

GM · POWERTRAIN

P1661

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1661 · GM

MIL Control Circuit

P1661 on a GM vehicle means the powertrain control module (PCM) has detected a fault in the circuit that controls the malfunction indicator lamp (MIL), the check engine light on the dashboard. The PCM monitors the voltage on the MIL control circuit and sets this code when the circuit does not respond as expected, which can range from a wiring problem to a failed instrument cluster bulb or driver inside the PCM.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	GM specific	Medium	Intermediate	Computer and output circuits

Symptoms you may notice

- The check engine light may not illuminate at all when the ignition is turned on, failing the bulb check.
- The check engine light may stay on continuously regardless of whether any other fault codes are stored.
- Often no symptoms besides the warning light itself, and the vehicle may run and drive normally.
- Other stored codes may be present but the MIL cannot alert the driver because the lamp circuit is faulty.
- In some cases the lamp may flicker or glow dimly when it should be off.
- A failed state inspection if the MIL does not perform the required key-on bulb check.

Common causes, most likely first

- Burned out or damaged MIL bulb in the instrument cluster.
- Open or shorted wiring in the MIL control circuit between the PCM and the instrument cluster.
- Corroded or loose connector terminals at the PCM or cluster harness.
- Faulty instrument cluster printed circuit board or lamp driver.
- Internal failure of the MIL driver inside the PCM.
- Blown fuse that supplies power to the instrument cluster or PCM memory circuit.
- Aftermarket alarm or remote start wiring that has tapped into the MIL circuit and disturbed it.



How to diagnose and fix it

- 1 Verify the MIL bulb illuminates during the key-on bulb check; if it does not, remove the cluster and inspect the bulb and socket.
- 2 Check all fuses related to the instrument cluster and PCM, and replace any that are blown.
- 3 Disconnect the PCM and cluster connectors and inspect for corrosion, pushed pins, or loose terminals; clean and reseat as needed.
- 4 Use a wiring diagram to perform a continuity and voltage drop test on the MIL control wire between the PCM and the cluster.
- 5 If the circuit tests good, substitute a known-good instrument cluster or use a scan tool to command the MIL on and off to isolate the cluster from the PCM.
- 6 If the PCM cannot command the MIL on with a scan tool and the circuit is intact, diagnose the PCM internal driver or replace the PCM and reprogram it.
- 7 Clear the code and perform a key-on bulb check and a road test to confirm the MIL operates correctly and the code does not return.

What the MIL circuit code really means

- A P1661 does not mean the engine has a performance problem; it means the PCM cannot confirm the check engine light is working, so other emissions faults may be hidden from the driver.
- Many technicians replace the PCM first, but a burned-out cluster bulb or a chafed wire behind the dash is far more common and much cheaper to fix.
- Aftermarket remote starters and alarm systems frequently splice into the MIL wire, and a poor connection there can set this code without any factory component being defective.
- On some GM trucks and SUVs, a faulty body control module (BCM) or a communication fault between the BCM and cluster can affect the MIL circuit even though the PCM sets the code.
- If the MIL bulb is missing or disabled, the vehicle may pass a scan tool check but fail a visual inspection, so always confirm the lamp actually lights during the bulb check.

Can I keep driving with P1661?

The vehicle is generally safe to drive because the fault only affects the check engine light, not engine operation. However, you should avoid ignoring it because you will not be warned of new emissions or drivability faults, and the vehicle may fail an emissions inspection until the MIL circuit is repaired.



Tools that help

- OBD-II scan tool with bidirectional MIL control capability
- Digital multimeter
- Wiring diagram for the specific GM vehicle
- Trim removal tools for instrument cluster access
- Test light
- Soldering iron and heat shrink for wire repairs

Reading P1661

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

Often seen with

P1662 EGR Bypass Valve Control Circuit · **P1660** A/T FI Data Line Failure · **P1660** Power Stage Group 'B' · **P1660** A/T FI Data Line Failure · **P1660** Cooling Fans Control Circuit · **P1662** Cruise Control Inhibit Control Circuit · **P1660** Output Circuit Check Signal High · **P1662** IDM_EN Circuit Failure · **P0606** PCM Processor Fault · **P0650** Malfunction Indicator Lamp (MIL) Control Circuit Malfunction

See it working

Watch the animated explainer [How a Car Clutch Works: Diaphragm Clutch Cutaway](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/gm-p1661/>

