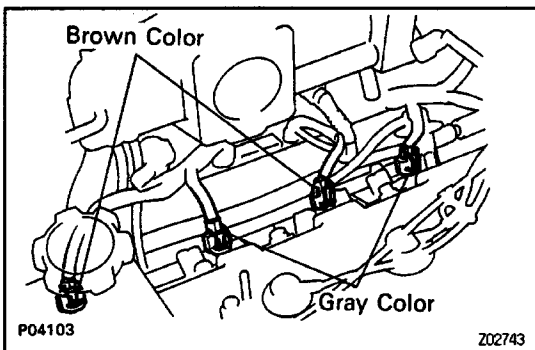
- (e) Install the delivery pipe assembly with the three bolts.
Torque: 19 N-m (195 kgf-cm, 14 ft-lbf)



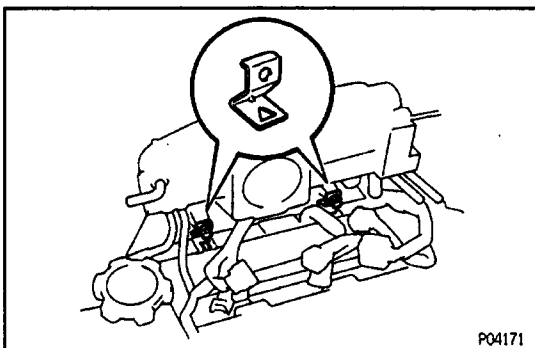
- (f) Tighten the union bolt holding the fuel inlet pipe to delivery pipe.
Torque: 29 N-m (300 kgf-cm, 22 ft-lbf)



- (g) Connect the fuel return hose to the fuel pressure regulator.

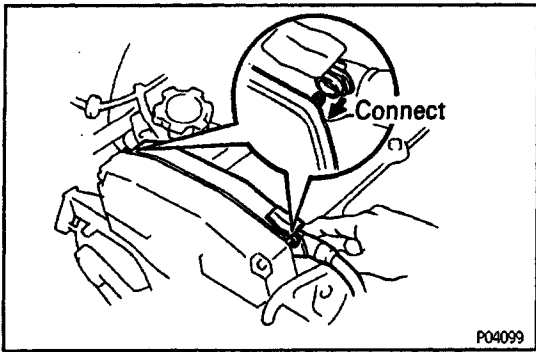


- (h) Connect the four injector connectors.
 HINT: No.1 and No.3 injector connectors are brown,
 No.2 and No.4 injector connectors are gray.

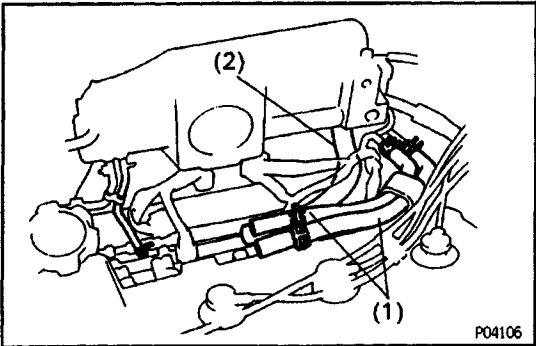


2. INSTALL ENGINE WIRE PROTECTOR

- (a) Install the clamp to the intake manifold with the bolt.
 Install the two clamps.
 (b) Install the engine wire protector to the two clamps.



- (c) Install two clamps of the engine wire protector to each bolt.

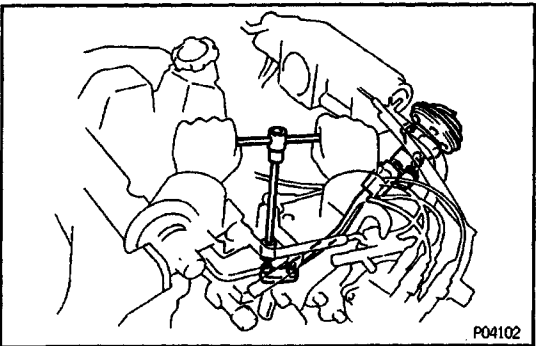


3. INSTALL WATER BY-PASS HOSE AND AIR HOSE

Install the following hoses:

- (1) Two IACV water by-pass hoses to No. 1 air tube
 (2) IACV air hose to No. 1 air tube

4. CONNECT VACUUM SENSING HOSE TO VACUUM PIPE (ON INJECTOR COVER)

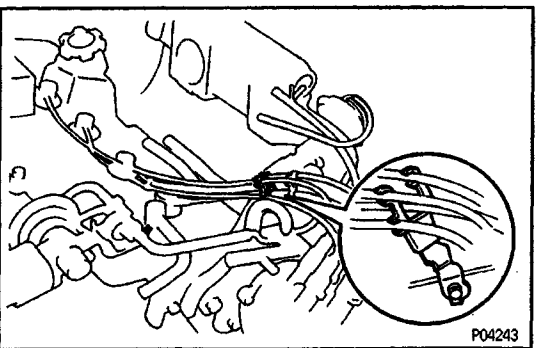


5. INSTALL EGR VALVE

- (a) Install two new gaskets and the EGR valve with the four bolts.

