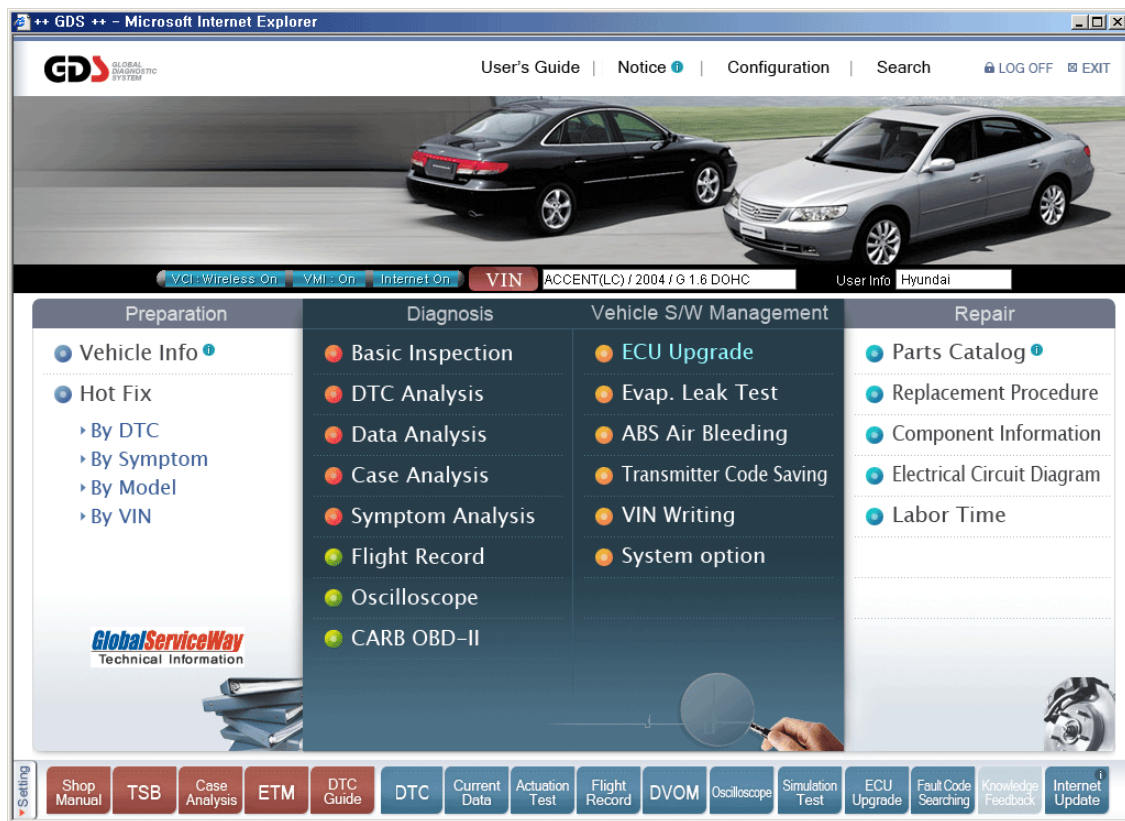


# GDS - Vehicle S/W Management

Ver. 07. 06. 2006



### Auto / Manual Mode and CAUTIONS before ECU Upgrade

ECU upgrading (reprogramming) can be done in Auto or Manual mode.

#### Manual Mode

Manual mode is used whenever it is necessary to force an ECU upgrade. It shows all the events for the selected control module. The User can select each event for the control module to force update. Password input stage, that is not in Auto mode, is included.

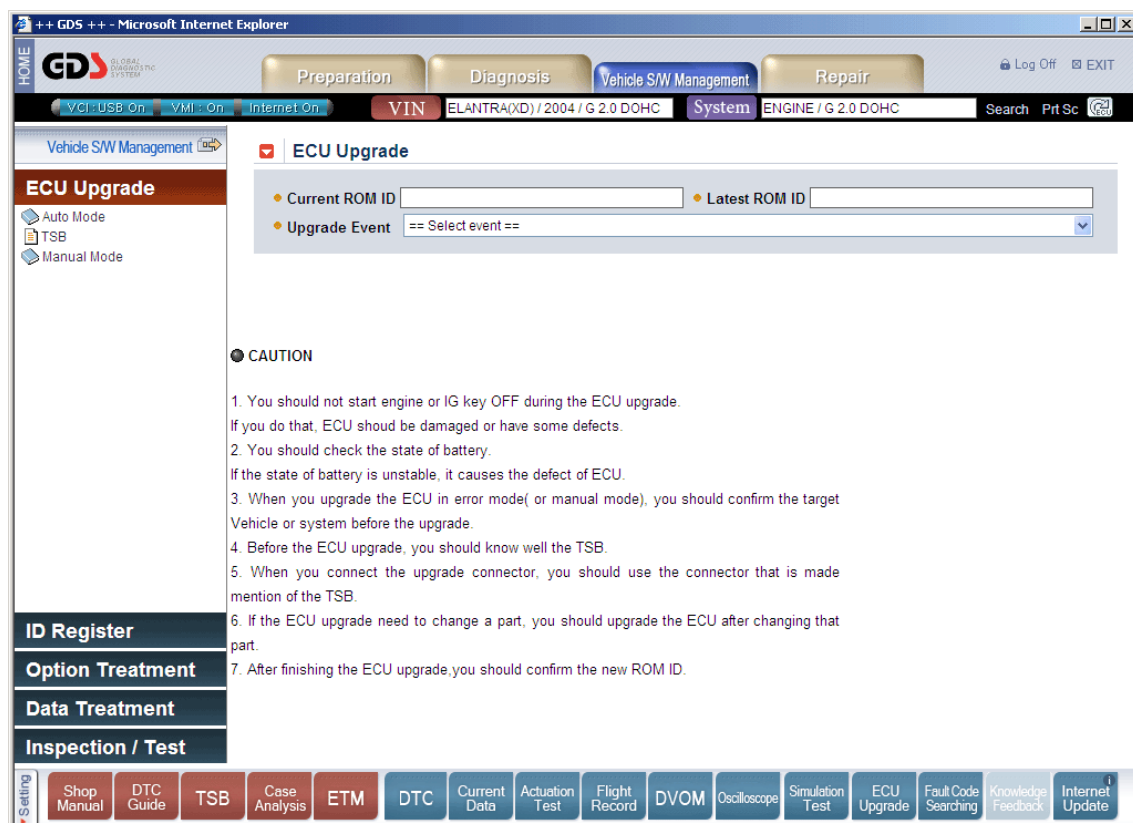


Figure 1. ECU Upgrade - Auto/Manual Mode



## CAUTIONS

The following information should be reviewed prior to performing an ECU upgrade:

- Do not start the engine or turn the ignition key OFF during an ECU upgrade. These actions may damage the ECU.
- The battery should be in a good state of charge prior to beginning an ECU upgrade.
- Confirm the correct selection before performing a manual ECU upgrade.
- Do not perform an ECU upgrade without first reviewing the applicable TSB or Campaign.
- Use the correct vehicle DLC and DLC cable when performing an ECU upgrade.
- If the ECU upgrade is needed for a part change, user should upgrade the ECU after changing that part.
- After finishing the ECU upgrade, user should confirm the new ROM ID.
- ECU upgrades cannot be performed using wireless; connect the USB cable between the PC and VCI prior to selecting the "ECU Upgrade" function.

## Auto Mode Upgrade

### Control module selection and Preparation of upgrade

When "Auto Mode" is selected the control modules appear below the "Auto Mode" menu. Control modules will be listed on the left menu when a control module has an event to be updated.

However, control modules with no event items for a selected vehicle will not be listed. Therefore, if there is no event for a selected vehicle, no control module will appear.

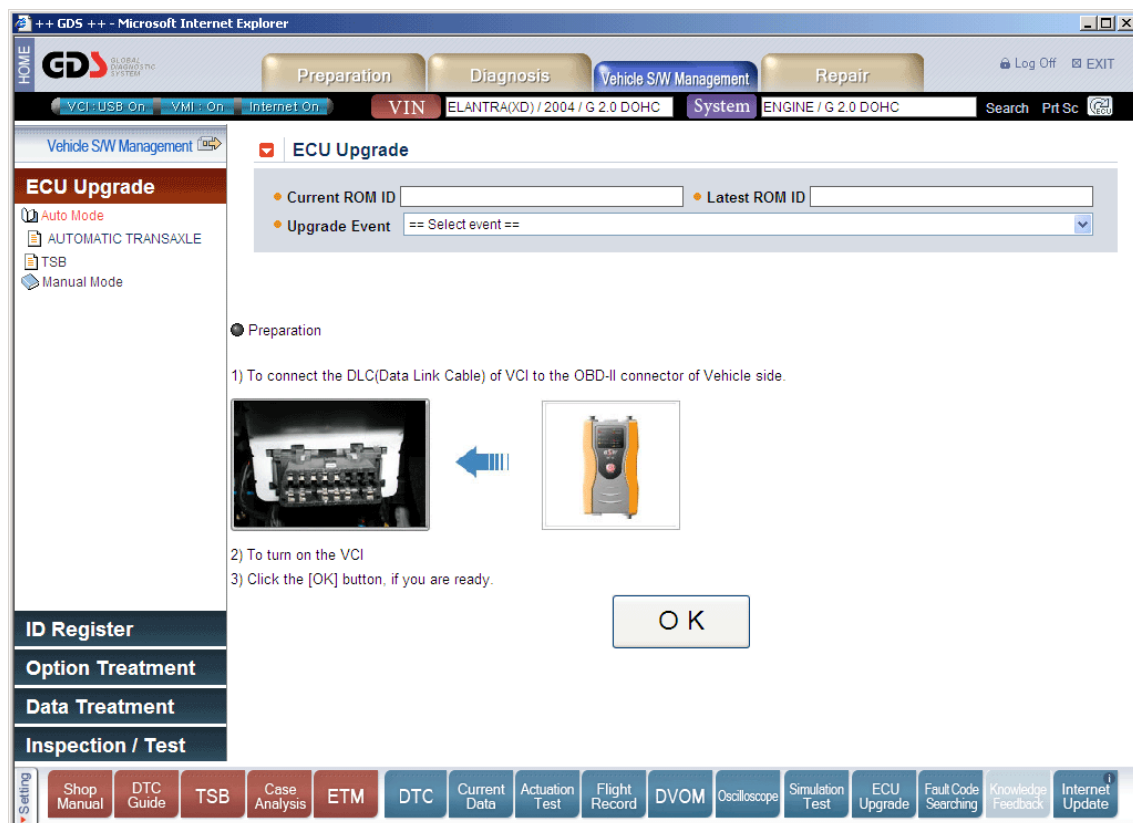


Figure 2. Auto Mode - Control Module selection and preparation

## ROM ID Reading

Select control module to be upgraded, and configure setting for communication between VCI and vehicle as shown in [figure 2]: VCI ON, DLC cable setting, etc. If the preparation for ROM ID reading is finished press “OK” button to read ROM ID from a control module as shown in [Figure 2]. ROM ID will be read repeatedly as shown in [Figure 3], and when ROM ID reading is finished, current ROM ID of selected control module will appear on the “Current ROM ID” item as shown in [Figure 4].

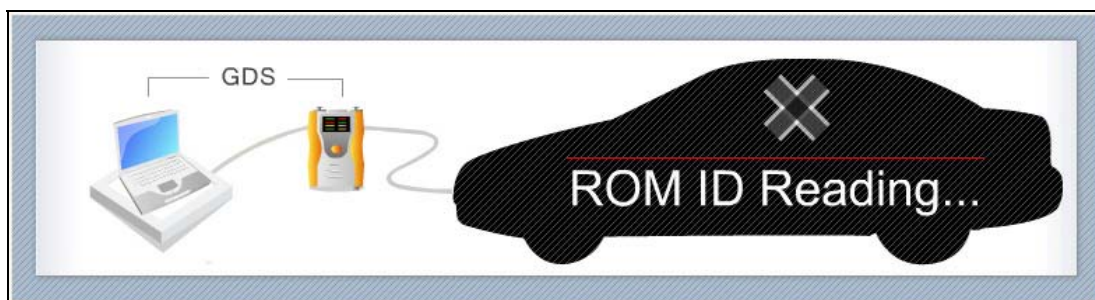


Figure 3. Auto Mode - ROM ID Reading - Processing

“Upgrade Event” item compares with current ROM ID, and lists events to be upgraded.

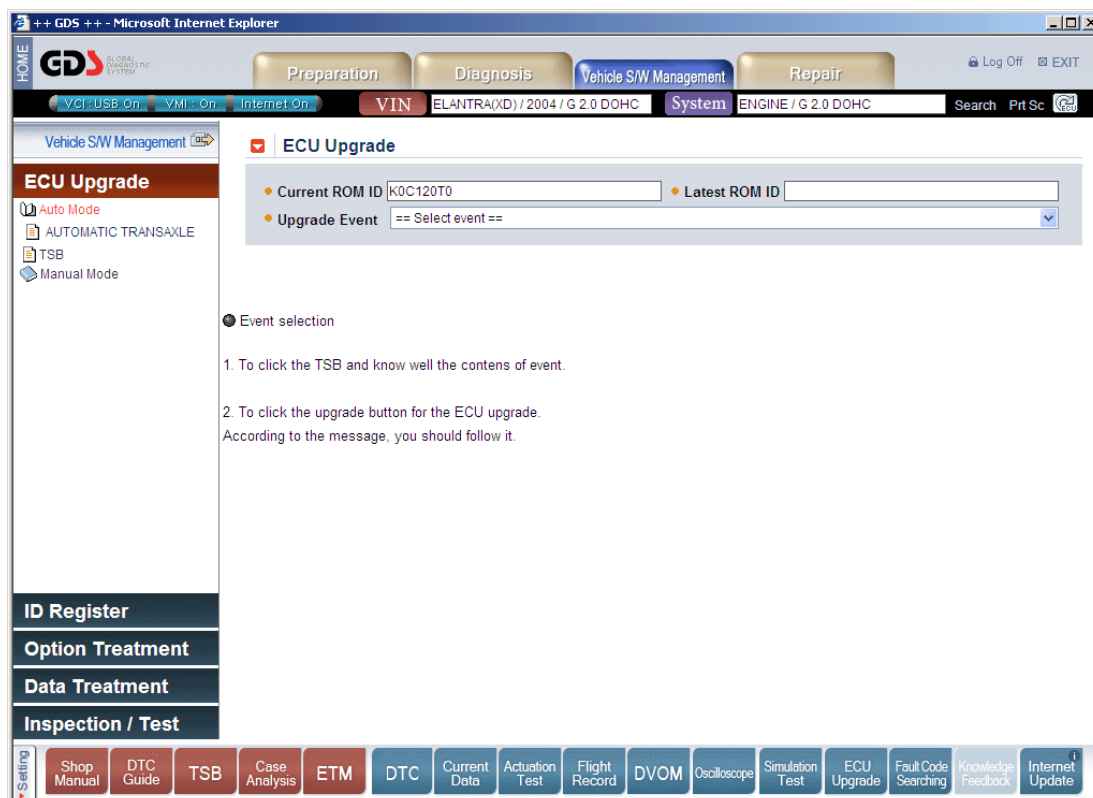


Figure 4. Auto Mode - ROM ID Reading - Result

## Event Selection

Select an event when events for a control module are listed on the "Upgrade Event" section. When the event is selected, ROM ID for the event will be shown on the "Latest ROM ID" section as shown in [Figure 5].

