

2022 CHEVROLET CORVETTE SERVICE MANUAL

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Immobilizer System Component Programming (with BTM)

This procedure will learn the immobilizer function. If the battery voltage is low, charge the battery before proceeding with the learn. If the body control module (BCM) or engine control module (ECM) have been replaced, they must be programmed before performing this learn procedure.

Depending on the immobilizer function being learned or the component replaced, different learn functions are required to be performed. These learn functions are as follows:

When the function should be used:	Function name on SPS tool:	Function description:	Notes:
The BCM has been replaced and the existing vehicle keys are being reused or a diagnostic has instructed to perform the learn	Body Control Module IMMO Function with Existing Transponder or Remote Key	The BCM will relearn the immobilizer passwords and data while reusing the existing vehicle keys	⌘⌘⌘
The BCM has been replaced and new vehicle keys are being reused	Body Control Module IMMO Function with New Transponder or Remote Key	The BCM will relearn the immobilizer passwords and data while using new vehicle keys	⌘⌘⌘
The ECM has been replaced or a diagnostic has instructed to perform the learn	Engine Control Module IMMO Learn	The ECM will relearn the immobilizer passwords and data	⌘⌘⌘
Both the ECM and BCM have been replaced (this selection will REQUIRE new vehicle keys be used)	Engine Control Module and Body Control Module IMMO Learn	The ECM and BCM will learn new immobilizer passwords and data	Because both the ECM and BCM have been replaced and are learning new immobilizer passwords and data, all vehicle keys must also be replaced
A new vehicle key is being added (does not affect other vehicle keys)	Program Transponder or Remote Key (Add)	A new vehicle key will learn the immobilizer passwords and data	This function may not be available in all sales regions
All vehicle keys are desired to be invalidated and certain keys relearned or a diagnostic has instructed to perform the learn	Program Transponder or Remote Key (Delete)	All existing vehicle keys will be invalidated and any desired keys are relearned	This procedure may be used if a customer has had their keys lost or stolen and wishes to invalidate the keys, making them unable to start the vehicle

Note:

To prevent errors or immobilizer learn failure, the vehicle must be in Park (for automatic transmission) or Neutral with park brake applied (for manual transmission).

1. Connect a scan tool to the vehicle and access SPS.
2. Turn ON the ignition, with the engine OFF.
3. Ensure that all power consuming devices are turned OFF on the vehicle.
4. Select SPS application and follow the on-screen instructions.
5. Select Reprogram ECU.
6. Select IMMO Immobilizer Learn.
7. Select the appropriate programming function based on the component that was replaced or is being programmed. Refer to the table at the top of this document for assistance in choosing the correct programming function.
8. Note:
 - At multiple times during the learn procedure, SPS will instruct you to turn the ignition to the run position. Make sure the vehicle is actually in the run mode before continuing on the SPS terminal. If the ignition is not in run mode, the learn procedure will fail. To verify

the vehicle is in Run mode, verify the green LED is illuminated on the ignition mode switch.

- For the transmitter pocket location refer to the Remote Keyless Entry (RKE) System Operation document in the owner manual.

9. Follow the on-screen instructions.
10. When the SPS procedure has completed, press and hold the ignition mode switch for 15 seconds.
11. With a scan tool, clear any DTCs.

Unable to Complete Programming

When attempting to program immobilizer components, various conditions may prevent the programming operation from completing. These conditions may be caused by normal system operation, a system malfunction, or an external influence. Common symptoms of a incomplete programming is receiving an error message during the attempt or having the SPS application become unresponsive.

- DTCs are set in the body control module (BCM)
- The immobilizer system is a function of the BCM software. If immobilizer DTCs are set in the BCM, such as DTC B2955, a fault has been identified in the immobilizer system. If this is not corrected before attempting to program components, the programming may not complete. Correct all immobilizer DTCs before attempting to program any immobilizer components.
- The key has been programmed to another vehicle or is not the correct type for the vehicle
- A key can only be programmed to a single vehicle. Once a key is programming to a vehicle, it is paired for the life of the key. The key can be learned to the same vehicle again and again, but it is not able to be programmed to a different vehicle.
- Many vehicle are available with both a base keyless entry system and an optional passive entry system. These keys typically look identical but cannot be substituted for one another. To verify the key is correct, compare the part number that is etched on the key to the part number identified in the parts catalog. The key should be correct for the system installed in the vehicle.
- The theft deterrent module is not properly secured or the key is not properly positioned in the pocket/slot.
- A theft deterrent module that is not fully seated or is otherwise not properly secured may prevent a coupling between the transponder located in the key and the theft deterrent module. Being out of place by as little as 1 mm may prevent programming from completing. Make sure the theft deterrent module is properly installed and fully seated in it's clip.
- The key shank must be fully extended so that the entire key shank fits into the programming slot.
- To determine if the theft deterrent module is properly secured, remove the battery from the key and place the key into the pocket/slot. Attempt to change the vehicle mode by pressing the vehicle ON/OFF switch. The vehicle should change modes. If the NO REMOTE DETECTED message is displayed on the DIC, the theft deterrent module may not be properly secured.
- External interference is interrupting the programming operation
- External RF interference and EMI may interrupt the low frequency coupling between the key and theft deterrent module. This interference may come from many different locations. Devices plugged into the vehicle power outlets such as cell phone chargers, laptop computers, GPS devices, etc. may cause interference. Vehicle location may also cause interference. Locations near airports and military installations may causer interference. Remove all customer installed devices and, if necessary, move the vehicle if interference is suspected.