

GENERIC · POWERTRAIN

P02E2

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P02E2

Diesel Intake Air Flow A Control Circuit Low

P02E2 indicates that the powertrain control module has detected an abnormally low voltage or current on the control circuit for the diesel intake air flow A actuator, which is typically the swirl control valve or intake air shutoff flap. The circuit is commanded to move the flap, but the feedback signal stays below the expected threshold, so the computer flags a low-side fault.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Generic (all makes)	Medium	Intermediate	Fuel and air metering (injector circuits)

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms.
- Reduced engine power or limp mode under acceleration.
- Rough idle or hesitation when the engine is cold.
- Poor fuel economy or increased regeneration frequency.
- A noticeable lack of low-end torque.
- In some cases, a whistling or rattling noise from the intake system.

Common causes, most likely first

- 1 A failed or sticking intake air flow control actuator (swirl flap motor).
- 2 Damaged, chafed, or corroded wiring in the actuator control circuit.
- 3 A poor electrical connection at the actuator or PCM connector.
- 4 A short to ground in the control circuit.
- 5 A faulty powertrain control module driver, though this is rare.
- 6 Carbon buildup or mechanical binding in the intake air flow flap assembly.

How to diagnose and fix it

- 1 Inspect the actuator and its wiring for obvious damage, corrosion, or loose connectors.
- 2 Use a scan tool to command the actuator and observe the feedback voltage or position signal.
- 3 Measure resistance and voltage on the control circuit to check for a short to ground or an open circuit.
- 4 Check the actuator motor with a known-good signal or bench test if accessible.
- 5 Clean or free up any carbon deposits or mechanical binding in the intake flap assembly.
- 6 Replace the intake air flow control actuator if it fails electrical or mechanical testing.
- 7 Clear the code and perform a relearn or adaptation procedure if required by the manufacturer.



Before replacing the intake flow actuator

- A low circuit code often results from a shorted actuator motor winding rather than a wiring problem, so testing the motor before replacing the PCM is essential.
- Carbon buildup on the swirl flaps can cause the actuator to bind and draw excessive current, which the module may interpret as a low circuit fault.
- The intake air flow A circuit may share a ground or reference voltage with other sensors, so a fault elsewhere can set this code as a secondary effect.
- In some vehicles, the actuator is part of the intake manifold assembly and cannot be replaced separately, making diagnosis of the circuit even more critical.
- A weak battery or charging system issue can cause spurious low-voltage codes on actuator circuits, so always verify battery condition first.

Can I keep driving with P02E2?

You can usually drive the vehicle with this code, but expect reduced engine performance and possible limp mode; avoid heavy acceleration or towing until the fault is repaired.

Tools that help

- OBD-II scan tool with bidirectional control
- Digital multimeter
- Wiring diagram for the specific vehicle
- Basic hand tools
- Contact cleaner and dielectric grease

Reading P02E2

P	Powertrain: engine, transmission and emissions.
0	Generic (SAE) code: it means the same thing on every OBD-II vehicle.
2	Fuel and air metering (injector circuits).
E2	The exact fault within that area.

Often seen with

P02E3 Diesel Intake Air Flow A Control Circuit High · **P02E4** Diesel Intake Air Flow A Control Stuck Open · **P02E5** Diesel Intake Air Flow A Control Stuck Closed · **P2002** Particulate Trap Efficiency Below Threshold (Bank 1) · **P2015** Intake Manifold Runner Position Sensor/Switch Circuit Range/



See it working

Watch the animated explainer [How an Oxygen Sensor Works: Live 3D Cutaway](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p02e2/>

