

GENERIC · POWERTRAIN

P3445

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P3445

Cylinder 6 Exhaust Valve Control Circuit/Open

P3445 indicates that the powertrain control module has detected an open circuit or excessive resistance in the electrical path for the cylinder 6 exhaust valve control circuit. This circuit typically commands a solenoid or actuator that manages exhaust valve timing or lift on that specific cylinder, and an open means the computer cannot complete the electrical loop to operate it.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Auxiliary emission controls

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms
- Rough idle or misfire-like shudder, especially when the engine is cold
- Reduced engine power or sluggish acceleration under load
- Poor fuel economy due to inefficient cylinder breathing
- Intermittent hesitation or stumble during light-throttle cruising
- A noticeable tick or rattle from the valvetrain area on the affected bank

Common causes, most likely first

- 1 Broken, chafed, or corroded wiring in the exhaust valve control circuit for cylinder 6
- 2 Failed exhaust valve control solenoid or actuator on cylinder 6
- 3 Loose or contaminated electrical connector at the solenoid or valve actuator
- 4 Open winding inside the solenoid coil or actuator motor
- 5 Faulty powertrain control module driver circuit (rare but possible)
- 6 Internal mechanical binding of the exhaust valve mechanism causing the actuator to overheat and open-circuit



How to diagnose and fix it

- 1 Perform a visual inspection of the cylinder 6 exhaust valve control wiring and connector for damage, corrosion, or looseness
- 2 Use a scan tool to command the exhaust valve actuator on and off while watching live data to confirm the circuit fault
- 3 Measure resistance across the solenoid or actuator terminals and compare to the manufacturer's specification
- 4 Check for battery voltage and ground at the actuator connector with the key on, engine off, to verify the harness integrity
- 5 Perform a voltage drop test on both the power and ground sides of the circuit under load to find hidden resistance
- 6 If the circuit tests good, substitute a known-good actuator or solenoid and clear the code to see if it returns
- 7 If all external checks pass, inspect the PCM connector and driver circuit, and repair or replace the PCM only as a last resort

What a P3445 open circuit really tells you

- An open circuit code does not always mean the solenoid has failed; a backed-out terminal or a broken wire inside the loom is just as common and far cheaper to fix.
- Some vehicles use a single exhaust valve control solenoid per bank that feeds multiple cylinders, so a P3445 can appear alongside codes for other cylinders on the same bank when the shared feed is compromised.
- Mechanical binding in the exhaust valve actuator mechanism can cause the solenoid to draw excessive current and eventually burn open, so replacing the solenoid without checking for free movement often leads to a repeat failure.
- Intermittent opens that set only when the engine is hot or after a cold start are frequently caused by a wire that rubs against a heat shield or bracket, and a wiggle test with the scan tool connected is the fastest way to catch it.
- A P3445 can be stored by a low battery or a poor ground connection at the engine block, because the actuator circuit references that ground and a voltage drop there mimics an open circuit.

Can I keep driving with P3445?

You can usually drive the vehicle short distances to a repair shop, but avoid heavy acceleration or towing because the disabled exhaust valve control can cause misfires and overheating of the affected cylinder. If the check engine light begins flashing, stop driving and have the vehicle towed.



Tools that help

- OBD-II scan tool with bidirectional control and live data
- Digital multimeter with resistance and voltage drop capability
- Wiring diagram for the specific vehicle
- Test light or fused jumper wire
- Socket set and trim removal tools for access to the actuator

Reading P3445

- P** Powertrain: engine, transmission and emissions.
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- 3** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
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- 4** Auxiliary emission controls.
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- 45** The exact fault within that area.

Often seen with

P0306 Cylinder 6 Misfire Detected · **P3400** Cylinder Deactivation System (Bank 1) · **P3444** Cylinder 6 Deactivation/Intake Valve Control Circuit High · **P3446** Cylinder 6 Exhaust Valve Control Performance · **P3450** Cylinder 7 Deactivation/Intake Valve Control Performance

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/p3445/>

