

GM · POWERTRAIN

P1300

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1300 · GM

Ignition Coil 1 Primary Feedback Circuit

P1300 on a GM vehicle means the powertrain control module (PCM) is not receiving the expected electrical feedback pulse from the primary side of ignition coil 1, so it cannot confirm that coil is firing. The PCM monitors the coil's primary circuit for a brief voltage spike each time it commands a spark, and this code sets when that feedback signal is missing or out of range.

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

Symptoms you may notice

- Often no symptoms besides the warning light, especially if the misfire is intermittent or only occurs under specific load conditions.
A noticeable engine misfire or rough idle that may feel like a shake or stumble, particularly when the engine is cold or under acceleration.
- Reduced engine power or a hesitation during acceleration as the PCM may limit performance to protect the catalytic converter.
- A flashing check engine light during active misfire events, which indicates a catalyst-damaging condition.
- Slightly worse fuel economy because the affected cylinder is not burning its air-fuel mixture efficiently.
- In some cases, a faint electrical burning smell or visible damage at the coil connector if the primary circuit has overheated.

Common causes, most likely first

- Failed ignition coil 1, where the primary winding or internal feedback circuit has opened or shorted.
- Damaged or corroded electrical connector at ignition coil 1, causing high resistance or an intermittent connection.
- Broken, chafed, or shorted wire in the primary feedback circuit between the coil and the PCM.
- Faulty powertrain control module (PCM) driver circuit for coil 1, though this is less common than coil or wiring faults.
- Poor engine ground or loose coil mounting bolt that prevents a solid primary circuit return path.
- Aftermarket or incorrect ignition coil that does not produce the expected feedback signal.
- Water intrusion or oil contamination in the coil connector or spark plug well causing circuit degradation.



How to diagnose and fix it

- 1 Inspect ignition coil 1 and its connector for corrosion, loose pins, or physical damage, and clean or repair as needed.
- 2 Swap ignition coil 1 with a known-good coil from another cylinder and clear the code to see if the fault moves, confirming a coil failure.
- 3 Use a digital multimeter to check the primary resistance of coil 1 and compare it to the manufacturer's specification.
- 4 Back-probe the feedback circuit at the coil and at the PCM to check for continuity, shorts to ground, or shorts to voltage while wiggling the harness.
- 5 Verify that the coil mounting bolt and engine ground straps are clean and tight, as a poor ground can mimic a feedback fault.
- 6 If the circuit and coil test good, use a lab scope to observe the feedback signal at the PCM and determine whether the PCM driver is faulty.
- 7 Replace the faulty ignition coil, repair the wiring, or reprogram or replace the PCM only after all other causes have been ruled out.

What most technicians miss on P1300

- A loose or corroded coil mounting bolt can cause P1300 because the primary circuit often uses the engine block as a ground return, and a poor ground corrupts the feedback signal.
- Swapping coils between cylinders is the fastest way to confirm a coil fault, but the code may not follow the coil if the feedback circuit is shared or if the PCM driver is failing.
- P1300 can be set by an intermittent connection that only acts up when the engine is hot or vibrating, so a simple resistance check on a cold engine may pass.
- Aftermarket coils with incorrect internal resistance are a common cause of repeat P1300 codes even though the coil appears to function normally.
- The PCM may set P1300 without ever illuminating the check engine light if the fault is not severe enough to trigger a misfire monitor, so a scan tool is the only way to catch it.

Can I keep driving with P1300?

You can usually drive the vehicle short distances to a repair shop, but avoid heavy acceleration or sustained high-speed driving because an active misfire can overheat and damage the catalytic converter. If the check engine light is flashing, stop driving as soon as it is safe and have the vehicle towed.



Tools that help

- OBD-II scan tool with live data and misfire counter capability
- Digital multimeter with resistance and continuity functions
- Lab scope for observing feedback signals
- Socket set and extension for coil removal
- Electrical contact cleaner and dielectric grease
- Factory service information for wiring diagrams and resistance specifications

Reading P1300

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

Often seen with

P1301 Fire Due To Increased Exhaust Temperature · **P1301** Cylinder 1 Misfire · **P1301** Cylinder 1 Misfire · **P1301** Boost Calibration High · **P0300** Random/Multiple Cylinder Misfire Detected · **P0301** Cylinder 1 Misfire Detected · **P0351** Ignition Coil A Primary/Secondary Circuit Malfunction · **P0352** Ignition Coil B Primary/Secondary 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-p1300/>

