

EVAPORATIVE EMISSION (EVAP) CONTROL SYSTEM INSPECTION

EC0BM-02

1. INSPECT LINES AND CONNECTIONS

Visually check for loose connections, sharp bends or damage.

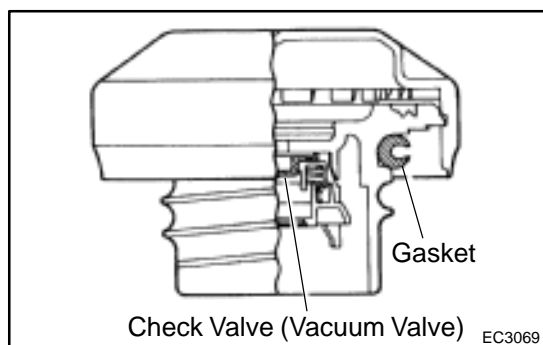
2. INSPECT FUEL TANK

Visually check for deformation, cracks or fuel leakage.

3. INSPECT FUEL TANK CAP

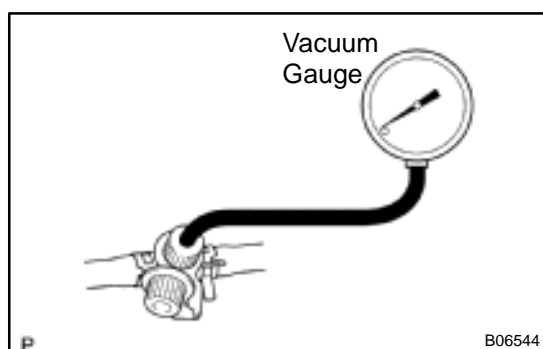
Visually check if the cap and/or gasket are deformed or damaged.

If necessary, repair or replace the cap.

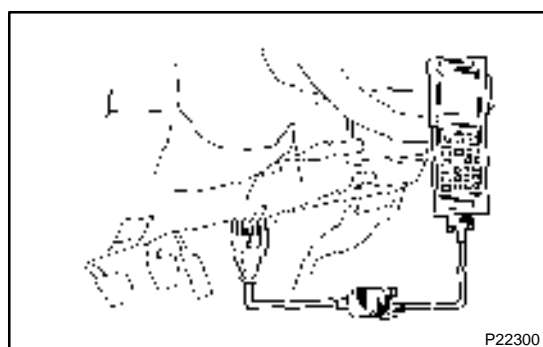


4. INSPECT EVAP SYSTEM LINE

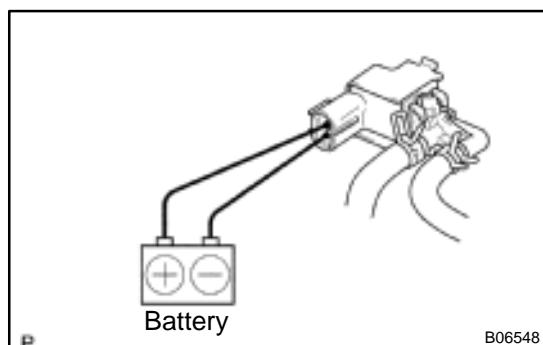
- (a) Warm up the engine and stop the engine.
Allow the engine to warm up to normal operating temperature.
- (b) Install a vacuum gauge (EVAP control system test equipment vacuum gauge) to the EVAP service port on the purge line.

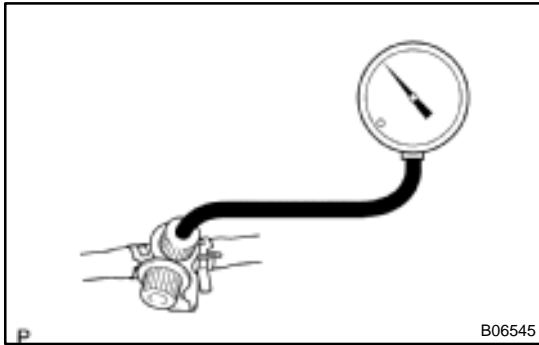


- (c) TOYOTA Hand-Held Tester:
Forced driving of the VSV for the EVAP.
 - (1) Connect a TOYOTA hand-held tester to the DLC3.
 - (2) Start the engine.
 - (3) Push the TOYOTA hand-held tester main switch ON.
 - (4) Use the ACTIVE TEST mode on the TOYOTA hand-held tester to operate the VSV for the EVAP.



