

GENERIC · POWERTRAIN

P00D7

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P00D7

Turbocharger/Supercharger Bypass Valve A Temperature Too High

P00D7 means the powertrain control module has detected that the temperature reported by the turbocharger or supercharger bypass valve A circuit has exceeded the manufacturer's safe limit. The computer is not reporting a generic overheating event; it is flagging that the bypass valve's own temperature sensor or its wiring is reading hotter than the calibration allows, which can affect boost control strategy and protection routines.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

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.
- Reduced engine power or a limp-home mode as the computer limits boost to protect the bypass valve and surrounding components.
- Intermittent or persistent boost loss, especially under sustained load or during repeated acceleration cycles.
- A stored freeze-frame showing the fault occurring at higher ambient temperatures or after extended driving.
- Rough running or poor throttle response if the bypass valve is stuck partially open due to heat-related sticking.

Common causes, most likely first

- 1 A failing temperature sensor integrated into the bypass valve assembly, reading higher than actual temperature.
- 2 Damaged, chafed, or corroded wiring in the bypass valve temperature sensor circuit, causing a skewed signal.
- 3 A bypass valve that is sticking or slow to respond, allowing heat soak and elevated local temperatures.
- 4 Restricted airflow or a blocked charge-air cooler that raises intake temperatures and heat-soaks the bypass valve.
- 5 A poor electrical ground or connector terminal tension issue at the bypass valve harness.
- 6 An engine management software calibration issue that sets the threshold too low for the operating conditions.
- 7 A failing powertrain control module driver circuit, though this is rare compared with sensor and wiring faults.



How to diagnose and fix it

- 1 Connect a scan tool and record the freeze-frame data for P00D7, noting engine load, ambient temperature, and bypass valve temperature at the time of the fault.
- 2 Visually inspect the bypass valve connector and harness for chafing, corrosion, or loose terminals, and repair any obvious wiring damage first.
- 3 Measure the resistance or voltage signal from the bypass valve temperature sensor and compare it with the manufacturer's specification across a known temperature range.
- 4 Check for technical service bulletins or calibration updates that address false P00D7 setting before replacing any hardware.
- 5 Verify charge-air cooler airflow and inspect for debris, bent fins, or blocked ducting that could cause elevated intake temperatures.
- 6 If the sensor signal is out of specification and wiring is intact, replace the bypass valve assembly or its temperature sensor as applicable.
- 7 Clear the code and perform a road test under the same conditions recorded in the freeze-frame to confirm the repair.

Why bypass valve temperature codes mislead

- A P00D7 is frequently set by a skewed temperature sensor signal rather than a genuinely overheated bypass valve, so replacing the valve without testing the circuit wastes money.
- Heat soak after engine shutdown can push the bypass valve temperature above the threshold momentarily, and some calibrations will set a pending code that never matures into a hard fault.
- A restricted charge-air cooler or a failing cooling fan can raise underhood temperatures enough to trigger this code even when the bypass valve itself is healthy.
- Technicians who replace the bypass valve without checking for a calibration update often see the code return because the threshold in the original software was too aggressive.
- The bypass valve temperature circuit often shares a ground or reference voltage with other sensors, so a fault elsewhere on that shared circuit can set P00D7 as a companion code.

Can I keep driving with P00D7?

You can usually drive the vehicle to a repair shop, but avoid sustained heavy acceleration or towing until the fault is diagnosed, because the computer may limit boost and the underlying heat issue could worsen.

Tools that help

- OBD-II scan tool with live data and freeze-frame capability
- Digital multimeter with temperature probe
- Manufacturer service information for circuit specifications
- Basic hand tools for connector and harness inspection
- Infrared thermometer for checking component temperatures



Reading P00D7

- P** Powertrain: engine, transmission and emissions.
- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- 0** Fuel and air metering and auxiliary emission controls.
- D7** The exact fault within that area.

Often seen with

P00D5 HO2S Sensor Correlation Bank 1 Sensor 1/Bank 1 Sensor 2 · **P00D6** HO2S Sensor Correlation Bank 2 Sensor 1/Bank 2 Sensor 2 · **P00D8** Turbocharger/Supercharger Bypass Valve B Temperature Too Hig · **P0234** Engine Overboost Condition · **P0299** Turbo/Supercharger Underboost

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/p00d7/>

