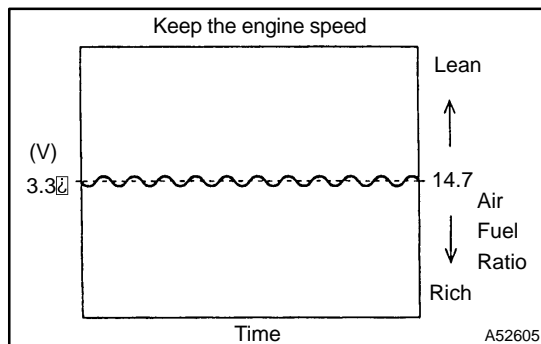
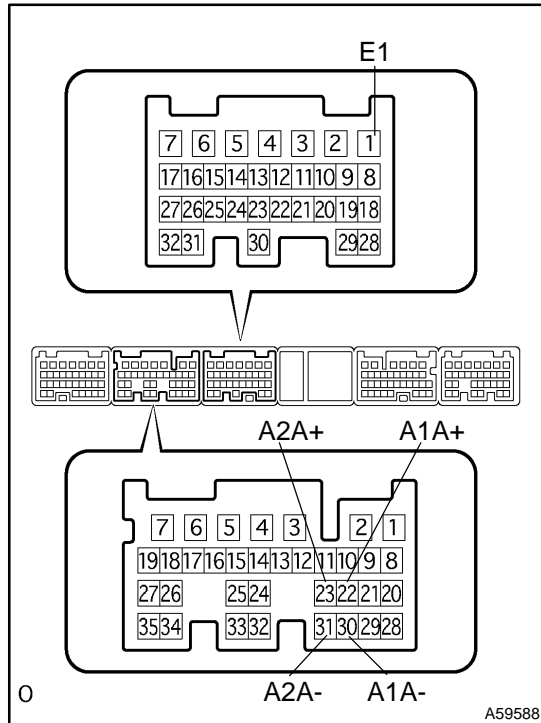


ON-VEHICLE INSPECTION



1. INSPECT AIR-FUEL RATIO COMPENSATION SYSTEM

- (a) Measure voltage between terminals of the ECM.

Standard voltage:

| Terminal | Condition | Voltage |
|-----------|--------------|---------|
| A1A+ ↔ E1 | IG switch ON | 3.3V |
| A1A- ↔ E1 | IG switch ON | 3.0V |
| A2A+ ↔ E1 | IG switch ON | 3.3V |
| A2A- ↔ E1 | IG switch ON | 3.0V |

CAUTION:

Connect test leads from the back side of the ECM connector.

HINT:

Voltage between terminals of the ECM is kept constant regardless of the voltage of A/F sensor.

- (b) Connect the hand-held tester to the DLC3.
 (c) Select "DATA MONITOR" - "A/FS B1 S1", "A/FS B2 S1" and "O2S B1 S2" to display the monitor.
 (d) Warm up the A/F sensor with the engine speed at 2,500 rpm for approx. 2 minutes.
 (e) Keep the engine speed at 2,500 rpm and confirm that the displays of "A/FS B1 S1" and "A/FS B2 S1" are similar to the illustration on the left.

CAUTION:

The illustration differs from the real display.

HINT:

Only hand-held tester displays the waveform of A/F sensor.

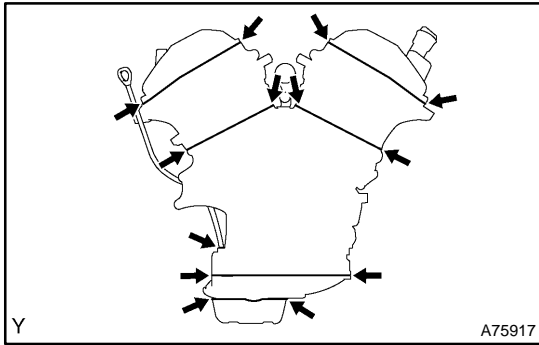
- (f) Confirm that the display of "O2S B1 S2" changes between 0V to 1V with the engine speed at 2,500 rpm.