- (d) If you have no TOYOTA Hand-Held Tester:
Forced driving 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 the vacuum at idle.

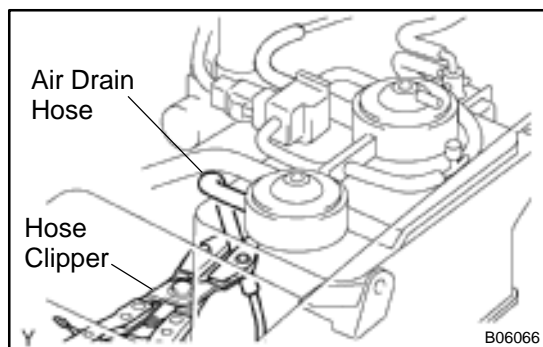
Vacuum:

Maintain at 0.368 – 19.713 in.Hg (5 – 268 in.Aq) for over 5 seconds

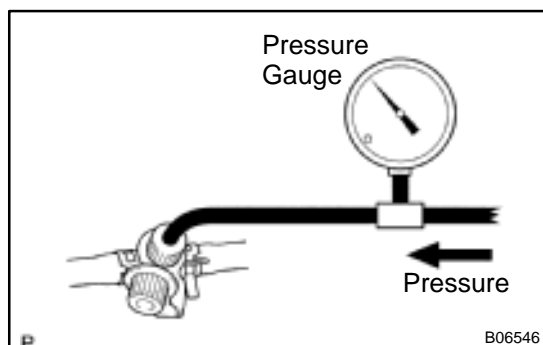
HINT:

If the vacuum does not change, you can conclude that the hose connecting the VSV to the service port has come loose or is blocked, or the VSV is malfunctioning.

- (f) TOYOTA Hand-Held Tester:
Conclude forced driving of the VSV for the EVAP.
- (1) Stop the engine.
 - (2) Disconnect the TOYOTA hand-held tester from the DLC3.
- (g) If you have no TOYOTA Hand-Held Tester:
Conclude forced driving of the VSV for the EVAP.
- (1) Stop the engine.
 - (2) Disconnect the positive (+) and negative (–) leads from the battery 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) Check the pressure.
- (1) Close off the air drain hose at the marked position of the canister with a hose clipper or similar instrument.



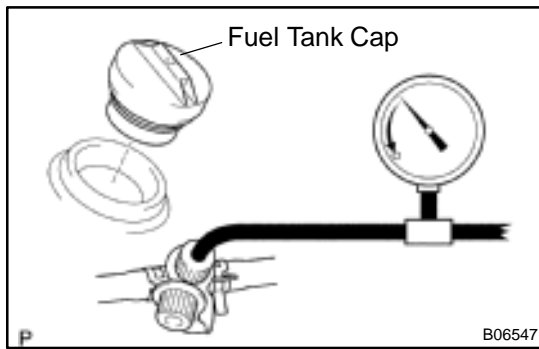
- (2) Add the pressure (13.5 – 15.5 in.Aq) from the EVAP service port.

Pressure:

2 minutes after the pressure is added, the gauge should be over 7.7 – 8.8 in.Aq.

HINT:

If you can't add pressure, you can conclude that the hose connecting the VSV ~ canister ~ fuel tank has slipped off or the VSV is open.



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

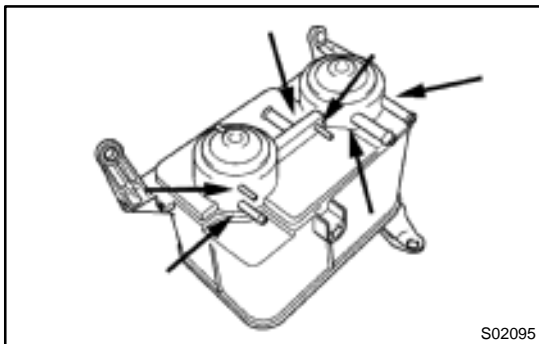
HINT:

If the pressure does not decrease when the filler cap is removed, then you can conclude that the hose connecting the service port to the fuel tank is blocked, etc.

