

KIA · POWERTRAIN

P1124

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1124 · Kia

Long Term Fuel Trim Adaptive Air System High

P1124 on Kia vehicles means the engine computer has detected that the long-term fuel trim has adapted to a point where the air system is delivering more air than expected, forcing the computer to add fuel beyond its normal long-term correction limit. The powertrain control module (PCM) sets this code when the long-term fuel trim value stays high, indicating a persistent lean condition that the adaptive air system cannot compensate for.

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

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms.
- Rough idle or intermittent misfire, especially when the engine is cold.
- Reduced fuel economy due to the computer adding extra fuel to compensate for the lean condition.
- Hesitation or stumble during acceleration, particularly at low speeds.
- Possible black smoke from the exhaust if the fuel trim correction becomes extreme.
- In some cases, the engine may enter limp mode, limiting power to protect components.

Common causes, most likely first

- 1 Vacuum leak from a cracked or disconnected intake hose, intake manifold gasket, or vacuum line.
- 2 Faulty mass air flow (MAF) sensor reporting lower air flow than actual, causing the PCM to add fuel.
- 3 Leaking intake manifold gasket or worn throttle body gasket allowing unmetered air into the engine.
- 4 Contaminated or failing MAF sensor due to oil from an aftermarket air filter or dirt accumulation.
- 5 Exhaust leak before the oxygen sensor, allowing outside air to be read as extra oxygen and skewing fuel trim.
- 6 Weak fuel pump or restricted fuel filter causing low fuel pressure, which the PCM tries to offset with long-term trim.
- 7 Leaking or stuck-open purge valve in the evaporative emissions (EVAP) system, introducing unmetered air.



How to diagnose and fix it

- 1 Connect a scan tool and record long-term fuel trim values at idle and at 2500 rpm to confirm the lean condition.
- 2 Perform a visual inspection of all intake air hoses, vacuum lines, and the intake manifold for cracks or loose connections.
- 3 Use a smoke machine to pressurize the intake system and locate any vacuum leaks that are not visible.
- 4 Clean the MAF sensor with a dedicated MAF cleaner and verify its reading against actual air flow using live data.
- 5 Check fuel pressure with a gauge and compare to the manufacturer's specification; replace the fuel filter if restricted.
- 6 Test the EVAP purge valve for proper sealing and operation, replacing it if it sticks open.
- 7 Inspect the exhaust system for leaks before the upstream oxygen sensor and repair any damaged gaskets or pipes.

Common misdiagnosis traps for P1124

- A dirty MAF sensor is frequently replaced unnecessarily; cleaning it with the correct spray often resolves the high fuel trim without any parts cost.
- Intake manifold gasket leaks on older Kia models can be intermittent and only appear when the engine is cold, so a smoke test done on a warm engine may miss them.
- The code can be set by a failing upstream oxygen sensor that is slow to respond, causing the PCM to overcorrect fuel trim even when the air system is fine.
- Aftermarket air filters that use oil can contaminate the MAF sensor and lead to this code, so always check the air filter type before condemning the sensor.
- A restricted fuel filter or weak fuel pump can cause a lean condition that mimics a vacuum leak, so fuel pressure must be verified before replacing air system parts.

Can I keep driving with P1124?

You can usually drive the vehicle short distances to a repair shop, but avoid heavy acceleration or towing because the lean condition can cause overheating and engine damage. If the check engine light starts flashing, stop driving immediately and have the vehicle towed.

Tools that help

- OBD-II scan tool with live data capability
- Smoke machine for intake leak detection
- Digital multimeter for sensor and circuit testing
- Fuel pressure gauge
- MAF sensor cleaner spray
- Basic hand tools (screwdrivers, socket set, pliers)



Reading P1124

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

Often seen with

P0101 Mass/Volume Air Flow Circuit Range/Performance · **P0171** System Too Lean (Bank 1) · **P0174** System Too Lean (Bank 2) · **P0300** Random/Multiple Cylinder Misfire Detected · **P0442** EVAP System Leak Detected (Small)

See it working

Watch the animated explainer [Car Relay Test Bench: Test 4-Pin and 5-Pin Relays](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/kia-p1124/>