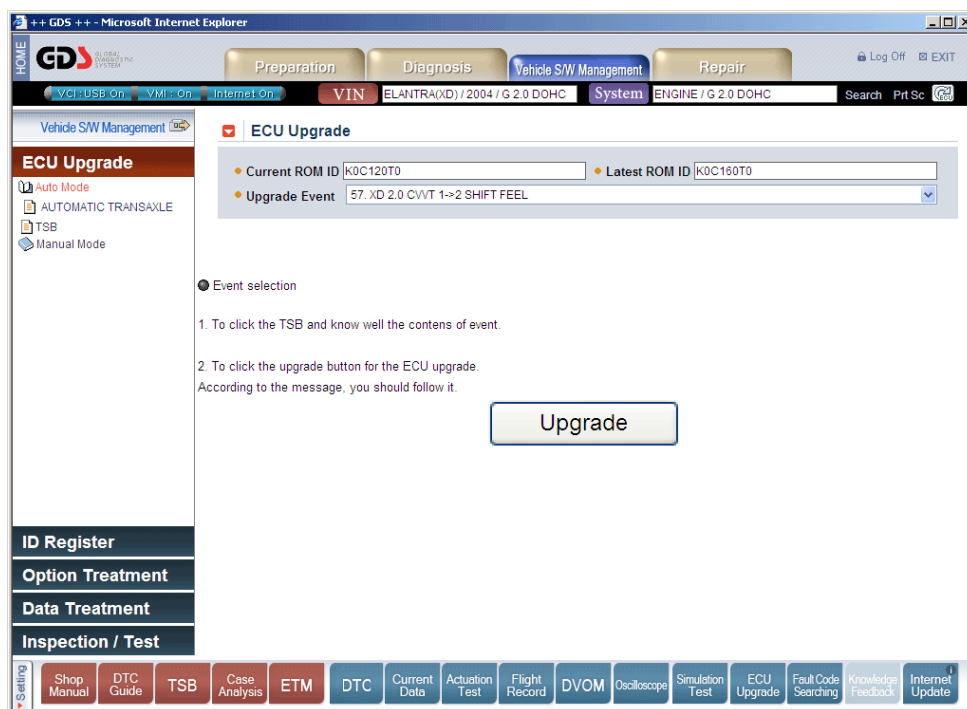


Figure 5. Auto Mode - Event Selection

When the "Update" button is clicked, confirm the selection as shown below.

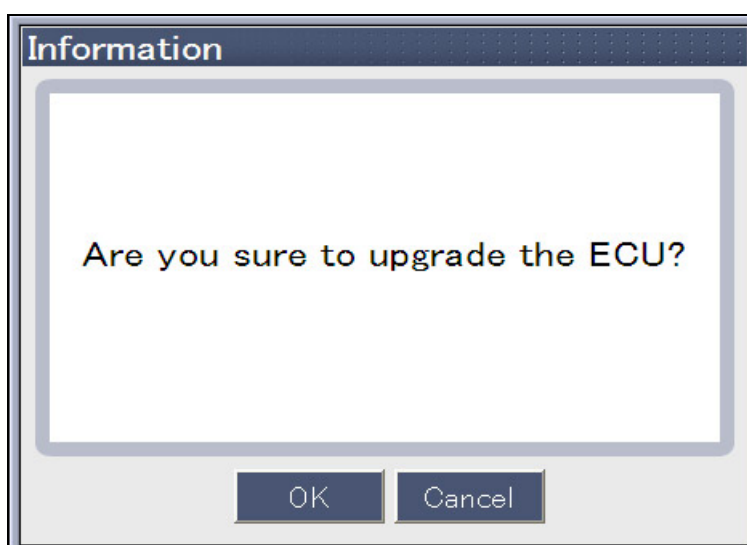


Figure 6. Auto Mode - Upgrade confirm - No TSB

If there is a corresponding TSB for selected event, "TSB" button appears on the popup window as shown in [Figure 7]. Selection of TSB button to upgrade with the verification is recommended.

For some events, the DLC cable for the ROM ID Reading and the DLC cable for ECU upgrade can be different. Therefore, user must follow the instructions on the screen carefully when processing the upgrade.

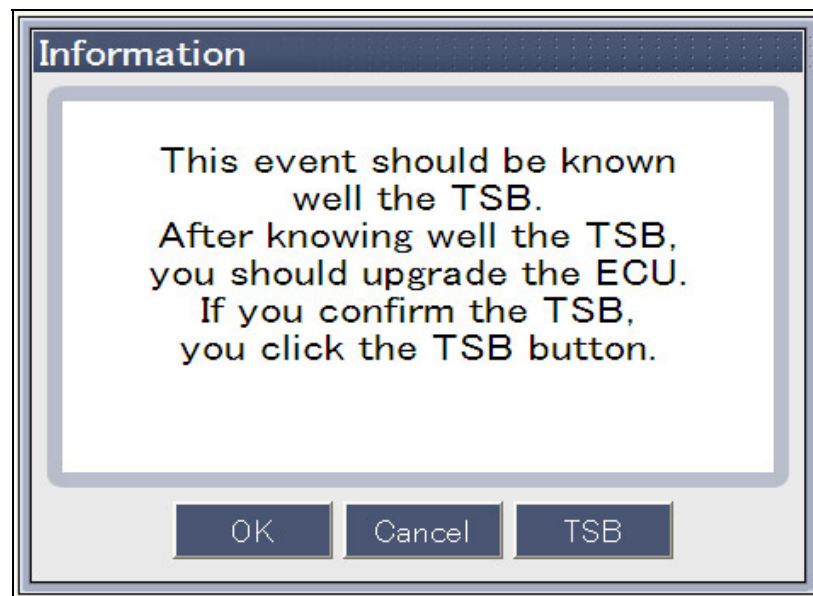


Figure 7. Auto Mode - Upgrade confirm - TSB Check

## Upgrade execution and cautions for processing

- **Upgrade execution**

By clicking "OK" button on the popup window shown in Figure 6 and Figure 7, ECU upgrade process is run automatically as shown in [figure 8].

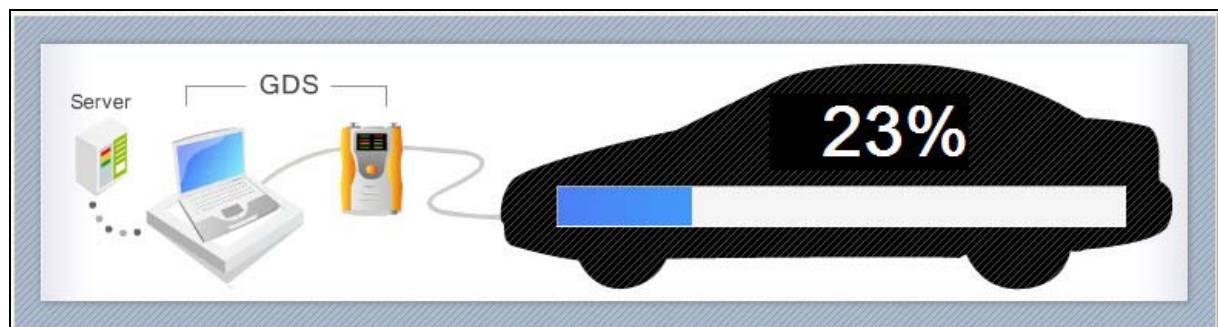


Figure 8. Auto Mode - Upgrade execution - Processing

- **Cautions for processing**

The time required to complete an upgrade will vary. Menus and buttons are all disabled during the upgrade process.



## CAUTIONS

Following instructions should be kept during the upgrade process, or else ECU could be damaged.

- Do not start the engine or turn the ignition key OFF.
- Do not operate any vehicle accessories during the upgrade process.
- Do not disconnect the VCI during the upgrade process.
- Do not turn the PC OFF during the upgrade process.
- Do not use any other programs on the PC during the upgrade process.
- Review the TSB (Technical Service Bulletin) before upgrade, as upgrade procedures can be different for each event.

If an error occurs during the upgrade process, mode changes automatically to the (manual mode). It is possible to force upgrade in error mode (manual mode).



## Upgrade Completion

When the upgrade is completed, completion message and ROM ID appear on the screen as shown in [Figure 9]. Click "Ok" button after the final check whether ROM ID on the popup window is identical to the latest ROM ID.

After ECU upgrade is complete, check for and erase any DTCs set during the upgrade event(s). Verify normal ECU operation as needed.

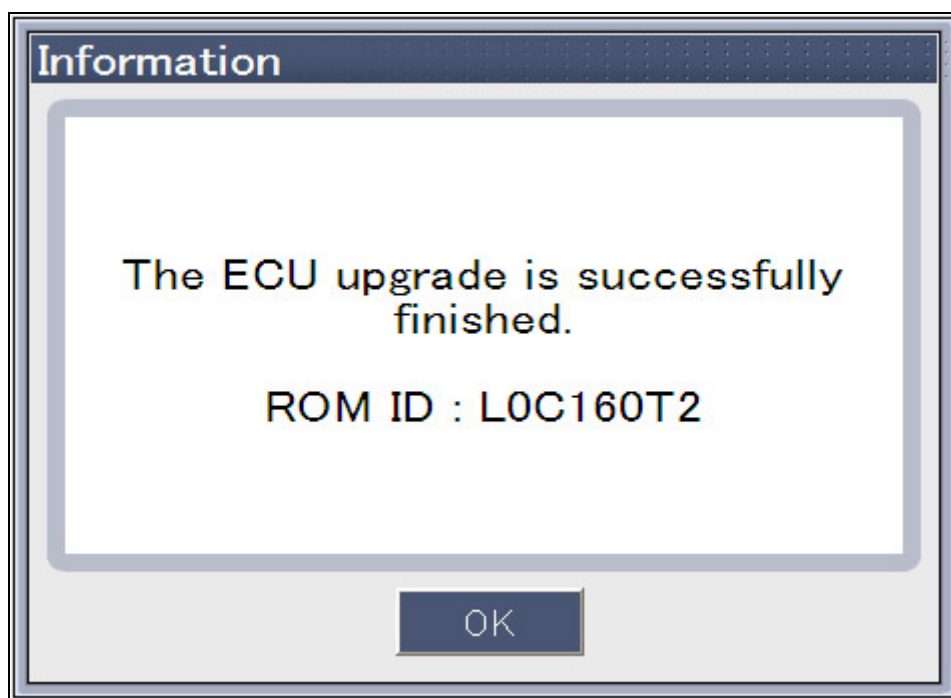


Figure 9. Auto Mode - Upgrade completion

## Manual Mode Upgrade

### Control module selection and Preparation of upgrade

To upgrade ECU in error mode (manual mode), select "Manual Mode" in the left side of the ECU upgrade page.

When Manual mode is selected control modules appear below the "Manual Mode" menu. It even forces to upgrade current ROM ID to a previous version of ROM ID. However, control modules with no event items for a selected vehicle will not be listed. Therefore, if there is no event for a selected vehicle, no control module will appear.



Figure 10. Manual Mode - Control module selection and preparation

## Event Selection and Password Input

Select the appropriate upgrade event and system as shown.

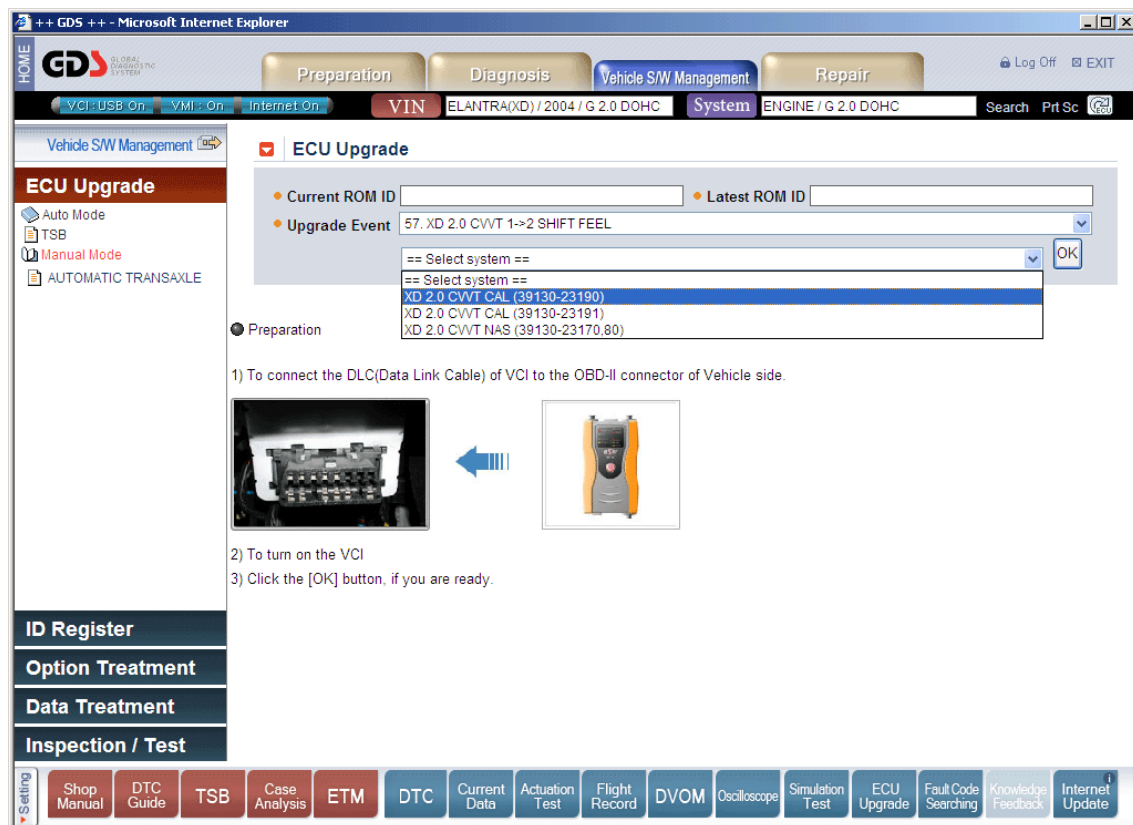


Figure 11. Manual Mode - Event selection

Enter the appropriate password after selecting an upgrade event.



