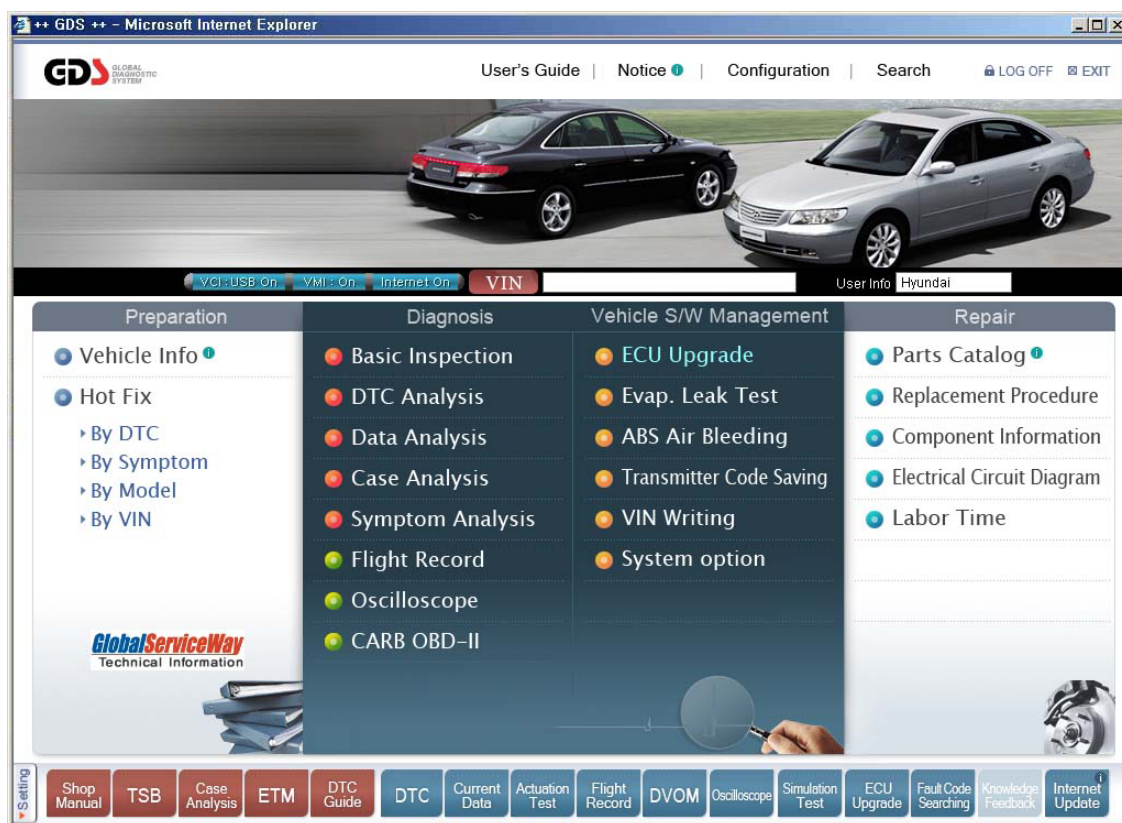


GDS - Diagnosis

Ver. 07. 06. 2006





Basic inspection



GDS - Diagnosis

Module: A-04-001 (p.01)

The "Basic Inspection" function provides standard check lists for various vehicle systems.

After entering the results, clicking the "Save" button will store the results.

These inspection sheets are saved locally; selecting the vehicle from the VIN screen at a later date will allow retrieval of these forms.

Inspection sheets may be printed by clicking on the printer icon located at the upper right-hand section of the form.

Engine System

++ GDS ++ - Microsoft Internet Explorer

HOME | Preparation | **Diagnosis** | Vehicle SW Management | Repair | LOG OFF | EXIT

Vehicle: ACCENT(MC) / 2006 / G 1.6 CVT | System: ENGINE / UNLEAD GEN | Search | Print Sc |

Diagnosis

• Title: Engine System | • Good: [G] | • Repair: [R] | • Exchange: [E]

• Vehicle: ACCENT(MC) | • Modelyear: 2006 | • Engine: G 1.6 CVT | • VINnumber:

Basic Inspection

- Engine System
- T/M and Driving System
- Brake and Steering System
- Others
- Parts

Check Point	Current Status	Option		
		G	R	E
Engine Oil/Filter	Oil Level	L <input type="text"/> F		
	Oil Color	<input type="radio"/> Red	<input type="radio"/> Black	<input type="radio"/> Gray
	Oil Leak	<input type="radio"/> None	<input type="radio"/> Slight	<input type="radio"/> Medium
	Maintenance Interval	<input type="radio"/> None	<input type="radio"/> Slight	<input type="radio"/> Medium
Spark Plug/Cable	Damage, Carbon Heap	<input type="radio"/> None	<input type="radio"/> Slight	<input type="radio"/> Medium
	Maintenance interval	<input type="radio"/> None	<input type="radio"/> Slight	<input type="radio"/> Medium
Timing Belt/Drive Belts	Damage	<input type="radio"/> None	<input type="radio"/> Crack	<input type="radio"/> Pollution
	Tension	<input type="radio"/> Normal	<input type="radio"/> Over	<input type="radio"/> Lack
	Timing Belt Maintenance Interval	<input type="radio"/> None	<input type="radio"/> Slight	<input type="radio"/> Medium
Fuel Line/Filter	Line Leak, Damage	<input type="radio"/> None	<input type="radio"/> Slight	<input type="radio"/> Medium
	Maintenance interval	<input type="radio"/> None	<input type="radio"/> Slight	<input type="radio"/> Medium
Coolant/Radiator	Coolant Level	L <input type="text"/> F		
	Coolant Maintenance Interval	<input type="radio"/> None	<input type="radio"/> Slight	<input type="radio"/> Medium

Save Clear

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 | Internet Update

Figure 1. Basic Inspection - Engine System

ML Report Preview

Print | Print this Page | Option | 1 / 1 | Print Scale: 100% | Zoom Scale: 100% | Exit

GDS++ GLOBAL DIAGNOSTIC SYSTEM | **HYUNDAI MOTORS**

• Title: Engine System | • Good: [G] | • Repair: [R] | • Exchange: [E]

Vehicle: TUCSON(JM) | Year: 2006 | Engine: G 2.0 DOHC | VINnumber: Not used

Check Point	Current Status	Normal Value	Opinion		
			G	R	E
Engine Oil/Filter	Oil Level	Between F and L	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Oil Color	Clear Brown	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Oil Leak	None/Slight/Medium/Heavy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Maintenance Interval	Driven distance _____ Mile	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Spark Plug/Cable	Damage, Carbon Heap	None/Slight/Medium/Heavy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Maintenance Interval	Driven distance _____ Mile	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Timing Belt/Drive Belts	Damage	None/Crack/Pollution/Abrasion	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Tension	Normal / Over / Lack	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Timing Belt Maintenance Interval	Driven distance _____ Mile	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fuel Line/Filter	Line Leak, Damage	None/Slight/Medium/Heavy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Maintenance Interval	Driven distance _____ Mile	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Coolant/Radiator	Coolant Level	Between F and L	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Coolant Maintenance Interval	Driven distance _____ Mile	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Figure 2. Basic Inspection – Print function

T/M and Driving System

Figure 3. Basic Inspection – T/M and Driving System

Check Point	Current Status	Option
AT Fluid	Fluid Level <input type="text" value="Tip"/>	COLD <input type="text" value="HOT"/>
	Fluid Color <input type="text" value="Tip"/>	<input type="radio"/> Red <input type="radio"/> Discoloration
	Fluid Leak	<input type="radio"/> None <input type="radio"/> Slight <input type="radio"/> Medium <input type="radio"/> Heavy
	Maintenance Interval	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
Clutch	Clutch Pedal Free-Play <input type="text" value="Tip"/>	<input type="radio"/> good <input type="radio"/> Bad
	Bearing Noise	<input type="radio"/> None <input type="radio"/> Exist
	Clutch Fluid Maintenance Interval	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
Driveshaft/Axle	Boot, joint Part Damage	<input type="radio"/> None <input type="radio"/> Slight <input type="radio"/> Medium <input type="radio"/> Heavy
	Oil Leak	<input type="radio"/> None <input type="radio"/> Slight <input type="radio"/> Medium <input type="radio"/> Heavy
	Pressure-Front	Left <input type="text" value="(Kpa)"/> / Right <input type="text" value="(Kpa)"/>
Tire	Pressure-Rear	Left <input type="text" value="(Kpa)"/> / Right <input type="text" value="(Kpa)"/>
	Thread Abrasion-Front <input type="text" value="Tip"/>	Left (<input type="radio"/> good / <input type="radio"/> Bad) / Right (<input type="radio"/> good / <input type="radio"/> Bad)
	Thread Abrasion-Rear <input type="text" value="Tip"/>	Left (<input type="radio"/> good / <input type="radio"/> Bad) / Right (<input type="radio"/> good / <input type="radio"/> Bad)

Figure 3. Basic Inspection – T/M and Driving System

Brake and Steering System

Figure 4. Basic Inspection – Brake and Steering System

Check Point	Current Status	Option
Brake Fluid	Fluid Level	Min <input type="text" value="Max"/>
	Fluid Leak	<input type="radio"/> None <input type="radio"/> Slight <input type="radio"/> Medium <input type="radio"/> Heavy
	Maintenance Interval	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
Brake Lining/Pad	Pad Thickness <input type="text" value="Tip"/>	<input type="radio"/> good <input type="radio"/> Bad
	Lining Thickness	<input type="radio"/> good <input type="radio"/> Bad
Steering Wheel	Free-Play <input type="text" value="Tip"/>	<input type="radio"/> good <input type="radio"/> Bad
	Steering Wheel Center	<input type="radio"/> good <input type="radio"/> Left <input type="radio"/> Right
Power Steering Fluid	Fluid Level	Min <input type="text" value="Max"/>
	Fluid Leak	<input type="radio"/> None <input type="radio"/> Slight <input type="radio"/> Medium <input type="radio"/> Heavy
	Maintenance Interval	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
Tie Rod End	Joint Part damage	<input type="radio"/> None <input type="radio"/> Exist
	Boot Damage	<input type="radio"/> None <input type="radio"/> Exist

Figure 4. Basic Inspection – Brake and Steering System

Others

Check Point	Current Status	Option
		G R E
Magnetic Clutch	<input type="radio"/> Work <input type="radio"/> Bad	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Cooling Capacity	<input type="radio"/> Work <input type="radio"/> Bad	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Refrigerant Leak	<input type="radio"/> None <input type="radio"/> Exist	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Condenser Pin Damage	<input type="radio"/> None <input type="radio"/> Slight <input type="radio"/> Medium <input type="radio"/> Heavy	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Condenser Fan	<input type="radio"/> Normal <input type="radio"/> Bad	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Maintenance Interval		<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Switch Operation	<input type="radio"/> Normal <input type="radio"/> Bad	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Open/Close Velocity	<input type="radio"/> Normal <input type="radio"/> Bad	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
External Damage	<input type="radio"/> None <input type="radio"/> Slight <input type="radio"/> Medium <input type="radio"/> Heavy	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Noise	<input type="radio"/> good <input type="radio"/> Bad	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

Figure 5. Basic Inspection – Other Systems

Parts

Check Point	Repaircycle	Option
		G R E
Engine Oil/Filter		<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Spark Plug/Cable		<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Timing Belt/Drive Belts		<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Fuel Line/Filter		<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Coolant/Radiator		<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
A/T Fluid		<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Clutch		<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Brake Fluid		<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Power Steering Fluid		<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Air Conditioning System		<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

Figure 6. Basic Inspection – Parts



DTC Analysis



GDS - Diagnosis

Module: A-04-002 (p.01)

The "DTC Analysis" function retrieves DTC data from a specific system and retrieves diagnostic procedures/TSB data for any DTCs found.

There are three ways to access this function:

- Select "DTC Analysis" from the main page.
- Select "Go To DTC Analysis" from the "Fault Code Searching" window after selecting a specific DTC.
- Select the "DTC" button from the bottom of the main page.

DTC Searching

Configure setting for the diagnosis through the communication between VCI and vehicle control modules. Next, start diagnosis through the communication between VCI and vehicle control module by selecting the "DTC Analysis" menu as shown in [Figure 1].

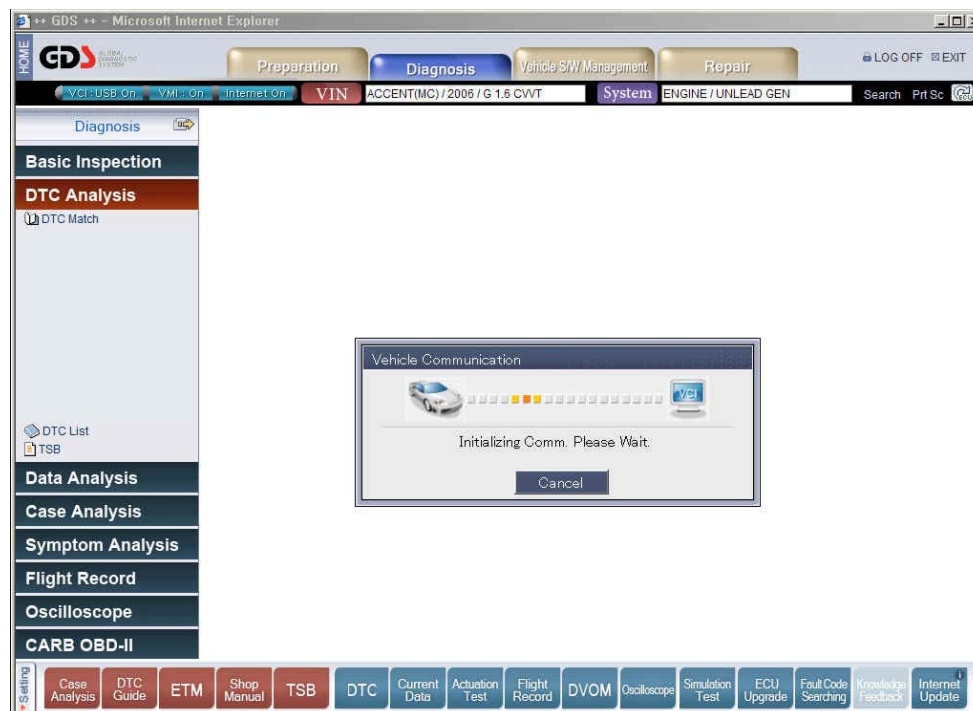


Figure 1. DTC Analysis – Communication Open

DTC Result

After communication with the ECU is established, DTC data will be retrieved and displayed on the upper portion of the screen. Freeze Frame data, if applicable, will display below the retrieved DTCs.

On the left-hand side of the screen, links to supported diagnostic procedures for the retrieved DTCs will be automatically displayed under the "Match On" section.

Selecting "Match Off-All" will display links to supported DTC procedures for all available DTCs.

Select a DTC procedure for detailed diagnosis information, including access to component-level and system-level wiring diagrams.

Selecting "TSB" will cause the GDS to search for TSB data related to retrieved DTCs.

The screenshot shows the GDS++ software interface with the 'Diagnosis' tab selected. The 'DTC' section is active, displaying a list of DTCs and their descriptions. Below this, the 'Freeze Frame' section is expanded, showing a table of sensor data.

Description	State
P0630 VIN not Programmed or Incompatible-PCM/PCM	
P0560 System Voltage Malfunction	
P0453 Evap. Emission Ctrl. System - Pressure Sensor High Input	
P0123 Throttle / Pedal Position Circuit High Input	
P0077 Intake Valve Control Solenoid Circuit High (Bank1)	
P0444 Evap. Emission Ctrl. System - Purge Ctrl. Valve Circuit Open	
P0447 Evap. Emission Ctrl. System - Vent Circuit Open (SOV)	
P0230 Fuel Pump Circuit Malfunction	
P0198 Engine Oil Temp. Sensor High Input	
P0118 Engine Coolant Temperature Circuit High Input	

Sensor Name	Value	Unit
Engine Speed	1324	RPM
Vehicle Speed Sensor	0	MPH
Calculated Load Value	0.0	%
Engine Coolant Temperature Sensor	194.0	'F
Fuel System Status-Bank1	OPEN LOOP	-
Fuel System Status-Bank2	OPEN LOOP	-
Short Term Fuel Trim-Bank1	0.0	%
Short Term Fuel Trim-Bank2	0.0	%
Long Term Fuel Trim-Bank1	-1.6	%
Long Term Fuel Trim-Bank2	-2.3	%

Figure 2. DTC Analysis – DTC Result

DTC Display

The state of a DTC is shown in the "State" field on the right-hand side of the screen. ("H" indicates a history code for supported systems; "P" indicates a pending code for supported systems.) In addition, the "DTC Status" function is available on supported systems to provide more information regarding a specific DTC.

The DTC display will update every 25 seconds; the display may be updated manually by selecting "DTC Analysis".

The screen configuration may be changed using the appropriate icons located at the upper-right portion of the display."

The screenshot shows the GDS++ software interface in Microsoft Internet Explorer. The top navigation bar includes 'Preparation', 'Diagnosis', 'Vehicle SW Management', and 'Repair'. The 'Diagnosis' tab is active, showing 'VIN: ACCENT(LC) / 2004 / G 1.5 SOHC' and 'System: ENGINE / UNLEAD E0BD'. The left sidebar contains 'Basic Inspection', 'DTC Analysis', 'Data Analysis', 'Flight Record', and 'CARB OBD-II'. The 'DTC Analysis' section is expanded, showing a list of DTCs. The 'DTC' section displays a table of DTCs with their descriptions and states. The 'Freeze Frame' section displays a table of sensor data for the selected DTC (P0630).

Description	State
P0630 VIN not Programmed or Incompatible-PCM/PCM	
P0560 System Voltage Malfunction	
P0453 Evap. Emission Ctrl. System - Pressure Sensor High Input	
P0123 Throttle / Pedal Position Circuit High Input	
P0077 Intake Valve Control Solenoid Circuit High (Bank1)	
P0444 Evap. Emission Ctrl. System - Purge Ctrl. Valve Circuit Open	
P0447 Evap. Emission Ctrl. System - Vent Circuit Open (SOV)	
P0230 Fuel Pump Circuit Malfunction	
P0198 Engine Oil Temp. Sensor High Input	
P0118 Engine Coolant Temperature Circuit High Input	

Sensor Name	Value	Unit
Engine Speed	1324	RPM
Vehicle Speed Sensor	0	MPH
Calculated Load Value	0.0	%
Engine Coolant Temperature Sensor	194.0	'F
Fuel System Status-Bank1	OPEN LOOP	-
Fuel System Status-Bank2	OPEN LOOP	-
Short Term Fuel Trim-Bank1	0.0	%
Short Term Fuel Trim-Bank2	0.0	%
Long Term Fuel Trim-Bank1	-1.6	%
Long Term Fuel Trim-Bank2	-2.3	%

Figure 3. DTC Analysis - DTC Display-Split screen

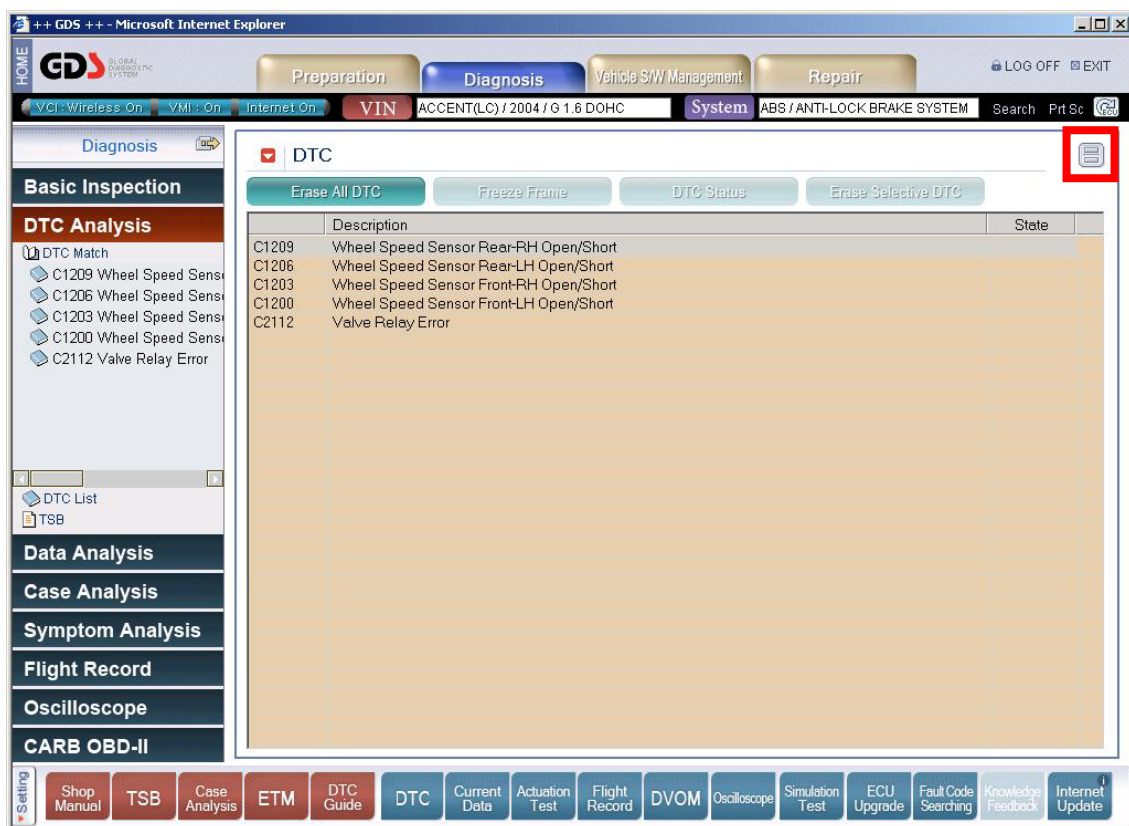


Figure 4. DTC Analysis - DTC Display-Full screen

DTC Erase

Erase All DTC

Selecting the "Erase All DTC" button will clear DTC data in the current ECU.

