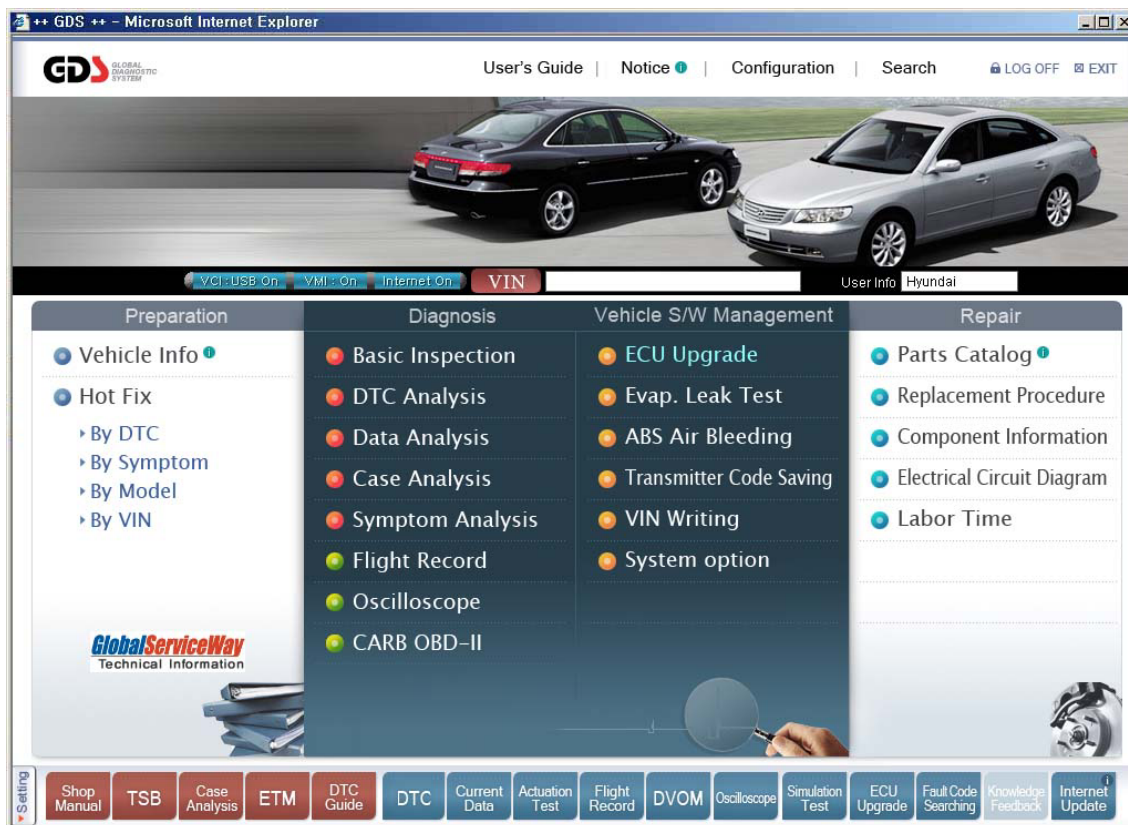


GDS - Basic Operation

Ver. 07. 06. 2006





Recovery Procedure



GDS - Basic Operation

Module: A-02-001-1 (p.01)

Recovering the GDS Software



WARNING

- When reinstallation procedure is performed, the contents of the hard disk will be erased. Be sure to back up any critical data on your hard disk to another media or to an external hard disk before running the reinstallation procedure. The reinstallation procedure will return the computer to its original condition.
- If you have created partitions for data, the data may be erased or become corrupt as a result of the reinstallation procedure.

Before Installing or Recovering

1. What is “Recovering”?

- Recovering refers to formatting the hard disk, and reinstalling GDS.

2. When is “Recovering” necessary?

- When Windows or GDS does not start up, or when Windows or GDS operation is unstable and cannot be recovered.

3. Preparing

- You will need the Product Recovery DVD-ROM (included).

4. Confirm the following

- Remove all installed peripherals devices. (Printers, USB devices, network cables, PCMCIA cards, etc.).

Before Installing or Recovering

1. Connect the AC Adaptor.
2. Connect the DVD-ROM.
3. Turn on the computer after inserting the GDS DVD S/W in the DVD-ROM.
4. The following screen will be shown when the computer is booted with GDS DVD:

```
-----
Select a number
-----
1. [ Recovery  ] Reinstall Windows.
2. [ Erase HDD ] Erase the whole data on HDD for security.

0. [ Cancel    ] Cancel.
-----
Please select a number >> _
```

5. Select "1" at the screen above.
The following screen will appear.

```
-----
In order to continue with the recovery process, you must agree to
the following:
(1) this software may be used only for restoring or reinstalling software on
the hard disk of the computer system with which the Product Recovery
DVD-ROM(s) were originally provided.
(2) the Microsoft product(s) contained on the Product Recovery DVD-ROM(s)
are subject to the terms of each End User License Agreement which is
indicated at installation process in such product(s)
-----
1. Yes, I agree to the provisions above and wish to continue!
2. No, I do not agree to the provisions above and do not wish to continue!
Please select a number >> _
```

6. Select "1" at the screen above.
The following screen will appear.

```
-----
Select a number
-----
Reinstalling : Windows(R) XP Professional

1. Recovery only C: Drive
2. Factory Recovery (include devided two partition)

0. Cancel
-----
Please select a number >> _
```

7. Select "1" at the screen above for Recovery only C: Drive.
The following screen will appear.

```
-----
Reinstalling : Windows(R) XP Professional

Initialize and reinstall Windows to the first partition.
All data on the first partition will be lost.
Will you continue?
-----
[Y,N]? _
```

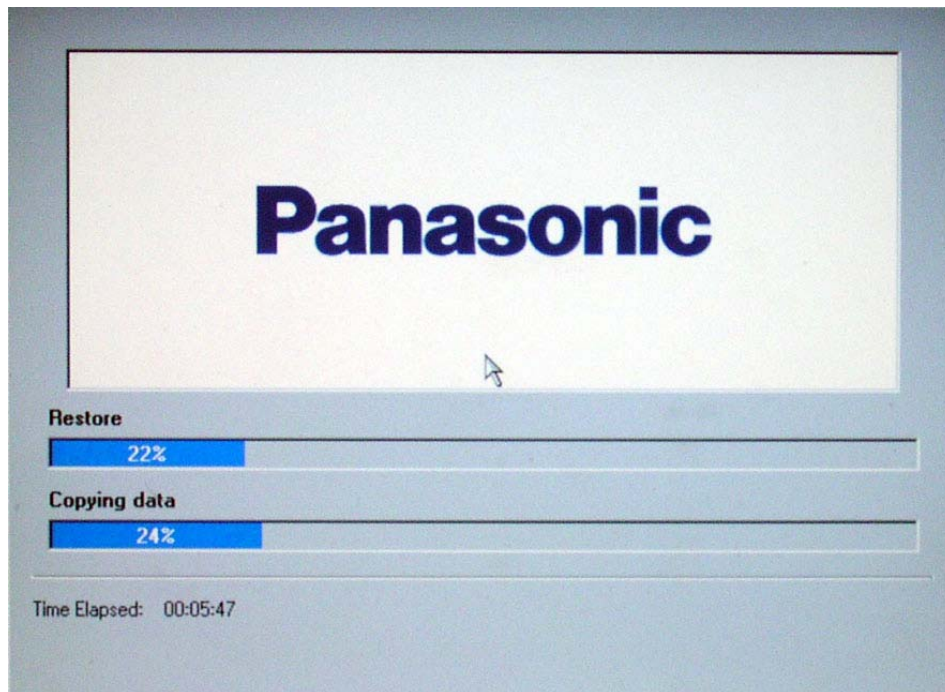
- Select "2" at the screen above for Factory Recovery.
The following screen will appear

```
-----
Reinstalling : Windows(R) XP Professional

Initialize and reinstall Windows to the whole HDD to factory default.
All data on HDD will be lost.
Will you continue?
-----
[Y,N]? _
```


8. Select "Y" at this screen.

The following screen will appear.



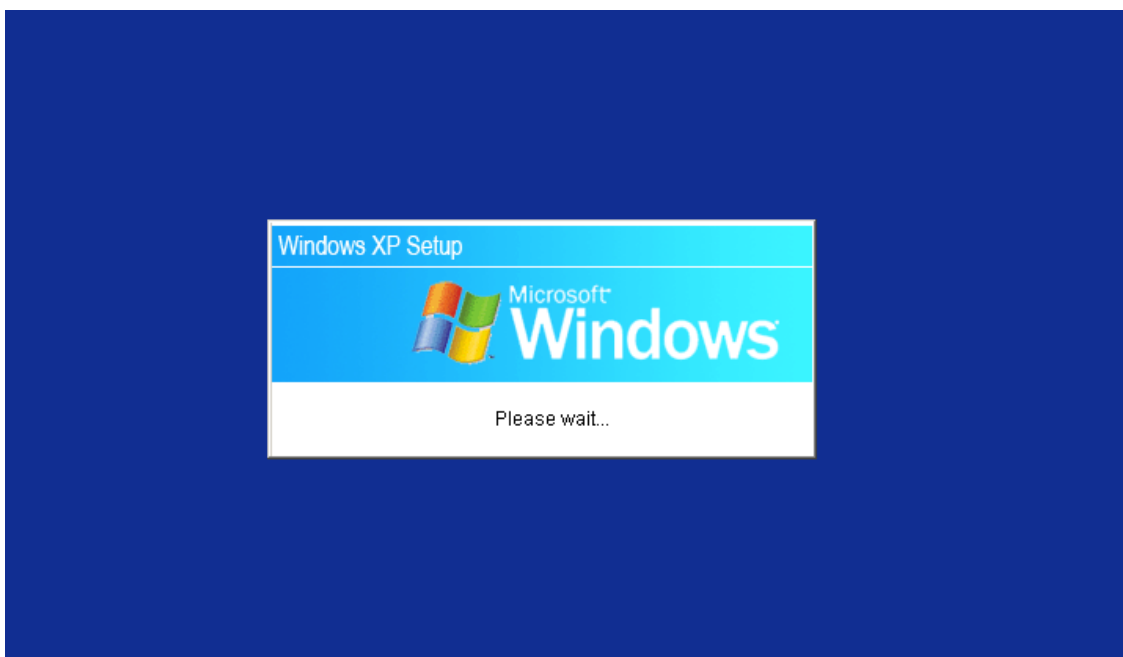
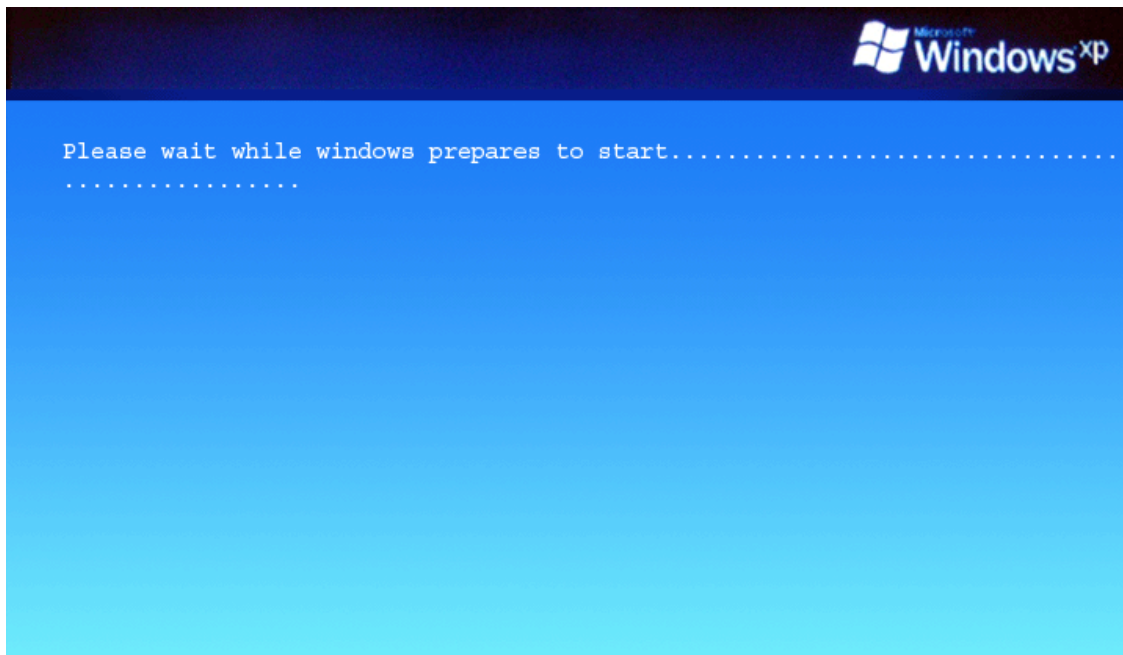
9. A progress bar will be displayed during the installation procedure. When complete, the following screen will appear.

[Recovery] is completed
Window(R) XP Professional install wizard will start after reboot.
Please remove the Product Recovery DVD-ROM.
After turning off the power, disconnect the CD/DVD-ROM drive, and turn the power off again.

If the reinstall process is interrupted before completion,
please execute [Recovery] again.

Press any key to shut down.

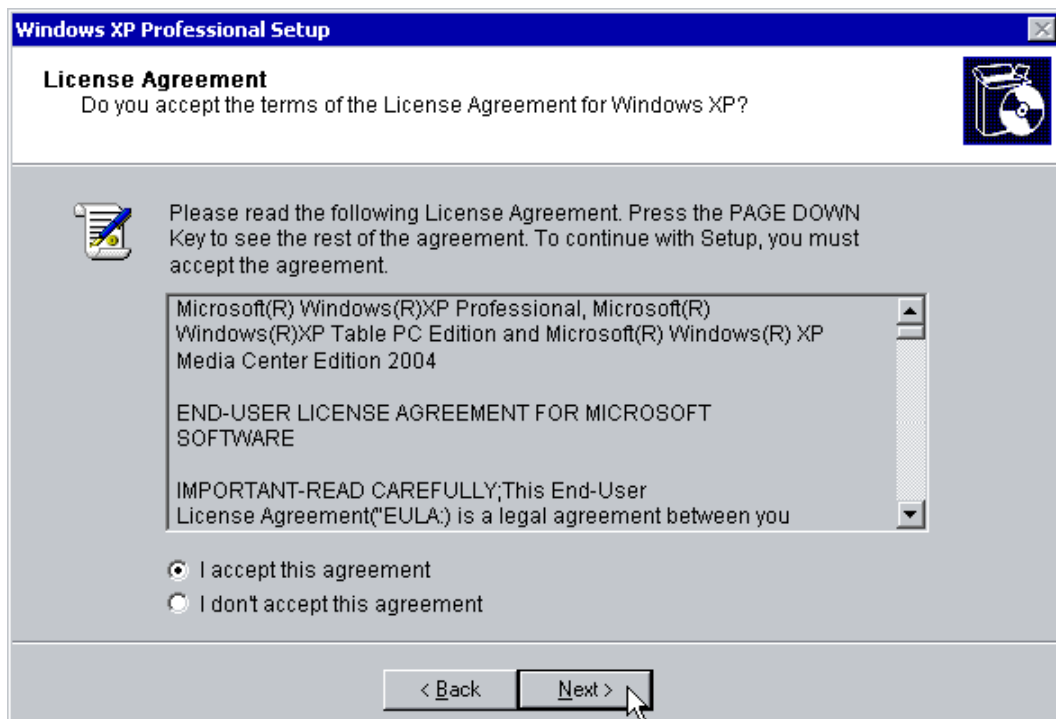
10. Remove the Recovery DVD from the CD/DVD-ROM drive, and press any key to shutdown the computer.
11. Restart the computer.
12. The computer will load device drivers as needed.



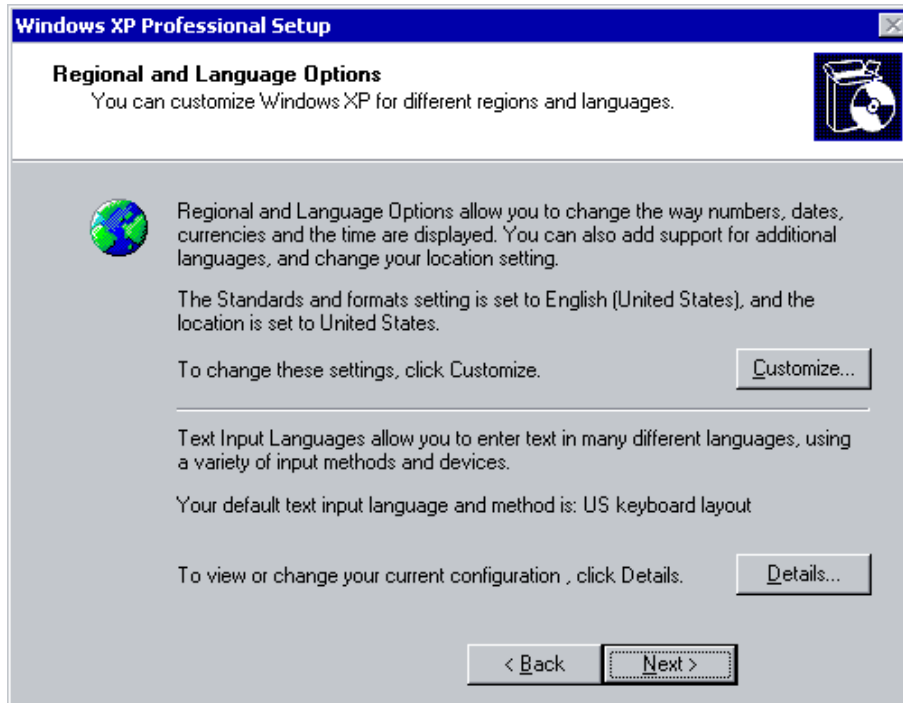
13. Window XP Professional Setup.



