

GENERIC · POWERTRAIN

P017F

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P017F

EVAP System Leak Detection Pump Module Air Filter Restricted

P017F indicates that the engine computer has detected a restriction in the air filter that supplies clean air to the evaporative emissions (EVAP) system's leak detection pump module. The computer monitors the pump's ability to move air and flags the code when the filter is clogged or the air path is blocked, preventing proper EVAP leak testing.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Generic (all makes)	Low	Intermediate	Fuel and air metering

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms.
- A slight fuel odor may be present if the restriction causes pressure buildup in the fuel tank.
- In some cases, the EVAP system may be unable to run its self-test, leading to a pending P017F before the light comes on.
- Rough idle or hesitation is rare but can occur if the restriction affects other vacuum-operated systems.
- No driveability issues are typical because the leak detection pump only operates during specific conditions.

Common causes, most likely first

- 1 Clogged or dirty air filter element on the leak detection pump module.
- 2 Collapsed or kinked air hose connecting the filter to the pump module.
- 3 Debris, mud, or insect nests blocking the filter inlet or housing.
- 4 Failed leak detection pump module due to internal diaphragm damage or motor wear.
- 5 Corroded or damaged electrical connector at the pump module, causing intermittent operation.
- 6 Restriction in the EVAP canister vent path that indirectly affects pump airflow.



How to diagnose and fix it

- 1 Inspect the leak detection pump module air filter and housing for visible debris, mud, or damage; clean or replace the filter element as needed.
- 2 Check the air hose between the filter and pump module for kinks, cracks, or collapse; repair or replace the hose.
- 3 Verify that the filter inlet is not blocked by underbody shields, debris, or aftermarket accessories.
- 4 Test the leak detection pump module with a scan tool capable of activating the EVAP system; listen for pump operation and check for airflow at the filter.
- 5 Measure resistance and voltage at the pump module connector to rule out wiring or connector faults.
- 6 If the pump module fails to generate airflow or is electrically faulty, replace the module and clear the code.
- 7 After repairs, clear codes and run the EVAP monitor to confirm the repair and ensure P017F does not return.

Filter restriction often misdiagnosed as pump failure

- A restricted air filter on the leak detection pump module can mimic a failed pump, leading to unnecessary replacement of the entire module when only the filter needs service.
- The filter is often located under the vehicle near the EVAP canister and is easily overlooked during routine maintenance, so debris accumulation is a common cause.
- P017F can set intermittently if the filter is partially clogged, and the code may not reappear immediately after clearing, making it tempting to ignore.
- Some vehicles use a foam or paper element that degrades over time and can be replaced separately, but many technicians replace the whole pump module as a unit.
- A restricted filter can prevent the EVAP system from completing its self-test, which may also set related codes like P0455 or P0456 if the system cannot seal properly.

Can I keep driving with P017F?

The vehicle remains safe to drive because the fault only affects the EVAP system's self-testing capability and does not impact engine performance. Avoid topping off the fuel tank excessively and schedule repair soon to prevent potential EVAP system complications.

Tools that help

- OBD-II scan tool with EVAP system activation capability
- Basic hand tools (screwdrivers, socket set)
- Digital multimeter
- Flashlight or inspection mirror
- Replacement air filter element (if applicable)



Reading P017F

- P** Powertrain: engine, transmission and emissions.
- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- 1** Fuel and air metering.
- 7F** The exact fault within that area.

Often seen with

P0442 EVAP System Leak Detected (Small) · **P0455** EVAP System Leak Detected (Large) · **P0456** Evaporative Emission System Leak Detected (very small leak) · **P0457** Evaporative Emission System Leak Detected (fuel cap loose/of · **P2404** Evaporative Emission System Leak Detection Pump Sense Circui

See it working

Watch the animated explainer [How a Car Thermostat Works: Wax Pellet and Cooling Fan](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p017f/>