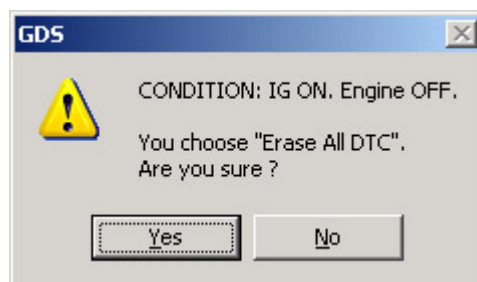


Figure 5. DTC Analysis - Erase All DTC

Erase Selective DTC

“Erase Selective DTC” button function is for erasing the selected DTC information from the assigned control module. “Erase Selective DTC” function is only for supported control modules. To erase DTC item, first choose the item and press “Erase Selective DTC” button.

Freeze Frame Display

The FREEZE FRAME DATA displays the data values stored in the Engine Control Module at the point when the first confirmed DTC (Engine ECU Only) is detected.

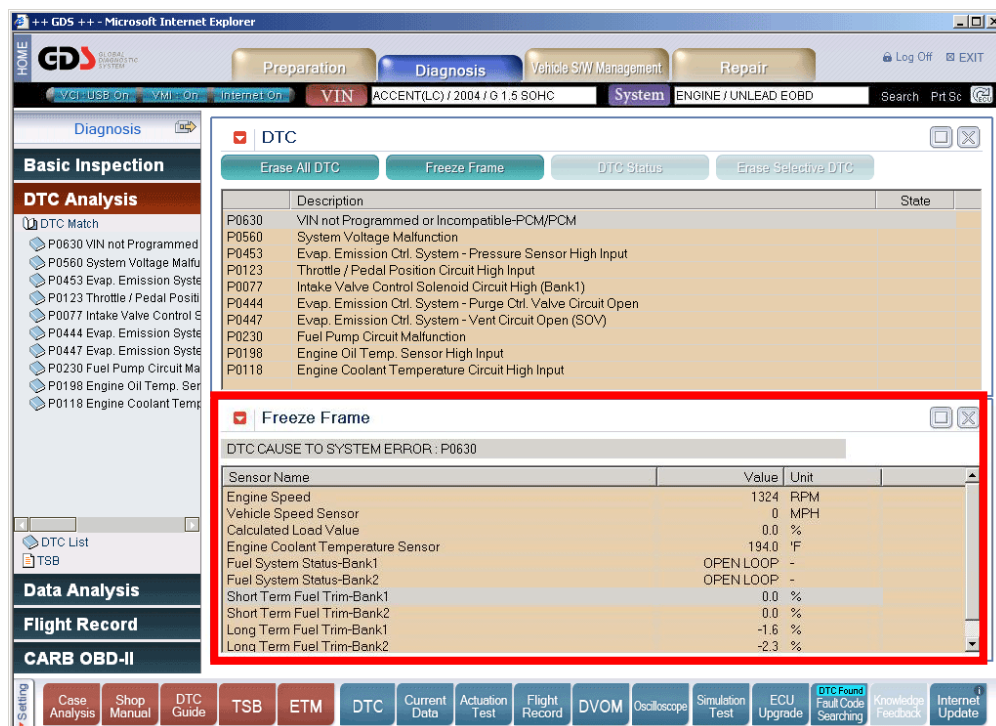


Figure 6. DTC Analysis – Freeze Frame

DTC Guide

After selecting a DTC procedure from the left-hand menu, the following options (dependent on specific DTC) will be displayed:" Component-level and system-level wiring diagrams (DTC dependent) are also available.

- General Information
- Scan tool Diagnostics
- Inspection/Repair
- Verification of Vehicle Repair

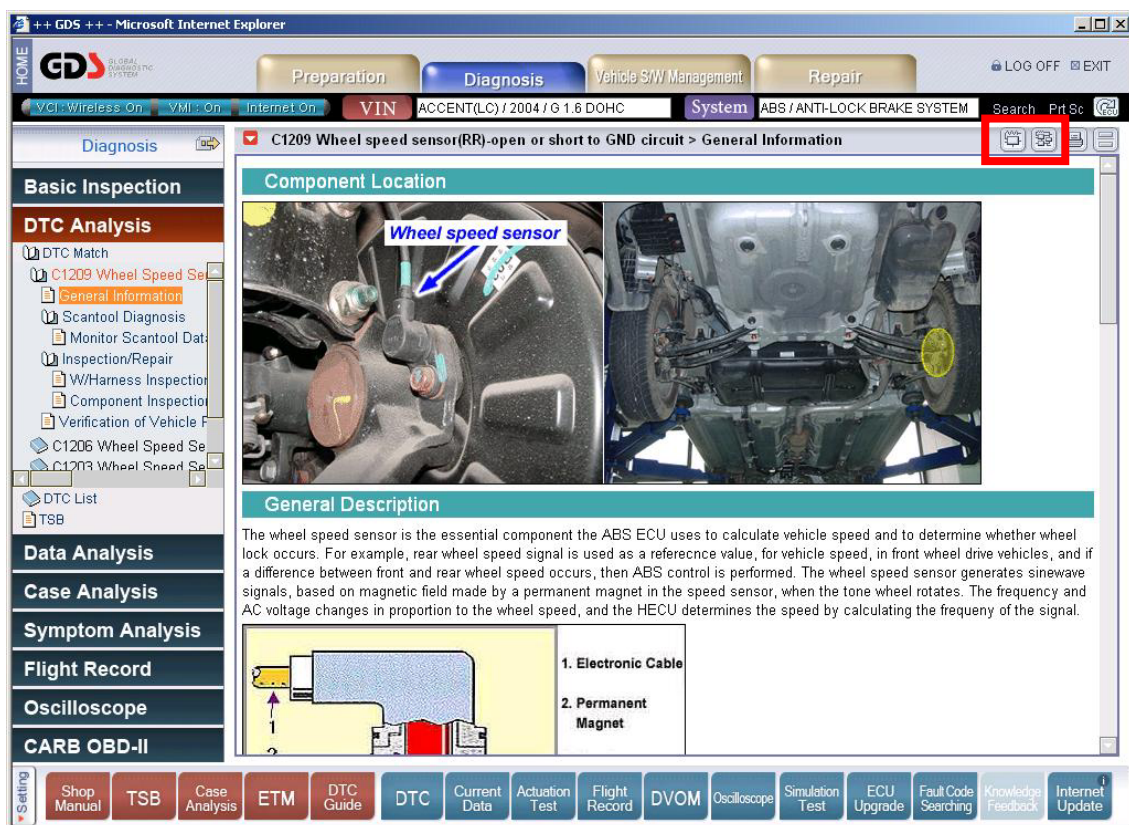


Figure 7. DTC Contents – General Information

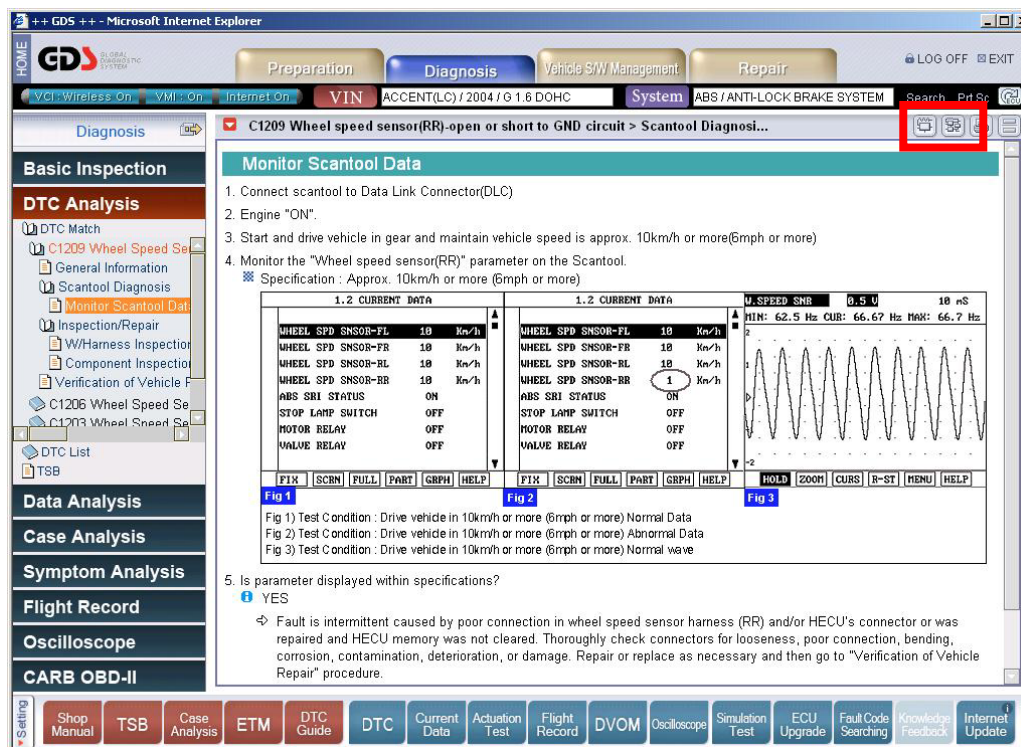


Figure 8. DTC Contents – Scantool Diagnostics

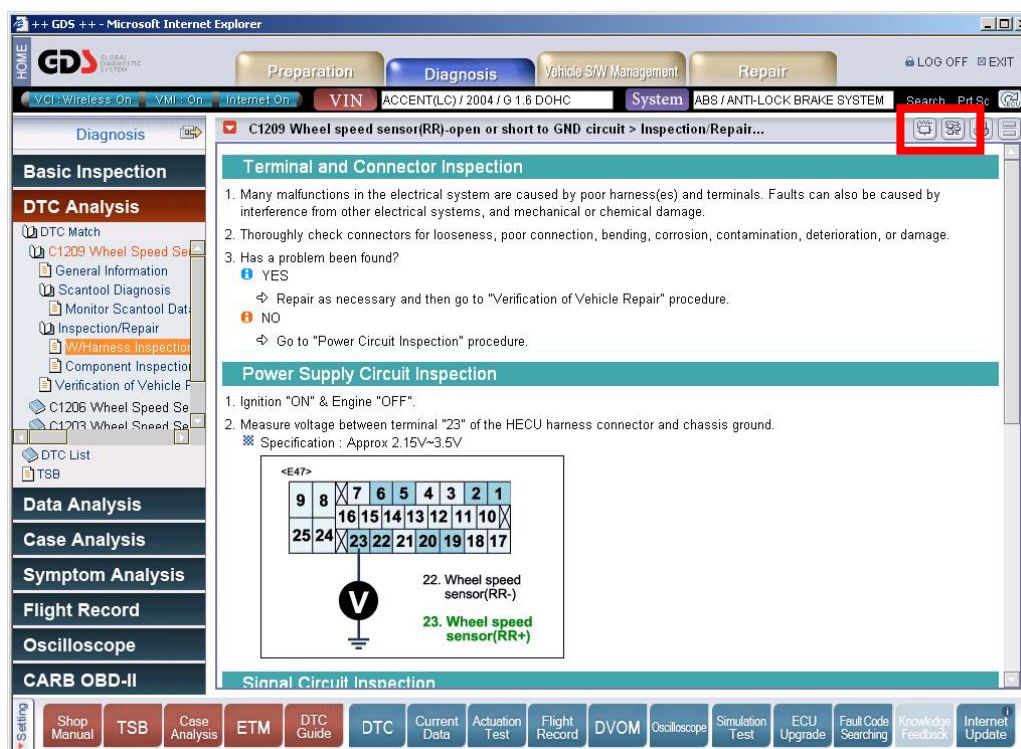


Figure 9. DTC Contents – Inspection/Repair

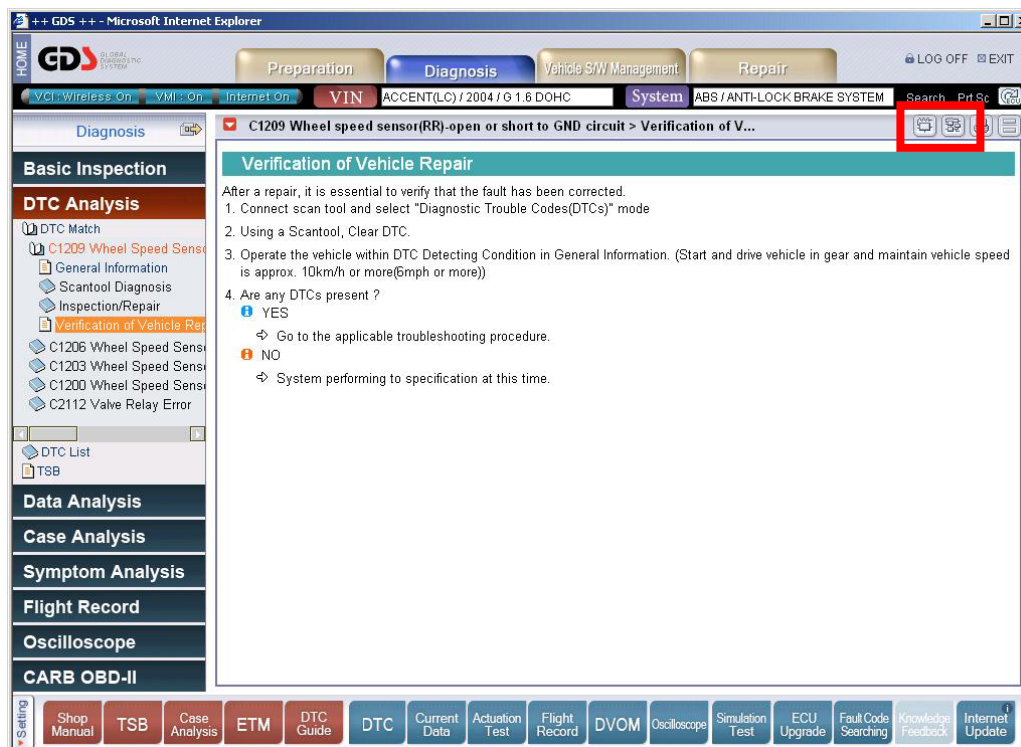


Figure 10. DTC Contents – Verification of Vehicle Repair

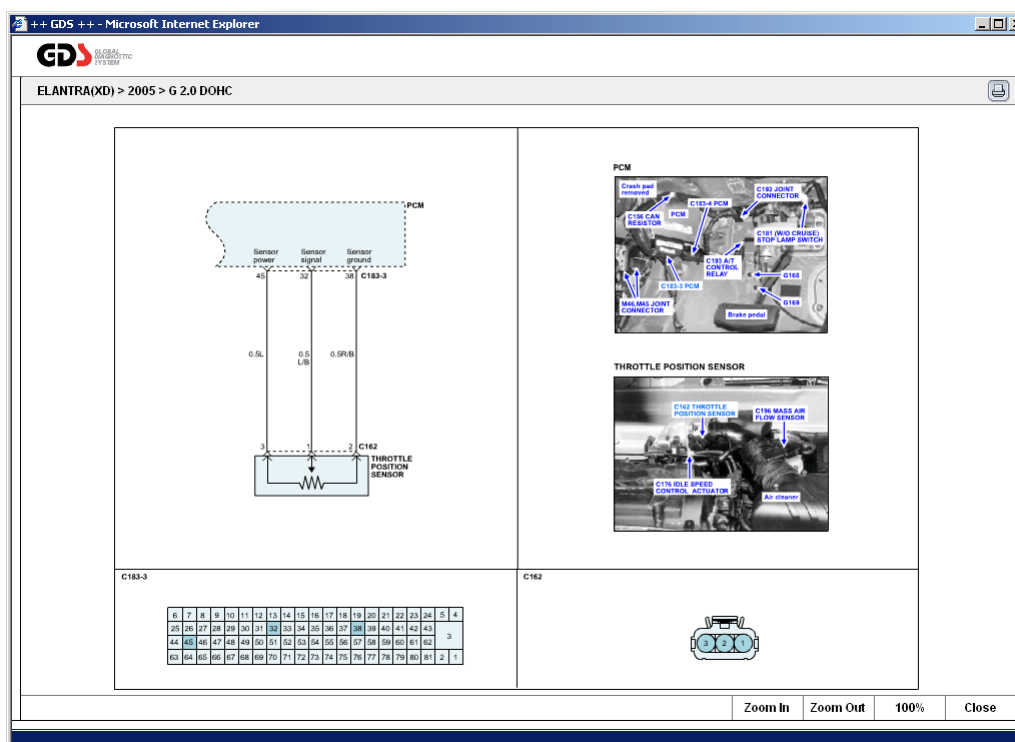


Figure 11. DTC Contents – Component Circuit Diagram

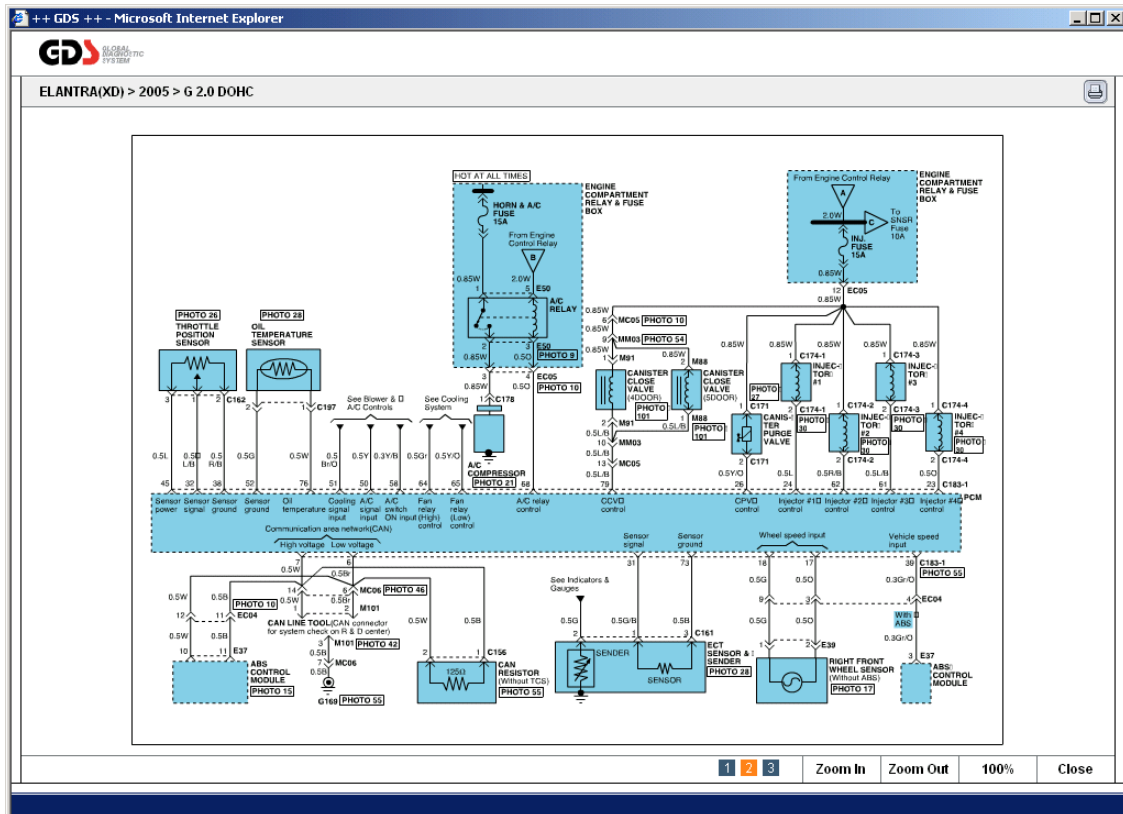


Figure 12. DTC Contents – Full Circuit Diagram



Data Analysis



GDS - Diagnosis

Module: A-04-003 (p.01)

To monitor ECU input/output information (Current Data), the user may select "Data Analysis" from the main page or "Current Data" from the bottom of the screen."