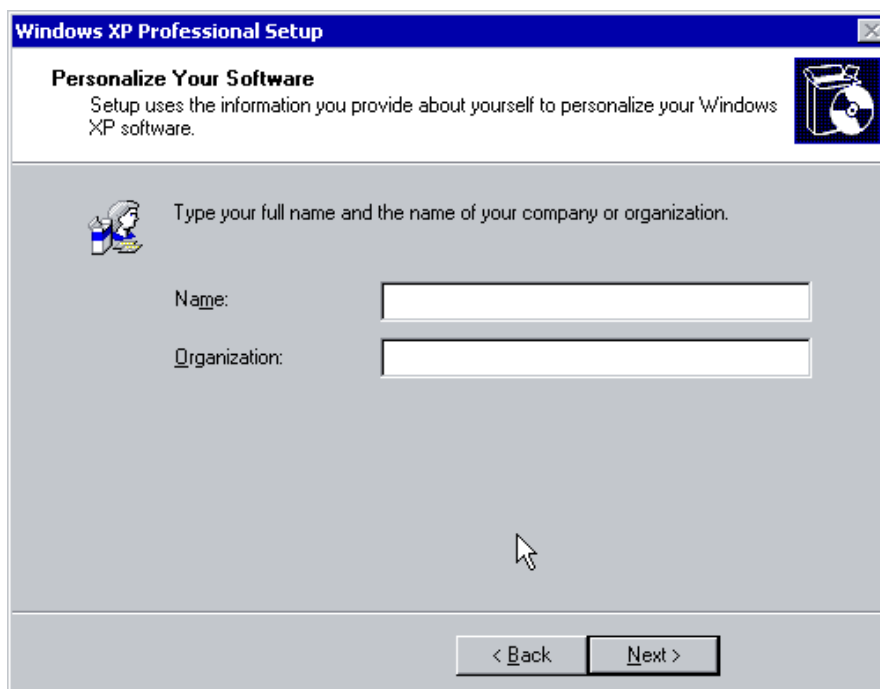
14. Read the License Agreement, and click on "I ACCEPT" and click on "NEXT" to continue.



15. The first screen that requires any user input in this phase is Regional and Language Options. If you're using English and you do entry via the keyboard the defaults will suit you fine.



16. Now it is time to personalize Windows. Fill in your name and if you wish you can also type in the Organization section. Click "NEXT" when ready.

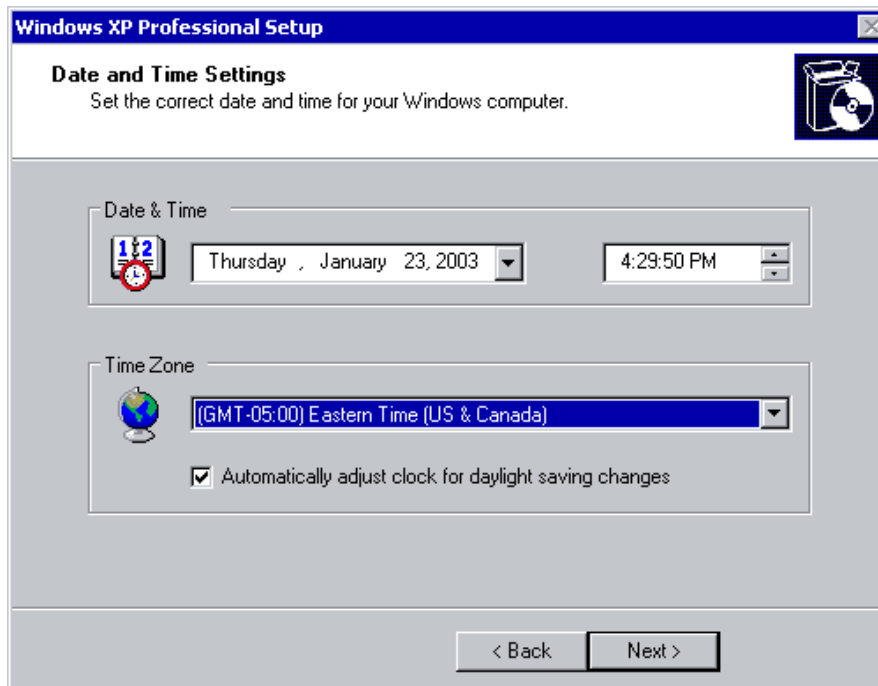


17. Now select your computer name and your admin password. Confirm the Admin password and press "NEXT".



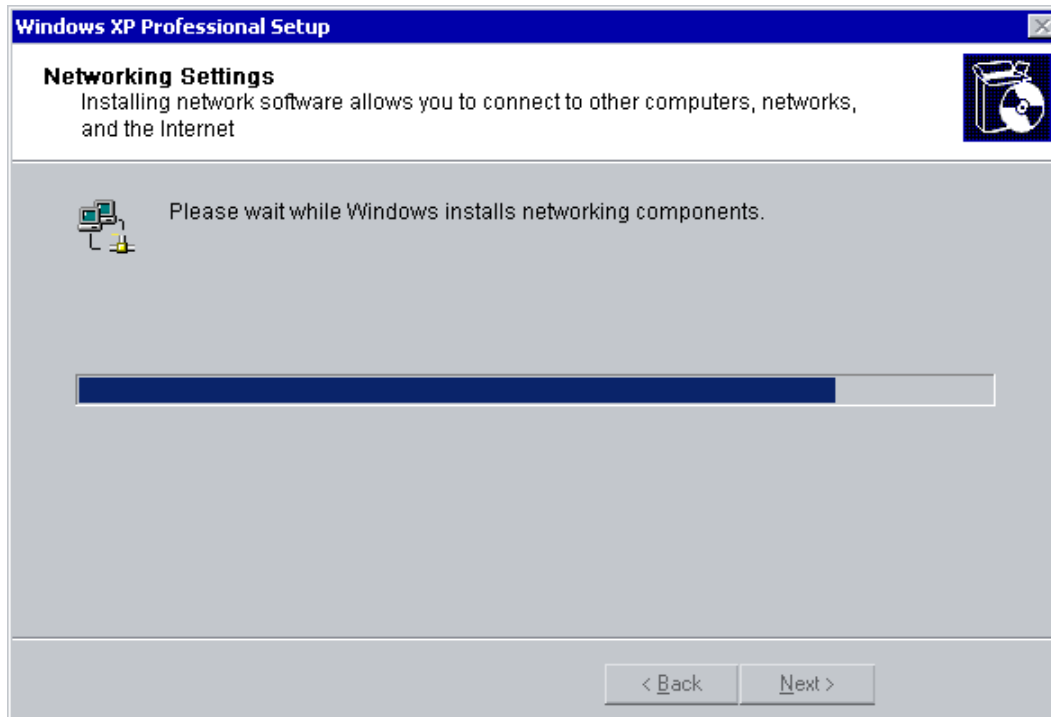
The screenshot shows the 'Windows XP Professional Setup' window with the title 'Computer Name and Administrator Password'. Below the title is a sub-header 'Computer Name and Administrator Password' and a note: 'You must provide a name and an Administrator password for your computer.' The main area contains two sections. The first section, 'Computer name', has a text box with a suggested name and a note: 'Setup has suggested a name for your computer. If your computer is on a network, your network administrator can tell you what name to use.' The second section, 'Administrator password', has two text boxes labeled 'Administrator password:' and 'Confirm password:', both filled with dots. At the bottom are '< Back' and 'Next >' buttons.

18. Date and Time settings are next; change as needed, then press "NEXT".

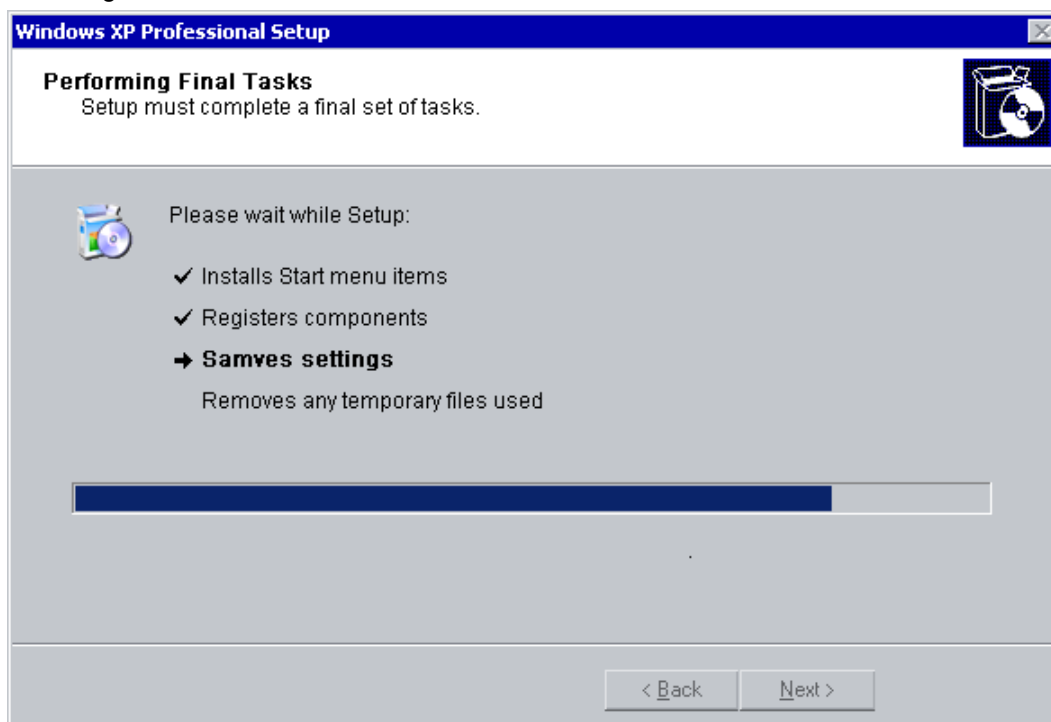


The screenshot shows the 'Windows XP Professional Setup' window with the title 'Date and Time Settings'. Below the title is a sub-header 'Date and Time Settings' and a note: 'Set the correct date and time for your Windows computer.' The main area contains two sections. The first section, 'Date & Time', has a date dropdown menu showing 'Thursday, January 23, 2003' and a time spinner showing '4:29:50 PM'. The second section, 'Time Zone', has a dropdown menu showing '(GMT-05:00) Eastern Time (US & Canada)' and a checkbox labeled 'Automatically adjust clock for daylight saving changes' which is checked. At the bottom are '< Back' and 'Next >' buttons.

19. Network Settings process



20. Performing Final Tasks



21. This way, it is possible to run GDS by double clicking the GDS icon on the desktop.



Installation Procedure



GDS - Basic Operation**Module: A-02-001-2 (p.01)**

Laptop Requirements

To install GDS, user's computer must match the following requirements:

1. PC must be a laptop. Desktop PCs have possibilities of power troubles that can cause damage to the GDS system.
2. Model that is provided with the Windows XP Professional Recovery CD/DVD. Model that is always recoverable.
3. Model with a DVD-ROM Drive that can read Dual layer DVD.
4. Model with more than 512Mbyte RAM and 60Gbyte Hard Disk Drive(HDD) with at least 40Gbyte of free space.
5. Model with the USB Ports.
6. GDS program runs at Internet Explorer 6.0 or higher. If web browser is not set as Internet Explorer, please reset Internet Explorer as the default browser.
7. File systems for the drives are recommended to be both NTFS.
8. PC that GDS is to be installed must have Internet connection at all times.



CAUTION

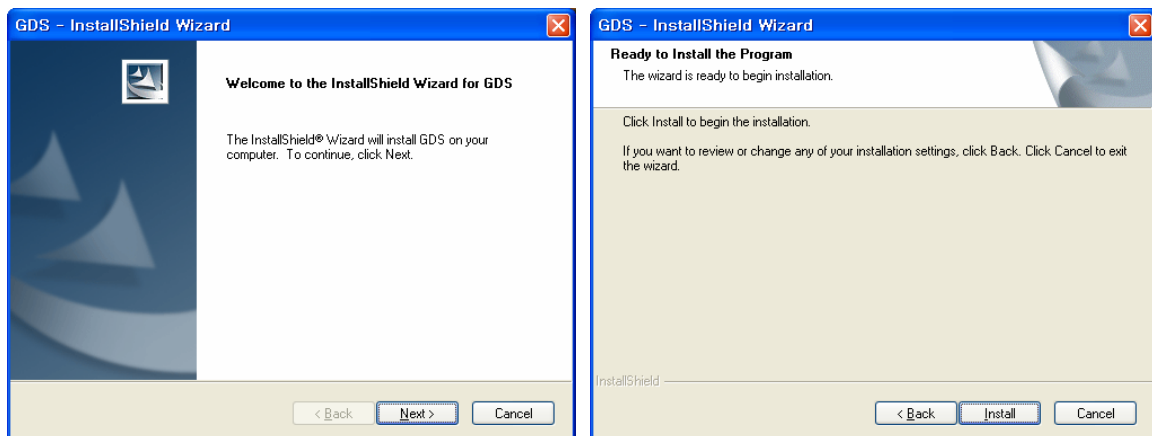
This indicates incorrect handling may lead to injury or damage to property. Under certain conditions more serious consequences may result.

- Please do not install any other programs on the PC except for GDS and MS Office after OS recovery.
- Do not install any Internet Explorer Plug-ins such as Google toolbar. It attributes malfunctioning of GDS since the GDS is operated on the Internet Explorer basis.
- GDS program CD/DVD media supplied by GIT are not to be reproduced or duplicated at any circumstances.
- Close all windows and programs running before installing GDS.
- (During this installation process, OS (Window XP) may reset without any warning which result a data loss the user is working on. GIT is not responsible for any loss of data caused by this action.)
- Installation time may change depending the PC peripherals performance. If installation runs for more than 30minutes, please ensure to change all Power management settings (Settings for portable power scheme) to "Never". Installation done without changing these settings may not start GDS properly.
- GDS changes Windows XP background image during GDS installation process. If User desires to change the background image at users preference, the user may do so by changing the image at Display settings in Control panel.
- PCs like laptop relying on its portable battery should always be connected to the AC main during GDS installation. PC may end up with a critical error or end up in unrecoverable state if battery power runs out during the installation process.
- GDS program itself and all its contained information and images are secured by International Copyrights. Therefore, they should never be copied or reproduced in any unacceptable manner. Violating this regulation can stand in front of Court and GIT can ask for any applicable compensation.
- All images and data contained in GDS can change without any prior notice for improvements in service.

GDS Install Procedure

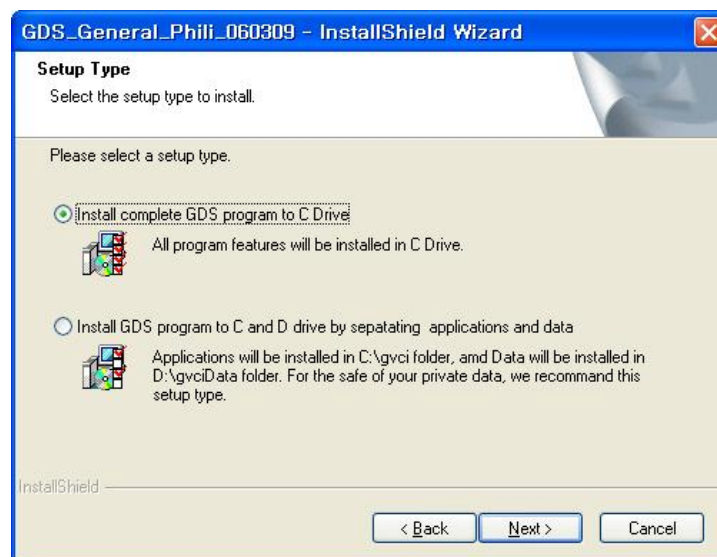
A. Beginning InstallShield Wizard

1. Insert installation DVD to the DVD ROM.
2. InstallShield will start automatically in a few seconds.
3. Press Next button in following dialogs.



