



P0C21

Electric/Auxiliary Transmission Fluid Pump Phase U-V-W Circuit Low

P0C21 means the transmission control module (TCM) has detected a low-voltage condition on the phase U, V, or W circuit of the electric auxiliary transmission fluid pump. The pump is a three-phase brushless motor used to maintain fluid pressure when the engine is stopped, and the TCM monitors each phase for abnormal voltage drop or current draw.

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 symptoms
- Harsh or delayed shifting, especially when the engine restarts after an auto-stop event
- The vehicle may enter limp mode or refuse to engage drive/reverse after an idle-stop
- Extended crank or no-start condition if the auxiliary pump is needed for initial pressure build
- Intermittent loss of transmission engagement while driving at low speeds

Common causes, most likely first

- 1 Damaged or corroded wiring harness to the auxiliary pump, especially at connectors or where the harness flexes
- 2 Failed auxiliary transmission fluid pump motor (shorted or open phase winding)
- 3 Poor ground connection for the pump or TCM
- 4 Faulty transmission control module (TCM) driver circuit for the pump
- 5 Low transmission fluid level or contaminated fluid causing pump overheating and phase imbalance
- 6 Internal short in the pump connector or terminal back-out

How to diagnose and fix it

- 1 Check transmission fluid level and condition; top off or replace fluid if contaminated
- 2 Inspect the pump wiring harness and connectors for chafing, corrosion, or loose terminals
- 3 Measure resistance across each phase of the pump motor and compare to specifications
- 4 Check for voltage drop on the pump power and ground circuits under load
- 5 Test the TCM output signals to the pump with an oscilloscope or bidirectional scan tool
- 6 Replace the auxiliary transmission fluid pump if electrical tests confirm an internal fault
- 7 Clear codes and perform a relearn or adaptation drive cycle to verify the repair



Auxiliary pump faults that fool technicians

- A low fluid level or a clogged pump pickup can cause phase current imbalance that sets P0C21 without any wiring fault.
- The pump may test fine statically but fail only when hot or under load, so a road test with live data is essential.
- Corrosion inside the pump connector is a common hidden cause that visual inspection alone can miss.
- A failing TCM can command the pump incorrectly, so always rule out the controller before replacing the pump.
- This code can be stored alongside misfire or idle-stop codes because the pump supports engine restart smoothness.

Can I keep driving with P0C21?

You can usually drive the vehicle short distances to a repair shop, but avoid heavy loads, prolonged idling, and relying on the auto-start-stop feature. If the transmission slips or refuses to engage, stop driving and have it towed.

Tools that help

- OBD-II scan tool with bidirectional control and live data
- Digital multimeter with min/max and resistance measurement
- Oscilloscope for phase signal analysis
- Factory service information for wiring diagrams and pump specifications
- Transmission fluid level dipstick or scan tool fluid level check function

Reading P0C21

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

Often seen with

P0A0B High Voltage System Interlock Circuit A Performance · **P0A0C** High Voltage System Interlock Circuit A Low · **P0C22** Electric/Auxiliary Transmission Fluid Pump Phase U-V-W Circu · **P0C23** Electric/Auxiliary Transmission Fluid Pump Control Module Ci · **P0C24** Electric/Auxiliary Transmission Fluid Pump Control Module Ci



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/p0c21/>