Figure 1. Data Analysis

Accessing Current Data

Configure the VCI and select the vehicle in the same manner as for DTC Analysis.

Monitoring for Current Data

The screen will display Current Data and DTC data in a split-screen view as shown below. Expand the Current Data window by selecting the icon marked.

Note: The speed GDS updates data parameters (refresh rate) depends on the communication protocol used by the ECU for data transmission.

If you want to view Current Data on Full-screen, click the button marked as shown below.



Figure 2. Data Analysis – Monitoring

The Functions buttons that are active in the Current Data page are shown below.

Icon	Description
	Function to refresh data values for specific items. It toggles with "Normal Display"
	Functions to refresh data values for all items. It toggles with "Selective Display"
	Function to show Current Data items in two divisions (right and left) to show more items. It toggles with "Standard List"
	Function to show Current Data items in one division. It toggles with "Full List"
	Function to show Current Data values in text format. It toggles with "Graph"
	Function to show Current Data values in graph format. It toggles with "Text"
	Function to change displayed the selected Current Data items in Graph mode.
	Function to reset the Max. Or min. value of Current Data in Graph mode
	Function to save "Current Data" in Data File Form to the PC or VCI.

Normal / Selective Display

The "Selective Display" function updates selected data parameters (maximum of 8). The default mode is "Normal Display" (all data parameters are updated). Select data parameters by checking the box next to the parameter name; click "Selective Display" to enable the function. Click "Normal Display" to switch back to the default mode.



Figure 3. Data Analysis – Selective Display

Full List / Standard List

The difference between "Full List" and "Standard List" is the output method for the "Current Data" items. "Standard List" shows items in one column and "Full List" shows in two divisions. "Selective Display" and "Graph" functions are not available in "Full List" mode.

Text / Graph

The default display format is "Text" mode. To switch to "Graph" mode, perform the following:

- Select up to 8 data parameters.
- Switch to "Selective Display" mode.
- Click the "Graph" button.

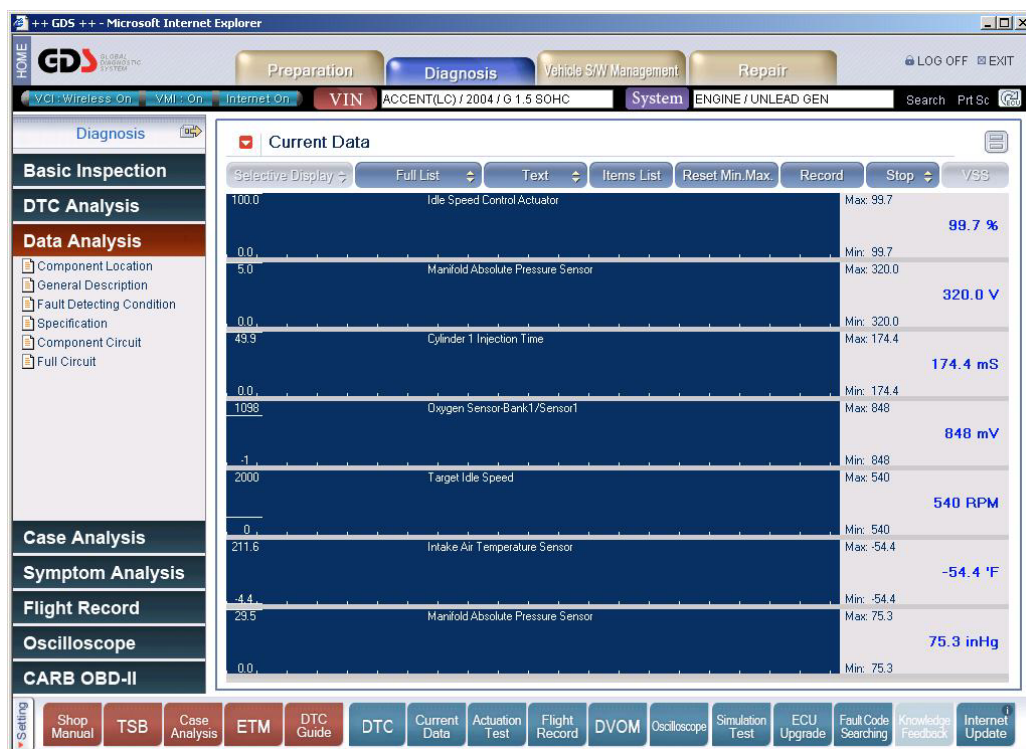


Figure 4. Data Analysis -Graph

In Graph mode, minimum and maximum values will display on the right-hand side of the screen; use the "Reset Min/Max" button to reset these values.

To add or remove items from the graph, select the "Item List" button. Currently selected items are marked with an asterisk (*). Click on an item to add or remove (8 items maximum). Click the "Item List" button to switch back to "Graph" mode.

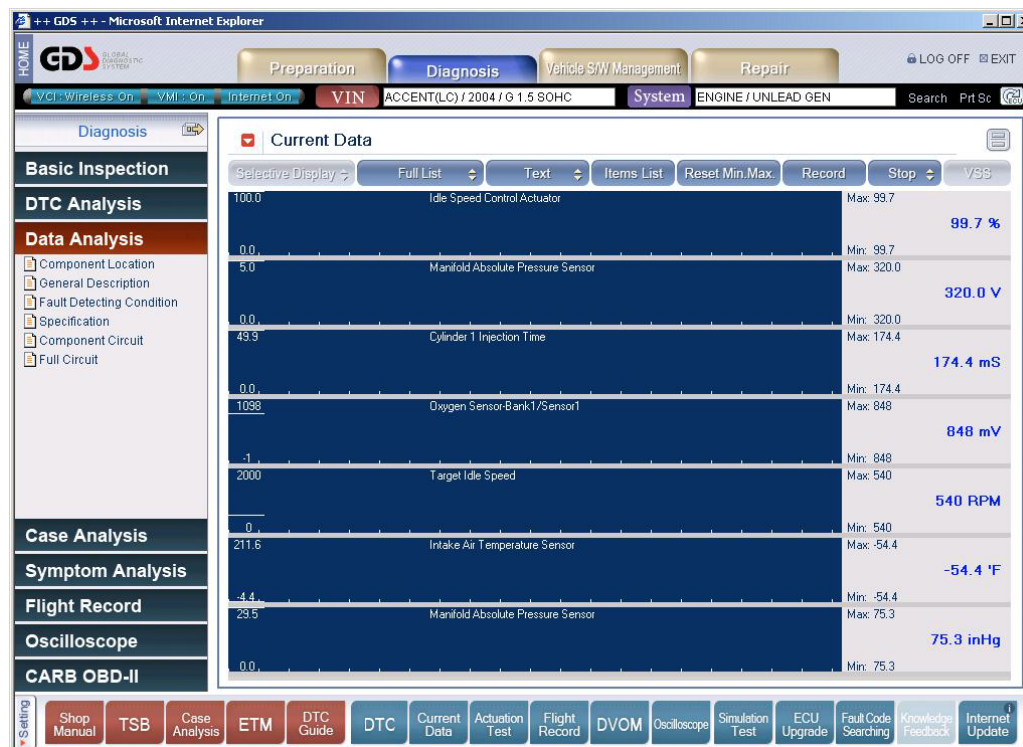


Figure 5. Data Analysis -Graph-Min & Max

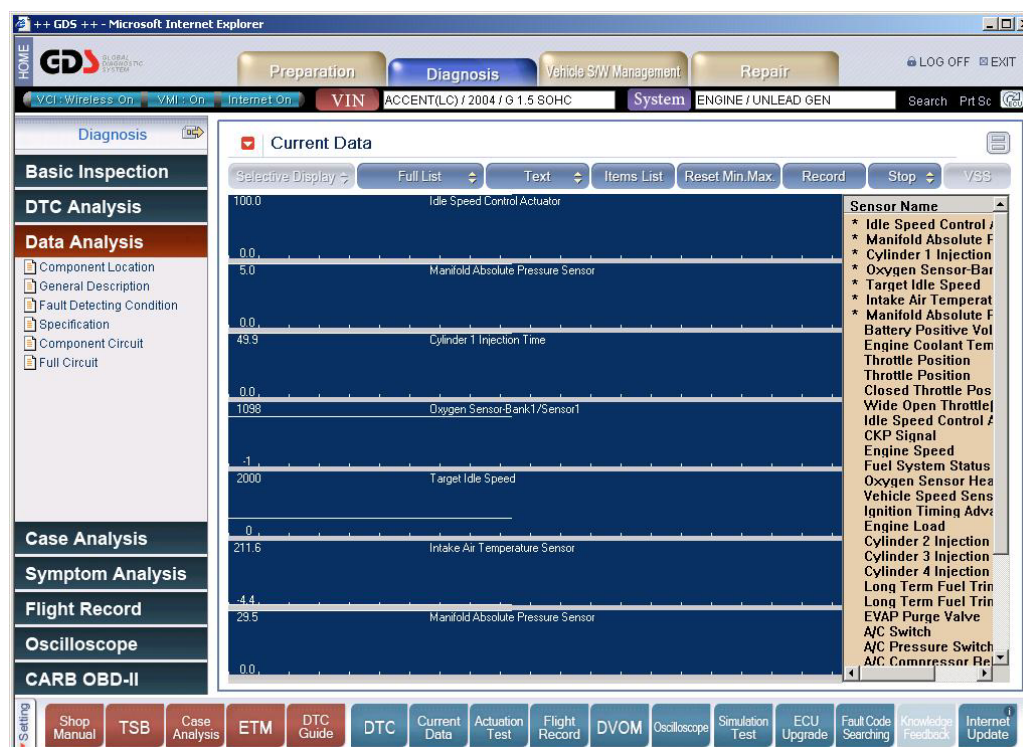


Figure 6. Data Analysis -Display item change

Current Data Analysis Functions

When using "Text" mode, additional information is available for supported Current Data items:

- Component Location - Shows the location of the selected component.
- General description - General information related to the selected component.
- Fault Detecting Condition - DTC enable conditions related to the selected component.
- Specification - Applicable specifications for the selected component.
- Component Circuit - Wiring diagram showing only the selected component and related wiring.
- Full Circuit - Full wiring diagram for the system related to the selected component.

Click on a Current Data Parameter to access this information.

Sample screens are shown on the following pages.



Figure 7. Data Analysis Contents– Component Location



Figure 8. Data Analysis Contents– General Description

The screenshot shows the GDS++ software interface in Microsoft Internet Explorer. The 'Diagnosis' tab is active, and the 'Data Analysis' section is selected. The 'DTC Detecting Condition' table is displayed, showing various monitoring strategies and their possible causes.

Item	Detecting Condition	Possible cause
Monitoring Strategy	● Signal check low	<ul style="list-style-type: none"> ● Open in signal circuit ● Short to battery in signal circuit (pin 42 to 33) ● Open in ground circuit ● Faulty IATS ● Faulty ECM
Threshold value	● Measured temperature : < -38.25°C(-36.85°F)	
Enable Conditions	<ul style="list-style-type: none"> ● Idle and no fuel cut-off ● 240 sec after engine start 	
Diagnostic Time	● 10.2 sec	
Fail Safe	<ul style="list-style-type: none"> ● No failure detected on ECTS - The limp home value of IATS depends on ECTS. ● Failure detected on ECTS - ECM controls with mapping data. 	

Figure 9. Data Analysis Contents– Fault Detecting Condition

The screenshot shows the GDS++ software interface in Microsoft Internet Explorer. The 'Diagnosis' tab is active, and the 'Data Analysis' section is selected. The 'Specification' table is displayed, showing normal parameters for signal resistance at different temperatures.

	Normal Parameter		
	20°C(68°F)	40°C(104°F)	80°C(176°F)
Signal Resistance	2.0 ~ 3.0 kΩ 3.0 ~ 3.7 V	0.7 ~ 1.6 kΩ 2.5 ~ 2.9 V	0.2 ~ 0.4 kΩ 1.0 ~ 1.4 V

Figure 10. Data Analysis Contents– Specification

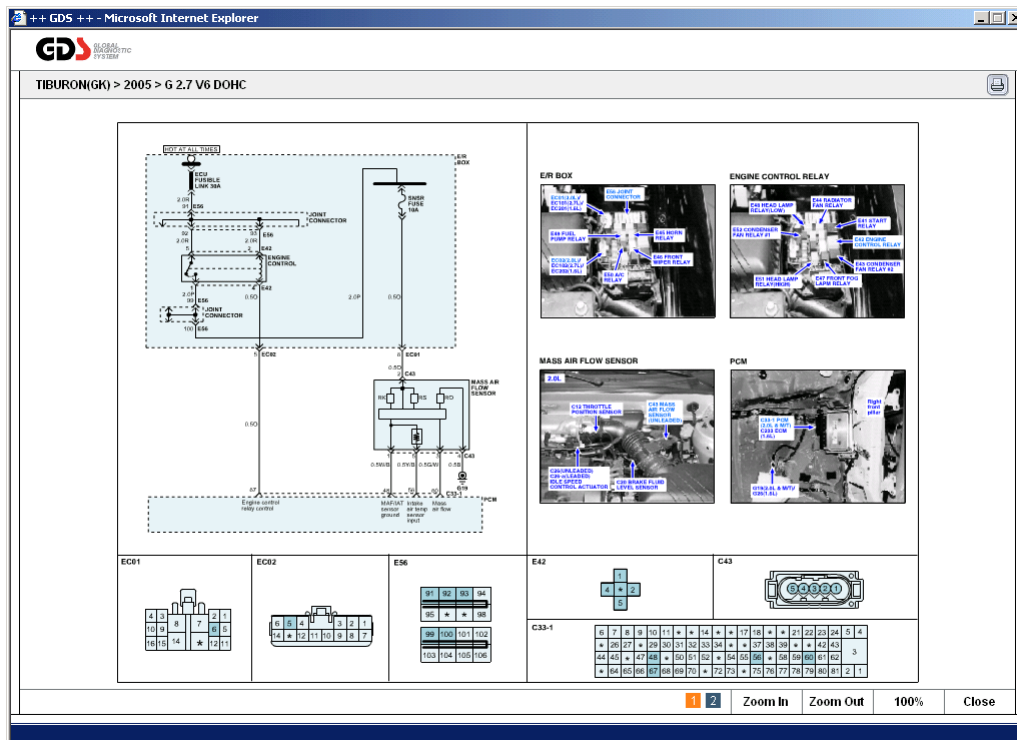


Figure 11. Data Analysis Contents- Component Circuit

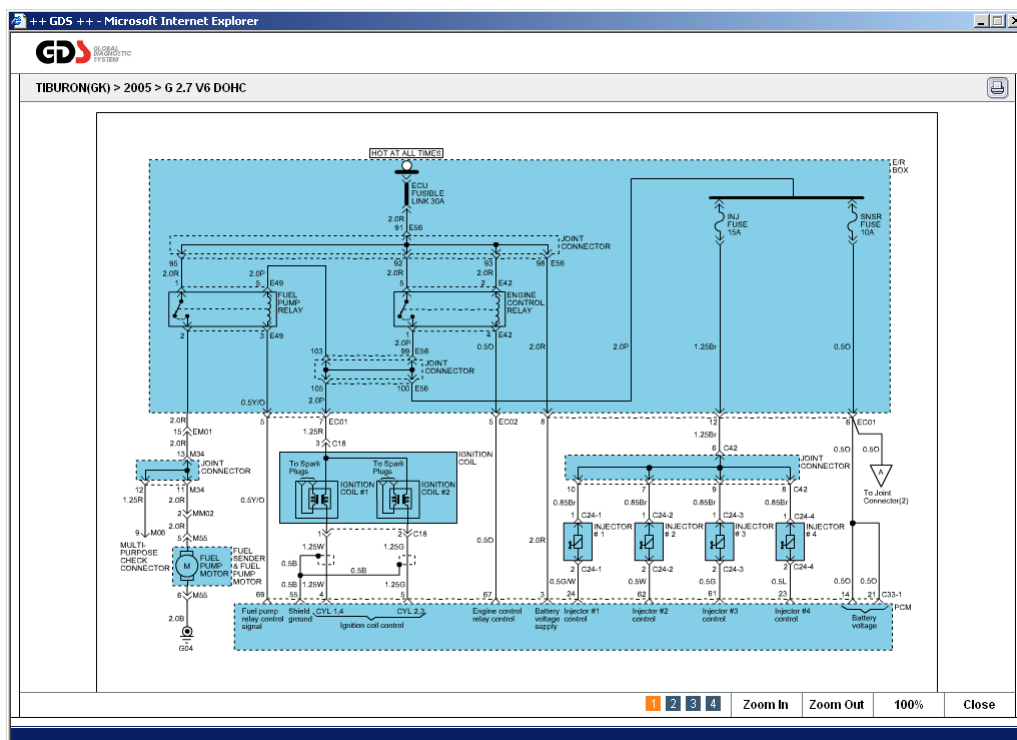


Figure 12. Data Analysis Contents- Full Circuit



Case Analysis



GDS - Diagnosis

Module: A-04-004 (p.01)

“Case Analysis” function in the “Diagnostic Guide” menu classifies diagnostic guide cases into module groups (Engine, Transmission, and brakes...). It also classifies specifically into symptoms and supports the most effective repair cases for each symptom.

In Case Analysis, the “Match On” mode only checks the selected symptoms for the selected vehicle in “**Vehicle Selection**”, and “Match Off” mode will access every diagnostic case for selected vehicle.

- Case Match : Function to access diagnostic cases only for the selected vehicle.
- Case List: Function to access diagnostic cases for all symptoms for selected vehicle.

There are two ways to use “Case Analysis” function. The first way is to use “Case Analysis” menu in “Diagnostic guide” section at the initial main page. The second way is to use “Case Analysis” menu after the selection of “Diagnosis” button in the main menu of the sub screen as shown in [Figure 1].

Case Match

When "Case Analysis" is selected, "Case Match" menu is displayed as default.

In "Case Match" menu, module groups that match the selected symptom will appear on the lower section, and name of the checked symptoms appear when the module group is selected. Number of matches, for the maintenance cases and the checked symptom name, will be shown on the screen.

