

GENERIC · POWERTRAIN

P0581

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0581

Cruise Control Multi-Function Input 'A' Circuit High

P0581 indicates that the cruise control module has detected an abnormally high voltage on the multi-function input 'A' circuit, which typically carries signals from the steering-wheel-mounted cruise control switches. The computer expects a specific voltage range for each button press, and a reading above the normal threshold tells it that the circuit is shorted to power or that a switch is stuck in a high-voltage state.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Low

FIX DIFFICULTY

Intermediate

AREA

Vehicle speed, idle control and auxiliary inputs

Symptoms you may notice

- The cruise control system fails to engage or drops out unexpectedly while driving.
- The cruise control indicator light on the dashboard may flash or stay off entirely.
- Steering-wheel buttons for cruise control become unresponsive or only work intermittently.
- Other steering-wheel-mounted controls (horn, audio) may also act erratically if they share a common ground or clock spring.
- Often no symptoms besides the warning light, especially if the fault is intermittent.
- The engine may revert to a default speed-control strategy, causing a slight hesitation when setting speed.

Common causes, most likely first

- 1 A short to voltage in the wiring harness between the cruise control switch and the module, often from chafed insulation against a metal bracket.
- 2 A faulty cruise control multi-function switch assembly that internally shorts the signal line to battery voltage.
- 3 A damaged clock spring (spiral cable) in the steering wheel, which can bridge the switch circuit to a power source.
- 4 Corrosion or water intrusion in a connector along the cruise control circuit, creating an unintended high-resistance path to voltage.
- 5 A defective cruise control module that misinterprets a normal signal as high voltage due to internal calibration drift.
- 6 Aftermarket accessories or remote starters improperly tapped into the cruise control wiring, feeding voltage back into the signal line.



How to diagnose and fix it

- 1 Use a scan tool to clear the code and verify whether it returns immediately or only after cycling the ignition, which helps determine if the fault is hard or intermittent.
- 2 Inspect the cruise control switch connector and the clock spring connector for corrosion, loose pins, or signs of water entry, and clean or repair as needed.
- 3 Measure the voltage on the multi-function input 'A' circuit at the cruise control module connector with the key on and the switches at rest; compare to the manufacturer's specification.
- 4 Disconnect the cruise control switch and recheck the voltage on the signal wire; if it remains high, the short is in the harness or clock spring, not the switch.
- 5 Perform a wiggle test on the steering column wiring and clock spring while monitoring the signal voltage to expose an intermittent short.
- 6 If the switch or clock spring is proven faulty, replace the affected component and recheck for the code.
- 7 After repairs, clear codes and road-test the vehicle through several cruise control set and resume cycles to confirm the fix.

Before you replace the cruise control switch

- A chafed wire behind the steering column trim or near the pedal bracket is a more common cause of this code than a failed switch, so always inspect the harness routing before condemning parts.
- The clock spring often gets overlooked because it also carries airbag circuits; a partial short inside it can set P0581 without any airbag warning, so test its cruise control pins separately.
- Aftermarket remote start or alarm installations frequently back-feed voltage into the cruise control signal line, and the resulting code may appear only when the accessory is active.
- A weak or failing battery can cause the cruise control module to log a high-voltage input code during cranking, so verify charging system health before chasing wiring.
- This code does not always mean the switch is bad; a poor ground at the module can make a normal signal appear high, so check grounds before replacing the module.

Can I keep driving with P0581?

The vehicle remains safe to drive because cruise control is a convenience system, but you should avoid using cruise control until the fault is repaired to prevent unexpected disengagement or unintended speed changes. If the warning light is accompanied by other electrical symptoms, have the charging system checked promptly.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Wiring diagram for the specific vehicle
- Trim removal tools for steering column access
- Test light or jumper wires with fused leads



Reading P0581

- P** Powertrain: engine, transmission and emissions.
- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- 5** Vehicle speed, idle control and auxiliary inputs.
- 81** The exact fault within that area.

Often seen with

P0565 Cruise Control On Signal · **P0566** Cruise Control Off Signal · **P0567** Cruise Control Resume Signal · **P0580** Cruise Control Multi-Function Input 'A' Circuit Low · **P0582** Cruise Control Vacuum Control Circuit/Open

See it working

Watch the animated explainer [How the PCV System Works: Crankcase Ventilation](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p0581/>

