User Guide

Safety Cautions

- This information is essential to protect your safety and prevent property damage.
- Make sure to read this thoroughly before using New Lite+.
- This information is subject to change or add without notice.
- Please refer to Homepage of Carman IT Co., Ltd. for the latest version.

Grade A Equipment (Communication Equipment for business purpose) Pay attention that this is electromagnetic compatibility equipment for business purpose (Grade A). It is permitted to use except a house.

CARMAN IT CO., LTD

Table of Contents

Cautions in use

Safety Instruction

Cautions in Use

New Lite+ mentioned in this User's Guide is designed for those who have basic qualifications for using this system. Users should follow the safety instructions for safe and efficient use of the product.

Warning!

The cautions of use are as follows:

- Do not drop New Lite+.
- Always use it in the rubber shroud to product it.
- Do not place New Lite+ on the power distributor.
- Although New Lite+ is manufactured to internally prevent the interference from the electromagnetic waves, the strong interference by excessive electromagnetic waves may damage the product.
- Excessive surge or electric shock fed by a power cable may damage the power supply system of New Lite+. So, do not use the product while the power supply is unstable.
- The voltage rating of the AC/DC adapter is 12V DC.
- Be sure to use an AC/DC adaptor with the rated voltage.
- Be careful not to let water or oil get into the product. The product can be severely damaged.
- Please check if there is short circuit through communication connectors of OBD-II or a vehicle in the case of flooded cars. It can cause damage of scanner.

- Wireless update or wireless communication requires no hurdle between scanner and wireless devices. Also, it is recommended to communicate within 10 km.

Chapter 1: General Descriptions

1. Product Features

New Lite+ can check vehicle System Information and malfunction status through the OBD-II/EOBD and CAN communication.

You can connect New Lite+ to the vehicle diagnostic connector with a diagnosis cable to check if any of the Engine, Automatic transmission, ABS, Airbag, Power steering and other devices has an error, view Parameter Data and use actuator drive features.

New Lite+ has the following features:

▸ Diagnoses Korean, Japanese and European vehicles.

- Support OBD-II/EOBD, MOBD
- Support CAN,SAE-J1850,ISO9141-2/KWP2000,J1587

▸Supports vehicle troubleshooting and Parameter Data search.

- You can diagnose vehicles with their sensors and switches, and save and reload the Parameter Data.

▸ Supports automatic actuator inspection.

- This function runs/stops the actuator and switches forcibly in order to check if the corresponding active device is normal.

▸ You can use saved data and upgrade the diagnosis program by connecting the wireless.

▸You can change the sound effects and display unit of the New Lite+.

Chapter 1: General Descriptions

▸ You can check the latest data and update it automatically.

▸ Support Log Data function to save / send the data in the case of communication error so that fast customer support and newest communication is available.

▸Capture the screen by pressing (F1 and 1) buttons at the same time.

Chapter 1: General Descriptions

2. Product Specifications

Item		Specification
Dimension		220mm*110mm*650mm
Weight		550gr
CPU	Diagnosis	Cortex M3 120Mhz
	Main	Cortex M3 120Mhz
Memory		32GB (Micro SD)
Display		3.5inch Touch LCD(320*240)
Operating Temp		0~45℃ (32~113℉)
Storage Temp		-20~70℃(-4~158℉)
Protocol		All Flexibility - Dual CAN(2.0A,2.0B),Singlewire CAN - ISO914-2, KWP2000, J1850P, J1587 - K/L-line High Speed Serial, Flashing Code - Ethernet
Button		Power button, 24 Operating button
Operating Voltage		8V ~ 35V

Chapter 1: General Descriptions

Warning

- Please note that if New Lite+ has been under 0℃(32F), it has to stay in room temperature over 2 hours surely before using it over 0℃.

-If New Lite+ moves from low temperature to room temperature, condensations inside the device can be generated and it can cause damage or malfunction. So, please do not place this device in the cold if possible.

3. Rechargeable Battery

* The rechargeable battery pack has the following features

-Voltage of the rechargeable battery pack gradually decreases even when the system does not run.

- Before using the product for the first time, be sure to fully charge the battery.

Warning!

- Always use the rechargeable battery pack provided by Our Company.

- Using a 3rd party product may cause explosion.

(7.4V 2200 mAh lithium ion battery pack)

- Do not heat the rechargeable battery pack.

- It may cause explosion.

- Do not short the battery pack terminal.

- It may cause explosion.

- Do not place the battery pack on or near hot material over 60ºC.

- It may cause explosion.

Chapter 1: General Descriptions

Warning

- Keep the battery pack away from touch of children or an animal.

- It may cause a fire or injury.

- To prevent the battery pack from being discharged, always connect the power source before using the system. Screen captures, flight record and other information can be erased due to the discharged battery pack.

Tip!

- The battery is consumable and the warranty period is 6 months from purchase date.

- If the product is not used over 3 months, the contained battery may be discharged and swollen.

- Please charge your battery at least once per 2 or 3 month for 24 hours.

Chapter 1: General Descriptions

4. Component List:

Basic kit:

NO	Description	picture
1	New Lite+ Main Body	
2	DLC Main Cable (16P 2M)	
3	Power adapter (5A)	
4	Carrying Case	

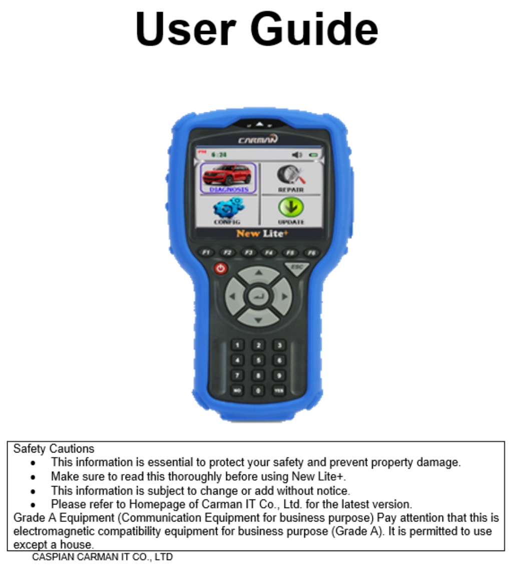
Chapter 1: General Descriptions

4.Component Figures and Descriptions:

Basic kit

4-0. User Guide

Be sure to read the guide before using the product.



User Guide

Safety Cautions
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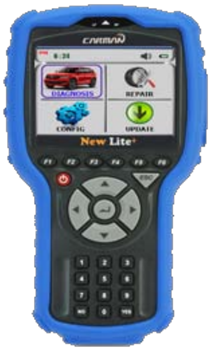
4-1. Main Module

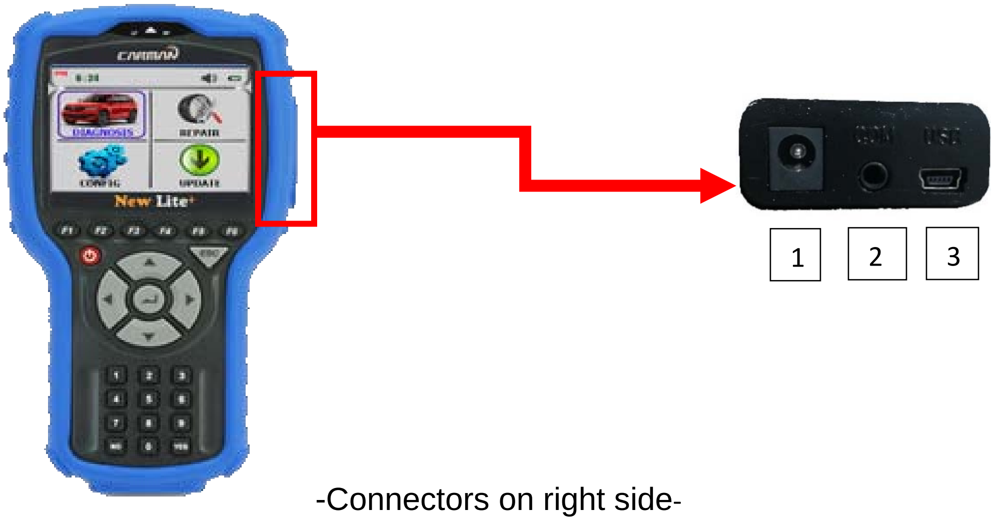


-New Lite+ Main Module-

Chapter 1: General Descriptions

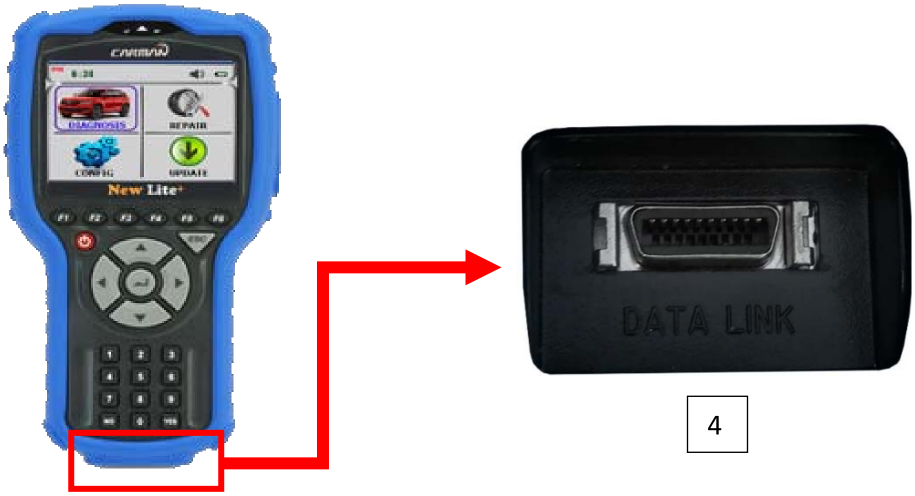
* The exterior might be changed without any notice in advance.

4-2. Connectors and Key



-Connectors on right side-

1. Power connector: It is for a AC/DC power adaptor and a cigar jack.
2. Reserved for future purposes.
3. USB mini B: USB port for offline updating.



