

GENERIC · POWERTRAIN

P08AF

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P08AF

Neutral Position Sensor B Circuit Low

P08AF means the powertrain control module (PCM) has detected a low-voltage condition on the signal circuit for Neutral Position Sensor B, which is a secondary neutral confirmation input used by the transmission control strategy. The PCM expects a voltage within a calibrated range on that circuit, and a value below the lower threshold for a set time triggers this code.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Generic (all makes)	Medium	Intermediate	Transmission

Symptoms you may notice

- Illumination of the malfunction indicator lamp (MIL) with no other noticeable symptoms in many cases
- Rough or delayed engagement when shifting between drive and reverse, or a hesitation when selecting a gear
- Transmission may stay in a default gear or fail to enter neutral as expected during certain conditions
- Intermittent no-crank or starter inhibition on vehicles that use the neutral signal for starting logic
- Unexpected engine idle changes or reduced power when the PCM substitutes a default neutral status
- Diagnostic trouble codes (DTCs) for other transmission range or position sensors stored alongside P08AF

Common causes, most likely first

- 1 A damaged, chafed, or corroded wire in the Neutral Position Sensor B signal circuit, especially near the transmission connector
- 2 A failed Neutral Position Sensor B, such as an internally shorted or open sensing element
- 3 A poor ground connection at the sensor or at the transmission case, causing the signal to read low
- 4 Water or fluid intrusion into the sensor connector or harness, creating a low-resistance path to ground
- 5 A short to ground on the signal wire between the sensor and the PCM, often from pinched insulation
- 6 A faulty PCM driver or internal pull-up resistor on the sensor input circuit, though this is less common
- 7 Aftermarket or incorrectly installed transmission components that disturb sensor alignment or wiring



How to diagnose and fix it

- 1 Connect a scan tool and record all stored and pending DTCs, then clear codes and verify whether P08AF returns immediately or only under specific conditions
- 2 Inspect the Neutral Position Sensor B connector and harness for corrosion, fluid intrusion, loose pins, and chafed insulation, repairing any damage found
- 3 Check the sensor ground circuit for excessive resistance with a digital multimeter (DMM) by measuring voltage drop from the sensor ground pin to battery negative
- 4 Back-probe the signal wire at the sensor and at the PCM and compare voltages with the key on and engine off; a reading near zero volts confirms a low circuit
- 5 Disconnect the sensor and measure resistance or voltage output according to the manufacturer's specification to determine whether the sensor itself is faulty
- 6 Perform a wiggle test on the harness while watching live sensor data on the scan tool to expose intermittent shorts or opens
- 7 If the circuit and sensor test good, check for a short to ground on the signal wire with the PCM disconnected, and only then consider PCM replacement as a last step

Neutral sensor B low-voltage traps to check first

- A common oversight is replacing the neutral position sensor when the real fault is a corroded ground strap on the transmission, which pulls the signal voltage low and mimics a failed sensor.
- P08AF can set intermittently from water intrusion after a car wash or heavy rain, so a sensor that tests fine on a dry day may still be the culprit if the connector seal is compromised.
- Technicians sometimes chase the sensor when the actual problem is a short to ground in a harness section that rubs against the transmission mount or exhaust heat shield.
- On some vehicles, Neutral Position Sensor B is a secondary confirmation signal, so a failure may not cause any drivability complaint and the code can be the only clue.
- A low signal circuit can also be caused by a failing PCM pull-up resistor, but this should only be suspected after the harness and sensor have been ruled out with voltage drop testing.

Can I keep driving with P08AF?

You can usually drive the vehicle with P08AF stored, but avoid relying on neutral position logic for starting or towing, and do not ignore repeated stalling or no-crank conditions. Have the circuit inspected soon, especially if the transmission behaves unpredictably or the engine fails to start in certain gear positions.



Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter (DMM)
- Back-probe kit or pin probes
- Wiring diagram for the neutral position sensor circuit
- Contact cleaner and dielectric grease
- Jack and jack stands or a lift for under-vehicle access

Reading P08AF

P	Powertrain: engine, transmission and emissions.
0	Generic (SAE) code: it means the same thing on every OBD-II vehicle.
8	Transmission.
AF	The exact fault within that area.

Often seen with

P0705 Transmission Range Sensor Circuit Malfunction · **P0706** Transmission Range Sensor Circuit Range/Performance · **P0850** Park/Neutral Switch Input Circuit · **P08AE** Neutral Position Sensor B Circuit Range/Performance · **P08B0** Neutral Position Sensor B Circuit High

See it working

Watch the animated explainer [Four-Stroke Engine Cutaway: Intake to Exhaust](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p08af/>