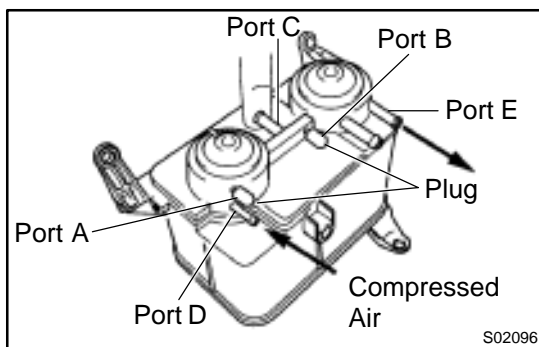
- (k) Disconnect the pressure gauge from the EVAP service port on the purge line.

5. INSPECT CHARCOAL CANISTER

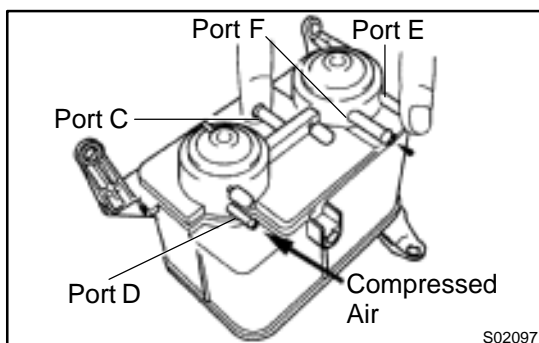
- (a) Remove the charcoal canister.
 (b) Remove the VSV for EVAP.
 (c) Remove the VSV for vapor pressure sensor.



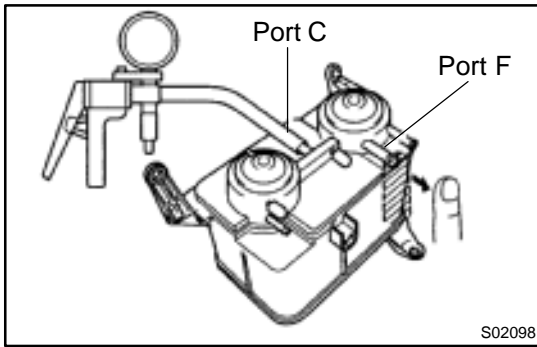
- (d) Visually check the charcoal canister for cracks or damage.



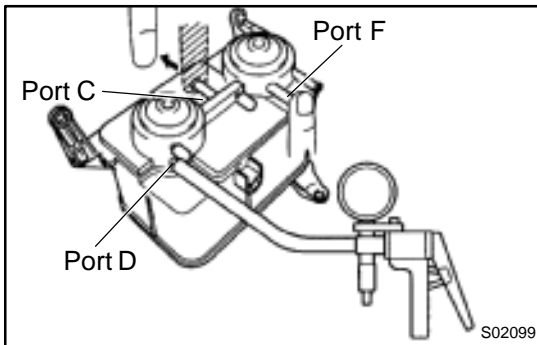
- (e) Inspect the charcoal canister operation.
 (1) Install the plugs to ports A and B.
 (2) While holding port C closed, blow air (1.47 kPa, 15 gf/cm², 0.21 psi) into port D and check that air flows from port E.



- (3) While holding ports C and E closed, blow air (1.47 kPa, 15 gf/cm², 0.21 psi) into port D and check that air does not flow from port F.



- (4) Apply vacuum (2.94 kPa, 22 mmHg, 0.87 in.Hg) to port C, check that the vacuum does not decrease when port F is closed, and check that the vacuum decreases when port F is released.



- (5) While holding port F closed, apply vacuum (2.94 kPa, 22 mmHg, 0.87 in.Hg) to port D, check that the vacuum does not decrease when port C is closed, and check that the vacuum decreases when port C is released.

If operation is not specified, replace the charcoal canister.

- (6) Remove the plugs.
(f) Reinstall the VSV for EVAP.
(g) Reinstall the VSV for vapor pressure sensor.
(h) Reinstall the charcoal canister.
6. INSPECT VSV FOR EVAP (See page SF-44)
7. INSPECT VSV FOR VAPOR PRESSURE SENSOR (See page SF-48)
8. INSPECT VAPOR PRESSURE SENSOR (See page SF-48)