

GENERIC · POWERTRAIN

P207D

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P207D

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

P207D indicates that the powertrain control module has detected an abnormally high voltage on the intake manifold tuning valve position sensor circuit for bank 2, which usually means the sensor signal wire is shorted to power or the sensor's internal resistance has gone open. The intake manifold tuning valve changes runner length to optimize airflow, and the position sensor reports the valve's actual position back to the computer. A high signal tells the module the valve is stuck at one extreme or the circuit is compromised, so it sets this code and may disable the tuning function.

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 besides the warning light
- Slight hesitation or flat spot during light acceleration as the tuning valve fails to adjust
- Reduced engine power or poor throttle response at certain engine speeds
- Rough idle or unstable idle quality when the valve is stuck in the wrong position
- A stored freeze-frame showing the fault occurred during steady cruising or light load

Common causes, most likely first

- 1 Sensor signal wire shorted to battery voltage or a nearby power wire in the harness
- 2 Failed intake manifold tuning valve position sensor with an open internal circuit or high resistance
- 3 Corroded, pushed-back, or loose terminal at the sensor connector or PCM connector
- 4 Damaged wiring harness rubbed through on the intake manifold or engine mount bracket
- 5 Intake manifold tuning valve actuator stuck mechanically, forcing the sensor to report an out-of-range high position
- 6 PCM internal fault on the sensor input circuit, though this is the least common cause



How to diagnose and fix it

- 1 Scan all modules and record freeze-frame data to confirm P207D is active and not a history code from a previous repair
- 2 Inspect the bank 2 intake manifold tuning valve sensor connector and harness for corrosion, chafing, or pushed terminals
- 3 Back-probe the sensor signal wire with a multimeter and compare voltage to the manufacturer's specification with the key on and engine off
- 4 Disconnect the sensor and check for a short to power on the signal circuit; repair any harness damage found
- 5 Measure sensor resistance across the position sensor and compare to the service manual range to confirm sensor failure
- 6 Replace the intake manifold tuning valve position sensor or the complete tuning valve assembly if the sensor is not serviced separately
- 7 Clear codes and perform a road test with live data to verify the sensor voltage sweeps smoothly through its range and the code does not return

What a high signal really tells you

- A high voltage reading on this circuit often comes from a short to power in the harness rather than a failed sensor, so always check for rubbed wiring near hot or moving components before replacing parts.
- The intake manifold tuning valve position sensor may share a reference voltage or ground with other sensors on the same bank, so a fault in a neighbouring circuit can skew this signal and set P207D.
- Some vehicles use a magnetic or Hall-effect position sensor that produces a digital signal, and a high code can mean the sensor's internal pull-up resistor has failed rather than a simple short.
- A mechanically stuck tuning valve can hold the sensor at its high extreme and set this code even when the wiring and sensor are perfectly good, so verify valve movement after electrical checks.
- This code does not always mean the tuning valve is broken; a loose battery terminal or low charging voltage can cause a momentary high signal that stores the code without any real circuit fault.

Can I keep driving with P207D?

You can usually drive the vehicle with P207D because the engine management system defaults to a safe tuning strategy, but expect reduced performance and slightly higher fuel consumption. Avoid heavy acceleration and towing until the fault is repaired, and have the circuit inspected promptly to prevent damage to the tuning valve or catalytic converter from prolonged rich operation.



Tools that help

- OBD-II scan tool with live data and freeze-frame capability
- Digital multimeter with back-probe pins
- Service manual or wiring diagram for the specific vehicle
- Hand tools for intake manifold component access
- Terminal pick and electrical contact cleaner

Reading P207D

- P** Powertrain: engine, transmission and emissions.
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- 2** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
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- 0** Fuel and air metering and auxiliary emission controls.
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- 7D** 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) · **P2015** Intake Manifold Runner Position Sensor/Switch Circuit Range/ · **P207C** Intake Manifold Tuning (IMT) Valve Position Sensor/Switch Ci · **P207E** 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/p207d/>

