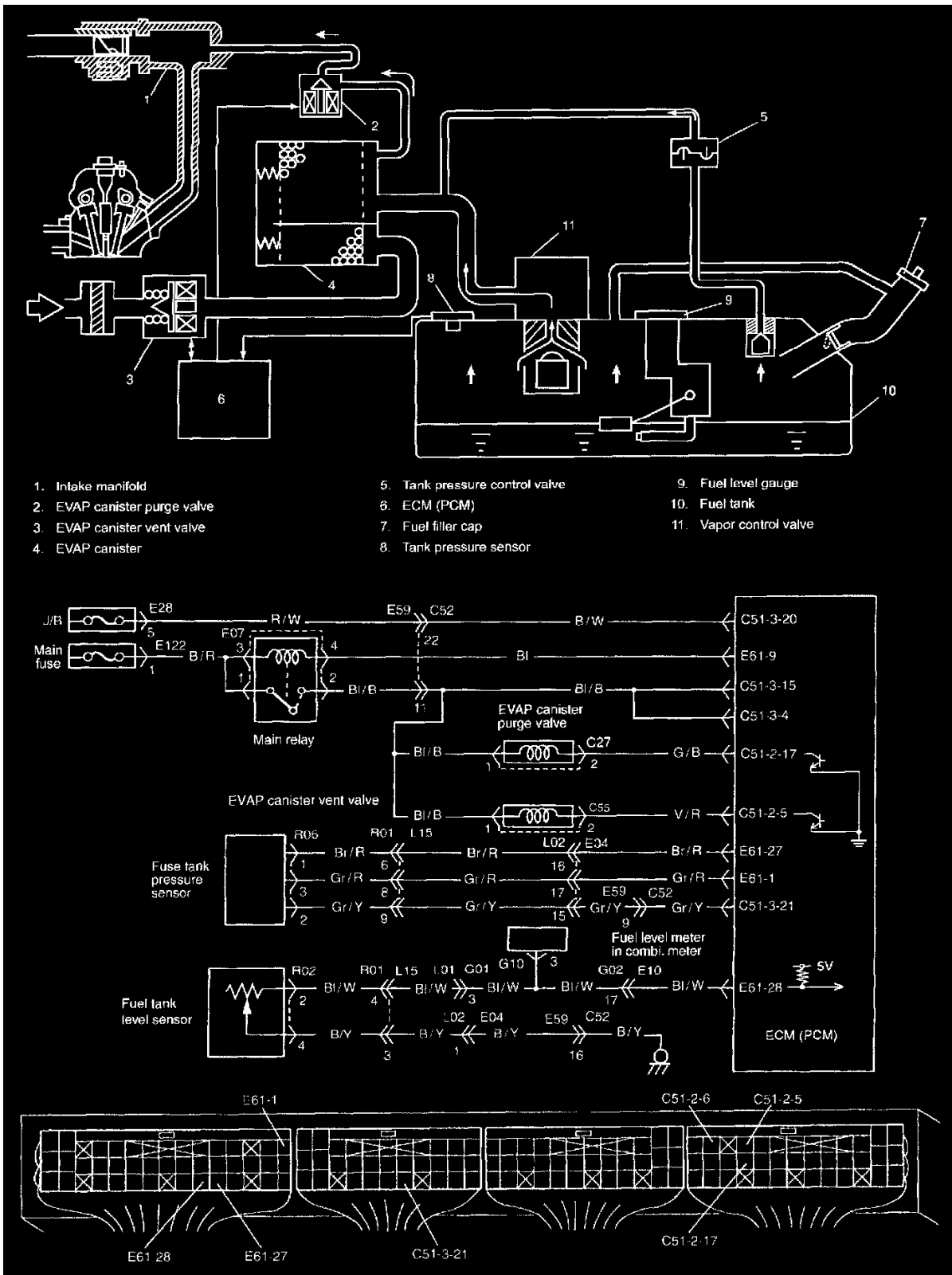


# Computers and Control Systems: Diagnostic Trouble Code Tests and Associated Procedures

## P0442

DTC P0442: EVAP Control System Leak Detected (Small Leak)



