

VOLKSWAGEN · POWERTRAIN

P1424

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1424 · Volkswagen

Secondary Air Injection System Bank 1 Leak Detected

P1424 on Volkswagen vehicles indicates that the engine control module has detected a leak in the secondary air injection system on bank 1, which is the side of the engine containing cylinder number one. The computer typically identifies this by monitoring the secondary air system's pressure or flow during the cold-start phase, where a leak causes the measured air delivery to fall outside the expected range.

SYSTEM

Powertrain

CODE TYPE

Volkswagen specific

SEVERITY

Low

FIX DIFFICULTY

Intermediate

AREA

Auxiliary emission controls

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms.
- A slight hissing or rushing air noise from the engine bay during the first minute after a cold start.
- Rough idle or stumbling immediately after starting the engine when cold.
- A rotten egg or sulfur smell from the exhaust during cold-start warm-up.
- Occasional hesitation or flat spot when accelerating from a cold start.
- In some cases, no symptoms besides the warning light, especially if the leak is small.

Common causes, most likely first

- 1 Cracked or disconnected secondary air injection hose or tube between the air pump and the combi valve.
- 2 Failed secondary air injection combi valve (also called the diverter valve) that does not seal properly.
- 3 Leaking gasket at the secondary air injection combi valve mounting flange.
- 4 Corroded or cracked secondary air injection pump housing or outlet port.
- 5 Damaged or deteriorated vacuum line to the combi valve, preventing proper operation.
- 6 Loose or missing clamp on a secondary air hose connection.
- 7 Rarely, a cracked cylinder head port where the secondary air passage enters the exhaust port.



How to diagnose and fix it

- 1 Visually inspect all secondary air injection hoses and tubes for cracks, loose clamps, or disconnections, and repair or replace as needed.
- 2 Check the combi valve for proper sealing by removing it and inspecting the internal diaphragm and seat for carbon buildup or damage.
- 3 Test the vacuum supply to the combi valve using a vacuum gauge or handheld vacuum pump to confirm the valve opens and holds vacuum.
- 4 Perform a smoke test on the secondary air system to pinpoint leaks that are not visible to the naked eye.
- 5 Verify the secondary air pump operates during cold start and check for corrosion or cracks in the pump housing and outlet.
- 6 Replace the combi valve gasket and any suspect vacuum lines, then clear the fault memory and perform a cold-start drive cycle to confirm the repair.
- 7 If the leak persists, inspect the cylinder head secondary air passage for cracks or carbon blockage, which may require professional attention.

Common misdiagnosis traps for P1424

- A leaking combi valve often causes no driveability symptoms, so technicians who only test the air pump may miss the real problem and replace a good pump.
- The secondary air system only runs for about 90 seconds after a cold start, so a leak may not be detectable once the engine is warm; testing must be done on a cold engine.
- A faulty non-return valve inside the combi valve can allow exhaust gas to back up into the air pump, corroding it and creating a leak that mimics a pump failure.
- Some aftermarket combi valves have poor sealing surfaces and can set P1424 shortly after installation, so using OEM-quality parts is critical.
- A vacuum leak elsewhere in the engine can affect combi valve operation and set this code, so always check vacuum lines thoroughly before condemning the valve.

Can I keep driving with P1424?

You can usually continue driving with P1424 because the secondary air system only operates during cold starts and does not affect engine power or safety. However, prolonged driving with a leak can allow moisture and exhaust gases to damage the air pump, so schedule a repair soon and avoid repeated short cold-start trips.



Tools that help

- Handheld vacuum pump with gauge
- Smoke machine
- Basic socket and wrench set
- Phillips and flathead screwdrivers
- OBD-II scan tool

Reading P1424

- P** Powertrain: engine, transmission and emissions.
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- 1** Manufacturer-specific code (Volkswagen): its meaning depends on the make.
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- 4** Auxiliary emission controls.
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- 24** The exact fault within that area.

Often seen with

P1423 Secondary Air Injection System Bank 1 Flow Too Low · **P1425** Tank Ventilation Valve Short To Ground · **P1426** Tank Ventilation Valve Open Circuit · **P1423** EVAP Vent Control High Input · **P1425** EVAP Purge Control Solenoid Circuit Low Voltage · **P1423** Intake Air High Pressure Switch Circuit High Voltage · **P1423** Intake Air High Pressure Switch Circuit High Voltage · **P0411** Secondary Air Injection System Incorrect Flow · **P0491** Secondary Air Injection System Insufficient Flow (Bank 1)

See it working

Watch the animated explainer [Excavator Simulator: Hydraulics You Can Operate](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/volkswagen-p1424/>