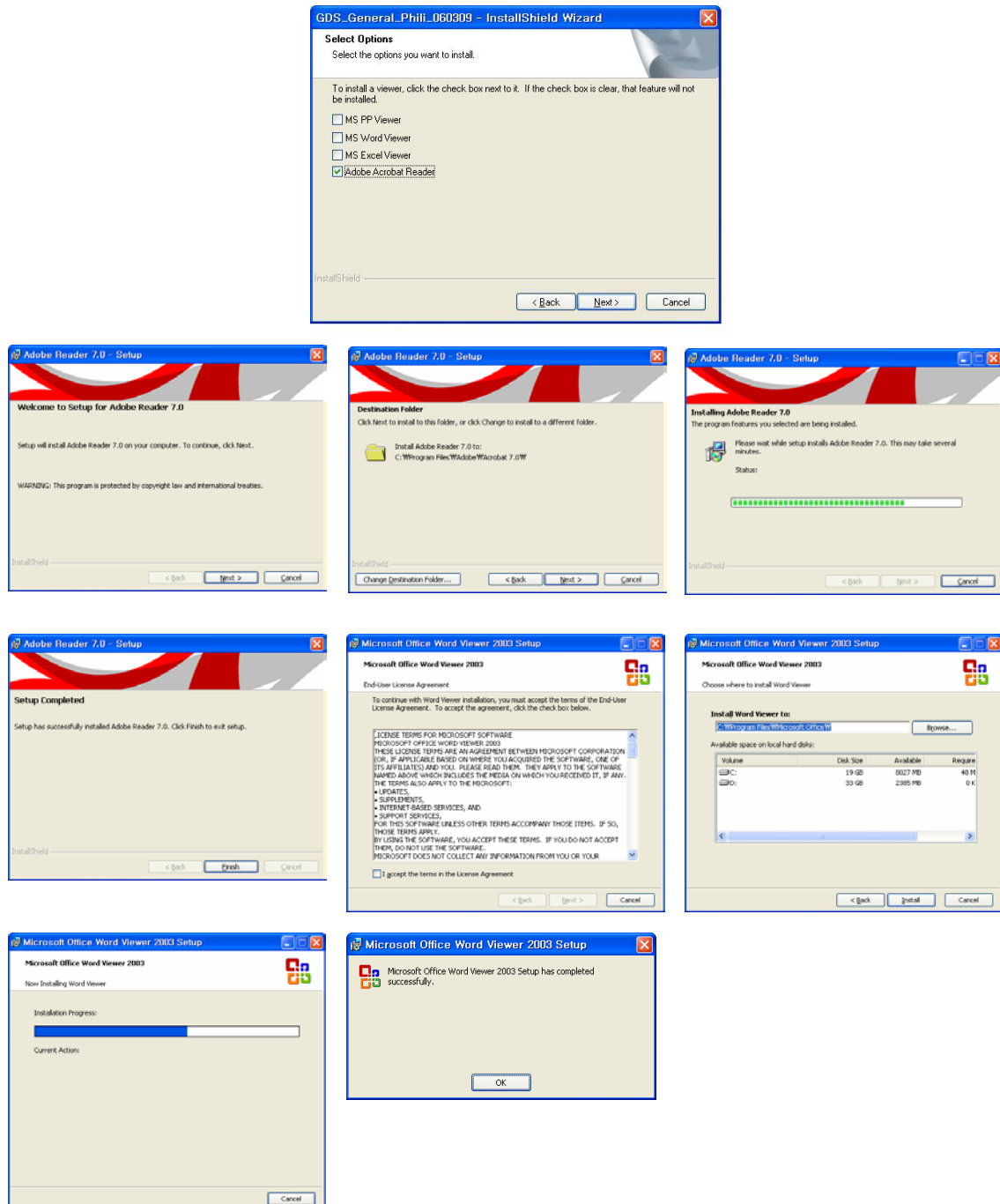
Exception. Selecting Target Drive (If your hard disc is not partitioned, below process will be skipped.)

1. Select the HDD drives where the user wants to install. In this step, user can choose between C drive and D drive to install the Data folder that requires about 12 GBytes. Press "Next" button to go to the next step.



B. Installing the Viewers

1. Install the viewers to access the GDS information. Select the viewers.

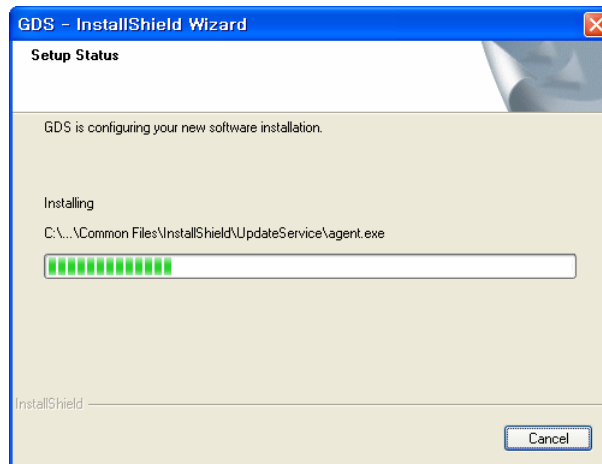


InstallShield will launch the selected install programs: Acrobat reader, MS Word viewer, MS PPT viewer, and MS Excel viewer.

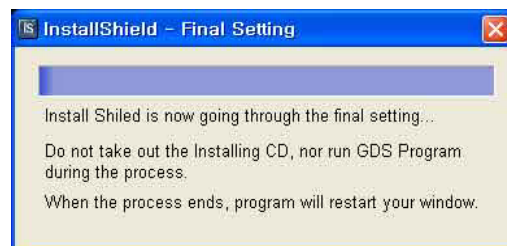
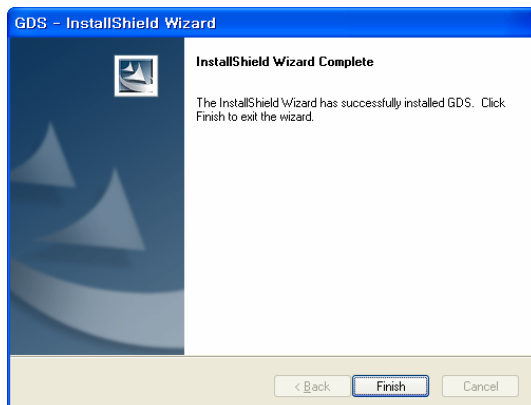
After installing all the required viewers, press "Next" button to go to the next step.

C. Copying Files to the Computer

1. GDS files will be copied into your computer. This step will take about 30 to 50 minutes.



2. Press "Continue" button on the dialog. Then install shield will go through various settings required for the GDS installation. The setting process takes around 5 to 10 minutes. PC will reboot automatically after the settings. Therefore, save any of the workings files, before or right after pressing the "Continue" button on the Dialog. **During this process, do not take out the installing DVD, nor run GDS program. GDS will not be installed correctly if these actions taken during the installation process.**

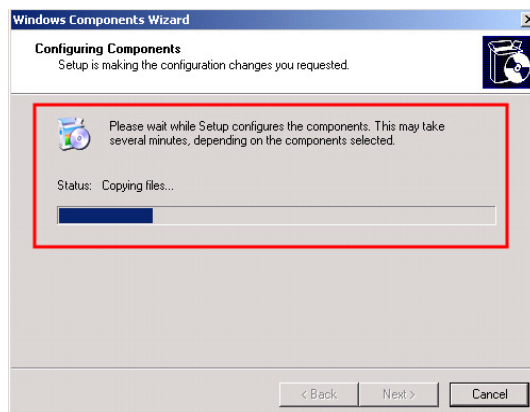


D. Installing IIS and Configuring GDS

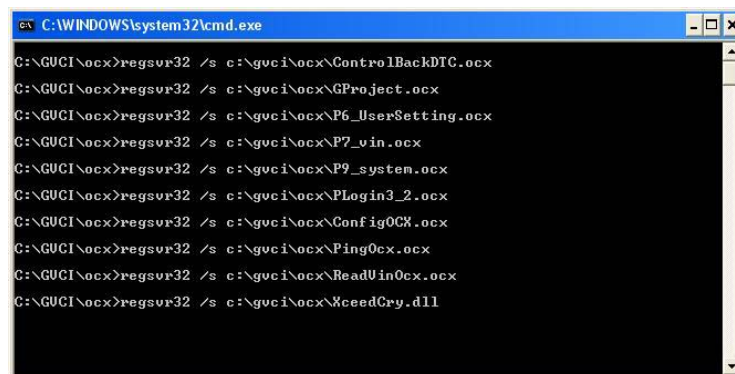
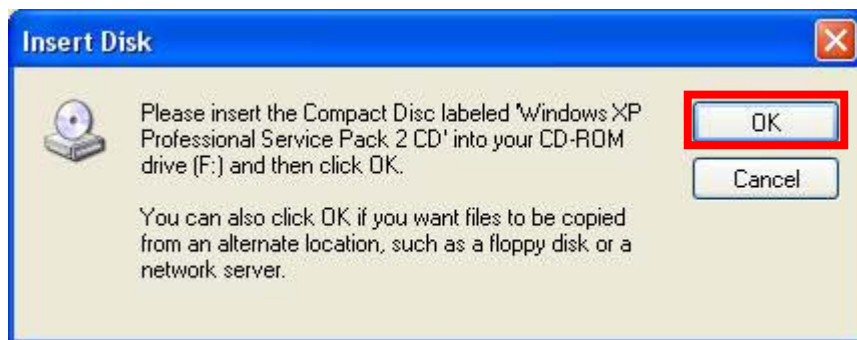
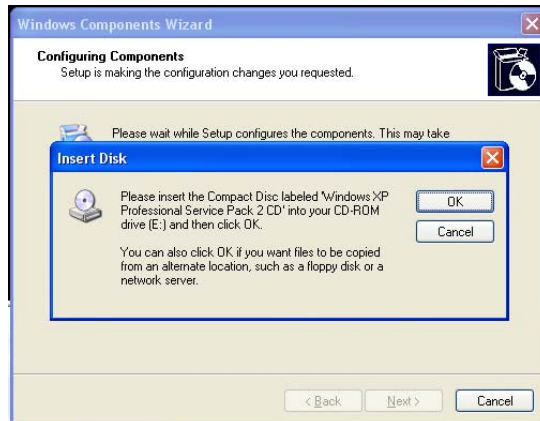
1. After the rebooting process, GDS installation dialog will popup and automatically continue the GDS installation. Press "OK" button to continue.



2. IIS(Internet Information Service) will be installed if it is not installed on the User's PC.



3. IIS will be installed automatically. Do not touch the dialog during the installation of IIS. If the PC has I386 installed in the PC, then there is no need to insert Windows XP Pro CD during the installation of IIS. However, if not, then the user should insert the Windows XP CD, which is used for installing the Windows XP on the user's computer. After the IIS installation, there will be a few more installation processes for GDS.



4. When whole installation process is completed, there will be a message box showing that GDS installation is completed.



Starting GDS Install

1. Now, connect to Internet and start the GDS program by clicking icon on your desktop. You'll find the "GDS User Certification" window.
2. Please insert your ID and Password then click OK button.
3. Start the GDS.

If you find this "GitBDtc MFC 응용 프로그램" pop up or "Internet Explorer" popup alert dialog while using GDS, PLEASE CHOOSE "UNBLOCK" button to operate GDS normally.





Startup and Log On Procedures



GDS - Basic Operation

Module: A-02-002 (p.01)

Starting GDS

After the Software installation, start GDS by double clicking the shortcut icon located on your desktop as shown in [Figure 1] below.



Figure 1. GDS Shortcut icon shown on desktop

GDS Certification

Following GDS Certification page will appear when user has launched the GDS program for the first time or the first time after a recovery. Please enter the Global Service Way (CCC site) user ID and Password to confirm the user information.



Figure 2. GDS Certification

Logging-on to GDS

Login Window, shown in [Figure 3], appears when GDS starts. Select your own ID (name) by pressing the "User" combo box. If you want to add /remove the ID (Name) from the list, press "Add User" button to use add and delete function.

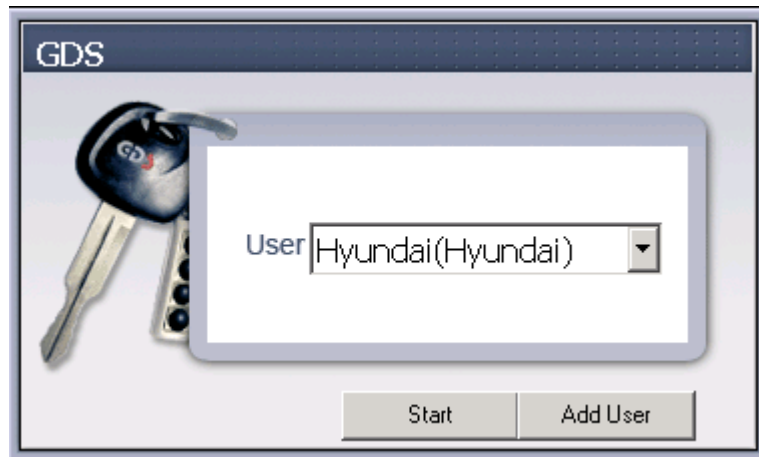


Figure 3. User selection

[Figure 4] shows an image of the User List Window. Input the ID and Name, and then click the "Add" button. For removal of existing ID in the user list, select a user and press "Delete" button. "Close" button closes the "User List" window.

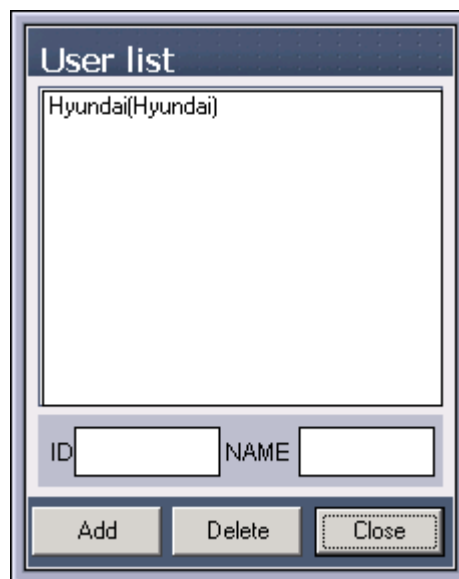


Figure 4. User addition and deletion



Main Screen Layout




GDS - Basic Operation

Module: A-02-003 (p.01)

The Main page of GDS consists of four rows.

- The first row is for User's Guide, Notice, Configuration, Search, Log Off and Exit.
- The second row is the connection status for the VCI and PC, VIN selection, Internet connection status and User Information.
- The third row is for Diagnosis, Upgrade, Repair and Completion.
- The fourth row is for User Settings and Internet-based service information connection.

The program is optimized for 1024x768 resolution. Functions with  logo shown in [Figure 1] can only be used when Internet is connected (e.g. Parts-Catalog can only be used with the Internet).

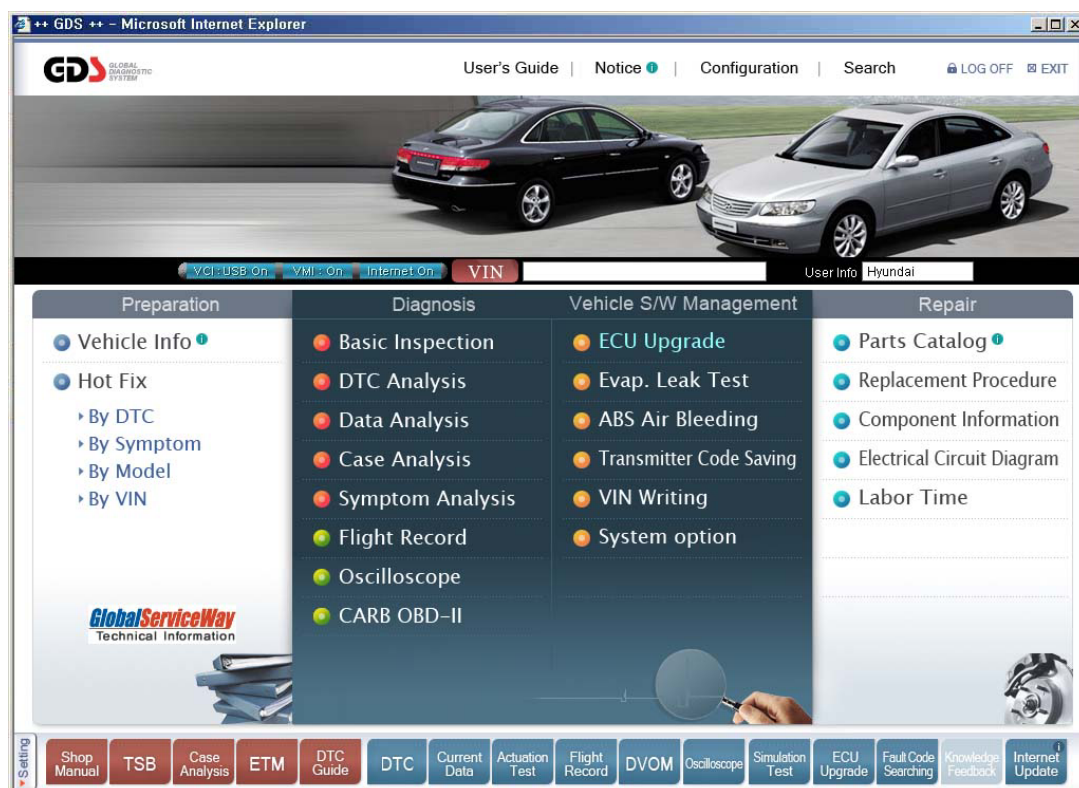





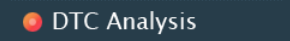
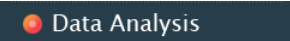

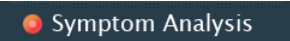


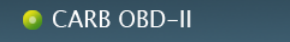
Figure 1. Main screen layout

Main Screen Menu







First row column: Preparation

Icon	Description
	Checks Production / Sales information, and Warranty History for selected VIN. This function requires an Internet connection.
	Accesses TSB / Local TSB / Case Study / Local Case Study / Distributor Hot Line / Dealer Hot Line search function.