- Connector on the bottom –

Chapter 1: General Descriptions

4. DLC connector: It is for DLC communication cable to diagnose vehicles.

4-3. New Lite+ Carrying Case

-New Lite+ Carrying Case-

-New Lite+ includes a number of adaptors and cables for diagnosing vehicles. When the product is not in use, store it in the supplied carrying case to prevent damage and loss.

4-4. Rubber Shroud (fit to the main body initially)

-Rubber Shroud

-The rubber shroud protects New Lite+ from external electrical and physical impact.

Warning!

- Please use a USB cable for New Lite+ only. Other USB cables can cause contact problem.

4-6. DLC Cable

-DLC Cable-

Chapter 1: General Descriptions

-The DLC cable is also called the OBD-II cable. All vehicles released recently have built-in OBD-II connectors compatible to the OBD-II specification. It is possible to diagnose new model vehicles by directly connecting the DLC cable.

It is not necessary to connect any additional power source as power is feed through the diagnostic connector.

4-7. AC/DC electrical power adapter

-AC/DC electrical power adapter-

When you want to download the diagnosis program or search flight record, you can use this AC/DC electrical power adapter to feed power.
Also, can charge the battery built in the product.

Chapter 1: General Descriptions

5. Power Supply:

1. DLC Cable

-Where the vehicle satisfies the OBD-II communication convention and uses a certain manufacturer's diagnostic connector, the DLC main cable can supply power to the product directly without a separate power supply.

2. Rechargeable Battery Pack

If the built-in battery is used, you can use the system for 2 hours without any separate power supply.

Tip!

The available time may change based on use and environment.
How to charge: When the product is not in use, connect it to the power source by the AC/DC power adapter that came with the product to charge the built-in battery. (12h ~ 24h)

3. AC/DC Power Adapter

If the AC/DC adaptor is used for power supply, the battery will be automatically recharged depending on programs and it is also used for power supply to the main module.

Chapter 2: Menu Configuration

1. Before Getting Started

1-1. Before using the system, check whether or not the battery is fully charged. If it is notcharged, then connect external power supply or recharge the battery before using thesystem.

- If you use the system by connecting it to a vehicle, you can also feed power to it through the vehicle diagnostic connector.

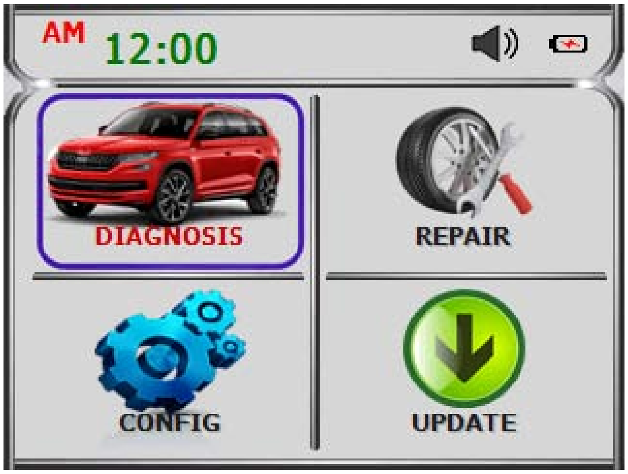
1-2.Before using the system, make sure to download the diagnosis program. The diagnosis program will be stored in the system memory.

- Before using the system, check if the diagnosis program matches the option youhave purchased.
- Basically, a diagnostic program is installed before delivery. Also, you can get the latest diagnostic data from our website or from where you purchase.

Chapter 2: Menu Configuration

2. Menu Description

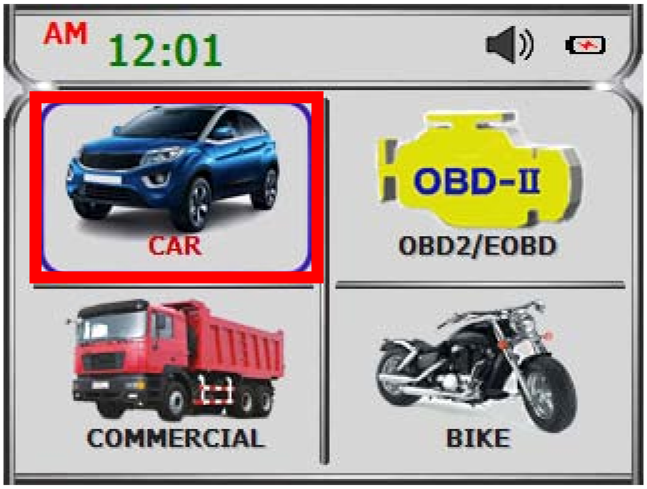
-When turning ON New Lite+, the main screen with the menu is displayed as follow:



1. Diagnosis

01-1. Car

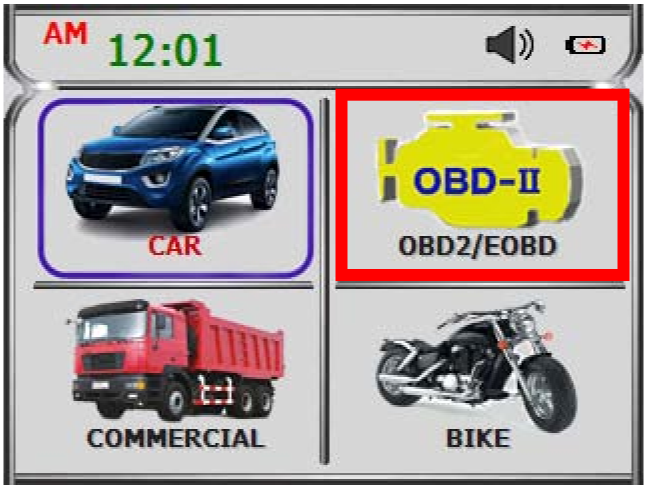
- This menu provides scanner's own functionality such as vehicle diagnosis, service data search, actuator activation, etc.
- Depending on your option, you can perform diagnosis on Korean, Japanese, European, Australian and USA vehicles.



Chapter 2: Menu Configuration

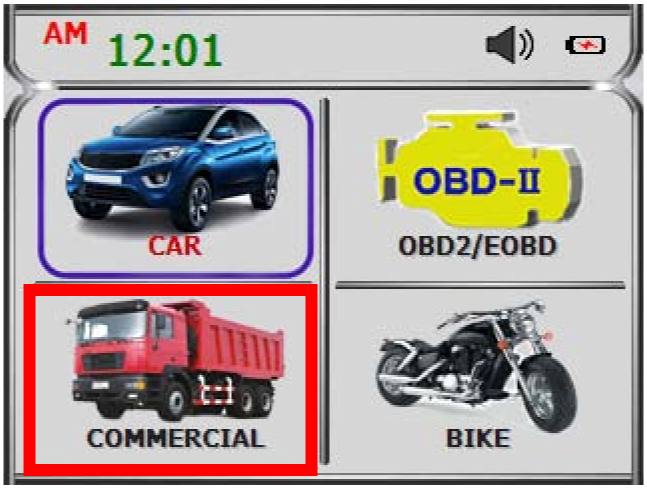
01-2. OBD II//EOBD

- This menu is to diagnose and test some parts that are related with exhaust gas only if user’s vehicle has OBD II/EOBD.



01-3. Commercial

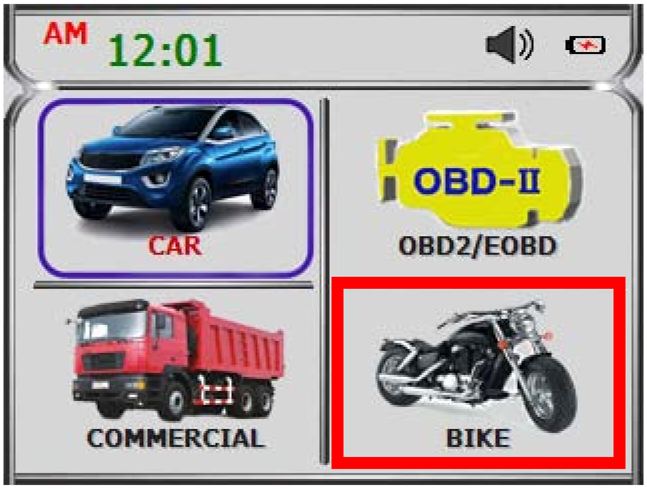
- This menu provides scanner's own functionality such as vehicle diagnosis, service data search, actuator activation, etc.



Chapter 2: Menu Configuration

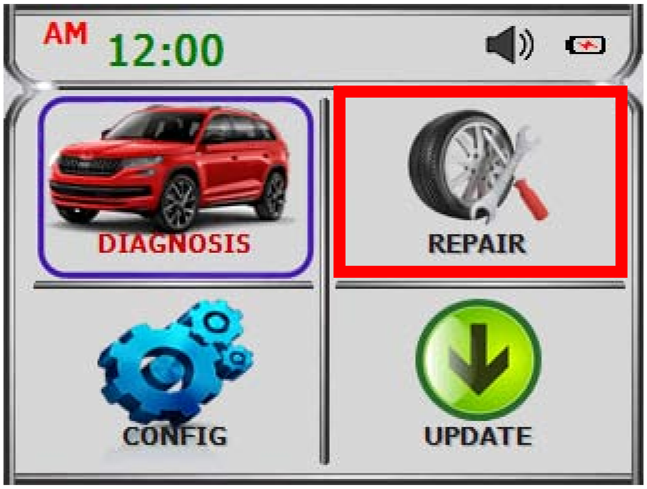
01-4. Bike

- This menu provides scanner's own functionality such as vehicle diagnosis, service data search, actuator activation, etc.



2. **Repair**

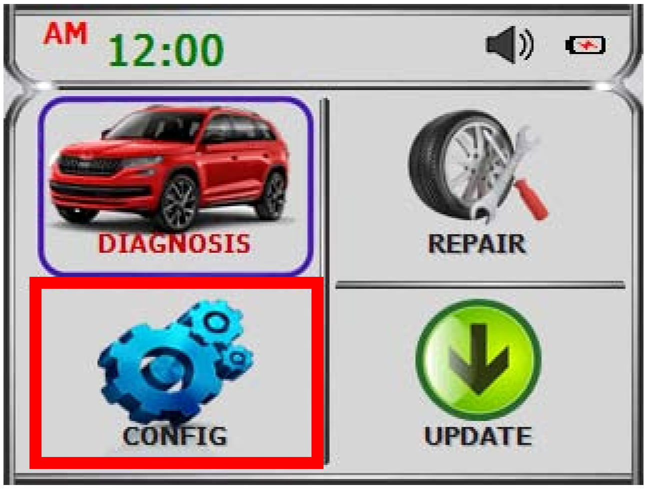
   (Later, it will be supported on our website.)



