

P0013: "B" CAMSHAFT POSITION ACTUATOR CIRCUIT (BANK 1)

OVERVIEW

Severity	:	<div><div>High</div></div>
DIY Difficulty Level	:	<div><div>Intermediate</div></div>
Repair Cost	:	\$95-\$210
Can I Still Drive?	:	Yes (Short-term only)

What Does The P0013 Code Mean?

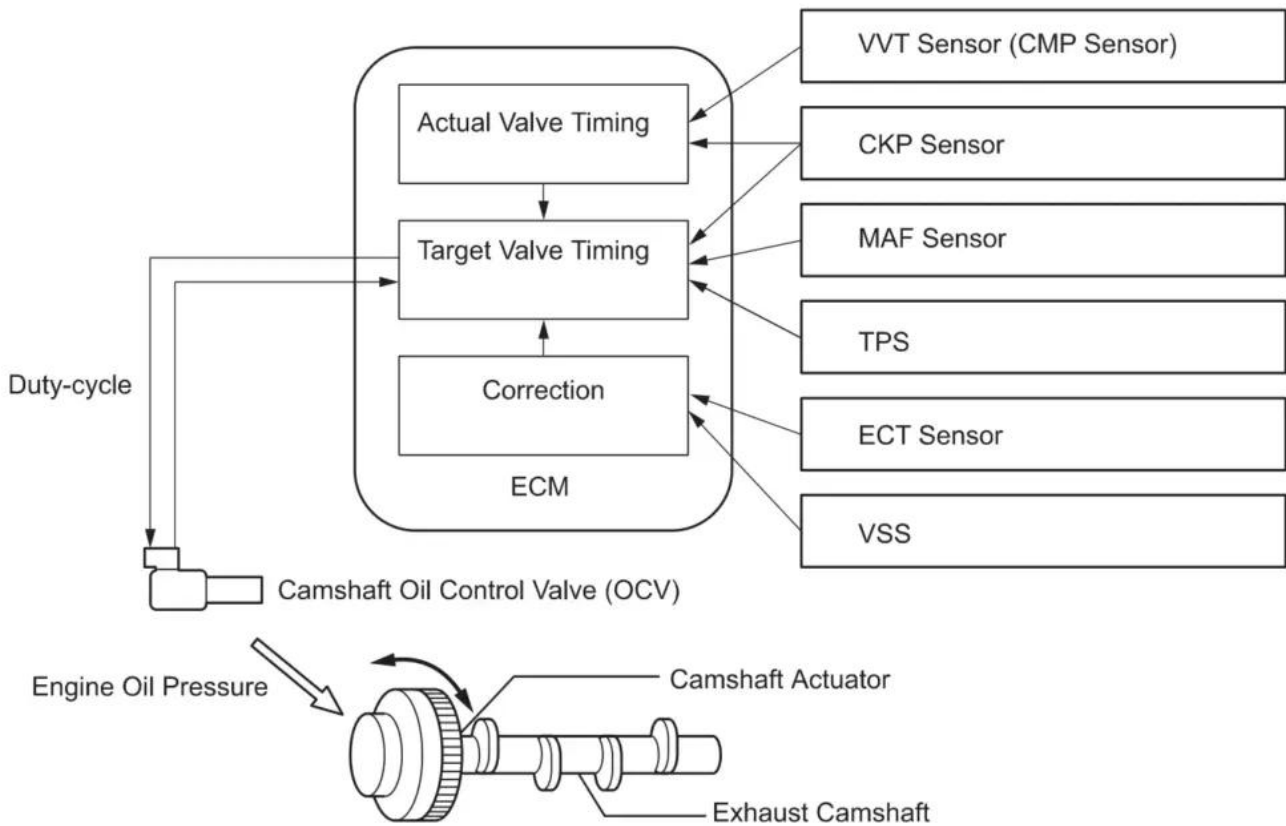
A P0013 code refers to the VVT (variable valve timing) or VCT (variable camshaft timing) components and the car's PCM (powertrain control module) or ECM (engine control module). VVT is a technology used in the engine to allow it to get greater power or efficiency at different running points.

That consists of an oil control valve (OCV), also called a solenoid valve and other components.

The camshaft position (CMP) actuator is controlled by the powertrain control module (PCM) through a high control circuit and a low reference circuit. The high control circuit carries a 12 volt pulse width modulated (PWM) signal from the PCM to the CMP actuator solenoid in order to control the amount of engine oil flow to the cam phaser. The low reference circuit is used as a return circuit. The PCM has the ability to monitor the functionality of the high control and the low reference circuit. If the PCM detects an open, a short to ground, or a short to voltage, DTC P0013 sets.

The "B" camshaft refers to the exhaust, right, or rear camshaft (looking at the engine from the drivers seat). Bank 1 refers to the side of the engine that contains cylinder #1.

VVT System



Y

A130637E02

P0013 wiring diagram

What Are The Symptoms Of The P0013 Code?

Symptoms may include:

- Check Engine Light illuminated (Malfunction Indicator Lamp)
- Rough running
- Other symptoms may also be present

What Are The Potential Causes Of The P0013 Code?

A code P0013 may mean that one or more of the following has happened:

- Faulty oil control valve (OCV)
- Open or short in the OCV / solenoid valve

- Damaged computer (PCM)

How Can You Fix The P0013 Code?

Ideally you'll want to refer to a factory service manual for make & model specific steps and specifications. You should use a digital volt ohm meter (DVOM) and measure the resistance of the terminals on the camshaft oil control valve (OCV). Refer to the factory spec on the reading, if it's not good, replace the OCV assembly. Also use the DVOM to verify wiring, connectors, etc. leading from the OCV back to the PCM.

Other camshaft DTC codes: [P0011](#)– [P0012](#)– [P0020](#)– [P0021](#)– [P0022](#)

Reference Sources

- [Technical Service Bulletin for P0013](#) - GM
- [2GR-FE ENGINE CONTROL SYSTEM SERVICE MANUAL for P0013](#)