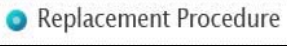



Second row column: Diagnosis

Icon	Description
	Offers a checklist for basic inspection for vehicles.
	Checks DTC and related information confirmed by communication between VCI and ECU.
	Checks "Current Data" and related information through communication with an ECU.
	Offers maintenance cases for selected trouble symptom chosen in Vehicle Selection function.
	Offers a diagnosis guide for selected trouble symptom chosen in Vehicle Selection function.
	Saves a data from vehicle control module to a VCI module memory by setting up VCI module to keep connection automatically with an ECU of a specific system.
	Offers an oscilloscope function.
	Generic OBD-II mode.



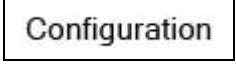
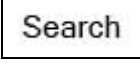


Third row column: Vehicle S/W Management

Icon	Description
	Performs functions for ECU Reprogramming (Upgrade).
 Evap. Leak Test  ABS Air Bleeding  Transmitter Code Saving  VIN Writing  System option	Menu is arranged in the initial page in order to offer a direct link to important special (upgrade) functions.











Fourth row column: Repair

Icon	Description
	This function requires an Internet connection.
	Offers information about vehicle component removal and installation process.
	Vehicle Component-related data.
	Offers a Full Electrical Circuit Diagram. (ETM)
	Accesses labor Time information


Top Menu of Main Screen

Icon	Description
	Offer a function to view the User Manual.
	Offers a function to check system notices. This function requires an Internet connection.
	Offers functions to check version, to input "VCI Firmware Update", to input Dealer Information, to input Connection information, and to configure units for VCI and VMI functions.
	Offers a search function for GDS supported data.
	User Log off
	Closes GDS Software.

Vehicle Selection and Connection Status for Internet and VCI Communications

Icon	Description
	Offers a function to select vehicle and system used by GDS, to select control module for Fault Code Searching, and to select trouble symptoms for selected vehicle.
  	Shows current connection status between PC and VCI.
 	Shows current connection status between PC and VMI.
 	Shows current connection status between PC and the Internet. Menus with  logos can only be used when the status is "Internet On".
	Shows currently logged in user.

Global Service Way (GSW)

Icon	Description
	Offers a function to link to the URL, which is assigned by a user in the "Configuration". This function can be used with a connection to the Internet.

User Setting

The 16 icons, placed in lower section of the screen, are the shortcuts for functions in GDS. 11 most right icons among 16 icons are fixed in location, and fixed in name. However, users can configure the other 5 icons on the left.

Window for "Items", and "Selected Items" appears by clicking the "Setting" button in the lower section, as shown in [Figure 2]. The items that can be applied to the 5 icons, which are eligible to change items and location, appear in the "Item" or in the "Selected Item" section. There must be at least 5 items in the "Selected item" section. In [Figure 2], there are only 5 total items on the list. Therefore, all the items should be appeared in the "Selected item" section. If there are more than 5 items, then the other items, excluding the selected 5, will be shown in the "Item" section.

User can change location of the item's position in the "Selected Item" section. The uppermost item will be placed on the leftmost location of the section. Checking an item and pressing up-down arrow buttons changes the location. "Preview" button is to preview renewed initial screen. "Save" button is for saving the modification. "Close" button is to exit the "User Setting".

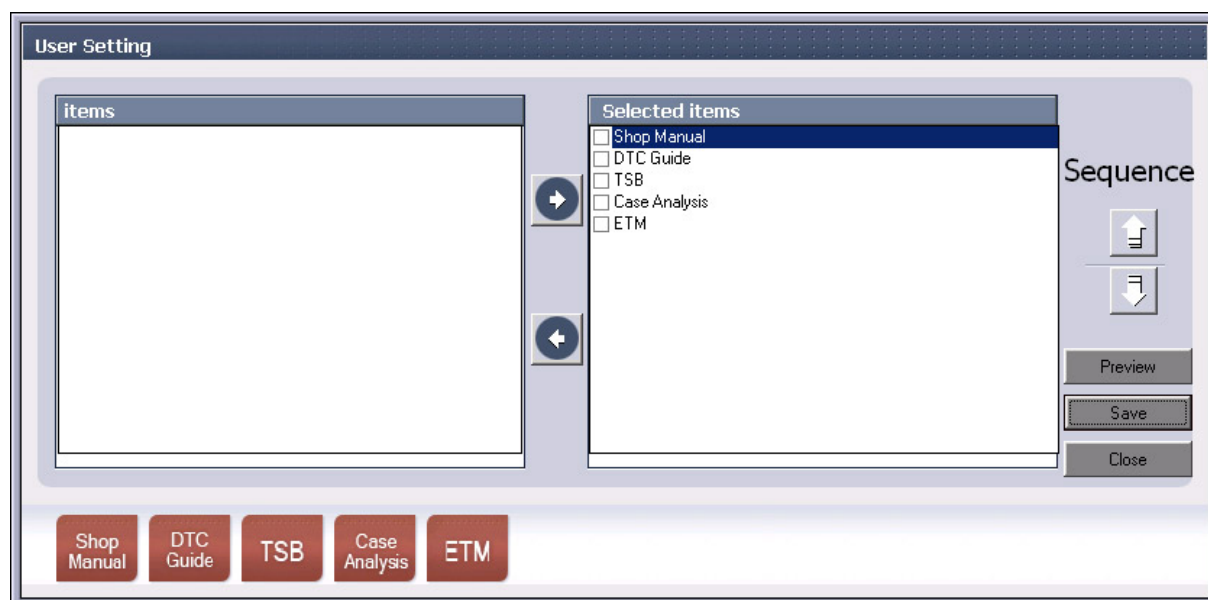


















Figure 2. User Setting for icons

Descriptions for the shortcut icons, located in the lower section of the initial page, are as follows:

Movable Icons

Icon	Description
	Shortcut directly linked to "Workshop Manual" function.
	Shortcut directly linked to "DTC Guide".
	Shortcut directly linked to "Technical Service Bulletin (TSB)". This function performs a search for TSBs based on the currently selected vehicle model.
	Shortcut directly linked to similar Maintenance cases. This function performs a search for Technician Times articles based on the currently selected vehicle model.
	Shortcut directly linked to "Electrical Troubleshooting Manual (ETM)"

Fixed Icons

Icon	Description
	Shortcut directly linked to "Diagnostic Trouble Code (DTC) Analysis" function.
	Shortcut directly linked to "Current Data" function.
	Shortcut directly linked to "Actuation Test" function.
	Shortcut directly linked to "Flight Record" function.
	Shortcut directly linked to "DVOM" function in the "Diagnosis" section.
	Shortcut directly linked to "Oscilloscope" function in the "Diagnosis" section.
	Shortcut directly linked to "Simulation Test" function in the "Diagnosis" section.
	Shortcut directly linked to the "ECU Upgrade" and "Special Functions" in the "Vehicle S/W Management".
	Performs "Fault Code Searching" for the control module selected at the VIN screen. The icon changes according to the status: whether the Search is in progress or whether there is a DTC. If DTC is found, user can check the "DTC List" by clicking the shortcut icon.
	Icons for GDS error feed back.
	Clicking the shortcut icon manually performs "Internet Update". GDS must be connected to the Internet.



Internet Update



GDS - Basic Operation

Module: A-02-004 (p.01)

Internet Updates can address known issues and increases the efficiency of the GDS.

At the 'Configuration' screen, selecting "Server Connection" will allow the user to check for updates and modify the update server URL if needed. Selecting the "Internet Update" button on the main screen will allow the user to check for updates only.

1. Before using Internet update, please connect the USB cable to the VCI and the PC.
2. Check the VCI LED. If the Power LED is red, Record mode is active.
Cancel Record mode before proceeding. If the Power LED is green, proceed with the update check.
3. Find the Server Connection tab in the 'Configuration' section by clicking 'Configuration' button.

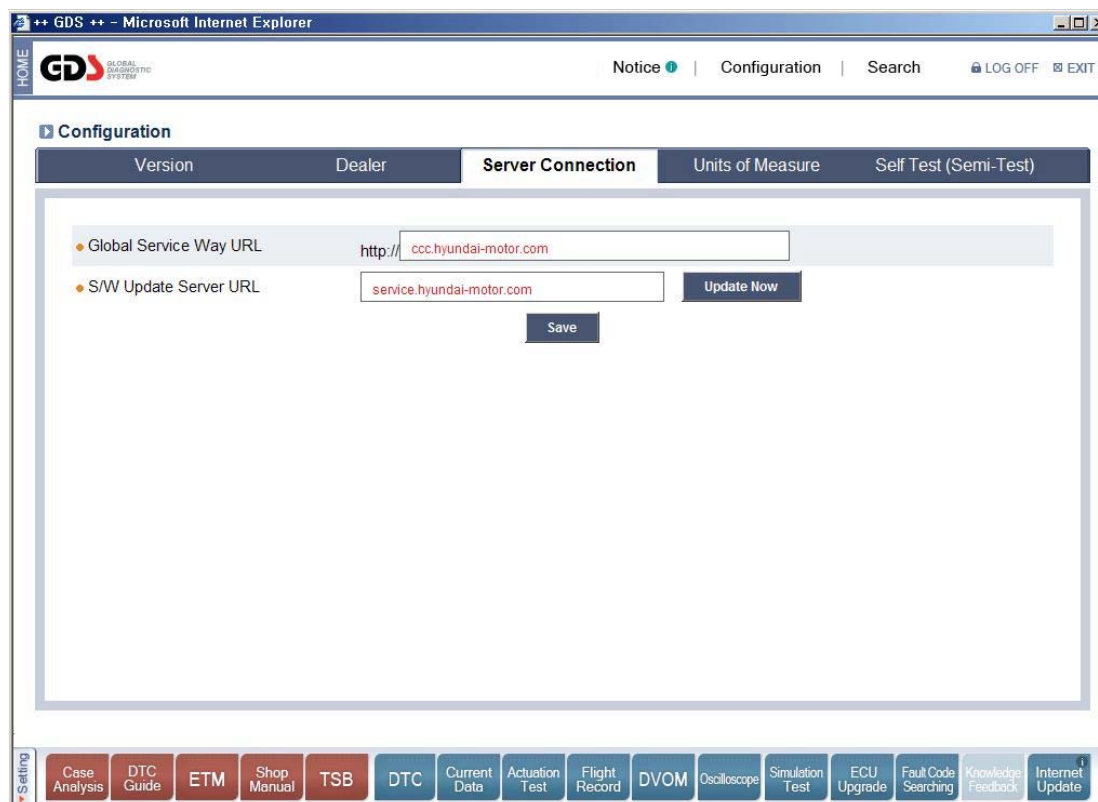


Figure 1. Server Connection

4. Click the "Update Now" icon. The following window will appear.

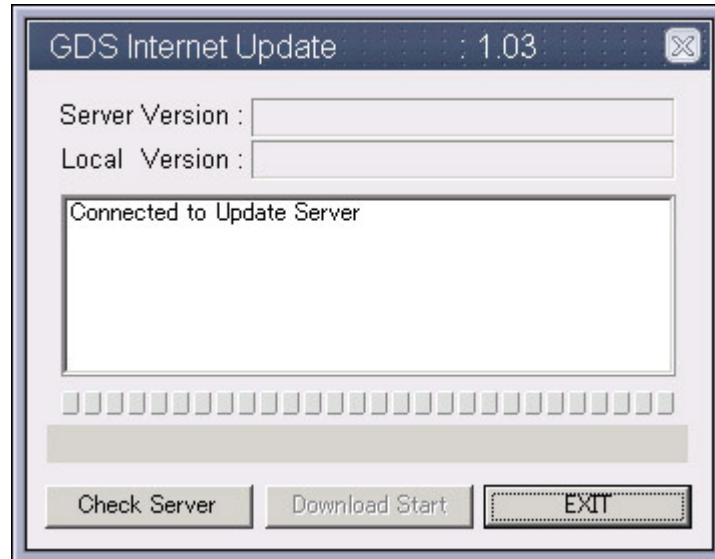


Figure 2. Connect to Update Server

5. The GDS will communicate with the update server. If a new update is available, the "Download Start" button will be activated.

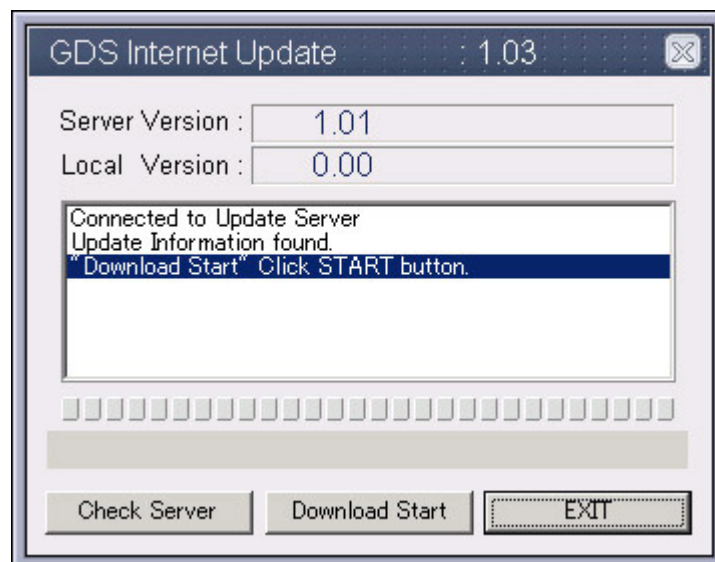


Figure 3. Download Ready

6. Click the 'Download Start' button.

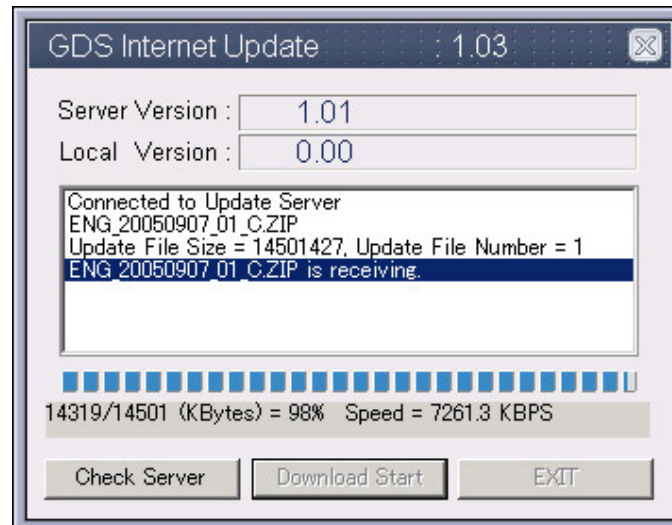


Figure 4. Receive the Update File

7. Click "Yes" when prompted to terminate the GDS program.

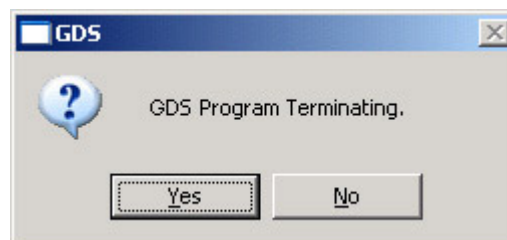


Figure 5. GDS Program Terminate

8. The update files will extract after the GDS program terminates.

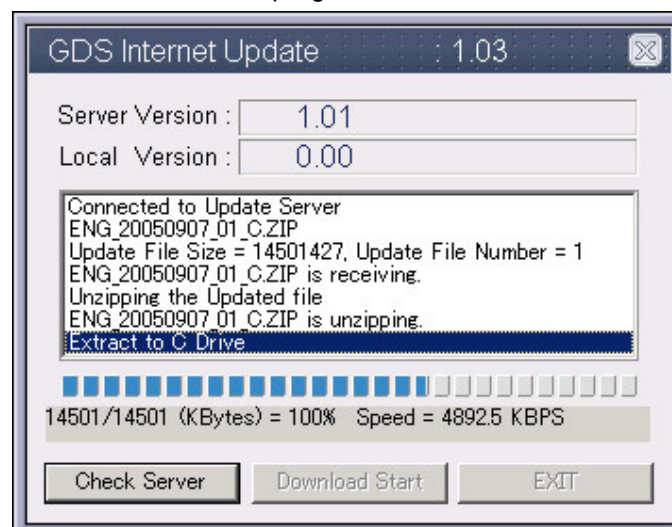


Figure 6. Extract the Updated Files

9. Click 'OK' when prompted.

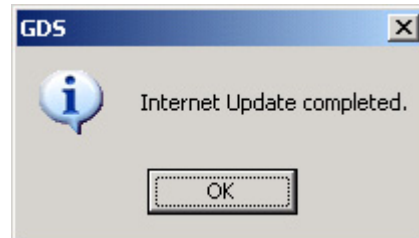


Figure 7. Internet Update Completed

10. If the VCI is in Record mode, press the 'ESC' key. Cancel Flight Record mode, then run the 'Firmware Update' function from the GDS 'Configuration' screen. If the VCI is in Normal mode, click the 'OK' button.