The screenshot displays the GDS Case Analysis interface. The left sidebar shows the 'Case Match' menu selected under 'Diagnosis'. The main area displays a table of diagnostic cases for a 2005 Accent (LC) with a clutch system issue. The table includes columns for No., Date, Model, N Code, Group, Subject, and Language. The cases listed are:

No.	Date	Model	N Code	Group	Subject	Language
12	2005-01-10	Accent (LC)	Slip and/or Shock	Clutch System	DESPLAZAMIENTO DEL EMBRAGUE DE LA TRANSMISIÓN MANUAL (1.3L)	Spanish
11	2005-01-10	Accent (LC)	Slip and/or Shock	Clutch System	ΓΛΙΣΤΡΗΜΑ ΣΥΜΠΛΕΚΤΗ ΜΗΧΑΝΙΚΟΥ ΚΙΒΩΤΙΟΥ (1,3L)	Greek
10	2005-01-10	Accent (LC)	Slip and/or Shock	Clutch System	PATINAGE DE L'EMBRAYAGE DE LA TRANSMISSION MANUELLE (1,3 L)	French
9	2005-01-10	Accent (LC)	Slip and/or Shock	Clutch System	SLITTAMENTO FRIZIONE DEL CAMBIO MANUALE (1.3L)	Italian
8	2005-01-10	Accent (LC)	Slip and/or Shock	Clutch System	SCHLUPF DER SCHALTGETRIEBEKUPPLUNG (1,3L)	German
7	2005-01-10	Accent (LC)	Inoperative	Transaxle/Transmission	RETENIDA DE 3ª Y COMPROBACIÓN DEL MOTOR "ON"	Spanish
6	2005-01-10	Accent (LC)	Inoperative	Transaxle/Transmission	3EME VITESSE MAINTENUE ET TEMOIN CONTROLE DU MOTEUR "ON"	French
5	2005-01-10	Accent (LC)	Inoperative	Transaxle/Transmission	RIMANE INSERITA LA TERZA MARCIA E CONTROLLO MOTORE "ON"	Italian
4	2005-01-10	Accent (LC)	Inoperative	Transaxle/Transmission	ΜΠΛΟΚΑΡΙΣΜΑ ΣΤΗΝ 3η ΤΑΧΥΤΗΤΑ ΚΑΙ ΕΛΕΓΧΟΣ ΚΙΝΗΤΗΡΑ "ON"	Greek
	2005-	Accent				

The bottom of the interface shows a navigation bar with various tools like Shop Manual, TSB, Case Analysis, ETM, DTC Guide, DTC, Current Data, Actuation Test, Flight Record, DVOM, Oscilloscope, Simulation Test, ECU Upgrade, Fault Code Searching, Knowledge Feedback, and Internet Update.

Figure 1. Case Analysis-Match On

When the symptom is selected, diagnostic cases are listed in bulletin form on the right side of the page. If symptoms were not selected in the "Vehicle Selection" setup page, no symptom will appear in the left menu.

Case List

With the "Case List" menu selected, all the module groups with symptoms for the selected vehicle appear on the left menu.

The number of diagnostic cases matched for each symptom appears on the menu as well. On the right side, diagnostic cases appear in a bulletin form.

The screenshot shows the GDS software interface in Microsoft Internet Explorer. The top navigation bar includes tabs for Preparation, Diagnosis, Vehicle SW Management, and Repair. The Diagnosis tab is active, and the VIN is ACCENT(LC) / 2004 / G 1.5 SOHC. The left sidebar shows the Case Analysis menu selected, with a list of vehicle systems and their respective case counts. The main area displays a table of diagnostic cases.

No.	Date	Model	N Code	Group	Subject	Language
12	2005-01-10	Accent (LC)	Slip and/or Shock	Clutch System	DESIZAMIENTO DEL EMBRAGUE DE LA TRANSMISIÓN MANUAL (1.3L)	Spanish
11	2005-01-10	Accent (LC)	Slip and/or Shock	Clutch System	ΓΛΙΣΤΡΗΜΑ ΣΥΜΠΛΕΚΤΗ ΜΗΧΑΝΙΚΟΥ ΚΙΒΩΤΙΟΥ (1,3L)	Greek
10	2005-01-10	Accent (LC)	Slip and/or Shock	Clutch System	PATINAGE DE L'EMBRAYAGE DE LA TRANSMISSION MANUELLE (1,3 L)	French
9	2005-01-10	Accent (LC)	Slip and/or Shock	Clutch System	SLITTAMENTO FRIZIONE DEL CAMBIO MANUALE (1.3L)	Italian
8	2005-01-10	Accent (LC)	Slip and/or Shock	Clutch System	SCHLUPF DER SCHALTGETRIEBEKUPPLUNG (1,3L)	German
7	2005-01-10	Accent (LC)	Inoperative	Transaxle/Transmission	RETENIDA DE 3ª Y COMPROBACIÓN DEL MOTOR "ON"	Spanish
6	2005-01-10	Accent (LC)	Inoperative	Transaxle/Transmission	3EME VITESSE MAINTENUE ET TEMOIN CONTROLE DU MOTEUR "ON"	French
5	2005-01-10	Accent (LC)	Inoperative	Transaxle/Transmission	RIMANE INSERITA LA TERZA MARCIA E CONTROLLO MOTORE "ON"	Italian
4	2005-01-10	Accent (LC)	Inoperative	Transaxle/Transmission	ΜΠΛΟΚΑΡΙΣΜΑ ΣΤΗΝ 3η ΤΑΧΥΤΗΤΑ ΚΑΙ ΕΛΕΓΧΟΣ ΚΙΝΗΤΗΡΑ "ON"	Greek
	2005-	Accent				

The bottom of the interface features a toolbar with various diagnostic tools like Shop Manual, TSB, Case Analysis, ETM, DTC Guide, DTC, Current Data, Actuation Test, Flight Record, DVOM, Oscilloscope, Simulation Test, ECU Upgrade, Fault Code Searching, Knowledge Feedback, and Internet Update.

Figure 2. Case Analysis- Match Off-All

Case analysis open

When the user selects the subject name from the case list the Bulletin containing corresponding content for that case appears as a pop-up window.

Case Study

Print Preview Close

Registered	1/13/2005	Views	1	Language	Italian				
Model	Elantra(XD)	Model Year	2002	Mileage	6523KM				
Fuel	Diesel	Displacement	1600cc	T/A	AUTO				
N Code	Impossible Shift (3rd Hold)	C Code	Improper Tightening						
Group	Transaxle/Transmission								
System	Automatic Transaxle System								
DTC	P0722 - Plulse Generator B								
Subject	RIMANE INSERITA LA TERZA MARCIA NEL CAMBIO AUTOMATICO - GENERATORE DI IMPULSI								
Condition	- Rimane inserita la terza marcia sulla trasmissione automatica.								
Cause	- Interruzione sul circuito del cablaggio generatore di impulsi-b.								
Diagnosis	<p>1) Controllo con strumento di scansione (Codice diagnostica guasti):</p> <table border="1"> <thead> <tr> <th>D T C</th> <th>Elemento di diagnostica</th> </tr> </thead> <tbody> <tr> <td>P0722</td> <td>Generatore di impulsi -b</td> </tr> </tbody> </table> <p>2) Controllare il generatore di impulsi b - Un' interruzione sul circuito cablaggio.</p> <p>- I cavi sono stati tirati via dal movimento della trasmissione automatica.</p> <p>- Dopo aver sostituito il generatore di impulsi-b, l'impianto funziona regolarmente.</p> 					D T C	Elemento di diagnostica	P0722	Generatore di impulsi -b
D T C	Elemento di diagnostica								
P0722	Generatore di impulsi -b								

Figure 3. Case Analysis-Contents Open



Symptom Analysis



GDS - Diagnosis

Module: A-04-005 (p.01)

The "Symptom Analysis" function in the "Diagnostic Guide" menu allows the user to access symptom-based troubleshooting data.

The "Symptom Match" function retrieves symptom troubleshooting data based on the symptoms entered at the VIN screen.

The "Symptom List" function retrieves all available symptom troubleshooting data for the selected vehicle.

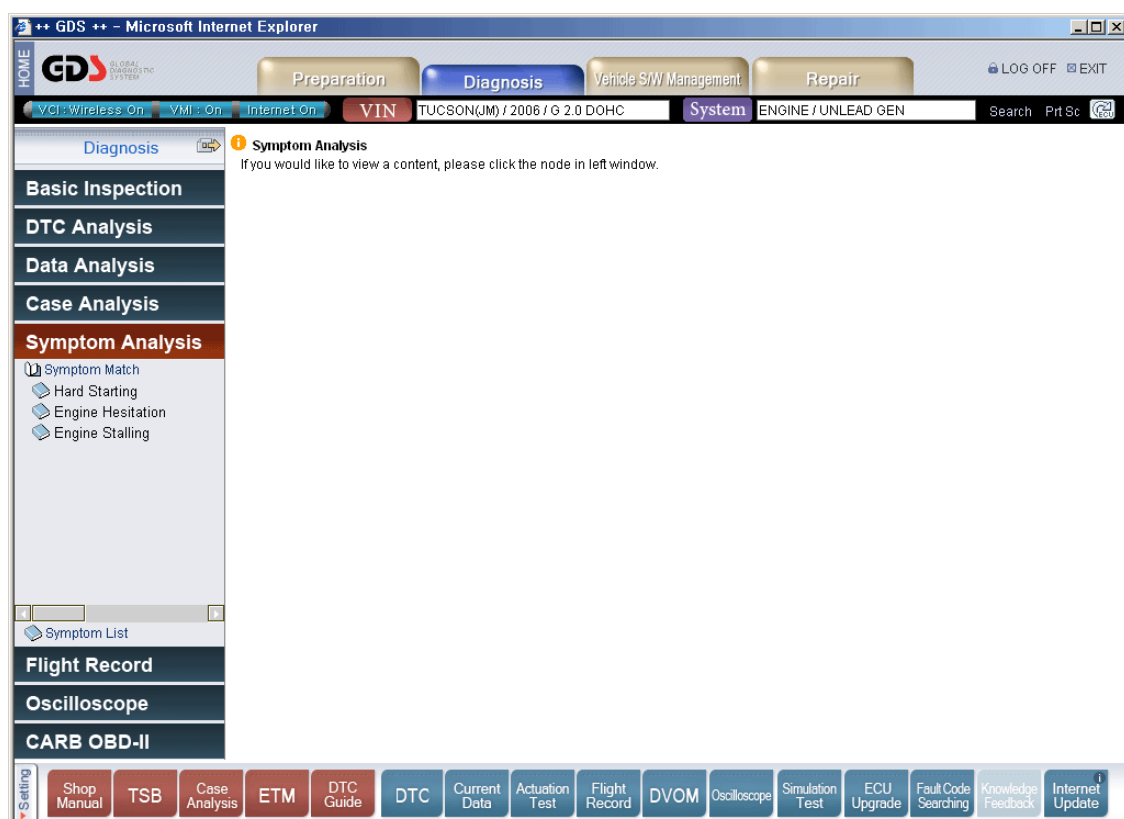


Figure 1. Symptom Analysis-Match On

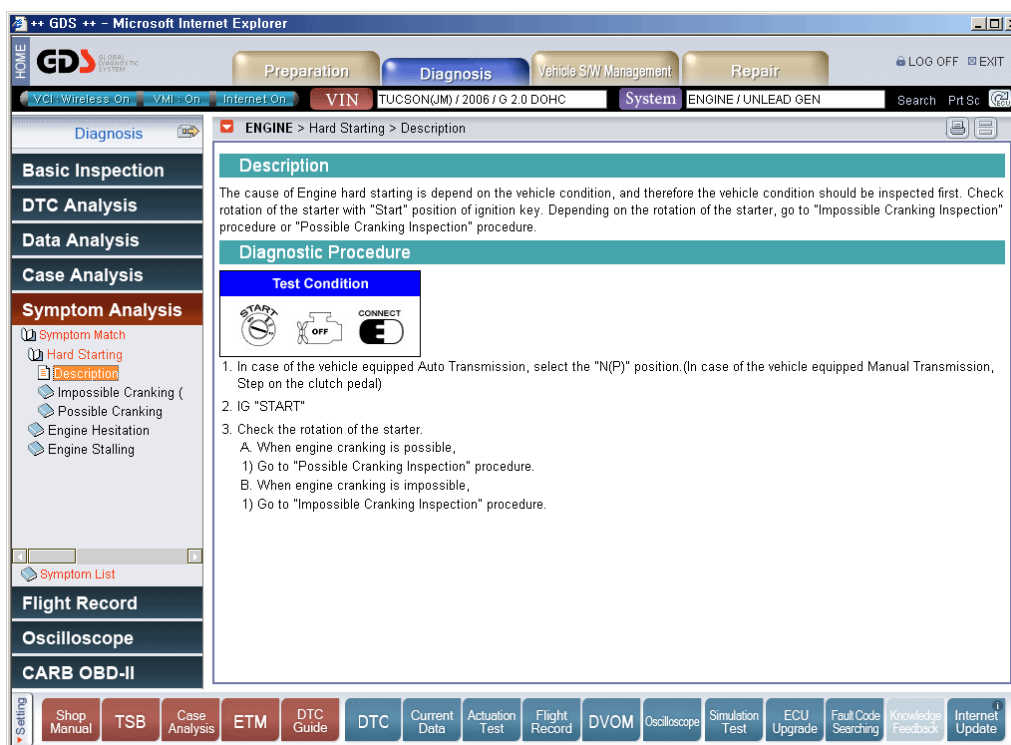


Figure 2. Symptom Analysis- Match On-Item selection

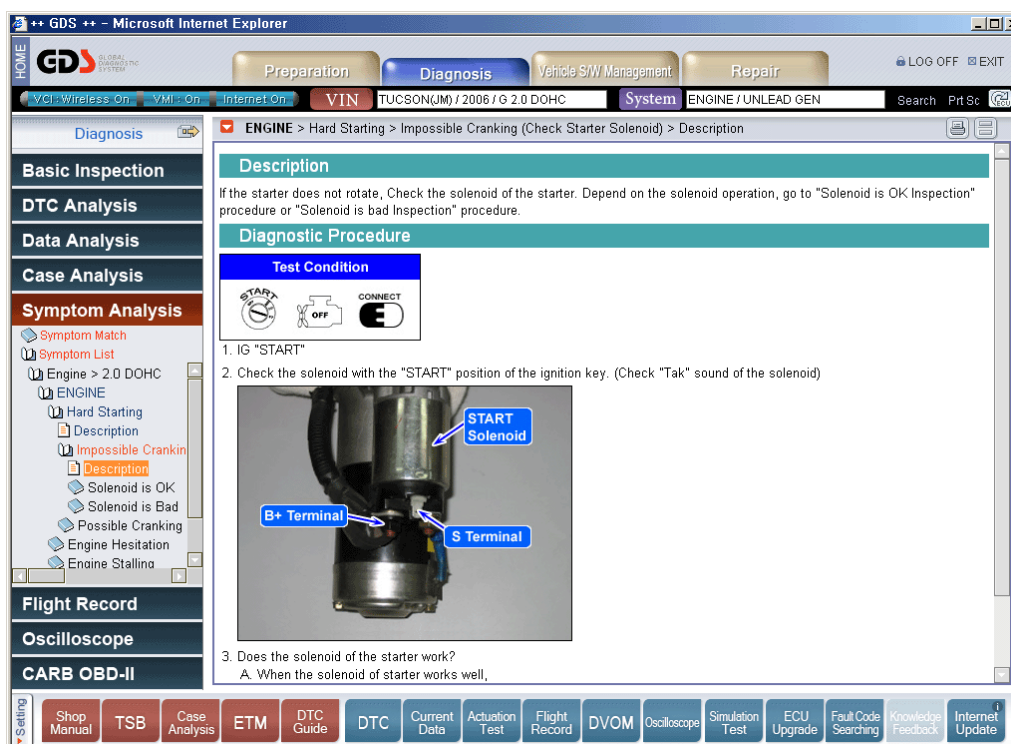


Figure 3. Symptom Analysis- Match Off-All



Flight Record



GDS - Diagnosis

Module: A-04-006 (p.01)

"Flight Record" function enables the user to record systems data in PC or VCI, and to analyze the data in various ways and time settings. The data copied or saved on PC can be reviewed at any time.

Selection of Record Item

By "Data Analysis" or "Current Data"

From the "Data Analysis" or "Current Data" functions, selecting the items to record,

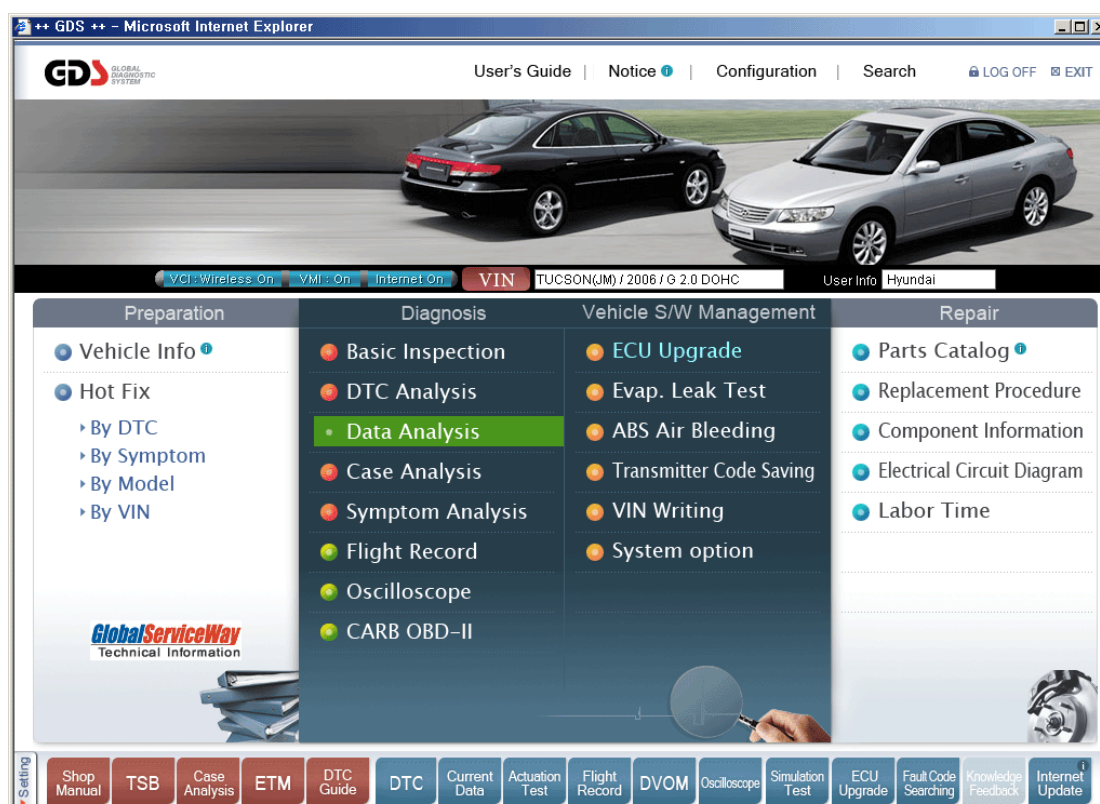


Figure 1. Selection of Data Analysis

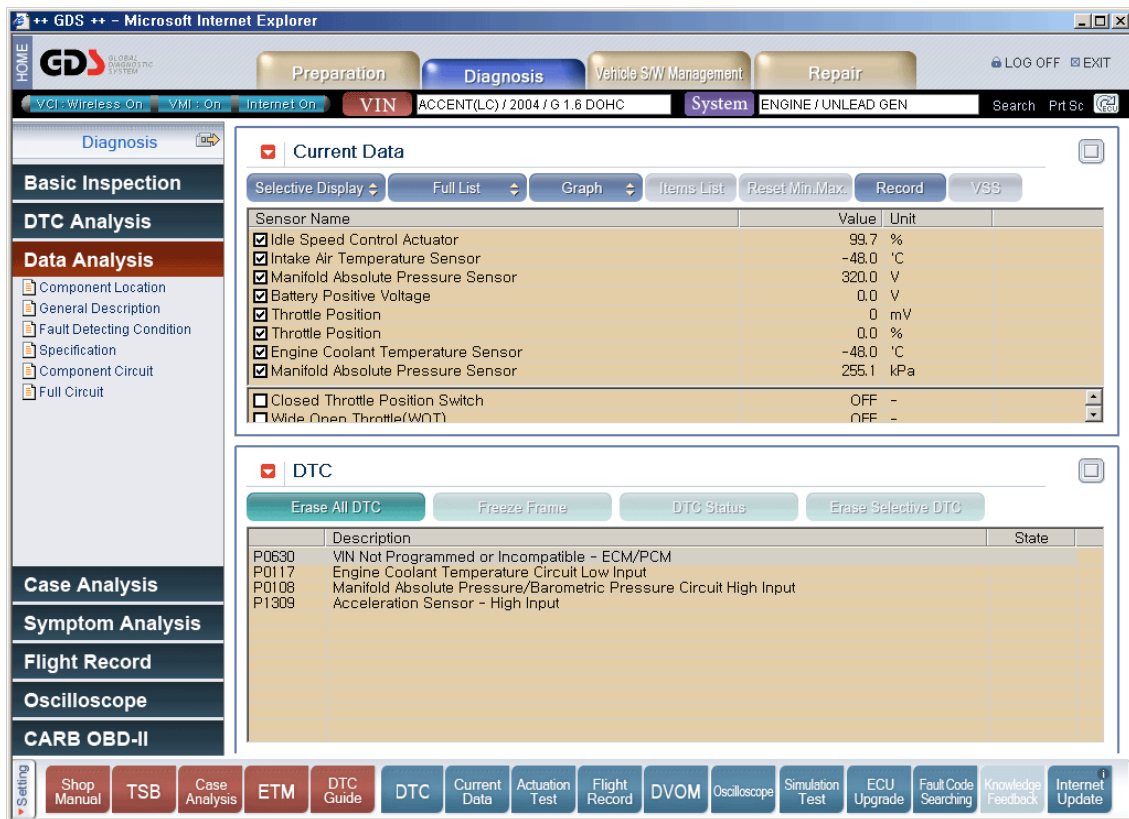


Figure 2. Select the item on Data Analysis page

By "Flight Record"

Select "Flight Record" button on the initial page. "Flight Record" menu tips page shown in figure 4. If the selection of vehicle and system is not yet completed, "GDS VIN Search" page will appear instead of "Flight Record" menu tips page.

