

GENERIC · POWERTRAIN

P05A9

OBD-II TROUBLE CODE

P05A9

Active Grille Air Shutter B Position Sensor Circuit

P05A9 indicates that the powertrain control module has detected an abnormal signal from the position sensor circuit of the active grille air shutter labeled 'B', which is typically the second shutter assembly on vehicles with dual grille shutters. The computer compares the sensor voltage against expected values for the commanded shutter position and sets this code when the signal falls outside the valid range or does not correlate with shutter movement.

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

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms
- Aerodynamic shutter remains stuck open or closed, which may slightly reduce fuel economy
- Visible shutter vanes that fail to move during a key-on self-test or when the engine warms up
- A faint rattle or clicking noise from the front grille area if the shutter motor strains against a jammed vane
- In some vehicles, a message on the driver information center indicating grille shutter service required
- No change in engine performance or drivability, since the shutter system primarily affects aerodynamics and engine bay airflow

Common causes, most likely first

- 1 Debris, road salt, or ice lodged in the shutter linkage or vane tracks, preventing movement and causing a position sensor mismatch
- 2 Failed position sensor inside the 'B' shutter actuator assembly, often due to water intrusion or internal wear
- 3 Damaged or corroded wiring harness connector at the 'B' shutter, including bent pins or chafed wires near the grille
- 4 Open or shorted signal circuit between the 'B' shutter position sensor and the control module
- 5 Mechanical binding of the shutter vanes from impact damage, warped plastic, or a broken linkage arm
- 6 Failed shutter actuator motor that no longer moves the vanes, causing the sensor to report an implausible position
- 7 Software calibration issue in the control module that misinterprets the sensor signal under certain temperature conditions



How to diagnose and fix it

- 1 Inspect the 'B' grille shutter assembly for physical obstructions, debris, ice, or impact damage and clear any blockage by hand with the ignition off
- 2 Check the wiring harness and connector at the 'B' shutter for corrosion, loose pins, or chafed insulation, repairing as needed
- 3 Command the shutter through a scan tool bidirectional test and observe whether the 'B' shutter moves smoothly through its full range
- 4 Backprobe the position sensor signal circuit and compare voltage against the manufacturer's specification while slowly moving the shutter by hand
- 5 If the sensor signal is erratic or absent with good wiring, replace the 'B' shutter actuator assembly as a unit
- 6 Clear the code and perform a shutter relearn or calibration procedure with the scan tool, then verify the code does not return after a complete drive cycle
- 7 If the code persists after mechanical and electrical repairs, check for technical service bulletins or software updates for the control module

What the grille shutter code really means

- A P05A9 is often set by winter road spray freezing the shutter vanes solid, so the repair may be as simple as thawing and cleaning the assembly rather than replacing parts.
- Many vehicles with dual grille shutters use 'A' and 'B' designations, and a fault in the 'B' shutter can be caused by a failed 'A' shutter that the controller uses as a reference, so inspect both assemblies.
- The position sensor is usually integrated into the actuator and cannot be replaced separately, which means a sensor fault requires replacing the entire shutter assembly on most models.
- A weak or failing battery can cause the shutter self-test to abort and set a position sensor code, so always verify battery voltage and charging system health before condemning the shutter.
- After any repair, the control module must relearn the shutter end stops; skipping the calibration step will often cause the code to return immediately even with a new assembly.

Can I keep driving with P05A9?

The vehicle remains safe to drive because the grille shutter system only affects aerodynamics and engine bay airflow, but avoid high-speed driving or heavy load conditions until repaired to prevent potential overheating in extreme climates. If the shutter is stuck closed, monitor engine temperature and avoid prolonged idling in hot weather.



Tools that help

- OBD-II scan tool with bidirectional control and shutter calibration capability
- Digital multimeter for backprobing sensor circuits
- Trim removal tools for accessing grille shutter assemblies
- Flashlight and mirror for visual inspection of the shutter linkage
- Manufacturer service information for wiring diagrams and sensor specifications

Reading P05A9

P	Powertrain: engine, transmission and emissions.
0	Generic (SAE) code: it means the same thing on every OBD-II vehicle.
5	Vehicle speed, idle control and auxiliary inputs.
A9	The exact fault within that area.

Often seen with

P05A8 Active Grille Air Shutter A Supply Voltage Circuit High · **P05AA** Active Grille Air Shutter B Position Sensor Circuit Range/Pe · **P05AB** Active Grille Air Shutter B Position Sensor Circuit High · **P05AC** Active Grille Air Shutter B Position Sensor Circuit Low · **P05AD** Active Grille Air Shutter B Position Sensor Circuit Intermit

See it working

Watch the animated explainer [How a Starter Motor Works: Pre-Engaged Starter](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p05a9/>

