

GM · POWERTRAIN

P1320

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1320 · GM

Distributorless Ignition 4X Signal Intermittent

P1320 on a GM vehicle means the powertrain control module (PCM) has detected an intermittent fault in the 4X reference signal circuit that comes from the ignition system. The 4X signal is a crankshaft position pulse used by the PCM to synchronize ignition timing and fuel injection, and an intermittent loss of this signal can cause the engine to stumble, stall, or fail to start.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	GM specific	Medium	Intermediate	Ignition system and misfire

Symptoms you may notice

- The check engine light or service engine soon light is illuminated, often with no other noticeable symptoms.
- The engine may intermittently stumble or misfire, especially under load or at certain RPMs.
- The engine may stall unexpectedly while driving or at idle, and may restart after a short wait.
- A hard start or no-start condition can occur when the 4X signal is lost completely.
- The tachometer may jump erratically or drop to zero during a stall event.
- Poor fuel economy or reduced power may be noticed if the intermittent signal affects timing advance.

Common causes, most likely first

- A faulty ignition control module (ICM) that generates the 4X signal, often due to heat-related internal failure.
- Damaged or chafed wiring in the 4X reference circuit between the ICM and the PCM, commonly near exhaust components or sharp edges.
- Corroded or loose electrical connectors at the ICM, PCM, or inline harness connectors.
- A failing crankshaft position sensor or reluctor ring on engines where the 4X signal is derived from the crank sensor rather than the distributorless ignition module.
- Poor ground connections for the ICM or PCM, causing intermittent signal loss.
- Electrical interference from faulty spark plugs, plug wires, or coils that corrupts the 4X signal.
- A failing PCM, although this is rare and should only be suspected after all other causes are ruled out.



How to diagnose and fix it

- 1 Scan all modules for stored and pending codes, and record freeze-frame data to see the conditions when P1320 set.
- 2 Visually inspect the 4X signal wiring and connectors between the ICM and PCM for chafing, corrosion, or loose pins, and repair as needed.
- 3 Perform a wiggle test on the harness while watching live data for the 4X signal to catch intermittent opens.
- 4 Check the ICM ground circuit and clean or tighten grounds, then test the ICM for proper 4X output with an oscilloscope if available.
- 5 Replace the ignition control module if it fails a bench test or shows heat-related signal dropout.
- 6 Inspect spark plugs, wires, and coils for excessive resistance or damage that could introduce electrical noise into the 4X circuit.
- 7 Clear codes and road-test the vehicle under various conditions to confirm the repair, and recheck for pending codes.

Intermittent 4X faults that fool technicians

- A common misdiagnosis is replacing the crankshaft position sensor when the actual fault is a failing ignition control module, because the 4X signal on many GM distributorless systems is generated inside the ICM, not by the crank sensor.
- Heat-soak failures in the ICM often do not show up on a cold engine, so the vehicle must be driven until fully warmed and then tested for the intermittent signal loss.
- Chafed wiring near the exhaust manifold or behind the engine block is a frequent hidden cause that only appears when the engine moves under torque, so a simple continuity check with the engine off can miss it.
- Aftermarket spark plug wires with poor suppression can create radio-frequency interference that mimics a 4X signal fault, so always inspect the secondary ignition components before condemning the ICM.
- P1320 can set without any driveability complaint because the PCM may substitute a calculated signal from the camshaft sensor, so the absence of symptoms does not mean the fault is harmless.

Can I keep driving with P1320?

You can usually drive the vehicle short distances to a repair shop if the engine runs smoothly, but avoid sustained highway speeds or heavy load because an intermittent 4X signal can cause sudden stalling. If the engine stalls frequently or fails to restart, stop driving and have the vehicle towed to prevent a dangerous loss of power.



Tools that help

- OBD-II scan tool with live data and freeze-frame capability
- Digital multimeter for continuity and voltage checks
- Oscilloscope for observing the 4X signal waveform
- Wiring diagram for the specific GM model
- Basic hand tools for connector and component access

Reading P1320

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

Often seen with

P1361 Cylinder 3 Ignition Circuit Open · **P1350** Ignition Coil Power Output Stage 3 Open · **P1350** VVT Sensor Circuit Malfunction Bank 2 · **P1361** TDC Sensor Intermittent Interruption · **P1350** Injection Sensor Solenoid · **P1361** Ignition Coil B Secondary Circuit · **P1361** Ignition Coil Cylinder 1 No Activation · **P1361** TDC Sensor Intermittent Interruption · **P1350** Ignition Control System · **P1361** IC Circuit Low Voltage · **P1361** Ignition Control IC Circuit Low Voltage · **P1350** Ignition Control System · **P1361** IC Circuit Low Voltage · **P1361** Misfire Cylinder 10 With Fuel Cut-off · **P1350** Misfire During Start Cylinder 5 · **P0300** Random/Multiple Cylinder Misfire Detected · **P0336** Crankshaft Position Sensor A Circuit Range/Performance · **P0335** Crankshaft Position Sensor A Circuit Malfunction

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/gm-p1320/>