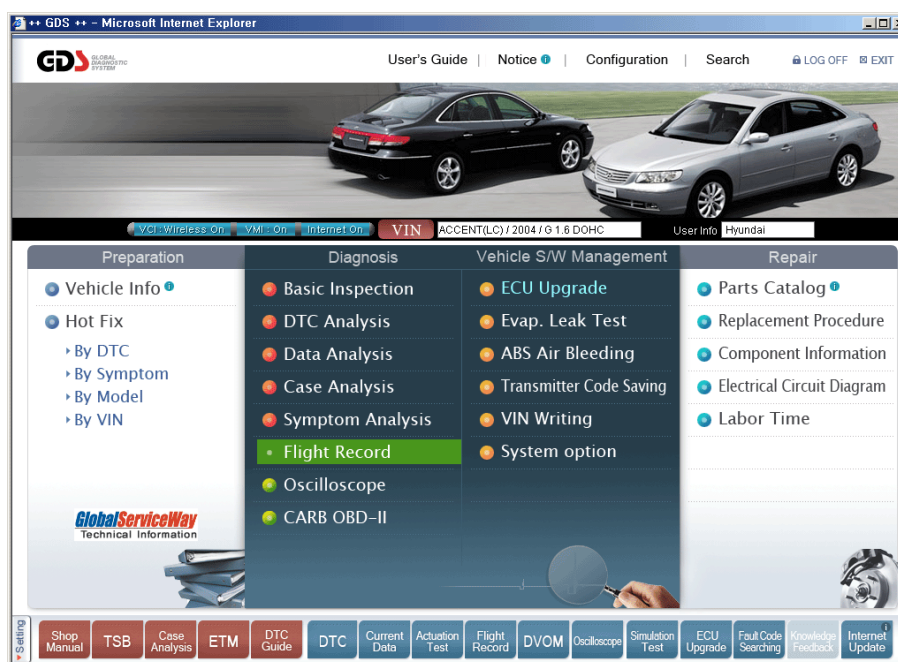


Figure 3. Select Flight Record

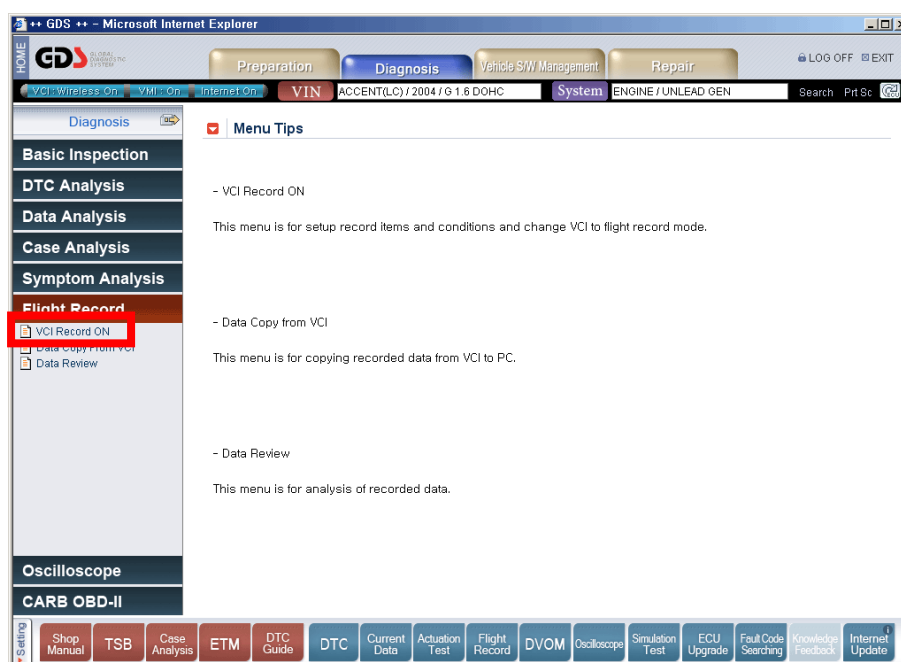


Figure 4. Menu Tips of Flight Record

"VCI Record ON" menu is for setting up record items, conditions and change VCI to flight record mode. To change VCI module to Record mode, plug in VCI module and Trigger module on a vehicle. Cigar lighter socket connection is very important for automatic power On/Off of the VCI. Vehicle must be IG ON. VCI must be power ON. Check the VCI Power Status LED indicates "NORMAL". If not, you should stop record first. (Using "VCI Record OFF" Menu) When everything is ready, click "OK" button on the lower section of the page.

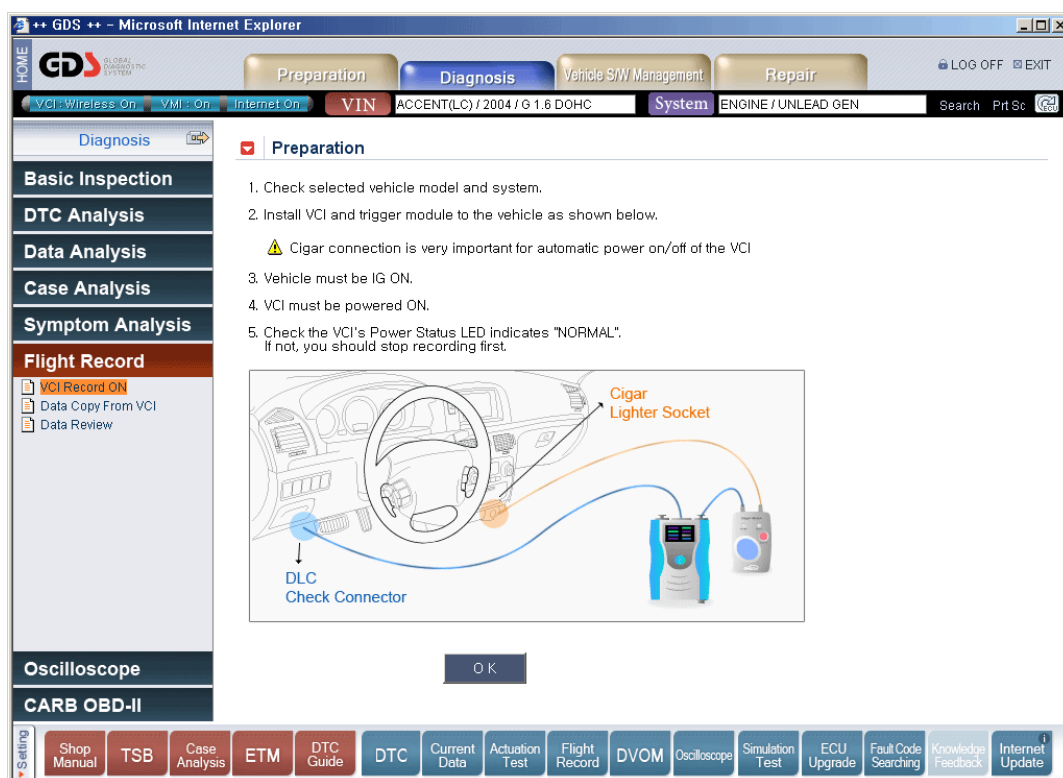


Figure 5. Preparation for VCI Record ON

PC tries a connection to download data from VCI. The window appears on the screen as shown in figure below to notify the connection.

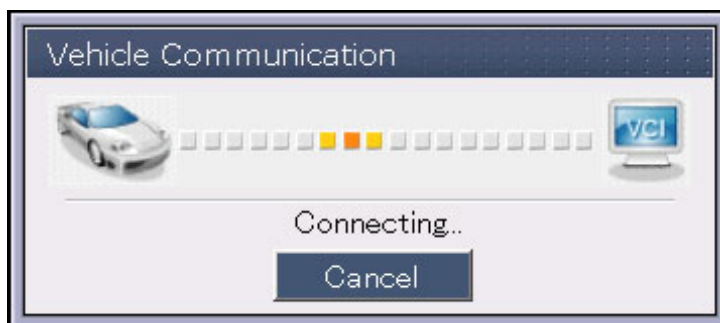


Figure 6. Vehicle Communication

When the communication is completed, selection page for the “Record Item” appears as shown in the figure below.

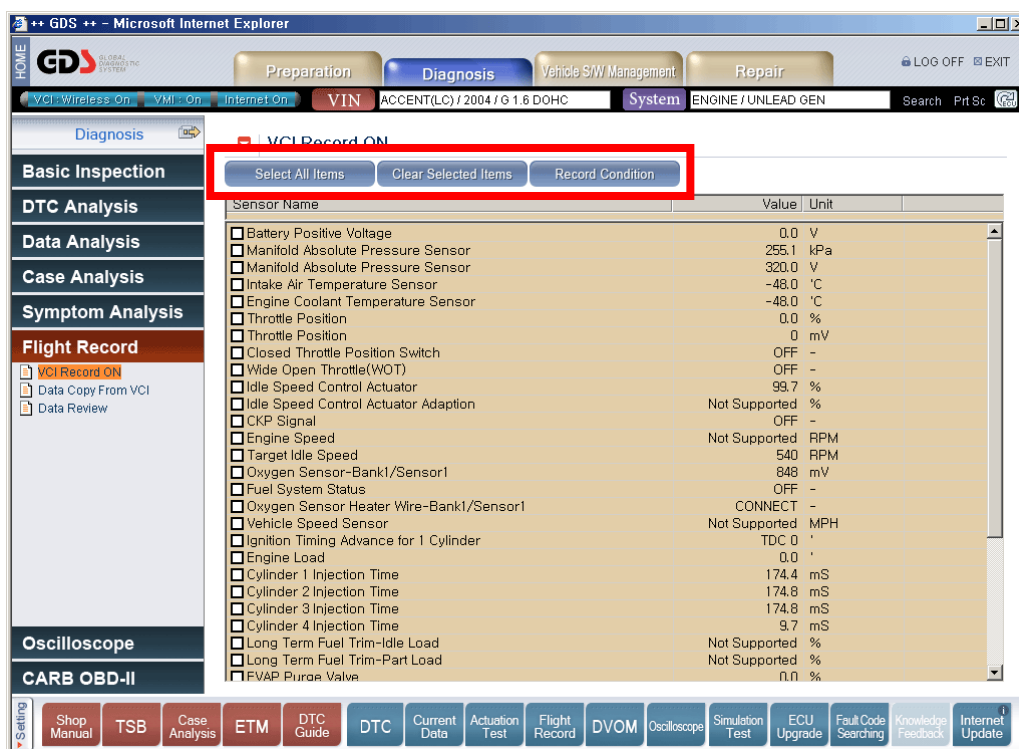


Figure 7. Select Items

Icon	Description
	All the data will be checked.
	All the data will be unchecked.
	Select the “Trigger Setting”, “Recording Item” and “Record time for one Event” after the data selection process.

When “Record Condition” button is selected, “Record Condition” window appears on the screen for user to select the trigger type.

Operation of Flight Record to PC

From the "Data Analysis" or "Current Data" functions, after selecting the items to record, press the "Record" button.

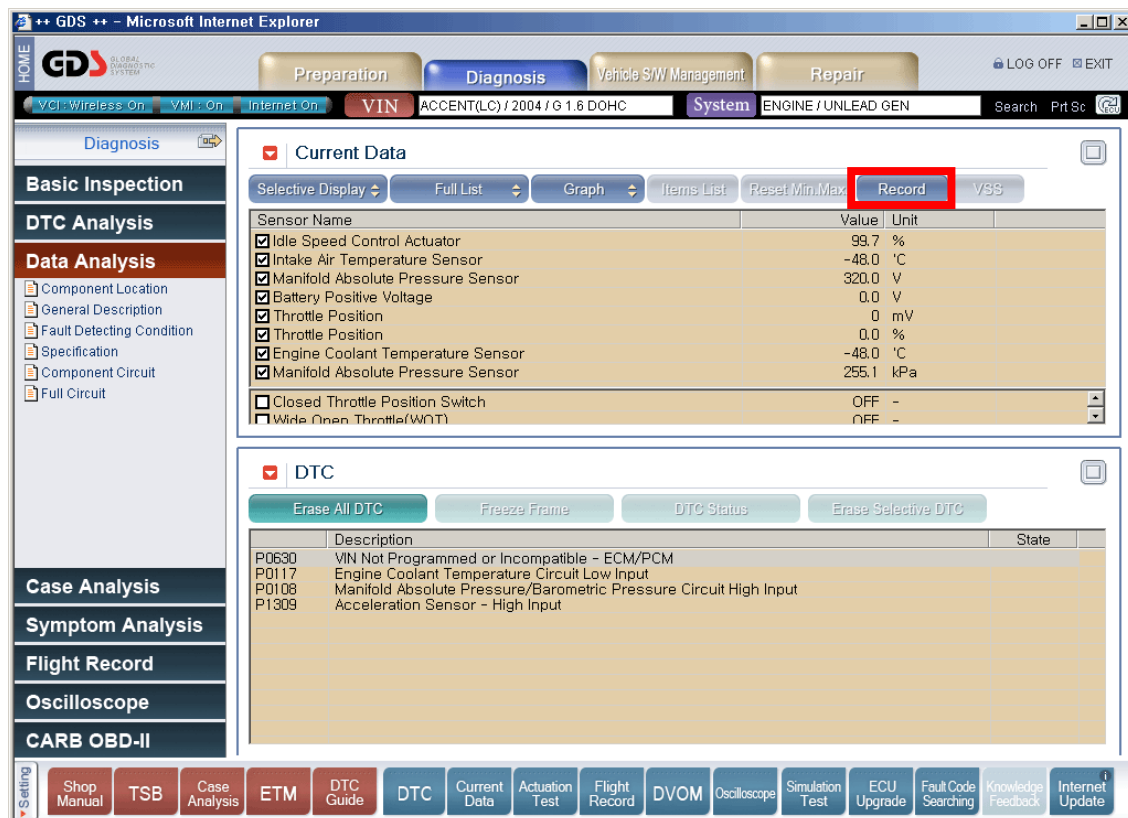


Figure 8. Select the item on Data Analysis page

Select the "PC Record" button.

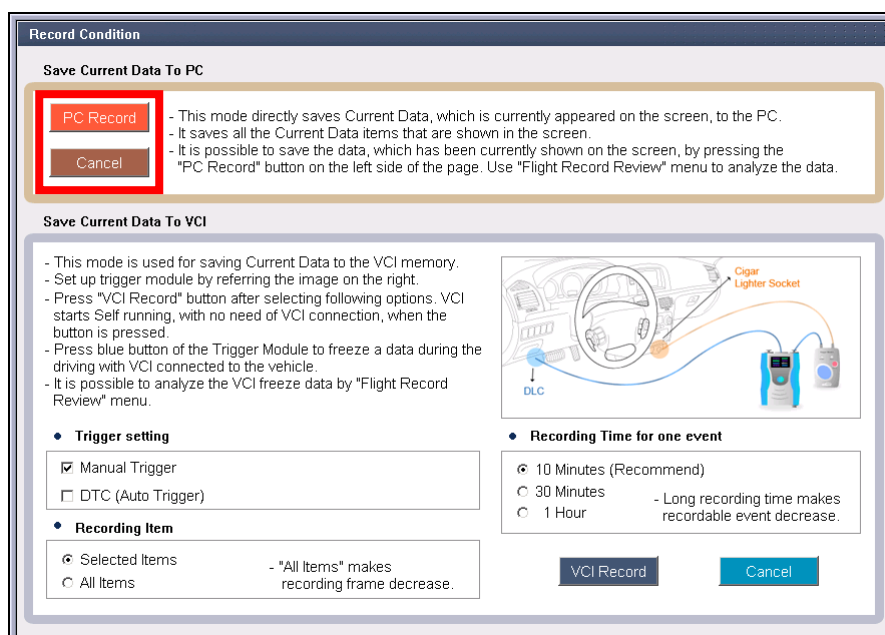


Figure 9. Record Condition window

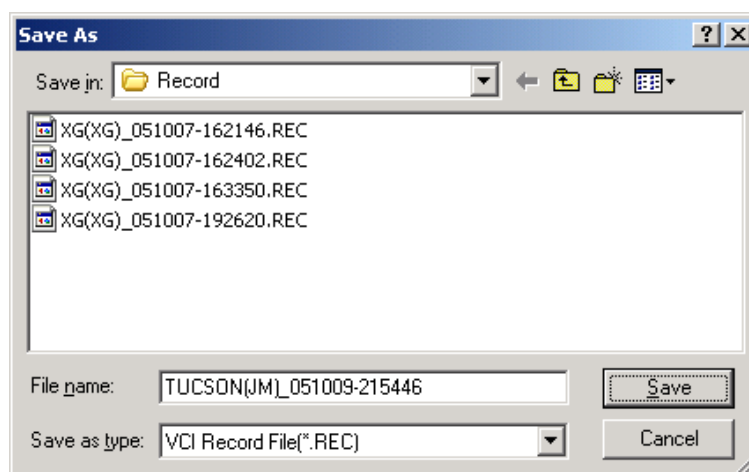


Figure 10. Save the Record File to PC

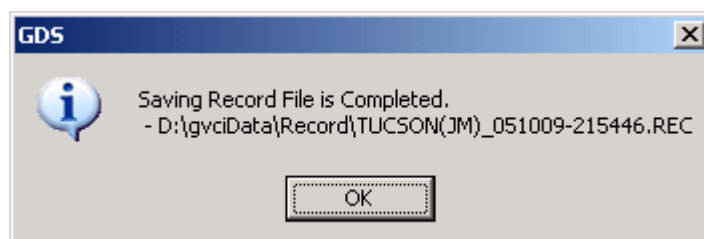


Figure 11. Complete the File saving

Operation of Flight Record to VCI

From the "Data Analysis" or "Current Data" functions, after selecting the items to record, press the "Record" button."

