

GENERIC · POWERTRAIN

P02E0

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P02E0

Diesel Intake Air Flow A Control Circuit/Open

P02E0 indicates that the engine control module (ECM) has detected an open circuit or abnormal voltage on the control circuit for the diesel intake air flow 'A' actuator, which is typically the intake air throttle or swirl flap motor. The ECM commands the actuator to move and monitors the electrical feedback; when the signal is missing or out of range, it sets this code and may limit the actuator's operation.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Fuel and air metering (injector circuits)

Symptoms you may notice

- Illumination of the check engine light (malfunction indicator lamp).
- Often no symptoms besides the warning light, especially if the actuator fails in a default position.
- Reduced engine power or limp mode under certain driving conditions.
- Rough idle or poor throttle response when the intake air flow control is needed.
- Excessive black smoke from the exhaust during acceleration due to incorrect air metering.
- In some cases, the engine may stall or hesitate when coming to a stop.

Common causes, most likely first

- 1 Open or shorted wiring in the control circuit between the ECM and the intake air flow actuator.
- 2 Failed intake air flow actuator (throttle motor or swirl flap motor) due to internal electrical fault.
- 3 Corroded, loose, or damaged electrical connector at the actuator or ECM.
- 4 Blown fuse or faulty relay supplying power to the actuator circuit.
- 5 Carbon buildup or mechanical binding in the intake air throttle or swirl flaps, causing the actuator to overheat and fail.
- 6 Faulty ECM driver circuit (rare but possible).



How to diagnose and fix it

- 1 Perform a visual inspection of the actuator, its connector, and the wiring harness for obvious damage, corrosion, or loose pins.
- 2 Check the fuse and relay that supply power to the intake air flow actuator circuit.
- 3 Use a scan tool to command the actuator and observe live data for movement and electrical feedback; compare commanded versus actual position.
- 4 Measure resistance and voltage on the control circuit wires to check for opens, shorts, or high resistance; wiggle-test the harness while monitoring.
- 5 If the circuit tests good, remove the actuator and inspect the intake throttle plate or swirl flaps for carbon buildup or mechanical binding; clean if necessary.
- 6 Substitute a known-good actuator or perform a resistance test on the actuator motor to confirm failure.
- 7 After repair, clear the code and perform a relearn or adaptation procedure for the intake air flow actuator if required by the vehicle manufacturer.

Common misdiagnosis traps for P02E0

- A sticking or carbon-fouled intake throttle plate can cause the actuator to draw excessive current and set an open-circuit code, leading to unnecessary actuator replacement.
- The control circuit may test fine with a multimeter but fail under load; a load test with a bulb or oscilloscope is more reliable than a simple continuity check.
- On some vehicles, the intake air flow actuator shares power or ground with other sensors, so a fault elsewhere can trigger P02E0.
- The ECM may set P02E0 if the actuator motor is disconnected during a key-on cycle, even if no actual fault exists; always check for recent repairs or connector work.
- After replacing the actuator, a calibration or adaptation reset is often required; skipping this step can cause the code to return immediately.

Can I keep driving with P02E0?

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 to prevent further damage to the intake system.

Tools that help

- OBD-II scan tool with live data and actuator test capability
- Digital multimeter
- Wiring diagram for the specific vehicle
- Socket set and screwdrivers
- Carbon cleaner and shop rags



Reading P02E0

- 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).
- E0** The exact fault within that area.

Often seen with

P02E1 Diesel Intake Air Flow A Control Performance · **P02E2** Diesel Intake Air Flow A Control Circuit Low · **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

See it working

Watch the animated explainer [How the EVAP System Works: Fuel Vapour and Leak Test](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p02e0/>