Chapter 2: Menu Configuration

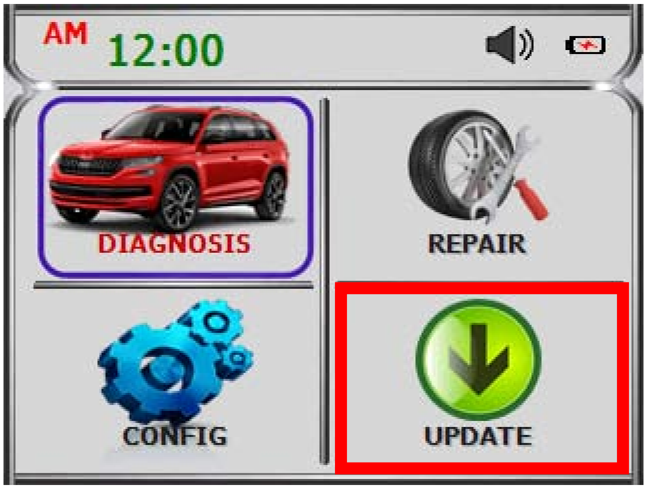
3. Config

- In this menu, you can check the system display unit, graph setting,screen setting, activate password, time setting, Wi-Fi connection, and system information.



4. Update

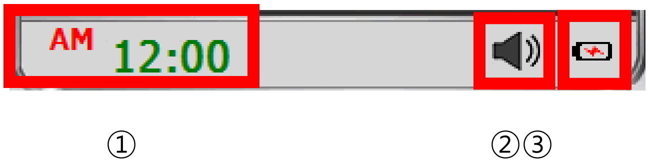
- In this menu, New Lite+ can connect to Wi-Fi so that it can upgrade software and download saved files etc.



Chapter 2: Menu Configuration

3. Icons on Main Screen

3-1 Icons on main screen

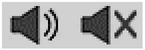


1. Clock

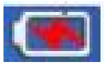
- This displays the current time.

2. Sound

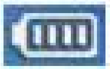
- You can change sound status to “ON” or “OFF” in config menu.



3. Battery Status



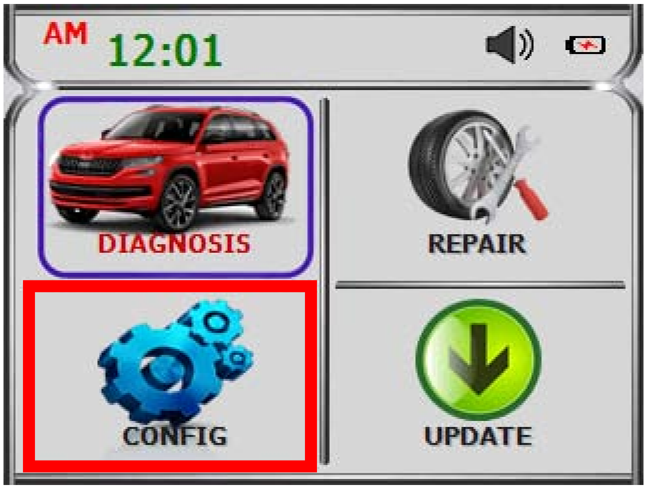
- Charging status: This indicates external DC power is being supplied and your battery is being charged at the same time.

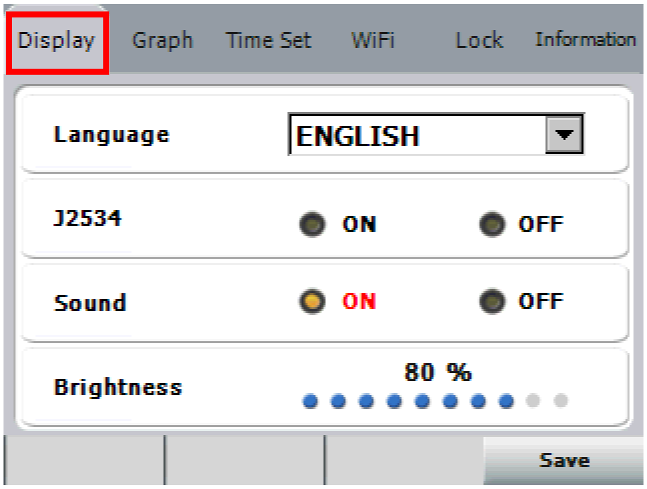


-Battery status: It shows power remaining on your battery. After charging the battery, use New Lite+ in order to avoid discharging.

Chapter 3: Configuration

1. Display





Language: ENGLISH

J2534: ○ ON ○ OFF

Sound: ● ON ○ OFF

Brightness: 80 %

Chapter 3: Configuration

1-1 Language

Language can be selected according to a user by using “LEFT” and “RIGHT” buttons.

1-2 J2534

(Later, it will be supported on our website.)

1-3 SOUND

- Press the “LEFT” and “RIGHT” buttons to change the status of this feature to “ON” and “OFF”.

1-4 Brightness

- Press the “LEFT” and “RIGHT” buttons to adjust the screen brightness.
- Please note that if you set up the brightness to the max, the battery will be dead earlier.

- You can set up language and brightness of LCD.
- Setting brightness will improve efficiency of work in a dark or bright place.

Chapter 3: Configuration

2. Graph

- You can make some changes in your graphs by using this menu.

  2-1 BG. Color: Change your graphs background’s color.

  2-2 X-Grid: Change vertical lines’ color.

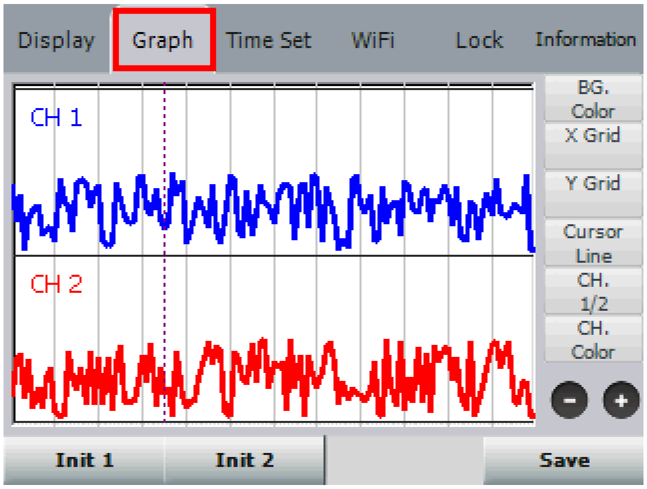
  2-3 Y-Grid: Change horizontal lines’ color.

  2-4 Cursor line: Change dashed lines’ color.

  2-5 CH 1/2: Choose a channel to edit.

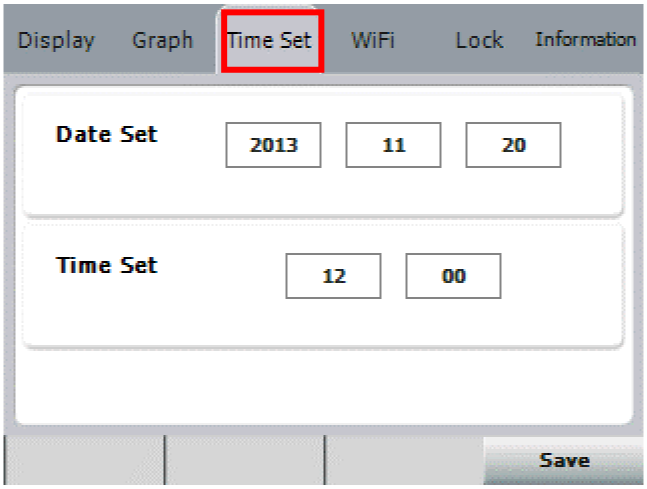
  2-6 CH. Color: Change channel’s color.

  2-7**- +**: Use “F5” and “F6” to change the channel’s thickness.



Chapter 3: Configuration

3. Time Set



Date Set 2013 11 20

Time Set 12 00

- You can change the date and time stored in the internal memory.

- The time stored in this menu is used when saving a file or executing other functions.

- User can adjust time and date of the scanner.

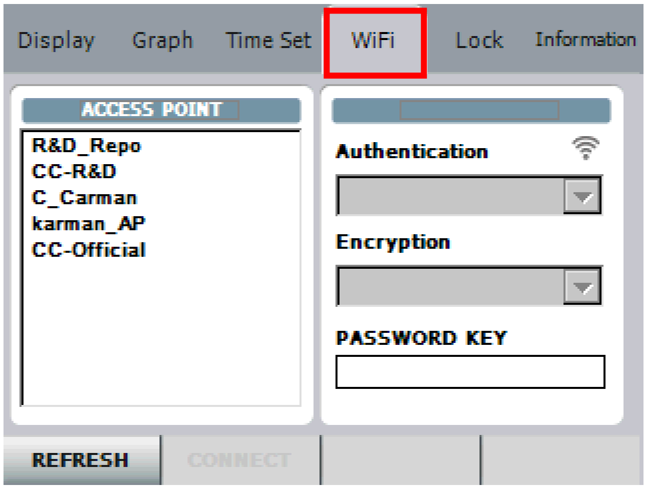
3-1. Date Set: Change the day, month and year as desired by pressing the arrow keys (▲ and ▼) and press “F4” to save the change.

3-2. Time Set:Change the hour and minute as desired by pressing the arrow keys and press “F4” to save the changes.

Tip! OS language setting, depending on the state set a date and time settings can be changed notation.

