

KIA · POWERTRAIN

P1743

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1743 · Kia

Torque Converter Clutch Solenoid Valve Open Or Short

P1743 on a Kia means the transmission control module (TCM) has detected an open circuit or a short circuit in the electrical path of the torque converter clutch (TCC) solenoid valve. The TCM commands the solenoid to lock or unlock the torque converter, and it monitors the current on the control wire to confirm the circuit is intact. When the current is outside the expected range, the TCM stores P1743 and usually disables lockup operation.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Kia specific	Medium	Intermediate	Transmission

Symptoms you may notice

- Illumination of the check engine light or transmission warning light, often with no other symptoms besides the warning light
- Harsh or delayed engagement when shifting from park or neutral into drive or reverse
- The torque converter clutch fails to lock up, causing higher engine rpm at highway speed and reduced fuel economy
- A shudder or vibration during light acceleration at steady cruising speeds if the clutch applies erratically
- The transmission may default to a limp-home mode with firm or late shifts on some Kia models
- Occasional stall or rough idle when coming to a stop if the clutch stays engaged

Common causes, most likely first

- 1 Damaged, chafed, or corroded wiring between the TCM and the TCC solenoid, especially at the transmission connector
- 2 A failed TCC solenoid valve with an open or shorted internal coil
- 3 A poor electrical connection at the solenoid body connector or the TCM harness connector
- 4 Transmission fluid contamination or debris blocking the solenoid valve and causing abnormal current draw
- 5 A short to ground or short to power on the solenoid control circuit from a pinched harness
- 6 A faulty TCM driver circuit that cannot supply or monitor the solenoid current correctly
- 7 Internal transmission damage or a sticking valve body that overloads the solenoid circuit



How to diagnose and fix it

- 1 Scan all modules for stored codes and freeze-frame data, then verify P1743 is current and not history before proceeding
- 2 Inspect the transmission harness and connectors for chafing, corrosion, or loose pins, and repair any damage found
- 3 Measure the resistance of the TCC solenoid at the transmission connector and compare it to the Kia service specification for that model
- 4 Check the control circuit for a short to ground or short to power with a multimeter while wiggling the harness
- 5 If the solenoid resistance is out of specification, remove the transmission pan or valve body and replace the TCC solenoid
- 6 Clear the codes and perform a relearn or adaptive reset as required, then road test to confirm lockup operation and that P1743 does not return
- 7 If the circuit and solenoid test good but the code persists, diagnose the TCM driver circuit or replace the TCM after confirming power and ground integrity

What the TCC solenoid code hides

- A chafed harness near the transmission mount or a corroded connector pin is a more common cause of P1743 than a failed solenoid, so inspect the wiring before condemning the valve.
- The TCM may set P1743 intermittently when the transmission fluid is low or contaminated, because the solenoid cannot move freely and the current signature falls outside the expected window.
- Some Kia models will not command torque converter lockup after this code sets, so a highway test may show normal engine rpm even though the solenoid is electrically faulty.
- Replacing the TCC solenoid without checking the TCM ground and power feeds can lead to a repeat failure if the driver circuit is weak or the ground is corroded.
- A sticking valve body or worn torque converter can mimic a solenoid circuit fault by loading the solenoid abnormally, so a fluid condition check and pressure test are worthwhile before parts replacement.

Can I keep driving with P1743?

You can usually drive the vehicle to a repair shop, but avoid sustained highway speeds and heavy acceleration because the torque converter clutch may not lock up and the transmission may shift harshly. If the vehicle enters limp-home mode or the warning light flashes, stop driving and have it towed to prevent further transmission damage.



Tools that help

- OBD-II scan tool with transmission module capability
- Digital multimeter
- Kia service information for solenoid resistance specifications
- Socket and ratchet set
- Transmission fluid drain pan and funnel
- Wire terminal pick and electrical contact cleaner

Reading P1743

P	Powertrain: engine, transmission and emissions.
1	Manufacturer-specific code (Kia): its meaning depends on the make.
7	Transmission.
43	The exact fault within that area.

Often seen with

P0740 Torque Converter Clutch Circuit Malfunction · **P0741** Torque Converter Clutch Circuit Performance or Stuck Off · **P0742** Torque Converter Clutch Circuit Stuck On · **P0743** Torque Converter Clutch Circuit Electrical · **P2765** Input/Turbine Speed Sensor 'B' Circuit

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/kia-p1743/>

