

GENERIC · POWERTRAIN

P0DE4

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0DE4

Electric/Auxiliary Transmission Fluid Pump A Motor Over Temperature

P0DE4 indicates that the control module for the electric or auxiliary transmission fluid pump has detected an over-temperature condition in the pump motor circuit. The computer monitors the pump motor's temperature through a sensor or inferred calculation and sets this code when the temperature exceeds a calibrated threshold, typically to protect the pump from damage.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Generic (all makes)	Medium	Professional	Hybrid propulsion

Symptoms you may notice

- Illumination of the check engine light or transmission warning light, often with no other noticeable symptoms.
- The transmission may enter limp mode or default to a fixed gear, causing reduced performance and poor shift quality.
- Harsh or delayed shifting as the auxiliary pump fails to maintain fluid pressure during engine stop-start events.
- The engine may hesitate or stall when the auto start-stop system engages, because the auxiliary pump cannot keep the transmission primed.
- In some cases, a burning smell or visible fluid leak near the pump may be noticed if the over-temperature is caused by a mechanical issue.
- The vehicle may be unable to restart after an auto stop event, requiring a manual restart.

Common causes, most likely first

- 1 Low or degraded transmission fluid, leading to poor lubrication and cooling of the auxiliary pump motor.
- 2 A faulty temperature sensor integrated into the pump motor or its control circuit, sending inaccurate readings.
- 3 Restricted or blocked transmission fluid cooler lines, causing the pump to overheat during operation.
- 4 An internal short or winding failure in the auxiliary pump motor, increasing resistance and heat generation.
- 5 A malfunctioning pump control module or relay that supplies incorrect voltage or current to the pump.
- 6 Air trapped in the pump circuit due to improper fluid fill or a leak, reducing cooling efficiency.
- 7 Mechanical binding or wear in the pump assembly, causing excessive friction and heat.



How to diagnose and fix it

- 1 Check the transmission fluid level and condition; top off or replace fluid if it is low or burnt-smelling.
- 2 Inspect the auxiliary pump wiring and connectors for corrosion, damage, or loose pins, and repair as needed.
- 3 Use a scan tool to monitor the pump motor temperature sensor data and compare it to actual conditions to verify the sensor's accuracy.
- 4 Test the pump motor's resistance and compare it to the manufacturer's specification to identify an internal fault.
- 5 Check for restricted transmission cooler lines or a clogged cooler and flush or replace components as necessary.
- 6 Verify that the pump control module receives proper power and ground, and test the relay if applicable.
- 7 If all electrical and fluid checks pass, replace the auxiliary transmission fluid pump assembly as the final step.

Overheating pump often misdiagnosed

- A low transmission fluid level is a frequent culprit that is often overlooked because the pump may still operate, but with reduced cooling.
- The temperature sensor can fail independently of the pump motor, causing a false over-temperature code without any actual overheating.
- Some vehicles use the auxiliary pump only during auto start-stop events, so the code may not set during normal driving and can be missed in a routine scan.
- After replacing the pump, the new unit may require a relearn or adaptation procedure with a scan tool to prevent repeat codes.
- A failing battery or charging system can cause voltage spikes that damage the pump control module, leading to this code.

Can I keep driving with P0DE4?

It is generally safe to drive the vehicle to a repair shop, but avoid heavy loads, towing, or prolonged idling that could exacerbate overheating. If the transmission enters limp mode or shifting becomes erratic, stop driving and seek professional assistance to prevent further damage.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Transmission fluid level dipstick or scan tool for fluid level check
- Infrared thermometer
- Factory service information for specifications and procedures



Reading P0DE4

- P** Powertrain: engine, transmission and emissions.
- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- D** Hybrid propulsion.
- E4** The exact fault within that area.

Often seen with

P0DE5 Charge Status Indicator B Control Circuit/Open · **P0DE6** Hybrid/EV Battery Pack Cell Voltage Low · **P0DE7** Hybrid/EV Battery Pack Cell Voltage High · **P0DE8** Hybrid/EV Battery Pack Coolant Control Valve C Control Circu · **P0DE9** Hybrid/EV Battery Pack Coolant Control Valve C Performance/S

See it working

Watch the animated explainer [How an Automatic Transmission Works, Gear by Gear](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p0de4/>

