

FORD · POWERTRAIN

P1307

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1307 · Ford

Kickdown Relay Hold Circuit Fault

P1307 on Ford vehicles indicates that the powertrain control module (PCM) has detected a fault in the kickdown relay hold circuit, which is used to signal a forced downshift when the accelerator is pressed fully. The PCM monitors the circuit for expected voltage or continuity and sets this code when the signal does not match the commanded state, often due to an open, short, or relay coil issue.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Ford specific	Medium	Intermediate	Ignition system and misfire

Symptoms you may notice

- The check engine light or service engine soon light is illuminated.
- The transmission may fail to kick down when the accelerator is pressed to the floor, reducing passing power.
- Delayed or harsh downshifts during heavy acceleration.
- The engine may feel sluggish or unresponsive when demanding extra power.
- Often no symptoms besides the warning light, especially if the fault is intermittent.

Common causes, most likely first

- Faulty kickdown relay, such as a burned coil or stuck contacts.
- Damaged or corroded wiring in the kickdown relay hold circuit, including opens or shorts to ground.
- Poor connection at the relay connector or PCM connector.
- Blown fuse or faulty fuse panel connection supplying the relay.
- Failed accelerator pedal position sensor or related switch that provides the kickdown signal.
- Internal PCM driver failure for the kickdown relay control circuit.



How to diagnose and fix it

- 1 Verify the code with a scan tool and check for any related transmission or throttle position codes.
- 2 Inspect the kickdown relay and its connector for corrosion, loose pins, or signs of overheating.
- 3 Test the relay coil resistance and contact continuity according to the Ford service information for the specific model.
- 4 Check the fuse that supplies power to the kickdown relay and replace if blown.
- 5 Perform a voltage drop test on the hold circuit wiring between the relay and the PCM to find excessive resistance.
- 6 Check the accelerator pedal position sensor signal and kickdown switch operation with a scan tool while pressing the pedal.
- 7 If all external circuits and components test good, suspect the PCM and perform pinpoint tests before replacement.

Kickdown relay faults often misdiagnosed

- A faulty brake pedal switch or wiring can interrupt the kickdown relay hold circuit on some Ford models, so always check the brake light circuit as part of diagnosis.
- The kickdown relay may share a ground with other relays in the power distribution box, and a corroded ground can set P1307 without any relay failure.
- Intermittent P1307 codes often trace to a chafed wire harness near the accelerator pedal or transmission, which only shorts when the engine moves under load.
- Replacing the relay without testing the hold circuit can lead to a repeat code if the PCM driver is weak or the wiring has high resistance.
- Some Ford vehicles use a kickdown switch integrated into the accelerator pedal assembly, and a worn pedal can cause the PCM to see an implausible kickdown signal.

Can I keep driving with P1307?

You can usually drive the vehicle, but the lack of kickdown will reduce acceleration for passing or merging, so plan maneuvers accordingly. Avoid sustained heavy throttle and have the fault diagnosed soon to prevent potential transmission stress or worsening electrical issues.

Tools that help

- OBD-II scan tool with Ford-specific software
- Digital multimeter
- Test light
- Wiring diagram for the specific Ford model
- Relay puller or small screwdriver



Reading P1307

- P** Powertrain: engine, transmission and emissions.
- 1** Manufacturer-specific code (Ford): its meaning depends on the make.
- 3** Ignition system and misfire.
- 07** The exact fault within that area.

Often seen with

P1310 Igniter Circuit Malfunction No 3 · **P1312** Exhaust Temperature Sensor Malfunction · **P1309** Misfire Detection Monitor · **P1312** Injection Pump Timing Actuator Circuit · **P1309** Chassis Acceleration Sensor Signal High · **P1313** Misfire Rate Catalyst Damage Fault Bank 1 · **P1310** Ignition Coil 3 Primary Feedback Circuit · **P1309** Misfire Detection Monitor Not Enabled · **P1310** Ignition Coil 3 Primary Feedback Circuit · **P1313** A Camshaft Position Plausibility

See it working

Watch the animated explainer [Car Relay Test Bench: Test 4-Pin and 5-Pin Relays](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/ford-p1307/>

