

GENERIC · POWERTRAIN

P0745

OBD-II TROUBLE CODE

P0745

Pressure Control Solenoid Malfunction

P0745 indicates that the transmission control module (TCM) has detected an electrical or performance fault with the pressure control solenoid for the transmission's main line pressure. The TCM commands a specific current to the solenoid to regulate hydraulic pressure, and the resulting pressure or electrical feedback does not match the expected value.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Generic (all makes)	High	Professional	Transmission

Symptoms you may notice

- Illumination of the check engine light or transmission warning light, often with no other noticeable symptoms
- Harsh or delayed gear shifts, especially when engaging drive or reverse
- Slipping transmission, where engine speed rises without corresponding vehicle acceleration
- Erratic or inconsistent shift points during normal driving
- The transmission may enter limp mode, limiting vehicle speed and gear selection

Common causes, most likely first

- 1 Faulty pressure control solenoid (electrical coil failure or sticking valve)
- 2 Damaged or corroded wiring harness or connector at the solenoid
- 3 Low or contaminated transmission fluid, causing solenoid malfunction
- 4 Blocked or restricted hydraulic passage in the valve body
- 5 Failed transmission control module (TCM) or internal driver circuit
- 6 Internal transmission mechanical wear causing abnormal pressure readings

How to diagnose and fix it

- 1 Check transmission fluid level and condition; top off or replace fluid if contaminated
- 2 Inspect the solenoid's electrical connector and wiring for damage, corrosion, or loose pins
- 3 Measure the solenoid's resistance with a multimeter and compare to manufacturer specifications
- 4 Test the solenoid's operation with a scan tool capable of bidirectional controls to command pressure changes
- 5 Remove and clean or replace the pressure control solenoid if electrical tests fail
- 6 Inspect the valve body for debris or sticking valves that could affect pressure regulation
- 7 Reprogram or replace the TCM only after all other electrical and hydraulic checks pass



What the pressure control solenoid really does

- A P0745 can be set by low fluid pressure from a clogged filter or worn pump, not just a bad solenoid, so always verify line pressure before replacing parts.
- Some vehicles use the same solenoid for multiple pressure circuits, and a failure may cause unrelated codes like P0740 or P0741 to appear simultaneously.
- The solenoid's resistance may test good when cold but fail when hot, so perform electrical tests both cold and after reaching operating temperature.
- A sticking valve in the valve body can mimic a failed solenoid, leading to unnecessary solenoid replacement if hydraulic passages are not inspected.
- After replacing the solenoid, the TCM may require a relearn or adaptation reset to restore proper shift quality.

Can I keep driving with P0745?

Driving with P0745 can lead to transmission damage or sudden loss of power, so limit driving to a short distance to a repair shop. Avoid heavy acceleration, towing, or highway speeds until the fault is repaired.

Tools that help

- OBD-II scan tool with bidirectional controls
- Digital multimeter
- Transmission fluid pressure gauge
- Socket and wrench set
- Vehicle-specific service information for solenoid resistance specifications

Reading P0745

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

Often seen with

P0740 Torque Converter Clutch Circuit Malfunction · **P0741** Torque Converter Clutch Circuit Performance or Stuck Off · **P0742** Torque Converter Clutch Circuit Stuck On · **P0743** Torque Converter Clutch Circuit Electrical · **P0744** Torque Converter Clutch Circuit Intermittent



See it working

Watch the animated explainer [How a Manual Transmission Works: Four-Speed Cutaway](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p0745/>

