

FORD · POWERTRAIN

P1716

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1716 · Ford

SSC Inductive Signature Malfunction

P1716 on Ford vehicles indicates that the powertrain control module detected an abnormal inductive signature from a solenoid or actuator circuit, most often the shift solenoid or torque converter clutch solenoid, meaning the electrical current profile during activation did not match the expected waveform. The computer uses this signature to verify that the solenoid coil is intact and that the hydraulic circuit responds correctly, so a mismatch points to a failing coil, wiring fault, or internal transmission issue.

SYSTEM

Powertrain

CODE TYPE

Ford specific

SEVERITY

Medium

FIX DIFFICULTY

Professional

AREA

Transmission

Symptoms you may notice

- Illumination of the check engine light or transmission control indicator lamp
- Harsh or delayed shifting, especially when cold
- Torque converter clutch fails to engage or disengages abruptly
- Transmission may enter limp mode with reduced gear selection
- Often no symptoms besides the warning light, particularly during light-throttle driving

Common causes, most likely first

- 1 Faulty shift solenoid or torque converter clutch solenoid with a degraded coil
- 2 Chafed, corroded, or open wiring in the solenoid circuit harness
- 3 Poor electrical connection at the transmission bulkhead connector
- 4 Contaminated transmission fluid causing solenoid sticking and altered inductive response
- 5 Internal transmission mechanical wear affecting hydraulic response to solenoid command
- 6 Powertrain control module software calibration issue or internal driver fault

How to diagnose and fix it

- 1 Verify battery voltage and ground integrity, then clear the code and road test to confirm it returns
- 2 Inspect the transmission harness and bulkhead connector for chafing, corrosion, and loose pins
- 3 Measure solenoid coil resistance and compare to Ford specifications for the specific transmission
- 4 Check transmission fluid condition and level, looking for contamination or burnt smell
- 5 Perform a bidirectional solenoid activation test with a scan tool to observe inductive signature live
- 6 If resistance or signature is out of range, replace the affected solenoid and recheck circuit integrity
- 7 After repair, clear adaptive learning and perform a relearn drive cycle per Ford service procedure



What Ford technicians check before solenoid replacement

- A common misdiagnosis is replacing the solenoid when the real fault is a chafed wire inside the transmission pan, so always wiggle-test the harness while watching solenoid signature data.
- Contaminated fluid can alter the inductive signature without any electrical fault, so a fluid service often resolves the code when resistance tests pass.
- The code can be set by a marginal battery or charging system issue because low voltage skews the current profile the PCM monitors during solenoid activation.
- On some Ford transmissions, a failing torque converter clutch solenoid sets P1716 without any other shift solenoid codes, leading technicians to overlook the TCC circuit.
- After solenoid replacement, failing to clear adaptive shift learning can cause the code to reappear immediately even though the repair is correct.

Can I keep driving with P1716?

You can usually drive short distances at moderate speeds to a repair shop, but avoid heavy throttle and towing because the transmission may shift harshly or enter limp mode without warning. If the vehicle enters limp mode or shifting becomes erratic, stop driving and arrange a tow to prevent transmission damage.

Tools that help

- Ford-compatible scan tool with bidirectional solenoid control
- Digital multimeter with min/max recording
- Transmission fluid pressure gauge
- Wiring diagram and breakout box for the solenoid circuit
- Fluid pump and drain pan for transmission service

Reading P1716

P	Powertrain: engine, transmission and emissions.
1	Manufacturer-specific code (Ford): its meaning depends on the make.
7	Transmission.
16	The exact fault within that area.

Often seen with

P1747 Transmission Control Unit Relay Open Short To Ground · **P1747** Electronic Pressure Control Solenoid Circuit · **P1747** Pressure Regulator 3 · **P1747** Electronic Pressure Control Solenoid A Short Circuit · **P1747** CAN Bus Monitoring · **P0700** Transmission Control System Malfunction · **P0740** Torque Converter Clutch Circuit Malfunction · **P0750** Shift Solenoid 'A' · **P0755** Shift Solenoid 'B'



See it working

Watch the animated explainer [Car Won't Start? Step-by-Step No-Start Diagnosis](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/ford-p1716/>