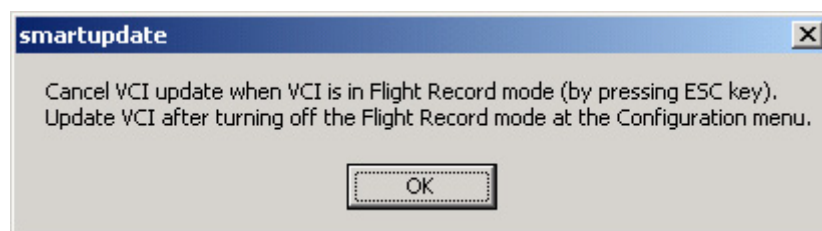


Figure 8. Information Window for VCI Update

11. This is the VCI Firmware update screen. If the USB cable is not connected between the PC and VCI, you will see the following window.

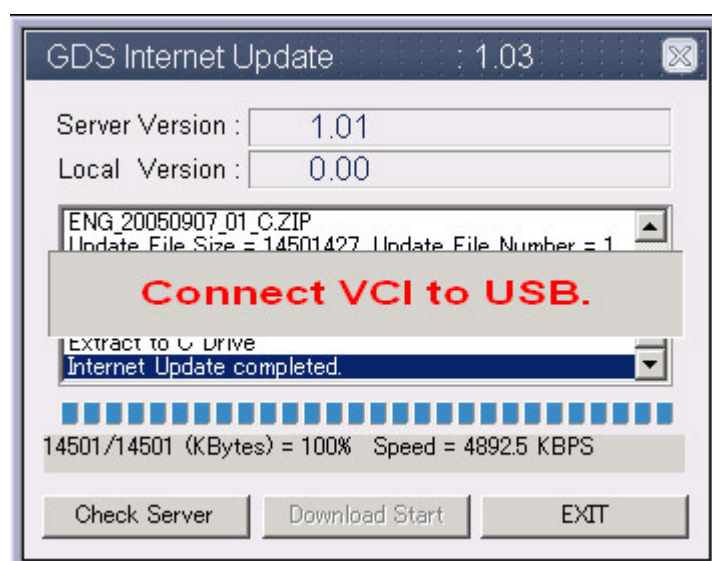


Figure 9. VCI Update Start

12. If the USB cable is properly connected, the update will start automatically as shown below.

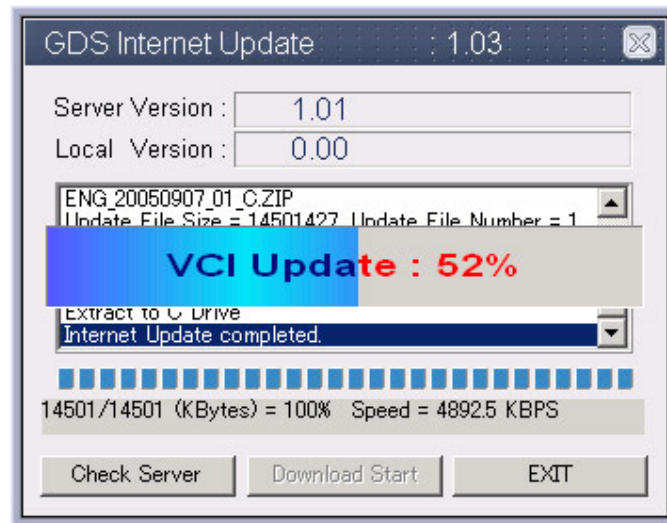


Figure 10. VCI Update Process window

13. After completing the VCI Firmware update, please turn on the VCI.



Figure 11. VCI Update Completed

14. When the Internet update is complete, click the 'Exit' button. Restart the GDS program.

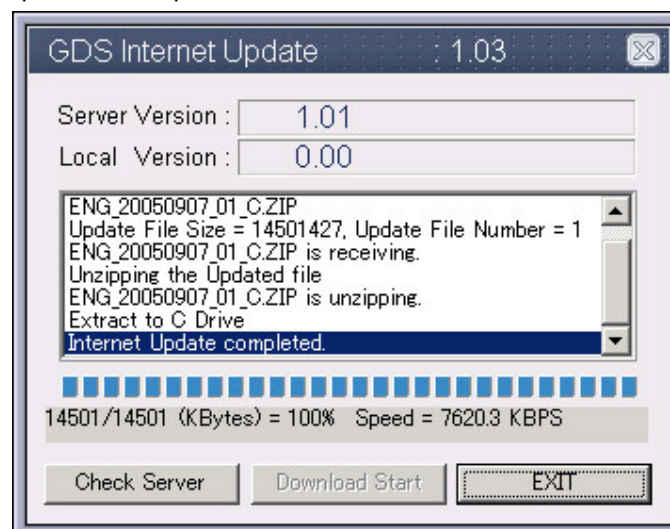


Figure 12. Exit the Internet Update




GSW (Global Service Way) and Notice



GDS - Basic Operation

Module: A-02-005 (p.01)

GSW (Global Service Way)

By clicking  button in the Main page as shown in [Figure 1], it will connect to the Internet Portal system site for vehicle service information as shown in [Figure 2].

URL address of the site can be changed in the "Configuration" menu on the main page. By selecting configuration menu, a window appears as shown in [Figure 3]. Change URL address at the "Global Service Way URL" input box on the window. Press "Save" button to apply the change in URL address.

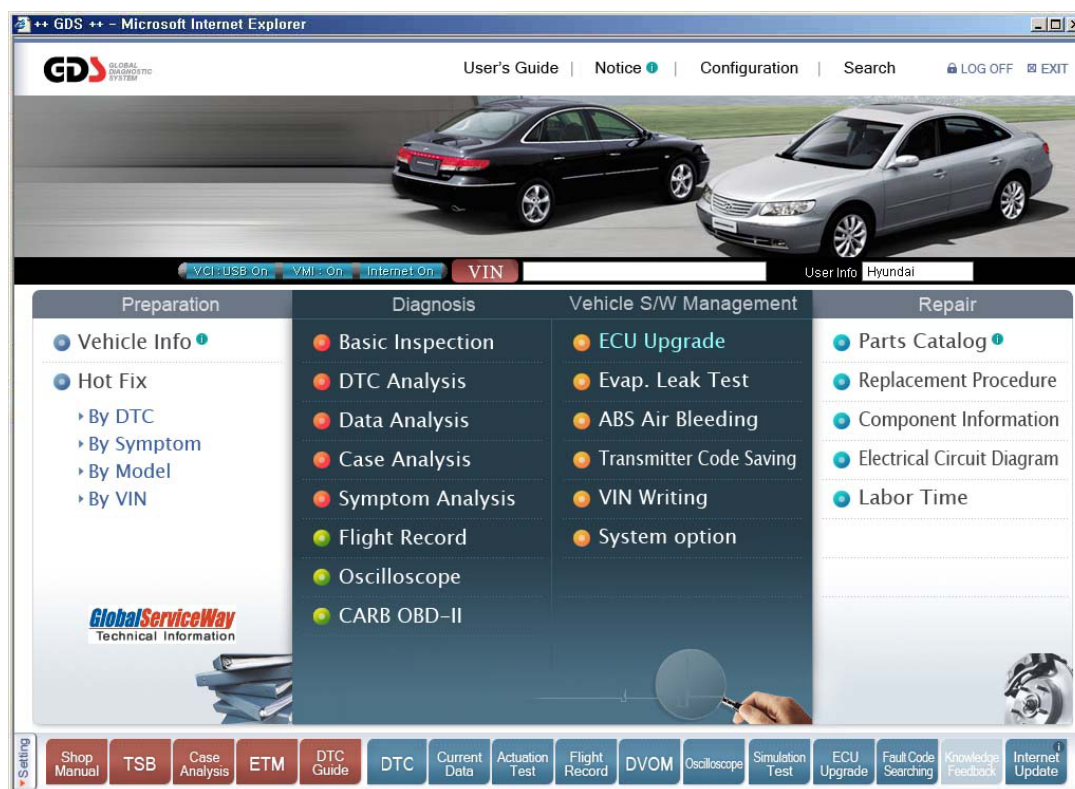


Figure 1. Initial screen of GDS



Figure 2. Connection to GSW site

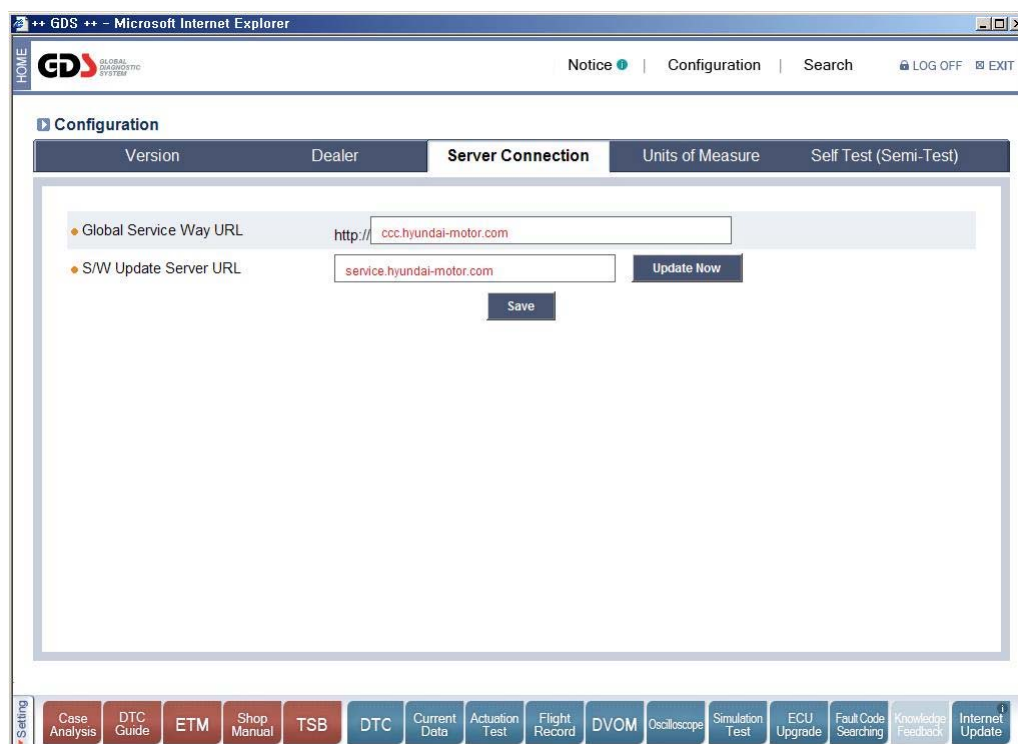


Figure 3. URL change for GSW connection

Notice

An Internet connection is required to view system notices.

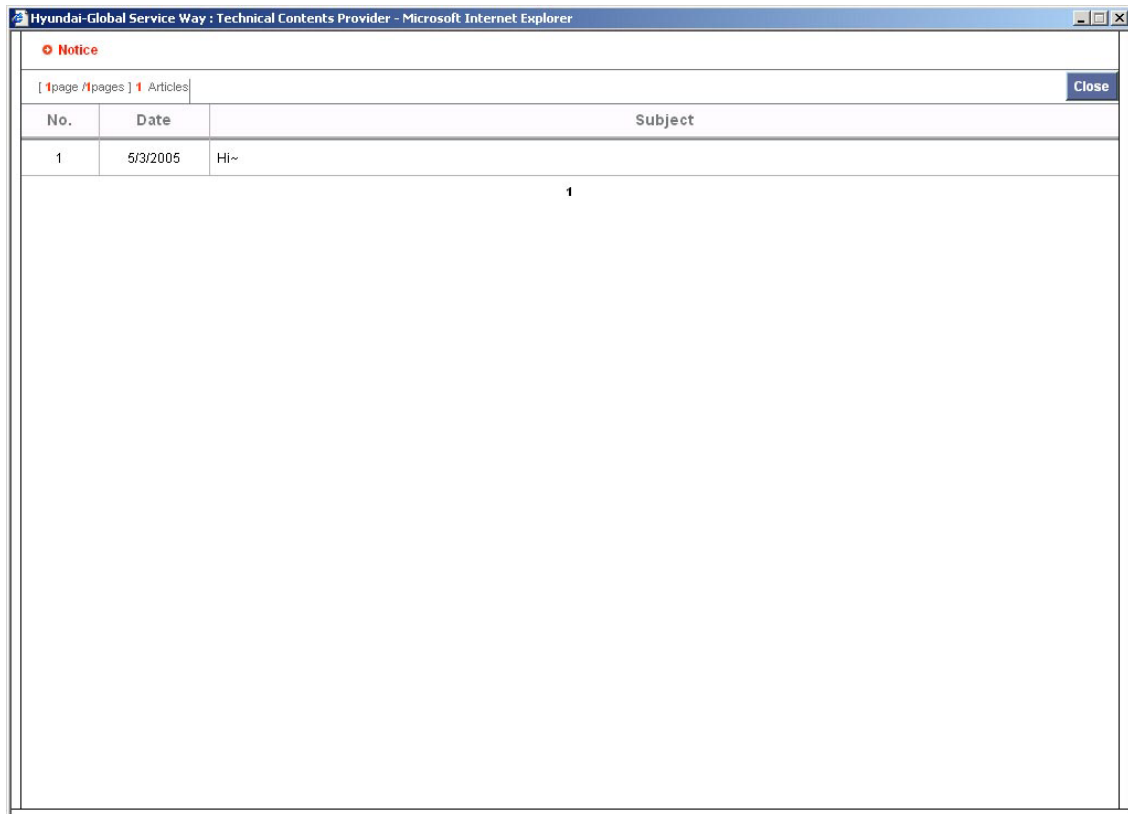


Figure 4. Notice



Configuration



GDS - Basic Operation

Module: A-02-006 (p.01)

The "Configuration" function, located on the top section of the initial page, provides access to 4 functions: "Version", "Dealer", "Server Connection", and "Units of Measure".

Version

Versions of Software, The GDS and VCI Firmware can be checked on "Version". Wireless LAN ID can also be checked and changed on "Version".

Software

"Software" represents the current version for the vehicle communication software related to "Diagnosis" functions.

Contents

"Contents" represents the current version for vehicle data included in GDS.

VCI Firmware

"VCI Firmware" item represents the version of the "Firmware" in the VCI module.

VCI Update

It is a function for downloading the latest VCI Module "Firmware". It establishes settings for the communication between the PC and VCI through a USB cable (does not support WLAN for the Update), and downloads the latest "Firmware" from the PC to the VCI module when the user presses the "VCI Update" button.

VCI Wireless setting

VCI module ID, for communication with PC, must be established in order to communicate using Wireless LAN.

If more than one VCI module are used in one workshop that uses same ID, then there may be an IP conflict in WLAN communication. Therefore, it is necessary to use a distinctive ID for each VCI module.

Check the ID setting on the VCI module by clicking "Read VCI Setting" button. It will read the ID for a VCI module currently connected to the PC through the USB cable.

Next, choose ID from 1 to 15, and click "Save VCI Setting" button to check and modify the VCI module ID.

After the ID change, attach the matching color label on the back of the VCI module.

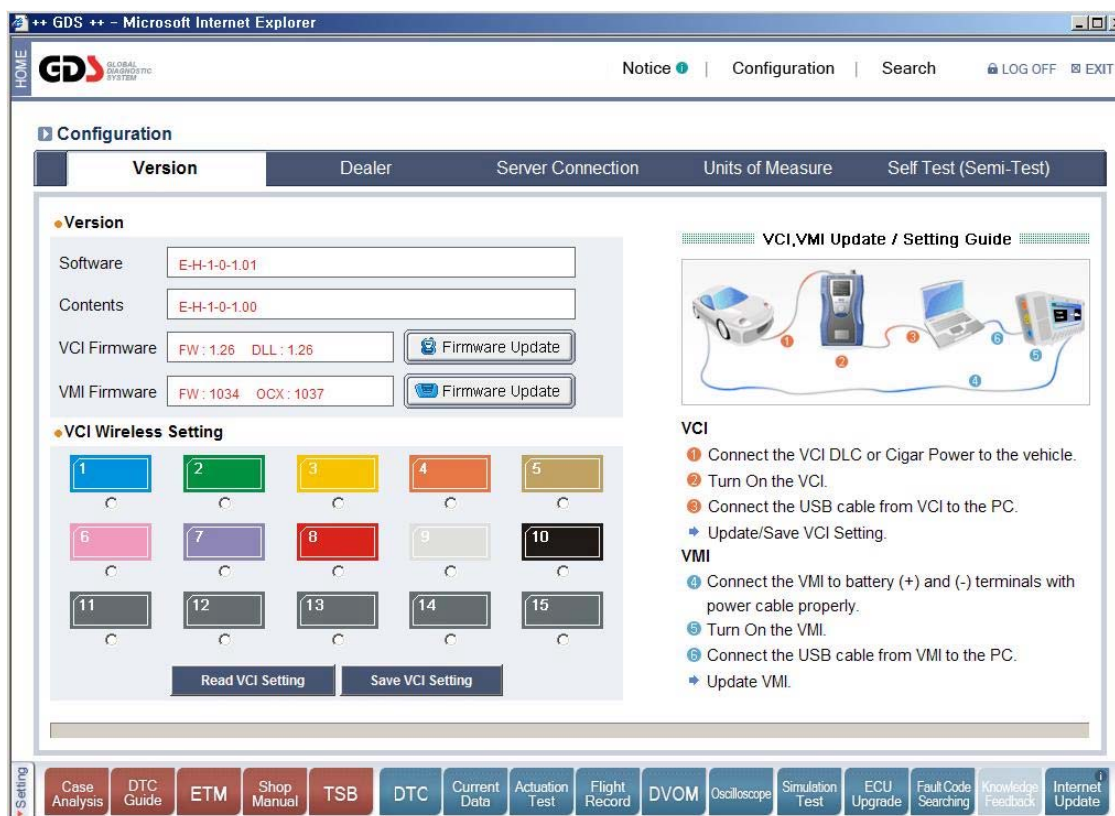


Figure 1. Configuration - Version

Dealer

"Dealer" function shows and modifies information of current GDS dealer. The items shown in the "Dealer" function are "Language", "Distributor", "Maker", "Dealer Number", "Region", "Dealer Name", "Dealer Address", "Dealer Telephone Number" and "E-Mail address".