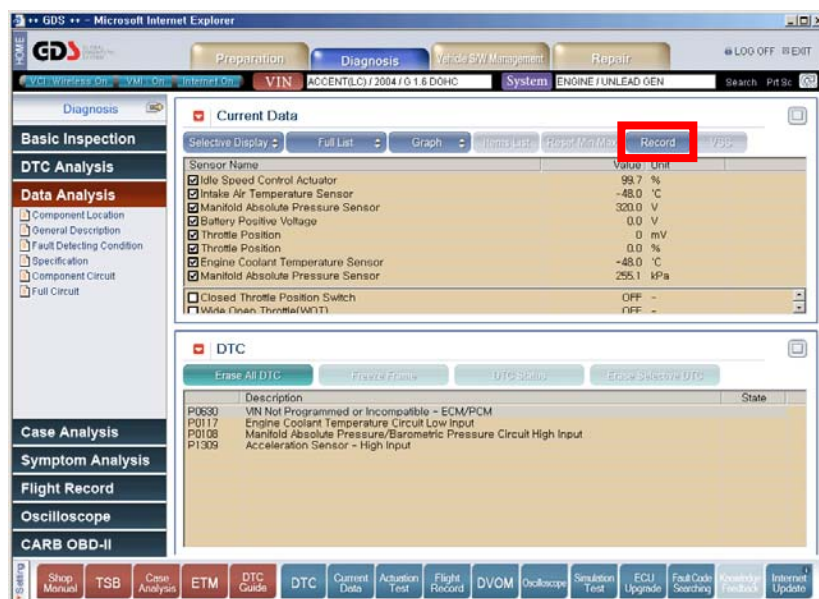


Figure 12. Select the item on Data Analysis page

Select the trigger type, recording item (All or Selected), and recording duration. Connect the VCI to the vehicle using the Trigger Module as shown.

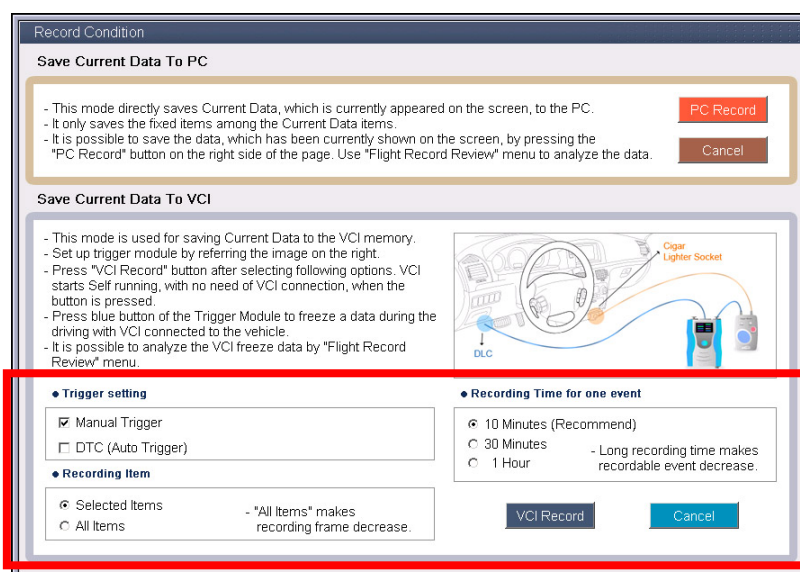


Figure 13. Record Condition

Confirm the option to place the VCI into Record mode. If needed, confirm that previously saved data is OK to erase.

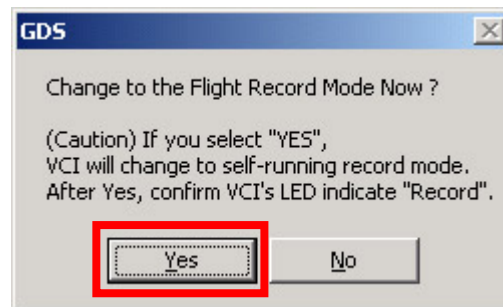


Figure 14. Confirm Change to Flight Record Mode

If there is unsaved data in the VCI a Warning will display (Figure 15). Click "Yes" to continue with flight record setup.

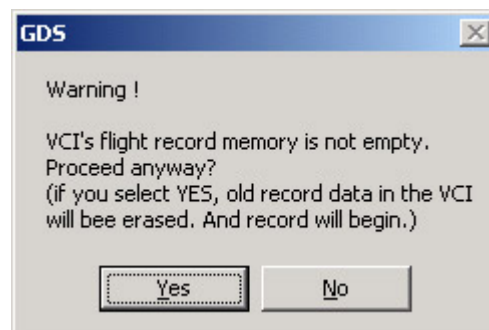


Figure 15. VCI Warning for deleting old data

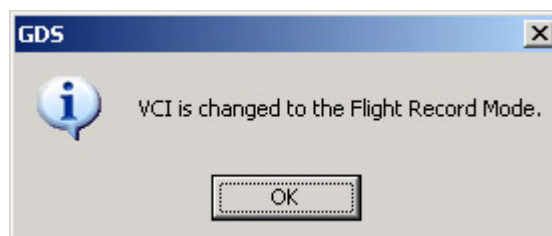


Figure 16. Completion of the mode change

Check VCI and Trigger module are in record mode. The VCI Power LED will turn RED; the Vehicle Communication LED will flicker. The Trigger module Power and Ready LED's will be illuminated in the record mode.

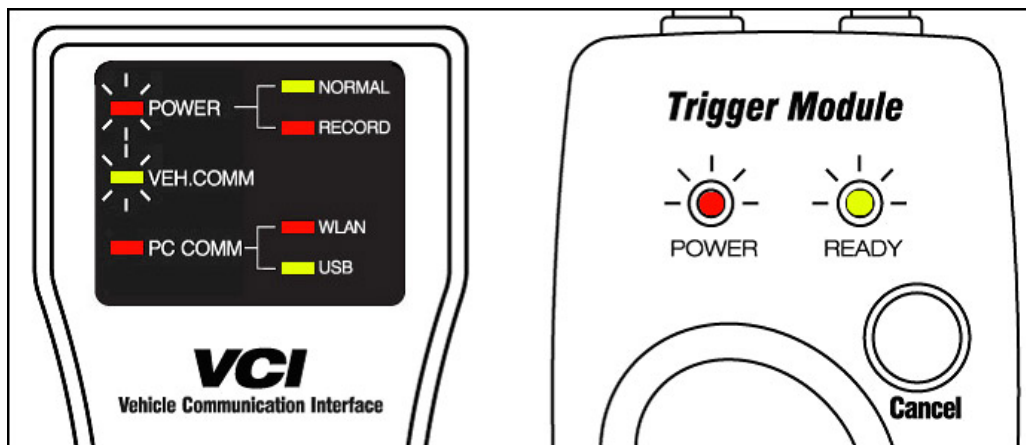


Figure 17. VCI Flight Record Mode

By pressing, "Enter" button during the flight record process the VCI stops collecting data and starts saving the data. The "Ready" Led will flicker for 10 seconds indicating the data is being saved in the VCI.

By pressing "Cancel" button during the "Ready" Led flickering the VCI cancels saving the data.

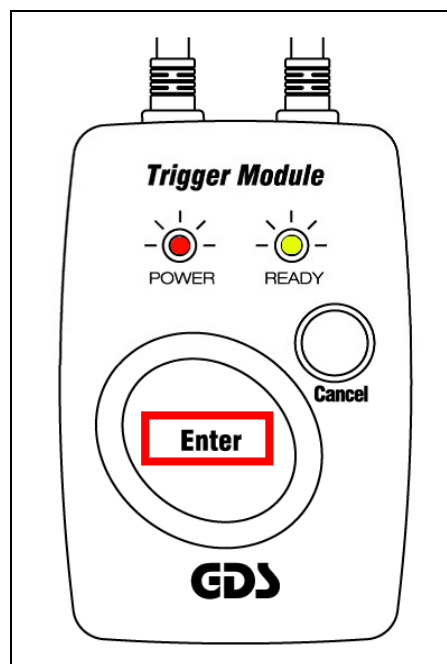


Figure 18. Press the "Enter" button



WARNING

- Do not use the Power switch of the VCI Module in Flight Record mode.
- VCI module and Trigger module automatically turn on/off depending on IG Key status.
- VCI module and Trigger module turn off after 10 seconds from IG key off and immediately turn on when IG Key is ON.

To release the VCI from Flight Record mode, Select the "DTC analysis or "Data Analysis" menu, then confirm as shown below.



Figure 19. Confirm VCI Record OFF

The VCI Power LED will illuminate as shown when Flight Recording is released.

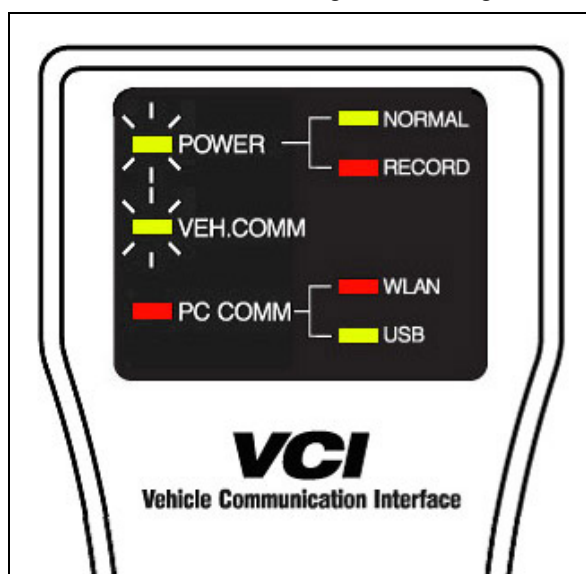


Figure 20. VCI Normal Mode

Flight Record Review

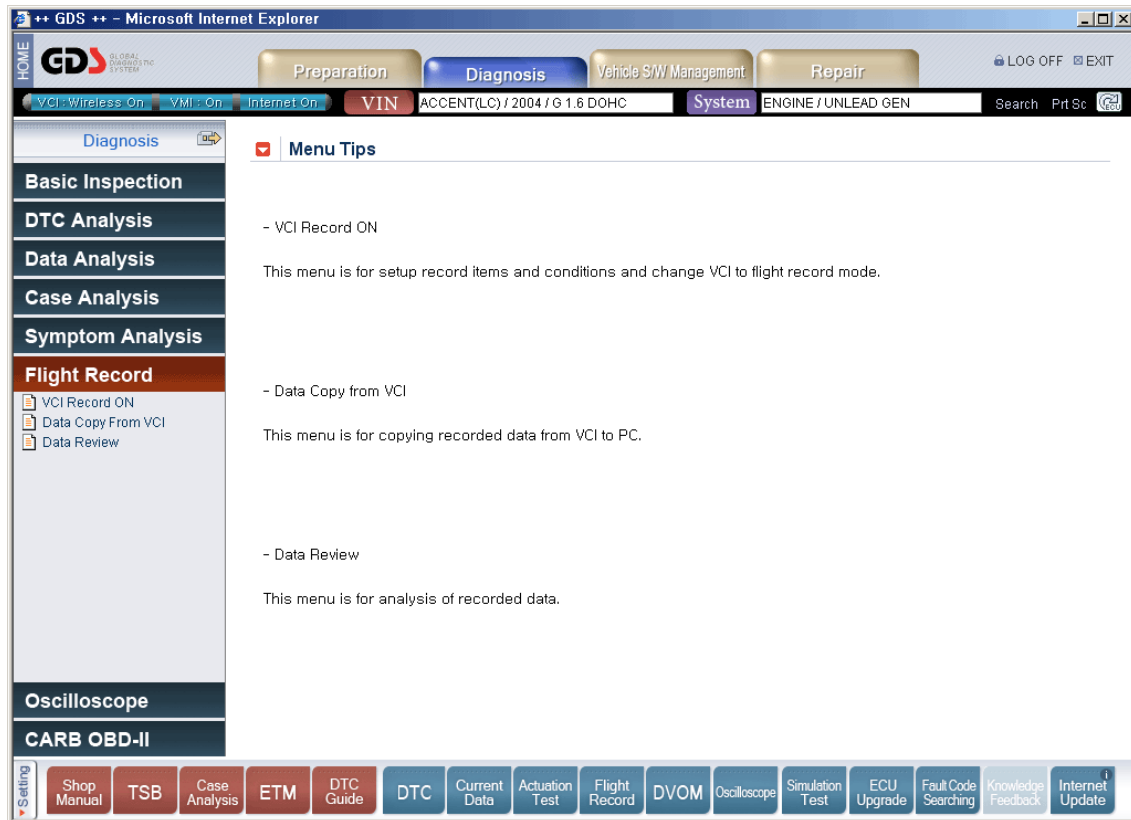


Figure 21. Flight Record Review Initial Page

Data Copy from VCI

To copy saved data from the VCI, select the "Data Copy from VCI" option from the left-hand side of the screen. VCI files will display on the left, and files on the PC will display on the right. Select the desired file, and click the "Start Copy" button to begin the data transfer. Upon completion, a window will appear to confirm the data transfer.

To erase data stored in the VCI, click the "Erase VCI Data" button."

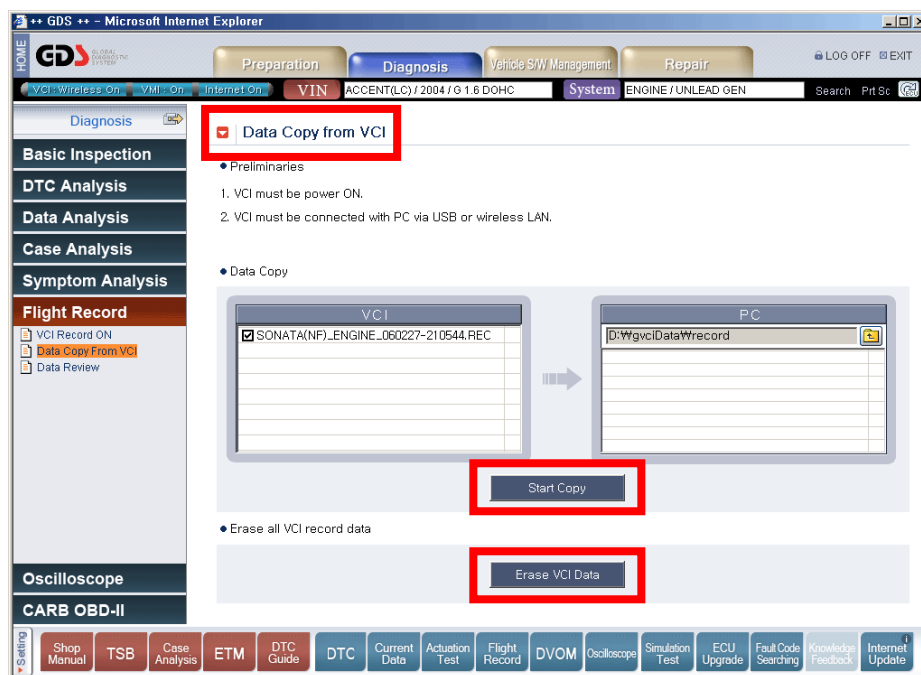


Figure 22. Data Copy from VCI

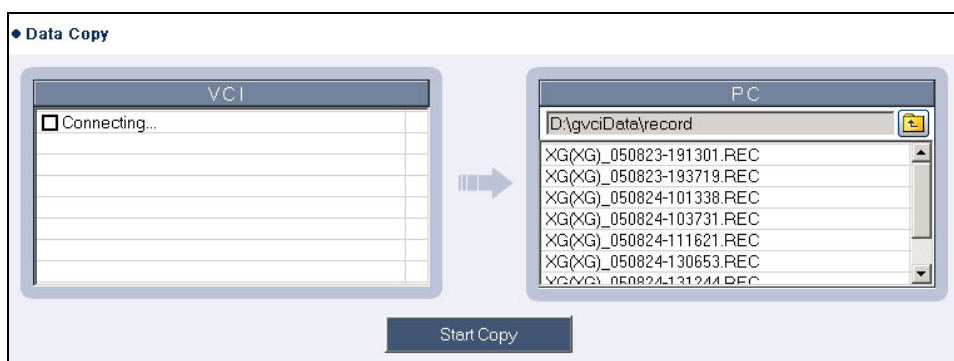


Figure 23. PC connecting to VCI

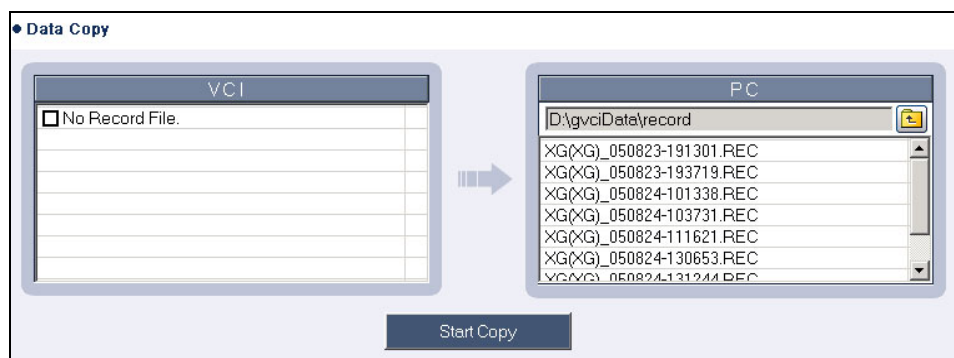


Figure 24. No Record File in VCI

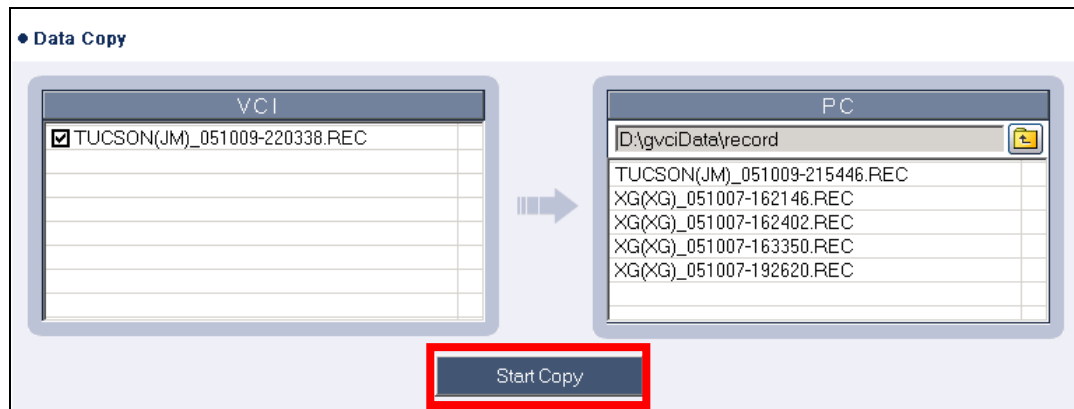


Figure 25. Copy the Record File from VCI to PC

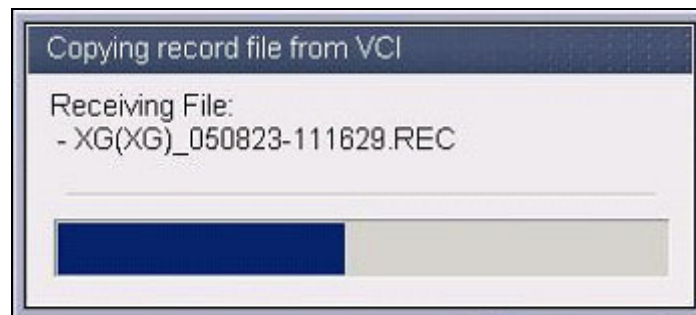


Figure 26. Copying Record File from VCI Progress window

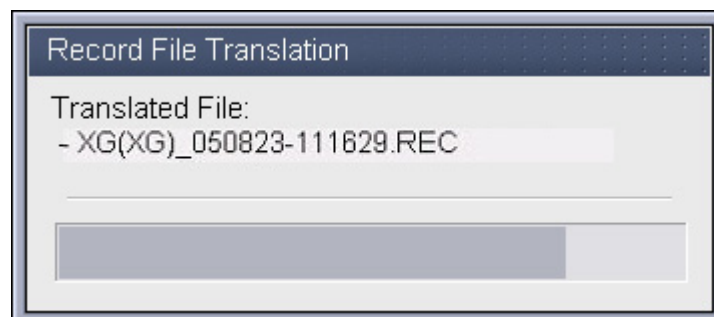


Figure 27. Record File Translation Progress

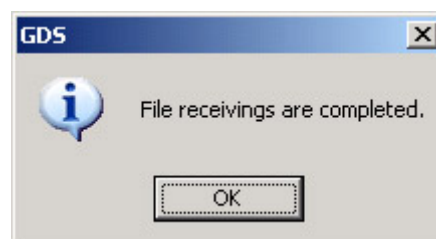
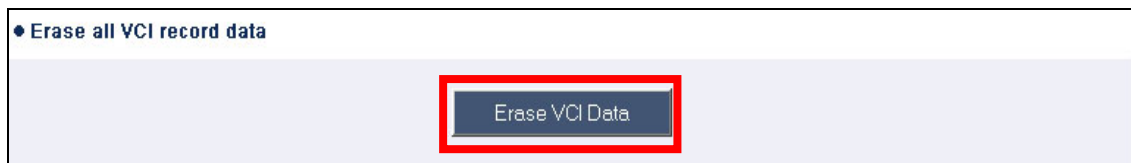
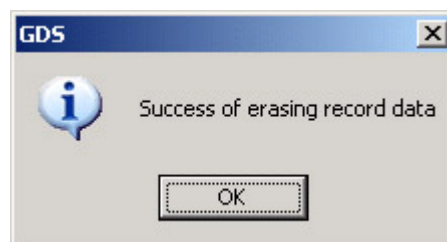


