

GM · POWERTRAIN

P1289

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1289 · GM

Manifold Tune Valve Solenoid Circuit Open Or Shorted

P1289 on a GM vehicle means the powertrain control module (PCM) has detected an open or shorted circuit in the manifold tune valve solenoid, which is used on some engines to alter intake runner length or volume for better low-end and high-end torque. The PCM commands the solenoid on or off and monitors the circuit for expected voltage or current feedback; when the feedback falls outside the expected range, it sets this code and may disable the valve's operation.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	GM specific	Low	Intermediate	Fuel and air metering (injector circuits)

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms
- Slight loss of low-end torque or a subtle flat spot during acceleration
- Rough or unstable idle quality on engines equipped with the manifold tune valve
- Reduced fuel economy in some cases due to the PCM running a default tuning strategy
- In rare cases, a mild hesitation when the PCM commands the valve to change position

Common causes, most likely first

- 1 Broken, chafed, or disconnected wire in the manifold tune valve solenoid circuit
- 2 Corroded or loose electrical connector at the solenoid or at the PCM
- 3 Failed manifold tune valve solenoid (open or shorted internally)
- 4 Seized or binding manifold tune valve actuator linkage, causing the solenoid to overheat and fail
- 5 PCM driver circuit fault, though this is less common than wiring or solenoid failure
- 6 Aftermarket or damaged intake components that interfere with the solenoid or its wiring



How to diagnose and fix it

- 1 Inspect the manifold tune valve solenoid connector and wiring for damage, corrosion, or looseness, and repair as needed
- 2 Measure the resistance of the solenoid with a multimeter and compare it to the manufacturer's specification to check for an open or shorted coil
- 3 Check for battery voltage and ground at the solenoid connector with the key on and the PCM commanding the valve, using a scan tool or test light
- 4 Perform a wiggle test on the harness while monitoring solenoid resistance or circuit voltage to reveal intermittent faults
- 5 If the circuit and solenoid test good, check the PCM connector for corrosion and verify the PCM driver operation with a bidirectional scan tool
- 6 Replace the manifold tune valve solenoid if it fails electrical or mechanical testing, and clear the code to verify the repair

Manifold tune valve circuit checks that save time

- A stuck or carbon-fouled manifold tune valve can burn out the solenoid and set P1289, so always check that the valve moves freely before installing a new solenoid.
- The PCM may set P1289 intermittently due to a wire that only breaks contact when the engine moves under load, so a simple static resistance check can miss the fault.
- Some GM engines use the manifold tune valve only during specific operating conditions, so a failed solenoid may not produce any driveability complaint and the code can be the only clue.
- A poor ground connection at the engine block or chassis can mimic a solenoid circuit fault, so verify ground integrity before condemning the PCM or the solenoid.
- After replacing the solenoid, confirm the repair by commanding the valve with a scan tool and watching for the expected change in manifold absolute pressure (MAP) or intake air flow.

Can I keep driving with P1289?

You can generally continue driving with P1289 because the fault mainly affects intake tuning and does not create an immediate safety risk, but avoid heavy throttle or towing until the circuit is repaired to prevent worsening driveability or fuel economy.

Tools that help

- OBD-II scan tool with bidirectional control capability
- Digital multimeter
- Test light
- Wire repair kit with crimpers and heat shrink
- Socket and ratchet set
- Manufacturer service information for circuit specifications



Reading P1289

- P** Powertrain: engine, transmission and emissions.
- 1** Manufacturer-specific code (GM): its meaning depends on the make.
- 2** Fuel and air metering (injector circuits).
- 89** The exact fault within that area.

Often seen with

P1288 Turbocharge Bypass Valve Short To B+ · **P1288** Accelerator Pedal Position Sensor 3 Circuit High Voltage · **P1290** CNG Fuel Pressure Too High · **P1288** Cylinder Head Temperature Sensor Out of Self-Test Range · **P1290** Cylinder Head Temperature Sensor Signal Less Than Self-Test · **P1288** Intake Manifold Short Runner Solenoid Circuit Open Or Shorted · **P1290** CNG Fuel Pressure Too High · **P1288** Switching Solenoid for Air Assisted Injection Valves Bank 2 · **P0660** Intake Manifold Tuning Valve Control Circuit/Open (Bank 1) · **P2004** Intake Manifold Runner Control Stuck Open (Bank 1) · **P2008** Intake Manifold Runner Control Circuit/Open (Bank 1)

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-p1289/>

