

KIA · POWERTRAIN

P1660

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1660 · Kia

Power Stage Group 'B'

P1660 on a Kia means the engine control module (ECM) has detected an electrical fault in the power stage group 'B', which is the driver circuit for a group of solenoids or actuators that share a common power supply or ground path. The ECM monitors the voltage or current on this circuit and sets the code when the signal falls outside the expected range, indicating an open, short, or excessive resistance in the wiring or a failed component.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Kia specific	Medium	Professional	Computer and output circuits

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms
- Rough idle or poor engine performance if the affected group includes fuel or ignition actuators
- Harsh or delayed transmission shifts if the power stage group controls shift solenoids
- Reduced fuel economy or limited engine power due to default limp-home strategy
- Intermittent stalling or difficulty starting when the fault is in a critical actuator circuit

Common causes, most likely first

- 1 Faulty solenoid or actuator within power stage group 'B' (e.g., transmission shift solenoid, variable valve timing solenoid, or purge valve)
- 2 Damaged or corroded wiring harness connector at the affected component
- 3 Open or short circuit in the power or ground wire between the ECM and the actuator group
- 4 Failed ECM driver circuit for power stage group 'B'
- 5 Blown fuse or relay supplying power to the group
- 6 Poor ground connection shared by the group's components



How to diagnose and fix it

- 1 Scan all modules for stored and pending codes, and record freeze-frame data to identify the exact operating conditions when P1660 set
- 2 Inspect the wiring harness and connectors for the components in power stage group 'B' for chafing, corrosion, or loose pins
- 3 Check the fuse and relay that supply power to the group, and verify voltage at the actuator connector with the key on
- 4 Measure resistance of each solenoid or actuator in the group and compare to the manufacturer's specification
- 5 Perform a voltage drop test on the ground circuit for the group to rule out high resistance
- 6 Back-probe the ECM connector and command the actuators with a scan tool while monitoring voltage or current to isolate an open or short
- 7 If all external circuits and components test good, substitute a known-good ECM and retest before replacement

What P1660 really points to on Kia

- P1660 is often misdiagnosed as a transmission problem because power stage group 'B' frequently includes shift solenoids, but the root cause is usually a wiring issue rather than the solenoid itself.
- A weak or failing battery or charging system can cause spurious P1660 codes because the ECM driver circuit is sensitive to low voltage during cranking or heavy load.
- On some Kia models, the power stage group 'B' circuit shares a ground with the ignition coils, so a bad ground can set P1660 along with misfire codes.
- The code does not always mean the ECM is faulty; in fact, ECM failure is rare and should only be concluded after all wiring and component tests pass.
- Aftermarket electrical accessories tapped into the harness near the affected group can introduce interference or voltage drops that trigger P1660 intermittently.

Can I keep driving with P1660?

You can usually drive the vehicle to a repair shop if the only symptom is the check engine light, but avoid heavy acceleration or towing because the fault may cause harsh shifting or reduced power. If the engine runs rough, stalls, or the transmission slips, stop driving and have the vehicle towed to prevent further damage.

Tools that help

- OBD-II scan tool with manufacturer-specific software
- Digital multimeter with back-probing pins
- Wiring diagram for the specific Kia model
- Test light or load tester
- Socket set and trim removal tools



Reading P1660

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

Often seen with

P1661 EGR Circuit · **P1662** EGR Bypass Valve Control Circuit · **P1661** MIL Control Circuit · **P1662** Cruise Control Inhibit Control Circuit · **P1661** Output Circuit Check Signal Low · **P1662** IDM_EN Circuit Failure · **P0443** EVAP Purge Control Valve Circuit Malfunction · **P0700** Transmission Control System Malfunction · **P0750** Shift Solenoid 'A'

See it working

Watch the animated explainer [How Airbags Work: A 50 km/h Crash in Slow Motion](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/kia-p1660/>

