

GENERIC · POWERTRAIN

P0149

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0149

Fuel Timing Error

P0149 is a generic powertrain code that the engine control module (ECM) sets when it detects a fuel timing error, meaning the actual fuel delivery event does not align with the commanded timing window. The ECM compares commanded fuel injection timing against feedback from the camshaft and crankshaft position sensors, and when the deviation exceeds a calibrated threshold, it stores this code and illuminates the check engine light.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Generic (all makes)	Medium	Professional	Fuel and air metering

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms
- Rough idle or intermittent misfire, especially when the engine is cold
- Reduced engine power or hesitation during acceleration
- Poor fuel economy or an increase in fuel consumption
- Hard starting or extended cranking before the engine fires
- Occasional stalling at low speeds or when coming to a stop

Common causes, most likely first

- 1 Faulty camshaft position sensor or crankshaft position sensor providing erratic timing signals
- 2 Wiring damage or poor electrical connections in the camshaft or crankshaft sensor circuits
- 3 Contaminated or degraded engine oil affecting variable valve timing (VVT) solenoid operation
- 4 Sticking or clogged VVT solenoid or oil control valve
- 5 Timing chain or belt wear causing the camshaft to deviate from the commanded position
- 6 Engine control module (ECM) software calibration issue or internal fault
- 7 Low oil pressure or oil sludge restricting proper VVT phaser operation



How to diagnose and fix it

- 1 Connect a scan tool and record all stored and pending codes, then check for related camshaft and crankshaft sensor codes
- 2 Inspect the engine oil level and condition, and verify that the oil meets the manufacturer's specification
- 3 Visually inspect the camshaft and crankshaft position sensor wiring and connectors for damage or corrosion
- 4 Use a scan tool to compare commanded versus actual camshaft timing while the engine is running
- 5 Test the camshaft and crankshaft position sensors with a multimeter or oscilloscope for proper signal output
- 6 Remove and clean or replace the VVT solenoid and check for oil sludge in the oil control passages
- 7 Verify base engine timing by checking the timing chain or belt alignment marks against the manufacturer's specifications

What most technicians overlook with P0149

- A dirty or sludged VVT solenoid is one of the most common causes of P0149, yet many technicians replace sensors first without checking oil condition and solenoid screens.
The code can be set by a weak battery or charging system issue that causes the ECM to lose its timing reference during cranking, so always verify battery voltage and ground integrity.
- P0149 does not always mean the timing chain has jumped; a failing camshaft phaser or a stuck oil control valve can produce the same timing error without any mechanical timing fault.
- Aftermarket camshaft or crankshaft sensors with incorrect signal characteristics are a frequent misdiagnosis trap, so use OEM-quality parts when replacement is necessary.
In some vehicles, a software calibration update from the manufacturer addresses false P0149 setting, so check for technical service bulletins before replacing hardware.

Can I keep driving with P0149?

You can usually drive the vehicle short distances to a repair shop, but avoid hard acceleration, heavy loads, and extended highway driving until the fault is diagnosed. If the engine runs rough, stalls, or the check engine light flashes, stop driving and have the vehicle towed to prevent catalytic converter damage.

Tools that help

- OBD-II scan tool with live data and graphing capability
- Digital multimeter
- Oscilloscope for sensor signal analysis
- Oil pressure gauge
- Basic hand tools and socket set
- Feeler gauges or timing chain alignment tools



Reading P0149

- P** Powertrain: engine, transmission and emissions.
- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- 1** Fuel and air metering.
- 49** The exact fault within that area.

Often seen with

P0010 'A' Camshaft Position Actuator Circuit (Bank 1) · **P0011** 'A' Camshaft Position - Timing Over-Advanced or System Perfo · **P0016** Crankshaft/Camshaft Position Correlation (Bank 1 Sensor A) · **P0335** Crankshaft Position Sensor A Circuit Malfunction · **P0340** Camshaft Position Sensor A Circuit Malfunction (Bank 1)

See it working

Watch the animated explainer [How a Refrigerator Works: The Cooling Cycle](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p0149/>

