

GENERIC · POWERTRAIN

P04BA

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P04BA

Fuel Fill Door Position Sensor/Switch Circuit High

P04BA indicates that the powertrain control module (PCM) has detected an abnormally high voltage on the fuel fill door position sensor circuit, which typically means the sensor is reporting that the fuel door is open when it is actually closed. The PCM sets this code when the signal voltage exceeds the expected range for the current door position, often due to an open circuit, a faulty sensor, or a wiring problem.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Low

FIX DIFFICULTY

Intermediate

AREA

Auxiliary emission controls

Symptoms you may notice

- Illumination of the check engine light (malfunction indicator lamp).
- Often no symptoms besides the warning light, as the fuel door position does not affect drivability.
- A message on the driver information center indicating the fuel door is open when it is closed.
- Inability to clear the code with a scan tool, as it resets immediately if the fault is present.
- Remote fuel door release may not function properly if the vehicle is equipped with an electronic release tied to the sensor.
- Potential failure of the fuel door to lock or unlock with the central locking system, depending on vehicle design.

Common causes, most likely first

- 1 Open circuit in the fuel fill door position sensor signal circuit, such as a broken wire or disconnected connector.
- 2 Faulty fuel fill door position sensor or switch, which may be stuck open or have internal failure.
- 3 Corroded or damaged electrical connector at the sensor or PCM, causing high resistance.
- 4 Water intrusion into the sensor or connector, leading to corrosion and high voltage signals.
- 5 PCM internal fault, though this is less common and should be diagnosed last.
- 6 Aftermarket accessories or improper previous repairs that tapped into the circuit.



How to diagnose and fix it

- 1 Use a scan tool to read the fuel fill door position sensor data and verify the reported position matches the actual door state.
- 2 Visually inspect the sensor, connector, and wiring for damage, corrosion, or loose connections.
- 3 Disconnect the sensor and check for reference voltage and ground at the connector; compare to manufacturer specifications.
- 4 Perform a resistance test on the sensor through its travel range to check for smooth operation and correct values.
- 5 Check the signal circuit for continuity and short to voltage or ground, repairing any wiring faults found.
- 6 If the sensor tests out of specification, replace it and clear the code.
- 7 If all circuits and sensor are good, suspect the PCM and perform further diagnostics before replacement.

Fuel Door Sensor Circuit Quirks

- A common oversight is assuming the sensor itself is faulty when the real problem is a chafed wire in the harness near the fuel door hinge, where repeated opening and closing flexes the wiring.
- On some vehicles, the fuel fill door position sensor is integrated into the latch assembly, so a faulty latch can set this code even if the sensor appears fine.
- The code can be set by a disconnected sensor connector that looks plugged in but has backed out slightly, causing an intermittent high voltage signal.
- Technicians sometimes replace the sensor without checking the ground circuit; a poor ground can cause the signal voltage to float high and trigger P04BA.
- This code does not affect engine performance or emissions, so it is often misdiagnosed as a minor issue and ignored, but it can cause the fuel door to remain unlocked or trigger false warnings.

Can I keep driving with P04BA?

The vehicle is safe to drive with this code because it does not affect engine operation or safety systems. However, avoid exposing the fuel door area to excessive water or debris until repaired, and be aware that the fuel door may not lock properly, which could be a security concern.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Wire repair kit (splices, heat shrink, electrical tape)
- Trim removal tools
- Manufacturer service information for wiring diagrams and specifications



Reading P04BA

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

Often seen with

P0458 Evaporative Emission System Purge Control Valve Circuit Low · **P0460** Fuel Level Sensor Circuit Malfunction · **P04B9** Fuel Fill Door Position Sensor/Switch Circuit Low · **P04BB** Fuel Fill Door Lock Control Circuit/Open · **P04BC** Fuel Fill Door Lock Control Range/Performance

See it working

Watch the animated explainer [How ABS Works: Anti-Lock Brakes in X-Ray](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p04ba/>

