

GENERIC · POWERTRAIN

P207C

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P207C

Intake Manifold Tuning (IMT) Valve Position Sensor/Switch Circuit Low (Bank 2)

P207C means the powertrain control module (PCM) has detected a low-voltage condition on the intake manifold tuning (IMT) valve position sensor circuit for bank 2. The IMT valve changes intake runner length to optimize airflow at different engine speeds, and the sensor reports the valve's actual position to the PCM. A low signal indicates the PCM sees a voltage below the expected range, so it cannot confirm the valve is moving to the commanded position.

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.
- Reduced engine performance, especially a lack of power at higher engine speeds where the IMT valve should open.
- Rough idle or unstable engine operation if the valve is stuck in one position.
- Poor fuel economy due to incorrect intake tuning.
- In some cases, a slight hesitation or stumble during acceleration.

Common causes, most likely first

- 1 Faulty IMT valve position sensor (internal short to ground or open circuit).
- 2 Damaged or disconnected electrical connector at the sensor.
- 3 Wiring harness chafing, corrosion, or a broken wire between the sensor and the PCM.
- 4 Failed IMT valve actuator causing the sensor to read out of range.
- 5 PCM internal fault (rare, but possible).
- 6 Contamination or debris on the sensor or valve mechanism.



How to diagnose and fix it

- 1 Use a scan tool to verify the code and check for any related codes; record freeze-frame data.
- 2 Visually inspect the IMT valve position sensor connector and wiring for damage, corrosion, or loose pins.
- 3 Measure the sensor reference voltage and ground at the connector with a digital multimeter; compare to manufacturer specifications.
- 4 Test the sensor signal circuit for a short to ground or an open circuit between the sensor and PCM.
- 5 If the circuit tests good, remove the sensor and inspect the IMT valve for mechanical binding or debris; clean or replace as needed.
- 6 Replace the IMT valve position sensor if it fails electrical testing, then clear codes and verify the repair with a test drive.
- 7 If the fault persists after sensor replacement, check the PCM and its connections, and perform a relearn or reprogramming if required.

Common Misdiagnosis Traps for P207C

- A low signal code often results from a poor ground connection at the sensor, not a failed sensor, so always check ground integrity before replacing parts.
- The IMT valve position sensor may share a reference voltage or ground with other sensors; a fault in a shared circuit can set P207C along with other codes.
- Mechanical binding of the IMT valve can cause the sensor to read low even when the sensor itself is good, so inspect the valve for carbon buildup or obstruction.
- On some vehicles, the IMT valve is vacuum-operated, and a leaking vacuum line can cause the sensor to report an incorrect position, setting this code.
- After repairs, the PCM may require a relearn procedure for the IMT valve; failing to do so can cause the code to return immediately.

Can I keep driving with P207C?

The vehicle is generally safe to drive with P207C, but you may experience reduced performance and fuel economy. Avoid aggressive acceleration or heavy loads until the fault is repaired, and address the issue promptly to prevent potential damage to the IMT valve or related components.

Tools that help

- OBD-II scan tool
- Digital multimeter
- Wire probe set
- Socket and ratchet set
- Manufacturer service information for circuit specifications



Reading P207C

- 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.
- 7C** The exact fault within that area.

Often seen with

P2004 Intake Manifold Runner Control Stuck Open (Bank 1) · **P2008** Intake Manifold Runner Control Circuit/Open (Bank 1) · **P207A** Intake Manifold Tuning (IMT) Valve Position Sensor/Switch Ci · **P207B** Intake Manifold Tuning (IMT) Valve Position Sensor/Switch Ci · **P207D** Intake Manifold Tuning (IMT) Valve Position Sensor/Switch Ci

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/p207c/>

