

GENERIC · POWERTRAIN

**P015F**

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

## P015F

# Excessive Time to Enter Closed Loop Cylinder Balance Control

P015F indicates that the powertrain control module (PCM) waited too long for the cylinder balance control system to enter closed-loop operation after startup or after a fault was cleared. The PCM monitors how quickly the fuel trim and misfire detection logic for individual cylinders stabilizes into feedback control, and this code sets when that transition exceeds a calibrated time limit.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Low

FIX DIFFICULTY

Intermediate

AREA

Fuel and air metering

## Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms
- A brief rough idle or stumble immediately after a cold start that clears within a minute or two
- Slightly elevated fuel consumption during the warm-up period
- Intermittent hesitation when accelerating from a stop while the engine is still cold
- In rare cases, a stored pending misfire code for one or more cylinders without a flashing light

## Common causes, most likely first

- 1 A lazy or contaminated upstream oxygen sensor that responds too slowly to reach feedback conditions
- 2 A small vacuum leak that leans the mixture just enough to delay closed-loop entry without setting a lean code
- 3 Dirty or failing fuel injectors that deliver uneven fuel and slow cylinder balance learning
- 4 A thermostat stuck open or a coolant temperature sensor reading low, keeping the PCM in warm-up strategy longer than expected
- 5 Exhaust leaks ahead of the oxygen sensor that dilute the sample and delay sensor switching
- 6 Carbon buildup on intake valves or throttle body that disturbs airflow at idle and slows balance learning
- 7 A PCM calibration issue or low battery voltage that interrupts the closed-loop timer during the first drive cycle



## How to diagnose and fix it

- 1 Connect a scan tool and record freeze-frame data, coolant temperature at startup, and oxygen sensor readiness status before clearing anything
- 2 Inspect for vacuum leaks with a smoke machine and check the intake boot, PCV hoses, and intake manifold gaskets
- 3 Verify the engine reaches normal operating temperature within the expected time and compare coolant sensor readings to actual temperature
- 4 Scope or graph the upstream oxygen sensor switching activity to confirm it crosses the midpoint quickly after startup
- 5 Perform an injector balance test or cylinder contribution test to identify a weak or clogged injector
- 6 Check for exhaust leaks ahead of the upstream sensor using a smoke test or by listening for ticking during a cold start
- 7 After repairs, clear the code and complete a cold-start drive cycle to confirm the monitor runs and the code does not return

## Why cylinder balance control times out

- A slow oxygen sensor is the most common cause, but technicians often replace it without first graphing its switching speed, which wastes a good sensor when the real problem is unmetered air.
- A thermostat that opens early keeps the engine below the closed-loop enable temperature and will set this code repeatedly even though the gauge looks normal on a warm day.
- This code can be stored by a weak battery or a voltage drop during cranking because the PCM loses its learned cylinder balance values and must relearn them within a strict time window.
- An exhaust leak small enough to pass a visual inspection can still dilute the oxygen sample at idle and delay the sensor from reaching its switching threshold.
- P015F does not mean the cylinder balance system has failed permanently; it means the PCM ran out of time, so a single occurrence after a battery disconnect or repair should be cleared and the drive cycle repeated before any parts are ordered.

## Can I keep driving with P015F?

The vehicle is safe to drive under normal conditions because this code indicates a slow readiness transition rather than an active misfire or safety fault. Avoid heavy towing or aggressive acceleration until the cause is found, and have the system checked if the light returns after a clear or if a flashing check engine light appears.



## Tools that help

- OBD-II scan tool with live data and graphing capability
- Smoke machine for vacuum and exhaust leak testing
- Infrared thermometer or scan tool coolant temperature comparison
- Digital multimeter for voltage and sensor signal checks
- Fuel injector balance tester or cylinder contribution tester

## Reading P015F

|           |                                                                      |
|-----------|----------------------------------------------------------------------|
| <b>P</b>  | Powertrain: engine, transmission and emissions.                      |
| <b>0</b>  | Generic (SAE) code: it means the same thing on every OBD-II vehicle. |
| <b>1</b>  | Fuel and air metering.                                               |
| <b>5F</b> | The exact fault within that area.                                    |

## Often seen with

**P0128** Coolant Thermostat (Coolant Temperature Below Thermostat Reg · **P0133** O2 Sensor Circuit Slow Response (Bank 1 Sensor 1) · **P0171** System Too Lean (Bank 1) · **P0172** System Too Rich (Bank 1) · **P0300** Random/Multiple Cylinder Misfire Detected

## 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/p015f/>