Figure 12. Manual Mode - Upgrade confirm and password input - No TSB

If there is a corresponding TSB for selected event, "TSB" button appears on the popup window as shown in [Figure 7]. Selection of "TSB" button to upgrade with the verification is recommended.

For some events, the DLC cable for the ROM ID Reading and the DLC cable for ECU upgrade can be different. Therefore, user must follow the instructions on the screen carefully when processing the upgrade.

Input password on the popup window shown in [Figure 12] and [Figure 13]. ECU upgrade will proceed when "OK" button is clicked.

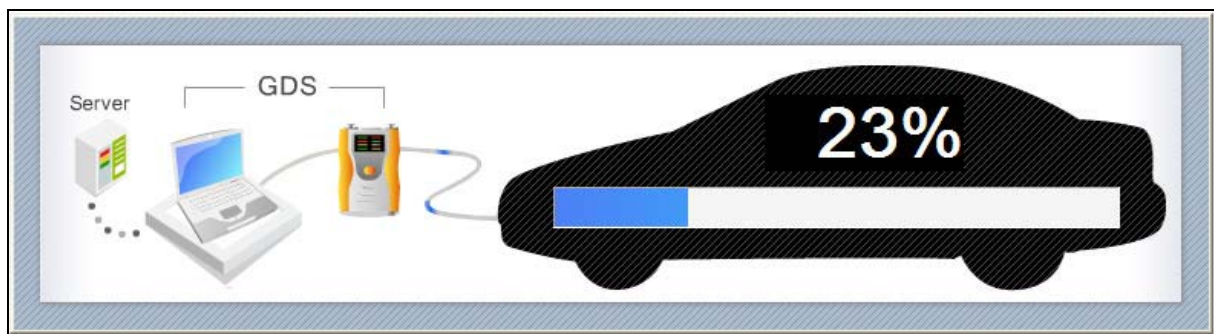


**Figure 13. Manual Mode - Upgrade confirm and password input - TSB Check**

## Upgrade execution and cautions for processing

- **Upgrade execution**

By clicking “OK” button on the popup window shown in [Figure 12] and [Figure 13], the ECU upgrade will proceed as shown in [Figure 14].



**Figure 14. Manual Mode - Upgrade execution - Processing**

- **Cautions for processing**

Time taken for the upgrade process can be from several to several ten minutes according to control module and event. Menus and buttons are all disabled during the upgrade process.

Following instructions should be kept during the upgrade process, or else ECU could be damaged.



## CAUTIONS

Following instructions should be kept during the upgrade process, or else ECU could be damaged.

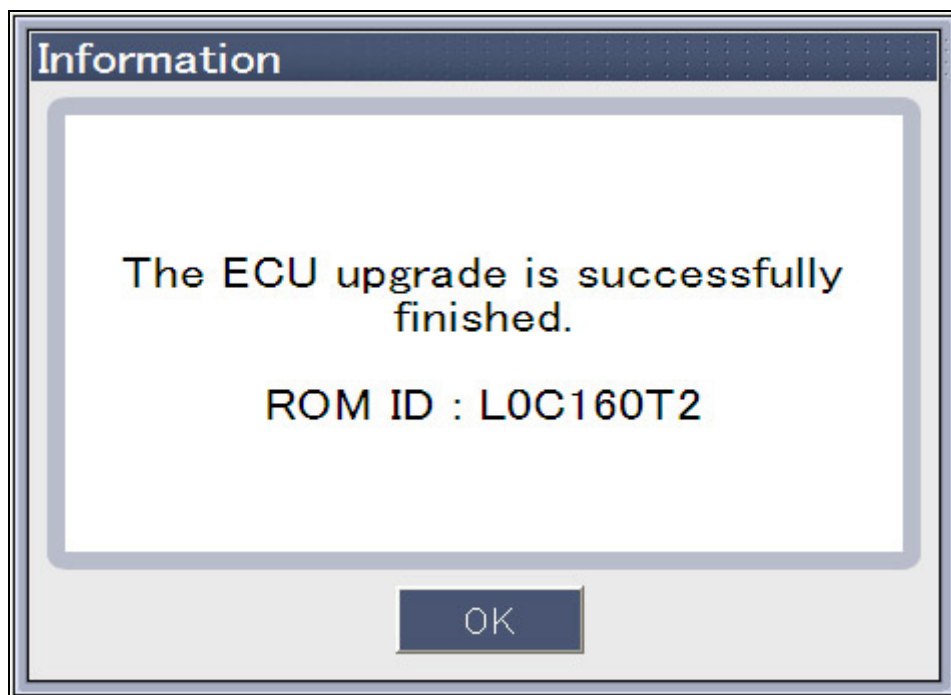
- Do not start the engine or turn the ignition key OFF.
- Do not operate any vehicle accessories during the upgrade process.
- Do not disconnect the VCI during the upgrade process.

- Do not turn the PC OFF during the upgrade process.
- Do not use any other programs on the PC during the upgrade process.
- Review the TSB (Technical Service Bulletin) before upgrade, as upgrade procedures can be different for each event.

## Upgrade Completion

When upgrade is completed, completion message and ROM ID after the ECU upgrade appear on the screen as shown in [Figure 15]. Click "Ok" button after the final check whether ROM ID on the popup window is identical to the latest ROM ID.

After ECU upgrade is complete, check for and erase any DTCs set during the upgrade event(s). Verify normal ECU operation as needed.



**Figure 15. Manual Mode-Upgrade completion**

Additional functions (ECU specific) are supported under "Vehicle S/W" management.

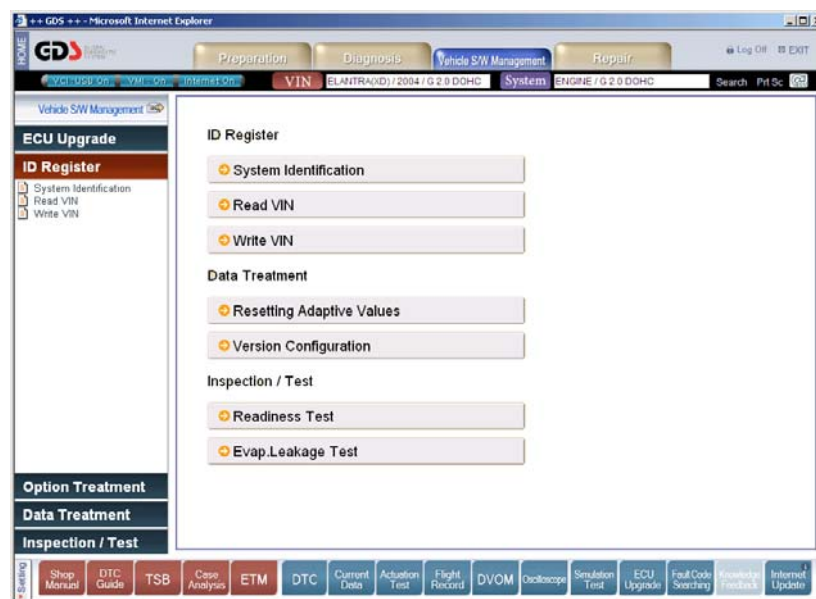


Figure 1. Initial page of Vehicle S/W Management (Engine)

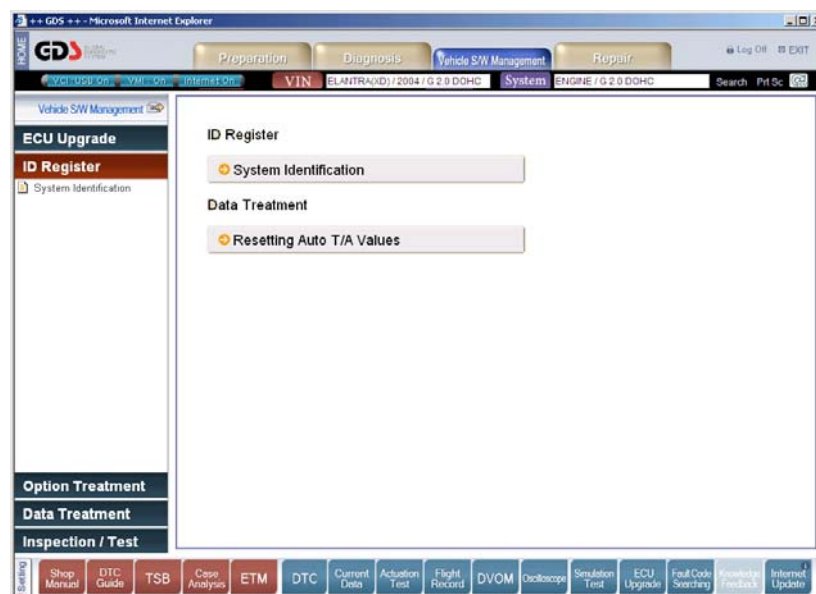
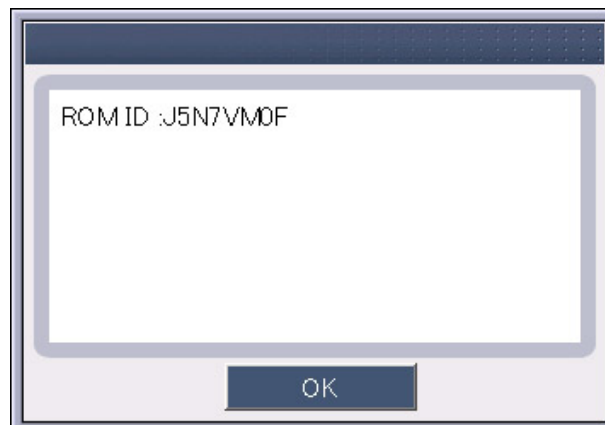


Figure 2. Initial page of Vehicle S/W Management (Auto T/M)

## System Identification

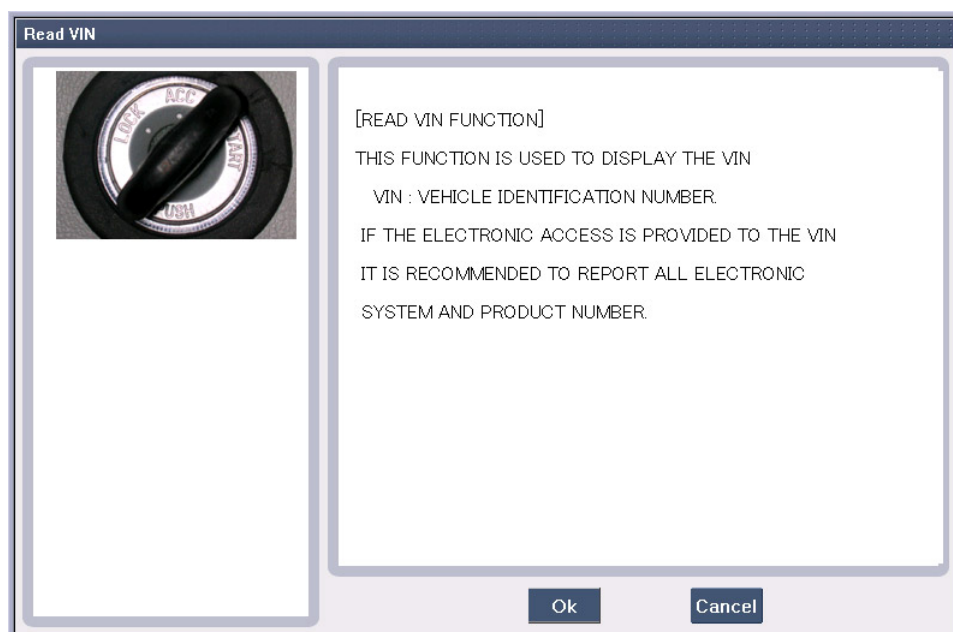
System Identification shows the ROM ID of the current ECU.



