

FORD · POWERTRAIN

P1605

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1605 · Ford

PCM Keep Alive Memory Test Error

P1605 on a Ford vehicle means the Powertrain Control Module (PCM) has detected a failure in its Keep Alive Memory (KAM) self-test, which is the battery-backed memory that stores adaptive learning values and diagnostic information when the ignition is off. The PCM runs this test at key-on and compares the KAM contents against expected values; a mismatch or failed write/read cycle sets the code.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Ford specific	Medium	Intermediate	Computer and output circuits

Symptoms you may notice

- Illuminated Check Engine Light, often with no other noticeable symptoms
- Rough idle or poor driveability immediately after battery reconnect or PCM reset
- Transmission shifts harshly or holds gears longer than normal while relearning
- Intermittent no-start or crank-no-start condition if KAM corruption affects PCM strategy
- Fuel trims and idle speed may be erratic until the PCM completes relearning
- Sometimes no symptoms besides the warning light, especially if the fault is intermittent

Common causes, most likely first

- 1 Weak or failing vehicle battery that drops below the PCM's minimum keep-alive voltage
- 2 Corroded, loose, or damaged battery terminals and ground connections at the PCM
- 3 Blown fuse or open circuit in the PCM's constant battery power (B+) supply
- 4 Internal PCM fault in the KAM circuit or memory chip
- 5 Aftermarket electrical accessories or improper jump-starting that spikes the PCM power supply
- 6 Water intrusion or connector corrosion at the PCM harness
- 7 Recent battery replacement or PCM reset that interrupted the KAM self-test before completion



How to diagnose and fix it

- 1 Clear the code and verify whether it returns after a normal drive cycle; a one-time set after a battery service may not recur
- 2 Perform a battery load test and check charging system output; replace the battery if it fails or is marginal
- 3 Inspect and clean battery terminals, engine ground straps, and the PCM ground connections
- 4 Check the PCM constant power (B+) fuse and verify battery voltage at the PCM connector with the key off
- 5 Inspect the PCM harness and connectors for corrosion, water intrusion, or chafed wires
- 6 If power and grounds are good, perform the Ford-specific PCM self-test and KAM reset procedure with a capable scan tool
- 7 Replace and reprogram the PCM only after all external power, ground, and wiring faults are ruled out

KAM faults that mimic PCM failure

- A battery that cranks the engine fine can still be too weak to hold KAM voltage during a cold start, so a load test matters more than a voltage reading alone.
Many P1605 codes are set after a battery replacement or jump-start and clear permanently once the PCM completes a full drive cycle and relearn.
- Corroded ground straps on Ford trucks and SUVs are a frequent hidden cause because they raise resistance only under load, not during a simple voltage check.
- Do not replace the PCM first; the majority of P1605 repairs are power, ground, or battery related, and a new PCM will set the same code if the underlying supply fault remains.

Aftermarket alarms, remote starters, or dash cameras tapped into constant power can backfeed the PCM circuit and corrupt the KAM self-test.

Can I keep driving with P1605?

The vehicle is generally safe to drive with P1605 because the fault affects adaptive memory rather than a safety system, but expect rough running or harsh shifting until the PCM relearns. Avoid repeated jump-starts and have the battery and grounds checked promptly, especially if the code returns after clearing.

Tools that help

- OBD-II scan tool with Ford-specific PCM self-test capability
- Digital multimeter for voltage and resistance checks
- Battery load tester
- Terminal cleaner and wire brush
- Fuse puller and test light
- Ford service information for PCM connector pinout and KAM reset procedure



Reading P1605

- P** Powertrain: engine, transmission and emissions.
- 1** Manufacturer-specific code (Ford): its meaning depends on the make.
- 6** Computer and output circuits.
- 05** The exact fault within that area.

Often seen with

P0562 System Voltage Low · **P0600** Serial Communication Link Malfunction · **P0601** Internal Control Module Memory Checksum Error · **P0602** Control Module Programming Error · **P0603** Internal Control Module KAM Error

See it working

Watch the animated explainer [Four-Stroke Engine Notebook: The Otto Cycle Explained](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/ford-p1605/>

