

FORD · POWERTRAIN

P1001

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1001 · Ford

KOER Test Cannot Be Completed

P1001 on Ford vehicles means the Key On Engine Running (KOER) self-test could not be completed because the Powertrain Control Module (PCM) did not see the conditions it requires during the test sequence. The PCM aborts the test when a prerequisite is missing, such as the engine not reaching operating temperature, the throttle not being cycled when prompted, or a sensor input that is out of range before the test even starts.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Ford specific	Low	Intermediate	Fuel and air metering and auxiliary emission controls

Symptoms you may notice

- Often no symptoms besides the warning light, because the code is set by an aborted self-test rather than a live running fault.
- The check engine light may illuminate immediately after a KOER test attempt or after a repair shop runs a scan.
- Rough or unstable idle that prevents the engine from holding the steady RPM the KOER test requires.
- A engine that stalls or nearly stalls when the throttle is snapped during the test prompt.
- Cooling fan or other actuators that fail to cycle when the scan tool commands them during the test.
- Hard starting or a no-start condition that keeps the engine from running long enough to complete the test.

Common causes, most likely first

- Engine coolant temperature (ECT) sensor reading below the required threshold, so the PCM sees a cold engine and refuses to run the KOER test.
- Throttle position (TP) sensor or accelerator pedal input not registering the required snap or release during the test prompt.
- A vacuum leak or intake air leak that makes idle speed unstable and prevents the PCM from holding the test RPM window.
- Mass air flow (MAF) sensor contamination or a dirty throttle body causing erratic airflow readings during the test.
- Low fuel pressure or a weak fuel pump that causes a stumble when the test revs the engine.
- A faulty brake pedal position switch or clutch switch that the PCM expects to see cycled during the KOER sequence.
- Aftermarket tune, incorrect PCM calibration, or a scan tool that cannot properly initiate the Ford KOER test.



How to diagnose and fix it

- 1 Verify battery voltage is above 12.5 volts and clear any other stored codes before attempting the KOER test again.
- 2 Warm the engine fully to operating temperature and confirm the ECT sensor reads a normal hot value on the scan tool.
- 3 Check for vacuum leaks and inspect the intake tube and PCV hoses for cracks or loose clamps.
- 4 Clean the mass air flow sensor and throttle body, then re-run the KOER test following the scan tool prompts exactly.
- 5 Monitor throttle position and pedal position live data while snapping and releasing the throttle to confirm the PCM sees the full range.
- 6 Check fuel pressure against the Ford specification for the engine and replace the fuel filter if pressure is low.
- 7 If the test still aborts, use a factory-level scan tool to review the KOER abort reason and inspect the brake and clutch switches.

Why the KOER test aborts on Fords

- P1001 is frequently a test-procedure code rather than a hard fault, so technicians who replace parts before re-running the KOER test correctly often chase a problem that does not exist.
- A cold engine is the most common reason the PCM refuses to run the KOER test, and a thermostat stuck open will keep coolant temperature below the threshold even after a long drive.
- The KOER test requires the driver to snap the throttle and press the brake when prompted, and missing or mistiming those prompts aborts the test and sets P1001.
- An aftermarket air intake or a tune that changes idle speed can push the engine outside the RPM window the PCM expects, causing the test to abort without any failed component.
- P1001 often appears alongside other Ford self-test codes after a repair, so clear all codes and complete a full drive cycle before diagnosing it as a standalone fault.

Can I keep driving with P1001?

P1001 does not indicate a dangerous running fault, so the vehicle is generally safe to drive while you address the underlying reason the self-test aborted. Avoid repeated KOER test attempts on a cold engine, and fix any drivability symptom such as a rough idle or stall before retesting.

Tools that help

- Ford-compatible scan tool with KOER bidirectional test capability
- Infrared thermometer or scan tool live data for coolant temperature
- Vacuum gauge and smoke machine for intake leak testing
- Mass air flow sensor cleaner and throttle body cleaner
- Fuel pressure gauge
- Basic hand tools for intake and sensor inspection



Reading P1001

- P** Powertrain: engine, transmission and emissions.
- 1** Manufacturer-specific code (Ford): its meaning depends on the make.
- 0** Fuel and air metering and auxiliary emission controls.
- 01** The exact fault within that area.

Often seen with

P1000 OBD II Monitor Testing Not Completed · **P1000** OBD Systems Readiness Test Not Complete · **P1000** OBD System Readiness Test Not Complete · **P0117** Engine Coolant Temperature Circuit Low Input · **P0125** Insufficient Coolant Temperature for Closed Loop Fuel Control · **P0171** System Too Lean (Bank 1) · **P0505** Idle Control System Malfunction

See it working

Watch the animated explainer [How a MAF Sensor Works: Hot-Wire Airflow Explained](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/ford-p1001/>

