

GENERIC · NETWORK

U0689

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

U0689

Lost Communication With Turbocharger/Supercharger B Temperature Sensor

U0689 is a network communication fault indicating that one control module has lost contact with the turbocharger or supercharger B temperature sensor over the vehicle's controller area network (CAN) bus. The computer detects that the expected periodic message from that sensor or its interface module has stopped arriving within the required time window, so it flags the sensor as offline rather than reporting an out-of-range temperature value.

SYSTEM Network	CODE TYPE Generic (all makes)	SEVERITY Medium	FIX DIFFICULTY Intermediate	AREA Network communication
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Symptoms you may notice

- The check engine light or service vehicle soon message illuminates on the dashboard.
- Often no symptoms besides the warning light, because the sensor is primarily used for protection and efficiency strategies.
- Reduced engine power or a limp-home mode if the powertrain control module defaults to a conservative boost strategy.
- Poor fuel economy or sluggish turbo response during acceleration.
- In some vehicles, a message on the driver information display warning of a communication or sensor fault.
- Intermittent warning light that comes and goes with vibration, temperature changes, or wet weather.

Common causes, most likely first

- 1 Damaged, chafed, or corroded wiring between the turbocharger B temperature sensor and its control module or harness connector.
- 2 A failed turbocharger or supercharger B temperature sensor that no longer transmits data on the network.
- 3 Loose or contaminated electrical connector pins at the sensor or at the module that relays its signal.
- 4 A faulty control module or interface module that handles the sensor's CAN message, including internal communication faults.
- 5 Low battery voltage or a weak charging system causing modules to drop off the network intermittently.
- 6 Aftermarket accessories or poor previous repairs that disturb the CAN bus wiring or introduce electrical noise.
- 7 Software or calibration issues in a module that cause it to stop broadcasting the sensor message.



How to diagnose and fix it

- 1 Scan all modules for stored and pending codes, and record freeze-frame data to see whether the fault is continuous or intermittent.
- 2 Inspect the sensor harness and connectors for chafing, corrosion, moisture intrusion, and loose pins, especially near hot turbocharger components.
- 3 Check battery voltage and charging system output, and load-test the battery, because low voltage commonly causes communication codes.
- 4 Measure resistance and continuity on the sensor signal and ground circuits where a wired connection exists, comparing to manufacturer specifications.
- 5 If the sensor is a smart sensor on the CAN bus, verify its power, ground, and bus voltage levels with an oscilloscope or appropriate network tester.
- 6 Substitute a known-good sensor or temporarily overlay a test harness to confirm whether the fault follows the sensor or the wiring.
- 7 After repair, clear codes and perform a road test with a scan tool monitoring the sensor message and network status to confirm the fault does not return.

Why a temperature sensor sets a network code

- U0689 is a communication code, not a temperature performance code, so the sensor may still be physically intact while its message never reaches the network.
- A weak or failing battery is a frequent hidden cause of U-codes because modules reboot or drop off the CAN bus when voltage sags during cranking.
- Technicians often replace the sensor first and later find corroded pins or a chafed harness near the turbocharger, where heat and vibration damage wiring.
- Some vehicles route this sensor signal through an auxiliary module, so the fault can be in that module rather than at the sensor itself.
- Aftermarket alarms, remote starters, or poorly installed accessories tapped into the CAN bus can introduce noise that interrupts sensor messages.

Can I keep driving with U0689?

The vehicle is generally safe to drive to a repair shop because the fault affects communication rather than a safety-critical system, but avoid heavy acceleration and towing if the engine has entered a reduced-power mode. Have the fault diagnosed promptly, since continued driving with a communication fault can mask other developing issues and may worsen if wiring damage is present.



Tools that help

- OBD-II scan tool with CAN bus and module communication capability
- Digital multimeter for voltage, resistance, and continuity checks
- Oscilloscope or network tester for CAN bus signal verification
- Battery load tester and charging system tester
- Wire terminal pick and electrical contact cleaner
- Vehicle-specific wiring diagram or service information

Reading U0689

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.
89	The exact fault within that area.

Often seen with

P00B0 Turbocharger/Supercharger Boost Control B Module Performance · **P00B1** Radiator Coolant Temperature Sensor Circuit · **U0100** Lost Communication With ECM/PCM A · **U0121** Lost Communication With Anti-Lock Brake System (ABS) Control · **U0140** Lost Communication With Instrument Panel Cluster

See it working

Watch the animated explainer [Turbocharger Trainer: Boost, Wastegate and Intercooler](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/u0689/>

