

TOYOTA · POWERTRAIN

P1351

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1351 · Toyota

VVT Sensor Range Performance Problem Bank 2

P1351 on a Toyota means the engine computer has detected that the Bank 2 Variable Valve Timing (VVT) sensor is not reporting a camshaft position that matches the commanded timing advance or retard. The computer compares the actual camshaft position signal against the expected value and flags a performance range problem when the deviation exceeds its calibrated threshold.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Toyota specific	Medium	Intermediate	Ignition system and misfire

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms
- Rough idle or engine stumble, especially when cold
- Reduced engine power or sluggish acceleration
- Poor fuel economy or increased fuel consumption
- Occasional engine misfire or hesitation during acceleration
- In some cases, the engine may enter limp mode or exhibit hard starting

Common causes, most likely first

- 1 Faulty Bank 2 VVT sensor (camshaft position sensor) or its wiring/connector
- 2 Contaminated or degraded engine oil affecting VVT solenoid operation
- 3 Sticking or failed Bank 2 VVT oil control solenoid valve
- 4 Restricted oil passage or sludge buildup in the VVT system
- 5 Timing chain stretch or misalignment affecting camshaft timing
- 6 Engine control module (ECM) calibration issue or faulty ECM (rare)

How to diagnose and fix it

- 1 Check engine oil level and condition; replace oil and filter if overdue or contaminated
- 2 Inspect the Bank 2 VVT sensor connector and wiring for damage, corrosion, or loose pins
- 3 Swap the Bank 2 VVT sensor with the Bank 1 sensor (if accessible) to see if the code moves
- 4 Test the VVT solenoid for proper resistance and operation; clean or replace if faulty
- 5 Verify oil pressure and check for sludge or restricted oil passages in the VVT system
- 6 Inspect timing chain for stretch or misalignment using manufacturer procedures
- 7 If all else fails, reprogram or replace the ECM as per Toyota service information



Oil quality and sensor swaps matter

- A dirty or incorrect viscosity oil is a leading cause of VVT performance codes on Toyotas, so always verify oil maintenance history first.
- The VVT sensor itself is often misdiagnosed; swapping it with the Bank 1 sensor is a quick way to confirm whether the sensor or the circuit is at fault.
- A stretched timing chain can set P1351 without any other codes, so inspect chain condition if the sensor and solenoid test good.
- The code can be intermittent and may not illuminate the light immediately; always check for pending codes during routine scans.
- After repairs, clear codes and perform a road test with several drive cycles to ensure the monitor completes and the code does not return.

Can I keep driving with P1351?

You can usually drive with P1351 set, but avoid aggressive acceleration or heavy loads until diagnosed, as prolonged driving with VVT issues may cause poor performance or damage. If the engine runs rough or enters limp mode, seek service promptly.

Tools that help

- OBD-II scanner with live data capability
- Digital multimeter
- Basic hand tools (socket set, screwdrivers)
- Oil pressure gauge
- Toyota service information or repair manual

Reading P1351

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



Often seen with

P1349 Ignition Coil Power Output Stage 2 Open · **P1345** Ignition Coil Output Stage 3 Short To Ground · **P1346** Ignition Coil Power Output State 3 Short To B+ · **P1349** VVT System · **P1345** VVT Sensor Circuit Malfunction Bank 1 · **P1346** VVT Sensor Range Performance Problem Bank 1 · **P1345** No CMP or SGC Signal · **P1345** No SGC Signal 1.6L · **P1345** Camshaft to Crankshaft Position Correlation Fault · **P1349** Intake Camshaft Position System · **P1346** Intake Camshaft Position (CMP) Sensor System Performance · **P1345** CKP/CMP Correlation · **P1346** Intake Camshaft Position (CMP) Sensor System Performance · **P1346** Misfire During Start Cylinder 3 · **P1349** Misfire Cylinder 4 With Fuel Cut-off · **P1345** Misfire Cylinder 2 With Fuel Cut-off · **P0011** 'A' Camshaft Position - Timing Over-Advanced or System Perfo · **P0021** 'A' Camshaft Position - Timing Over-Advanced or System Perfo

See it working

Watch the animated explainer [How an Elevator Works: Traction Lift in X-Ray](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/toyota-p1351/>

