

DIGITALLY ENCODED SECURITY SYSTEM (D.E.S.S.)

GENERAL

SYSTEM DESCRIPTION

The ignition key contains a ROM chip with a unique digital code that is the equivalent of a unique teeth pattern on a conventional key.

When the ignition key is turned ON, the ECM reads the ignition key and, if it is not recognized, no engine starting will be possible.

NOTE: When a key is not recognized by the ECM, INVALID KEY will be displayed in the multifunction speedometer.

NOTE: All ignition keys have the same teeth pattern. Therefore, they can be used and turned in the switch of any D.E.S.S.-equipped vehicle. However, unless the D.E.S.S. system recognizes (in the ECM) a valid programmed key, the engine starting will not be allowed.

NOTE: Actually, it is the memory of the ECM that is programmed to recognize the digital code of the ignition key.

Up to 10 ignition keys may be programmed in the memory of the ECM. They can also be erased individually or all at once.

Note that the D.E.S.S. circuitry is already activated on all new ECM.

TROUBLESHOOTING

DIAGNOSTIC TIPS

NOTE: It is a good practice to check for fault codes using B.U.D.S. as a first troubleshooting step.

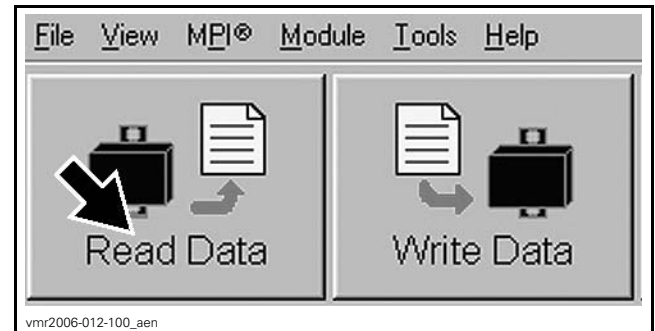
If D.E.S.S. key is not recognized by the ECM, key is defective or there is a wiring problem, CHECK ENGINE light will turn on and a message will be displayed in the multifunction speedometer.

PROCEDURES

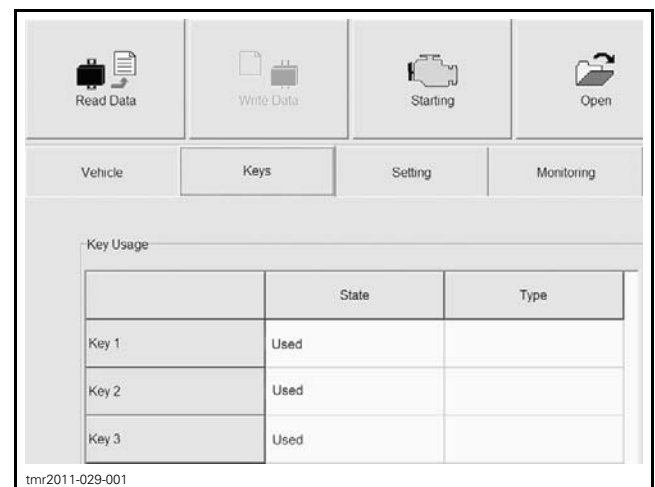
KEY PROGRAMMING

1. Connect to the latest applicable B.U.D.S. version. Refer to *COMMUNICATION TOOLS AND B.U.D.S.* subsection.

2. Turn ignition switch to ON using any of the key provided with the vehicle. DO NOT start the engine.
3. Click the **Read Data** button in B.U.D.S.

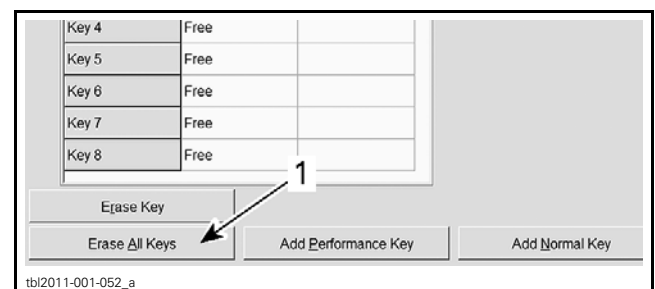


4. Click on **Keys** tab.



KEYS TAB

5. Click on **Erase All Keys** button.

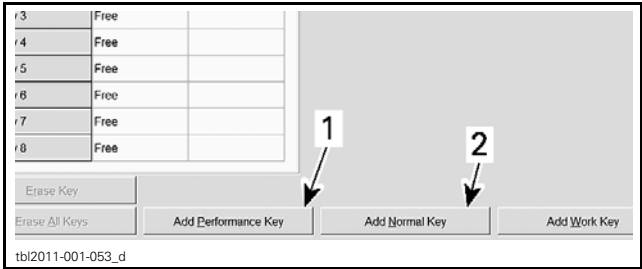


1. Click here to erase all keys

6. Click "YES" to confirm the action.
7. Check the color of the key to be programmed.

KEY	KEY TYPE
BLACK key	Performance key
GRAY key	Normal key

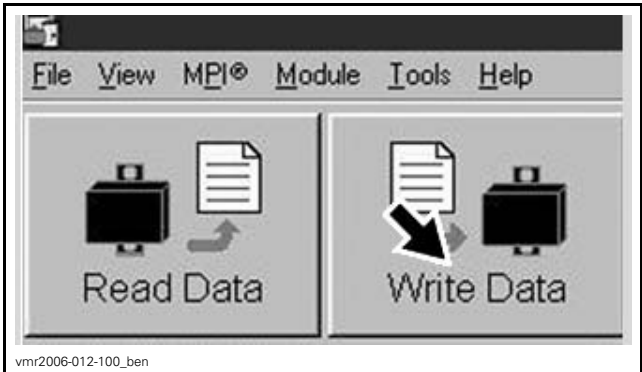
8. Click on the appropriate **Add Key** button.



- 1. Add Performance Key button
- 2. Add Normal Key button

NOTE: The **Add Work Key** button is not used for these vehicles.

- 9. Turn ignition switch to OFF.
- 10. Remove the key.
- 11. Insert the next key to be programmed.
- 12. Turn ignition key to ON position.
- 13. Click on the appropriate **Add Key** button.
- 14. Repeat to program more keys if needed.
- 15. Click on **Write Data** button to transfer new settings and information to the ECM.



WRITE DATA BUTTON

When new data is written in the ECM, a message that says “Remove key from vehicle” is displayed in the gauge. When this occurs, remove the key from ignition switch and wait until the message disappears.

- 16. Click on EXIT button to end session.
- 17. Disconnect all cables and hardware from vehicle.
- 18. Ensure to reinstall the connector into its housing.