Figure 28. Complete the Data Copy from VCI

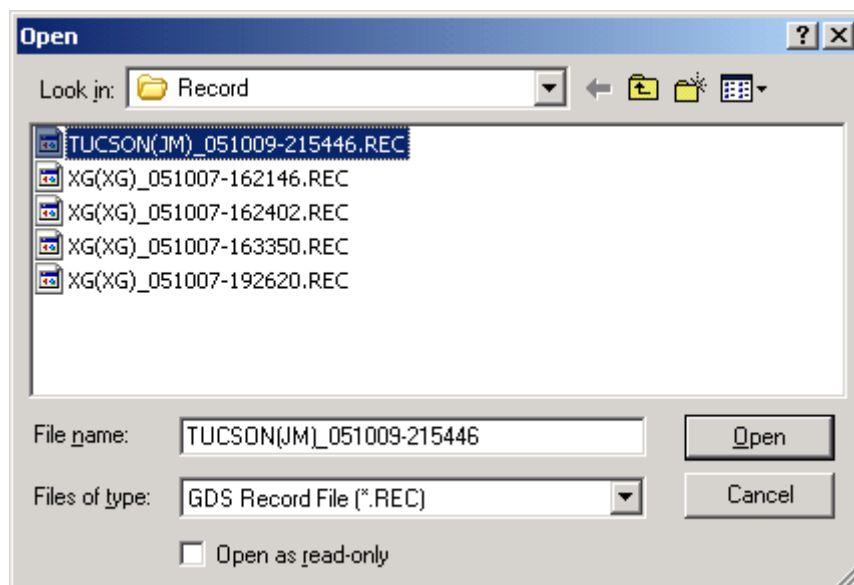
**Figure 29. Erase VCI Data**

"Erase VCI Data" button is used to deleting data in the VCI module.

**Figure 30. Erase VCI Data Complete**

Data Review

This menu is for analysis of recorded data. Press 'Data Review' button to analyze new or previously saved data. With the 'Data Review' window opened, it will ask you to select a record file. Highlight the file to displayed and Open the file. Select the data on the right of the screen to display (Figure 28). Maximum number of items that can be displayed on the screen as a graph is 8.

**Figure 31. Data Open Window**

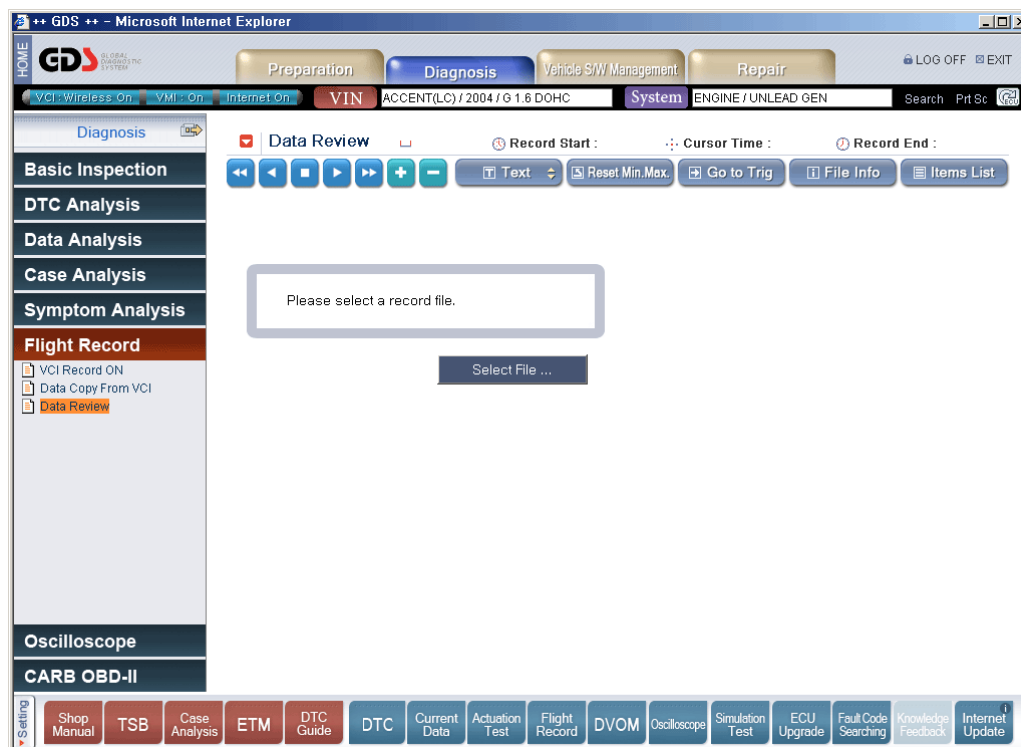


Figure 32. Data Review Initial Window

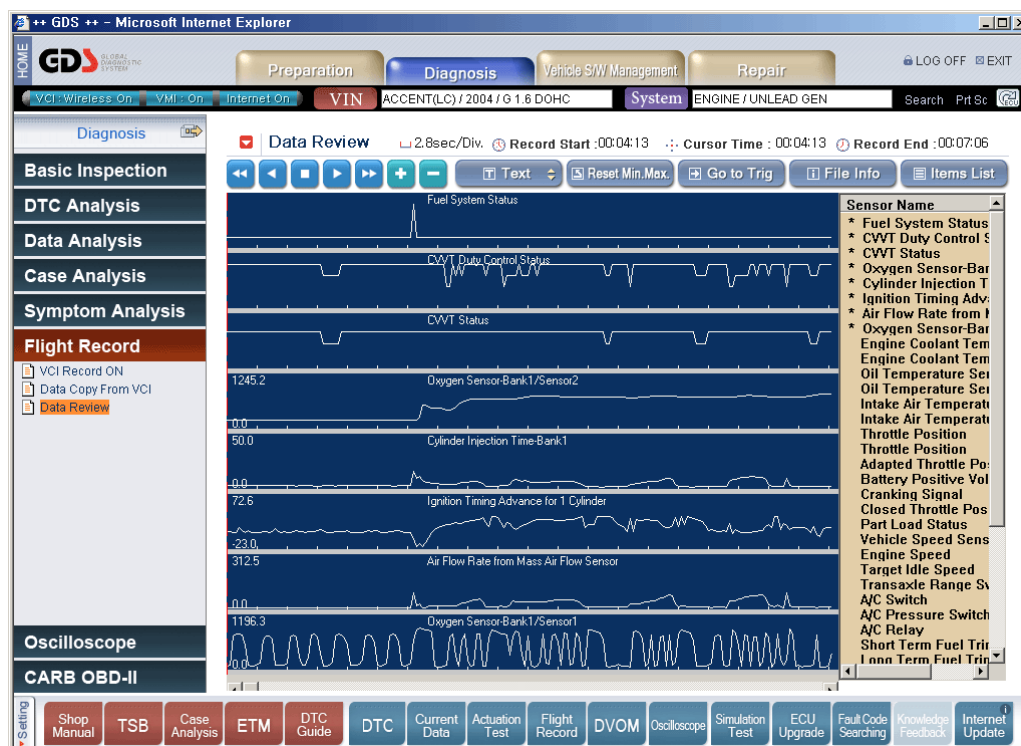


Figure 33. Data shown in graph (Items)

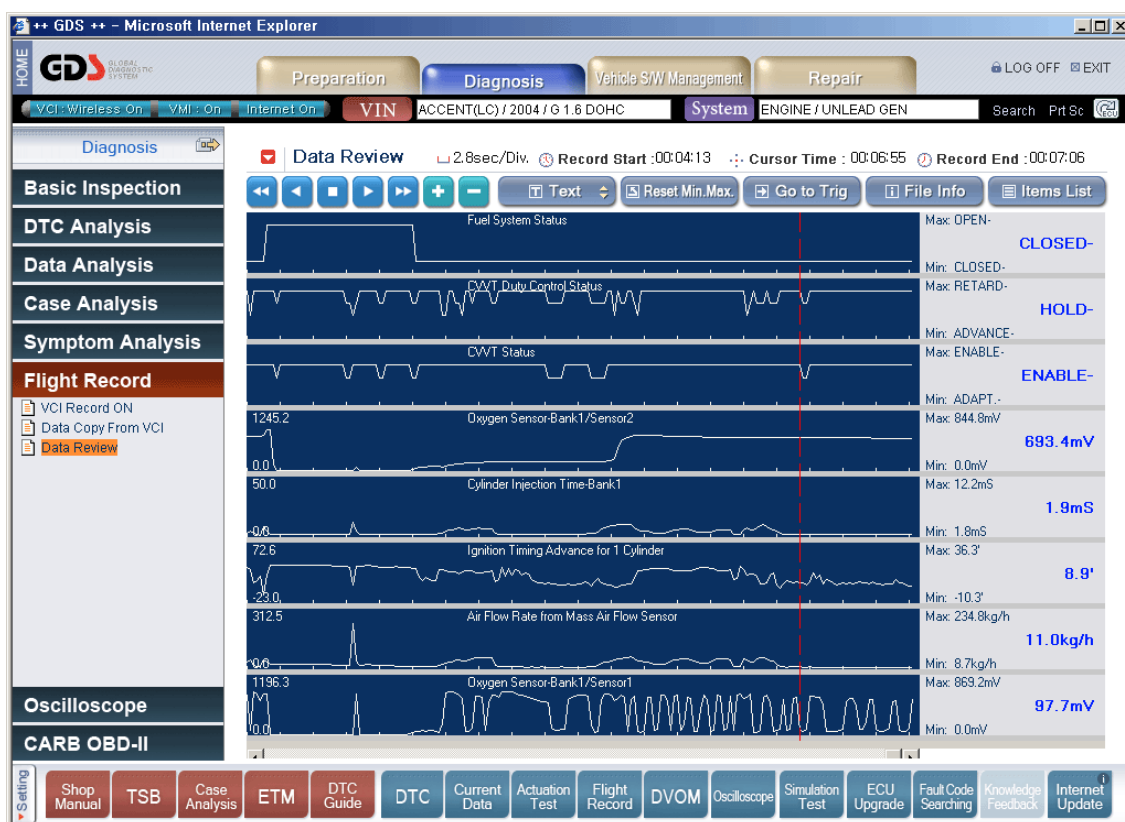


Figure 34. Data shown in graph (Value)

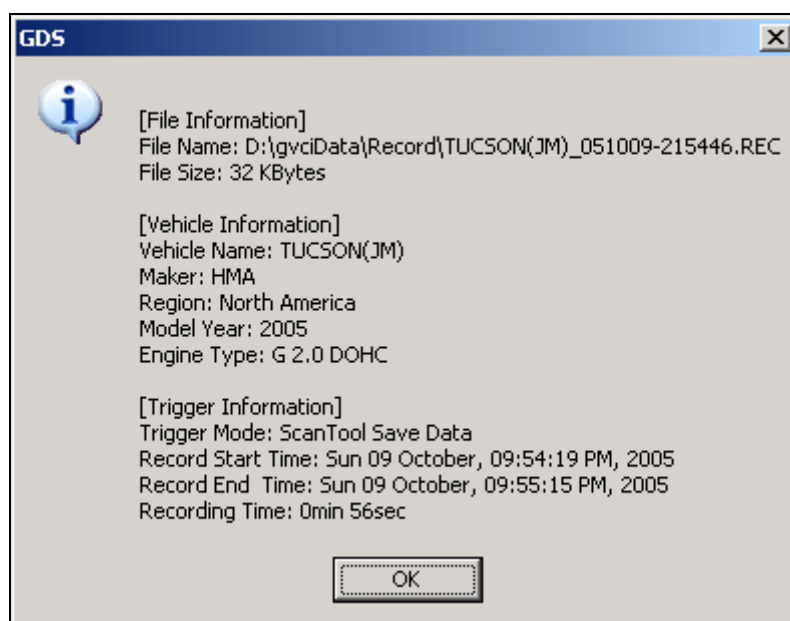






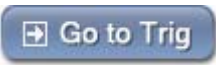








Figure 35. File Information Window

Icon	Description
	Used for loading saved data
	Used to move graph to the left or to the right
	Use to change the graph time resolution
	This button changes the display from Text to Graph mode.
	This button changes the display from Graph to Text mode.
	Reset the minimum and maximum values for all selected items.
	Move to the position that fault code appeared or shows when the trigger 'Enter' button was depressed. (Approx. 10 sec; before the end of the data record)
	Shows data information of the loaded record file.
	Shows item list of the data
	Show the time per division.
	Shows the time that the recording is started
	Shows the trigger starting time
	Shows the time that the recording is ended

CARB OBD II mode is used to display generic vehicle powertrain diagnostic data. The vehicle communication protocol is automatically determined when CARB OBD II mode is selected.

Readiness Test

The type and result of the READINESS TESTS supported by more than one MODULE within the vehicle will be displayed. The number of DTCs present and the MIL status will also be displayed.



Readiness Test

Selective Display | Full List

Sensor Name	Module ID	Value	Unit
<input type="checkbox"/> Number of DTC	0F	0	-
<input type="checkbox"/> Malfunction Indicator Lamp (MIL)	0F	ON	-
<input type="checkbox"/> Misfire Monitoring	0F	COMPLETED	-
<input type="checkbox"/> Fuel System Monitoring	0F	COMPLETED	-
<input type="checkbox"/> Comprehensive Component Monitoring	0F	COMPLETED	-
<input type="checkbox"/> Catalyst Monitoring	0F	NOT COMPLETED	-
<input type="checkbox"/> Heated Catalyst Monitoring	0F	NOT APPLICABLE	-
<input type="checkbox"/> EVAP System Monitoring	0F	NOT COMPLETED	-
<input type="checkbox"/> Secondary Air System Monitoring	0F	NOT APPLICABLE	-
<input type="checkbox"/> A/C System Refrigerant Monitoring	0F	NOT APPLICABLE	-

DTC

Erase All DTC

Description	Module ID	State
P0750 Shift Solenoid "A"	0F	Pending
P0755 Shift Solenoid "B"	0F	Pending
P0760 Shift Solenoid "C"	0F	Pending
P0745 Pressure Control Solenoid "A"	0F	Pending
P0775 Pressure Control Solenoid "B"	0F	Pending
P0117 Engine Coolant Temperature Circuit Low	0F	Pending
P0108 Manifold Absolute Pressure/Barometric Pressure Circuit High Input	0F	Pending
P1309 IG.Coil.1 - Abnormal	0F	Pending

Figure 1. Readiness Test

Current Data

The CURRENT DATA MODE allows for sensor values and switch states to be displayed, based upon the concept that one item may be supported by several modules. Supporting module information is displayed in this mode.

The screenshot displays the GDS++ software interface within a Microsoft Internet Explorer browser window. The interface includes a top navigation bar with tabs for Preparation, Diagnosis, Vehicle SW Management, and Repair. Below this, a status bar shows the vehicle information: VIN: ACCENT(LC) / 2004 / G 1.6 DOHC, System: ENGINE / UNLEAD GEN, and buttons for LOG OFF and EXIT.

The main content area is divided into two sections:

Current Data

Buttons: Selective Display, Full List, Graph

Sensor Name	Module ID	Value	Unit
<input type="checkbox"/> Fuel System Status-Bank1	0F	OPEN LOOP	-
<input type="checkbox"/> Fuel System Status-Bank2	0F	-	-
<input type="checkbox"/> Calculated Load Value	0F	0.0	%
<input type="checkbox"/> Engine Coolant Temperature Sensor	0F	-40	°C
<input type="checkbox"/> Short Term Fuel Trim-Bank1	0F	0.0	%
<input type="checkbox"/> Long Term Fuel Trim-Bank1	0F	0.0	%
<input type="checkbox"/> Manifold Absolute Pressure Sensor	0F	126	kPa
<input type="checkbox"/> Engine Speed	0F	0	RPM
<input type="checkbox"/> Vehicle Speed Sensor	0F	0	MPH
<input type="checkbox"/> Ignition Timing Advance for 1 Cylinder	0F	0	°

DTC

Button: Erase All DTC

Description	Module ID	State
P0750 Shift Solenoid "A"	0F	Pending
P0755 Shift Solenoid "B"	0F	Pending
P0760 Shift Solenoid "C"	0F	Pending
P0745 Pressure Control Solenoid "A"	0F	Pending
P0775 Pressure Control Solenoid "B"	0F	Pending
P0117 Engine Coolant Temperature Circuit Low	0F	Pending
P0108 Manifold Absolute Pressure/Barometric Pressure Circuit High Input	0F	Pending
P1309 IG.Coil.1 - Abnormal	0F	Pending

The bottom of the interface features a toolbar with various diagnostic tools: Setting, Shop Manual, TSB, Case Analysis, ETM, DTC Guide, DTC, Current Data, Actuation Test, Flight Record, DVOM, Oscilloscope, Simulation Test, ECU Upgrade, Fault Code Searching, Knowledge Feedback, and Internet Update.

Figure 2. Current Data

Freeze Frame Data

The FREEZE FRAME DATA displays the data values stored in the Engine Control Module at the point when the first conformed DTC is detected.

The screenshot displays the GDS++ software interface within a Microsoft Internet Explorer browser window. The interface includes a top navigation bar with tabs for Preparation, Diagnosis, Vehicle SW Management, and Repair. Below this, a status bar shows vehicle information: VIN, ACCENT(LC) / 2004 / G 1.6 DOHC, and System ENGINE / UNLEAD GEN. The left sidebar contains a menu with options like Basic Inspection, DTC Analysis, Data Analysis, Case Analysis, Symptom Analysis, Flight Record, Oscilloscope, and CARB OBD-II. The main content area is divided into two sections: Freeze Frame and DTC.

Freeze Frame Section:

- Buttons: Selective Display, Full List, Graph.
- Table with columns: Sensor Name, Module ID, Value, Unit.
- Content: ☐ NOT Supported.

