

CHRYSLER · POWERTRAIN

P1689

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1689 · Chrysler

No Communication Between ECM & Injection Pump Module

P1689 on Chrysler vehicles means the Engine Control Module (ECM) has lost communication with the Injection Pump Module (IPM) over the dedicated data link between them. The ECM expects a continuous signal from the IPM and sets this code when that signal is missing or intermittent, which can prevent the engine from starting or running correctly.

SYSTEM

Powertrain

CODE TYPE

Chrysler specific

SEVERITY

High

FIX DIFFICULTY

Professional

AREA

Computer and output circuits

Symptoms you may notice

- Engine cranks but does not start, or starts and stalls immediately
- Reduced engine power or limp mode with the warning light on
- Rough running or misfire under load
- No communication with the injection pump module when scanned
- Often no symptoms besides the warning light if the fault is intermittent

Common causes, most likely first

- 1 Damaged or corroded wiring between the ECM and injection pump module
- 2 Failed injection pump module (IPM) electronics
- 3 Poor ground connection at the injection pump or ECM
- 4 Blown fuse or relay supplying power to the injection pump module
- 5 Failed Engine Control Module (ECM) communication driver
- 6 Loose or damaged connector pins at either end of the data link

How to diagnose and fix it

- 1 Scan all modules for communication codes and verify the IPM is not responding
- 2 Inspect the wiring harness between the ECM and injection pump for chafing, corrosion, or loose connectors
- 3 Check powers and grounds at the injection pump module connector with a multimeter
- 4 Perform a voltage drop test on the communication circuit while cranking
- 5 Substitute a known-good injection pump module if wiring tests pass
- 6 If the IPM is good, test the ECM communication circuit and replace the ECM only after confirming no other faults



Before you replace the injection pump module

- A weak battery or poor ground can cause intermittent communication loss that mimics a failed module, so load-test the battery and clean grounds first.
- The code often sets because of a chafed wire near the injection pump where the harness flexes with engine movement, not because the module itself has failed.
- Some Chrysler diesel engines will default to a fixed injection timing when communication is lost, allowing limited driving but with reduced power and higher emissions.
- After repairing the wiring, the ECM may need a relearn or clear-and-reset procedure before the code stops returning.
- Do not overlook the possibility of a faulty ECM driver; swapping the IPM without testing the communication line can waste time and money.

Can I keep driving with P1689?

Do not drive the vehicle if it will not start or stalls repeatedly, as this indicates a hard communication failure. If the engine runs but the light is on, limit driving to a short distance to a repair shop and avoid heavy loads or high speeds.

Tools that help

- OBD-II scan tool with manufacturer-specific software
- Digital multimeter
- Wiring diagram for the ECM-to-IPM circuit
- Test light or logic probe
- Socket set and trim removal tools

Reading P1689

P	Powertrain: engine, transmission and emissions.
1	Manufacturer-specific code (Chrysler): its meaning depends on the make.
6	Computer and output circuits.
89	The exact fault within that area.



Often seen with

P1693 MIL Short To B+ · **P1690** MIL Malfunction · **P1690** Traction Control System STB Line Failure · **P1693** Turbo Charge Control Circuit · **P1688** Metering Oil Pump Stepping Motor Cont Circuit · **P1690** Wastegate Solenoid Circuit · **P1693** MIL Circuit Malfunction · **P1690** Traction Control System STB Line Failure · **P1690** PCM Loop Overrun / Wastegate Solenoid Circuit · **P1693** Tachometer Circuit Voltage Low · **P1688** Internal Fuel Injection Pump Controller Failure · **P1690** Wastegate Solenoid Circuit Malfunction · **P1690** Fuel Injection Pump CKP Sensor Does Not Agree With ECM CKP S · **P1693** DTC Detected In ECM Or PCM · **P1688** Internal Fuel Injection Pump Controller Failure · **P1690** Malfunction Indicator Lamp MIL Electrical · **P0216** Injector/Injection Timing Control Circuit · **P0251** Injection Pump Fuel Metering Control 'A' (Cam/Rotor/Injector)

See it working

Watch the animated explainer [How a Radiator Fan Relay Circuit Works](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/chrysler-p1689/>

