

GENERIC · POWERTRAIN

P207A

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P207A

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

P207A indicates that the powertrain control module (PCM) has detected an abnormal signal from the intake manifold tuning (IMT) valve position sensor or switch circuit on bank 2. The IMT valve changes intake runner length to optimize airflow at different engine speeds, and the PCM expects a specific sensor voltage or switch state for the commanded position; when the signal falls outside the expected range, the code is stored.

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 light acceleration or at certain engine speeds.
- Reduced engine power or sluggish response when accelerating from a stop.
- Rough idle or unstable idle quality in some cases.
- A noticeable decrease in fuel economy over time.
- In rare instances, the engine may enter limp mode, limiting RPM.

Common causes, most likely first

- 1 Faulty IMT valve position sensor or switch on bank 2.
- 2 Damaged, corroded, or disconnected wiring or connector at the IMT valve position sensor.
- 3 Sticking or mechanically binding IMT valve actuator, preventing the sensor from reaching the expected position.
- 4 Vacuum leak or blockage in the IMT valve control system, such as a cracked hose or faulty vacuum reservoir.
- 5 Failed IMT valve actuator solenoid or control module.
- 6 PCM software issue or internal fault, though this is less common.
- 7 Contamination or carbon buildup on the IMT valve or sensor, causing inaccurate readings.



How to diagnose and fix it

- 1 Perform a visual inspection of the IMT valve position sensor, connector, and wiring for damage, corrosion, or loose connections.
- 2 Use a scan tool to command the IMT valve through its full range and observe the position sensor voltage or switch state for smooth operation.
- 3 Check the IMT valve actuator for mechanical binding or carbon buildup; clean or replace as necessary.
- 4 Measure resistance and continuity of the sensor circuit wiring between the sensor and PCM, repairing any opens or shorts.
- 5 Test the IMT valve actuator solenoid with a multimeter and apply vacuum or voltage to verify operation.
- 6 If all electrical and mechanical checks pass, consult factory service information for specific pinpoint tests and consider PCM reprogramming or replacement.

Common Misdiagnosis Traps for P207A

- A stuck IMT valve can set this code without any sensor fault, so always verify valve movement before replacing the sensor.
- Carbon buildup on the intake manifold tuning valve is a frequent cause that is often overlooked during diagnosis.
- Wiring harness damage near the intake manifold, such as chafing or heat damage, can mimic a failed sensor and should be carefully inspected.
- The code may be intermittent and only set under specific driving conditions, so a road test with live data is essential.
- On some vehicles, a weak battery or charging system issue can cause false sensor codes, so check system voltage first.

Can I keep driving with P207A?

You can generally continue driving with P207A, but avoid aggressive acceleration and heavy loads until the fault is repaired. Prolonged driving may reduce fuel economy and could lead to more serious intake system issues, so schedule a diagnosis soon.

Tools that help

- OBD-II scan tool with live data and bidirectional control capabilities
- Digital multimeter
- Vacuum pump and gauge
- Hand tools for intake component removal
- Factory service information or wiring diagrams



Reading P207A

- 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.
- 7A** 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) · **P207B** Intake Manifold Tuning (IMT) Valve Position Sensor/Switch Ci · **P207C** 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/p207a/>

