

GENERIC · POWERTRAIN

P01F3

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P01F3

O2 Sensor Circuit High Voltage Bank 1 Sensor 4

P01F3 indicates that the powertrain control module (PCM) has detected a sustained high voltage on the signal circuit of the downstream oxygen sensor located after the catalytic converter on bank 1, sensor 4. The sensor is responsible for monitoring catalyst efficiency, and a high voltage reading typically means the signal wire is shorted to voltage or the sensor's internal circuit is skewed.

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

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms.
- A slight decrease in fuel economy as the PCM may default to a rich fuel mixture.
- Possible rough idle or hesitation if the faulty sensor affects fuel trim calculations.
- In some cases, a failed emissions test due to the stored trouble code.
- Rarely, a sulfur or rotten egg smell from the exhaust if the mixture becomes excessively rich.

Common causes, most likely first

- 1 A short to voltage in the oxygen sensor signal wire, often due to chafed insulation against a power wire.
- 2 A failed oxygen sensor with an internal short that pulls the signal voltage high.
- 3 Corroded or damaged connector pins at the sensor or PCM, creating high resistance or intermittent contact.
- 4 A faulty PCM driver circuit for the sensor, though this is less common.
- 5 Exhaust leaks upstream of the sensor allowing outside air to affect the reading, though this typically causes a low voltage code.
- 6 Contamination of the sensor tip from coolant or oil additives, which can alter its voltage output.



How to diagnose and fix it

- 1 Inspect the oxygen sensor wiring harness for obvious damage, chafing, or contact with hot exhaust components.
- 2 Disconnect the sensor and check for corrosion or tightness at the connector pins; clean or repair as needed.
- 3 Use a digital multimeter to measure the sensor signal voltage with the key on and engine off; compare to specifications.
- 4 Check for a short to voltage by measuring resistance between the signal wire and the positive battery terminal with the sensor disconnected.
- 5 If wiring and connectors are good, replace the oxygen sensor with a quality direct-fit unit.
- 6 Clear the code and perform a test drive to verify the repair and ensure the monitor runs to completion.
- 7 If the code persists, diagnose the PCM and its connections, looking for internal shorts or faulty drivers.

Don't overlook the sensor heater circuit

- A shorted heater element inside the oxygen sensor can back-feed voltage onto the signal line, causing a high voltage code that mimics a wiring fault.
- The PCM may set this code intermittently if the signal wire is routed too close to the ignition coil or injector wiring, picking up induced voltage.
- A high voltage reading does not always mean the sensor is bad; a poor ground at the sensor body can cause the reference voltage to float high.
- Technicians often replace the sensor only to find the connector has green corrosion that creates a voltage drop, so always inspect the pins under magnification.
- This code can be set by a faulty upstream sensor on the same bank if the PCM cross-references signals, so check both sensors before condemning parts.

Can I keep driving with P01F3?

You can generally continue driving with this code, but avoid prolonged idling or heavy loads until it is repaired, as the engine may run rich and damage the catalytic converter over time. Have the fault diagnosed promptly to prevent secondary emissions failures.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Wiring diagram for the specific vehicle
- Socket set and oxygen sensor wrench
- Contact cleaner and dielectric grease



Reading P01F3

- P** Powertrain: engine, transmission and emissions.
- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- 1** Fuel and air metering.
- F3** The exact fault within that area.

Often seen with

P0135 O2 Sensor Heater Circuit Malfunction (Bank 1 Sensor 1) · **P0137** O2 Sensor Circuit Low Voltage (Bank 1 Sensor 2) · **P0138** O2 Sensor Circuit High Voltage (Bank 1 Sensor 2) · **P0141** O2 Sensor Heater Circuit Malfunction (Bank 1 Sensor 2) · **P0420** Catalyst System Efficiency Below Threshold (Bank 1)

See it working

Watch the animated explainer [Engine Cooling System Trainer: How Engines Stay Cool](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p01f3/>

