

GENERIC · POWERTRAIN

P0376

OBD-II TROUBLE CODE

P0376

Timing Reference High Resolution Signal 'B' Too Many Pulses

P0376 means the engine control module (ECM) is receiving too many pulses from the high-resolution timing reference signal 'B', which is one of the precise crank or cam position inputs used to synchronize fuel injection and ignition timing. The ECM compares the expected pulse count against what it actually sees, and when the signal 'B' produces more pulses than the software allows, it stores this code and may default to a less precise timing strategy.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Generic (all makes)	Medium	Professional	Ignition system and misfire

Symptoms you may notice

- Illuminated check engine light, often with no other noticeable symptoms
- Rough idle or intermittent misfire as timing synchronization degrades
- Hard starting or a crank-no-start condition in more severe cases
- Reduced engine power or limp-home mode triggered by the ECM
- Poor fuel economy or increased emissions due to inaccurate timing
- Occasional stalling when coming to a stop or during low-speed maneuvers

Common causes, most likely first

- 1 Damaged or contaminated high-resolution timing wheel or reluctor ring on the crank or camshaft
- 2 Faulty crankshaft or camshaft position sensor for signal 'B' producing spurious pulses
- 3 Wiring harness chafing, loose connector pins, or electromagnetic interference on the signal circuit
- 4 Excessive air gap between the sensor and the timing wheel caused by wear or incorrect installation
- 5 Metal debris or foreign material stuck to the timing wheel, creating extra pulse triggers
- 6 Failed ECM driver circuit or corrupted software calibration for the high-resolution input
- 7 Mechanical timing chain or belt wear causing erratic sensor signal generation



How to diagnose and fix it

- 1 Scan all modules and record freeze-frame data to confirm P0376 is active and not a history code from a previous repair
- 2 Visually inspect the signal 'B' sensor, connector, and wiring for damage, corrosion, or loose pins
- 3 Remove and inspect the high-resolution timing wheel for missing teeth, cracks, debris, or incorrect indexing
- 4 Measure sensor air gap and compare to specification, then check sensor resistance and output with a lab scope
- 5 Back-probe the signal circuit at the ECM and look for clean square-wave pulses without noise or extra transitions
- 6 Check for mechanical timing chain stretch or belt wear that could cause erratic pulse counts
- 7 If all inputs are correct, reflash or replace the ECM only after confirming the fault is internal

Before you replace the timing sensor

- A common misdiagnosis is replacing the crankshaft or camshaft sensor when the real problem is a bent or contaminated timing wheel that generates extra pulses.
- Electromagnetic interference from aftermarket ignition components or improperly routed wiring can create phantom pulses that the ECM counts as signal 'B' events.
- P0376 can set intermittently from a loose connector that only loses contact during certain engine vibrations, so wiggle-testing the harness while monitoring live data is essential.
- Some vehicles use signal 'B' for both crank and cam correlation, so a fault in the opposite sensor can sometimes trigger this code indirectly through the ECM's plausibility checks.
- A weak or failing battery or charging system can cause voltage spikes that corrupt the high-resolution signal, leading to false pulse counts without any sensor fault.

Can I keep driving with P0376?

You can usually drive the vehicle short distances to a repair shop, but avoid heavy acceleration, towing, or long highway trips because timing errors can cause misfires, overheating, or catalytic converter damage. If the engine runs rough, stalls, or enters limp mode, stop driving and arrange a tow.

Tools that help

- OBD-II scan tool with live data and freeze-frame capability
- Digital multimeter for circuit and resistance checks
- Oscilloscope or lab scope for waveform analysis
- Feeler gauges for air gap measurement
- Wiring diagram and connector pinout for the specific vehicle
- Basic hand tools for sensor and timing cover removal



Reading P0376

- 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.
- 76** The exact fault within that area.

Often seen with

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) · **P0375** Timing Reference High Resolution Signal 'B' · **P0377** Timing Reference High Resolution Signal 'B' Too Few Pulses

See it working

Watch the animated explainer [Four-Stroke Engine Cutaway: Intake to Exhaust](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p0376/>

