

GENERIC · POWERTRAIN

P05AC

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P05AC

Active Grille Air Shutter B Position Sensor Circuit Low

P05AC indicates that the powertrain control module has detected an abnormally low voltage signal from the position sensor circuit of active grille air shutter B, which is one of the movable vanes in the front grille that improves aerodynamics and engine warm-up. The computer expects the sensor to report a voltage within a specific range as the shutter moves, and a low reading means the circuit is shorted to ground, the sensor has failed, or the shutter is stuck.

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
- A noticeable decrease in fuel economy because the grille shutter may remain open
- Longer engine warm-up times in cold weather if the shutter fails to close
- The shutter may appear stuck in one position or move erratically when observed
- A faint clicking or buzzing noise from the front grille area after shutting off the engine
- Possible overheating or reduced air conditioning performance if the shutter remains closed

Common causes, most likely first

- 1 Faulty active grille air shutter B position sensor
- 2 Damaged or corroded wiring harness or connector at the shutter assembly
- 3 Shutter vane mechanically binding or obstructed by debris, ice, or accident damage
- 4 Failed shutter actuator motor that prevents movement and causes the sensor to read out of range
- 5 Water intrusion into the sensor or connector causing a short to ground
- 6 Poor electrical ground connection for the shutter circuit
- 7 Rarely, a software fault or internal failure in the powertrain control module



How to diagnose and fix it

- 1 Inspect the grille shutter assembly for physical damage, debris, or ice that could prevent movement
- 2 Check the wiring harness and connector at shutter B for corrosion, chafing, or loose pins
- 3 Measure the sensor reference voltage and ground at the connector with a digital multimeter
- 4 Command the shutter to move with a scan tool and observe the position sensor voltage for smooth operation
- 5 Test the actuator motor by applying power and ground directly to confirm it moves freely
- 6 Replace the position sensor or the entire shutter assembly if the sensor is faulty or the actuator is seized
- 7 Clear the diagnostic trouble codes and verify the repair by cycling the ignition and test-driving the vehicle

What a low shutter sensor signal really means

- A low voltage code often results from a short to ground in the sensor wiring rather than a failed sensor itself, so always check the harness before replacing parts.
- The active grille shutter may be commanded closed during engine warm-up and open at high speeds, so a stuck shutter can cause both fuel economy and cooling problems.
- Some vehicles set this code after a minor front-end impact that bends the shutter frame without visible exterior damage.
- A weak or dying battery can cause erratic shutter operation and set this code because the actuator motor draws significant current during self-tests.
- The code does not always mean the shutter is completely inoperative; it can set if the sensor signal is intermittently low due to a loose connector.

Can I keep driving with P05AC?

You can generally continue driving with this code because the engine will not be damaged, but expect reduced fuel economy and possibly longer warm-up times. Avoid towing heavy loads or driving in extreme heat if the shutter is stuck closed, as that could lead to overheating.

Tools that help

- OBD-II scan tool with bidirectional control capability
- Digital multimeter
- Trim removal tools
- Socket and wrench set
- Inspection mirror and flashlight



Reading P05AC

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.
AC	The exact fault within that area.

Often seen with

P05A9 Active Grille Air Shutter B Position Sensor Circuit · **P05AA** Active Grille Air Shutter B Position Sensor Circuit Range/Pe · **P05AB** Active Grille Air Shutter B Position Sensor Circuit High · **P05AD** Active Grille Air Shutter B Position Sensor Circuit Intermit · **P05AE** Active Grille Air Shutter B Performance/Stuck Off

See it working

Watch the animated explainer [How a Supercharger Works: Roots Blower in X-Ray](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p05ac/>