2. INSPECT FUEL CUT OFF RPM

- (a) Increase the engine speed to at least 3,500 rpm.
 (b) Use a sound scope to check for injector operating noise.
 (c) Check that when the throttle lever is released, injector operation noise stops momentarily and then resumes.

Fuel cut off rpm: 2,500 rpm

Fuel return rpm: 1,200rpm

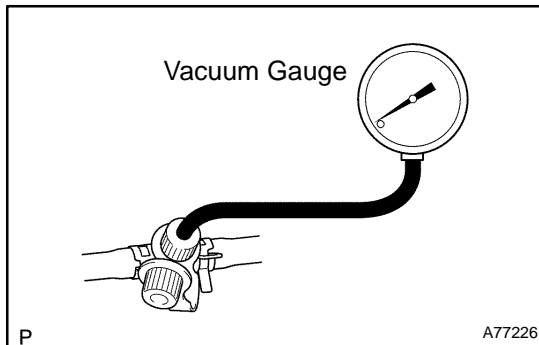


3. VISUALLY INSPECT HOSES, CONNECTIONS AND GASKETS

- (a) Check for cracks, leaks or damage.

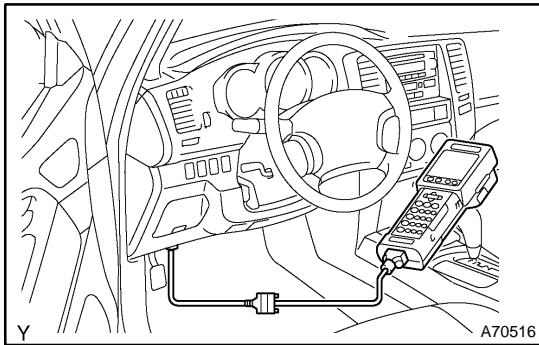
HINT:

Separation of the engine oil dipstick, oil filler cap, PCV hose, etc. may causes an engine failure or engine malfunctions. 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 an engine failure or engine malfunctions.

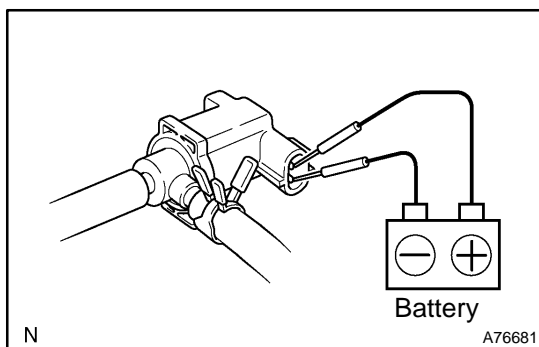


4. INSPECT EVAP SYSTEM LINE

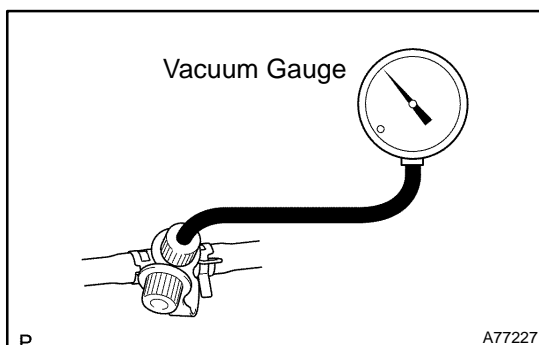
- (a) Warm up the engine to the normal operating temperature. After the warm-up, stop the engine.
- (b) Connect a vacuum gauge (EVAP control system test equipment vacuum gauge) to the EVAP service port on the purge line.



- (c) Hand-held tester:
Force to operate of the VSV for the EVAP.
- (1) Connect a hand-held tester to the DLC3.
 - (2) Start the engine.
 - (3) Push the hand-held tester main switch ON.
 - (4) Use the ACTIVE TEST mode on the hand-held tester to operate the VSV for the EVAP.



- (d) If you do not have the hand-held tester:
Force to operate of the VSV for the EVAP.
- (1) Disconnect the VSV connector for the EVAP.
 - (2) Connect the positive (+) and negative (-) leads from the battery to the VSV terminals for the EVAP.
 - (3) Start the engine.

