

GENERIC · POWERTRAIN

P05A2

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P05A2

Active Grille Air Shutter A Control Circuit/Open

P05A2 indicates that the powertrain control module (PCM) has detected an open circuit or control fault in the electrical path for Active Grille Air Shutter 'A', which is the primary shutter assembly used to manage airflow through the grille for improved aerodynamics and engine warm-up. The computer commands the shutter actuator to move, but the circuit feedback does not match the expected voltage or current, so it sets this code and typically disables the active grille function.

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

Symptoms you may notice

- A warning light on the dashboard, often accompanied by a message about reduced aerodynamics or engine efficiency.
- The active grille shutters may remain stuck in the open or closed position, which can affect engine cooling or warm-up time.
- Slightly reduced fuel economy because the shutters no longer close at highway speeds to reduce drag.
- Longer engine warm-up periods in cold weather if the shutters stay open when they should close.
- In some vehicles, the shutters may cycle repeatedly or make a clicking or buzzing noise as the actuator tries to move.
- Often no symptoms besides the warning light, especially if the shutters default to a safe open position.

Common causes, most likely first

- A broken, corroded, or disconnected wire in the shutter actuator control circuit, including the power, ground, or signal return wires.
- A failed active grille shutter actuator motor or its internal position sensor, which can cause an open circuit condition.
- Physical damage to the shutter assembly, such as a broken linkage, jammed vanes, or impact from road debris, preventing movement and triggering the circuit fault.
- Corrosion or water intrusion at the actuator connector or in the wiring harness, leading to high resistance or an open circuit.
- A faulty powertrain control module (PCM) or body control module (BCM) driver for the shutter circuit, though this is less common.
- Aftermarket or improper repairs that left the circuit disconnected or used incorrect components.



How to diagnose and fix it

- 1 Inspect the active grille shutter assembly for physical damage, debris, or jammed vanes, and verify that the shutters move freely by hand when the actuator is disconnected.
- 2 Check the actuator connector and wiring for corrosion, loose pins, or chafed wires, and repair any damaged sections of the harness.
- 3 Measure resistance and continuity on the control circuit wires between the actuator and the PCM or BCM, comparing to the manufacturer's specifications to locate an open circuit.
- 4 Test the actuator motor by applying power and ground directly to confirm it operates; if it does not, replace the actuator or the entire shutter assembly as required.
- 5 Clear the diagnostic trouble codes and perform a relearn or calibration procedure for the active grille shutter using a scan tool, then verify the code does not return.
- 6 If the circuit and actuator test good, check for technical service bulletins (TSBs) or software updates for the PCM or BCM that may address false setting of this code.
- 7 As a last resort, diagnose the PCM or BCM driver circuit for the shutter control, following the manufacturer's diagnostic flow chart to avoid unnecessary module replacement.

What the shutter circuit test misses

- A common oversight is assuming the actuator is faulty when the real problem is a broken wire inside the loom near the hinge point of the hood or grille, where flexing causes conductor fatigue.
- The shutter assembly often defaults to the open position on many vehicles, so the driver may not notice any drivability issue, leading to misdiagnosis as a minor fault when it can affect fuel economy and emissions.
- Some vehicles use multiple shutter assemblies (A and B), and P05A2 refers specifically to 'A'; mixing up the circuits can lead to replacing the wrong part.
- A low battery or voltage drop during engine cranking can cause a momentary open circuit that sets this code, so always check battery health and ground connections before condemning the actuator.
- After replacing the shutter assembly, a calibration or relearn procedure is often required; skipping it can cause the code to reset immediately even with a new part.

Can I keep driving with P05A2?

You can usually continue driving safely with this code because the shutters typically fail in the open position, which does not cause overheating. However, avoid ignoring it long-term, as fuel economy and engine warm-up efficiency may suffer, and have the circuit inspected when convenient.



Tools that help

- OBD-II scan tool with bidirectional control and relearn capabilities
- Digital multimeter for continuity and resistance testing
- Wire probe set and terminal removal tools
- Service information with wiring diagrams for the specific vehicle
- Basic hand tools for trim and grille removal

Reading P05A2

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.
A2	The exact fault within that area.

Often seen with

P05A1 Active Grille Air Shutter A Position Sensor Minimum/Maximum · **P05A3** Active Grille Air Shutter A Control Circuit Range/Performance · **P05A4** Active Grille Air Shutter A Control Circuit High · **P05A5** Active Grille Air Shutter A Control Circuit Low · **P05A6** Active Grille Air Shutter A Supply Voltage Circuit/Open

See it working

Watch the animated explainer [How a Catalytic Converter Works: 3D Cutaway](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p05a2/>