System / Wiring Diagram

DTC DETECTING CONDITION	TROUBLE AREA
<p><b>P0442:</b> While running under conditions described for DTC CONFIRMATION PROCEDURE, ECM (PCM) closes EVAP canister vent valve, opens EVAP canister purge valve and causes EVAP gas in EVAP system to be drawn into intake manifold. After that, it closes EVAP canister purge valve and if pressure rise in EVAP system exceeds specified value depending on fuel level, it judges that a trouble occurred (2 driving cycle detection logic).</p>	<ul style="list-style-type: none"> <li>• Missing, loose or malfunctioning fuel filler cap, or leakage from cap gasket</li> <li>• EVAP control system vacuum passages</li> <li>• Fuel tank component parts</li> <li>• EVAP canister</li> <li>• EVAP canister purge valve</li> <li>• EVAP canister vent valve</li> <li>• Tank pressure sensor</li> <li>• Fuel level gauge</li> <li>• ECM (PCM)</li> </ul>
<p><b>P0455:</b> While running under condition described in DTC CONFIRMATION PROCEDURE, difference between Max. fuel tank internal pressure and Min. pressure is less than specified value. (2 driving cycle detection logic)</p>	

### DTC Detecting Condition And Trouble Area

#### DTC Confirmation Procedure

#### WARNING:

- When performing a road test, select a place where there is no traffic or possibility of a traffic accident and be very careful during testing to avoid occurrence of an accident.
- Road test should be carried out with 2 persons, a driver and a tester, on a level road.

#### NOTE: Check to make sure that the following conditions are satisfied when using this DTC CONFIRMATION PROCEDURE.

- Intake air temperature: **-8 °C (18 °F)** or higher
- Engine coolant temperature: **-8 - 110 °C (18 - 230 °F)**
- Altitude (barometric pressure): **2400 m, 8000 ft** or less (**560 mmHg, 75 kPa** or more)
- Indication of fuel level meter in combination meter: Lower than 3/4

1. Connect scan tool with ignition switch OFF.
2. Turn ON ignition switch and clear DTC, pending DTC and freeze frame data by using scan tool and start engine.
3. Increase vehicle speed to **55 km/h (35 mph)** or more.
4. keep driving above vehicle speed for about **20 min.** (Change of vehicle speed is permitted in this step).
5. keep driving **50 - 60 km/h (30 - 40 mph)** for about **3 min** (Throttle valve opening is kept constant in this step).
6. Stop vehicle and check if DTC and pending DTC exists by using scan tool. If not, check if evaporative system monitoring test has completed by using scan tool. If not in both of above checks (i.e., no pending DTC and evaporative system monitoring test not completed), check vehicle conditions (environmental) and repeat Steps 3 through 6.

Step	Action	YES	NO
1	Was "Engine Diagnostic Flow: G16 and J20 Engine" performed?	Go to Step 2.	Go to "Engine Diagnostic Flow: G16 and J20 Engine".
2	1) Check fuel filler cap for tightness and gasket for deterioration.  <i>Are they in good condition?</i>	Go to Step 3.	Tighten or replace fuel filler cap.
3	1) Check vacuum hoses for connection, leakage, clog and deterioration visually.  <i>Are they in good condition?</i>	Go to Step 4.	Repair or replace.
4	1) Check EVAP canister purge valve and its circuit referring to "EVAP Canister Purge Valve and Its Circuit Check: G16 and J20 Engine".  <i>Is check result satisfactory?</i>	Go to Step 5.	Replace EVAP canister purge valve.
5	1) Check EVAP canister vent valve and its circuit referring to "EVAP Canister Vent Valve Inspection: G16 and J20 Engine".  <i>Is check result satisfactory?</i>	Go to Step 6.	Replace EVAP canister vent valve.
6	1) Check EVAP canister for clog and damage referring to "EVAP Canister Check: G16 and J20 Engine".  <i>Is it in good condition?</i>	Go to Step 11.	Replace EVAP canister.
7	1) Check purge line, EVAP system component and fuel tank for leakage referring to "EVAP Leakage Inspection: G16 and J20 Engine".  <i>Is check result satisfactory?</i>	Go to Step 8.	Check and repair leaking point or replace malfunction part.
8	1) Check fuel tank pressure sensor for performance referring to "Fuel Tank Pressure Sensor Check: G16 and J20 Engine".  <i>Is it in good condition?</i>	Go to Step 9.	Replace tank pressure sensor.
9	1) Check fuel level sensor and its circuit referring to "DTC P0461: Fuel Level Sensor Circuit Performance: G16 and J20 Engine".  <i>Are they in good condition?</i>	Intermittent trouble or faulty ECM (PCM). Check for intermittent referring to "Intermittent and Poor Connection Inspection: ".	Repair or replace malfunction part.

## Step 1 - 9

## DTC Troubleshooting

**WARNING:** This work must be performed in a well ventilated area and away from any open flames such as gas hot water.