It is possible to modify items that are supported by the "Dealer" Function. Modification will be applied after clicking the "Save" button.

The screenshot displays the "GDS++ - Microsoft Internet Explorer" window. The main menu includes "HOME", "GDS++", "GLOBAL DIAGNOSTIC SYSTEM", "Notice", "Configuration", "Search", "LOG OFF", and "EXIT". The "Configuration" section is active, with sub-tabs for "Version", "Dealer", "Server Connection", "Units of Measure", and "Self Test (Semi-Test)".

Language Configuration:

- First language:** Radio buttons for English (selected), French, German, Spanish, Italian, Greek, Czech, Russian, Turkish, Polish, and Portuguese.
- Second language:** Dropdown menu set to "English".
- Third language:** Dropdown menu set to "English".

User Information:

- Recertification:** Button.
- Region:** HMCHQ
- Distributor:** YK*2
- Dealer No.:** Text input field.

Dealer Details:

- Dealer Name:** Y. J. Noh
- Dealer Address:** Text input field.
- Dealer Tel.:** 82-2-3271-2790
- E-Mail:** yjnoh@hmc.co.kr

SAVE button is located below the dealer details.

Bottom Navigation Bar: Includes buttons for Setting, Case Analysis, DTC Guide, ETM, Shop Manual, TSB, DTC, Current Data, Actuation Test, Flight Record, DVOM, Oscilloscope, Simulation Test, ECU Upgrade, Fault Code Searching, Knowledge Feedback, and Internet Update.

Figure 2. Configuration - Dealer

Server Connection

It is possible in "Server Connection" to assign web system URL that appears when a user selects "Global Service Way" menu in the initial page. It is also possible to assign URL and IP address for GDS "Software Update".

The "Global Service Way URL" and "S/W Update Server URL" are pre-set at initial installation. These items may be modified if needed.

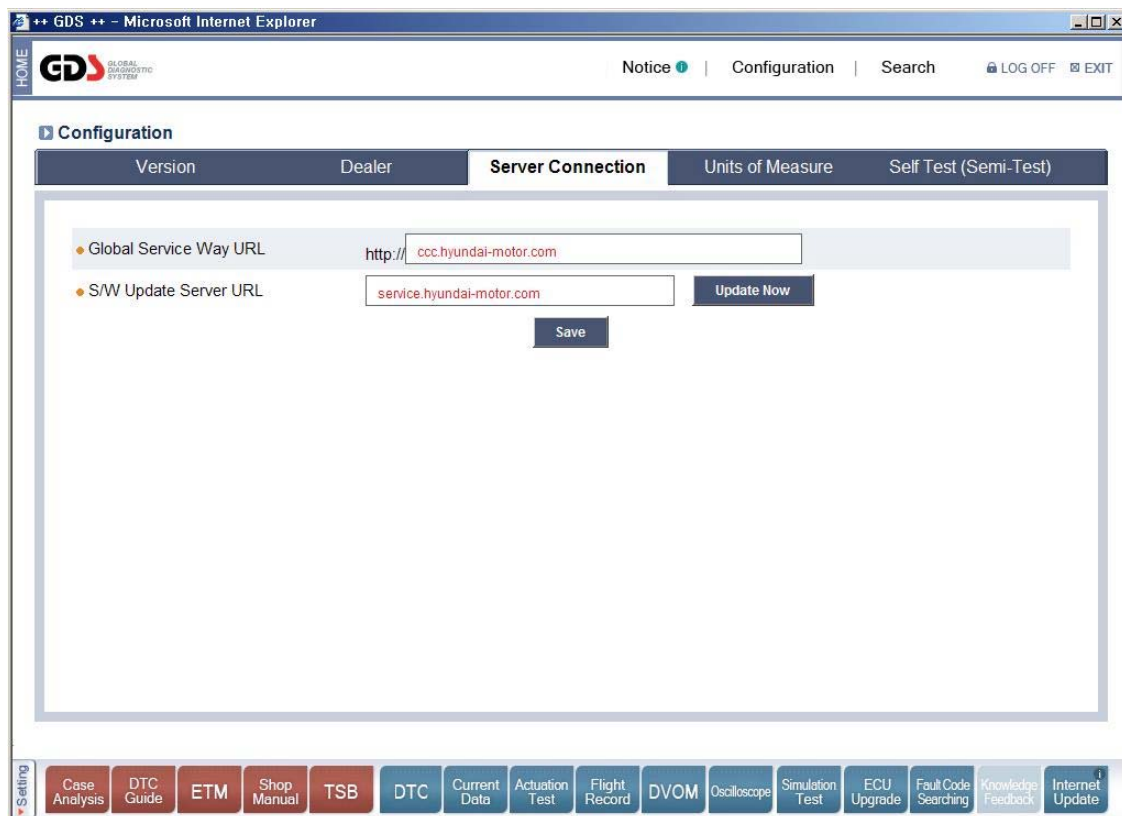


Figure 3. Configuration - Server Connection

Unit of measure

The units of measure displayed may be modified as needed.

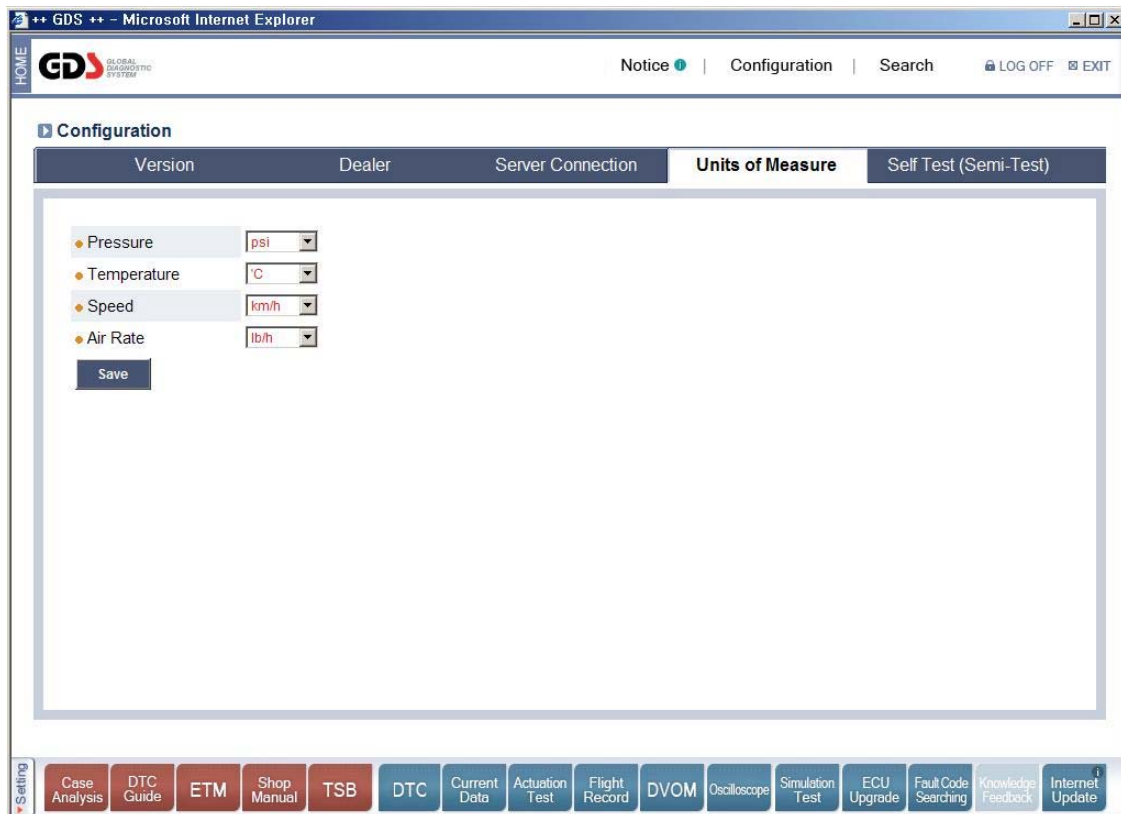


Figure 4. Configuration – Unit of Measure

VCI Self Test (Semi-Test)

STEP-A

The purpose of STEP-A is to self-test the VCI main module. This self-test function does not test all the VCI circuits. For more information see chapter A-01-006 Self-test adapter Use. In step-A the VCI gets power through the self-test adapter and DLC main cable, and only tests specific communication circuits.

The test method follows as shown below.

1. Connect the VCI main module and PC with USB cable.
2. Connect the VCI and Vehicle's OBD-II Connector with DLC cable and Self Test Adaptor on the end of the cable. (OBD-II side)
3. Turn on the VCI main module by pressing Power Button.
4. Select the Start Button in "Step A" program window.

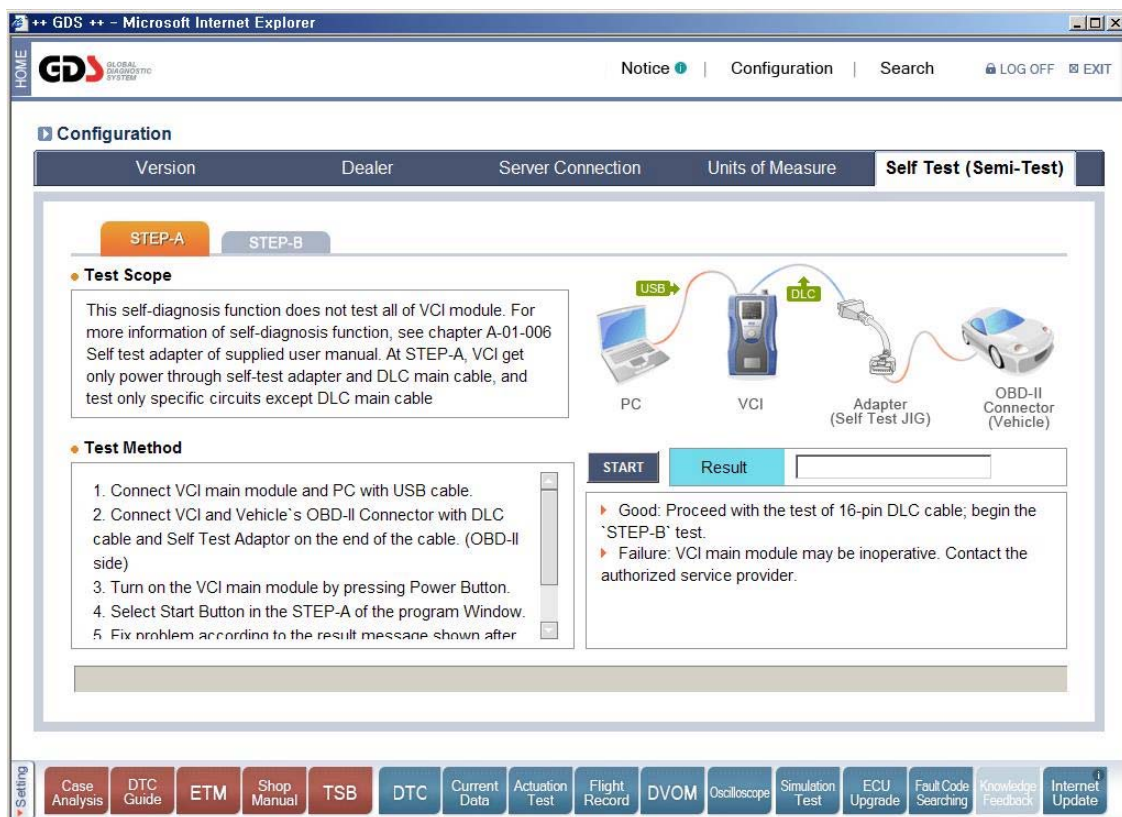


Figure 5. VCI Self Test STEP-A

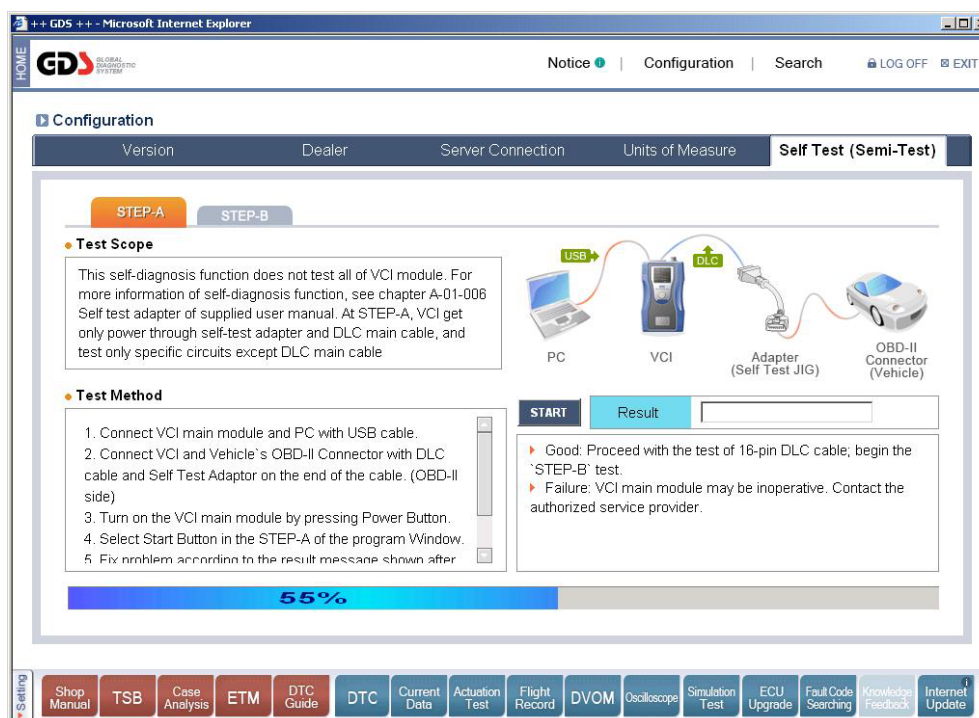


Figure 6. VCI Self Test STEP-A Processing

5. Fix problem according to the result message shown after the test. (Test will take few seconds).



Figure 7. VCI Self Test STEP-A Complete

The explanation for results follows as shown below.

Good: Proceed with the test of 16-pin DLC cable; begin the “STEP-B” test.

Failure: VCI main module may be inoperative. Contact the authorized service provider.

STEP-B

The purpose of STEP-B is to self-test 16pin main DLC cable after the VCI main module is judged to be normal through Step-A. This self-test function does not test all the VCI circuits. For more information see chapter A-01-006 Self-test adapter Use. In Step-B the VCI gets power through the self-test adapter and DLC main cable. “Step-B” is used to test for open and short circuits in the DLC main cable communication lines.

The test method follows below.

1. Setup the VCI, PC, and cables as shown in Step-A.
2. Turn on the VCI main module by pressing Power Button.
3. Select Start Button in Step-B of the program view.