**Figure 3. System Identification**

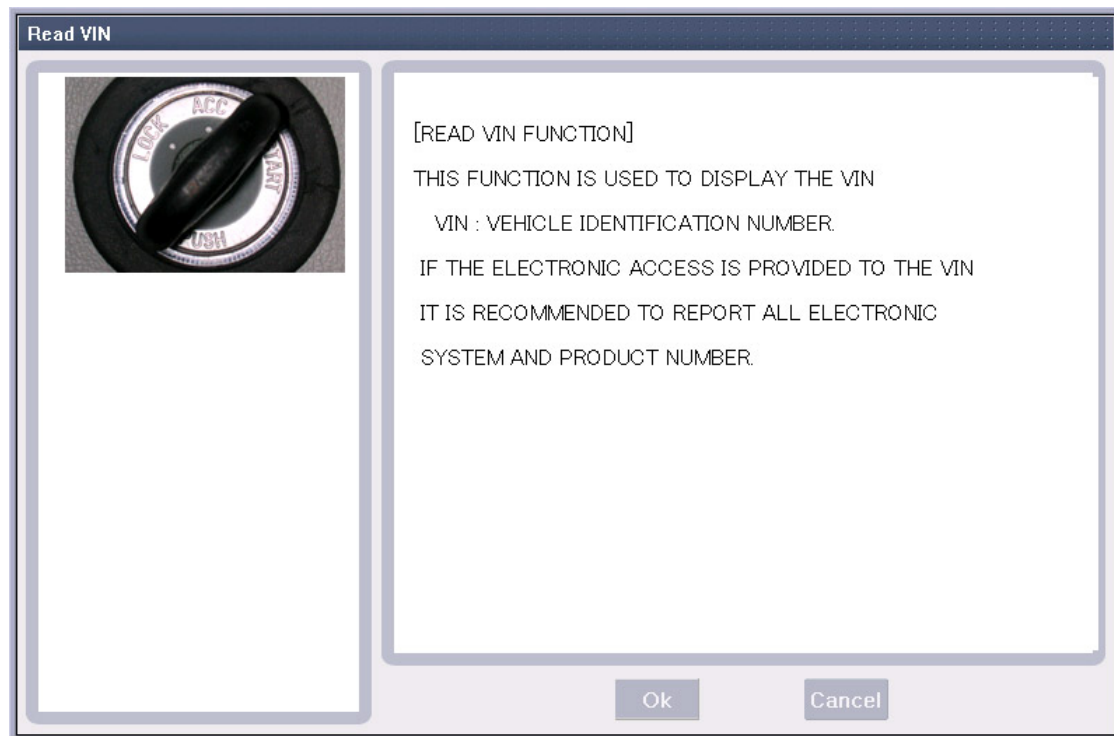
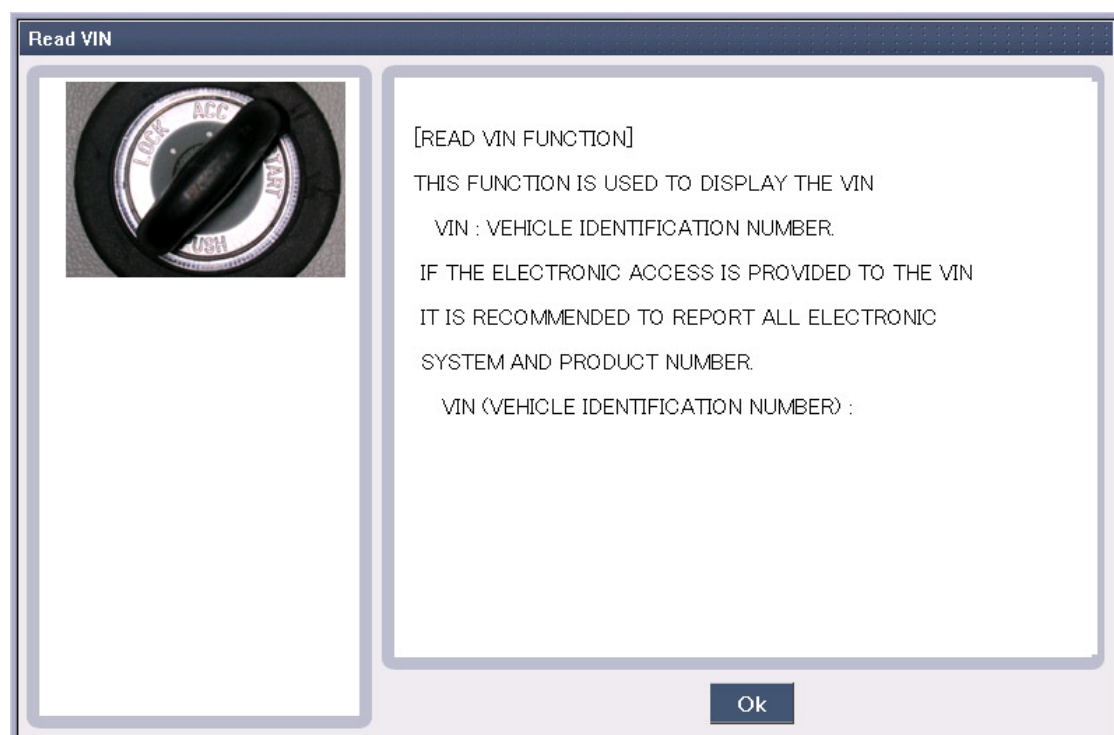
## Read VIN

The "Read VIN" function will display the VIN for the current ECU. Note that this function is currently supported for Engine ECUs on 2005 and later models.



**Figure 4. Read VIN - Initial Page**



**Figure 5. Read VIN - Processing****Figure 6. Read VIN - Complete**

## Write VIN

The "Write VIN" function is used to enter the VIN into a new Engine ECU. This function can only be performed ONCE on an ECU. Incorrect VIN entry and partial VIN entry conditions cannot be changed. This function is not supported on 2004MY or earlier vehicles.

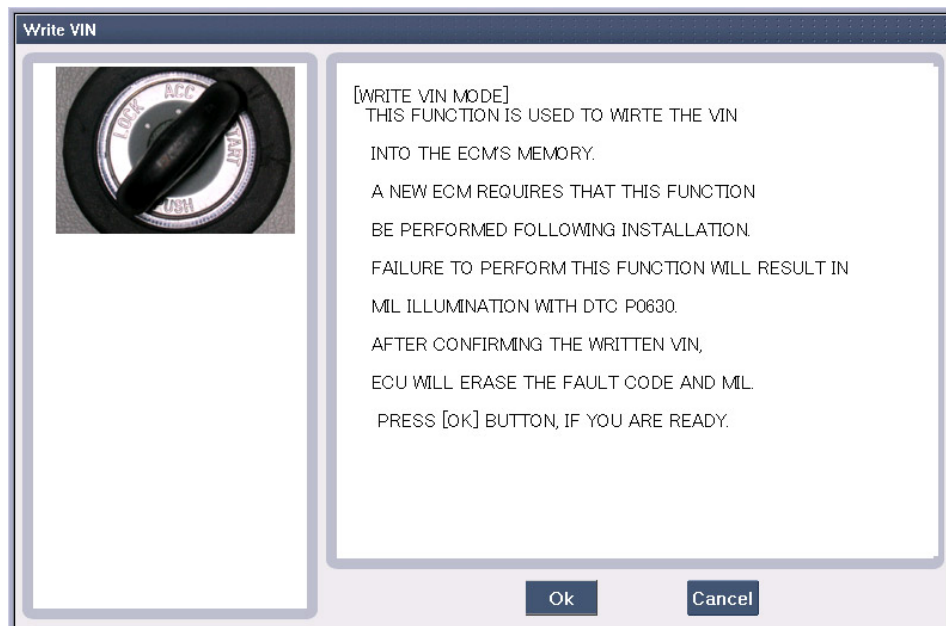


Figure 7. Write VIN - Initial Page

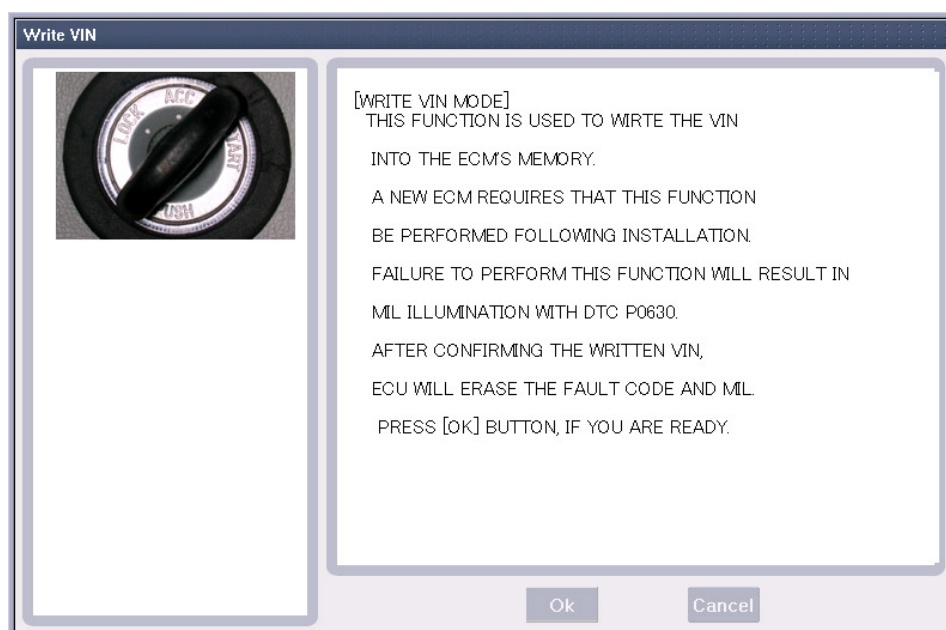
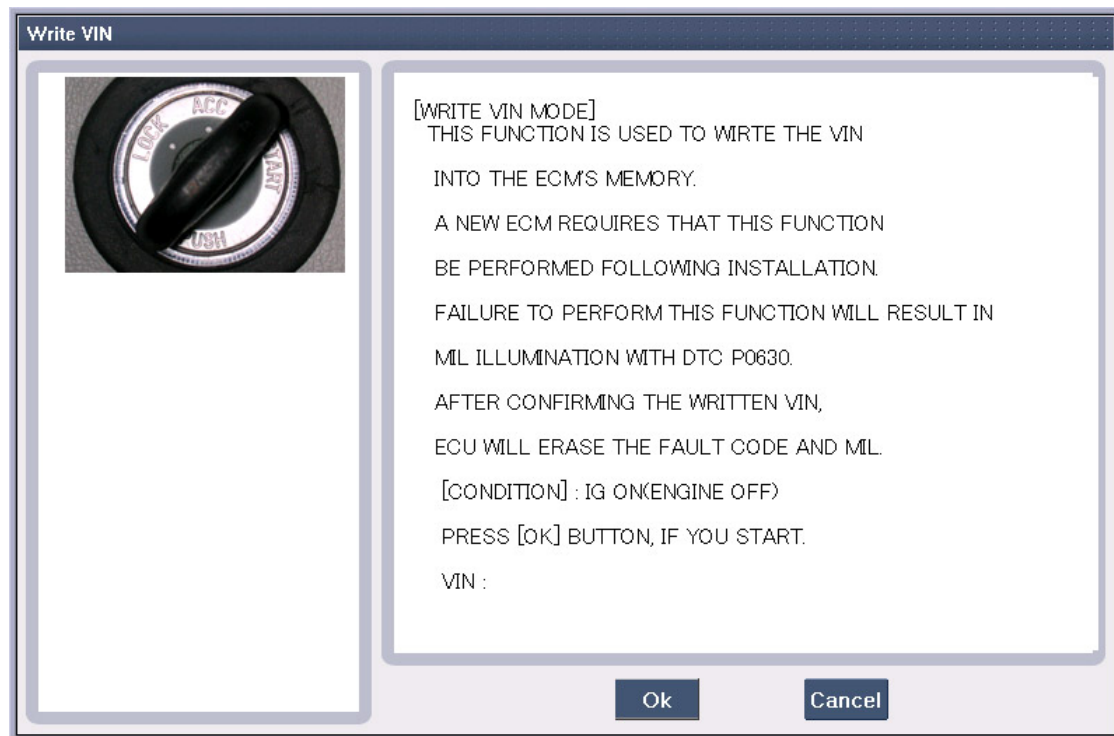
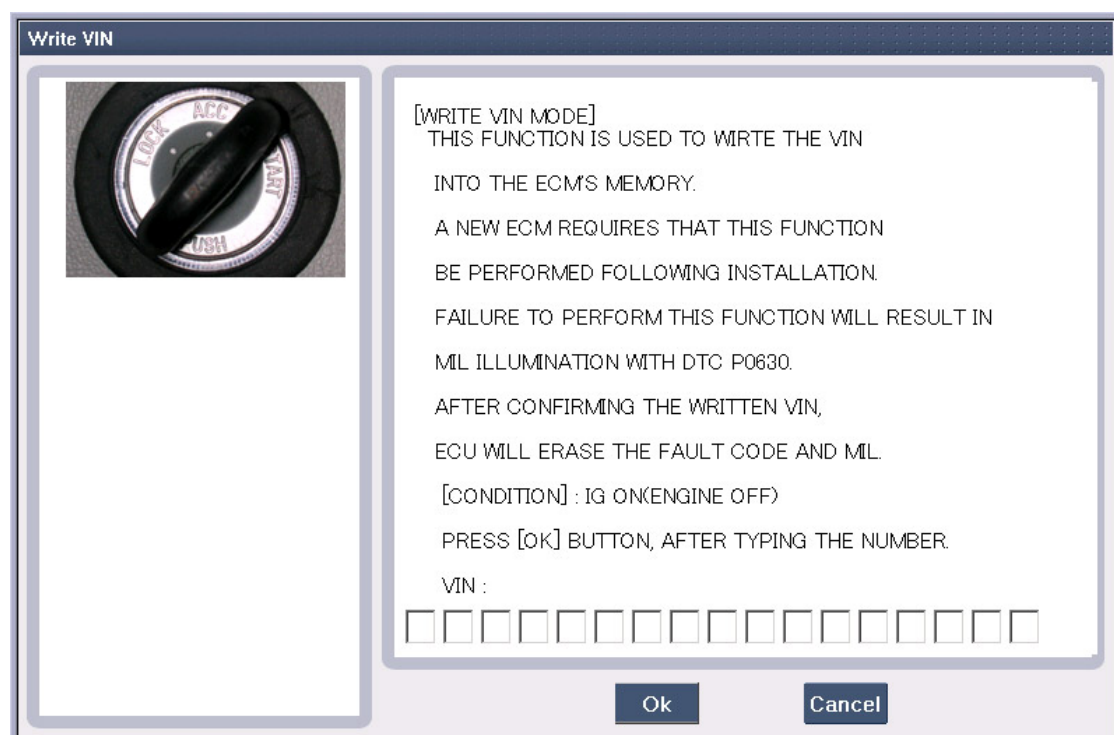
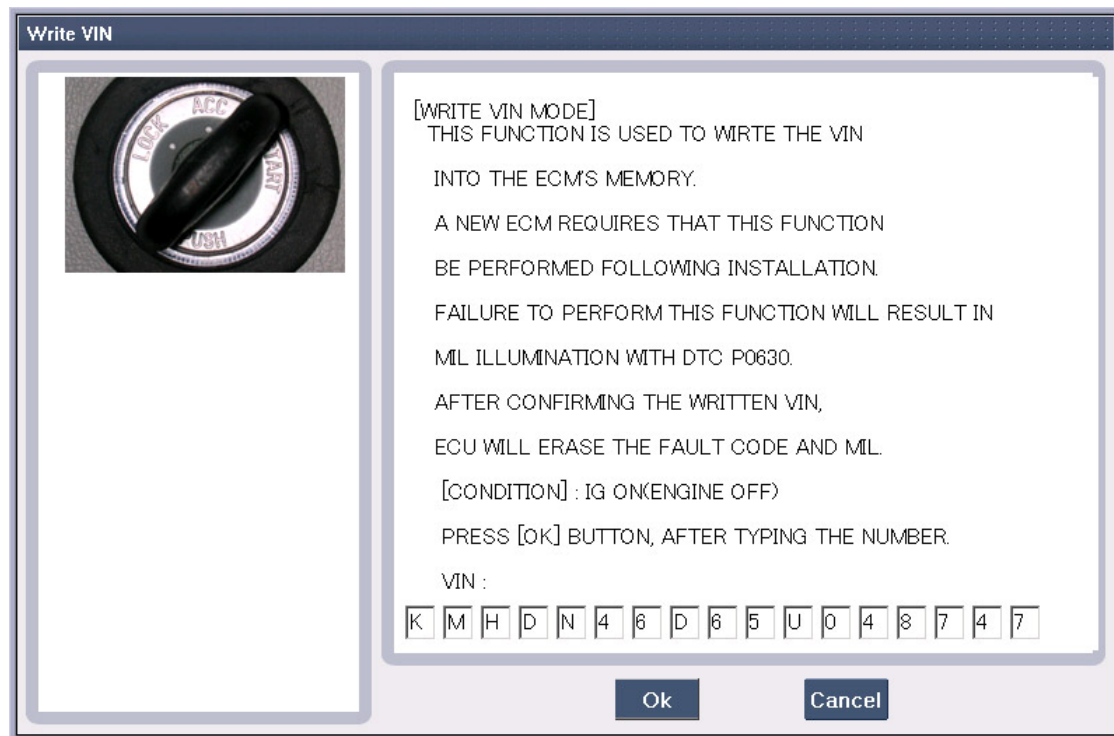


