



P1386 · Ford

Variable Cam Timing Overadvanced Bank 2

P1386 on Ford vehicles means the powertrain control module has detected that the bank 2 variable cam timing phaser is advanced further than the commanded schedule allows during closed-loop operation. The computer compares the actual camshaft position signal against the desired angle and flags an overadvanced condition when the measured angle exceeds the calibrated threshold for a set time.

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

Symptoms you may notice

- Illumination of the check engine light, often with no other symptoms besides the warning light
- Rough or unstable idle, especially when the engine is cold or at low rpm
- Reduced engine power or poor acceleration because the cam timing is stuck advanced
- Poor fuel economy or increased emissions due to incorrect valve overlap
- Occasional engine misfire or surging at part throttle
- A rattle or ticking noise from the bank 2 timing chain area on cold starts

Common causes, most likely first

- 1 Sticking or failed variable cam timing solenoid on bank 2, often due to contaminated oil or internal wear
- 2 Sludge or debris blocking the oil passage feeding the bank 2 cam phaser
- 3 Worn or failing bank 2 camshaft phaser that cannot return to the commanded position
- 4 Timing chain stretched or jumped a tooth on the bank 2 camshaft, causing a mechanical advance
- 5 Low engine oil pressure or incorrect oil viscosity preventing proper phaser control
- 6 Faulty bank 2 camshaft position sensor or damaged wiring giving an inaccurate position signal
- 7 Powertrain control module calibration issue or internal driver fault for the bank 2 solenoid



How to diagnose and fix it

- 1 Check engine oil level and condition first, then verify oil pressure with a mechanical gauge if the level is correct
- 2 Remove and inspect the bank 2 variable cam timing solenoid for metal debris or sludge, and test it with a known-good 12-volt source
- 3 Use a scan tool to command the bank 2 cam phaser through its full range while watching actual cam angle versus desired angle
- 4 Inspect the bank 2 timing chain, tensioner, and phaser for wear or a jumped tooth, especially if the solenoid and oil passages are clean
- 5 Check the bank 2 camshaft position sensor signal and wiring for intermittent dropouts or incorrect readings
- 6 Replace the bank 2 phaser and timing chain components if mechanical wear is confirmed, then clear the code and verify cam timing correlation
- 7 If all mechanical and electrical checks pass, check for a powertrain control module calibration update or internal driver fault

Why bank 2 phaser codes get misdiagnosed

- A dirty bank 2 solenoid is far more common than a failed phaser, so always inspect the solenoid screen for debris before condemning the phaser.
- Low oil pressure from a worn oil pump or a restricted pickup tube can set P1386 without any solenoid or phaser fault at all.
- A stretched timing chain on bank 2 can advance the cam mechanically, and the computer will command the phaser to retard it until the solenoid runs out of authority and the code sets.
- Some technicians replace the bank 2 phaser only to find the real problem is a clogged oil passage in the cylinder head that starves the new part.
- P1386 can be set by a faulty bank 2 camshaft position sensor that reads advanced at certain rpm, so always compare the sensor signal with a known-good waveform.

Can I keep driving with P1386?

You can usually drive the vehicle short distances to a repair shop, but avoid heavy acceleration and high rpm because overadvanced cam timing can cause valve-to-piston contact in severe cases. If the engine runs rough, misfires, or makes a timing chain rattle, stop driving and have it towed.

Tools that help

- OBD-II scan tool with live data and bidirectional control for Ford cam timing
- Mechanical oil pressure gauge
- Digital multimeter for solenoid and sensor testing
- Timing chain alignment tools and camshaft holding tools for Ford engines
- Inspection mirror and bright flashlight for oil passage and screen checks



Reading P1386

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

Often seen with

P1387 Control Unit Internal Altitude Sensor · **P1387** CYP Sensor B No Signal · **P1387** Camshaft Position Timing Solenoid 2 Circuit · **P1387** CYP Sensor B No Signal · **P1385** Variable Cam Timing Solenoid B Malfunction · **P1385** Knock Sensor 4 Circuit · **P0011** 'A' Camshaft Position - Timing Over-Advanced or System Perfo · **P0012** 'A' Camshaft Position - Timing Over-Retarded (Bank 1) · **P0021** 'A' Camshaft Position - Timing Over-Advanced or System Perfo

See it working

Watch the animated explainer [How the PCV System Works: Crankcase Ventilation](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/ford-p1386/>

