

GM · POWERTRAIN

P1371

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1371 · GM

DI Low Resolution Circuit

P1371 on GM vehicles means the ignition control module (ICM) has detected a fault in the low-resolution (crank) reference signal circuit that it uses to synchronize ignition timing and fuel delivery. The engine control module (ECM) sets this code when the low-resolution pulse from the distributor or crank sensor is missing, intermittent, or electrically out of range during engine cranking or running.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	GM specific	High	Professional	Ignition system and misfire

Symptoms you may notice

- Engine cranks but will not start, or starts only after long cranking
- Intermittent stalling, especially when the engine is hot or under load
- Rough running or misfire because the ICM cannot establish correct ignition timing
- A no-start condition that disappears after the engine cools down
- Often no symptoms besides the warning light if the fault is intermittent

Common causes, most likely first

- 1 Faulty ignition control module (ICM) internal low-resolution circuit
- 2 Damaged or chafed wiring in the low-resolution reference circuit between the distributor/crank sensor and the ICM
- 3 Corroded or loose connector terminals at the ICM, distributor, or crank sensor
- 4 Failed crankshaft position sensor or distributor pickup coil that produces a weak low-resolution signal
- 5 Poor ground connection at the ICM or engine block
- 6 Failed ECM driver for the low-resolution reference input (less common)

How to diagnose and fix it

- 1 Scan all modules and record freeze-frame data to confirm P1371 is the only reference-related code
- 2 Inspect the low-resolution signal wiring and connectors for chafing, corrosion, and tight terminal fit
- 3 Measure the low-resolution signal with a lab scope at the ICM connector while cranking and compare amplitude and pulse shape to specification
- 4 Check the ICM ground circuit for excessive voltage drop under load
- 5 Substitute a known-good ICM and retest the low-resolution signal
- 6 If the signal is present at the sensor but absent at the ECM, repair the circuit or replace the ECM as needed
- 7 Clear codes and verify the repair with a road test that includes hot restart and full-load acceleration



What the low-resolution signal really does

- The low-resolution signal is a once-per-revolution pulse that the ICM uses to identify cylinder position; a fault here can prevent the engine from starting even though the high-resolution signal looks perfect on a scan tool.
- A common misdiagnosis is replacing the distributor or crank sensor when the real problem is a corroded ICM connector terminal that only loses contact when the engine bay heats up.
- P1371 can be set by a weak battery or bad ground that pulls the reference signal below the ICM threshold during cranking, so always load-test the battery and check grounds before condemning the module.
- On some GM engines the low-resolution circuit shares a ground with the high-resolution circuit, so a single bad ground can set P1371 together with misfire or cam correlation codes.
- An intermittent P1371 that never leaves a no-start condition often traces to a harness that rubs against the distributor housing or exhaust shield, so flex the harness while watching live data.

Can I keep driving with P1371?

Do not drive the vehicle if it is stalling or will not restart reliably, because a sudden loss of the low-resolution signal can shut the engine off without warning. If the light is on but the engine runs normally, drive only to a repair shop and avoid heavy load or long trips until the circuit is diagnosed.

Tools that help

- OBD-II scan tool with live data and freeze-frame capability
- Digital multimeter with voltage-drop and resistance functions
- Lab scope with a low-current or inductive pickup
- Wiring diagram and connector pinout for the specific GM platform
- Terminal test kit and contact cleaner
- Known-good ignition control module for substitution testing

Reading P1371

P	Powertrain: engine, transmission and emissions.
1	Manufacturer-specific code (GM): its meaning depends on the make.
3	Ignition system and misfire.
71	The exact fault within that area.



Often seen with

P1362 Cylinder 3 Ignition Circuit Short To B+ · **P1350** Ignition Coil Power Output Stage 3 Open · **P1361** Cylinder 3 Ignition Circuit Open · **P1350** VVT Sensor Circuit Malfunction Bank 2 · **P1362** TDC1 Sensor No Signal · **P1361** TDC Sensor Intermittent Interruption · **P1350** Injection Sensor Solenoid · **P1362** Ignition Coil C Secondary Circuit · **P1361** Ignition Coil B Secondary Circuit · **P1361** Ignition Coil Cylinder 1 No Activation · **P1362** Ignition Coil Cylinder 2 No Activation · **P1361** TDC Sensor Intermittent Interruption · **P1362** TDC1 Sensor No Signal · **P1361** IC Circuit Low Voltage · **P1362** IC Cylinder 2 Not Toggling After Enable · **P1350** Ignition Control System · **P1361** Ignition Control IC Circuit Low Voltage · **P1362** Ignition Coil C Secondary Circuit Malfunction · **P1361** IC Circuit Low Voltage · **P1362** IC Cylinder 2 Not Toggling After Enable · **P1350** Ignition Control System · **P1361** Misfire Cylinder 10 With Fuel Cut-off · **P1362** Misfire During Start Cylinder 11 · **P1350** Misfire During Start Cylinder 5 · **P0335** Crankshaft Position Sensor A Circuit Malfunction · **P0336** Crankshaft Position Sensor A Circuit Range/Performance

See it working

Watch the animated explainer [How a Car Thermostat Works: Wax Pellet and Cooling Fan](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/gm-p1371/>

