

MITSUBISHI · POWERTRAIN

P1391

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1391 · Mitsubishi

Intermittent Loss Of CMP Or CKP Sensor Signals

P1391 on Mitsubishi vehicles indicates that the engine control module (ECM) has detected an intermittent loss of signal from either the camshaft position (CMP) sensor or the crankshaft position (CKP) sensor. The ECM sets this code when the signal drops out momentarily while the engine is running, often during specific conditions such as engine start-up, idle, or while driving.

SYSTEM

Powertrain

CODE TYPE

Mitsubishi
specific

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Ignition system
and misfire

Symptoms you may notice

- Check Engine Light illuminated, often with no other noticeable symptoms
- Intermittent engine stalling, especially at idle or low speeds
- Difficulty starting or extended cranking before the engine fires
- Rough running or misfiring during acceleration
- Loss of power or hesitation when driving
- In rare cases, the engine may stall and not restart until the code is cleared or the fault disappears

Common causes, most likely first

- 1 Faulty camshaft position sensor or crankshaft position sensor (intermittent internal failure)
- 2 Damaged or corroded wiring or connectors at the CMP or CKP sensor
- 3 Poor electrical connection at the ECM or a chafed wire harness
- 4 Excessive air gap between the sensor and the reluctor wheel due to wear or debris
- 5 Failed reluctor wheel (cracked or missing teeth) on the camshaft or crankshaft
- 6 Electrical interference from aftermarket accessories or a failing ignition system
- 7 Loose or damaged engine ground causing voltage fluctuations



How to diagnose and fix it

- 1 Scan all modules for stored and pending codes, and record freeze-frame data to identify when the fault occurs
- 2 Visually inspect the CMP and CKP sensors, wiring, and connectors for damage, corrosion, or loose pins
- 3 Perform a wiggle test on the sensor harnesses while monitoring live data for signal dropout
- 4 Check the sensor air gaps and reluctor wheels for debris, damage, or excessive play
- 5 Measure sensor resistance and compare to factory specifications; replace if out of range
- 6 Check for continuity and voltage drops on the sensor signal and ground circuits
- 7 If all else fails, substitute known-good sensors one at a time and retest to isolate the intermittent fault

Intermittent Signals: Don't Guess, Test

- A common mistake is to replace both sensors at once; instead, use a lab scope to capture the signal waveform and identify which sensor is actually dropping out.
- The code may be set by a failing ignition coil or spark plug wires causing electromagnetic interference that disrupts the sensor signals, so inspect the secondary ignition system first.
- On some Mitsubishi models, a weak battery or charging system can cause voltage spikes that mimic sensor failure, so always check battery health and grounds before condemning sensors.
- The CMP and CKP sensors share a common ground or shield in some harnesses; a single bad ground can affect both signals and set P1391 without any sensor being faulty.
- Aftermarket alarm systems or remote starters tapped into the crank signal can introduce noise and cause intermittent loss; verify no non-factory wiring is present.

Can I keep driving with P1391?

If the engine is running normally and the light is steady, you can drive cautiously to a repair shop, but avoid long trips or high-speed driving. If the engine stalls, runs rough, or the light flashes, pull over safely and have the vehicle towed to prevent damage or unsafe driving conditions.

Tools that help

- OBD-II scan tool with live data and freeze-frame capability
- Digital multimeter
- Oscilloscope (lab scope) for waveform analysis
- Basic hand tools (socket set, screwdrivers, wire probe kit)
- Factory service information for sensor specifications and wiring diagrams



Reading P1391

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

Often seen with

P1390 Timing Belt Skipped One Tooth Or More · **P1390** Octane Adjust Shorting Bar Out Or Circuit Open · **P1390** Wheel Speed Sensor 1 G-Sensor Circuit · **P1390** Octane Adjust Out of Self-Test Range · **P1390** Timing Belt Skipped One Tooth Or More · **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

See it working

Watch the animated explainer [How Coil-on-Plug Ignition Works: Coil and Spark Plug](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/mitsubishi-p1391/>

