

GENERIC · POWERTRAIN

P0633

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0633

Immobilizer Key Not Programmed - ECM/PCM

P0633 means the engine control module (ECM) or powertrain control module (PCM) has detected that the vehicle's immobilizer system contains a key that has not been programmed into its memory. The computer expects every key used to start the car to carry a valid, learned security code, and it sets this code when that handshake fails.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Generic (all makes)	Medium	Professional	Computer and output circuits

Symptoms you may notice

- The engine cranks but will not start, or starts and immediately stalls
- The security or immobilizer warning light stays on or flashes
- A 'key not recognized' or 'starting system fault' message on the dash
- Intermittent no-start that may resolve after several attempts with a different key
- Often no symptoms besides the warning light if the fault is stored but the key still works

Common causes, most likely first

- A new or replacement key that was cut but never programmed to the immobilizer
- A key that lost its programming due to a low battery or memory corruption in the transponder
- The ECM/PCM was replaced or reflashed and the existing keys were not relearned
- A damaged transponder chip inside the key or a failed key fob battery
- A faulty immobilizer receiver or antenna ring around the ignition lock
- Wiring or connector problems between the immobilizer module and the ECM/PCM
- Aftermarket remote start or alarm installation that interfered with the key learning process

How to diagnose and fix it

- Scan all modules for codes and confirm P0633 is current, not just stored from a past event
- Try starting with every key the owner has to see which keys are recognized
- Check the key fob battery and inspect the transponder chip for physical damage
- Verify the immobilizer antenna ring and its wiring are intact and connected
- Use a factory-level scan tool to perform the key programming or relearn procedure
- If programming fails, check for aftermarket electronics that may be blocking communication
- Replace the faulty key, antenna ring, or immobilizer module only after programming attempts fail



Why a cut key still won't start the car

- A key can be mechanically cut correctly and still set P0633 because the transponder chip inside it was never introduced to the ECM/PCM.
- Replacing the ECM/PCM without performing the key relearn procedure is one of the most common ways this code appears after a repair.
- A weak key fob battery can cause intermittent P0633 because the transponder may not receive enough power to transmit its code reliably.
- Aftermarket remote starters and alarms are frequently wired into the immobilizer circuit and can prevent a new key from being learned.
- P0633 does not always mean the key is bad; a failed antenna ring or a poor connection at the immobilizer module can produce the same no-start condition.

Can I keep driving with P0633?

Do not drive the vehicle if it will not start or stalls immediately, because the immobilizer is actively preventing operation. If the car still runs and only the warning light is on, avoid shutting the engine off until you reach a safe location, as it may not restart.

Tools that help

- OBD-II scan tool with immobilizer and key programming capability
- Factory-level diagnostic software or a capable aftermarket programmer
- Digital multimeter for checking wiring and antenna continuity
- Basic hand tools for accessing the immobilizer antenna and module
- Known-good key or transponder to test recognition

Reading P0633

P	Powertrain: engine, transmission and emissions.
0	Generic (SAE) code: it means the same thing on every OBD-II vehicle.
6	Computer and output circuits.
33	The exact fault within that area.

Often seen with

P0513 Incorrect Immobilizer Key · **P0630** VIN Not Programmed or Incompatible - ECM/PCM · **P0631** VIN Not Programmed or Incompatible - TCM · **P0632** Odometer Not Programmed - ECM/PCM · **P0634** PCM/ECM/TCM Internal Temperature Too High



See it working

Watch the animated explainer [How Push-Button Start Works: Keyless Ignition](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p0633/>

