

GENERIC · POWERTRAIN

P05B7

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P05B7

Active Grille Air Shutter B Supply Voltage Circuit High

P05B7 indicates that the powertrain control module (PCM) has detected an abnormally high voltage on the supply circuit for the active grille air shutter B motor or actuator. The computer expects a specific voltage range on the power feed to the shutter, and a reading above the threshold triggers this code, usually because the circuit is shorted to voltage or the shutter motor has an internal fault.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Generic (all makes)	Medium	Intermediate	Vehicle speed, idle control and auxiliary inputs

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms.
- The active grille shutter may remain stuck in the open or closed position, affecting fuel economy and engine warm-up.
- A faint buzzing or clicking noise from the front grille area after shutting off the engine, indicating the shutter is trying to move.
- Reduced fuel efficiency, especially during highway driving, if the shutter fails to close at speed.
- Possible overheating or extended warm-up times if the shutter remains closed when it should open.
- In some vehicles, a message on the driver information center about a grille shutter fault or reduced engine power.

Common causes, most likely first

- 1 A short to voltage in the supply wire between the shutter motor and the PCM or power source.
- 2 A faulty active grille air shutter motor or actuator with an internal short.
- 3 Corrosion or water intrusion in the shutter connector, causing high resistance or intermittent shorts.
- 4 A damaged or pinched wire harness near the front grille or bumper area.
- 5 A failed PCM driver or internal short in the control module (rare but possible).
- 6 Aftermarket accessories or improper wiring repairs that backfeed voltage into the shutter circuit.



How to diagnose and fix it

- 1 Inspect the active grille shutter connector and wiring for corrosion, water damage, or loose pins, and clean or repair as needed.
- 2 Disconnect the shutter motor and measure the supply voltage at the harness connector with the key on; compare to the manufacturer's specification to confirm an abnormally high voltage.
- 3 Check for continuity or short to voltage on the supply wire between the shutter motor and the PCM or power distribution center, repairing any damaged wire.
- 4 Test the shutter motor by applying power and ground directly to see if it operates smoothly and does not draw excessive current; replace if faulty.
- 5 If the circuit and motor test good, check for technical service bulletins (TSBs) or software updates for the PCM that may address false setting of this code.
- 6 Clear the code and perform a relearn or calibration procedure for the active grille shutter as required by the vehicle manufacturer.
- 7 If the code returns after all checks, suspect an internal PCM fault and perform further diagnostics before replacement.

What a high shutter supply voltage really means

- A high voltage reading on the supply circuit often comes from a short to voltage rather than a defective shutter motor, so always check for chafed wires near the grille before replacing parts.
- The active grille shutter may share a power feed with other actuators, and a fault in one can backfeed voltage and set this code even if the shutter itself is fine.
- Some vehicles set P05B7 when the shutter is physically stuck and the motor stalls, causing a voltage spike that the PCM interprets as a high supply condition.
- After replacing the shutter motor, a calibration or relearn procedure is often required; skipping it can cause the code to reset immediately.
- This code can be set by a weak or failing battery that causes voltage spikes during cranking, so always verify battery and charging system health first.

Can I keep driving with P05B7?

You can usually continue driving with this code, but avoid prolonged high-speed driving or heavy loads if the shutter is stuck closed, as it may cause overheating. Have the fault diagnosed soon to prevent potential engine damage or reduced fuel economy.



Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Wire repair kit (splices, heat shrink, electrical tape)
- Socket and wrench set
- Vehicle-specific service information for voltage specifications and calibration procedures

Reading P05B7

- P** Powertrain: engine, transmission and emissions.
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- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
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- 5** Vehicle speed, idle control and auxiliary inputs.
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- B7** The exact fault within that area.

Often seen with

P05B5 Active Grille Air Shutter B Supply Voltage Circuit/Open · **P05B6** Active Grille Air Shutter B Supply Voltage Circuit Low · **P05B8** Restraint Deployment Signal Circuit/Open · **P05B9** Restraint Deployment Signal Circuit Low · **P05BA** Restraint Deployment Signal Circuit High

See it working

Watch the animated explainer [Four-Stroke Engine Notebook: The Otto Cycle Explained](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p05b7/>

