

GENERIC · POWERTRAIN

P0370

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0370

Timing Reference High Resolution Signal 'A'

P0370 indicates that the engine control module (ECM) has detected a problem with the high-resolution timing reference signal 'A' from the engine's timing sensor system. This signal is critical for the ECM to precisely determine engine position and control fuel injection and ignition timing; when it is missing, erratic, or out of expected range, the ECM sets this code and may default to a less precise timing strategy.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Ignition system and misfire

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms
- Rough idle or stumbling, especially when the engine is cold
- Engine misfire or hesitation during acceleration
- Difficulty starting or extended cranking before the engine fires
- Reduced fuel economy or increased emissions
- In rare cases, the engine may stall or enter limp mode

Common causes, most likely first

- 1 Faulty high-resolution timing sensor (often a crankshaft or camshaft position sensor)
- 2 Damaged or corroded wiring or connector at the timing sensor or ECM
- 3 Debris or metallic particles on the sensor tip or reluctor wheel
- 4 Worn or damaged reluctor wheel (tone ring) on the crankshaft or camshaft
- 5 Internal ECM fault affecting signal processing
- 6 Poor ground connection for the sensor or ECM
- 7 Aftermarket modifications or improper installation of timing components



How to diagnose and fix it

- 1 Perform a visual inspection of the timing sensor and its wiring for obvious damage, corrosion, or loose connections
- 2 Use an OBD-II scanner to check for related codes and freeze-frame data, and verify live data for the timing signal
- 3 Test the sensor's resistance and signal output with a multimeter or oscilloscope according to the manufacturer's specifications
- 4 Check the reluctor wheel for cracks, missing teeth, or debris buildup and clean or replace as necessary
- 5 Inspect and test the wiring harness between the sensor and ECM for continuity, shorts, and grounds
- 6 If the sensor tests out of specification, replace it with a quality part and clear the codes
- 7 If all external components check good, diagnose the ECM for internal faults or reprogramming needs

Common Misdiagnosis Traps for P0370

- A weak or failing battery or charging system can cause voltage drops that disrupt the high-resolution signal, leading to a false P0370 without any sensor fault.
- Aftermarket engine components, such as underdrive pulleys or lightweight flywheels, can alter the timing signal characteristics and trigger this code even when all original parts are functioning.
- The high-resolution signal is often shared with other systems, so a fault in a related module (like the transmission control module) can cause the ECM to set P0370 as a secondary code.
- Metallic debris from normal wear can accumulate on a magnetic timing sensor, weakening the signal; cleaning the sensor tip often resolves the issue without replacement.
- In some vehicles, a P0370 may be stored intermittently due to a poor ground connection at the engine block, which is frequently overlooked during diagnosis.

Can I keep driving with P0370?

It is generally safe to drive with P0370 if the engine is running smoothly, but avoid aggressive acceleration or heavy loads until the fault is diagnosed. If the engine runs rough, misfires, or stalls, stop driving and seek professional repair to prevent damage to the catalytic converter or other components.

Tools that help

- OBD-II scanner with live data capability
- Digital multimeter
- Oscilloscope (for signal analysis)
- Basic hand tools (wrenches, sockets, screwdrivers)
- Feeler gauge or non-magnetic feeler gauge for air gap adjustment
- Manufacturer's service information for specifications



Reading P0370

- P** Powertrain: engine, transmission and emissions.
- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- 3** Ignition system and misfire.
- 70** The exact fault within that area.

Often seen with

P0335 Crankshaft Position Sensor A Circuit Malfunction · **P0336** Crankshaft Position Sensor A Circuit Range/Performance · **P0340** Camshaft Position Sensor A Circuit Malfunction (Bank 1) · **P0341** Camshaft Position Sensor A Circuit Range/Performance · **P0371** Timing Reference High Resolution Signal 'A' Too Many Pulses

See it working

Watch the animated explainer [How Crank and Cam Position Sensors Work](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p0370/>

