

TOYOTA · POWERTRAIN

P1662

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1662 · Toyota

EGR Bypass Valve Control Circuit

P1662 on Toyota vehicles indicates that the engine control module (ECM) has detected an electrical fault in the control circuit for the EGR bypass valve, which is used to route exhaust gas around the EGR cooler. The ECM monitors the circuit for expected voltage or current changes when commanding the valve and sets this code when the signal is out of range, indicating an open, short, or component failure.

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

Symptoms you may notice

- Illumination of the check engine light (CEL) on the dashboard.
- Often no symptoms besides the warning light, especially if the valve fails in a position that does not severely affect emissions or driveability.
- Slightly rough idle or hesitation during acceleration in some cases.
- Reduced fuel economy if the EGR system remains in a default state.
- In rare instances, a noticeable decrease in engine performance or increased exhaust smoke.
- Possible stored freeze-frame data showing the fault occurred during specific driving conditions.

Common causes, most likely first

- 1 Faulty EGR bypass valve actuator or solenoid, causing an open or short in the control circuit.
- 2 Damaged or corroded wiring harness and connectors between the ECM and the EGR bypass valve.
- 3 Failed ECM driver circuit for the EGR bypass valve, though this is less common.
- 4 Carbon buildup or mechanical binding in the EGR bypass valve, leading to electrical feedback out of range.
- 5 Poor electrical connections at the valve or ECM due to water intrusion or vibration.
- 6 Aftermarket or remanufactured components with incorrect resistance specifications.



How to diagnose and fix it

- 1 Perform a visual inspection of the EGR bypass valve, its connector, and the wiring harness for obvious damage, corrosion, or loose pins.
- 2 Use a scan tool to command the EGR bypass valve on and off while monitoring the circuit voltage or current to verify the fault.
- 3 Measure the resistance of the EGR bypass valve solenoid and compare it to the manufacturer's specification to check for an open or shorted coil.
- 4 Check for continuity and short-to-ground or short-to-power in the control circuit between the ECM and the valve, repairing any wiring faults.
- 5 If the valve and wiring test good, substitute a known-good EGR bypass valve to see if the code clears and stays away.
- 6 Inspect and clean any carbon deposits that may be causing the valve to stick, following Toyota service procedures.
- 7 If all else fails, diagnose the ECM driver circuit or replace the ECM as a last resort, ensuring proper programming.

Before replacing the EGR bypass valve

- A sticking EGR bypass valve due to carbon buildup can cause the ECM to see unexpected current draw and set P1662, so cleaning the valve may resolve the code without replacement.
- Corroded pins in the connector at the EGR bypass valve are a frequent cause on older Toyota models, especially in regions with road salt, and are often overlooked during diagnosis.
- The ECM may set P1662 even if the valve is mechanically functional but the electrical feedback signal is slightly out of range, so always verify circuit integrity before condemning the valve.
- Related codes such as P0401 (EGR flow insufficient) or P0403 (EGR circuit malfunction) may accompany P1662, indicating a broader EGR system issue that requires a comprehensive diagnosis.
- On some Toyota engines, the EGR bypass valve is part of the EGR cooler assembly, and replacing just the valve may not be possible; confirm the exact configuration before ordering parts.

Can I keep driving with P1662?

You can generally continue driving with P1662, but avoid prolonged idling and heavy acceleration until the fault is repaired, as the EGR system may not function optimally. If the check engine light starts flashing or you notice significant performance loss, stop driving and seek professional diagnosis.



Tools that help

- OBD-II scan tool with bidirectional control capability
- Digital multimeter (DMM)
- Toyota service information or wiring diagrams
- Socket set and basic hand tools
- Contact cleaner and dielectric grease

Reading P1662

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

Often seen with

P0401 EGR Flow Insufficient Detected · **P0403** EGR Circuit Malfunction · **P0404** EGR Circuit Range/Performance · **P0405** EGR Sensor A Circuit Low · **P0406** EGR Sensor A Circuit High

See it working

Watch the animated explainer [Four-Stroke Engine Cutaway: Intake to Exhaust](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/toyota-p1662/>

