

GENERIC · POWERTRAIN

# P06DF

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

## P06DF

### Glow Plug Control Module 1 Memory Checksum Error

P06DF means the glow plug control module (the computer that manages the glow plugs on a diesel engine) has detected a checksum error in its own memory. The module continuously verifies the integrity of its stored calibration and control data, and when the calculated checksum does not match the expected value, it sets this code because it can no longer trust its internal memory.

|            |                     |          |                |                              |
|------------|---------------------|----------|----------------|------------------------------|
| SYSTEM     | CODE TYPE           | SEVERITY | FIX DIFFICULTY | AREA                         |
| Powertrain | Generic (all makes) | Medium   | Intermediate   | Computer and output circuits |

#### Symptoms you may notice

- Illuminated check engine light, often with no other noticeable symptoms
- Hard starting or extended cranking when the engine is cold
- Rough idle or white smoke immediately after a cold start
- Glow plug warning light flashing or staying on
- Reduced engine performance or limp mode in some vehicles
- Intermittent no-start condition in cold weather

#### Common causes, most likely first

- 1 Internal memory corruption or failure within the glow plug control module
- 2 Low or unstable battery voltage causing the module to write corrupted data
- 3 Poor ground connection at the glow plug control module or engine block
- 4 Damaged or chafed wiring in the module's power or ground circuit
- 5 Water intrusion or corrosion inside the module connector or housing
- 6 Software or calibration corruption in the module requiring reflash or replacement
- 7 Voltage spikes from a failing alternator or starter affecting module memory



## How to diagnose and fix it

- 1 Scan all modules and record freeze-frame data to confirm P06DF is current and not history
- 2 Test battery voltage and charging system output; load-test the battery and check alternator ripple
- 3 Inspect and clean the glow plug control module ground connections and power feed terminals
- 4 Check the module connector for corrosion, water intrusion, or loose pins and repair as needed
- 5 Verify wiring integrity between the module and glow plugs, looking for chafing or resistance
- 6 Attempt a module reflash or software update if the manufacturer offers one for this fault
- 7 Replace the glow plug control module and clear codes, then verify the checksum error does not return

## Checksum errors are not always module failure

- A weak battery or poor ground can corrupt the module's memory and set P06DF even though the module itself is healthy, so voltage and ground tests must come before replacement.
- Many technicians replace the glow plug control module only to have the code return because a chafed power wire or corroded ground was the real cause of the memory corruption.
- P06DF can be stored as a history code after a single low-voltage event such as a jump start, so clearing it and verifying it stays away is a valid first step.
- On some vehicles the glow plug control module is part of a larger module or requires programming after replacement, so check service information before ordering parts.
- A checksum error does not always mean the glow plugs themselves are faulty, and replacing glow plugs will not fix a module memory fault.

## Can I keep driving with P06DF?

You can usually drive the vehicle, but cold starting may be difficult and the engine may run rough until warm. Avoid relying on the vehicle for cold-weather starts and have the fault diagnosed promptly to prevent further module damage.

## Tools that help

- OBD-II scan tool with manufacturer-level capability
- Digital multimeter
- Battery load tester
- Test light
- Socket and wrench set
- Electrical contact cleaner



### Reading P06DF

|           |                                                                      |
|-----------|----------------------------------------------------------------------|
| <b>P</b>  | Powertrain: engine, transmission and emissions.                      |
| <b>0</b>  | Generic (SAE) code: it means the same thing on every OBD-II vehicle. |
| <b>6</b>  | Computer and output circuits.                                        |
| <b>DF</b> | The exact fault within that area.                                    |

### Often seen with

**P0380** Glow Plug/Heater Circuit A Malfunction · **P0670** Glow Plug Module Control Circuit · **P0671** Cylinder 1 Glow Plug Circuit · **P0672** Cylinder 2 Glow Plug Circuit · **P0673** Cylinder 3 Glow Plug Circuit

### See it working

Watch the animated explainer [How an Elevator Works: Traction Lift in X-Ray](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p06df/>