Chapter 3: Configuration

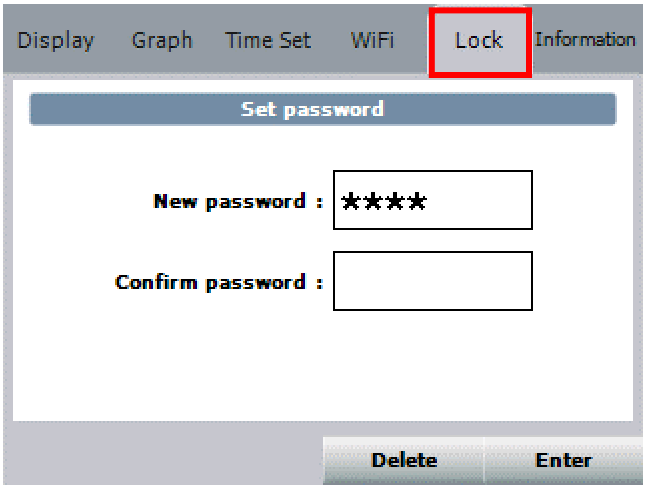
4. Wi-Fi



- Choose the Wi-Fi which you want to connect to and enter the password. Then, return to update menu to make sure of Wi-Fi connection.

Chapter 3: Configuration

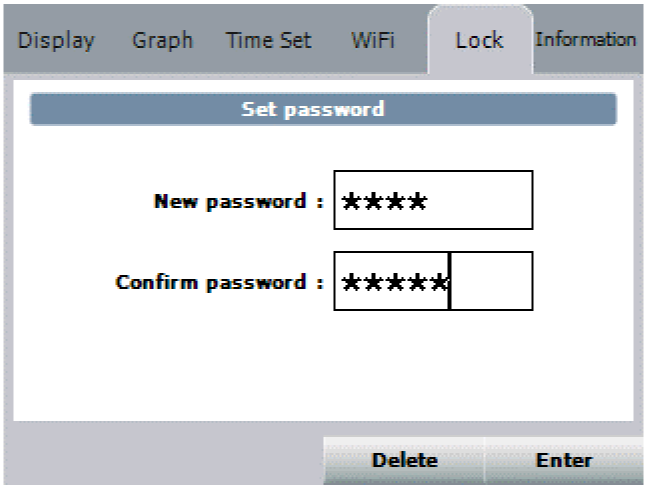
5. Lock



New password : ****

Confirm password :

- Enter your desired password and then confirm it.



New password : ****

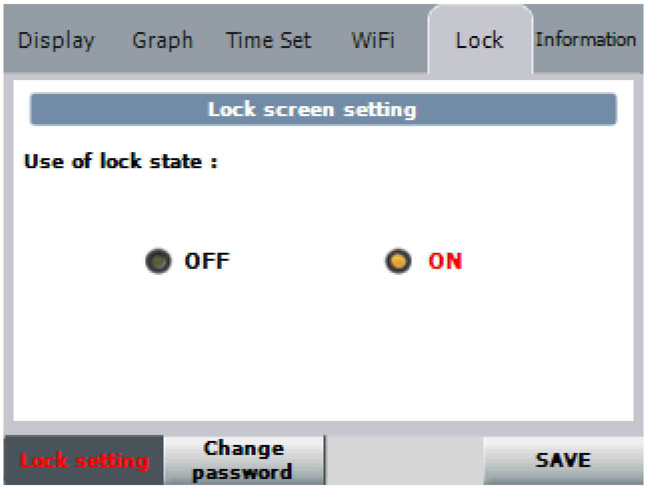
Confirm password : *****

- Press “F3” to edit or delete and “F4” to save your password.
- The password will appear on the first page after restarting your device.

Chapter 3: Configuration

- You can activate or deactivate password using “LEFT” and “RIGHT” buttons and choosing ON and OFF.

- Press “F4” to save the changes.

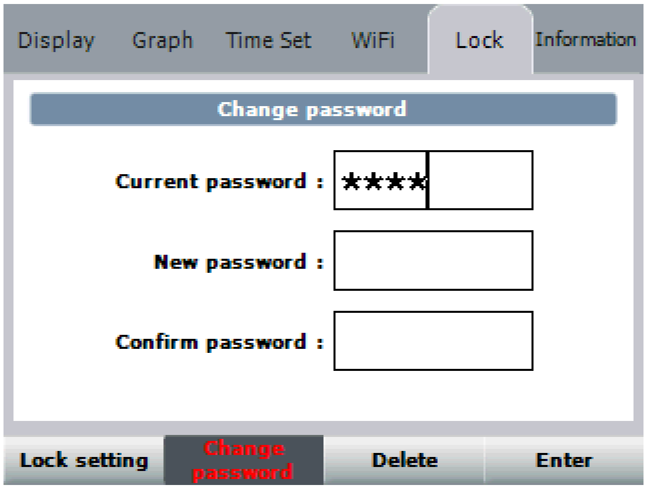


Lock screen setting

Use of lock state :

○ OFF ● ON

- You can change your password by returning to Lock menu.



Change password

Current password : ****

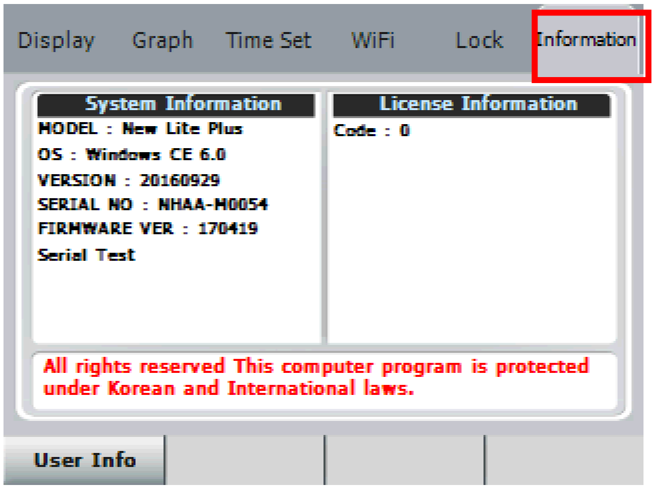
New password :

Confirm password :

Chapter 3: Configuration

6. Information

- The information is shown so you can check system and program.



System Information

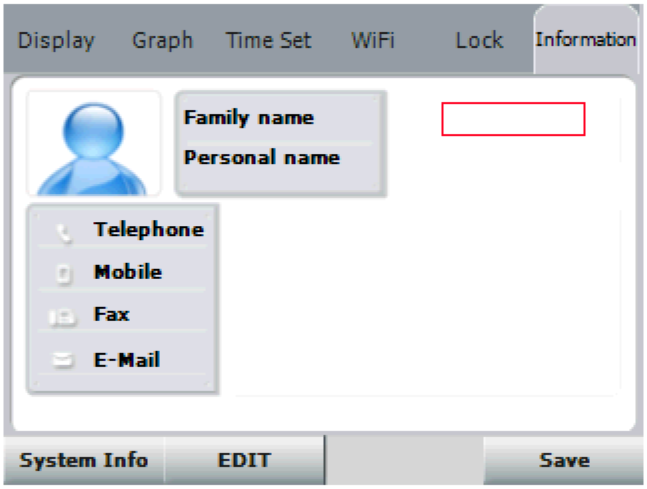
MODEL : New Lite Plus
OS : Windows CE 6.0
VERSION : 20160929
SERIAL NO : NHAA-M0054
FIRMWARE VER : 170419
Serial Test

License Information

Code : 0

All rights reserved This computer program is protected under Korean and International laws.

- You can input your information or check system information. Switch between these menus by pressing “F1” button.



Chapter 3: Configuration

5-1. User information is shown and you can edit (“F2” button) and save information (“F4” button).

5-2. In order to change the information. please select an item to edit, press “F1”to edit input information.

5-3. Other languages except English can be input using download program of PC.

Tip!

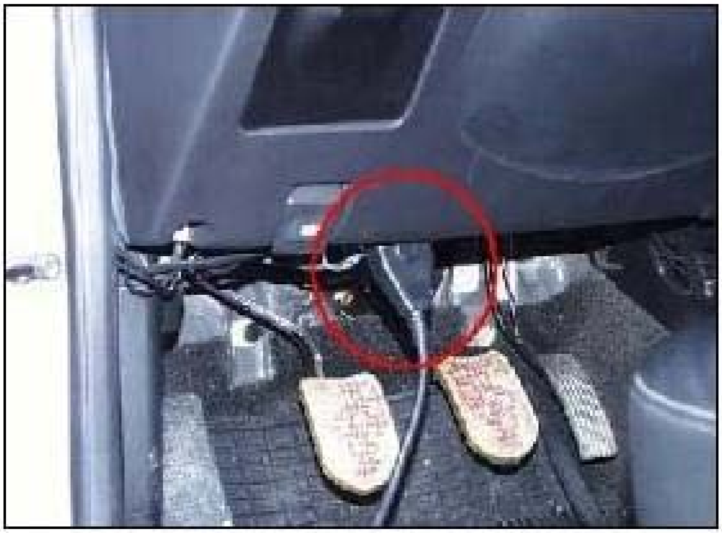
- In all pages of config menu you have to use “F4” button to save your changes.

Chapter 4: Diagnosis Menu

1. How to Connect Diagnostic Connector and Select Diagnosis Program

(It is common to Asian, Korean, Japanese, European, Australian and USA vehicles)

1. Locate the diagnostic connector in the vehicle.
   - Most vehicles released after year 2002 conform to the OBD-II Protocol and have OBD-II diagnostic connectors.
   - Most OBD-II vehicles have their diagnostic connectors on the section over the brake pedal under the steering wheel.



-Location of OBD-II diagnostic connector-

Chapter 4: Diagnosis Menu

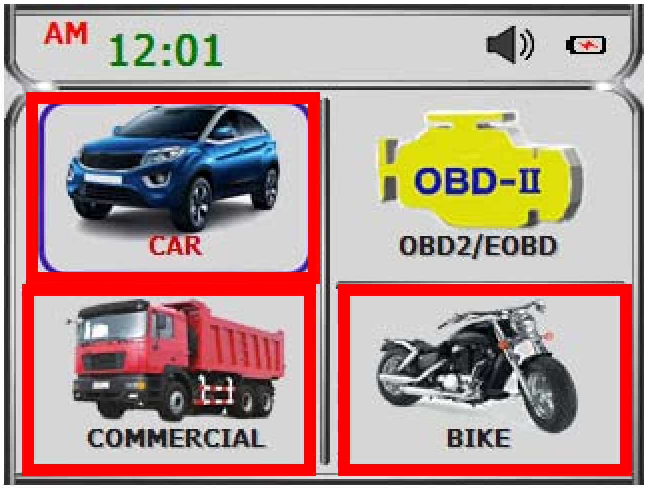
2. Use the DLC main cable to connect the vehicle's diagnostic connector and New Lite+.

