### FUEL EVAPORATIVE EMISSION CONTROL (EVAP) SYSTEM
(For USA Vehicles)

**Diagram:**

To reduce HC emission, evaporated fuel from the fuel tank and float chamber is routed through the charcoal canister to the intake manifold for combustion in the cylinders.

<table>
<thead>
<tr>
<th>IG S/W</th>
<th>Outer Vent Control Valve</th>
<th>Coolant Temp.</th>
<th>Thermo Temp.</th>
<th>Engine RPM</th>
<th>Vacuum S/W (A)</th>
<th>VSV</th>
<th>Canister Check Valve (1)</th>
<th>Canister Check Valve (2)</th>
<th>Check Valve in Fuel Filler Cap</th>
<th>Evaporation Fuel (HC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>OFF</td>
<td>OPEN</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>HC from tank and float chamber is absorbed into the canister.</td>
</tr>
<tr>
<td>ON</td>
<td>CLOSED</td>
<td>Below 43°C (109°F)</td>
<td>ON</td>
<td>OFF</td>
<td>OFF</td>
<td>OFF</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>HC from tank is absorbed into the canister.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Below 1,180 rpm</td>
<td>OFF</td>
<td></td>
<td></td>
<td>—</td>
<td>OFF</td>
<td>—</td>
<td>—</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Between 1,600 and 1,900 rpm</td>
<td>ON</td>
<td>—</td>
<td>—</td>
<td>HC from canister is led into the intake manifold.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Above 2,290 rpm</td>
<td>OFF</td>
<td>OFF</td>
<td>OFF</td>
<td>ON</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>HC from tank is absorbed into the canister.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ON</td>
<td>ON</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>HC from canister is led into the intake manifold.</td>
</tr>
</tbody>
</table>

#### High pressure in tank
- —
- OPEN
- CLOSED
- CLOSED
- HC from tank is absorbed into the canister.

#### High vacuum in tank
- —
- CLOSED
- OPEN
- OPEN
- (Air is led into the tank.)

**Remarks:**

1. When the throttle valve is slightly open and the vacuum switch (A) is on, however, the computer turns the VSV on and HC is led into the intake manifold.

2. When the deceleration fuel cut system is on, however, the computer turns the VSV off and HC is not led into the intake manifold (See page EC-47).
To reduce HC emission, evaporated fuel from the fuel tank and float chamber is routed through the charcoal canister to the intake manifold for combustion in the cylinders.

<table>
<thead>
<tr>
<th>IG S/W</th>
<th>Outer Vent Control Valve</th>
<th>Condition</th>
<th>Canister Check Valve</th>
<th>Check Valve in Fuel Filler Cap</th>
<th>Evaporated Fuel (HC)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
</tr>
<tr>
<td>OFF</td>
<td>OPEN</td>
<td></td>
<td></td>
<td></td>
<td>HC from tank and float chamber is absorbed into the canister</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Idling and low speed</td>
<td>CLOSED</td>
<td></td>
<td>HC from tank is absorbed in the canister.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Medium and high speed</td>
<td>OPEN</td>
<td></td>
<td>HC from canister is led into the intake manifold.</td>
</tr>
<tr>
<td>High pressure in tank</td>
<td></td>
<td></td>
<td>OPEN</td>
<td>CLOSED</td>
<td>CLOSED</td>
</tr>
<tr>
<td>High vacuum in tank</td>
<td></td>
<td></td>
<td>CLOSED</td>
<td>OPEN</td>
<td>OPEN</td>
</tr>
</tbody>
</table>
INSPECTION OF FUEL VAPOR LINES, FUEL TANK AND FUEL FILLER CAP

1. VISUALLY INSPECT LINES AND CONNECTIONS
   Look for loose connections, sharp bends or damage.

2. VISUALLY INSPECT FUEL TANK
   Look for deformation, cracks or fuel leakage.

3. VISUALLY INSPECT FUEL FILLER CAP
   Look for a damaged or deformed gasket and cap.
   If necessary, repair or replace the cap.

INSPECTION OF CHARCOAL CANISTER

1. REMOVE CHARCOAL CANISTER

2. VISUALLY INSPECT CHARCOAL CANISTER
   Look for cracks or damage.

3. CHECK FOR CLOGGED FILTER AND STUCK CHECK VALVE
   Using low pressure compressed air, blow into the tank pipe and check that the air flows without resistance from the other pipes.
   If a problem is found, replace the charcoal canister.

4. CLEAN FILTER IN CANISTER
   Clean the filter by blowing 3 kg/cm² (43 psi, 294 kPa) of compressed air into the pipe to the outer vent control valve while holding the other upper canister pipes closed.
   NOTE:
   • Do not attempt to wash the canister.
   • No activated carbon should come out.

5. INSTALL CHARCOAL CANISTER
INSPECTION OF OUTER VENT CONTROL VALVE

CHECK OUTER VENT CONTROL VALVE OPERATION
(a) Disconnect the hoses from the valve.
(b) Check that the valve is open when the ignition switch is OFF.
(c) Check that the valve is closed when the ignition switch is ON.
(d) Reconnect the hoses to the proper locations.
   If the valve does not operate, check the fuse and the wiring connections.

INSPECTION OF THERMO SWITCH (Ex. Canada)

CHECK THERMO SWITCH BY USING OHMMETER
(a) Drain the coolant from the radiator into a suitable container.
(b) Remove the thermo switch from the intake manifold.
(c) Cool the thermo switch to below 43°C (109°F).
(d) Using an ohmmeter, check that there is continuity.
(e) Heat the switch to above 55°C (131°F) with hot water.
(f) Check that there is no continuity.
(g) Apply liquid sealer to the threads of the switch and reinstall.
(h) Fill the radiator with coolant.

INSPECTION OF VSV (Ex. Canada)

1. CHECK VACUUM CIRCUIT CONTINUITY IN VSV BY BLOWING AIR INTO PIPE
   (a) Connect the VSV terminals to the battery terminals as shown.
   (b) Blow into the pipe, and check that the VSV is open.
(c) Disconnect the battery positive (+) terminal.
(d) Blow into the pipe and check that the VSV is closed.
If a problem is found, replace the VSV.

2. CHECK FOR SHORT CIRCUIT
Using an ohmmeter, check that there is no continuity between the positive (+) terminal and the VSV body.
If there is continuity, replace the VSV.

3. CHECK FOR OPEN CIRCUIT
Using an ohmmeter, measure the resistance between the positive (+) terminal and the other terminals as shown.
Specified resistance: 38 – 44 Ω at 20°C (68°F)
If the resistance is not within specification, replace the VSV.

INSPECTION OF VACUUM SWITCH (A)
(See page EC-26)