

CHRYSLER · POWERTRAIN

P1156

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1156 · Chrysler

HO2S Rich Average Bank 2 Sensor 1

P1156 on Chrysler vehicles means the powertrain control module has calculated that the upstream oxygen sensor on bank 2 is reporting a fuel mixture that is too rich on average over a defined monitoring period. The computer is not condemning the sensor itself; it is flagging that the average rich correction on that bank has exceeded the calibrated limit.

SYSTEM

Powertrain

CODE TYPE

Chrysler specific

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

**Fuel and air
metering**

Symptoms you may notice

- Illuminated check engine light, often with no other symptoms besides the warning light
- Noticeable drop in fuel economy over time as the engine runs richer than commanded
- Black sooty exhaust smoke or a strong fuel smell at idle and under load
- Rough idle or hesitation on acceleration when the rich condition is severe
- Elevated carbon monoxide readings if the vehicle is emissions tested
- Occasional misfire codes or rough running if fouled spark plugs develop from the rich mixture

Common causes, most likely first

- 1 A leaking or stuck-open fuel injector on bank 2 delivering excess fuel
- 2 High fuel pressure from a restricted fuel return line or a faulty fuel pressure regulator
- 3 A contaminated or aged upstream oxygen sensor on bank 2 that is skewed rich
- 4 A vacuum leak that the engine management misinterprets, or a faulty manifold absolute pressure sensor biasing the fuel calculation rich
- 5 A leaking evaporative emissions purge valve that allows fuel vapor to enter the intake continuously
- 6 Excessive fuel in the crankcase from a failed high-pressure fuel pump diaphragm on certain engines
- 7 A restricted air intake or dirty mass airflow sensor under-reporting airflow on that bank



How to diagnose and fix it

- 1 Connect a scan tool and record freeze-frame data plus long-term fuel trim values for both banks to confirm the rich average is isolated to bank 2
- 2 Inspect the bank 2 upstream oxygen sensor signal with a graphing scan tool or oscilloscope to verify it is genuinely biased rich rather than lazy or contaminated
- 3 Check fuel pressure with a gauge and compare against specification, looking for a regulator or return-line restriction
- 4 Perform an injector balance test or pull bank 2 injectors for a visual spray-pattern and leak-down check
- 5 Smoke-test the intake and evaporative emissions system to rule out a purge valve stuck open or a vacuum leak that is skewing the mixture
- 6 Clean or replace the mass airflow sensor only after confirming its reported airflow is inconsistent with actual engine demand
- 7 Clear the code, road-test through a complete drive cycle, and recheck long-term fuel trim on bank 2 to confirm the repair

What the rich average really tells you

- P1156 is an average-based code, so a single momentary rich spike will not set it; the fault must persist across the monitor window, which is why intermittent injector leaks are easy to miss on a short test drive.
- Technicians often replace the bank 2 upstream oxygen sensor first, but a sensor that reads rich because the engine is genuinely rich will set the code again within a few drive cycles.
- A stuck-open evaporative purge valve is one of the most commonly overlooked causes because it feeds fuel vapor into the intake at all times, skewing both banks but tripping the bank-specific average first.
- Chrysler's fuel trim strategy on some engines cross-references bank 1 and bank 2, so a bank 1 fault can mask or mimic a bank 2 rich average depending on which monitor runs first.
- A restricted air filter or a mass airflow sensor that under-reports airflow will drive fuel trim rich without any driveability complaint, so always compare reported airflow to engine displacement and rpm.

Can I keep driving with P1156?

You can usually drive the vehicle to a shop, but avoid heavy acceleration and long trips because the rich mixture can overheat and eventually damage the catalytic converter. If the check engine light starts flashing or the engine runs rough, stop driving and have it towed.

Tools that help

- OBD-II scan tool with live data and fuel trim graphing capability
- Fuel pressure gauge
- Digital multimeter or oscilloscope for oxygen sensor signal testing
- Smoke machine for intake and evaporative leak testing
- Injector balance tester or noid light set



Reading P1156

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

Often seen with

P1155 Manifold Absolute Pressure Sensor Circuit Short To B+ · **P1157** Manifold Absolute Pressure Sensor Circuit Power Supply Malfunction · **P1155** Air/Fuel Sensor Heater Circuit Bank 1 Sensor 2 · **P1157** Lack Of HO2S22 Switches Sensor Indicates Lean · **P1155** HO2S Lean Average Bank 2 Sensor 1 · **P1157** HO2S Bank 2 Sensor 2 Lean System Or Low Voltage · **P1155** Alternative Fuel Controller · **P1157** Lack of Downstream Heated Oxygen Sensor Switch Sensor Indica · **P1155** HO2S Lean Average Bank 2 Sensor 1 · **P1157** HO2S Bank 2 Sensor 2 Lean System Or Low Voltage · **P1155** O2 Sensor Heater Circuit Intermittent Bank 2 Sensor 2 · **P1157** O2 Sensor Heater Circuit High Voltage Bank 2 Sensor 2 · **P0132** O2 Sensor Circuit High Voltage (Bank 1 Sensor 1) · **P0172** System Too Rich (Bank 1) · **P0175** System Too Rich (Bank 2)

See it working

Watch the animated explainer [How Misfire Detection Works: Crankshaft Speed](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/chrysler-p1156/>