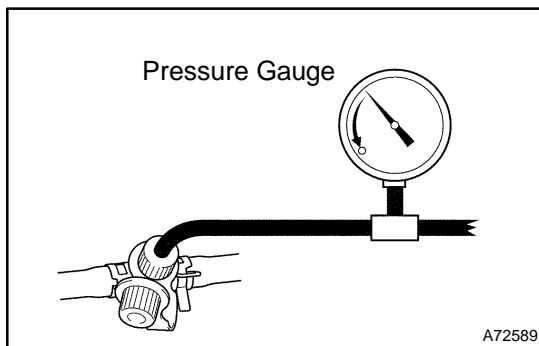


- (e) Check a vacuum at idle.
- Vacuum:**
Maintain at 0.368 - 19.713 in.Hg (5 - 268 in.Aq) for over 5 seconds

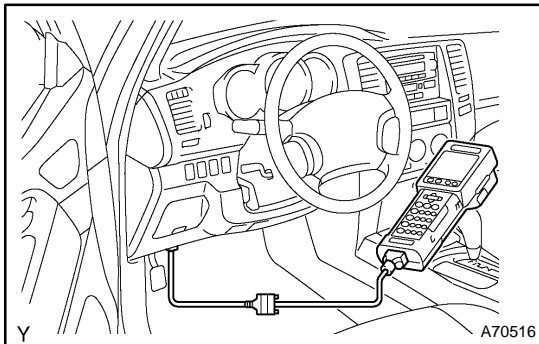
HINT:

If the vacuum does not change, the VSV service port connection has been loose or blocked or the VSV is malfunctioning.

- (f) If you have the hand-held tester:
Conclude the forced operation of the VSV for the EVAP.
 - (1) Stop the engine.
 - (2) Disconnect the hand-held tester from the DLC3.
- (g) If you do not have the hand-held tester:
Conclude the forced operation of the VSV for the EVAP.
 - (1) Stop the engine.
 - (2) Disconnect the positive (+) and negative (-) leads from the battery and from the VSV terminals for the EVAP.
 - (3) Connect the VSV connector for the EVAP.
- (h) Disconnect the vacuum gauge from the EVAP service port on the purge line.



- (i) Connect a pressure gauge to the EVAP service port on the purge line.



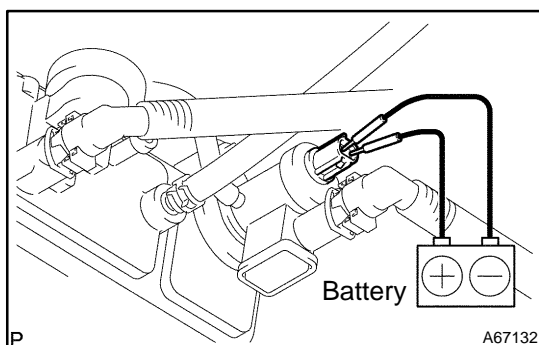
- (j) If you have hand-held tester:
Force to operate the VSV for CCV.
 - (1) Connect the hand-held tester to the DLC3.
 - (2) Turn the ignition switch ON.
 - (3) Push the hand-held tester main switch ON.
 - (4) Use the ACTIVE TEST mode on the hand-held tester to operate the VSV for CCV.

NOTICE:

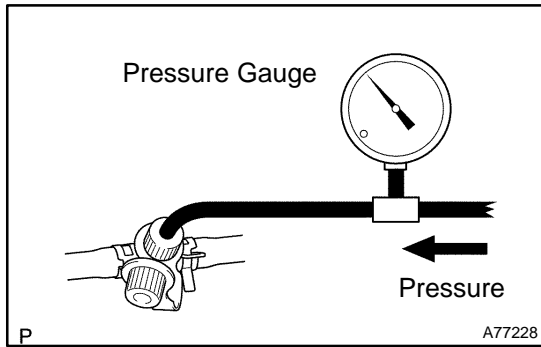
Do not start the engine.

