

## P0513: INCORRECT IMMOBILIZER KEY

### OVERVIEW

Severity	:	<div><div>High</div></div>
DIY Difficulty Level	:	<div><div>Intermediate</div></div>
Repair Cost	:	\$50-\$150
Can I Still Drive?	:	Yes (Short-term only)

### What Does The P0513 Code Mean?

If your OBD II equipped vehicle has exhibited an illuminated malfunction indicator lamp (MIL) accompanied by a stored code P0513, it means that the PCM has detected the presence of an immobilizer key that it does not recognize. This, of course, refers to the ignition key. If the ignition cylinder is turned on, the engine is cranked (not started), and the PCM does not detect any immobilizer key, a P0513 may also be stored.

If your vehicle is equipped with a certain kind of security system, it will require the presence of a microprocessor chip, which is manufactured into the (immobilizer) key or key fob, before the engine will start and run. Even if the ignition cylinder is turned to the start position and the engine cranks, it will not start because the fuel and ignition systems will have been disabled by the PCM.

With the microchip and circuit board integrated into the key (or key fob), it becomes a type of transponder. When the correct key/fob draws near the vehicle, an electromagnetic field (generated by the PCM) activates the microprocessor and makes certain functions possible. Once the correct key is activated, functions like door lock/unlock, trunk open, and push-to-start become operational on some models. Other models require a conventional metal key accompanied by a microchip for operation of these and other important functions.

After the microprocessor key/fob is activated, the PCM seeks to recognize a cryptographic signature from the key/fob. If the key/fob signature proves to be current and valid, fuel injection and ignition sequences are activated so that the engine will start. If the PCM fails to recognize the signature of

the key/fob, a code P0513 may be stored, the security system will be activated, and fuel injection/ignition will be suspended. A malfunction indicator lamp may also be illuminated.

## What Are The Symptoms Of The P0513 Code?

Symptoms of a P0513 code may include:

- Engine no start condition
- Flashing security light in instrument panel
- Engine may start after delayed reset period
- Service engine lamp illumination

## What Are The Potential Causes Of The P0513 Code?

Possible causes for this code include:

- Defective microprocessor key or key fob
- Faulty ignition cylinder
- Bad PCM or a PCM programming error

## How Can You Fix The P0513 Code?

You will need a diagnostic scanner and a reputable vehicle information source in order to diagnose a code P0513.

Begin with a visual inspection of related wiring and connectors as well as the key/fob in question. If the key/fob housing has been cracked or damaged in any way, there is a great chance that the circuit board is also damaged. This (or weak battery issues) could be the source of your problems as they relate to a stored code P0513.

Consult your vehicle information source for technical service bulletins (TSB) that pertain to the particular symptoms that you are experiencing with the vehicle in question. The TSB should also cover a code P0513. The TSB database is built from many thousands of repair experiences. If you can locate the proper TSB, the information found therein may help in your individual diagnosis.

I would also contact the local car dealership (or use the NHTSA website) to see if there are any related safety recalls for my vehicle. If there are current NHTSA safety recalls, the dealership would have to repair the condition free of charge. This could save me some time and money if the recall proves to be pertinent to the malfunction that has caused the P0513 to be stored in my vehicle.

Now I would connect the scanner to the vehicle diagnostic port and retrieve all trouble codes and freeze frame data. I would write the information down on paper in case I need it later. This will also help as you begin diagnosing codes in the order in which they have been stored. Before clearing the codes, consult your vehicle diagnostic source for the correct security reset and key/fob relearn

procedure.

Regardless of the security reset and key/fob relearn procedure, the P0513 (and all other related codes) will probably need to be cleared prior to performing it. After the reset/relearn procedure has been completed, use the scanner to observe security and microprocessor key/fob data. The scanner should reflect key/fob status and certain scanners (Snap On, OTC, etc.) will even yield helpful troubleshooting steps.

**Additional diagnostic notes:**

- Most of the time, this type of code is caused by a key/fob malfunction
- If your key/fob requires battery power, suspect that the battery has failed
- If the vehicle has been involved in an attempted theft, you may be able to reset the security system (including clearing the code) to rectify the situation

**Severity Description**

Since the presence of a code P0513 will likely be accompanied by a no-start condition, this should be treated as a severe condition.

**Reference Sources**

[P0513 Incorrect Immobilizer Key](#), OBD-Codes.