

MAZDA · POWERTRAIN

P1405

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1405 · Mazda

DPFE Sensor Upstream Hose Off Or Plugged

P1405 on a Mazda means the powertrain control module (PCM) has detected that the upstream pressure hose connected to the differential pressure feedback exhaust (DPFE) sensor is either disconnected or physically blocked. The PCM monitors the DPFE sensor signal during key-on and running conditions and flags this code when the pressure reading does not change as expected, indicating the hose is off or plugged.

SYSTEM

Powertrain

CODE TYPE

Mazda 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.
- Slight hesitation or stumble during acceleration in some cases.
- Poor fuel economy if the fault persists and affects exhaust gas recirculation (EGR) flow.
- Intermittent rough idle when the EGR valve is commanded open.
- A faint hissing or whistling noise from the engine bay if the hose is completely off.
- Failed emissions test due to the check engine light being on.

Common causes, most likely first

- 1 Upstream pressure hose disconnected from the DPFE sensor or the EGR tube.
- 2 Upstream pressure hose plugged with carbon deposits or debris.
- 3 Cracked or split upstream pressure hose allowing a pressure leak.
- 4 DPFE sensor upstream port internally blocked with soot.
- 5 Damaged or corroded DPFE sensor electrical connector causing a false signal.
- 6 PCM software issue or faulty PCM (rare, but possible after other causes are ruled out).



How to diagnose and fix it

- 1 Inspect the upstream pressure hose for being disconnected, cracked, or split, and reconnect or replace it as needed.
- 2 Disconnect the upstream hose at both ends and check for blockage by blowing through it; replace if plugged.
- 3 Remove the DPFE sensor and check the upstream port for carbon blockage; clean or replace the sensor if blocked.
- 4 Check the DPFE sensor electrical connector for corrosion, tightness, and proper pin fit; repair as necessary.
- 5 Clear the diagnostic trouble code (DTC) and perform a road test to verify the repair.
- 6 If the code returns, use a scan tool to monitor DPFE sensor voltage and compare to expected values during EGR operation.
- 7 Consult Mazda service information for specific pinpoint tests if the fault persists after hose and sensor checks.

DPFE hose faults often misdiagnosed

- A plugged upstream hose can cause the same driveability symptoms as a failing DPFE sensor, so always verify hose condition before replacing the sensor.
- The upstream hose is often overlooked during routine maintenance because it is hidden behind the intake manifold on many Mazda engines.
- Carbon deposits from the exhaust can block the hose internally even when it looks perfectly connected on the outside.
- A disconnected upstream hose may not set a code immediately; the PCM needs to see an unexpected pressure signal during specific driving conditions.
- Some technicians replace the DPFE sensor unnecessarily when the real problem is a simple hose clamp that has loosened over time.

Can I keep driving with P1405?

You can generally continue driving with this code because it rarely causes an immediate safety risk, but avoid heavy acceleration and long trips until repaired. The engine may run slightly less efficiently, and the check engine light will prevent passing an emissions inspection.

Tools that help

- OBD-II scan tool
- Socket set
- Hose clamp pliers
- Flashlight
- Compressed air



Reading P1405

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

Often seen with

P1402 EGR Valve Circuit Short To B+ · **P1401** EGR Valve Power Stage Short To Ground · **P1400** EGR Valve Circuit Electrical Malfunction · **P1400** Sub-Throttle Position Sensor · **P1401** Sub-Throttle Position Sensor Range Performance Problem · **P1400** Fuel Tank Pressure Control Solenoid Low Input · **P1402** Fuel Level Pressure Sensor Circuit Fault · **P1401** Fuel Tank Pressure Control System Performance · **P1400** EGRC Solenoid Valve · **P1402** EGR System · **P1401** EGR Temperature Sensor · **P1400** Manifold Differential Pressure Sensor Circuit · **P1401** EGR Lifting Sender B283 · **P1400** DPFE Sensor Circuit Low Input · **P1402** EGR Valve Position Sensor Circuit · **P1401** DPFE Sensor Circuit High Input · **P1401** EGR Control Solenoid Circuit Signal Low · **P1402** EGR Control Solenoid Circuit Signal High · **P1401** Exhaust Gas Recirculation Valve Position Circuit · **P1400** Exhaust Gas Recirculation Valve Position Control · **P1401** Differential Pressure Feedback Electronic Sensor Circuit High · **P1402** EGR Metering Orifice Restricted · **P1400** Differential Pressure Feedback Electronic Sensor Circuit Low · **P1402** Heated Catalyst Power Switch Overtemperature Condition Bank · **P1401** Heated Catalyst Current Too High During Heating Bank 1 · **P1400** Heated Catalyst Battery Voltage or Current Too Low During He · **P0401** EGR Flow Insufficient Detected · **P0402** EGR Flow Excessive Detected

See it working

Watch the animated explainer [Four-Stroke Engine Notebook: The Otto Cycle Explained](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/mazda-p1405/>