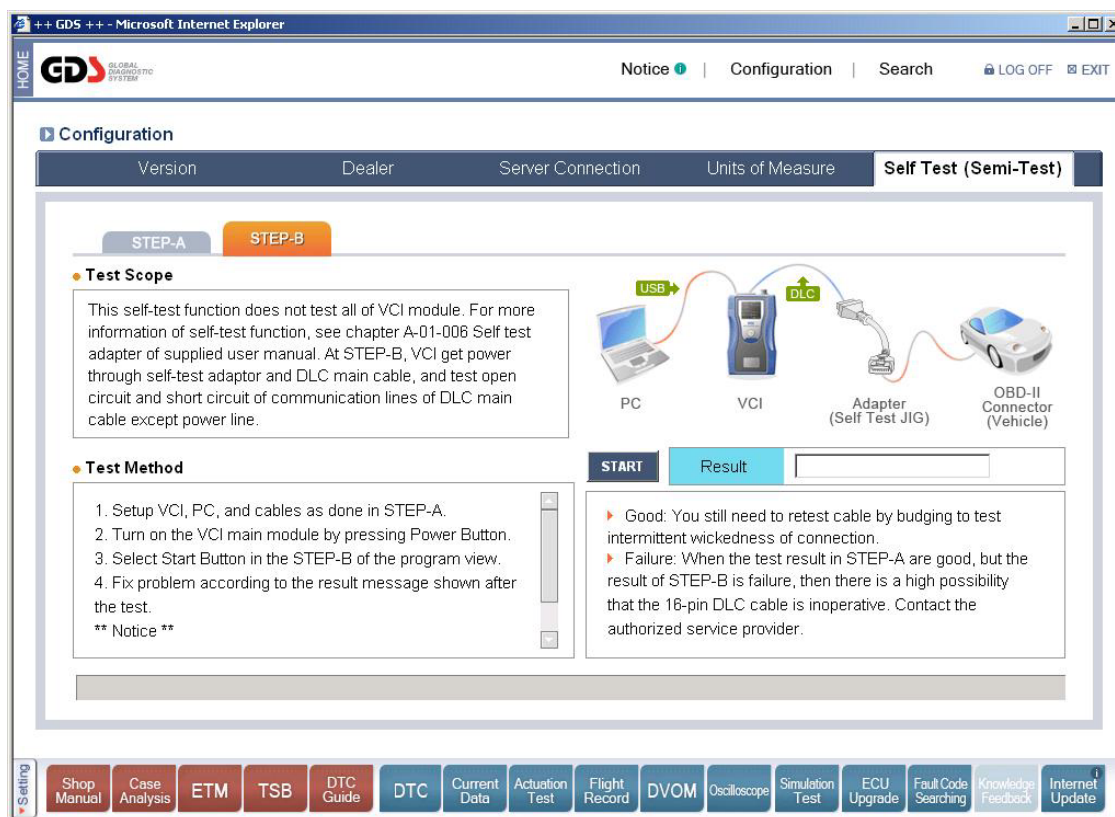


Figure 8. VCI Self Test STEP-B

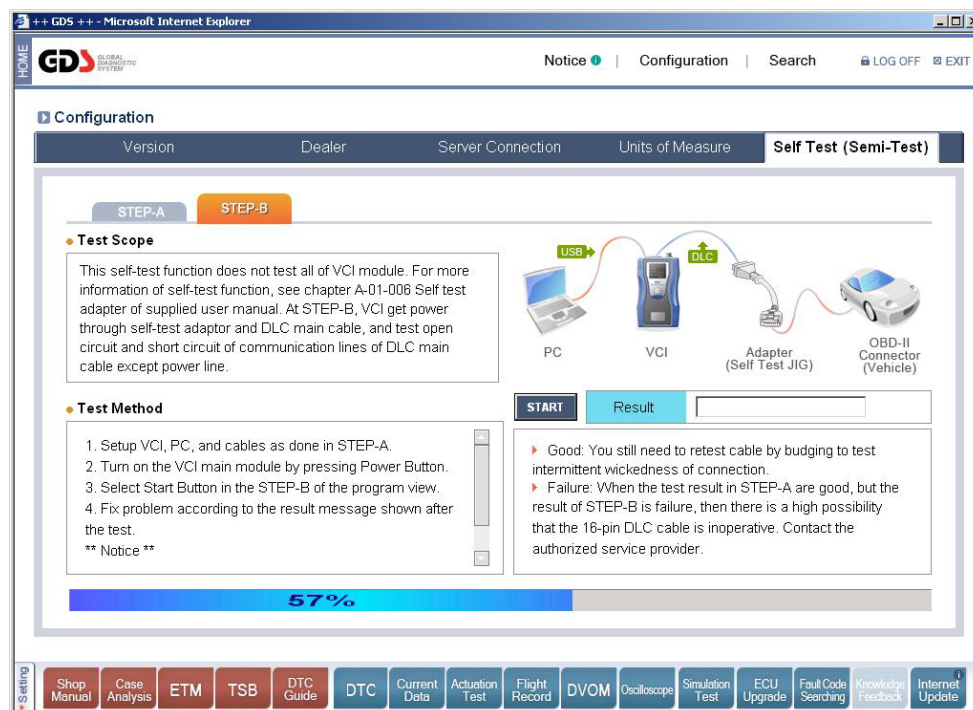


Figure 9. VCI Self Test STEP-B Processing

4. Fix problem according to the result message shown after the test.

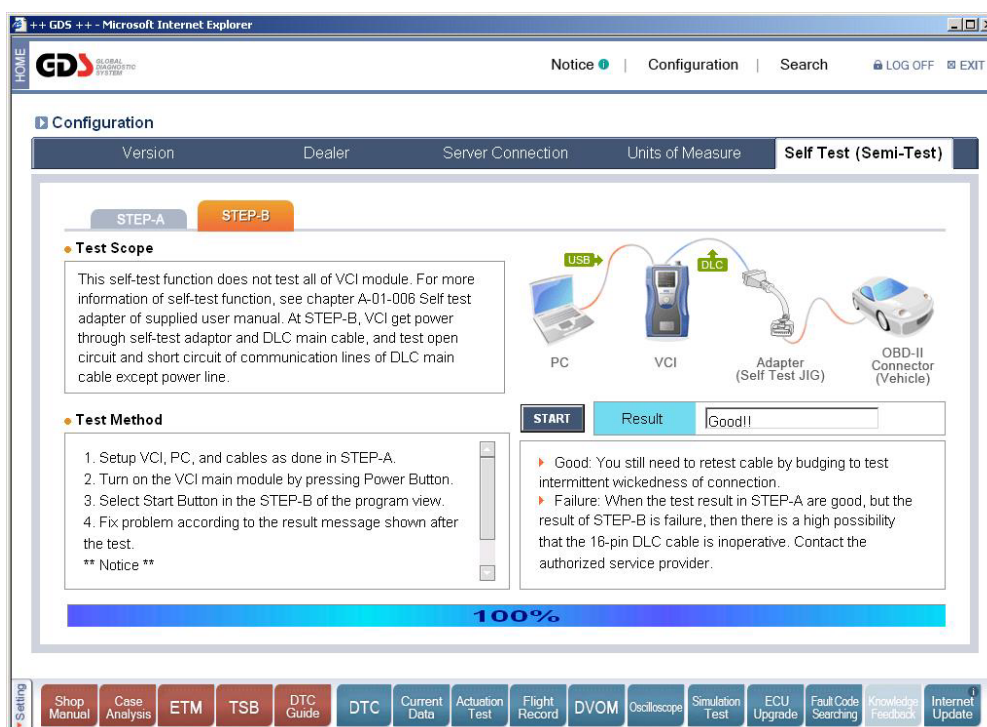


Figure 10. VCI Self Test STEP-B Complete

The test result messages are explained below:

Good: You may still need to test cable integrity by wiggling to test for intermittent connections.

** If the test results indicate "Good" and the vehicle communication continues to fail after the self-test adaptor is removed, verify that the communication problem is not vehicle related; contact the authorized service provider if necessary.

Failure: When the test result in self-diagnosis STEP-A are good but the result of STEP-B is failure, then there is a high possibility that the 16-pin DLC cable is inoperative. Contact the authorized service provider.



Search



GDS - Basic Operation

Module: A-02-007 (p.01)

Setup for Searching

The Search function allows the user to search for content in the on-board database.

To begin, select Model and Year from the drop-down boxes.

Next, check the appropriate Keyword boxes. The search will be performed in the user-selected areas:

- Subject: content title will be searched.
- Content: content body text will be searched. (Exceptions are Subject field and text included as part of an image.)
- DTC: DTC-specific content areas and the DTC field of Bulletin content will be searched.

Select "Any of these words" or "The exact phrase" as needed. Type the search word or phrase in the box.

Select the search area. Six choices are available under "Manual"; four are under "Bulletin". Additional criteria may be specified using the "Specifications" and "Date Period" selections.

Click "Go" Button after all the criteria setting and keyword input is made. Search Results will appear on the lower section of the page.

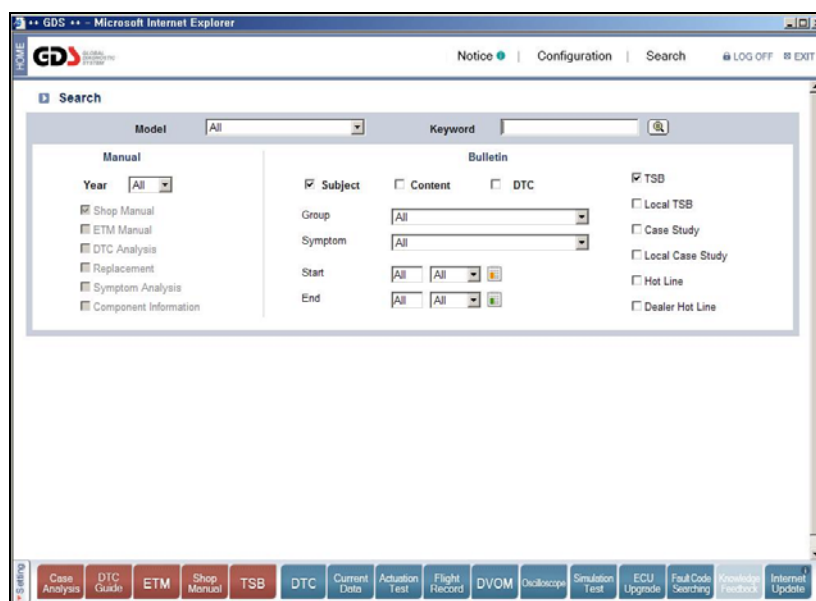


Figure 1: Selecting criteria for a search

Search Result

The sample screen below shows the search results. Each category chosen will have the number of results found displayed next to the category title. Clicking on a category will show/hide the available sub-categories.

The screenshot displays the GDS Global Diagnostic System search results interface. At the top, there is a navigation bar with 'HOME', 'GDS GLOBAL DIAGNOSTIC SYSTEM', 'Notice', 'Configuration', 'Search', 'LOG OFF', and 'EXIT'. Below this is a 'Search' section with a 'Model' dropdown set to 'SONATA(NF)' and a 'Keyword' input field containing 'fuel'. The search results are categorized into 'Manual' and 'Bulletin'. The 'Manual' section includes a 'Year' dropdown set to '2005' and a list of checked categories: Shop Manual, ETM Manual, DTC Analysis, Replacement, Symptom Analysis, and Component Information. The 'Bulletin' section includes checkboxes for 'Subject', 'Content', and 'DTC', all of which are checked. It also has dropdowns for 'Group' and 'Symptom', both set to 'All', and date pickers for 'Start' and 'End', both set to 'All'. On the right side of the 'Bulletin' section, there are checkboxes for 'TSB', 'Local TSB', 'Case Study', 'Local Case Study', 'Hot Line', and 'Dealer Hot Line', all of which are checked. Below the search filters, the results are listed under the heading 'SONATA(NF) / 2005 / fuel / Total (247)'. The results are organized into a tree structure with the following categories and counts: Shop Manual (168), Emission Control System > Evaporative Emission Control System > Fuel Filler Cap (1), Emission Control System > Evaporative Emission Control System > Fuel Tank Air Filter (1), ETM Manual (2), Fuel Filler Door & Trunk Lid opener (1), Fuel Filler Door & Trunk Lid opener (1), DTC Analysis (20), P0230 Fuel Pump Circuit Malfunction (8), Component Location, DTC Description, DTC Detecting Condition, Schematic Diagram, Scantool Diagnostics, and W/Harness Inspection. At the bottom of the interface, there is a 'Setting' dropdown and a row of buttons for various diagnostic functions: Case Analysis, DTC Guide, ETM, Shop Manual, TSB, DTC, Current Data, Actuation Test, Flight Record, DVOM, Oscilloscope, Simulation Test, ECU Upgrade, Fault Code Searching, Knowledge Feedback, and Internet Update.

Figure 2: Search results

Contents Open

[Figure 3] Sample screen showing search results within content.

Search - Microsoft Internet Explorer

GD GLOBAL DATA SYSTEM

none > 2006 > none > none

Component Location



3.3L

INJECTOR
C128-5, C128-3, C128-1

C153
CONDENSER

C151-5, C151-3, C151-1
IGNITION COIL

General Description

When the **ignition** switch is ON or START position, voltage is applied to the **ignition** coil. Each **ignition** coil consists of two coils. High tension leads go to each cylinder from **ignition** coils. **ignition** coils fire two spark plugs on every power stroke (the cylinder under compression and the one on the exhaust stroke). PCM provides ground to a switching circuit for energizing the primary **ignition** coils. PCM uses the crankshaft position sensor and camshaft position sensor signals to meet the timing of energizing coil. When a primary **ignition** coil is energized or de-energized, the secondary coil produces a high voltage spike to the attached spark plugs.

DTC Description

Checking output signals from **ignition** coils every 10 sec. under detecting condition, if signals indicating open or short in the circuit are detected for more than 10 sec., PCM sets P0351. MIL (Malfunction Indicatin Lamp) turns on when the malfunction lasts till consecutive 2 driving cycle.

DTC Detecting Condition

Item	Detecting Condition	Possible cause
DTC Strategy	● Detects a short to ground, to battery or open circuit	
Enable Conditions	● NO DTC related to this item ● Engine running state ● $11V \leq \text{Battery voltage} \leq 16V$	● Poor connection

Figure 3: Contents open



Vehicle Selection



GDS - Basic Operation

Module: A-02-008 (p.01)

The Vehicle Selection (VIN) screen will display after clicking the "VIN" button on the initial page.

The VIN screen will also display if a function is selected that requires vehicle-specific information and a vehicle was not previously selected.

Figure 1. Vehicle selection

VIN Selection

A vehicle is configured by manual VIN entry, or model / model year selection

Input of VIN

Using manual VIN entry, type the full 17-digit VIN in the box and click the "GO" button. The model, model year, engine configuration and supported systems will display as shown in Figure 2.

GDS VIN Search

VIN: Go Clear

Fault Code Searching On Previous Vehicle

Vehicle	Year	Engine
ACCENT(MC)	2006	G 1.6 DOHC
ACCENT(LC)	2005	G 1.8 DOHC
ATOS(MX)	2004	G 2.0 DOHC
CENTENNIAL(LZ)	2003	D 2.0 CRDI
ELANTRA(RD)	2002	
GALLOPER-II(M1)	2001	
GETZ(TB)		
GRANDUER(AZERA(T		
GRANDUER(XG)		
H-1(A1)		
H-1 TRUCK(SR)		
H-100TRUCK(HR)		
HD COUPE(GK)		
HD COUPE(RC)		
MATRIX(FC)		

Select System

ENGINE A/T ABS AIRBAG TCS IMMO CODE

Selected

ENGINE UNLEAD(SULEV) OBD-II

Symptoms in this Vehicle

Engine: excessive fuel consumption

Engine: back-fire/knocking
Engine: excessive fuel consumption

OK Cancel

Figure 2. VIN Input – full VIN

The last 6 digits may be entered in the box if desired; a separate screen will appear that prompts for specific vehicle selection as shown in Figure 3.

GDS Select Vehicle...

VIN Number	Model	Year	Engine
KMHJF35F5YU002134	ELANTRA(RD)	2000	G 2.0 DOHC
KMHDN46D75U002134	ELANTRA(XD)	2005	G 2.0 DOHC
KM8SC73E25U002134	SANTAFE(SM)	2005	G 3.5 V6 DOHC
KMHWF35H14A002134	SONATA(EF)	2004	G 2.7 V6 DOHC

OK Cancel

Figure 3. VIN Input – last 6 digits

Method to select vehicle, model year and engine

Select "Vehicle", "Model year", and "Engine" in each section for a vehicle, and supported systems will be displayed as shown. VIN-specific functions will not work if this method is used.

The screenshot displays the 'GDS VIN Search' window. A red rectangle highlights the selection area for vehicle, year, and engine. The 'VIN' field is empty, and the 'Go' and 'Clear' buttons are visible. The 'Fault Code Searching On' status is shown. The 'Previous Vehicle' button is also present. The 'Vehicle' list includes models like ACCENT(MC), ACCENT(LC), ATOS(MX), CENTENNIAL(LZ), ELANTRA(XD), GALLOPER-II(M1), GETZ(TB), GRANDUER/AZERAT, GRANDUER(XG), H-1(A1), H-1 TRUCK(SR), H-100TRUCK(HR), HD COUPE(GK), HD COUPE(RC), and MATRIX(FC). The 'Year' column shows 2006 and 2005. The 'Engine' column shows G 3.3 V6 DOHC and G 3.8 V6 DOHC. The 'Select System' section shows icons for ENGINE, A/T, ESP, AIRBAG, EPS, AIR/CON, BCM, PIC, IMMO, and AHLS. The 'Selected' section shows the ENGINE icon and the text 'UNLEAD EOBD'. Below the selection area, there are sections for 'Symptoms in this Vehicle' and 'Comments'. The 'Symptoms in this Vehicle' section has a dropdown menu set to 'Engine' and a text input field containing 'excessive fuel consumption'. The 'Comments' section is empty. At the bottom, there are 'OK' and 'Cancel' buttons.

