

GENERIC · NETWORK

U0688

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

U0688

Lost Communication With Throttle Position Sensor/Switch G

This code means the powertrain control module (PCM) has lost the communication signal it expects from the throttle position sensor or switch circuit designated 'G', which is one of several redundant throttle position inputs on drive-by-wire systems. The PCM sets the code when the dedicated signal wire, its shared reference or ground, or the sensor's internal circuitry stops reporting a plausible voltage for a calibrated amount of time.

SYSTEM

Network

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Network communication

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptom besides the warning light
- Reduced engine power or a limp-home mode with a limited throttle opening
- Hesitation, stumble, or poor acceleration when the accelerator pedal is pressed
- An erratic or surging idle as the PCM substitutes a default throttle value
- A stored code U0688 alongside other throttle actuator or pedal sensor communication codes

Common causes, most likely first

- 1 A failed throttle position sensor or switch 'G' internal to the throttle body assembly
- 2 Corroded, pushed-back, or broken pins in the throttle body or PCM connector for the 'G' signal circuit
- 3 An open or shorted signal wire between the throttle body and the PCM, often from chafing or heat damage
- 4 A shared 5-volt reference or sensor ground circuit that is open or shorted, affecting multiple throttle sensors
- 5 Water intrusion into the throttle body connector or wiring harness from a degraded seal
- 6 A PCM internal driver fault on the 'G' signal input, though this is the least common cause



How to diagnose and fix it

- 1 Scan all modules and record freeze-frame data to confirm U0688 is current and not a history code from a past low-voltage event
- 2 Inspect the throttle body connector and the PCM connector for corrosion, loose pins, or water intrusion, then clean and reseat them
- 3 Measure the 'G' signal voltage at the throttle body with the key on and compare it to the other throttle position sensor signals for plausibility
- 4 Check the shared 5-volt reference and sensor ground at the throttle body connector with a multimeter to rule out a supply fault
- 5 Perform a continuity and short-to-ground test on the 'G' signal wire between the throttle body and the PCM, flexing the harness to reveal intermittent breaks
- 6 If wiring and supplies test good, substitute a known-good throttle body and clear the code to see whether it returns
- 7 After any repair, clear codes and perform a throttle body relearn or idle relearn with a scan tool so the PCM can recalibrate the new sensor values

Why throttle sensor G codes mislead

- Many technicians replace the throttle body only to find the real fault is a shared 5-volt reference wire that also feeds the accelerator pedal sensor, so check all sensors on that reference before condemning parts.
- A low or weak battery can set U0688 as a communication dropout during cranking, so always check battery voltage and charging system health before chasing wiring.
- The 'G' designation refers to one specific redundant sensor track, and on some platforms the PCM will run on the remaining tracks with no drivability symptom, making the code easy to dismiss as a nuisance.
- Water intrusion into the throttle body connector after engine washing or a coolant leak is a frequent cause that leaves no visible corrosion until the pins are pulled and inspected closely.
- A throttle body that has been cleaned aggressively can lose its learned closed-throttle position, and the PCM may interpret the resulting out-of-range signal as a communication loss on the 'G' circuit.

Can I keep driving with U0688?

The vehicle may enter a reduced-power limp mode, so avoid highway merging and heavy traffic until the fault is repaired. If the throttle responds normally and only the light is on, a short trip to a repair shop is acceptable, but do not continue driving with an erratic throttle or repeated limp-home events.



Tools that help

- OBD-II scan tool with live data and bidirectional throttle control
- Digital multimeter with back-probe pins
- Wiring diagram for the throttle body and PCM circuits
- Contact cleaner and dielectric grease
- Torque wrench for throttle body fasteners

Reading U0688

- U** Network: communication between the vehicle's control modules.
- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- 6** Network communication.
- 88** The exact fault within that area.

Often seen with

P0121 Throttle Position Sensor A Circuit Range/Performance · **P0122** Throttle Position Sensor A Circuit Low Input · **P0123** Throttle Position Sensor A Circuit High Input · **P2135** Throttle/Pedal Position Sensor A/B Voltage Correlation · **U0100** Lost Communication With ECM/PCM A

See it working

Watch the animated explainer [EV Powertrain Trainer: How an Electric Car Drives](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/u0688/>

