

GENERIC · POWERTRAIN

P0CF7

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0CF7

Control Pilot Circuit Intermittent/Erratic

P0CF7 indicates that the engine control module has detected an intermittent or erratic signal on the control pilot circuit, which is the communication line used to manage charging in electric and plug-in hybrid vehicles. The circuit normally carries a stable pulse-width modulated signal between the vehicle and the charging equipment, and the module sets this code when that signal drops out, jumps, or behaves unpredictably.

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

Symptoms you may notice

- Charging may start and stop unpredictably, or the vehicle may refuse to begin a charging session.
- The charging indicator or dashboard warning light may illuminate intermittently during or after plugging in.
- The vehicle may fail to recognize that a charge connector is attached even when it is fully seated.
- Charging may complete more slowly than expected because the handshake between vehicle and charger keeps resetting.
- Often no symptoms besides the warning light, especially if the intermittent fault has not recurred recently.
- A stored code may be the only evidence, with the vehicle driving and charging normally during a short test.

Common causes, most likely first

- Damaged, corroded, or bent pins in the vehicle charge port or on the charging connector.
- Wiring harness chafing or a loose terminal in the control pilot circuit between the charge port and the control module.
- Water intrusion or contamination in the charge port assembly causing intermittent continuity.
- A failing charge port assembly or its integrated sensor and resistor network.
- Poor ground connection shared by the charge port and the control module.
- An internal fault in the charging control module or the module that monitors the pilot signal.
- Aftermarket charging equipment or a worn public charging cable that produces an erratic pilot signal.



How to diagnose and fix it

- 1 Inspect the vehicle charge port and the charging connector for bent pins, corrosion, debris, or water intrusion, and clean or replace damaged components as needed.
- 2 Check the control pilot circuit wiring for chafing, loose terminals, and continuity between the charge port and the control module, repairing any damaged sections.
- 3 Verify the ground connection at the charge port and the control module, cleaning and tightening fasteners to remove intermittent resistance.
- 4 Use a scan tool to monitor the control pilot signal live while wiggling the charge connector and harness to reproduce the erratic behavior.
- 5 Test the charge port assembly with a known-good unit or perform a resistance and signal check according to the manufacturer's procedure.
- 6 If the circuit and port check out, test or substitute the charging control module to confirm an internal fault before replacement.
- 7 Clear the code and perform a complete charging cycle, then recheck for pending or stored codes to confirm the repair.

Intermittent pilot faults that fool technicians

- A control pilot fault is often caused by the charging station or cable rather than the vehicle, so testing with a different known-good charger is a critical first step that many technicians skip.
- The code can be set by a momentary glitch during plug-in or unplugging, meaning the stored code may not indicate a current failure and should be cleared and monitored before parts are replaced.
- Water intrusion in the charge port after rain or a car wash is a common hidden cause of intermittent pilot signals that only appear under certain conditions.
- A poor chassis ground shared with other modules can create erratic pilot readings, so ground voltage drop testing is more reliable than a simple continuity check.
- Aftermarket or damaged public charging cables with worn latch mechanisms can produce an erratic pilot signal that mimics an internal vehicle fault.

Can I keep driving with P0CF7?

The vehicle is generally safe to drive because the control pilot circuit affects charging rather than propulsion, but avoid relying on charging until the fault is repaired. Do not force a damaged connector into the port, and have the circuit inspected promptly to prevent charging failures or damage to the charge port.



Tools that help

- OBD-II scan tool with live data and the ability to read pending and stored codes
- Digital multimeter with duty cycle and frequency measurement
- Oscilloscope for observing the pulse-width modulated pilot signal
- Manufacturer service information and wiring diagrams
- Terminal pick and electrical contact cleaner
- Known-good charging cable or charging station for comparison testing

Reading P0CF7

P	Powertrain: engine, transmission and emissions.
0	Generic (SAE) code: it means the same thing on every OBD-II vehicle.
C	Hybrid propulsion.
F7	The exact fault within that area.

Often seen with

P0CF5 Control Pilot Circuit Low · **P0CF6** Control Pilot Circuit High · **P0CF8** Control Pilot Charging Switch A Circuit/Open · **P0D0A** Battery Charging System Positive Contactor A Control Circuit · **U0111** Lost Communication With Battery Energy Control Module 'A'

See it working

Watch the animated explainer [How a Boxer Engine Works: Flat Engine Cutaway](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p0cf7/>