Figure 8. Write VIN - Processing

**Figure 9. Write VIN - Input Condition****Figure 10. Write VIN - Input VIN**

**Figure 11. Write VIN - Input VIN Complete**

The "Option Treatment" function is used to adjust functionality on supported ECUs.

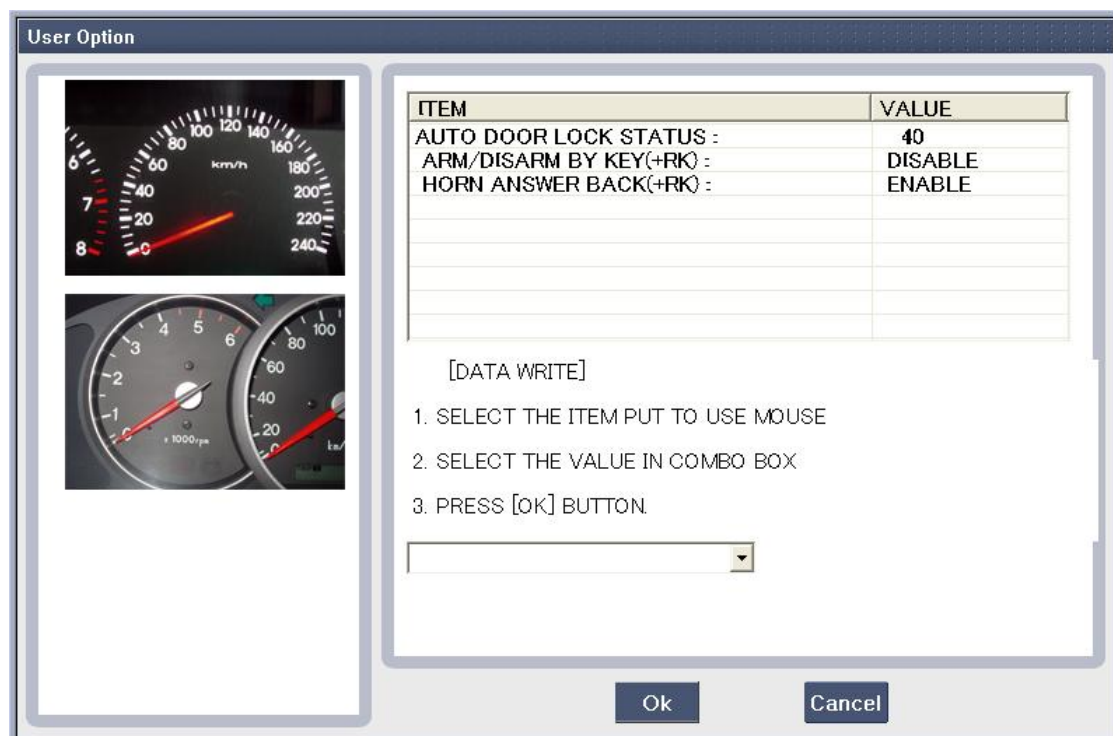


Figure 1. User Option Initial page

## Resetting Adaptive Values

The "Resetting Adaptive Values" function is used to reset adaptive learn data on specific ECUs.

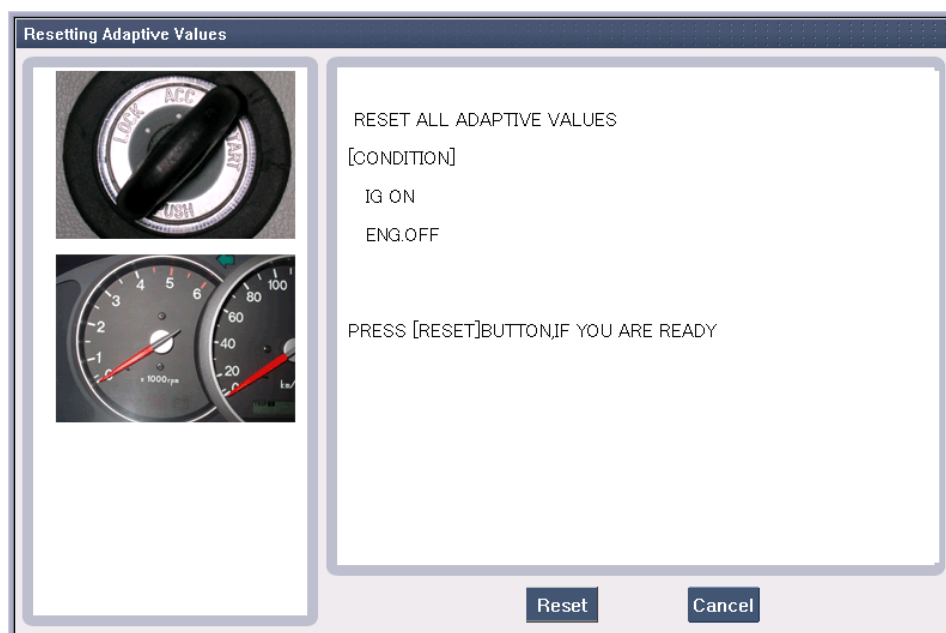


Figure 1. Resetting Adaptive Values - Before Reset

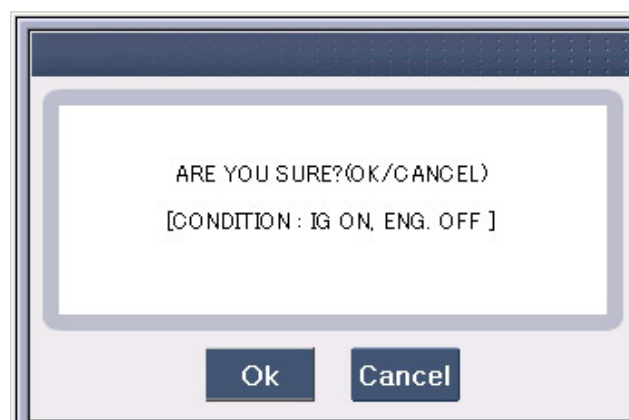


Figure 2. Resetting Adaptive Values – Message Box

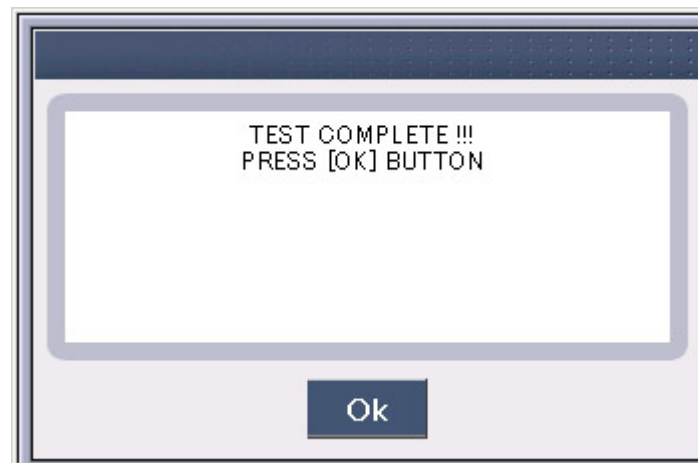


Figure 3. Resetting Adaptive Values – Test Complete

## Version Configuration

The "Version Configuration" function is used on supported engine ECUs to configure for transaxle and ABS ECU options.

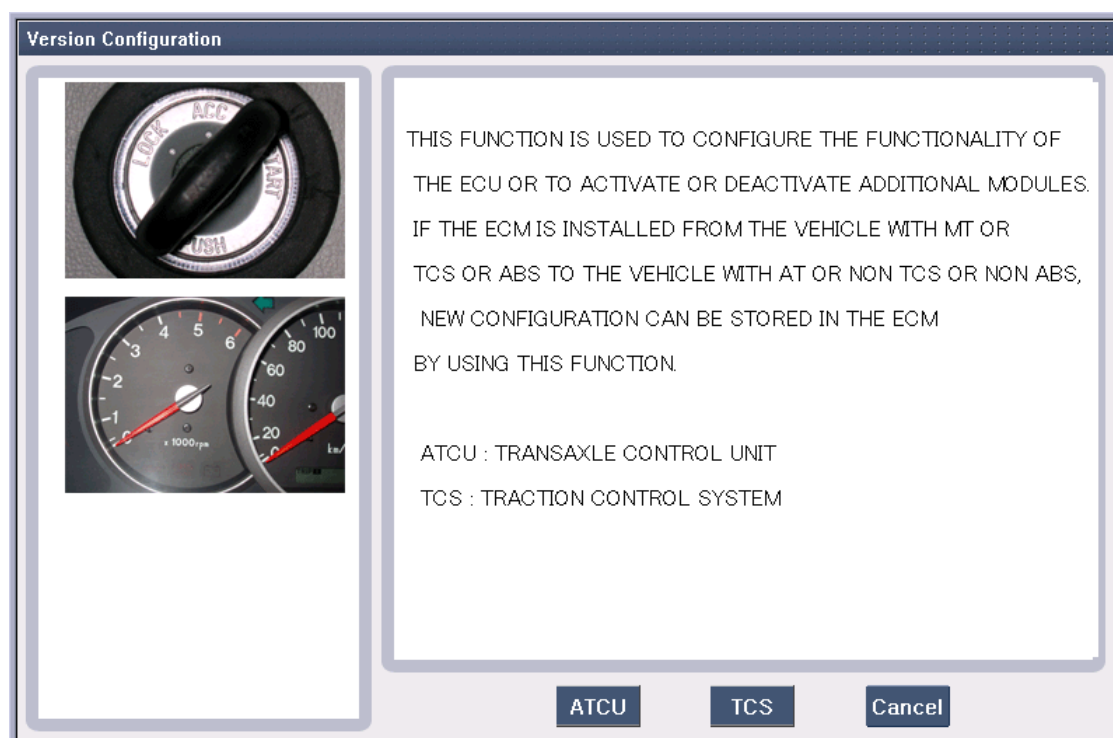
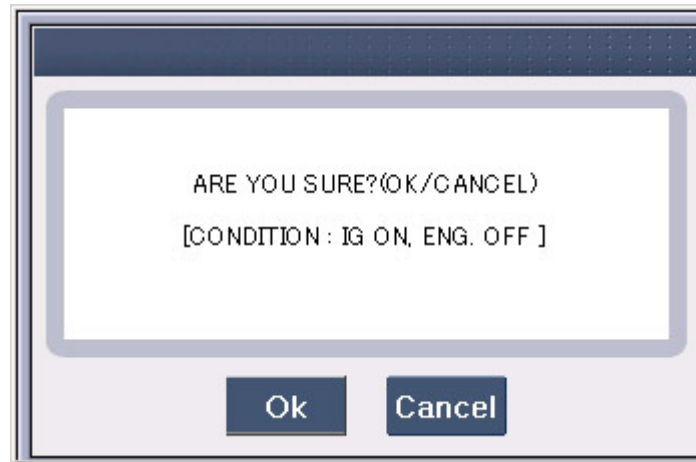
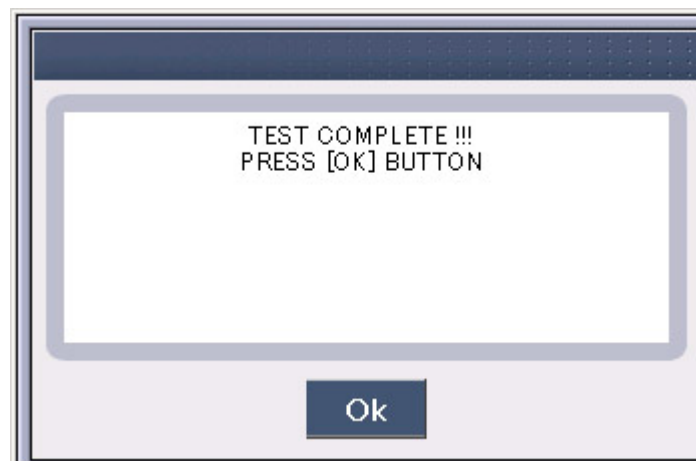


Figure 4. Version Configuration - Initial Page



**Figure 5. Version Configuration - Message Box**



**Figure 6. Version Configuration – Test Complete**



## Readiness Test

The "Readiness Test" function indicates whether or not a specific test is supported, and whether or not that test is completed.

