

P0385: CRANKSHAFT POSITION SENSOR B CIRCUIT MALFUNCTION

OVERVIEW

Severity	:	High
DIY Difficulty Level	:	Intermediate
Repair Cost	:	\$200-\$400
Can I Still Drive?	:	No

What Does The P0385 Code Mean?

The crankshaft position sensor (CKP) measures crankshaft location and relays this information to the PCM (Powertrain Control Module). Depending on the vehicle, the PCM uses this crankshaft position information to time the spark properly or on some systems it is only for misfire detection and does not control spark timing.

The CKP sensor is stationary and works in harmony with a reluctor ring (or toothed ring) that is attached to the crankshaft. As this reluctor ring passes in front of the CKP sensor, the magnetic field created by the CKP sensor is interrupted and this creates a square wave voltage signal that the PCM interprets as crankshaft position. If the PCM detects that there are no crankshaft pulses or if it sees a problem with the pulses on the output circuit, P0385 will set.

Related crank position sensor B trouble codes:

- [P0386 Crankshaft Position Sensor B Circuit Range/Performance](#)
- [P0387 Crankshaft Position Sensor B Circuit Low Input](#)
- [P0388 Crankshaft Position Sensor B Circuit High Input](#)
- [P0389 Crankshaft Position Sensor B Circuit Intermittent](#)

What Are The Symptoms Of The P0385 Code?

NOTE: If the crank sensor is used only for misfire detection and NOT spark timing (this varies with the vehicle), the vehicle should start and run with MIL (Malfunction indicator lamp) illumination. Also, some vehicles require several key cycles to illuminate the MIL. If this is the case, there may be no MIL illumination until the problem often enough over time. If the crank sensor is used for BOTH misfire detection and spark timing, the vehicle may or may not start.

Symptoms may include:

- Vehicle may not start (see above)
- Vehicle may run rough or misfire
- MIL illumination

What Are The Potential Causes Of The P0385 Code?

A P0385 "check engine light" code could be caused by:

- Damaged CKP sensor connector
- Damaged reluctor ring (missing teeth or not turning due to sheared-off keyway)
- Sensor output open
- Sensor output shorted to ground
- Sensor output shorted to voltage
- Failed crank sensor
- Failed PCM

How Can You Fix The P0385 Code?

- Using a scan tool, check if, when engine is running or cranking, that there is an RPM signal.
- If there is no RPM reading, then visually inspect the crank Sensor Bnd connector for any damage and repair as necessary. If there is no visible damage, and you have access to a scope, you could check the CKP 5 Volt square wave pattern. If you do not, then, obtain a resistance reading of your crank sensor from a repair manual. (There are so many different types of crank sensors that there's no way to put here which resistance reading is correct). Then check the resistance of the CKP sensor by disconnecting the Sensor Bnd measuring resistance of the sensor. (It is best to check resistance readings from the PCM connector. This rules out any wiring problems from the start. But it does require some mechanical skill and shouldn't be performed if you're not familiar with automobile electrical systems). Is the sensor within resistance specs?
- If not, replace the CKP sensor. If so, recheck resistance reading from the PCM connector. Is the reading still okay?
- If not, repair open or short in the wiring to the crank Sensor Bnd re-check. If the reading is okay, the problem is intermittent or the PCM may be at fault. Try reconnecting and checking

for RPM signal again. If there is now an RPM signal, wiggle test the wiring harness to try and induce the fault.

This code is basically identical to P0335. This code P0385 refers to Crankshaft Position Sensor "B", whereas P0335 refers to Crankshaft Position Sensor "A". If you have the code P0385, your vehicle is equipped with two crank sensors (CPS). Other crank sensor codes include [P0016](#), [P0017](#), [P0018](#), [P0019](#), [P0335](#), [P0336](#), [P0337](#), [P0338](#), [P0339](#), [P0385](#), [P0386](#), [P0387](#), [P0388](#), and [P0389](#).

Reference Sources

[P0385: Crankshaft Position Sensor B Circuit Malfunction](#), OBD-Codes.