Chapter 4: Diagnosis Menu

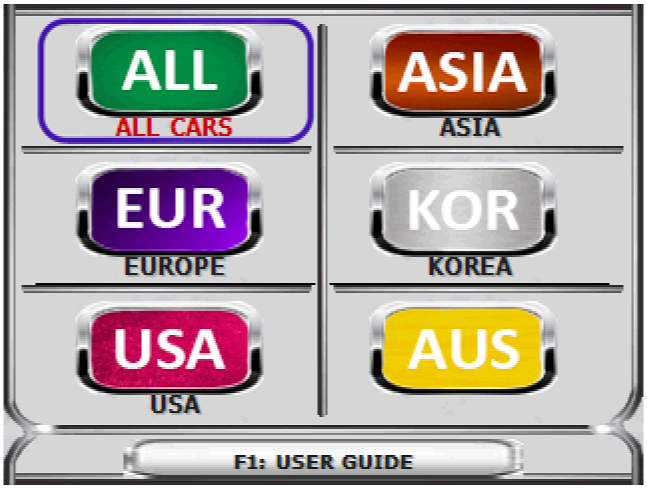
3. Turn on New Lite+

-If power is not feed through the diagnostic connector and the New Lite+ battery is not fully charged, you need to connect an additional power supply (vehicle battery, etc.).

4. Select a kind of vehicle.

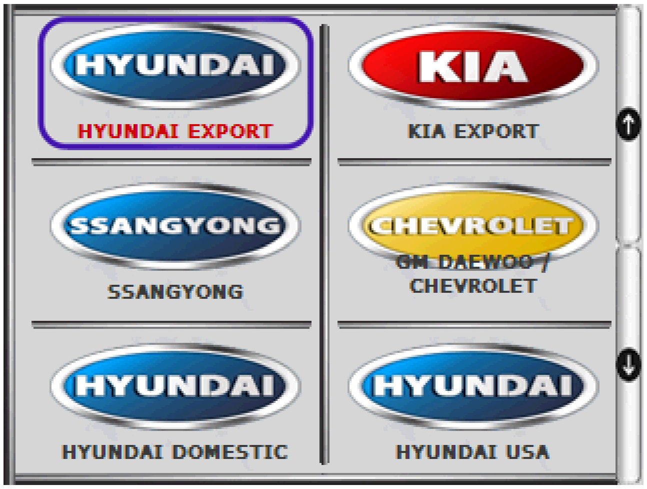


5. Select the region of the vehicle to diagnose.

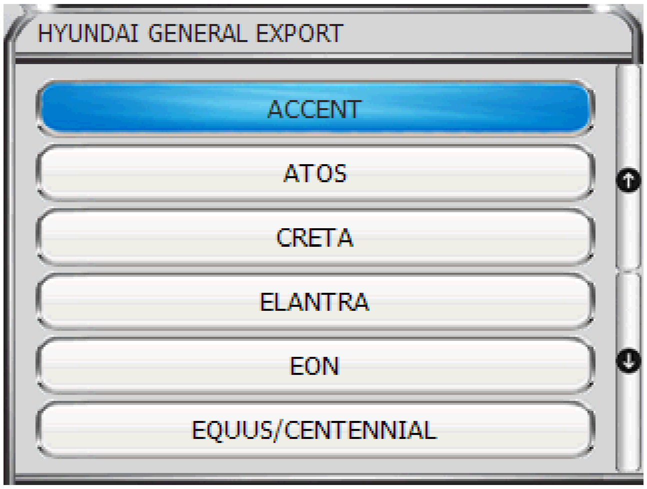


Chapter 4: Diagnosis Menu

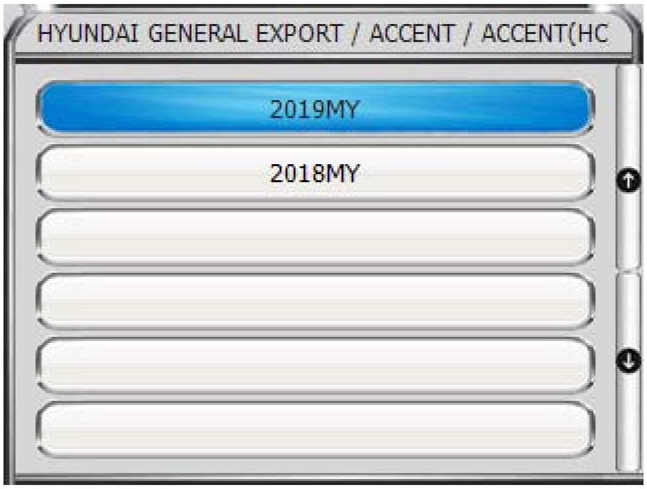
6. Select the maker of the vehicle to diagnose.



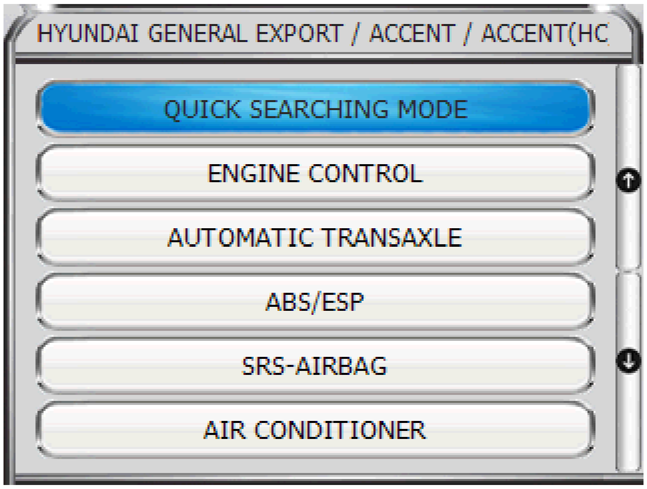
7. Select a vehicle on diagnosis menu.



Chapter 4: Diagnosis Menu



8. Select the system to be diagnosed.



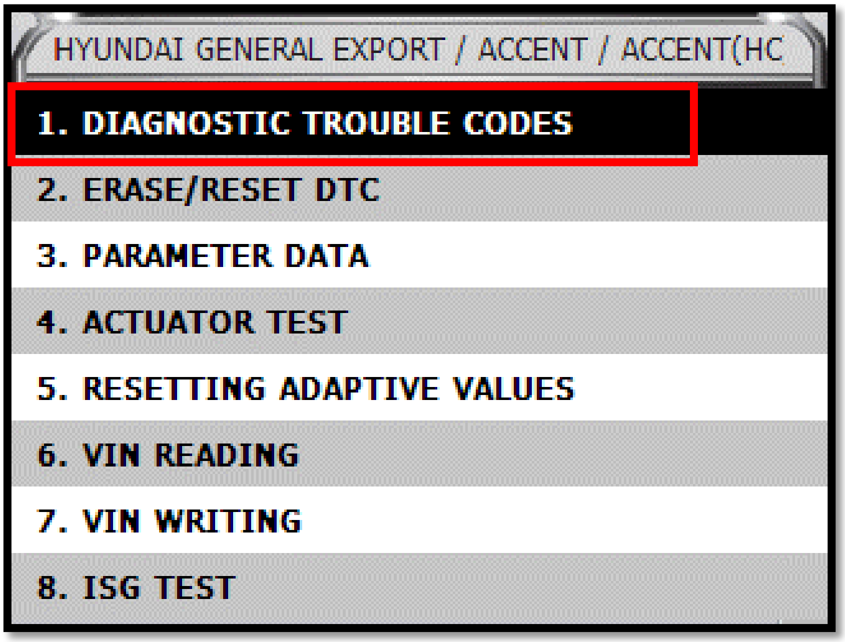
Chapter 5: Vehicle Diagnosis

1.Diagnostic Trouble Codes

- In this menu, it is possible to check for any malfunction of the selected vehicle system through the communication with the ECU in the vehicle. As New Lite+ displays DTCs (Diagnostic Trouble Codes), you can easily check where malfunction occurs. Also, the description and picture for DTCs is displayed as well to help you service your vehicle.

Tip! -In order to diagnose DTC correctly, please check the connection between connector and New Lite+. Please refer to Chapter4: Diagnosis menu and check details such as Vehicle maker, model and displacement etc. The helpfunction may differ between vehicle makers.

Note - Items of DTC Codes may differ from depending on makers and models.



HYUNDAI GENERAL EXPORT / ACCENT / ACCENT(HC

1. DIAGNOSTIC TROUBLE CODES
2. ERASE/RESET DTC
3. PARAMETER DATA
4. ACTUATOR TEST
5. RESETTING ADAPTIVE VALUES
6. VIN READING
7. VIN WRITING
8. ISG TEST

-Diagnostic Trouble Codes-

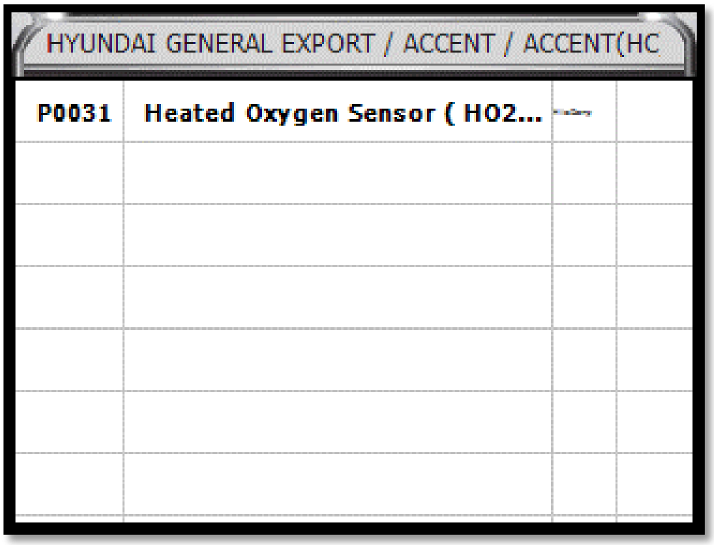
Chapter 5: Vehicle Diagnosis

1. If a car and a system are selected correctly in the Vehicle Diagnosis menu and communication with vehicle is stable, the above picture will be shown.

