

GENERIC · POWERTRAIN

P253D

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P253D

PTO Sense Circuit High

P253D indicates that the powertrain control module (PCM) has detected an abnormally high voltage on the power take-off (PTO) sense circuit, which is used to monitor the status of the PTO system. The PCM expects the sense circuit voltage to remain within a specific range, and a high reading suggests an open circuit, a short to voltage, or a faulty PTO switch.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Generic (all makes)	Low	Intermediate	Vehicle speed, idle control and auxiliary inputs

Symptoms you may notice

- The check engine light or service engine soon light is illuminated.
- Often no symptoms besides the warning light, especially if the PTO system is not in use.
- The PTO system may fail to engage or disengage when commanded.
- The engine may idle at an elevated speed or exhibit unusual throttle response if the PTO circuit affects idle strategy.
- In some vehicles, the PTO indicator lamp may flash or remain on continuously.
- Cruise control or other auxiliary functions may be disabled as a safety precaution.

Common causes, most likely first

- Open circuit in the PTO sense circuit wiring, such as a broken wire or disconnected connector.
- Short to voltage on the PTO sense circuit, often due to chafed wiring contacting a power source.
- Faulty PTO switch or sensor providing an incorrect high-voltage signal.
- Corroded or damaged electrical connectors at the PTO switch or PCM.
- Internal PCM fault causing incorrect voltage interpretation on the sense circuit.
- Aftermarket accessories improperly wired into the PTO circuit, causing voltage interference.



How to diagnose and fix it

- 1 Use a scan tool to verify the code and check for any related diagnostic trouble codes (DTCs) in the PTO system.
- 2 Visually inspect the PTO switch, wiring harness, and connectors for obvious damage, corrosion, or loose connections.
- 3 Disconnect the PTO switch and measure the voltage on the sense circuit at the switch connector to check for an open or short.
- 4 Check the resistance of the PTO switch in both engaged and disengaged positions, comparing to manufacturer specifications.
- 5 Inspect the wiring harness for chafing or shorts to voltage, especially near hot or moving components.
- 6 If the circuit and switch test good, suspect an internal PCM fault and perform a PCM swap test with a known-good unit.
- 7 Repair any wiring faults, replace the PTO switch if defective, and clear the code to verify the repair.

PTO Sense Circuit High: Hidden Causes

- A common oversight is assuming the PTO switch is faulty when the real problem is a chafed wire shorting to voltage, which can mimic a failed switch.
- The code can set intermittently due to vibration or temperature changes affecting a marginal connection, so a wiggle test of the harness is essential.
- Aftermarket accessories such as plows or auxiliary lights tapped into the PTO circuit often introduce voltage spikes that trigger this code.
- Some vehicles use a smart PTO switch with integrated electronics, and a failed switch may not show obvious resistance changes, requiring a voltage drop test.
- The PCM may set this code even if the PTO system is not used, as a self-test monitors the circuit continuously, leading to unnecessary switch replacement.

Can I keep driving with P253D?

The vehicle is generally safe to drive because the PTO system is auxiliary and does not affect basic engine operation, but avoid using the PTO until the fault is repaired to prevent unpredictable engagement. If the check engine light is accompanied by drivability issues, have the vehicle inspected promptly.

Tools that help

- OBD-II scan tool
- Digital multimeter
- Wiring diagram for the specific vehicle
- Test light
- Electrical contact cleaner



Reading P253D

- P** Powertrain: engine, transmission and emissions.
- 2** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- 5** Vehicle speed, idle control and auxiliary inputs.
- 3D** The exact fault within that area.

Often seen with

P0642 Sensor Reference Voltage 'A' Circuit Low · **P0643** Sensor Reference Voltage 'A' Circuit High · **P0652** Sensor Reference Voltage 'B' Circuit Low · **P253E** PTO Sense Circuit Intermittent/Erratic · **P253F** Engine Oil Deteriorated

See it working

Watch the animated explainer [How Drive-by-Wire Works: Electronic Throttle Body](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p253d/>