HINT:

If the check is not completed within 10 minutes, the forced close of VSV for CCV will be reset.



- (k) If you do not have the hand-held tester:
Force to operate the VSV for the CCV.
 - (1) Disconnect the VSV connector for the CCV.
 - (2) Connect the positive (+) and negative (-) leads from the battery to the VSV terminals for the CCV.



- (l) Check pressure.
- (1) Apply the pressure (13.5 - 15.5 in.Aq) from the EVAP service port.

Pressure:

2 minutes after applying the pressure, the gauge indication should be over 7.7 - 8.8 in.Aq.

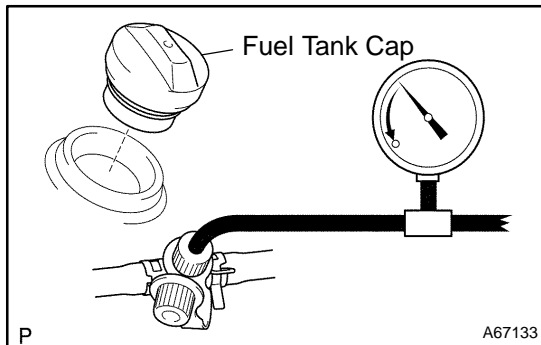
HINT:

If you are not able to apply the pressure, the VSV hose for the EVAP-canister-fuel tank has been disconnected or the VSV is open.

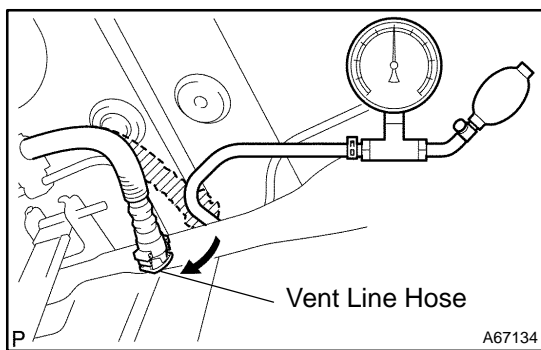
- (2) Check if the pressure decreases when the fuel tank cap is removed while applying the pressure.

HINT:

If the pressure does not decrease when the filler cap is removed, the hose between the service port and the fuel tank has been blocked inside or other factors have caused problems.

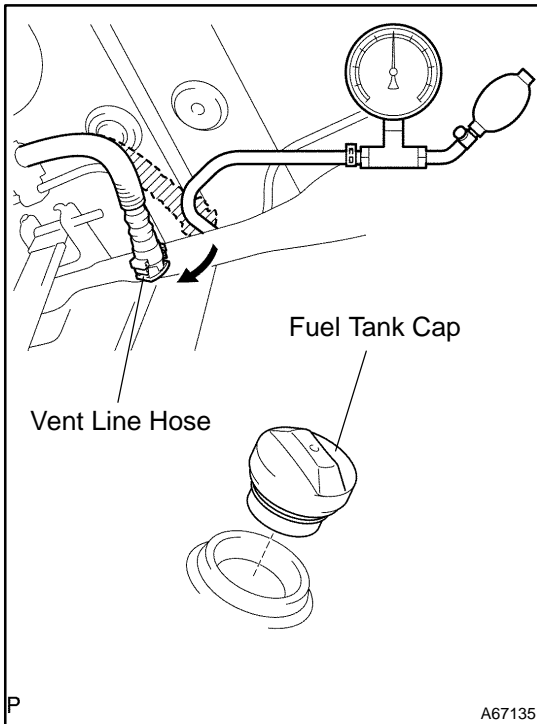


- (m) If you have the hand-held tester:
Conclude force operation of the VSV for the CCV.
- (1) Turn the ignition switch OFF.
- (2) Disconnect the hand-held tester from the DLC3.
- (n) If you do not have the hand-held tester:
Conclude force operation of the VSV for the CCV.
- (1) Disconnect the positive (+) and negative (-) leads from the battery and from the VSV terminals for the CCV.
- (2) Connect the VSV-connector-for-the-CCV.
- (o) Disconnect the pressure gauge from the EVAP service port on the purge line.



