

MAZDA · POWERTRAIN

P1132

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1132 · Mazda

HO2S Bank 1 Sensor 1 Signal Above 0.45v AF Ratio Too Rich

P1132 on Mazda vehicles means the powertrain control module (PCM) has seen the upstream heated oxygen sensor (HO2S) on bank 1, sensor 1 report a signal voltage that stays above 0.45 volts, which the PCM interprets as an air/fuel mixture that is too rich. The PCM sets this code when the sensor's output remains high for longer than the calibrated time, indicating excess fuel or a sensor that cannot correctly report a lean condition.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Mazda specific	Medium	Intermediate	Fuel and air metering

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms
- A noticeable drop in fuel economy as the engine runs richer than commanded
- Black, sooty exhaust smoke or a strong fuel odor from the tailpipe
- Rough idle, hesitation, or stumbling during acceleration
- Elevated carbon monoxide (CO) and hydrocarbon (HC) emissions on an emissions test

Common causes, most likely first

- 1 A contaminated or failed upstream heated oxygen sensor that is biased rich
- 2 A leaking fuel injector that delivers excess fuel into one cylinder
- 3 Excessive fuel pressure caused by a faulty fuel pressure regulator or restricted return line
- 4 A vacuum leak that the mass airflow sensor does not account for, causing the PCM to over-fuel
- 5 A dirty or failing mass airflow (MAF) sensor reporting lower airflow than actual
- 6 A stuck-open or leaking purge solenoid allowing fuel vapor into the intake
- 7 A restricted engine air filter or intake tract causing the PCM to see lower airflow and add fuel



How to diagnose and fix it

- 1 Connect a scan tool and check for any stored or pending diagnostic trouble codes (DTCs) that could affect fuel control, such as P0172 or P0101.
- 2 Inspect the upstream oxygen sensor wiring and connector for corrosion, chafing, or oil contamination before condemning the sensor.
- 3 Use a scan tool to view live data for the bank 1 sensor 1 HO2S voltage and fuel trim values; a steady high voltage with negative long-term fuel trim confirms a rich condition.
- 4 Perform a fuel pressure test and compare the reading to the Mazda specification for the engine; a high reading points to a regulator or return-line fault.
- 5 Check for leaking fuel injectors by performing a cylinder balance test or inspecting spark plugs for black, fuel-fouled deposits.
- 6 Smoke-test the intake system to find vacuum leaks that the MAF sensor does not measure, and repair any leaks found.
- 7 If all other causes are ruled out, replace the bank 1 sensor 1 heated oxygen sensor with a Mazda-approved part and clear the code to verify the repair.

Why a rich code is not always the oxygen sensor

- A P1132 can be set by a lazy oxygen sensor that reacts slowly to changes in mixture, even when the engine is not actually running rich, so always compare the sensor voltage to fuel trim data before replacing it.
- Mazda engines are sensitive to unmetered air leaks after the mass airflow sensor, and a small leak at the intake manifold gasket or a cracked vacuum hose can drive the long-term fuel trim positive enough to trigger this code.
- A leaking fuel injector often causes a rich condition only on one cylinder, which may not show up as a smooth high oxygen sensor voltage but can still set P1132 during certain driving conditions.
- The PCM may set P1132 as a result of a faulty purge valve that stays open and allows fuel vapor to enter the intake continuously, especially after a refueling event.
- Do not overlook a restricted air filter or a collapsed intake hose; a reduction in measured airflow can cause the PCM to add fuel and push the oxygen sensor signal above the 0.45-volt threshold.

Can I keep driving with P1132?

You can usually drive the vehicle short distances to a repair shop, but avoid heavy acceleration and long trips because the rich mixture can overheat the catalytic converter and increase fuel consumption. Have the fault diagnosed promptly to prevent damage to emissions components.



Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Fuel pressure gauge
- Smoke machine
- Socket set and oxygen sensor wrench

Reading P1132

- P** Powertrain: engine, transmission and emissions.
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- 1** Manufacturer-specific code (Mazda): its meaning depends on the make.
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- 1** Fuel and air metering.
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- 32** The exact fault within that area.

Often seen with

P1131 Bank 2 Sensor 1 Resistance Too High · **P1131** Front Oxygen Sensor Circuit Malfunction Short Circuit · **P1131** HO2S Bank 1 Sensor 1 Signal Below 0.45v AF Ratio Too Lean · **P1131** HO2S Circuit Low Variance Bank 1 Sensor 2 · **P1131** Lack of Upstream Heated Oxygen Sensor Switch Sensor Indicate · **P1131** HO2S Circuit Low Variance Bank 1 Sensor 2 · **P0101** Mass/Volume Air Flow Circuit Range/Performance · **P0132** O2 Sensor Circuit High Voltage (Bank 1 Sensor 1) · **P0172** System Too Rich (Bank 1) · **P0455** EVAP System Leak Detected (Large)

See it working

Watch the animated explainer [How a Car Thermostat Works: Wax Pellet and Cooling Fan](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/mazda-p1132/>

