

DTC P0513 Theft Deterrent Key Incorrect

Diagnostic Instructions

- Perform the Diagnostic System Check – Vehicle prior to using this diagnostic procedure.
- Review Strategy Based Diagnosis for an overview of the diagnostic approach.
- Diagnostic Procedure Instructions provides an overview of each diagnostic category.

DTC Descriptor

DTC P0513: Theft Deterrent Key Incorrect

Circuit/System Description

The theft deterrent module (TDM) sends the prerelease password to the engine control module (ECM) via the serial data circuit. The ECM then sends a challenge to the TDM. Both the ECM and TDM perform a calculation on this challenge. If the calculated response from the TDM equals the calculation performed by the ECM, the ECM will allow vehicle starting.

Conditions for Running the DTC

Ignition is in the ACCESSORY or RUN position.

Conditions for Setting the DTC

The calculated response from the TDM does not equal the calculation performed by the ECM.

Action Taken When the DTC Sets

- The security indicator will illuminate.
- Vehicle starting will be disabled.

Conditions for Clearing the DTC

- A current DTC P0513 will be cleared when a valid calculation is received.
- A history DTC will be cleared after 40 malfunction-free ignition cycles or when a scan tool is used to clear DTCs.

Diagnostic Aids

The "key" referenced in the DTC descriptor does not refer to the vehicle key. In this case, "key" is referring to the challenge response.

Reference Information

Schematic Reference

Immobilizer Schematics

Connector End View Reference

Component Connector End Views

Description and Operation

Immobilizer Description and Operation

Electrical Information Reference

- Circuit Testing
- Connector Repairs
- Testing for Intermittent Conditions and Poor Connections
- Wiring Repairs

Scan Tool Reference

Control Module References for scan tool information

Circuit/System Verification

Verify the following BCM DTCs are not present:

- U1814
- U2099
- B1428
- B1370
- B1380
- B1440
- B1441

If any listed DTC is present, refer to Diagnostic Trouble Code (DTC) List - Vehicle to diagnose that DTC prior to this diagnostic.

Important: Because of normal system communications between the TDM and

ECM, any theft deterrent B-codes must be diagnosed prior to the diagnosis of P-codes. Perform the 10-Minute Immobilizer Relearn procedure. Refer to Immobilizer System Component Programming. The ECM should successfully complete the password learn and the vehicle should start. If the ECM does not complete the learn or vehicle starting remains disabled, replace the ECM.

Repair Instructions

Perform the Diagnostic Repair Verification after completing the diagnostic procedure. Control Module References for ECM replacement, setup, and programming

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