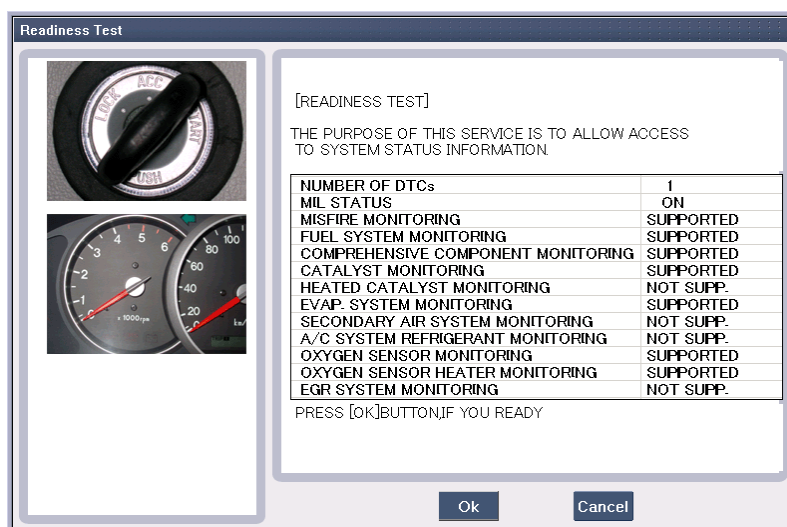


Figure 1. Readiness Test - Supporting List

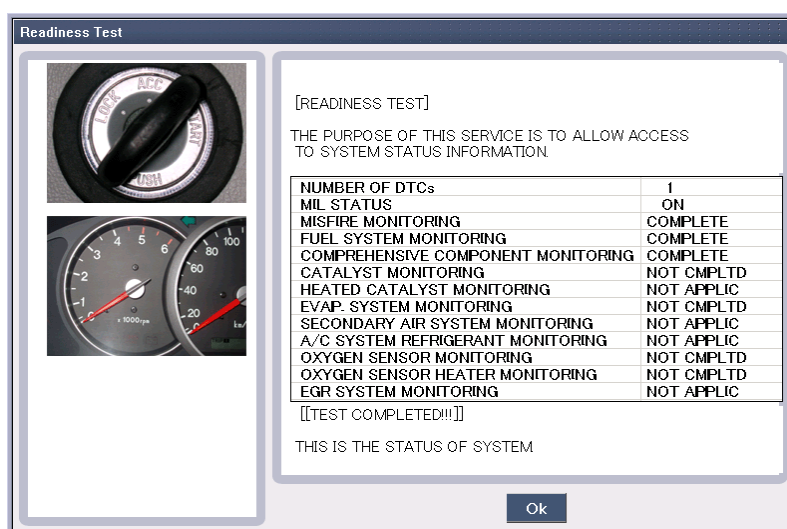


Figure 2. Readiness Test - Complete

## Evap. (Evaporative emission) Leakage Test

The "EVAP Leakage Test" mode is used on supported engine ECUs to force an EVAP leak test to perform. The availability of current data during an EVAP test depends on the ECU. The vehicle conditions must be set as indicated; tests may not run or may provide false results if conditions are incorrect.

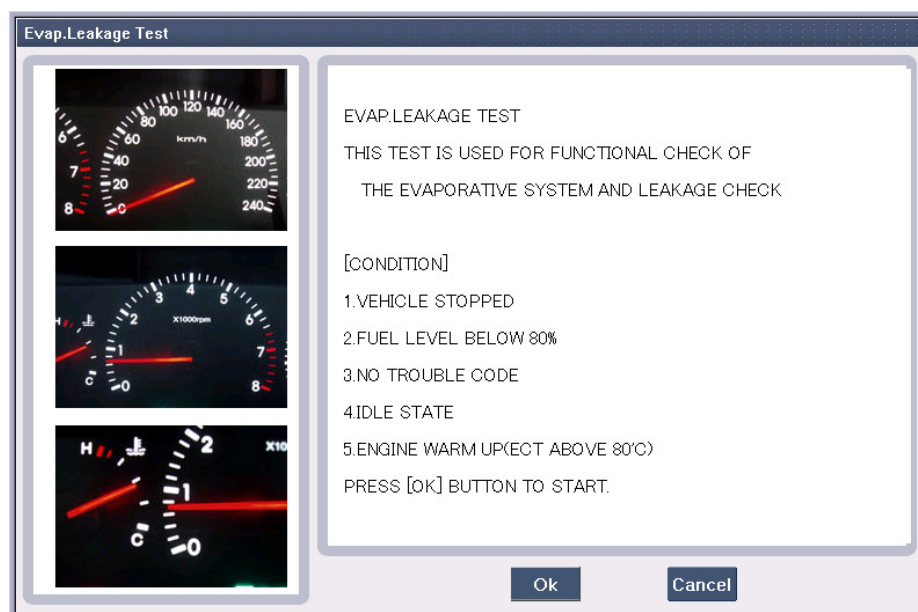


Figure 3. Evap Leakage Test - Ready

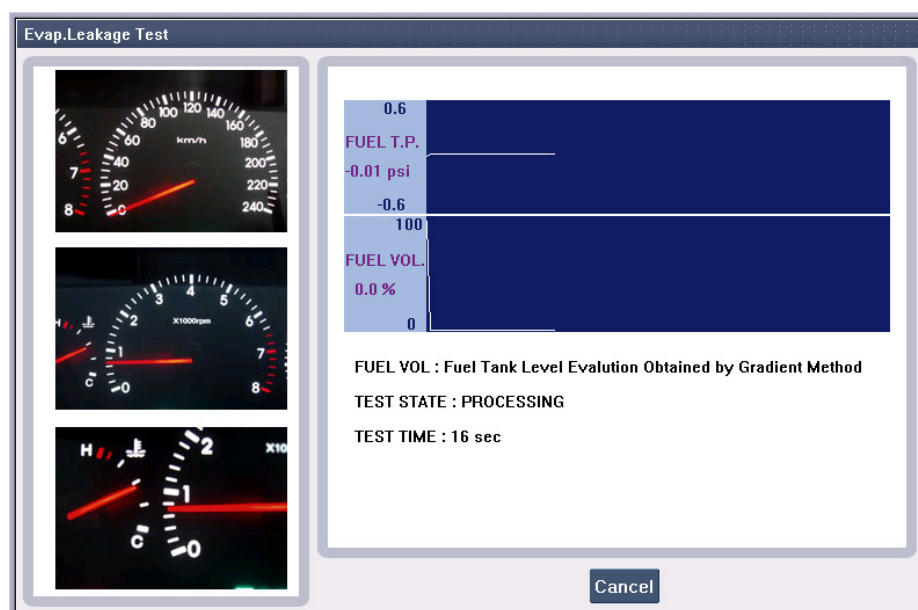
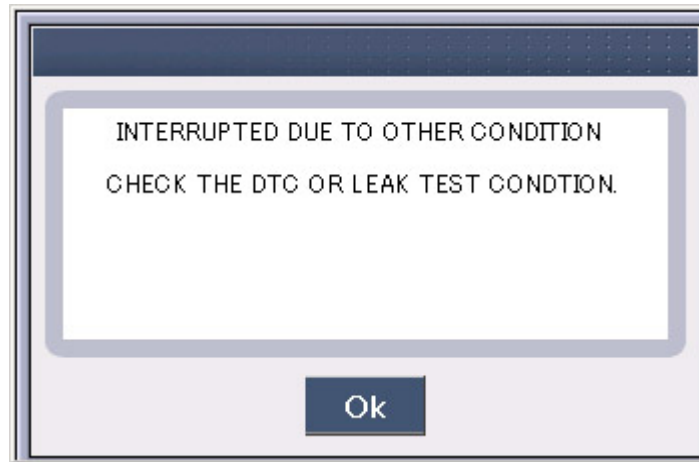
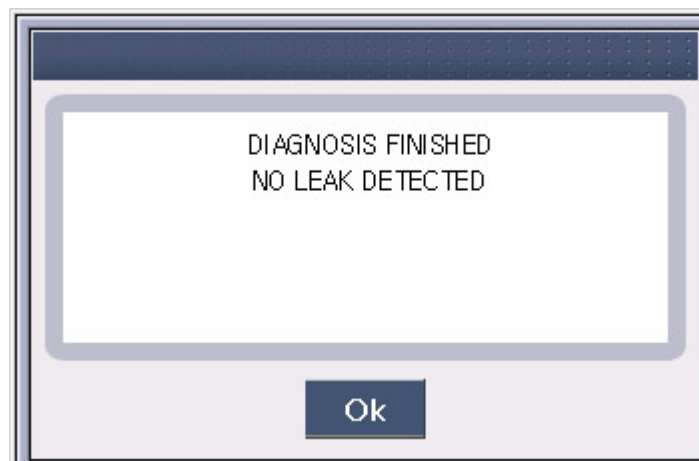