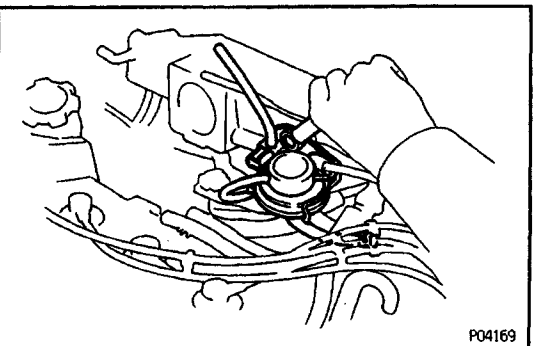
Torque:

19 N-m (195 kgf-cm, 14 ft-lbf) for intake manifold
25 N-m (260 kgf-cm, 19 ft-lbf) for cylinder head



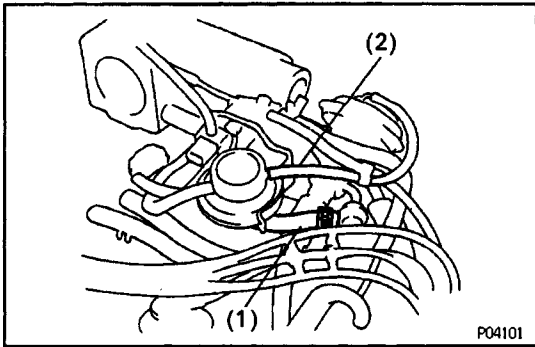
- (b) Install the high-tension cord clamp to the LH engine hanger with the bolt.

- (c) Connect the vacuum hose to the EGR valve.

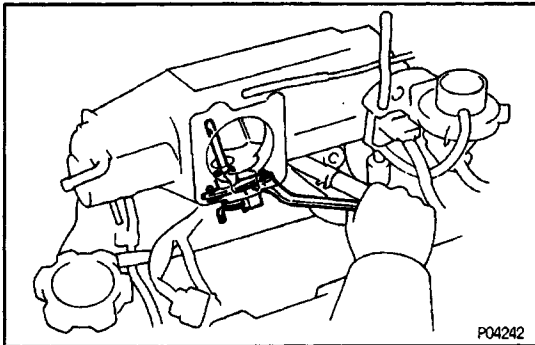


6. INSTALL VSV AND EGR VACUUM MODULATOR

- (a) Install the VSV and vacuum modulator assembly with the bolt.

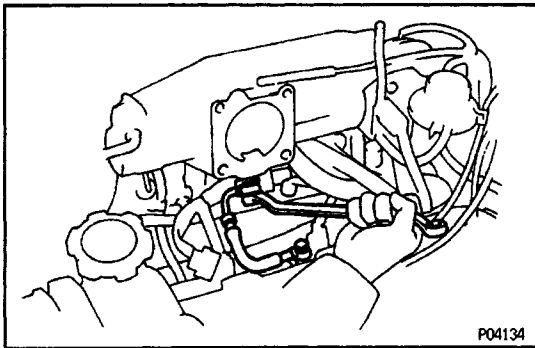


- (b) Install the following hoses to the vacuum modulator:
- (1) EGR hose (from EGR valve)
 - (2) Vacuum hose (from EGR valve)
- (c) Connect the VSV connector.



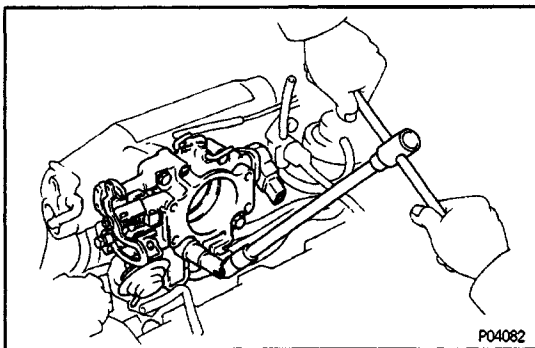
7. INSTALL COLD START INJECTOR

- (a) Install a new gasket and the cold start injector with the two bolts.
Torque: 5.9 N-m (60 kgf-cm, 52 in.-lbf)
- (b) Connect the cold start injector connector.



8. INSTALL COLD START INJECTOR PIPE

- Install the cold start injector pipe with four new gaskets and two union bolts.
Torque: 12 N-m (125 kgf-cm, 9 ft-lbf)



9. INSTALL THROTTLE BODY

(See Throttle Body Installation)

10. START ENGINE AND CHECK FOR FUEL LEAKS