Vehicle	Year	Engine
ACCENT(MC)	2006	G 3.3 V6 DOHC
ACCENT(LC)	2005	G 3.8 V6 DOHC
ATOS(MX)		
CENTENNIAL(LZ)		
ELANTRA(XD)		
GALLOPER-II(M1)		
GETZ(TB)		
GRANDUER/AZERAT		
GRANDUER(XG)		
H-1(A1)		
H-1 TRUCK(SR)		
H-100TRUCK(HR)		
HD COUPE(GK)		
HD COUPE(RC)		
MATRIX(FC)		

Select System

ENGINE	A/T	ESP	AIRBAG	EPS
AIR/CON	BCM	PIC	IMMO	AHLS
CODE				

Selected

ENGINE
UNLEAD EOBD

Symptoms in this Vehicle

Engine excessive fuel consumption

Comments

OK Cancel

Figure 4. Direct selection for vehicle, Model Year and Engine

Control Module Selection for Diagnosis and Fault Code Searching

Selection of control module(s) for diagnosis

The GDS supports single and multiple system selection; Fault Code Searching(DTC data) may be performed across more than one ECU using a single function.

The "Select System" area contains two boxes: one for supported systems on the left, and the other for selected systems on the right. A button is provided to enable or disable the "Fault Code Searching" function."

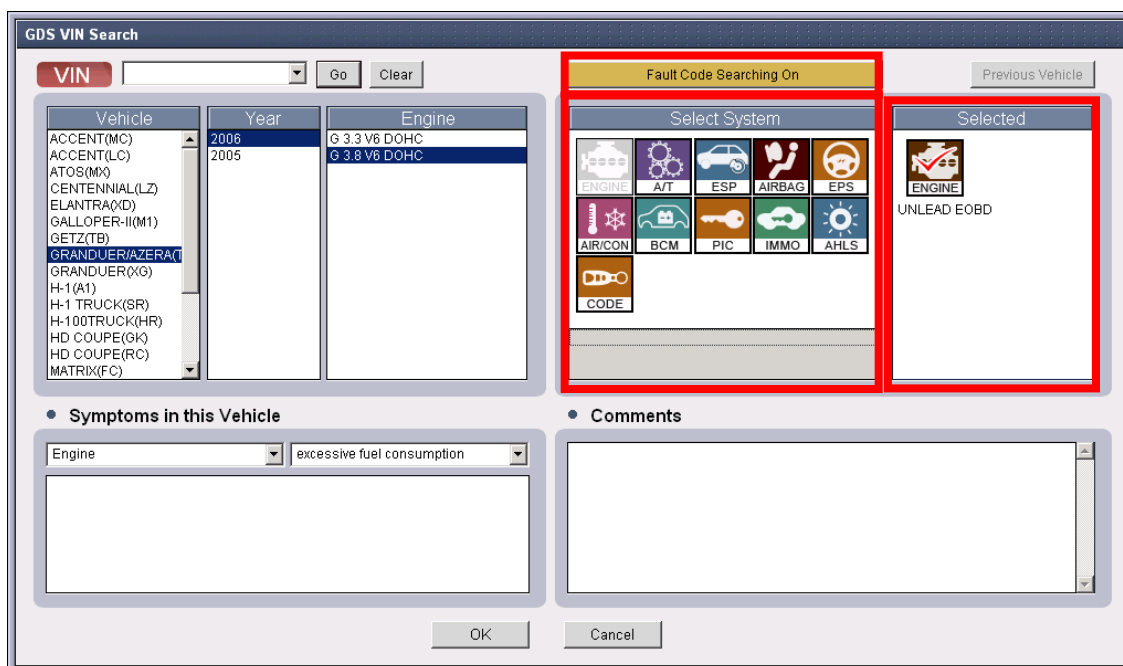
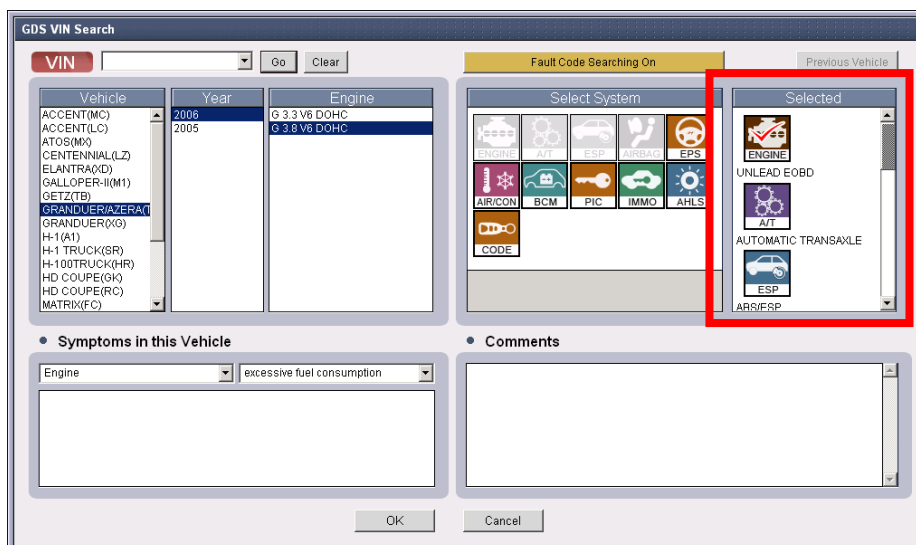


Figure 5. "ENGINE" system in "Selected" section

To select a system, click it once using the stylus or left mouse button. The selected system will be moved to the "Selected" box.

To deselect a system, double-click its icon. The selected system will be moved back to the "Select System" box.

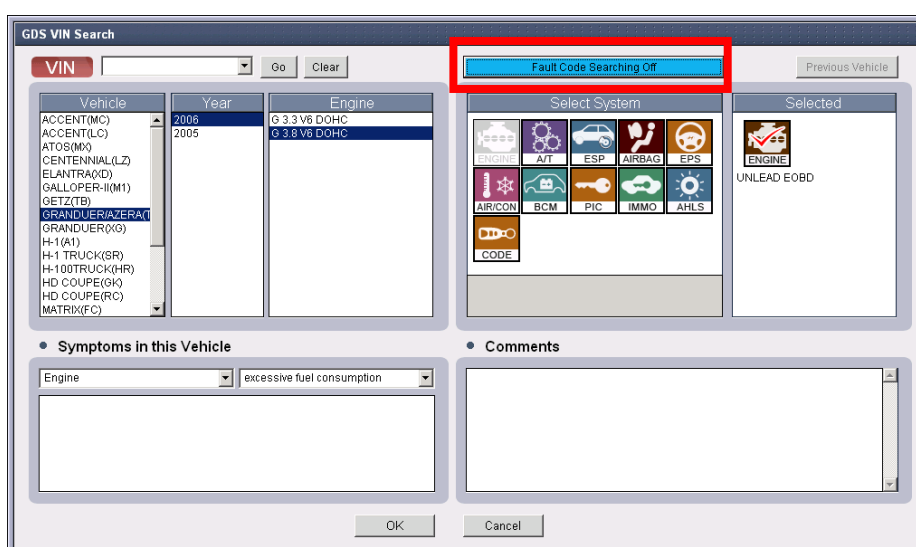
The "Fault Code Searching" button, when in the "ON" (default) state, will configure the GDS to check all systems in the "Selected" box for DTCs.

**Figure 6. Multiple systems selected**

NOTE: Not all systems support DTC retrieval nor are all supported systems fitted to all trim levels of certain models.

By default, the "Engine" icon is checked when placed into the "Selected" box. When functions are selected from the main page, the GDS will default to "Engine" unless a different system is checked by clicking its icon in the "Selected" box.

The "Fault Code Searching" feature may be temporarily disabled by clicking its button; the button will display "Fault Code Searching Off" and only one system at a time can be placed into the "Selected" box."

**Figure 7. Fault Code Searching OFF**

Procedures for fault code searching functions

After vehicle configuration, system selection, and DLC connection, the GDS will return to the main page. If "Fault Code Searching" was left in its "ON" (default) state, the GDS will start searching for DTCs in the selected systems.

During this process, the "Fault Code Searching" button at the bottom of the screen will appear as shown in Figure 10-1. Figure 10-2 shows the button after DTCs are found; Figure 10-3 shows the button if no DTCs are found in the selected systems.

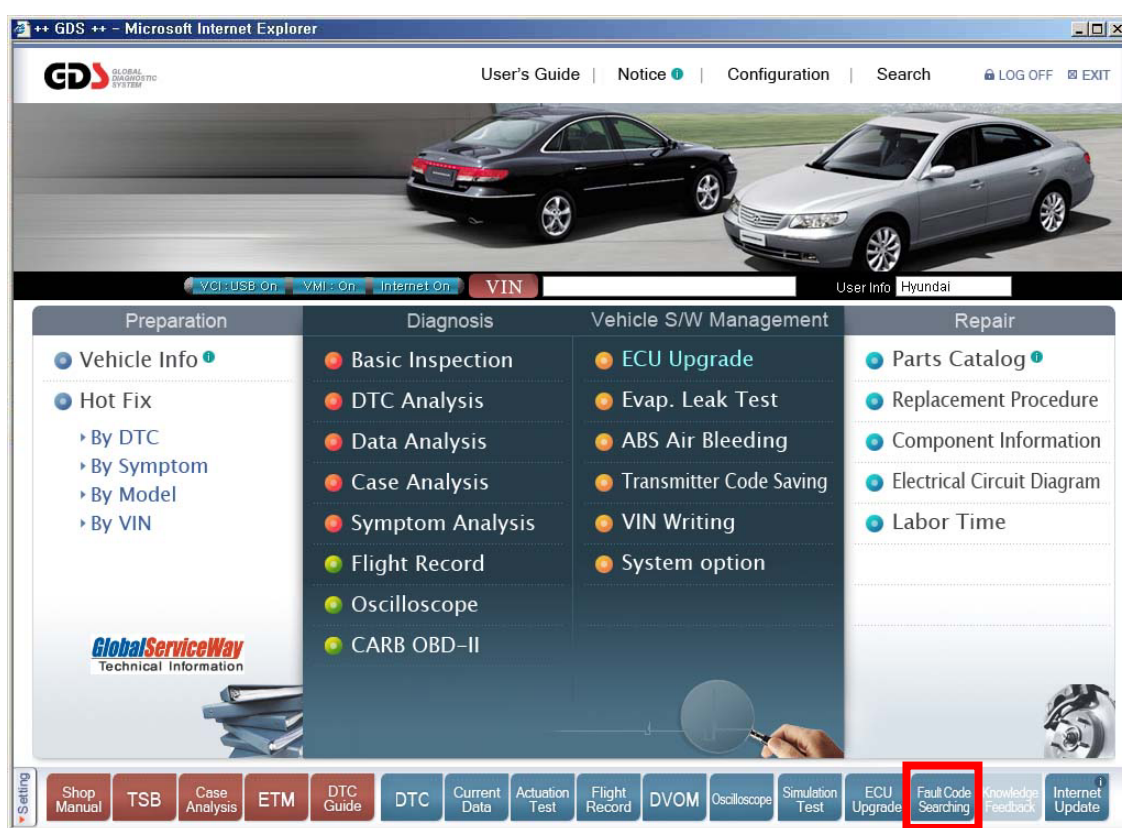


Figure 09. Process and result for fault code searching



Figure 10-1



Figure 10-2

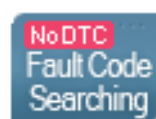


Figure 10-3

In addition, a window will display showing a breakdown of each selected system's DTC contents. This window will also indicate if no DTC data was found or if a communication failure is present. (ECU communication failures may be due to an actual communication problem OR if a system was selected that is not fitted to the vehicle being checked.)

The Fault Code Searching window has three buttons:

- "Go to Hot Fix" will cause the GDS to search for data based on the DTCs retrieved from the vehicle after a DTC is clicked
- "Go to DTC Analysis" will access the related ECU after a DTC is clicked.
- "Retry Fault Code Searching," repeats the DTC check on the systems previously selected.
- "Print" will access print function.
- "Close" closes the window; the window may be displayed again by clicking on the "Fault Code Searching" button at the bottom of the screen.

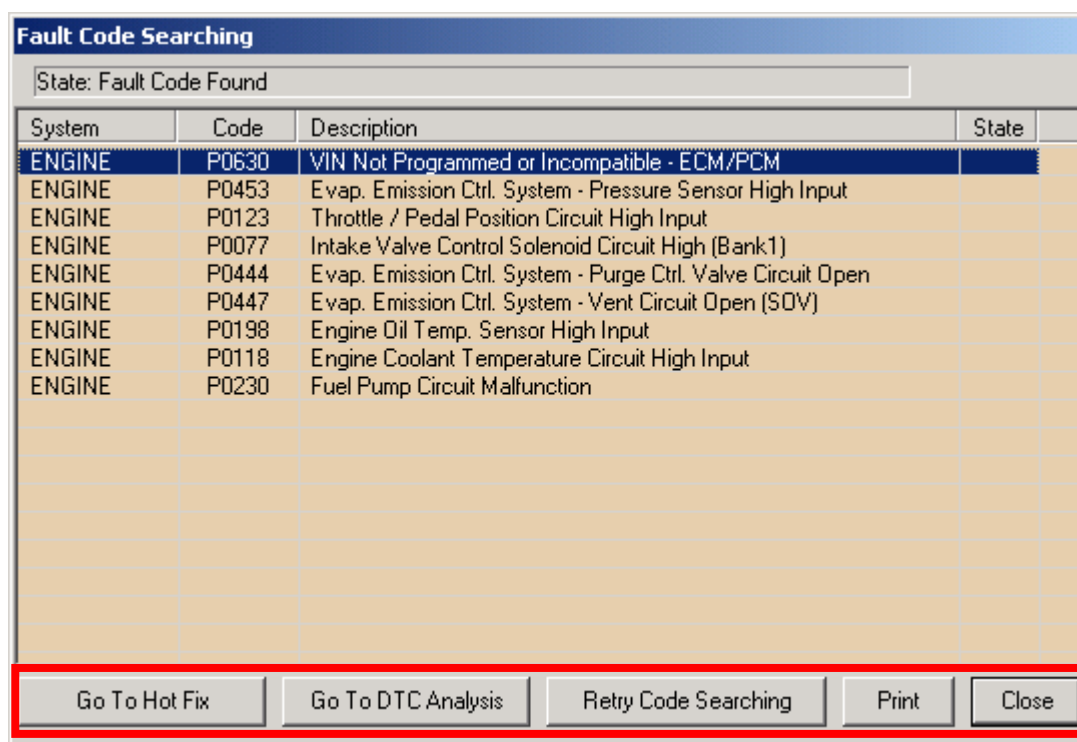


Figure 11. Fault Code Searching window

Trouble Symptoms Selection

Select vehicle symptoms from the system and symptom drop-down boxes as shown.

The screenshot displays the 'GDS VIN Search' window. At the top, there is a 'VIN' field with the value 'KMHDN51DP1U002134' and 'Go' and 'Clear' buttons. Below this is a 'Fault Code Searching On' button and a 'Previous Vehicle' button. The main area is divided into two columns. The left column contains three tables: 'Vehicle', 'Year', and 'Engine'. The 'Vehicle' table lists various car models, with 'ELANTRA(XD)' selected. The 'Year' table shows years from 2001 to 2006, with 2001 selected. The 'Engine' table shows engine types, with 'D 2.0 CRDI' selected. The right column contains a 'Select System' section with icons for ENGINE, A/T, ABS, AIRBAG, TCS, IMMO, and CODE. The 'Selected' section shows the 'ENGINE' system selected, with the text 'UNLEAD(SULEV) OBD-II' below it. At the bottom, there are two sections: 'Symptoms in this Vehicle' and 'Comments'. The 'Symptoms in this Vehicle' section has a dropdown menu for 'Engine' and a text box containing 'excessive fuel consumption'. The 'Comments' section has a large text area for input. 'OK' and 'Cancel' buttons are at the bottom right.

Vehicle	Year	Engine
ACCENT(MC)	2006	G 1.8 DOHC
ACCENT(LC)	2005	G 1.8 DOHC
ATOS(MX)	2004	G 2.0 DOHC
CENTENNIAL(LZ)	2003	D 2.0 CRDI
ELANTRA(XD)	2002	
GALLOPER-II(M1)	2001	
GETZ(TB)		
GRANDUER/AZERA(T)		
GRANDUER(XG)		
H-1 (A1)		
H-1 TRUCK(SR)		
H-100TRUCK(HR)		
HD COUPE(GK)		
HD COUPE(RC)		
MATRIX(FC)		

Symptoms in this Vehicle

Engine : excessive fuel consumption

Engine : back-fire/knocking
Engine : excessive fuel consumption

Comments

Figure 12. Input of Symptoms and Comments

Comments Input

Comments may be added as needed; this data is retained on the local machine and may be retrieved or modified if the same VIN configuration is selected at a later date.