Tip!

-If it does not show a menu like last picture and shows "Connection Failed" or does not communicate stably, please check first status of the target car or connection of cables.

2. The DTC search screen appears. Now, you can check details of DTCs.



HYUNDAI GENERAL EXPORT / ACCENT / ACCENT(HC

P0031	Heated Oxygen Sensor (HO2...		

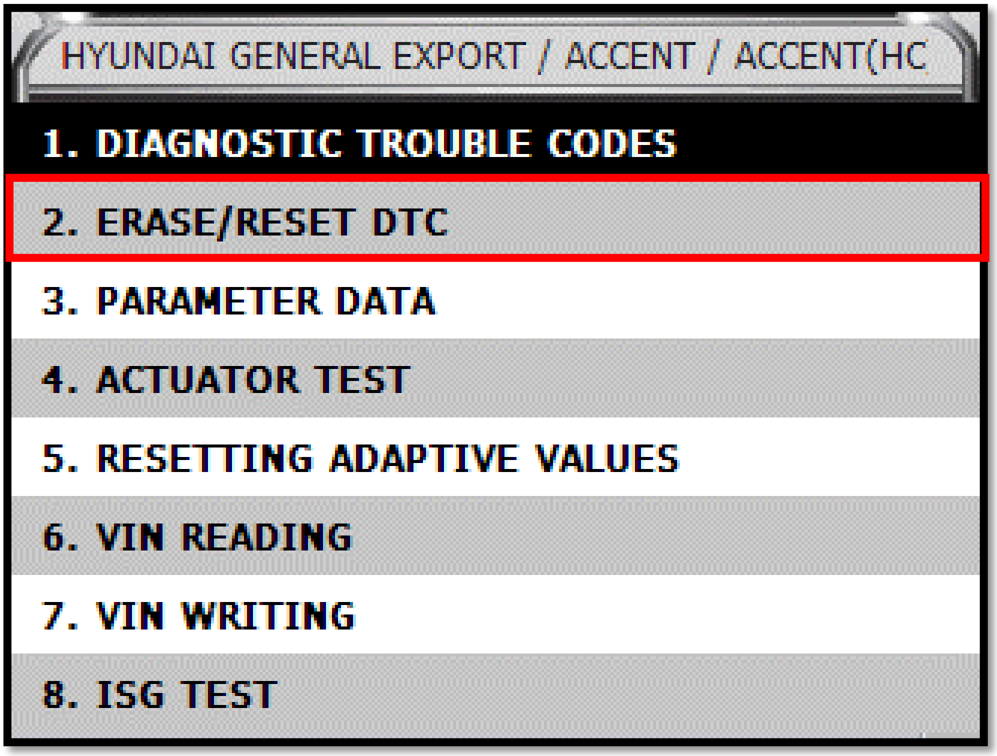
-DTC list-

- After pressing ENTER on a DTC you will see the full description.
- Use “F3” button to erase DTC.

Chapter 5: Vehicle Diagnosis

2. Erase/Reset DTC

1. If you select a car and a system correctly on the menu and if communication with a car works successfully, it shows the DIAG MENU like a picture below.
   Press the ERASE/RESET DTC button.



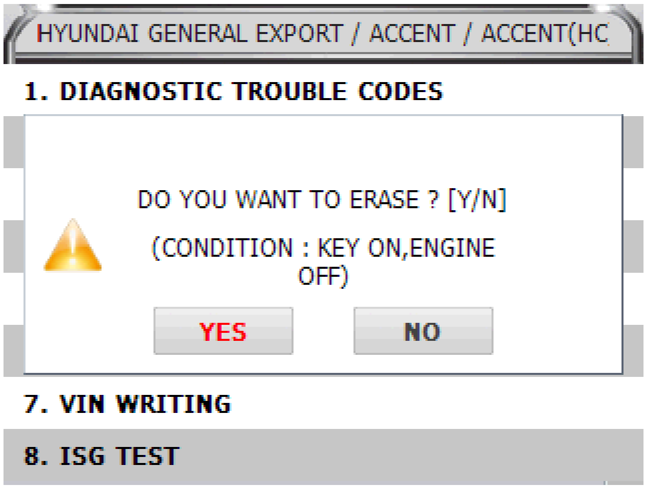
HYUNDAI GENERAL EXPORT / ACCENT / ACCENT(HC

1. DIAGNOSTIC TROUBLE CODES
2. ERASE/RESET DTC
3. PARAMETER DATA
4. ACTUATOR TEST
5. RESETTING ADAPTIVE VALUES
6. VIN READING
7. VIN WRITING
8. ISG TEST

-Erase/Reset DTC –

Chapter 5: Vehicle Diagnosis

7. You can see "Yes" & "No" buttons. If you choose the YES button, the DTC is deleted. If you choose the No button, it returns to previous step.

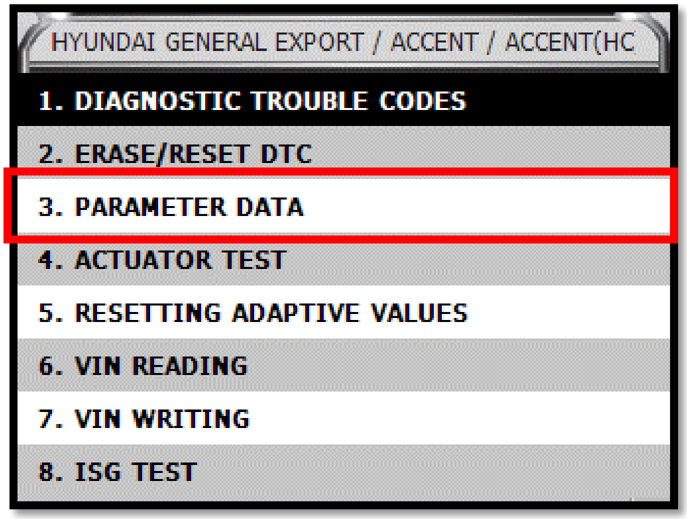

HYUNDAI GENERAL EXPORT / ACCENT / ACCENT(HC
1. DIAGNOSTIC TROUBLE CODES
YES
NO
7. VIN WRITING
8. ISG TEST

DO YOU WANT TO ERASE ? [Y/N]

(CONDITION : KEY ON,ENGINE OFF)

3. Parameter Data

-In the Parameter Data menu, the module can communicate with the vehicle ECU to check data and control values of each sensor of the selected system and to check conditions of various switches and actuators.


HYUNDAI GENERAL EXPORT / ACCENT / ACCENT(HC
1. DIAGNOSTIC TROUBLE CODES
2. ERASE/RESET DTC
3. PARAMETER DATA
4. ACTUATOR TEST
5. RESETTING ADAPTIVE VALUES
6. VIN READING
7. VIN WRITING
8. ISG TEST

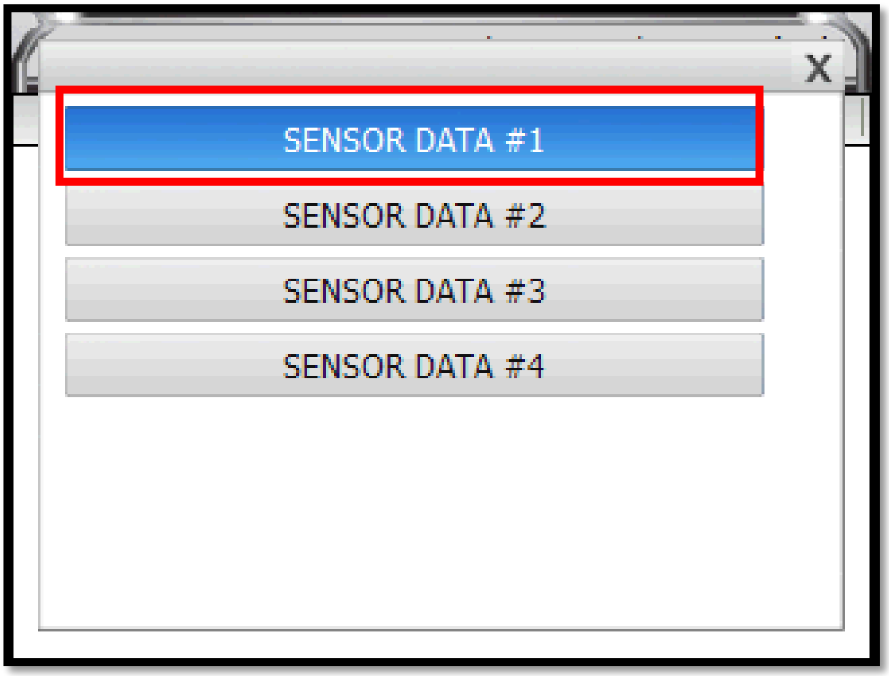
Chapter 5: Vehicle Diagnosis

Tip!

-It is important to select the vehicle specifications correctly for accurate sensor data measurement. Make sure to set the vehicle displacement, manufactured year, fuel, etc. correctly. The Parameter Data list can differ even with the same vehicle models.

Note- The menu for Parameter Data selection, shown in the picture, can differ by vehicle makers and models.

1. When selecting the correct vehicle model and system from the menu and communication with the vehicle is properly established, the menu appears as the picture above. Select Parameter DATA and press the ENTER key.



