

GENERIC · POWERTRAIN

P2D57

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P2D57

Generator B Control Circuit Range/Performance

P2D57 indicates that the powertrain control module (PCM) has detected an out-of-range or performance fault in the control circuit for Generator B, which is the second generator or alternator on vehicles equipped with multiple charging units. The PCM monitors the command and feedback signals on this circuit and sets the code when the actual circuit behavior does not match the expected range or response time.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Generic (all makes)	Medium	Professional	Hybrid propulsion

Symptoms you may notice

- Illumination of the battery/charging system warning light or check engine light, often with no other noticeable symptoms
- Battery voltage that reads low or fluctuates on the dashboard gauge while driving
- Electrical accessories such as lights or infotainment dimming or behaving erratically
- The vehicle may enter a reduced-power or limp mode if the charging system cannot maintain voltage
- A no-charge condition for the auxiliary battery or second electrical system, leading to a dead battery over time
- In some cases, the engine may stall or fail to restart after being shut off due to low system voltage

Common causes, most likely first

- 1 Damaged, corroded, or loose wiring and connectors in the Generator B control circuit
- 2 Failed Generator B (alternator) internal regulator or control module
- 3 Faulty powertrain control module (PCM) driver or internal circuit for Generator B control
- 4 Open or shorted control circuit wire between the PCM and Generator B
- 5 Poor ground connection for Generator B or the PCM
- 6 Aftermarket electrical accessories improperly wired into the charging system
- 7 Blown fuse or fusible link protecting the Generator B control circuit



How to diagnose and fix it

- 1 Perform a visual inspection of Generator B, its connectors, and the control circuit wiring for damage, corrosion, or loose connections
- 2 Check all fuses and fusible links related to the charging system and Generator B control circuit
- 3 Measure battery voltage and charging output at Generator B with the engine running to confirm the fault
- 4 Use a scan tool to command Generator B on and off while monitoring the control circuit voltage and feedback with a multimeter
- 5 Perform a voltage drop test on the control circuit wiring and grounds to identify excessive resistance
- 6 If the circuit tests good, substitute a known-good Generator B or test the PCM control signal with an oscilloscope
- 7 Repair or replace the faulty wiring, connector, Generator B, or PCM as indicated by test results, then clear codes and verify the repair

Generator B control circuit pitfalls

- A common oversight is assuming the alternator itself is failed when the real problem is a chafed control wire hidden inside a harness loom near hot or moving components.
- The PCM may set P2D57 even when Generator B is charging normally if the feedback signal is intermittent, so always check circuit integrity before condemning the alternator.
- Vehicles with dual generators often use a dedicated auxiliary battery; a weak or failed auxiliary battery can mimic a control circuit fault by dragging down the feedback voltage.
- Aftermarket accessories tapped into the charging circuit can introduce voltage spikes or ground loops that corrupt the Generator B control signal and set this code.
- A loose or corroded ground strap between the engine and chassis can cause erratic Generator B operation and set P2D57 without any visible damage to the control circuit.

Can I keep driving with P2D57?

It is generally safe to drive a short distance to a repair shop if the battery warning light is the only symptom and voltage remains near normal, but avoid long trips or heavy electrical loads. If the battery gauge shows low voltage or accessories are failing, stop driving and have the vehicle towed to prevent a no-start or stall condition.

Tools that help

- OBD-II scan tool with bidirectional control capability
- Digital multimeter (DMM)
- Oscilloscope for waveform analysis
- Wiring diagram and service information for the specific vehicle
- Basic hand tools and terminal pick tools
- Battery load tester and charging system tester



Reading P2D57

- P** Powertrain: engine, transmission and emissions.
- 2** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- D** Hybrid propulsion.
- 57** The exact fault within that area.

Often seen with

P0562 System Voltage Low · **P0563** System Voltage High · **P2D55** Hybrid/EV Battery Pack Coolant Temperature Sensor C Circuit · **P2D56** Hybrid/EV Battery Pack Coolant Temperature Sensor C Circuit · **P2D58** Generator B Mechanical Performance

See it working

Watch the animated explainer [Turbocharger Trainer: Boost, Wastegate and Intercooler](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p2d57/>

