

FORD · POWERTRAIN

P1782

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1782 · Ford

P/ES Circuit Out Of Self Test Range

P1782 on Ford vehicles indicates that the Powertrain Control Module (PCM) has detected an out-of-range condition in the Pressure/Electronic Shift (P/ES) circuit during its self-test routine. The PCM monitors voltage or signal return from the transmission pressure control solenoid or electronic shift solenoid and finds it outside the expected window when the key is first turned on or during specific operating conditions.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Ford specific	Medium	Intermediate	Transmission

Symptoms you may notice

- Illumination of the Check Engine Light or Service Engine Soon light, often with no other noticeable symptoms.
- Harsh or erratic transmission shifts, especially when cold or under light throttle.
- Delayed engagement when shifting from Park to Drive or Reverse.
- Transmission may default to a limp-home mode with limited gear selection.
- Poor fuel economy or unusual engine RPM fluctuations at steady speed.
- In some cases, the vehicle may stall or hesitate during acceleration.

Common causes, most likely first

- 1 Faulty transmission pressure control solenoid (PCS) or electronic shift solenoid (ESSS) internal to the transmission.
- 2 Damaged, chafed, or corroded wiring in the P/ES circuit between the PCM and transmission connector.
- 3 Loose or contaminated transmission fluid causing erratic solenoid operation.
- 4 Failed transmission range sensor or manual lever position sensor affecting signal interpretation.
- 5 PCM software calibration issue or internal PCM driver fault (less common).
- 6 Poor ground connection at the transmission or chassis, leading to voltage drop.
- 7 Aftermarket electronic tuner or improper previous repair altering circuit resistance.



How to diagnose and fix it

- 1 Connect a scan tool and retrieve all stored and pending codes, then record freeze-frame data to understand when P1782 set.
- 2 Inspect the transmission wiring harness and connectors for chafing, corrosion, or loose pins, especially near the transmission case and PCM.
- 3 Check transmission fluid level and condition; top off or replace fluid if contaminated or burnt.
- 4 Perform a resistance and voltage drop test on the P/ES circuit at the transmission connector and compare to Ford service specifications.
- 5 Test the pressure control solenoid and electronic shift solenoid for proper resistance and function using a bidirectional scan tool or multimeter.
- 6 If wiring and solenoids test good, verify PCM operation with a known-good unit or reflash the PCM with the latest calibration.
- 7 Clear codes and perform a road test with the scan tool monitoring P/ES circuit parameters to confirm the repair.

What the P/ES self-test really checks

- The P/ES self-test runs at key-on and briefly commands the solenoid to a known state; a code sets if the expected voltage or current feedback is not seen within milliseconds, so intermittent wiring faults often trigger it.
- A common misdiagnosis is replacing the transmission solenoid pack when the actual fault is a corroded connector pin at the transmission case, which is easily overlooked during a visual inspection.
- Low or degraded transmission fluid can cause the solenoid to draw higher current and set P1782 without any mechanical transmission failure, so fluid condition is a critical first check.
- On some Ford models, a weak battery or charging system voltage drop during cranking can cause the PCM self-test to fail and set P1782, so always verify battery and charging system health.
- P1782 can be stored alongside transmission range sensor codes if the manual lever position sensor is misadjusted, leading to incorrect solenoid command interpretation.

Can I keep driving with P1782?

You can usually drive the vehicle short distances to a repair shop, but avoid heavy acceleration or towing because the transmission may be in limp-home mode and shift harshly. If the vehicle enters limp mode or slips severely, stop driving and have it towed to prevent further transmission damage.



Tools that help

- OBD-II scan tool with bidirectional control and live data capability
- Digital multimeter with back-probing pins
- Transmission fluid level dipstick or scan tool fluid temperature reading
- Wire terminal release tools and electrical contact cleaner
- Ford service information or wiring diagrams for the specific model

Reading P1782

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

Often seen with

P1780 Engine Intervention Readable · **P1780** Park Neutral Position Switch Malfunction Only For A/T · **P1780** Transmission Control Switch Circuit Overdrive Off Switch Not · **P1783** Transmission Fluid Temperature High Input · **P1780** Modulation Pressure Switchover Valve ATCC Y34 Or Upshift Del · **P1780** Transmission Control Switch Circuit, Overdrive Off Switch No · **P1783** Transmission Fluid Temperature High Input · **P1780** Park/Neutral Position Switch Circuit · **P1780** Transmission Control Switch Circuit is Out of Self-Test Rang · **P1783** Transmission Over-Temperature Condition · **P1780** CAN Torque Reduction · **P0700** Transmission Control System Malfunction · **P0740** Torque Converter Clutch Circuit Malfunction · **P0750** Shift Solenoid 'A'

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/ford-p1782/>

