

GM · POWERTRAIN

P1354

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1354 · GM

IC Output High Pulse Detected When Grounded Cyl 4

P1354 on a GM vehicle means the ignition control (IC) circuit for cylinder 4 is commanding a high output pulse while the circuit is grounded, which the engine control module (ECM) interprets as an abnormal short-to-ground condition. The ECM monitors the IC output line and expects it to behave as a controlled driver, so a continuous high signal when the line should be low indicates a wiring fault, a failed ignition coil, or an internal ECM driver problem.

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

Symptoms you may notice

- Engine misfire or rough running, especially noticeable at idle or under light load
- Illuminated check engine light, often with a flashing light if the misfire is severe
- Reduced engine power or hesitation during acceleration
- Poor fuel economy and increased emissions
- Often no symptoms besides the warning light if the fault is intermittent
- Possible engine stall or hard starting in severe cases

Common causes, most likely first

- 1 Faulty ignition coil for cylinder 4 with an internal short to ground
- 2 Chafed or shorted IC control wire between the ECM and the cylinder 4 ignition coil
- 3 Corroded or loose connector pins at the ignition coil or ECM harness
- 4 Failed ECM driver for the cylinder 4 IC circuit
- 5 Aftermarket alarm or remote start wiring tapped into the IC circuit
- 6 Engine wiring harness damage from heat, rodents, or previous repairs



How to diagnose and fix it

- 1 Inspect the cylinder 4 ignition coil connector and ECM harness for corrosion, loose pins, or chafing
- 2 Disconnect the cylinder 4 ignition coil and check the IC control wire for continuity to ground with the key off
- 3 Swap the cylinder 4 ignition coil with a known-good coil from another cylinder and see if the code moves
- 4 Measure resistance of the IC control wire from the ECM connector to the coil connector to rule out an open or short
- 5 Check for aftermarket accessories tapped into the ignition wiring and remove or repair any improper connections
- 6 If wiring and coil test good, perform an ECM driver test with a scan tool or oscilloscope to confirm the ECM is commanding the fault
- 7 Replace the ECM only after all other causes are ruled out, and reprogram it to the vehicle

Why cylinder 4 IC codes mislead

- A shorted ignition coil on cylinder 4 is the most common cause, but technicians often replace the ECM first because the code points to the IC output; always swap the coil before condemning the module.
- The IC circuit is a low-current control line, so a cheap test light or incorrect probing can damage the ECM driver; use a high-impedance multimeter or oscilloscope for testing.
- Aftermarket remote starters and alarm systems frequently splice into ignition control wires, creating intermittent shorts that set P1354 only under certain conditions.
- A misfire from a bad spark plug or plug wire can cause the ECM to detect an abnormal IC pulse, so inspect secondary ignition components before chasing the control circuit.
- On some GM engines, the IC circuit for cylinder 4 shares a ground path with other ignition coils, so a bad ground at one coil can set codes for multiple cylinders.

Can I keep driving with P1354?

You can drive the vehicle short distances to a repair shop if the check engine light is steady and the engine runs smoothly, but avoid heavy acceleration or towing. If the light is flashing or the engine misfires badly, stop driving to prevent catalytic converter damage.

Tools that help

- OBD-II scan tool with live misfire and ignition data
- Digital multimeter with high-impedance input
- Oscilloscope for IC waveform testing
- Wire terminal removal tools
- Factory service information for wiring diagrams and pinouts



Reading P1354

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

Often seen with

P1351 VVT Sensor Range Performance Problem Bank 2 · **P1351** Injection Sensor Circuit · **P1352** Needle Lift Sensor · **P1353** Ignition Coil B Primary Circuit · **P1351** Ignition Diagnostic Monitor Signal Lost To PCM Or Out Of Ran · **P1352** Ignition Coil A Primary Circuit · **P1353** IC Output High Pulse Detected When Grounded Cyl 3 · **P1351** Ignition Control Circuit Voltage High · **P1352** IC Output High Pulse Detected When Grounded Cyl 2 · **P1353** Ignition Coil B Primary Circuit Fault · **P1351** Ignition Diagnostic Monitor Circuit Input Fault · **P1352** Ignition Coil A Primary Circuit Fault · **P1352** IC Output High Pulse Detected When Grounded Cyl 2 · **P1353** IC Output High Pulse Detected When Grounded Cyl 3 · **P1351** IC Circuit High Voltage · **P1353** Misfire Cylinder 6 With Fuel Cut-off · **P1352** Misfire During Start Cylinder 6 · **P1351** Misfire Cylinder 5 With Fuel Cut-off · **P0304** Cylinder 4 Misfire Detected · **P0354** Ignition Coil D Primary/Secondary Circuit Malfunction

See it working

Watch the animated explainer [How an Oxygen Sensor Works: Live 3D Cutaway](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/gm-p1354/>

