

GENERIC · POWERTRAIN

**P2652**

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

## P2652

### 'B' Rocker Arm Actuator System Stuck On (Bank 1)

P2652 means the powertrain control module (PCM) has detected that the bank 1 'B' rocker arm actuator circuit is stuck in the on state, so the actuator is being commanded off but the circuit remains energized. The PCM monitors the actuator control circuit for expected voltage changes and sets this code when the feedback does not match the commanded state.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Computer and output circuits

### Symptoms you may notice

- Illuminated check engine light, often with no other noticeable symptoms
- Rough idle or misfire felt as shaking or a stumble at stoplights
- Reduced engine power or poor acceleration because the affected cylinders are not breathing correctly
- Increased fuel consumption due to inefficient combustion
- Audible ticking or tapping from the top of the engine if the actuator is stuck in the high-lift position
- In rare cases, the engine may enter limp mode to protect the valvetrain

### Common causes, most likely first

- 1 Failed rocker arm actuator solenoid or its internal coil shorted on
- 2 Shorted or chafed wiring in the actuator control circuit touching ground or power
- 3 Corroded or loose electrical connector at the actuator or PCM
- 4 Stuck rocker arm actuator mechanism due to sludge or mechanical binding
- 5 PCM driver failure holding the circuit energized
- 6 Oil contamination or low oil pressure preventing the actuator from releasing



## How to diagnose and fix it

- 1 Scan all modules for stored and pending codes, then clear codes and test-drive to confirm P2652 returns
- 2 Inspect the actuator connector and wiring harness for damage, corrosion, or chafing, and repair as needed
- 3 Measure resistance and voltage on the actuator control circuit and compare to manufacturer specifications
- 4 Command the actuator on and off with a scan tool while watching circuit feedback to see if it responds
- 5 Swap the bank 1 'B' actuator with a known-good unit from another position to see if the code moves
- 6 Check engine oil condition and level, and verify oil pressure is within specification
- 7 If the circuit and actuator test good, diagnose the PCM driver circuit or replace the PCM after confirming all other causes

## What a stuck-on actuator really means

- A stuck-on actuator often leaves the valve in high-lift mode, which can cause a misfire that feels like an ignition fault but is actually a valvetrain issue.
- Many technicians replace the actuator only to find the real problem is a rubbed-through wire behind the engine that shorts to ground intermittently.
- P2652 can be set by a low oil level or degraded oil that prevents the actuator from releasing, so always check oil condition before condemning parts.
- The PCM may set this code without any driveability complaint because the actuator can be stuck on at low load and only affect emissions.
- Do not overlook the possibility of a faulty PCM driver; it is rare, but it happens and is often misdiagnosed as a bad actuator.

## Can I keep driving with P2652?

You can usually drive the vehicle short distances to a repair shop, but avoid heavy acceleration or towing because the stuck actuator can cause misfires and overheating of the affected cylinders. If the check engine light is flashing or the engine runs very rough, stop driving and have it towed.

## Tools that help

- OBD-II scan tool with bidirectional control and live data
- Digital multimeter
- Wiring diagram for the specific vehicle
- Basic hand tools and socket set
- Oil pressure gauge



## Reading P2652

- P** Powertrain: engine, transmission and emissions.
- 2** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- 6** Computer and output circuits.
- 52** The exact fault within that area.

## Often seen with

**P0300** Random/Multiple Cylinder Misfire Detected · **P0301** Cylinder 1 Misfire Detected · **P2651** 'B' Rocker Arm Actuator System Performance or Stuck Off (Bank 1) · **P2653** 'B' Rocker Arm Actuator Control Circuit Low (Bank 1) · **P2654** 'B' Rocker Arm Actuator Control Circuit High (Bank 1)

## See it working

Watch the animated explainer [EV Powertrain Trainer: How an Electric Car Drives](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p2652/>

