

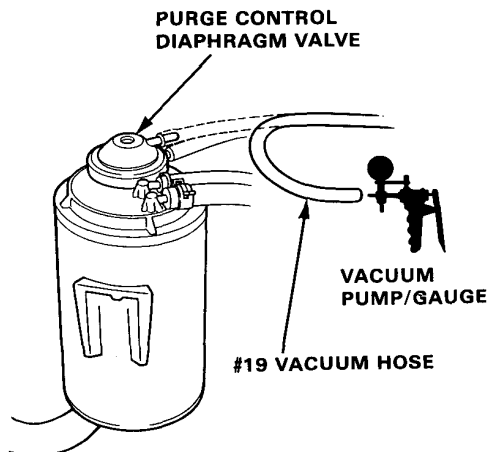
# Emission Control System

## Evaporative Emission Controls

### Testing (COLD ENGINE)

NOTE: Engine coolant temperature must be below 63 °C (145°F)

1. Disconnect the #19 vacuum hose at purge control diaphragm valve and connect vacuum pump/gauge to the hose.



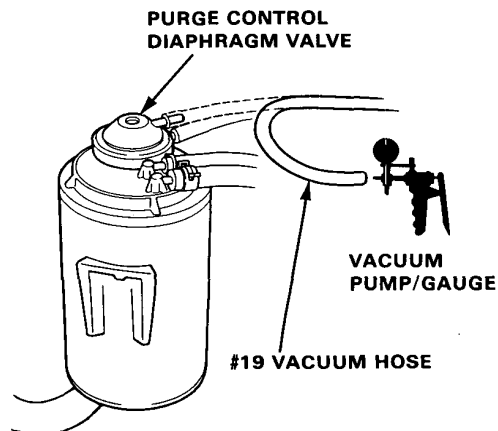
2. Start the engine and allow to idle.

There should be no vacuum.

- If there is no vacuum, go to hot engine test (next column).
- If there is vacuum, go to troubleshooting (page 6-62).

### Testing (HOT ENGINE)

1. Disconnect the #19 vacuum hose at the purge control diaphragm valve and connect a vacuum pump/gauge to the hose.



2. Start the engine and warm up to normal operating temperature (the cooling fan comes on). Block rear wheels and set the parking brake. Jack up the front of the car and support with safety stands.

**⚠ WARNING** Block rear wheels before jacking up front of car.

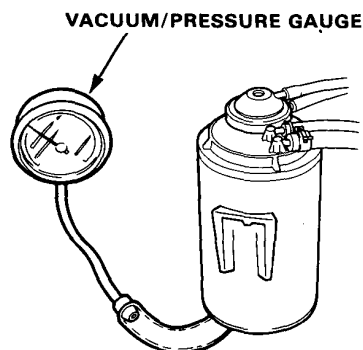
Place the shift or selector lever in 2nd gear or "2" range and accelerate above 5 km/h, 2,000 min<sup>-1</sup> (rpm).

There should be vacuum.

- If there is vacuum, go to step 3.
  - If there is no vacuum, check the #19 and #12 vacuum line for proper connection, cracks, blockage or disconnected hose. If OK, go to troubleshooting (page 6-62).
3. Disconnect a vacuum pump/gauge and reconnect hose.
  4. Remove fuel filler cap.



5. Remove the canister purge air hose from frame and connect hose to a vacuum gauge as shown.



6. Place the shift or selector lever in 2nd gear or "2" range and raise the engine speed to 3,500  $\text{min}^{-1}$  (rpm).  
Vacuum should appear on the gauge within 1 minute.

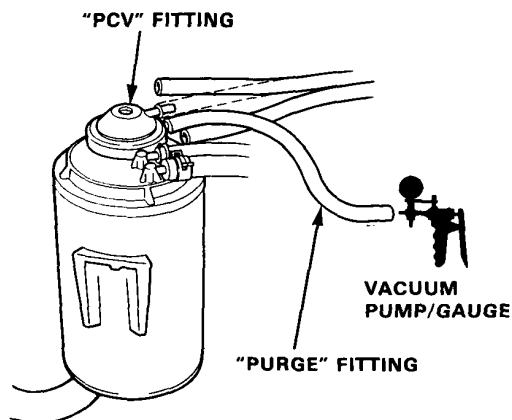
- If vacuum appears on the gauge in 1 minute, remove the gauge and go on to step 8.
- If no vacuum, disconnect the vacuum gauge and reinstall the fuel filler cap.

7. Remove the charcoal canister and check for signs of damage.

- If damaged, replace the canister.
- If OK, go on to step 8.

8. Stop the engine. Disconnect the hose from the canister PCV fitting.  
Connect a vacuum pump to the canister PURGE fitting as shown, and apply vacuum.

Vacuum should remain steady.



- If vacuum remains steady, go on to step 9.

- If vacuum drops, replace the canister and retest.

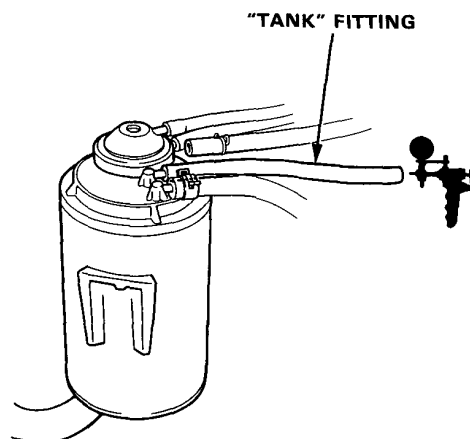
9. Restart the engine. Reconnect the hose to the canister PCV fitting, and raise engine to 3,500  $\text{min}^{-1}$  (rpm) (in 2nd gear or "2" range).

PURGE side vacuum should drop to zero.

- If PURGE side vacuum does not drop to zero, replace the canister and retest.

10. Connect a vacuum pump to TANK fitting as shown, and apply vacuum.

If should not hold vacuum.



- If it does not hold vacuum, reinstall fuel filler cap and canister; test is complete.

- If it holds vacuum, replace canister and retest.

# Emission Control System

## Evaporative Emission Controls (cont'd)

### Troubleshooting Flowchart Purge Cut-off Solenoid Valve

Inspection of Purge Cut-off Solenoid valve.

Open the control box.

Disconnect the lower vacuum hose of the solenoid valve from the joint and connect a vacuum pump.

Disconnect #19 vacuum hose of the solenoid valve from the vacuum hose manifold and connect a vacuum gauge.

Start the engine.

Apply vacuum.

Is vacuum indicated on the gauge?

YES

Turn the ignition switch OFF.

NO

Block rear wheels and set the parking brake. Jack up the front of the car and support with safety stand.

Place the shift or selector lever in second or "2" and accelerate above 5 km/h, 2,000 min<sup>-1</sup> (rpm).

PURGE CUT-OFF SOLENOID VALVE

#19 HOSE

VACUUM PUMP/GAUGE

Disconnect the connector on the control box.

Start the engine.

Measure voltage between ORN (+) and BLK (-) terminals.

Is there battery voltage?

YES

Replace the solenoid valve.

NO

Measure voltage between ORN (+) and body ground.

(To page 6-63)

(To page 6-63)

**▲WARNING** Block rear wheels before jacking up front of car.

