

GENERIC · POWERTRAIN

P2E68

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P2E68

System Too Lean During Cylinder Deactivation Bank 1

P2E68 indicates that the powertrain control module has detected an excessively lean air-fuel mixture on bank 1 while the engine is operating in cylinder deactivation mode. The computer monitors short- and long-term fuel trims and oxygen sensor feedback during the deactivation event, and it sets this code when the measured mixture deviates lean beyond a calibrated threshold.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Generic (all makes)	Medium	Professional	Hybrid propulsion

Symptoms you may notice

- Illuminated check engine light, often with no other noticeable symptoms
- Slight hesitation or stumble when the engine transitions into or out of cylinder deactivation
- Reduced fuel economy as the computer adds fuel to compensate for the lean condition
- Rough running or vibration during light-load cruising when deactivation is active
- In rare cases, a flashing check engine light if the lean condition becomes severe enough to cause misfires

Common causes, most likely first

- 1 Vacuum leak at the intake manifold, throttle body gasket, or PCV hose that becomes more pronounced when deactivation changes manifold pressure
- 2 Faulty fuel injector on an active cylinder in bank 1, delivering less fuel than commanded
- 3 Weak or failing fuel pump or clogged fuel filter reducing fuel pressure under the specific load conditions of deactivation
- 4 Leaking intake manifold gasket or cracked intake manifold affecting bank 1 cylinders
- 5 Contaminated or slow-responding oxygen sensor on bank 1 giving inaccurate feedback to the computer
- 6 Malfunctioning cylinder deactivation solenoid or lifter that disrupts the expected air-fuel balance during mode changes
- 7 Exhaust leak upstream of the oxygen sensor on bank 1 allowing outside air to skew the reading



How to diagnose and fix it

- 1 Connect a scan tool and record freeze-frame data and fuel trim values during the fault to confirm the lean condition is isolated to bank 1 during deactivation
- 2 Perform a visual inspection of all intake and vacuum lines on bank 1 for cracks, loose clamps, or disconnected hoses
- 3 Use a smoke machine to pressurize the intake system and locate any vacuum leaks that are not visible
- 4 Check fuel pressure and volume against the manufacturer's specification, especially under load conditions that trigger deactivation
- 5 Test the bank 1 oxygen sensor response with a scan tool or oscilloscope to rule out a lazy or contaminated sensor
- 6 Inspect the cylinder deactivation solenoids and related wiring for proper operation and resistance values
- 7 If all external checks pass, perform a cylinder balance or injector flow test to identify a weak injector on bank 1

Cylinder deactivation lean codes mislead many technicians

- A vacuum leak that is too small to affect the engine at idle can become significant during cylinder deactivation because the active cylinders draw a different manifold pressure, so a smoke test performed only at idle may miss it.
- Technicians often replace the oxygen sensor first, but a lean code during deactivation is more frequently caused by an intake leak or a weak fuel injector than by the sensor itself.
- The code can be set by a fuel pressure drop that only occurs under the specific load and rpm window where deactivation is enabled, so a static fuel pressure test at idle may show normal results.
- Cylinder deactivation solenoids that are beginning to fail can cause intermittent lean conditions without setting a dedicated solenoid code, making fuel trim data during the deactivation event essential.
- An exhaust leak upstream of the bank 1 oxygen sensor can pull in outside air and create a false lean reading that only appears when the exhaust pulse pattern changes during deactivation.

Can I keep driving with P2E68?

You can usually continue driving to a repair shop, but avoid heavy acceleration and sustained high-speed driving until the fault is diagnosed. If the check engine light begins flashing or you notice rough running, stop driving and have the vehicle towed to prevent catalytic converter damage.

Tools that help

- OBD-II scan tool with live data and freeze-frame capability
- Smoke machine for intake leak detection
- Fuel pressure gauge
- Digital multimeter for testing solenoids and wiring
- Oscilloscope for oxygen sensor and injector waveform analysis



Reading P2E68

- P** Powertrain: engine, transmission and emissions.
- 2** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- E** Hybrid propulsion.
- 68** The exact fault within that area.

Often seen with

P0171 System Too Lean (Bank 1) · **P0174** System Too Lean (Bank 2) · **P0300** Random/Multiple Cylinder Misfire Detected · **P2E67** Engine Coolant Bypass Valve E Stuck Closed · **P2E69** System Too Rich During Cylinder Deactivation Bank 1

See it working

Watch the animated explainer [How a Gyroscope Works: Gimbals and Precession](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p2e68/>

