

KIA · POWERTRAIN

P1250

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1250 · Kia

Pressure Regulator Control Solenoid Valve Open Or Short

P1250 on a Kia indicates that the engine control module (ECM) has detected an open circuit or a short circuit in the pressure regulator control solenoid valve circuit. This solenoid is used on some Kia diesel engines to manage fuel pressure at the high-pressure pump, and the ECM monitors the circuit for expected voltage or current; when the signal falls outside the normal range, it stores this code and may limit engine performance.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Kia specific	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, especially under acceleration or load.
- Rough idle or intermittent stalling, particularly when the engine is cold.
- Poor fuel economy or excessive black smoke from the exhaust on diesel models.
- Difficulty starting or a crank but no-start condition in severe cases.

Common causes, most likely first

- 1 Damaged or disconnected wiring harness to the pressure regulator control solenoid, such as chafed wires or a broken connector.
- 2 Failed pressure regulator control solenoid valve itself, often due to internal coil failure or contamination.
- 3 Corroded or loose electrical terminals at the solenoid connector or at the ECM.
- 4 Open or shorted circuit within the solenoid coil, causing excessive or zero current draw.
- 5 ECM internal fault, though this is less common and should be diagnosed last.
- 6 Fuel contamination or debris interfering with the solenoid's mechanical operation, leading to an electrical fault code.



How to diagnose and fix it

- 1 Perform a visual inspection of the solenoid, its connector, and the wiring harness for obvious damage, corrosion, or loose connections.
- 2 Use a scan tool to command the solenoid on and off and listen for a click, verifying mechanical operation.
- 3 Measure the resistance of the solenoid coil with a multimeter and compare it to the manufacturer's specification to check for an open or short.
- 4 Check for battery voltage and ground at the solenoid connector with the key on, engine off, to confirm the circuit is complete.
- 5 Inspect the wiring between the solenoid and the ECM for continuity and shorts to ground or power, repairing as needed.
- 6 If the circuit and solenoid test good, check for technical service bulletins (TSBs) or software updates for the ECM that may address false codes.
- 7 Replace the pressure regulator control solenoid if it fails electrical or mechanical testing, then clear the code and verify the repair with a test drive.

Don't overlook the fuel pressure regulator circuit

- A common misdiagnosis is replacing the high-pressure fuel pump when the actual fault is a chafed wire near the solenoid connector, so always perform a thorough circuit test first.
- On some Kia diesel engines, the pressure regulator control solenoid is integrated into the fuel pump and cannot be replaced separately, requiring pump replacement if the solenoid fails.
- The ECM may set P1250 intermittently if the solenoid connector is loose but not fully disconnected, so wiggle-test the harness while monitoring live data.
- A weak battery or poor ground can cause voltage spikes that mimic a solenoid circuit fault, so verify charging system and grounds before condemning the solenoid.
- This code can be triggered by aftermarket electrical accessories tapped into the solenoid circuit, so check for non-factory wiring modifications.

Can I keep driving with P1250?

You can usually drive the vehicle with P1250 set, but expect reduced engine power and possible limp mode; avoid heavy acceleration and towing, and have the fault diagnosed promptly to prevent fuel system damage.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Wire probe set
- Electrical contact cleaner
- Factory service information for wiring diagrams and resistance specifications



Reading P1250

- P** Powertrain: engine, transmission and emissions.
- 1** Manufacturer-specific code (Kia): its meaning depends on the make.
- 2** Fuel and air metering (injector circuits).
- 50** The exact fault within that area.

Often seen with

P1251 Start Of Injection Solenoid Circuit Short To B+ · **P1251** Air Mixture Solenoid Circuit · **P1251** Throttle Position · **P0087** Fuel Rail/System Pressure - Too Low · **P0088** Fuel Rail/System Pressure - Too High · **P0093** Fuel System Leak Detected - Large Leak · **P0251** Injection Pump Fuel Metering Control 'A' (Cam/Rotor/Injector

See it working

Watch the animated explainer [Four-Stroke Engine Cutaway: Intake to Exhaust](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/kia-p1250/>