DTC Section:

- Button: Erase All DTC.
- Table with columns: Description, Module ID, State.
- Content:

Description	Module ID	State
P0750 Shift Solenoid "A"	0F	Pending
P0755 Shift Solenoid "B"	0F	Pending
P0760 Shift Solenoid "C"	0F	Pending
P0745 Pressure Control Solenoid "A"	0F	Pending
P0775 Pressure Control Solenoid "B"	0F	Pending
P0117 Engine Coolant Temperature Circuit Low	0F	Pending
P0108 Manifold Absolute Pressure/Barometric Pressure Circuit High Input	0F	Pending
P1309 IG_Coil.1 - Abnormal	0F	Pending

The bottom of the interface features a row of buttons for various functions: Shop Manual, TSB, Case Analysis, ETM, DTC Guide, DTC, Current Data, Actuation Test, Flight Record, DVOM, Oscilloscope, Simulation Test, ECU Upgrade, Fault Code Searching, Knowledge Feedback, and Internet Update.

Figure 3. Freeze Frame Data

Diagnostic Trouble Code

At this level, DIAGNOSTIC TROUBLE CODES (DTC) are Displayed based upon the concept that several modules may support one DTC. Supporting module information is displayed in this mode.

The screenshot shows the GDS++ software interface in Microsoft Internet Explorer. The main window displays the 'DTC' (Diagnostic Trouble Code) screen. The interface includes a navigation menu on the left with options like 'Basic Inspection', 'DTC Analysis', 'Data Analysis', 'Case Analysis', 'Symptom Analysis', 'Flight Record', 'Oscilloscope', and 'CARB OBD-II'. The main area displays a table of DTCs with columns for 'Description', 'Module ID', and 'State'. The table lists several codes including P0750, P0755, P0760, P0745, P0775, P0117, P0108, and P1309, all with a state of 'Pending'. A button 'Erase All DTC' is visible above the table.

Description	Module ID	State
P0750 Shift Solenoid "A"	0F	Pending
P0755 Shift Solenoid "B"	0F	Pending
P0760 Shift Solenoid "C"	0F	Pending
P0745 Pressure Control Solenoid "A"	0F	Pending
P0775 Pressure Control Solenoid "B"	0F	Pending
P0117 Engine Coolant Temperature Circuit Low	0F	Pending
P0108 Manifold Absolute Pressure/Barometric Pressure Circuit High Input	0F	Pending
P1309 IG.Coil.1 - Abnormal	0F	Pending

Figure 4. Diagnostic Trouble Code

O2 Test Result

The results of the on board oxygen sensor monitoring test can be displayed in this mode. Note that only items related to the oxygen sensor will be displayed.

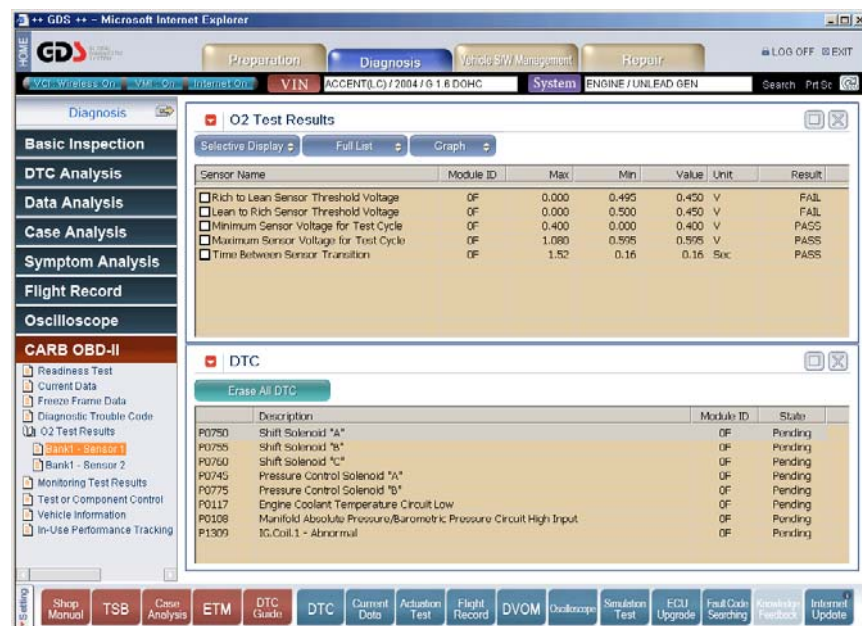


Figure 5. O2 Test Result (B1/S1)

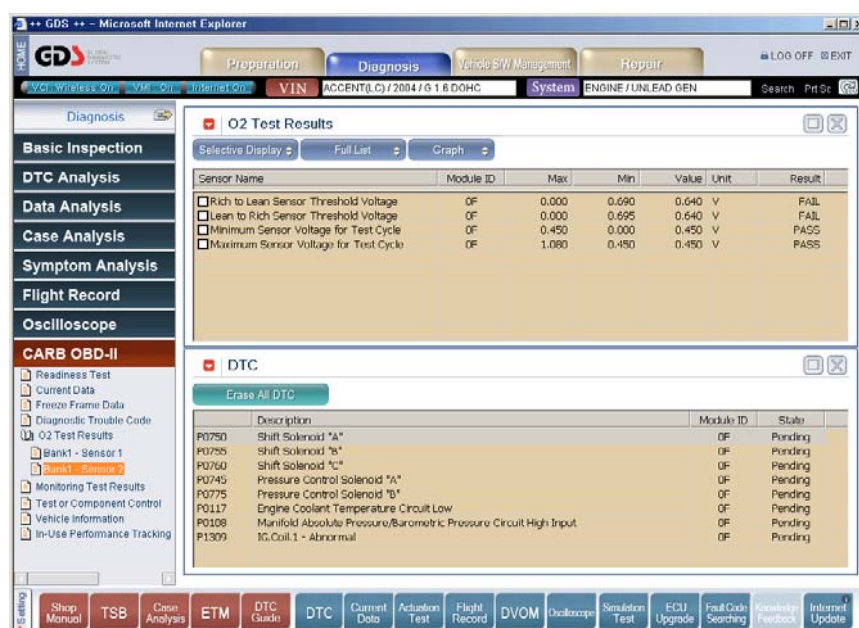


Figure 6. O2 Test Result (B1/S2)

Monitoring Test Result

The results of on board monitoring tests conducted during normal driving are displayed this mode.

The screenshot displays the GDS++ software interface within a Microsoft Internet Explorer browser window. The interface includes a top navigation bar with tabs for Preparation, Diagnosis, Vehicle SW Management, and Repair. Below this, a status bar shows vehicle information: VIN ACCENT(LC) / 2004 / G 1.6 DOHC, System ENGINE / UNLEAD GEN, and buttons for LOG OFF and EXIT.

The left sidebar contains a menu with categories like Basic Inspection, DTC Analysis, Data Analysis, Case Analysis, Symptom Analysis, Flight Record, Oscilloscope, and CARB OBD-II. Under CARB OBD-II, options include Readiness Test, Current Data, Freeze Frame Data, Diagnostic Trouble Code, O2 Test Results, Bank1 - Sensor 1, Bank1 - Sensor 2, Monitoring Test Results (highlighted), Test or Component Control, Vehicle Information, and In-Use Performance Tracking.

The main content area is divided into two sections:

Monitoring Test Results

Buttons: Selective Display, Full List, Graph

Sensor Name	Module ID	Comp ID	Max	Min	Value	Unit	Result
<input type="checkbox"/> Test ID \$01	0F	00	0	--	0	-	PASS
<input type="checkbox"/> Test ID \$02	0F	00	0	--	0	-	PASS
<input type="checkbox"/> Test ID \$05	0F	00	0	--	0	-	PASS
<input type="checkbox"/> Test ID \$06	0F	00	0	--	0	-	PASS
<input type="checkbox"/> Test ID \$09	0F	00	0	--	0	-	PASS
<input type="checkbox"/> Test ID \$02	0F	00	0	--	0	-	PASS
<input type="checkbox"/> Test ID \$02	0F	00	0	--	0	-	PASS
<input type="checkbox"/> Test ID \$02	0F	00	0	--	0	-	PASS
<input type="checkbox"/> Test ID \$02	0F	00	0	--	0	-	PASS
<input type="checkbox"/> Test ID \$02	0F	00	0	--	0	-	PASS

DTC

Button: Erase All DTC

Description	Module ID	State
P0750 Shift Solenoid "A"	0F	Pending
P0755 Shift Solenoid "B"	0F	Pending
P0760 Shift Solenoid "C"	0F	Pending
P0745 Pressure Control Solenoid "A"	0F	Pending
P0775 Pressure Control Solenoid "B"	0F	Pending
P0117 Engine Coolant Temperature Circuit Low	0F	Pending
P0108 Manifold Absolute Pressure/Barometric Pressure Circuit High Input	0F	Pending
P1309 IG.Coil.1 - Abnormal	0F	Pending

The bottom of the interface features a row of buttons for various functions: Shop Manual, TSB, Case Analysis, ETM, DTC Guide, DTC, Current Data, Actuation Test, Flight Record, DVOM, Oscilloscope, Simulation Test, ECU Upgrade, Fault Code Searching, Knowledge Feedback, and Internet Update.

Figure 7. Monitoring Test Result

Test or Component Control



Figure 8. Test or Component Control

Vehicle Information

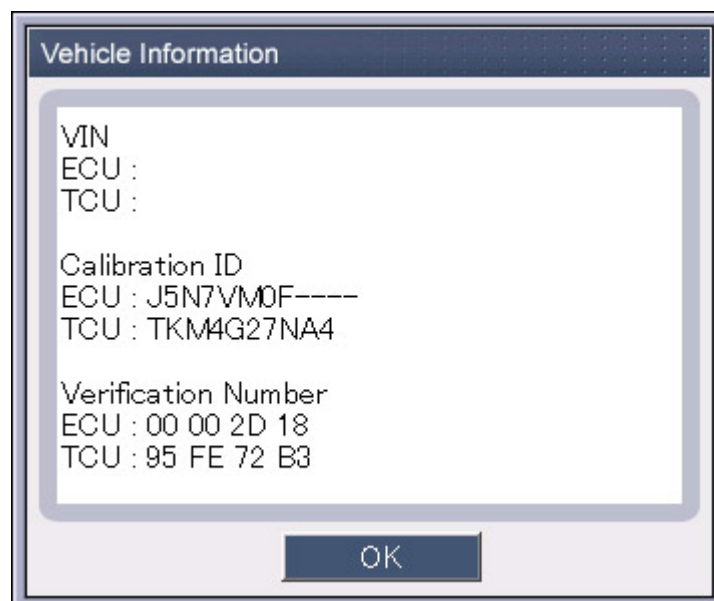


Figure 9. Vehicle Information

In-USE Performance Tracking

This data is used to support possible regulatory requirements for In-use Performance Tracking. Manufacturers are required to implement software algorithms that track in-use performance for each of the flowing component:

- Catalyst bank 1
- Catalyst bank 2
- Primary oxygen sensor bank 1
- Primary oxygen sensor bank 2
- Evaporative 0.020" leak detecting system
- EGR system
- Secondary air system

The numerator for each component or system shall track the number of time that all conditions necessary for a specific monitor to detect a malfunction have been encountered. The denominator for each component or system shall track the number of times that the vehicle has been operated in the specified conditions. These conditions are specified for each monitored component or system.

The ignition counter shall track the number of times that the engine has been started. All data items of the In-use Performance Tracking record have to be reported in the order as shown.

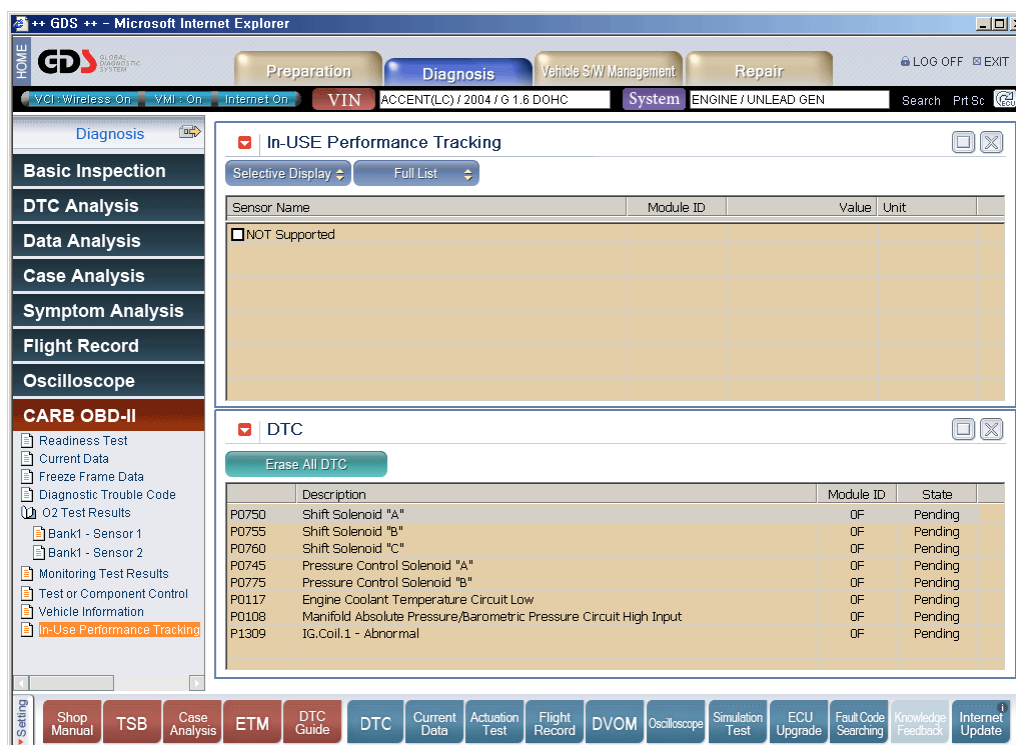


Figure 10. In-Use Performance Track



Actuation test



GDS - Diagnosis

Module: A-04-008 (p.01)

Selection of Actuation Test Item

The "Actuation Test" mode allows supported outputs to be activated by the user to verify proper ECU and component operation.

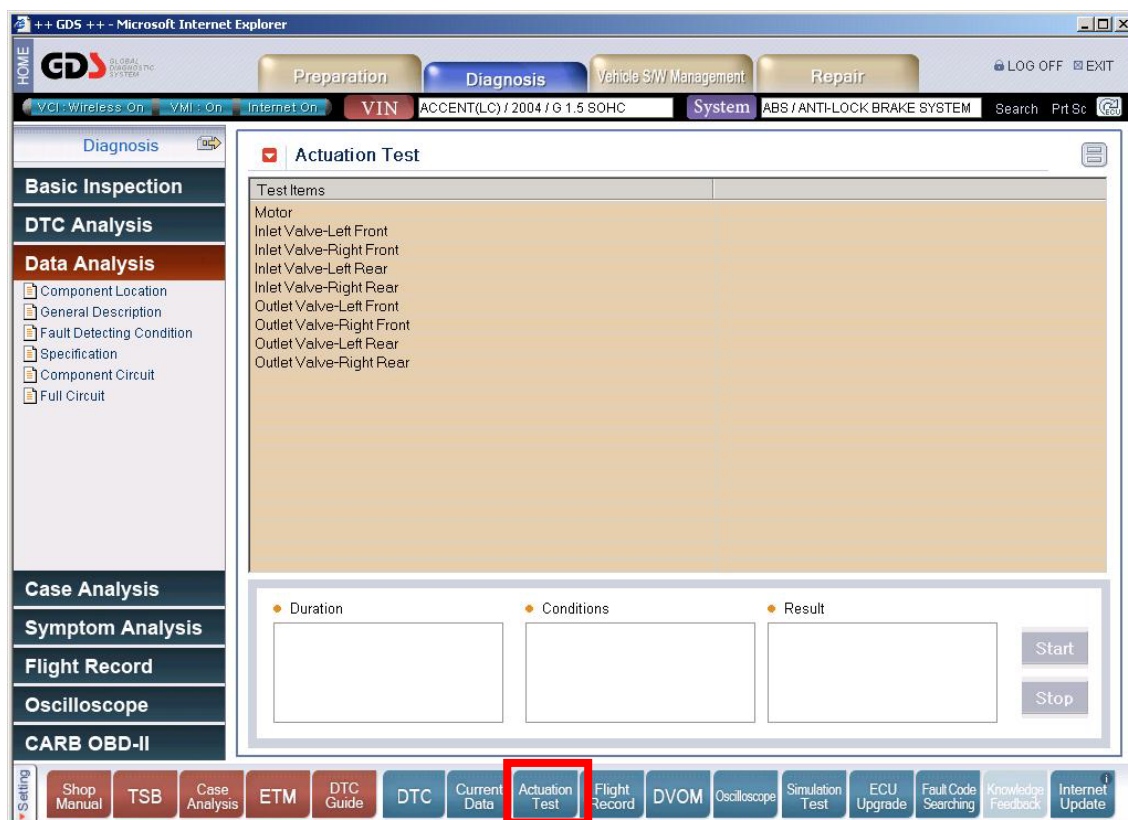


Figure 1. Selection of Test Item

Preparation of Actuation Test

Each supported actuator test will have specific test duration and ignition key conditions.

Click the "Start" button after selecting the desired test. Note that some tests will continue until the "Stop" button is clicked."

Results (variable based on ECU) may be viewed in the "Result" field, by audible or visible output, by viewing the appropriate data parameter, or by a combination of the previously listed methods.

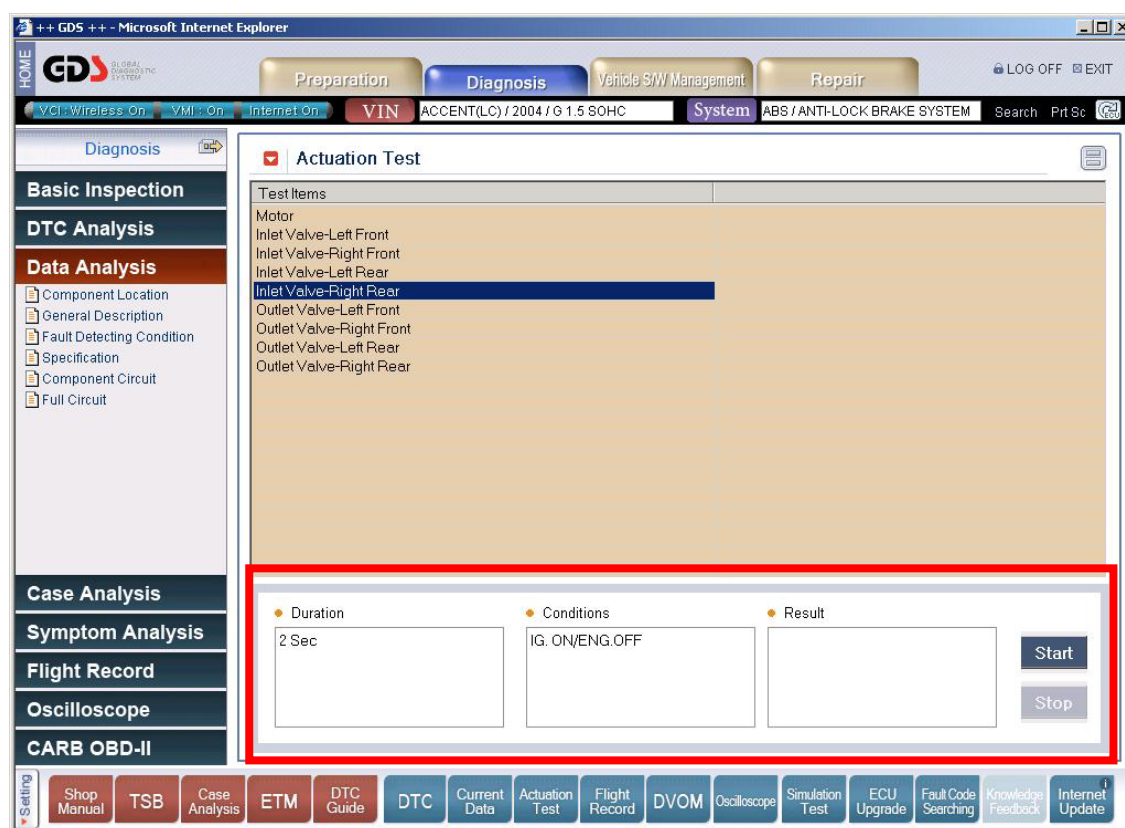


Figure 2. Operation of Actuation Test