-Group list-

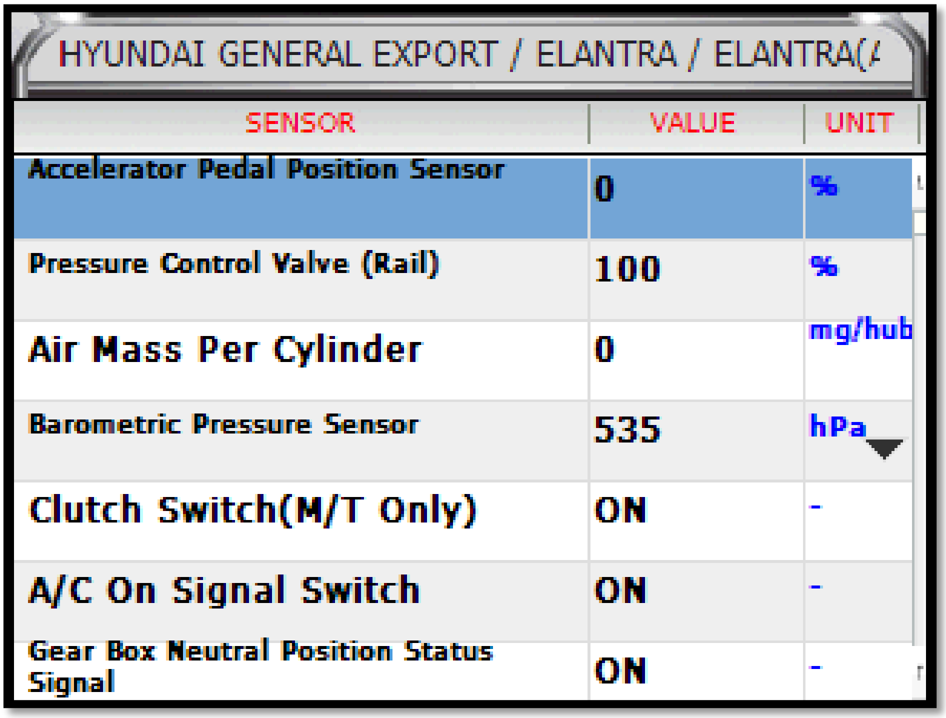
Chapter 5: Vehicle Diagnosis

Tip!

If the message indicating a communication error is displayed instead of the menu like the figure above or communication cannot be established, check the vehicle condition and the connection status of the diagnostic connector again.

Note-You may need to choose a group of parameter in order to see the list.

2. The Parameter Data list is displayed as shown in the below picture.



HYUNDAI GENERAL EXPORT / ELANTRA / ELANTRA(

SENSOR	VALUE	UNIT
Accelerator Pedal Position Sensor	0	%
Pressure Control Valve (Rail)	100	%
Air Mass Per Cylinder	0	mg/hub
Barometric Pressure Sensor	535	hPa
Clutch Switch(M/T Only)	ON	-
A/C On Signal Switch	ON	-
Gear Box Neutral Position Status Signal	ON	-

-Parameter Data list-

Chapter 5: Vehicle Diagnosis

- Press “Enter” button to check live data in graphs. It is helpful to convert the current vehicle data to graphs for tendency analysis.

- To convert live data to graphs, such data are need to be fixed. Then, only these fixed data change.

-Use “F3” button to change the unit. Press this button to move to configuration and change system Unit.

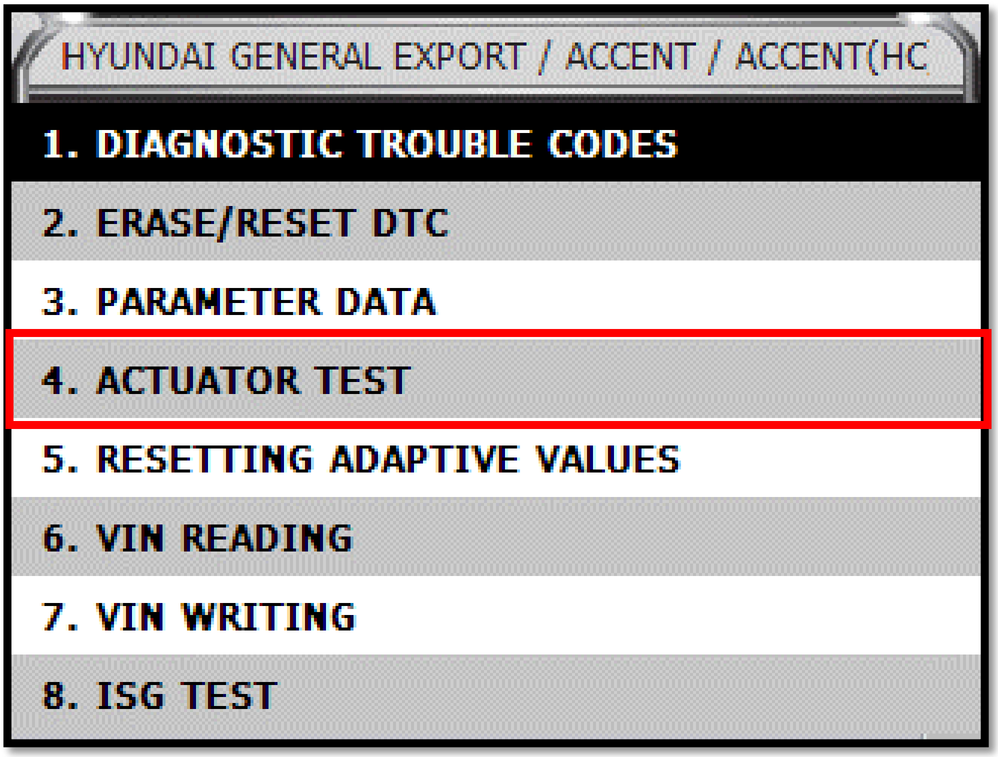
Tip! If you use the fix function, values are changed only for the fixed items so you can measure changed values faster and can diagnose more precisely.

Chapter 5: Vehicle Diagnosis

4. ACTUATOR TEST

- In this menu, you can start and stop actuators and switches forcibly to diagnose them.

- The actuation function is available depending on vehicle makers and models.


HYUNDAI GENERAL EXPORT / ACCENT / ACCENT(HC
1. DIAGNOSTIC TROUBLE CODES
2. ERASE/RESET DTC
3. PARAMETER DATA
4. ACTUATOR TEST
5. RESETTING ADAPTIVE VALUES
6. VIN READING
7. VIN WRITING
8. ISG TEST

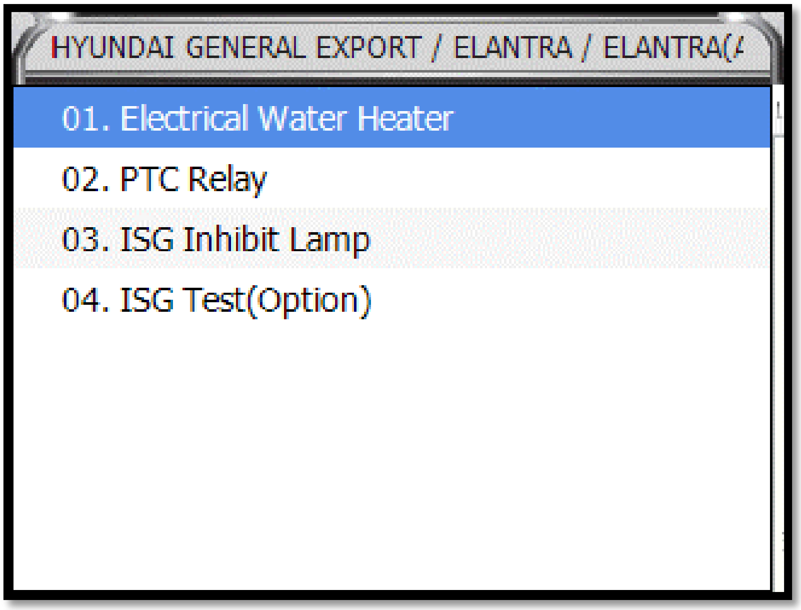
- Actuator Test-

1. If a car and a system are selected correctly in the Vehicle Diagnosis menu and communication with vehicle is stable, the above picture will be shown Select an Actuator Test.

Chapter 5: Vehicle Diagnosis

Tip! If above picture is not shown, the communication error appears or communication does not work, check again the status of vehicle and connection of cables for diagnosis.

2. The screen as below appears.



HYUNDAI GENERAL EXPORT / ELANTRA / ELANTRA(

01. Electrical Water Heater
02. PTC Relay
03. ISG Inhibit Lamp
04. ISG Test(Option)

-Actuator list-

3. Choose any actuator that you want to diagnose and press “ENTER”.

4.Press “F1” to start testing and “F2” to finish the test.

- Before starting actuation, make sure to check the operating condition to inspect the system in the proper condition.
- The actuator time differs by the actuated items.

4. Press the (F2=Stop) button to stop the actuator function.

- Press this button to stop the actuator function during diagnosis.

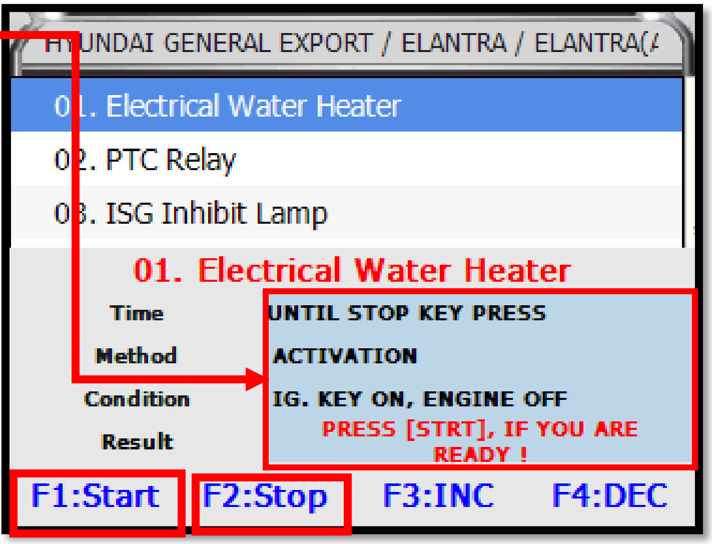
Chapter 5: Vehicle Diagnosis

Tip!

The actuation result is judged by noise from the running actuator or switch and vehicle RPM change.
Therefore, it is recommended to perform the actuation test in a quiet area and use Parameter Data values as a reference.

Tip!

If target system does not support sensor, actuator and dual display, it supports items of actuator without items of sensor.



Condition

HYUNDAI GENERAL EXPORT / ELANTRA / ELANTRA(

01. Electrical Water Heater
02. PTC Relay
03. ISG Inhibit Lamp

01. Electrical Water Heater

Time: UNTIL STOP KEY PRESS
Method: ACTIVATION
Condition: IG. KEY ON, ENGINE OFF
Result: PRESS [STRT], IF YOU ARE READY !

