



Service Bulletin

PRELIMINARY INFORMATION

Subject: Concerns When Programming Vehicle Theft Deterrent

Models: 2006 - 2013 Chevrolet Impala
2006 - 2007 Chevrolet Monte Carlo

This PI was superseded to update model years. Please discard PIC5037A.

The following diagnosis might be helpful if the vehicle exhibits the symptom(s) described in this PI.

Condition/Concern

If the TDM and ECM are replaced at the same time or if during service the theft deterrent becomes unsynchronized, it will be necessary to follow the procedures below in order to get the theft deterrent synchronized.

DESCRIPTION AND OPERATION:

The Chevrolet Impala and Monte Carlo are equipped with a PK3 circle plus theft deterrent system. The components in the system are the Theft Deterrent Module (TDM), the Engine Control Module (ECM), the ignition key which contains the transponder, and the security indicator on the Instrument Panel Cluster (IPC).

The immobilizer system functions are provided by the theft deterrent module (TDM) and the engine control module (ECM). When an ignition key is inserted into the ignition lock cylinder and the ignition is switched ON, the transponder embedded in the head of the key is energized by the exciter coil surrounding the ignition lock cylinder. This exciter coil is part of the TDM. The energized transponder transmits a signal that contains its unique value, which is received by the TDM. The TDM then compares this value to a value stored in memory. If the values match, the TDM will end the pre-release password via the serial data circuit to the ECM. If the transponders unique value is incorrect, the TDM will send the fuel disable password to the ECM.

When the ECM receives the TDM pre-release password, the ECM will challenge the password. The ECM sends this challenge back to the TDM via the serial data circuit. 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.

Note: Depending on the state of the theft deterrent it is possible for the vehicle to have a no crank no start or a crank, start and stall.

Recommendation/Instructions

ECM and TDM replaced at the same time:

Method A:

Note: You will use the original ignition keys for this method.

1. If possible reinstall the original TDM into the vehicle.
Note: You must be able to communicate with the original TDM.
2. SPS program the ECM.
3. Perform a 10 minute Vehicle Theft Deterrent (VTD) learn.
4. If it is still necessary to then replace the TDM, you can then replace the TDM. At this time the ECM and the key are synchronized and have the necessary security information to proceed.
5. SPS the new TDM.
6. Perform a 10 minute Vehicle Theft Deterrent (VTD) learn.

Method B:

Note: You will use the original ignition keys for this method.

1. If possible reinstall the original ECM into the vehicle.
Note: You must be able to communicate with the original ECM.
2. SPS program the TDM.
3. Perform a 10 minute theft deterrent relearn.
4. If it is still necessary to then replace the ECM, you can then replace the ECM. At this time the TDM and the key are synchronized and have the necessary security information to proceed.
5. SPS the new ECM.
6. Perform a 10 minute Vehicle Theft Deterrent (VTD) learn.

Method C:

If neither the original ECM nor TDM are available or will not communicate then it will be necessary to also replace the ignition keys. If you have already attempted to program the new ECM or TDM using the original ignition keys it will be necessary to use the following procedure:

ADDITIONAL TIPS:

If after programming the theft deterrent system with the procedures above the vehicle still will not start:

1. Check the Manufactures Enable Counter (MEC) in the theft deterrent module ID information. If the Manufactures Enable Counter display is blank then the TDM has been programmed. If the Manufactures Enable Counter reads a value other than zero, then the TDM needs to be programmed.
During SPS programming the last thing to occur is for the MEC counter to be zeroed. If the MEC counter is not zero, then the TDM needs to be programmed or the ignition key can be cycled the number equal to the MEC counter. For example if the MEC counter is 85, then the ignition key would have to be cycled 85 times. If you are monitoring the MEC counter while cycling the key you have to back out of the menu with the MEC counter and then go back into it to refresh the MEC.

2. Check the Fleet vehicle status in the learn key data list in the TDM. If it states yes on a non-fleet vehicle then it will be necessary to:

Note: This can occur if you attempt to install a new TDM and ECM at the same time using the original ignition key.

- a. SPS program the TDM with the Clear TDM Fleet Status calibration.
- b. SPS program the TDM with appropriate calibration.
- c. Perform a 10 minute Vehicle Theft Deterrent (VTD) learn.

Warranty Information

The correction for this concern may be one of several repairs described above. For vehicles repaired under warranty, please use the appropriate warranty labor operation based on the actual cause and repair.

Please follow this diagnostic or repair process thoroughly and complete each step. If the condition exhibited is resolved without completing every step, the remaining steps do not need to be performed.

GM bulletins are intended for use by professional technicians, NOT a "do-it-yourselfer". They are written to inform these technicians of conditions that may occur on some vehicles, or to provide information that could assist in the proper service of a vehicle. Properly trained technicians have the equipment, tools, safety instructions, and know-how to do a job properly and safely. If a condition is described, DO NOT assume that the bulletin applies to your vehicle, or that your vehicle will have that condition. See your GM dealer for information on whether your vehicle may benefit from the information.



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