

FORD · POWERTRAIN

P1768

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1768 · Ford

Performance Normal Winter Mode Input Malfunction

P1768 on Ford vehicles indicates that the powertrain control module (PCM) has detected an implausible or missing signal from the Normal/Winter mode input circuit, which is used to adapt transmission shift scheduling for cold-weather driving. The PCM expects a specific voltage or state on this input when the driver selects Normal mode, and it flags the code when the circuit does not respond as designed.

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

Symptoms you may notice

- The malfunction indicator lamp (MIL) illuminates, often with no other noticeable symptoms.
- Harsher or delayed transmission shifts, particularly when the transmission is cold.
- The transmission may stay in Winter mode or fail to enter Winter mode when selected.
- Reduced fuel economy due to improper shift scheduling.
- In some cases, the transmission may default to a limp-home mode with limited gear selection.

Common causes, most likely first

- 1 Faulty Normal/Winter mode switch or selector assembly.
- 2 Damaged or corroded wiring in the mode input circuit, including chafed harnesses or poor connectors.
- 3 Water intrusion into the switch or connector causing intermittent shorts or opens.
- 4 Failed transmission range sensor or mode input sensor integrated into the selector.
- 5 PCM software calibration issue or internal PCM fault (rare).
- 6 Loose or dirty ground connection affecting the mode circuit reference voltage.



How to diagnose and fix it

- 1 Connect a scan tool and verify P1768 is current; record freeze-frame data and check for other transmission codes.
- 2 Inspect the Normal/Winter mode switch and its connector for physical damage, corrosion, or water intrusion.
- 3 Test the mode switch operation with a multimeter to confirm it changes state correctly in both Normal and Winter positions.
- 4 Check continuity and voltage drop on the mode input circuit from the switch to the PCM, repairing any open or shorted wires.
- 5 Verify the PCM ground and reference voltage at the mode switch connector; clean or repair grounds as needed.
- 6 If the circuit and switch test good, reflash or update the PCM calibration per Ford service bulletins.
- 7 Replace the faulty mode switch or selector assembly if all electrical tests pass but the signal remains implausible.

Winter mode circuit quirks on Ford transmissions

- The Normal/Winter mode input is often a simple two-wire switch that the PCM pulls up to a reference voltage; a chafed wire shorting to ground can mimic a stuck Winter mode selection and set P1768 without any switch failure.
- Drivers frequently ignore this code because the transmission still shifts, but prolonged operation with a faulty mode input can cause the PCM to default to a conservative shift schedule that accelerates clutch wear over time.
- On some Ford models, the mode switch is integrated into the transmission range sensor on the side of the gearbox, so a leaking sensor seal can allow transmission fluid to wick into the connector and corrupt the signal.
- A weak or failing battery can cause momentary voltage drops that the PCM interprets as an implausible mode input, setting P1768 intermittently; always check battery health and charging system before replacing parts.
- After repairing the circuit, the PCM may require a drive cycle with several key-on/key-off sequences and a period of normal driving before the code clears from history and the monitor runs.

Can I keep driving with P1768?

You can generally continue driving with P1768, but avoid towing or heavy loads until the fault is repaired because the transmission may not shift optimally. If the transmission enters limp-home mode or shifts harshly, have it diagnosed promptly to prevent further wear.



Tools that help

- OBD-II scan tool with Ford-specific software
- Digital multimeter
- Wiring diagram for the specific Ford model
- Trim removal tools for accessing the mode switch
- Contact cleaner and dielectric grease

Reading P1768

- 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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- 68** The exact fault within that area.

Often seen with

P1767 Throttle Angle Signal Stuck On · **P1769** Hydraulic Pressure Sensor 2 Too Low · **P1767** Torque Converter Clutch Solenoid Circuit · **P1767** Torque Converter Clutch Circuit Malfunction · **P0705** Transmission Range Sensor Circuit Malfunction · **P0706** Transmission Range Sensor Circuit Range/Performance · **P0715** Input/Turbine Speed Sensor Circuit Malfunction

See it working

Watch the animated explainer [How Coil-on-Plug Ignition Works: Coil and Spark Plug](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/ford-p1768/>

