P0444: EVAPORATIVE EMISSION CONTROL SYSTEM PURGE CONTROL VALVE CIRCUIT OPEN

OVERVIEW

Severity : Medium

DIY Difficulty Level : Intermediate

Repair Cost : \$150-\$300

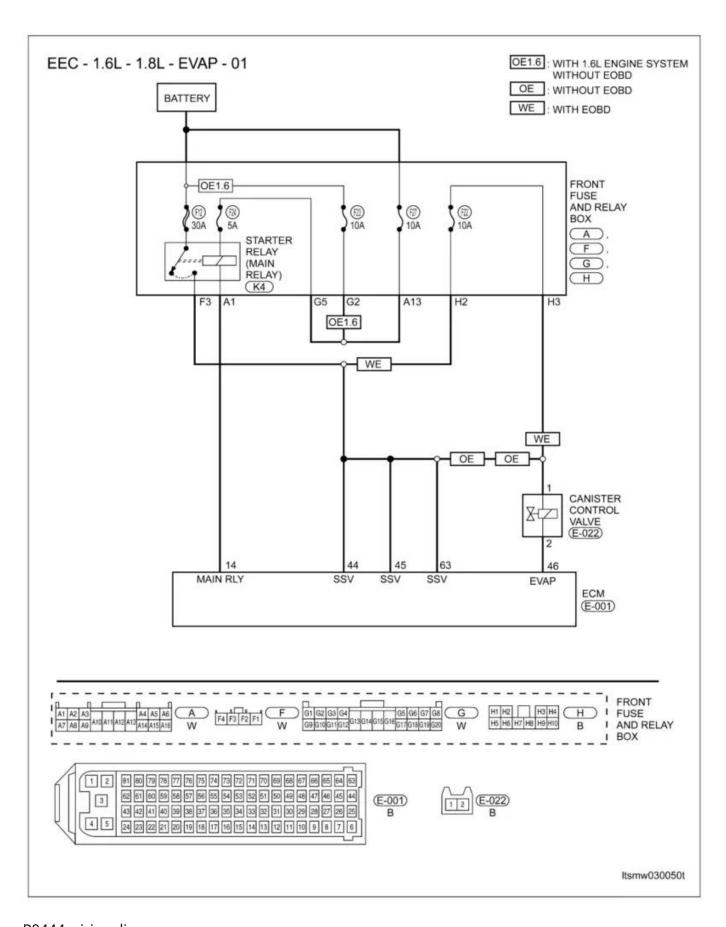
Can I Still Drive? : Yes

What Does The P0444 Code Mean?

On vehicles equipped with Evaporative emission control systems also known as EVAP, the engine draws in excessive fuel vapors from the gas tank that would otherwise be vented into the atmosphere.

The fuel vapor is routed through a vacuum line to the engine's intake and the purge valve/solenoid meters the desired amount of fuel vapors, controlled by the vehicles powertrain control module (PCM) or engine control module (ECM). The PCM/ECM monitors the voltage to the purge control valve and has detected no voltage change with the purge valve commanded on.





P0444 wiring diagram



Note: This code is similar to codes P0443 and P0445.

What Are The Symptoms Of The P0444 Code?

Symptoms of a P0444 trouble code may include:

- Check engine light on (Malfunction indicator lamp illuminated)
- Slightly diminished fuel economy, this will not affect engine performance

What Are The Potential Causes Of The P0444 Code?

Causes of this DTC may include:

- Wiring harness loose or disconnected
- Engine wiring harness open circuit
- Purge control solenoid open circuit
- PCM/ECM malfunction

How Can You Fix The P0444 Code?

Engine Wiring Harness

Check all connectors to ensure they are plugged in properly, look for loose or damaged wires. Typically the purge control valve is energized by the the battery and triggered on and off with a duty cycle through the PCM/ECM. Using the manufacturers wiring diagrams, identify which type of circuit being used and check for battery voltage presence with the key on/engine off at the power side of the control solenoid connector using a digital volt ohm meter (DVOM) set to the volts scale. If no battery voltage is present, trace the wiring back and determine the cause for voltage loss.

Test for continuity of the control side of the wire harness after disconnecting the plug from the control valve solenoid and the PCM wiring harness. Identify the correct wire at the PCM and control valve harness and check for continuity using the ohms scale on the DVOM, if excessive resistance is found, repair the circuit. If there is no continuity on the circuit, check all connections for damaged wiring, loose pins or disconnected harnesses and repair the circuit.

Purge Control Solenoid

Check for continuity at the purge control solenoid connector pins after removing the harness plug using the DVOM set to the ohms scale. Verify resistance is within manufacturers specifications. If no continuity is present, suspect the solenoid is internally open and replace the part with a known good unit.



PCM/ECM Malfunction

Since the EVAP is only turned on during certain driving conditions, it will be necessary to monitor the EVAP control operation using an advanced scan tool capable and performing a road test under the driving conditions required to activate the EVAP system. Some advanced scan tools have an internal test to activate the EVAP system manually. Verify the PCM/ECM is commanding the EVAP system on.

If the system is functioning correctly, it will be necessary to back probe the PCM/ECM wiring harness connector using a graphing multimeter or oscilloscope with a duty cycle feature with the positive lead on the purge control valve pin and the negative lead connected to a known good ground. The duty cycle should match what is commanded on by the PCM/ECM during EVAP operation. If there is no duty cycle present, the PCM/ECM may be at fault.

Other EVAP DTCs: <u>P0440</u>- <u>P0441</u>- <u>P0442</u>- <u>P0443</u>- <u>P0445</u>- <u>P0446</u>- <u>P0447</u>- <u>P0448</u>- <u>P0449</u>- <u>P0452</u>- <u>P0453</u>- <u>P0455</u>- <u>P0456</u>

Reference Sources

Diagnostic Trouble Code (DTC) Charts and Descriptions for P0444 - Page 70.

