

MAZDA · POWERTRAIN

P1682

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1682 · Mazda

Metering Oil Pump Failure

P1682 on a Mazda indicates that the powertrain control module (PCM) has detected a failure in the metering oil pump system, which is used on rotary engines to inject oil into the combustion chamber for lubrication. The PCM monitors the pump's electrical circuit and feedback signal, and it sets this code when the commanded pump operation does not match the expected response.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Mazda specific	High	Professional	Computer and output circuits

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms.
- Rough idle or hesitation, especially when the engine is cold.
- Increased oil consumption beyond normal rotary engine levels.
- Excessive smoke from the exhaust, particularly at startup or under acceleration.
- Reduced engine performance or power output.
- In severe cases, engine misfire or stalling due to inadequate lubrication.

Common causes, most likely first

- 1 Faulty metering oil pump (MOP) assembly or its internal solenoid.
- 2 Damaged or corroded wiring harness or connector at the MOP.
- 3 Blown fuse or poor electrical connection in the MOP power circuit.
- 4 Failed PCM driver circuit for the MOP.
- 5 Clogged or restricted oil lines to the MOP.
- 6 Low oil level or degraded oil quality affecting pump operation.

How to diagnose and fix it

- 1 Verify oil level and condition; top off or change oil if necessary.
- 2 Inspect the MOP electrical connector and wiring for damage, corrosion, or loose pins.
- 3 Check the MOP fuse and relay, and test for power and ground at the pump connector.
- 4 Measure the resistance of the MOP solenoid and compare to factory specifications.
- 5 Command the MOP on and off with a scan tool to verify operation and listen for pump activity.
- 6 If electrical checks pass, remove and inspect the MOP for mechanical binding or clogged lines.
- 7 Replace the MOP if faulty, clear the code, and verify the repair with a test drive.



Rotary Engine Oil Metering Pump Failures

- A failing metering oil pump often does not produce immediate drivability symptoms, so the check engine light may be the only warning before engine damage occurs.
- The MOP is critical for rotor apex seal lubrication; ignoring the code can lead to premature engine wear or catastrophic failure.
- Some aftermarket oil additives or incorrect oil types can cause the MOP to clog or fail, so always use the oil specified for your Mazda rotary engine.
- A scan tool that can read Mazda-specific data is essential; generic OBD-II readers may not display MOP parameters or allow activation tests.
- The PCM may set P1682 if the MOP feedback signal is intermittent, so wiggle-test the harness while monitoring live data to catch loose connections.

Can I keep driving with P1682?

Driving with a confirmed P1682 is not recommended because the engine may not receive adequate lubrication, leading to rapid wear or failure. If you must drive to a repair shop, keep the trip short, avoid high RPM and heavy loads, and monitor oil levels closely.

Tools that help

- Mazda-specific scan tool or advanced OBD-II scanner with bidirectional controls
- Digital multimeter
- Basic hand tools (sockets, wrenches, screwdrivers)
- Factory service information for wiring diagrams and specifications
- Oil pressure gauge (optional for verifying lubrication system)

Reading P1682

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

Often seen with

P1681 Control Module Programming Not Finished · **P1681** A/T FI Signal A Low Input · **P1683** Metering Oil Pump Temperature Sensor Circuit · **P1681** A/T FI Signal A Low Input · **P1681** Driver 5 Line 1 · **P1683** Driver 5 Line 3 · **P1681** No Instrument Panel Cluster CCD J1850 Messages Received · **P1683** Speed Control Power Relay Or Speed Control 12 Volt Driver Ci · **P0171** System Too Lean (Bank 1) · **P0300** Random/Multiple Cylinder Misfire Detected · **P0420** Catalyst System Efficiency Below Threshold (Bank 1)



See it working

Watch the animated explainer [How the EVAP System Works: Fuel Vapour and Leak Test](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/mazda-p1682/>

