

GENERIC · POWERTRAIN

P2009

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P2009

Intake Manifold Runner Control Circuit Low (Bank 1)

P2009 indicates that the powertrain control module has detected a low-voltage condition on the intake manifold runner control circuit for bank 1. The intake manifold runner control system uses a motor or solenoid to adjust airflow path length inside the intake manifold, and this code sets when the control circuit voltage falls below the expected range, often due to a short to ground or an open circuit.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Generic (all makes)	Medium	Intermediate	Fuel and air metering and auxiliary emission controls

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms
- Slight hesitation or stumble during acceleration, especially at lower engine speeds
- Reduced engine power or sluggish throttle response in some driving conditions
- Rough idle or unstable engine speed when the runner control fails to adjust
- In rare cases, a noticeable change in intake sound or a mild whistle from the engine bay

Common causes, most likely first

- 1 Damaged or disconnected wiring harness to the intake manifold runner control actuator
- 2 Failed intake manifold runner control solenoid or motor
- 3 Corroded or loose electrical connector at the actuator or PCM
- 4 Short to ground in the control circuit wiring
- 5 Faulty powertrain control module driver for the runner control circuit
- 6 Internal mechanical binding of the intake manifold runner flaps, overloading the actuator



How to diagnose and fix it

- 1 Inspect the intake manifold runner control actuator connector and wiring for obvious damage, corrosion, or loose pins
- 2 Check the actuator's electrical resistance and compare it to the manufacturer's specification
- 3 Test the control circuit for a short to ground and for continuity from the PCM to the actuator
- 4 Verify that the intake manifold runner flaps move freely by hand or with a scan tool actuation test
- 5 If the circuit and actuator test good, substitute a known-good actuator to see if the code clears
- 6 Check for applicable technical service bulletins or software updates for the PCM
- 7 Replace the faulty actuator, repair the wiring, or reprogram or replace the PCM as needed

Don't overlook the runner flap linkage

- A binding or carbon-fouled intake manifold runner flap can cause the actuator to draw excessive current, setting a low-voltage code even when the actuator itself is healthy.
- The code can be set by a poor ground connection at the actuator or PCM, which is often missed when technicians focus only on the positive control circuit.
- On some vehicles, the intake manifold runner control circuit is shared with other actuators, so a fault elsewhere can trigger P2009 without any problem in the runner control system itself.
- A scan tool that can command the runner control actuator is far more reliable than static resistance checks for confirming whether the actuator or the wiring is at fault.
- P2009 does not always mean the actuator has failed; a shorted wire or a faulty PCM driver can produce the same low-voltage signal, so circuit testing must come before parts replacement.

Can I keep driving with P2009?

You can usually continue driving with P2009 because the engine will default to a fixed runner position, but expect reduced performance and possible hesitation. Avoid heavy acceleration or towing until the fault is repaired, and address the code promptly to prevent secondary issues.

Tools that help

- OBD-II scan tool with bidirectional control capability
- Digital multimeter
- Wiring diagram for the specific vehicle
- Socket set and trim removal tools
- Manufacturer service information for circuit specifications



Reading P2009

- P** Powertrain: engine, transmission and emissions.
- 2** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- 0** Fuel and air metering and auxiliary emission controls.
- 09** The exact fault within that area.

Often seen with

P2008 Intake Manifold Runner Control Circuit/Open (Bank 1) · **P2010** Intake Manifold Runner Control Circuit High (Bank 1) · **P2011** Intake Manifold Runner Control Circuit/Open (Bank 2) · **P2012** Intake Manifold Runner Control Circuit Low (Bank 2) · **P2013** Intake Manifold Runner Control Circuit High (Bank 2)

See it working

Watch the animated explainer [How a Refrigerator Works: The Cooling Cycle](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p2009/>

