

KIA · POWERTRAIN

P1225

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1225 · Kia

Fuel Injector 1 Circuit Low Voltage

P1225 on a Kia indicates that the engine control module (ECM) has detected an abnormally low voltage on the control circuit for fuel injector number 1. This means the ECM is commanding the injector to open, but the electrical feedback on that circuit is below the expected threshold, which can prevent the injector from firing correctly and cause a misfire or rough running condition.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Kia specific	Medium	Intermediate	Fuel and air metering (injector circuits)

Symptoms you may notice

- Illuminated check engine light, often with no other noticeable symptoms
- Rough idle or shaking, especially when the engine is cold
- Engine misfire or stumble during acceleration
- Reduced engine power and poor fuel economy
- Difficulty starting or stalling shortly after start-up
- A strong fuel odor from the exhaust if the injector is stuck open or leaking

Common causes, most likely first

- 1 Faulty fuel injector number 1 (internal coil short or open)
- 2 Damaged or corroded electrical connector at the injector
- 3 Chafed, broken, or shorted wire in the injector control circuit
- 4 Poor connection or corrosion at the ECM harness connector
- 5 Failed ECM driver for the injector circuit (rare but possible)
- 6 Aftermarket or incorrect injector installed previously

How to diagnose and fix it

- 1 Perform a visual inspection of the injector 1 connector and wiring for damage or corrosion
- 2 Measure the resistance of fuel injector 1 and compare to the factory specification
- 3 Check for battery voltage at the injector connector with the key on and engine off
- 4 Use a noid light or oscilloscope to verify the injector pulse signal from the ECM
- 5 Inspect the ECM harness connector for loose terminals or corrosion, and repair as needed
- 6 If the injector tests bad, replace it with a known-good unit and clear the code
- 7 If the circuit and injector are good, diagnose the ECM driver circuit or replace the ECM as a last resort



Don't replace the injector before checking this

- A low voltage code on an injector circuit often results from a poor ground connection at the engine block or chassis, not the injector itself.
- Kia injectors can fail intermittently when hot, so a resistance test performed on a cold engine may not reveal the fault.
- The ECM may set P1225 if the injector circuit is shorted to ground or if the injector coil is partially open, so a simple resistance check is not always conclusive.
- Aftermarket injectors with incorrect resistance values can trigger this code even when they appear to function normally.
- A misfire from a bad spark plug or ignition coil can sometimes cause the ECM to misinterpret injector feedback and set a false P1225, so always check secondary ignition components first.

Can I keep driving with P1225?

You can drive the vehicle short distances to a repair shop, but avoid heavy acceleration or towing because a misfiring injector can overheat the catalytic converter. If the engine is running very rough or stalling, stop driving and have it towed to prevent further damage.

Tools that help

- OBD-II scan tool
- Digital multimeter
- Noid light set
- Oscilloscope (optional but helpful)
- Factory service information for resistance specifications

Reading P1225

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

Often seen with

P1226 Cylinder 2 Injector Circuit Short To Ground · **P1227** Cylinder 3 Injector Circuit Short To Ground · **P1226** Control Sleeve Sensor Circuit · **P1226** Fuel Injector 2 Circuit Low Voltage · **P1227** Fuel Injector 3 Circuit Low Voltage · **P1226** Mechanical Guard Circuit Range Performance · **P1227** Mechanical Guard Circuit Low Input · **P1227** Wastegate Failed Closed Over Pressure · **P0201** Injector Circuit Malfunction - Cylinder 1 · **P0300** Random/Multiple Cylinder Misfire Detected · **P0301** Cylinder 1 Misfire Detected



See it working

Watch the animated explainer [EV Powertrain Trainer: How an Electric Car Drives](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/kia-p1225/>

