

GENERIC · POWERTRAIN

P0551

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0551

Power Steering Pressure Sensor/Switch Circuit Range/Performance

P0551 means the engine computer has detected that the power steering pressure sensor or switch circuit is reporting a signal that is out of its expected range or behaving erratically. The computer compares the sensor's voltage or switch state against what it expects for the current engine and steering conditions, and it flags this code when the signal falls outside the calibrated performance window.

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

Symptoms you may notice

- The power steering warning light or a generic service vehicle soon light illuminates on the dashboard.
- Often no symptoms besides the warning light, especially if the fault is intermittent.
- Steering effort may feel heavier or inconsistent, particularly at low speeds or during parking maneuvers.
- A momentary increase in engine idle speed when turning the steering wheel, caused by the computer misreading steering load.
- The check engine light may also come on if the fault affects emissions-related idle control.
- In some vehicles, a message such as 'Power Steering Service Required' appears in the driver information center.

Common causes, most likely first

- A faulty power steering pressure sensor or switch that has drifted out of calibration or failed internally.
- Damaged, chafed, or corroded wiring in the sensor circuit, often near the steering rack or engine block.
- A poor electrical connection at the sensor connector or at the computer, caused by water intrusion or loose pins.
- Low power steering fluid level or a fluid leak that causes the pressure signal to fall outside the expected range.
- A failing power steering pump that cannot build or maintain the pressure the computer expects to see.
- A restricted or kinked power steering pressure hose that distorts the pressure reading.
- Rarely, an internal fault in the engine computer or body control module that processes the sensor signal.



How to diagnose and fix it

- 1 Check the power steering fluid level and condition, and inspect for leaks around the pump, hoses, and steering rack.
- 2 Visually inspect the sensor and its connector for corrosion, loose pins, or damaged wiring, and repair as needed.
- 3 Use a scan tool to read live data from the power steering pressure sensor while turning the wheel, comparing the reading to the expected values in the service information.
- 4 Perform a voltage drop test on the sensor ground and signal circuits to rule out high resistance in the wiring.
- 5 Test the sensor or switch with a multimeter according to the manufacturer's procedure, and replace it if it fails the specification.
- 6 If the sensor and wiring test good, check the power steering pump output pressure with a gauge to confirm the pump is performing correctly.
- 7 Clear the code and verify the repair by test-driving the vehicle through a range of steering maneuvers while monitoring for code return.

What the pressure sensor is really telling you

- A common misdiagnosis is replacing the power steering pump when the actual fault is a \$40 sensor that is skewed but still produces a plausible-looking signal on a basic code reader.
- The power steering pressure sensor often shares a reference voltage or ground with other engine sensors, so a fault in that shared circuit can set P0551 along with codes for the throttle position sensor or manifold absolute pressure sensor.
- On many vehicles, the computer uses the power steering pressure signal to bump idle speed when the wheel is turned at a stop, so a failing sensor can cause idle fluctuations that owners mistake for a dirty throttle body.
- A power steering system that is low on fluid or has air in it can produce pressure pulses that momentarily exceed the sensor's expected range and set P0551 even though the sensor itself is healthy.
- Intermittent P0551 codes that appear only in cold weather often trace to a sensor connector that shrinks and loses contact when temperatures drop, not to a failed sensor.

Can I keep driving with P0551?

You can generally drive the vehicle with P0551 set, but be aware that steering assist may become heavier or inconsistent, especially at low speeds. Avoid aggressive parking maneuvers and have the fault diagnosed soon, because a failing power steering pump or a fluid leak can worsen quickly and lead to a loss of assist.



Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Power steering pressure test gauge
- Basic hand tools and socket set
- Service information or wiring diagram for the vehicle

Reading P0551

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

Often seen with

P0505 Idle Control System Malfunction · **P0550** Power Steering Pressure Sensor/Switch Circuit · **P0552** Power Steering Pressure Sensor/Switch Circuit Low Input · **P0553** Power Steering Pressure Sensor/Switch Circuit High Input · **P0554** Power Steering Pressure Sensor/Switch Circuit Intermittent

See it working

Watch the animated explainer [How Push-Button Start Works: Keyless Ignition](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p0551/>