Figure 4. Evap. Leakage Test – Operation



**Figure 5. Evap. Leakage Test – Error**



**Figure 6. Evap. Leakage Test - Complete**

## Monitoring Test

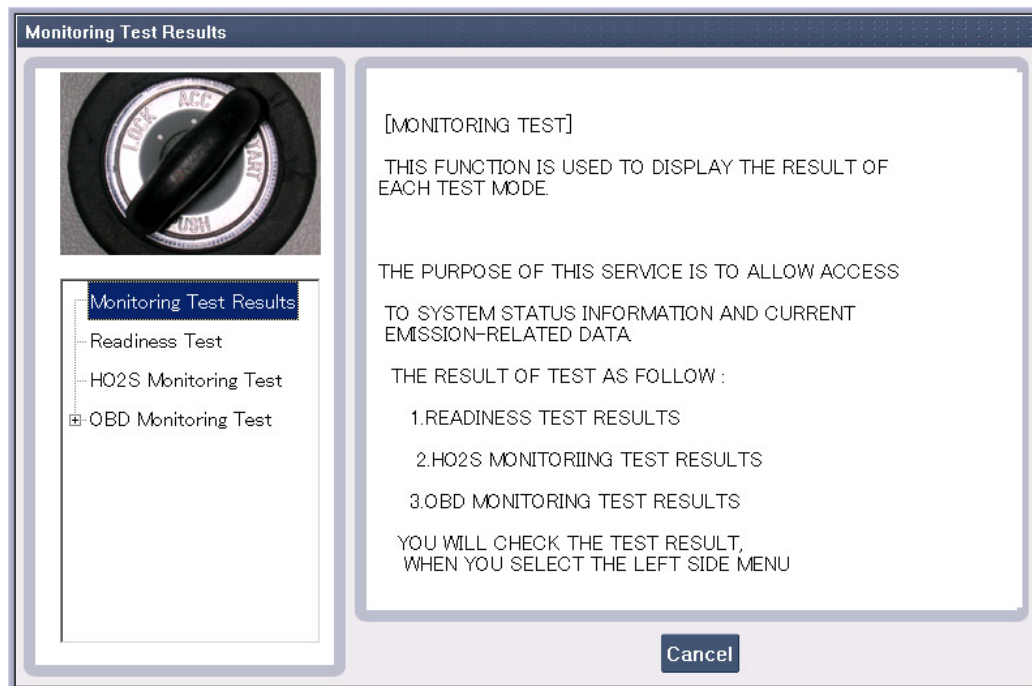


Figure 7. Monitoring Test Result

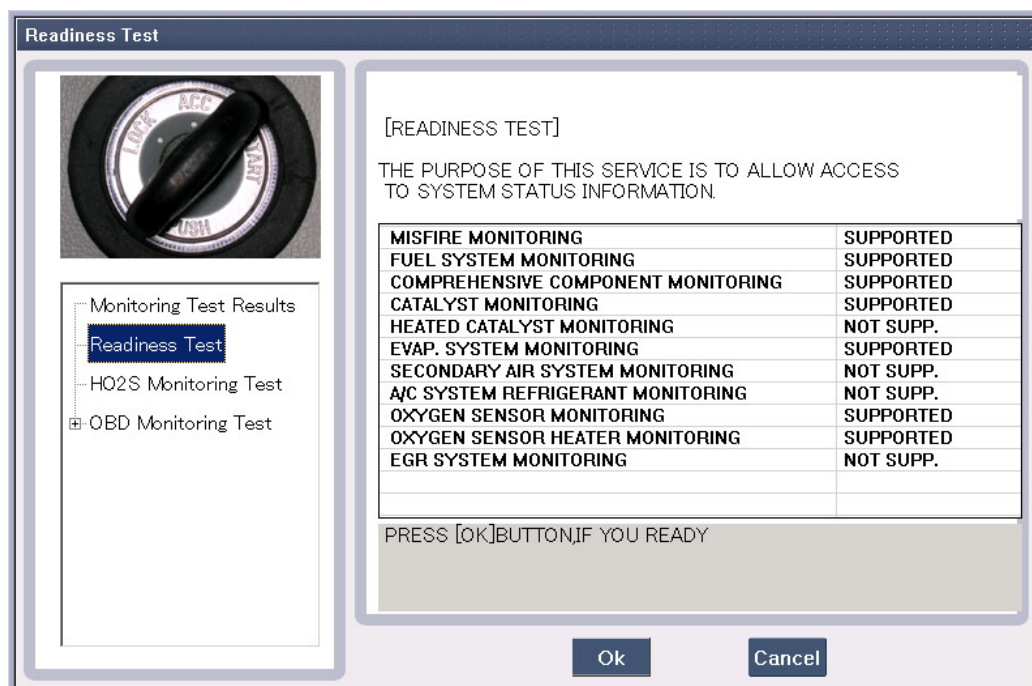


Figure 8. Readiness Test - 1

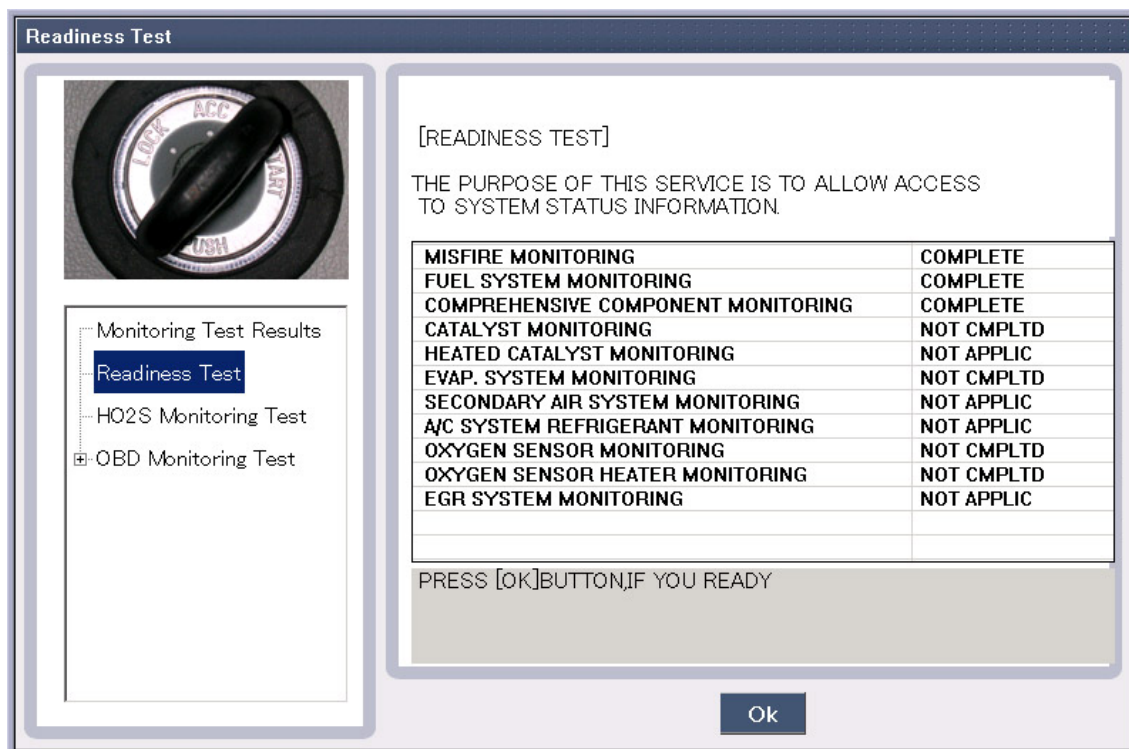


Figure 9. Readiness Test - 2

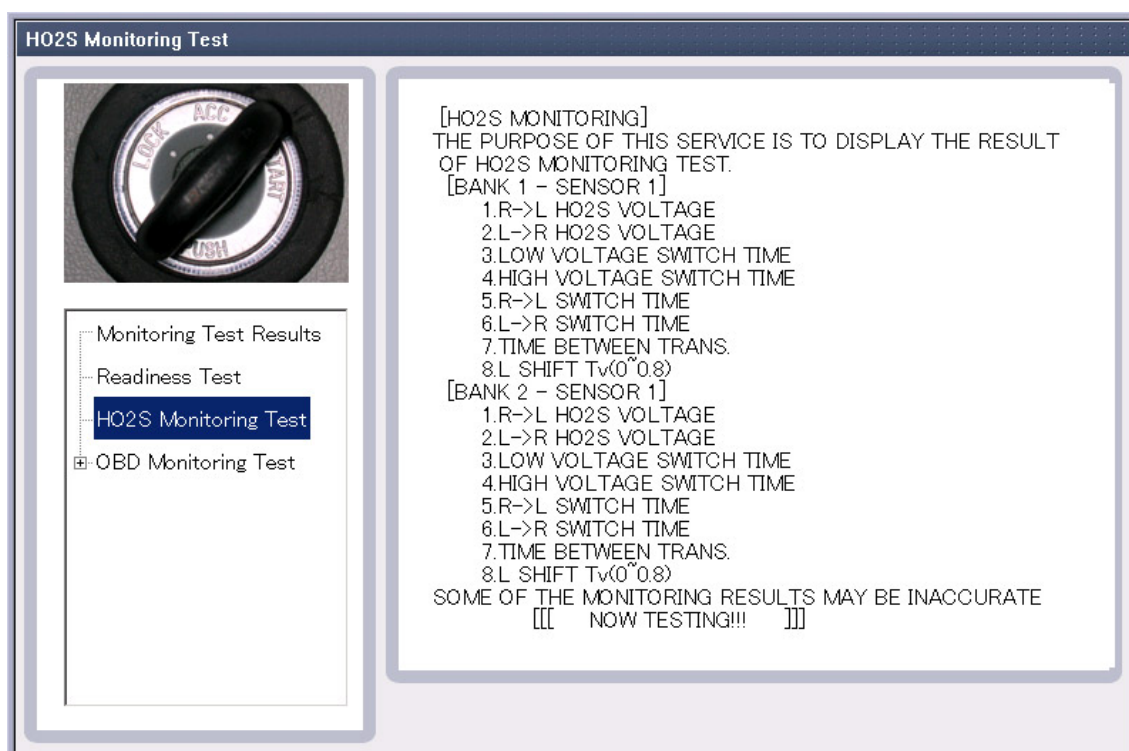


Figure 10. HO2S Monitoring Test

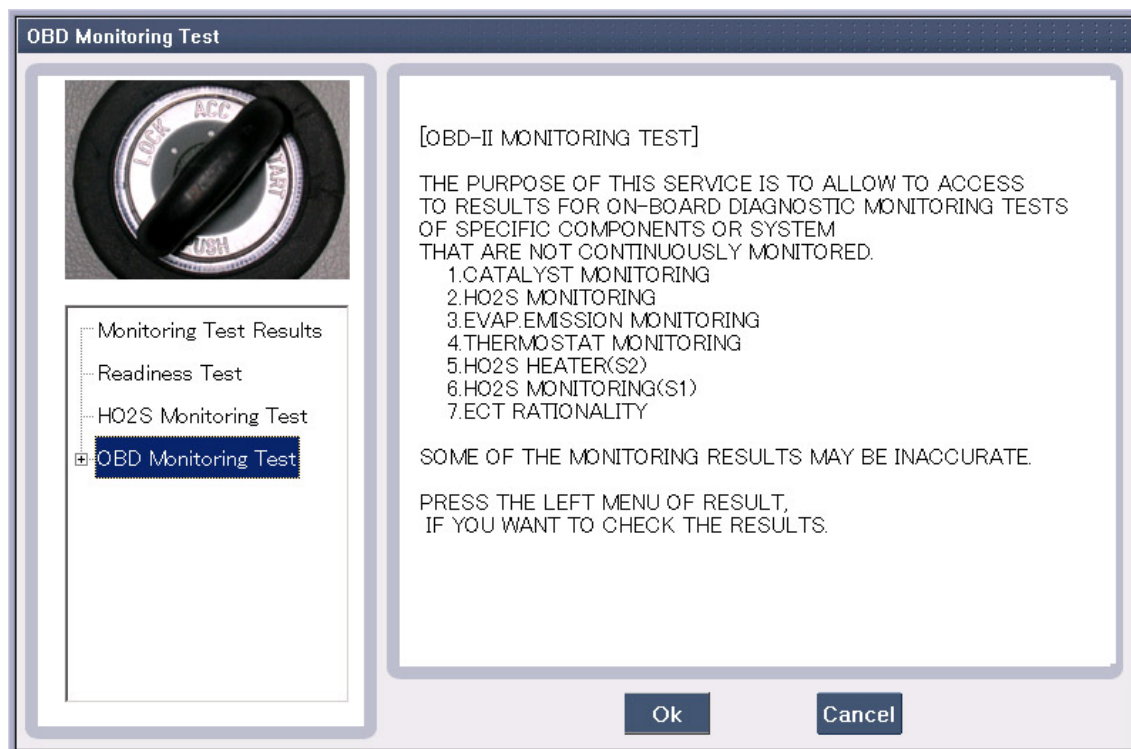


Figure 11. OBD Monitoring Test

