

NISSAN · POWERTRAIN

P1145

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1145 · Nissan

Intake Valve Timing Control Position Sensor Bank 2

P1145 on Nissan vehicles indicates that the engine control module has detected an implausible or missing signal from the intake valve timing control position sensor on bank 2. This sensor reports the actual position of the bank 2 intake camshaft so the computer can verify that variable valve timing commands are being carried out correctly.

SYSTEM

Powertrain

CODE TYPE

Nissan specific

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Fuel and air metering

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms
- Rough idle or unstable engine operation, especially when cold
- Reduced engine power and sluggish acceleration at low RPM
- Poor fuel economy due to incorrect camshaft timing
- Occasional engine stumble or hesitation during light throttle
- In some cases, the engine may enter limp mode and limit RPM

Common causes, most likely first

- 1 Faulty intake valve timing control position sensor on bank 2
- 2 Damaged or corroded electrical connector or wiring to the sensor
- 3 Oil sludge or debris obstructing the sensor tip or camshaft phaser
- 4 Failed intake valve timing control solenoid valve on bank 2
- 5 Stretched timing chain or worn chain guides causing timing deviation
- 6 Engine control module software issue or internal fault (rare)



How to diagnose and fix it

- 1 Connect a scan tool and record freeze-frame data and any related codes before clearing anything
- 2 Visually inspect the sensor connector, pins, and wiring harness for damage or oil intrusion
- 3 Measure sensor resistance and compare to factory specification, then check reference voltage and ground at the connector
- 4 Remove the sensor and inspect for metal shavings or sludge; clean or replace if contaminated
- 5 Command the intake valve timing solenoid with the scan tool and verify camshaft position changes on live data
- 6 Check oil condition and level, then perform an oil and filter change if sludge is suspected
- 7 If the signal remains erratic, perform a scope test on the sensor output and inspect timing chain alignment

What Nissan Techs Check Before Replacing Parts

- A dirty or sludged oil control valve often mimics a failed position sensor, so always verify oil condition and solenoid operation before condemning the sensor.
The bank 2 sensor is frequently misdiagnosed because its connector sits close to the exhaust manifold and can suffer heat damage that looks like an internal sensor failure.
- After replacing the sensor, a crankshaft position sensor relearn or idle air volume relearn may be required on some Nissan models to prevent a repeat code.
- A stretched timing chain can set P1145 without any sensor fault, so check live camshaft deviation data if the sensor and wiring test good.
This code can appear intermittently after an oil change if the wrong viscosity oil was used, causing slow phaser response that the ECM interprets as a sensor signal error.

Can I keep driving with P1145?

You can usually drive the vehicle short distances to a repair shop, but avoid heavy acceleration, towing, or sustained high-speed driving until the fault is repaired. If the engine runs rough or enters limp mode, stop driving and arrange a tow to prevent further damage.

Tools that help

- OBD-II scan tool with live data and bidirectional control
- Digital multimeter
- Oscilloscope for signal waveform testing
- Socket set and ratchet
- Oil filter wrench
- Factory service information or wiring diagram



Reading P1145

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

Often seen with

P1140 Bank 2 Sensor 2 Resistance Too High · **P1140** Intake Valve Timing Control Position Sensor Bank 1 · **P1140** Load Calculation Cross Check · **P1140** O2 Sensor Sluggish (Bank 1 Sensor 2) · **P1140** Water In Fuel Condition · **P1140** HO2S Transition Time Ratio Bank 1 Sensor 2 · **P1140** Mass Or Volume Air Flow Circuit Range Performance Problem · **P0011** 'A' Camshaft Position - Timing Over-Advanced or System Perfo · **P0021** 'A' Camshaft Position - Timing Over-Advanced or System Perfo · **P0340** Camshaft Position Sensor A Circuit Malfunction (Bank 1)

See it working

Watch the animated explainer [Four-Stroke Engine Cutaway: Intake to Exhaust](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/nissan-p1145/>