5. CHECK AIR TIGHTNESS IN FUEL TANK AND FILLER PIPE

- (a) Disconnect the vent line hose from the fuel tank (See page 11-20).
- (b) Apply pressure to the fuel tank and make the internal pressure of the air pressure 4 kPa (41 gf/cm², 0.58 psi).
- (c) Check that the internal pressure in the fuel tank is maintained for 1 minute.
- (d) Check the connections for each hose and pipe.
- (e) Check the installed parts on the fuel tank. If there is no abnormality, replace the fuel tank and filler pipe.
- (f) Reconnect the vent line hose to the fuel tank.

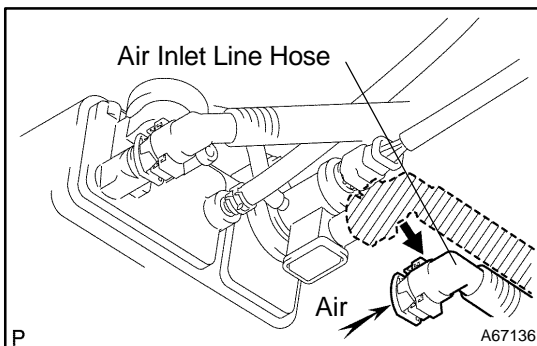


6. INSPECT FUEL CUTOFF VALVE AND FILL CHECK VALVE

- Fill the fuel tank with fuel enough.
- Disconnect the vent line hose from the fuel tank (See page 11-20).
- Apply 4 kPa (41 gf/cm², 0.58 psi) to the vent port of the fuel tank.
- Remove the fuel tank cap, and check that the pressure inside the tank drops.

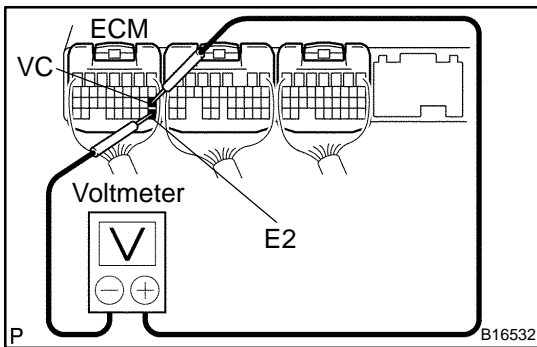
If pressure does not drop, replace the fuel tank assembly.

- Reconnect the vent line hose to the fuel tank.



7. CHECK AIR INLET LINE

- Disconnect the air inlet line hose from the charcoal canister (See page 12-13).
- Check that there is ventilation in the air inlet line.
- Reconnect the air inlet line hose to the charcoal canister.

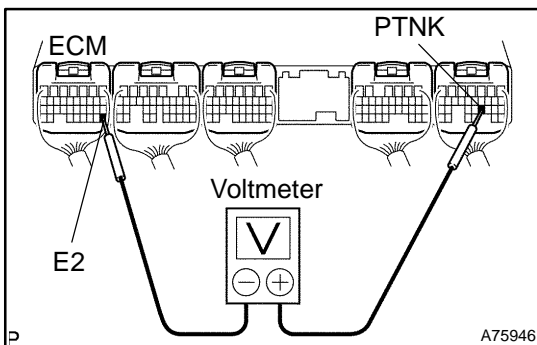


8. INSPECT VAPOR PRESSURE SENSOR

- Inspect the power source voltage of the vapor pressure sensor.
 - Turn the ignition switch ON.
 - Using a voltmeter, measure the voltage between connector terminals VC and E2 on the wiring harness side of the ECM.

Voltage: 4.5 - 5.5 V

- Turn the ignition switch OFF.



- Inspect the power output of the vapor pressure sensor.
 - Turn the ignition switch ON.
 - Remove the fuel tank cap.
 - Using a voltmeter, measure the voltage between connector terminals PTNK and E2 on the wiring harness side of the ECM.

Voltage: 3.0 - 3.6 V

- Reinstall the fuel tank cap.