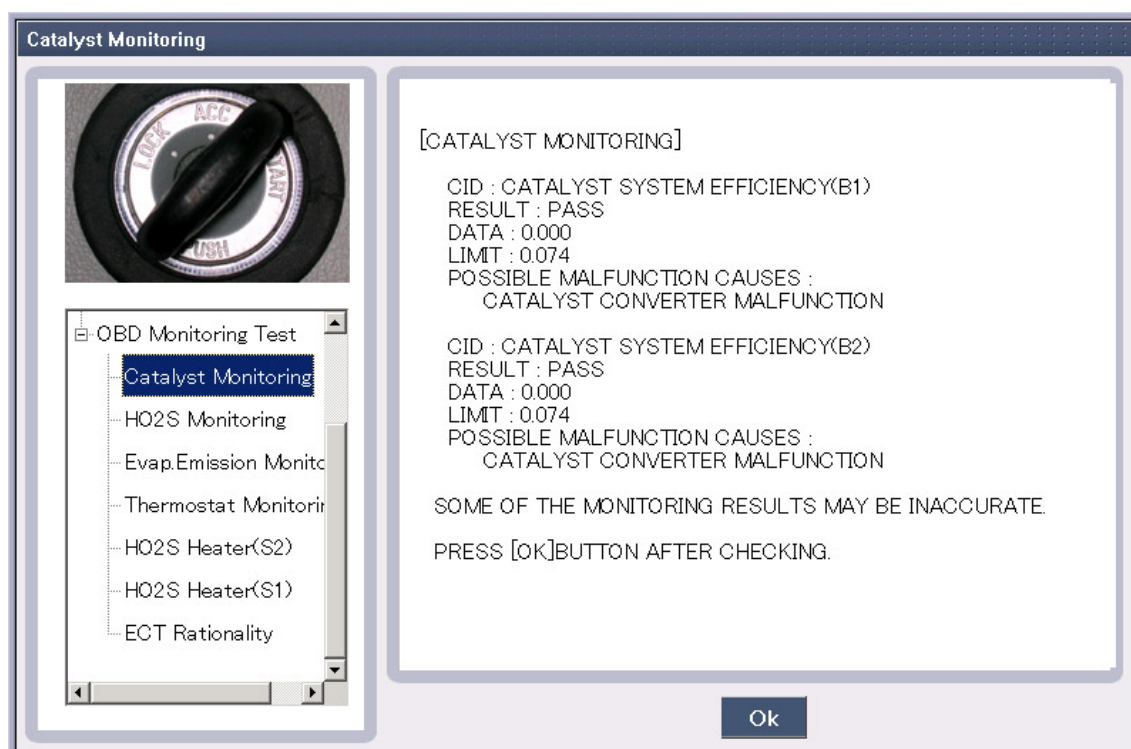


Figure 12. Catalyst Monitoring



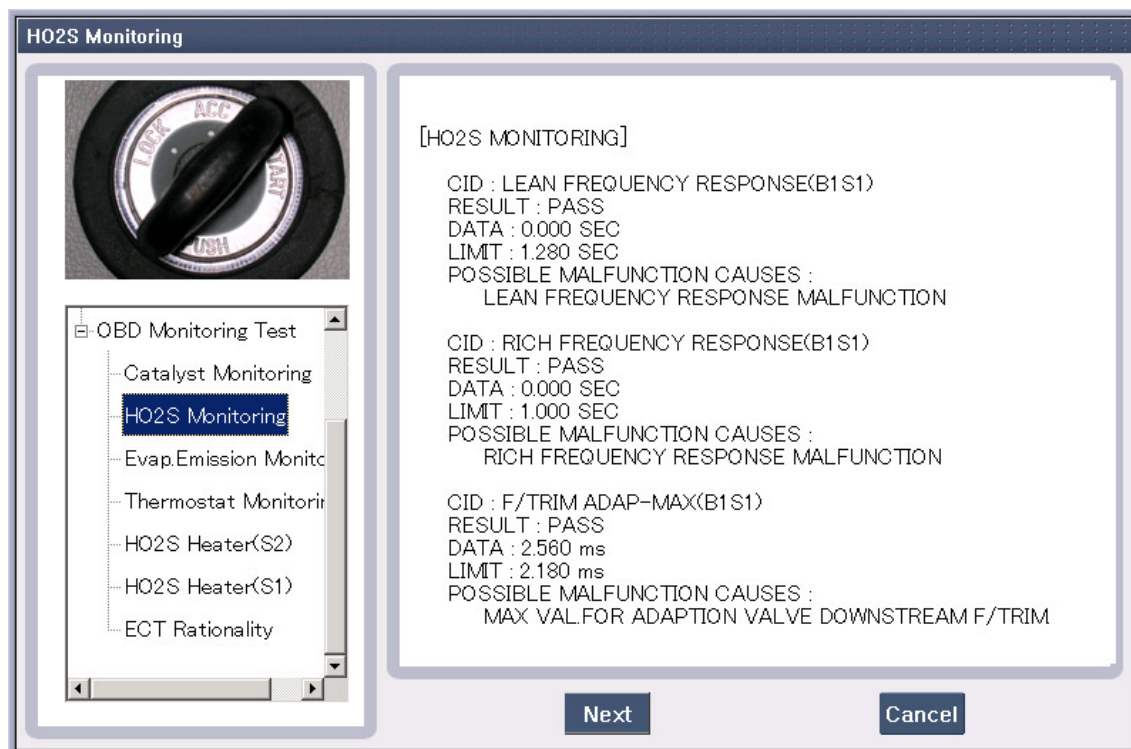


Figure 13. HO2S Monitoring - 1

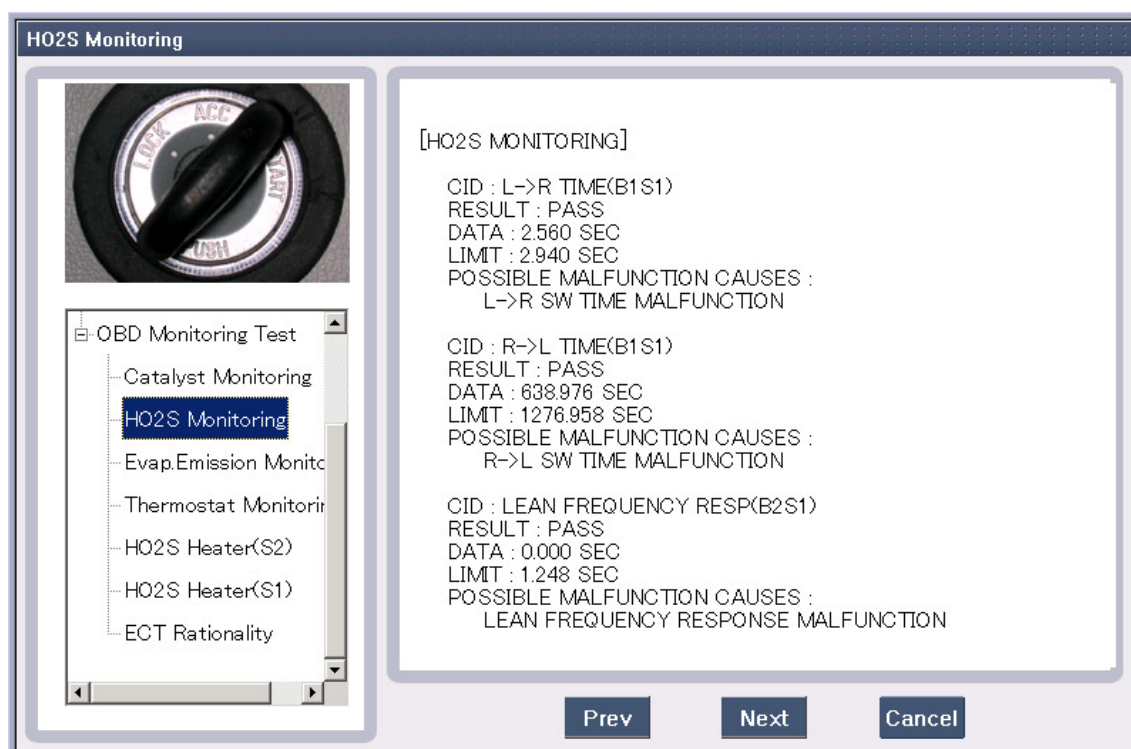


Figure 14. HO2S Monitoring - 2

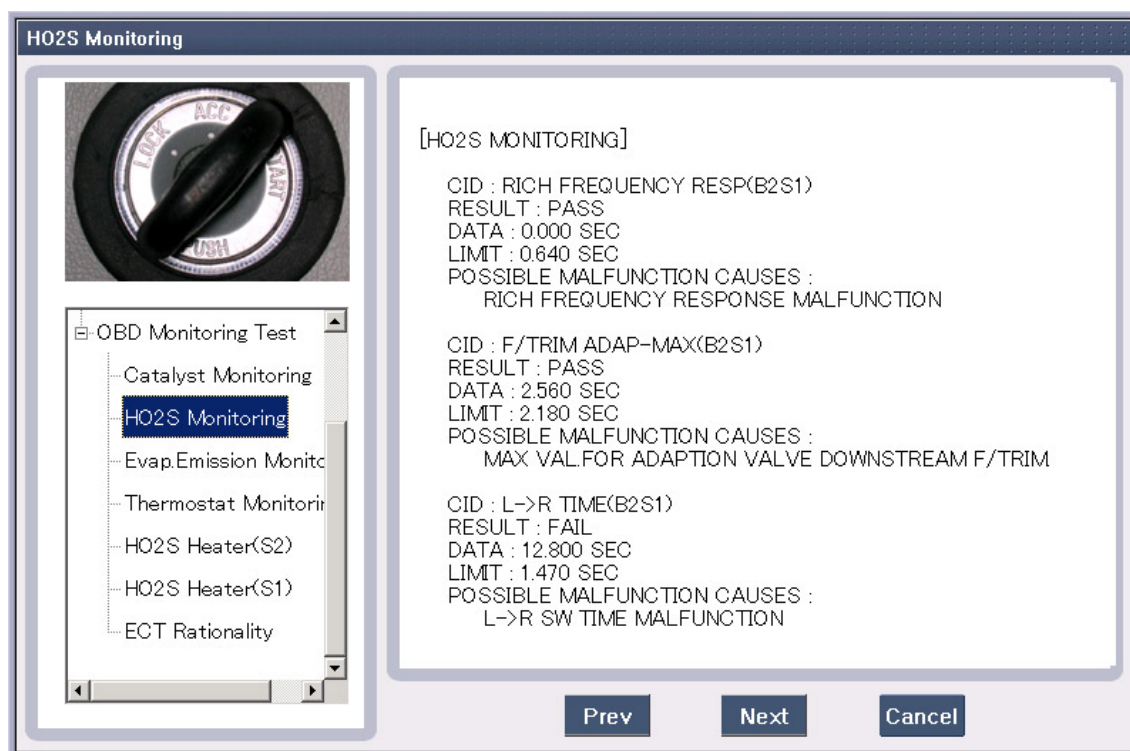


Figure 15. HO2S Monitoring - 3

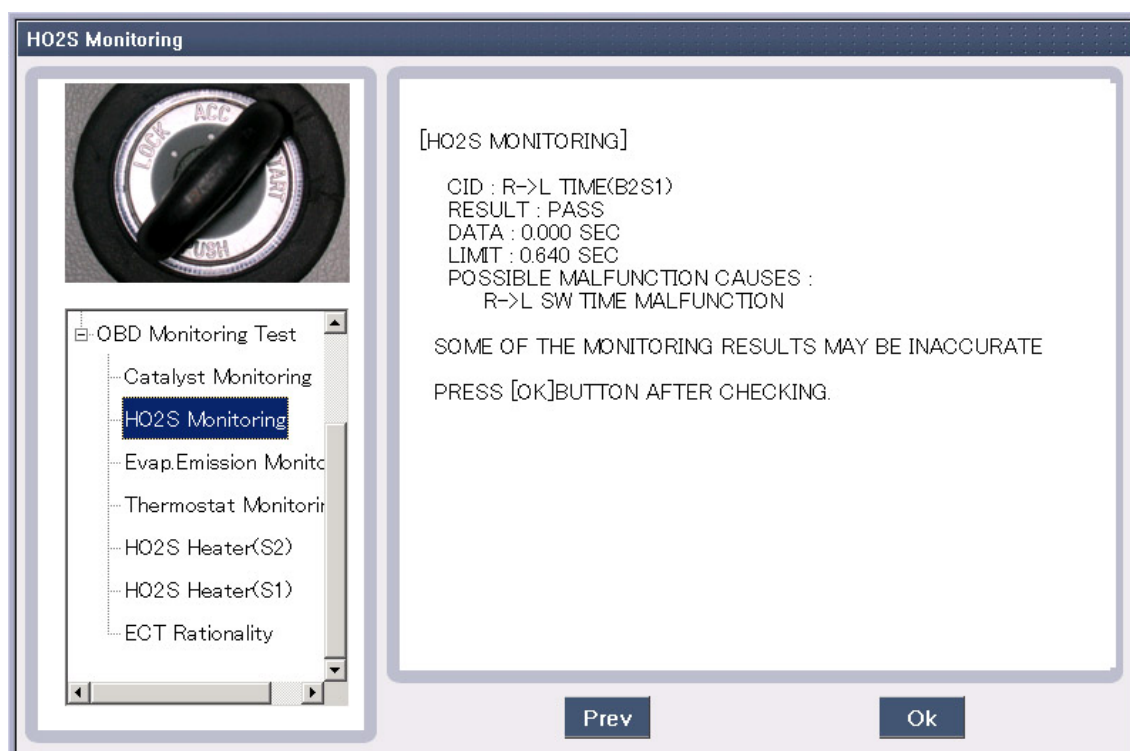


Figure 16. HO2S Monitoring - 4



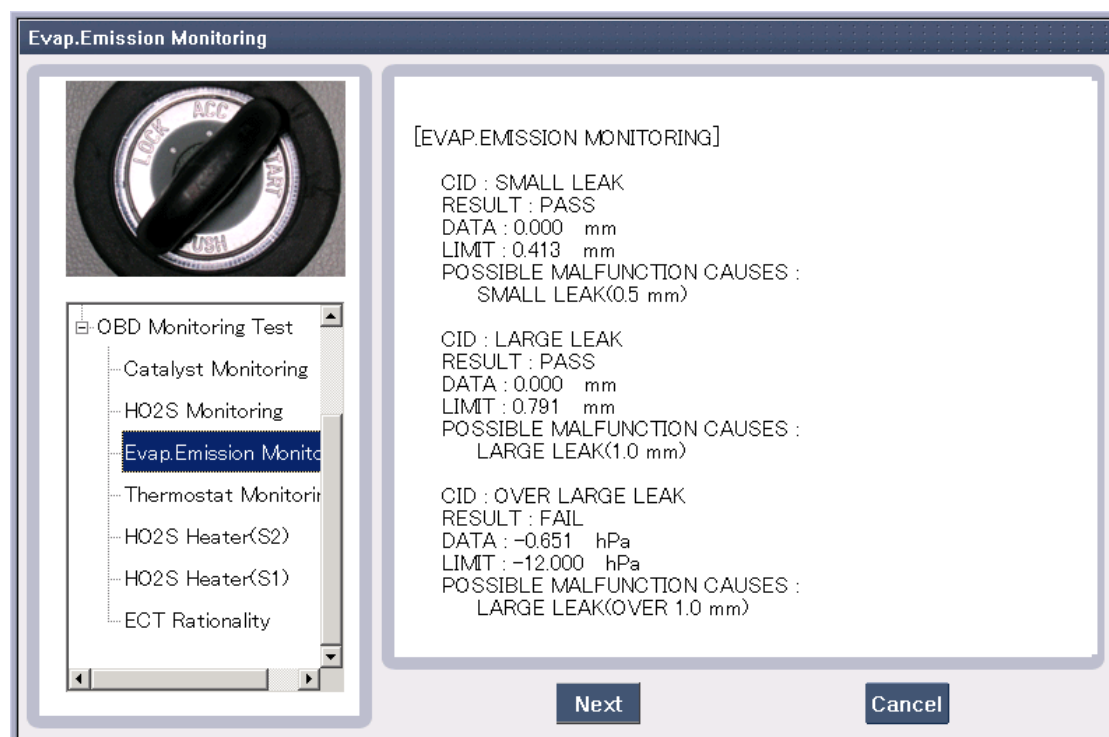


Figure 17. Evap. Emission Monitoring - 1

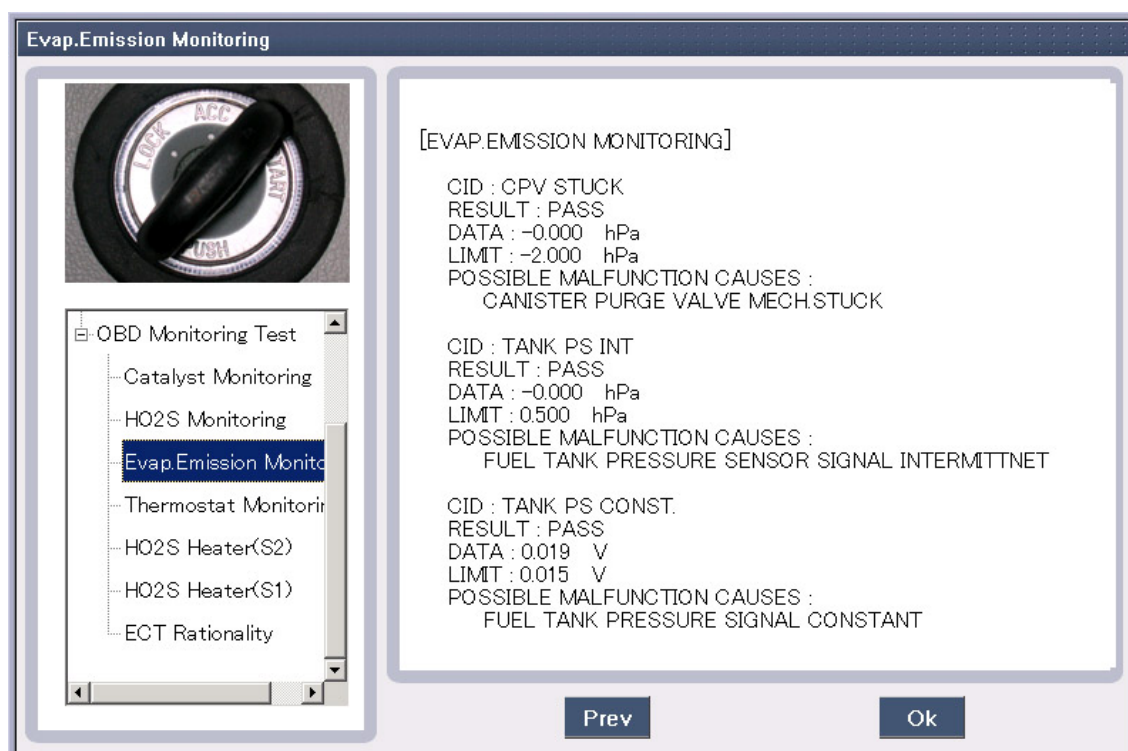


Figure 18. Evap. Emission Monitoring – 2

