



P1586 · Kia

A/T To M/T Codification

This code indicates that the transmission control module (TCM) has detected a configuration mismatch: the vehicle's electronic architecture is set for an automatic transmission (A/T) but the module is receiving signals consistent with a manual transmission (M/T) setup. The TCM stores P1586 when the codification data in its memory does not match the actual transmission type installed in the vehicle, often after a module replacement or software update.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Kia specific	Medium	Professional	Vehicle speed, idle control and auxiliary inputs

Symptoms you may notice

- Illumination of the check engine light or transmission warning light on the dashboard.
- Often no symptoms besides the warning light, with the vehicle driving normally.
- Harsh or erratic shifting if the TCM enters a limp-home mode.
- Failure of the transmission to engage certain gears or a stuck-in-gear condition.
- In rare cases, the engine may crank but not start due to immobilizer or communication conflicts.

Common causes, most likely first

- 1 Replacement TCM that was not properly coded or configured for the vehicle's transmission type.
- 2 Incorrect software or calibration file flashed into the TCM during a reprogramming procedure.
- 3 Aftermarket or salvage TCM installed without matching the original vehicle configuration.
- 4 Corrupted or lost codification data in the TCM due to a voltage spike or battery disconnection.
- 5 Wiring harness issues or poor connections at the TCM causing intermittent configuration read errors.
- 6 A faulty transmission range sensor or manual transmission switch sending conflicting signals to the TCM.

How to diagnose and fix it

- 1 Connect a Kia-specific scan tool and read the TCM codification data to confirm the stored transmission type.
- 2 Verify the vehicle's original build configuration using the VIN to determine the correct transmission type.
- 3 Check for and clear any related communication or voltage supply codes before proceeding.
- 4 Reprogram or reflash the TCM with the correct calibration file for the vehicle's transmission using the manufacturer's software.
- 5 If reprogramming fails, replace the TCM with a new or remanufactured unit and perform the coding procedure.
- 6 Inspect the TCM wiring harness and connectors for corrosion, loose pins, or damage, and repair as needed.
- 7 Perform a road test and recheck for the presence of P1586 after the repair to confirm the fix.



When a Kia TCM Refuses to Accept Its Identity

- A common oversight is replacing a TCM with a used unit from a manual-transmission vehicle without recoding, which instantly sets P1586.
- Some aftermarket scan tools cannot perform TCM codification on Kia models, leading to incomplete repairs and repeat codes.
- A weak battery or poor ground connection can cause the TCM to lose its codification data intermittently, mimicking a failed module.
- This code can be set by a mismatched instrument cluster or body control module if those modules also store transmission type data and communicate incorrectly.
- Always check for technical service bulletins (TSBs) related to TCM reprogramming for the specific Kia model and year before replacing hardware.

Can I keep driving with P1586?

It is generally safe to drive with this code if the vehicle operates normally, but avoid prolonged driving if harsh shifting or limp mode occurs, as this can lead to transmission damage. Schedule a diagnostic appointment promptly to correct the codification and prevent potential drivability issues.

Tools that help

- Kia-specific scan tool with TCM reprogramming capability
- J2534 pass-through device for ECU flashing
- Digital multimeter for wiring and voltage checks
- Battery charger to maintain stable voltage during reprogramming
- Socket set and trim tools for accessing the TCM

Reading P1586

P	Powertrain: engine, transmission and emissions.
1	Manufacturer-specific code (Kia): its meaning depends on the make.
5	Vehicle speed, idle control and auxiliary inputs.
86	The exact fault within that area.

Often seen with

P0600 Serial Communication Link Malfunction · **P0700** Transmission Control System Malfunction · **P0705** Transmission Range Sensor Circuit Malfunction · **P0715** Input/Turbine Speed Sensor Circuit Malfunction · **U0100** Lost Communication With ECM/PCM A



See it working

Watch the animated explainer [How a Refrigerator Works: The Cooling Cycle](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/kia-p1586/>