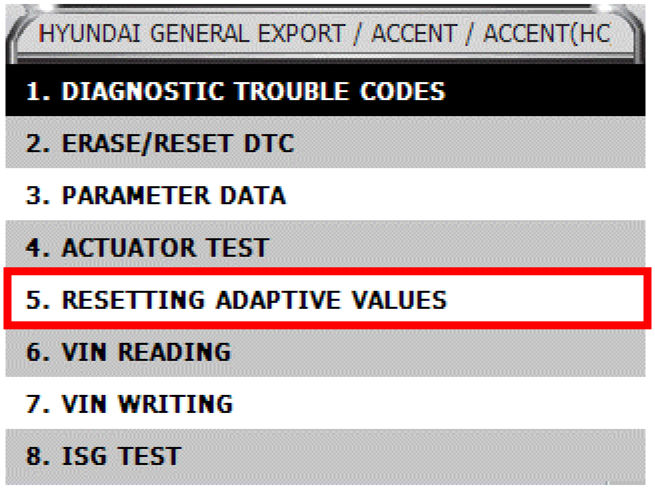
-Actuator’s details-

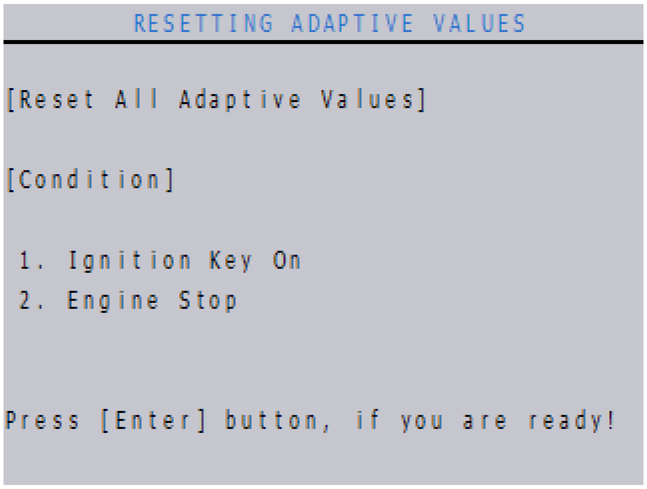
Chapter 5: Vehicle Diagnosis

5. Resetting Adaptive Values.

- The resetting adaptive values initiates ECU by clearing values of sets in ECU.

- The clearing learning values may be different depend on car makers and models.


HYUNDAI GENERAL EXPORT / ACCENT / ACCENT(HC
1. DIAGNOSTIC TROUBLE CODES
2. ERASE/RESET DTC
3. PARAMETER DATA
4. ACTUATOR TEST
5. RESETTING ADAPTIVE VALUES
6. VIN READING
7. VIN WRITING
8. ISG TEST


RESETTING ADAPTIVE VALUES

[Reset All Adaptive Values]

[Condition]

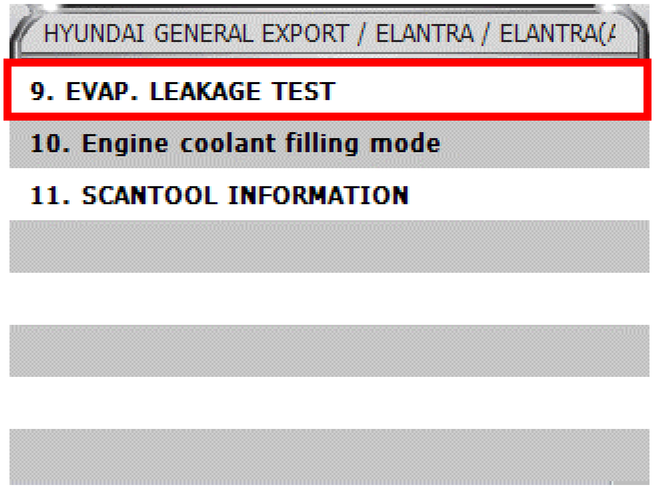
1. Ignition Key On
2. Engine Stop

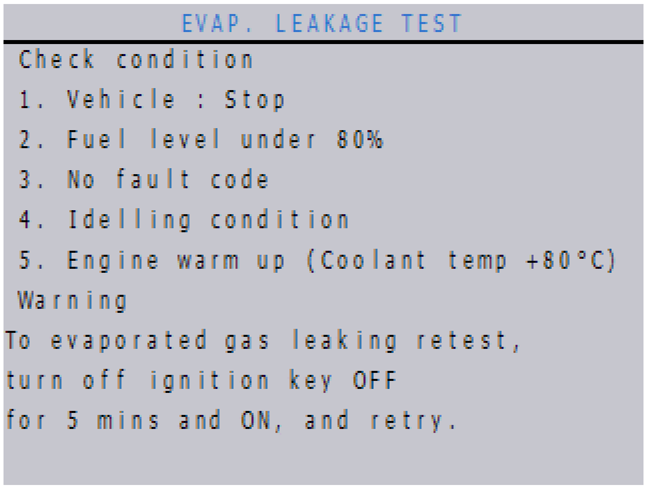
Press [Enter] button, if you are ready!

Chapter 5: Vehicle Diagnosis

6. Evap. Leakage Test

-Choose this Special Function to check if there is leakage from an oil tank.


HYUNDAI GENERAL EXPORT / ELANTRA / ELANTRA(/
9. EVAP. LEAKAGE TEST
10. Engine coolant filling mode
11. SCANTOOL INFORMATION



EVAP. LEAKAGE TEST

Check condition

1. Vehicle : Stop
2. Fuel level under 80%
3. No fault code
4. Idelling condition
5. Engine warm up (Coolant temp +80°C)

Warning

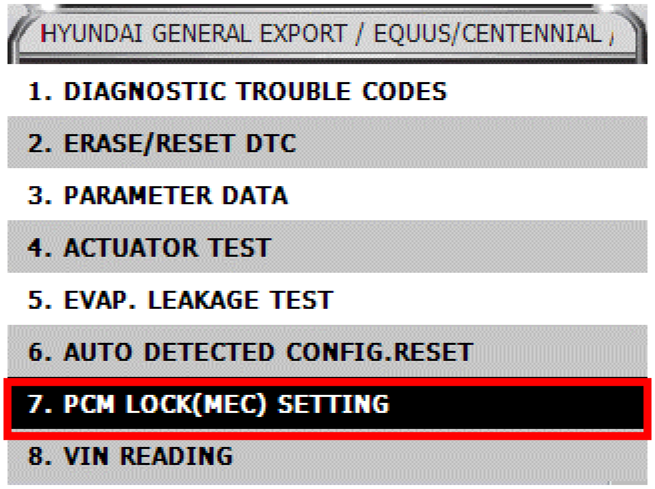
To evaporated gas leaking retest,
turn off ignition key OFF
for 5 mins and ON, and retry.

Chapter 5: Vehicle Diagnosis

7. PCM Lock(MEC) Setting

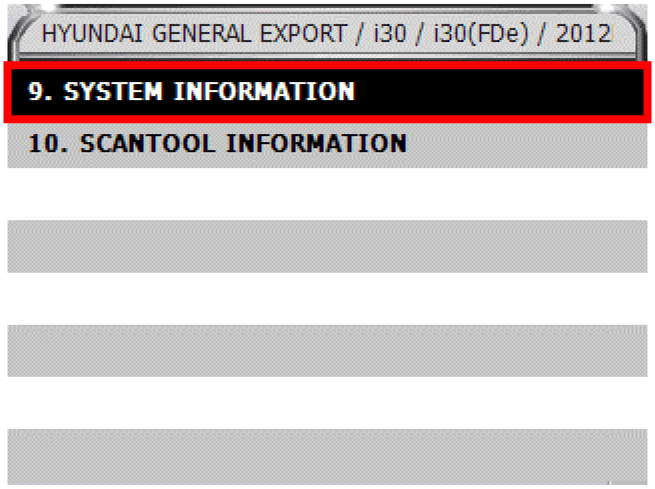
- This function is to prevent data or programs from adjustment.

- System information differs from depend on car makers and models.

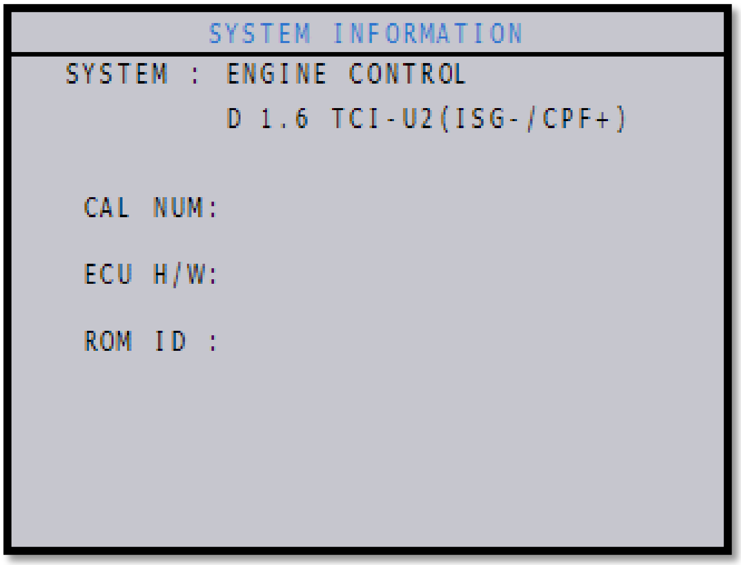


8. System Information

-System Information shows information related with system such as system model and software version etc.



Chapter 5: Vehicle Diagnosis



```
SYSTEM INFORMATION
SYSTEM : ENGINE CONTROL
         D 1.6 TCI-U2(ISG-/CPF+)

 CAL NUM:

 ECU H/W:

 ROM ID :
```

-System Information-

- System Information differs from depend on car makers and models.

Chapter 6: OBD-II/EOBD Diagnosis Menu

1. OBD-II/EOBD Overview

■ Purpose of OBD-II/EOBD

- OBD-II/EOBD is intended to find what caused the emission to increase, diagnose the part of the cause and light the warning lamp in order to provide faster and more precise repair.

■ OBD-II/EOBD Regulations

- If emission increases due to defected parts, diagnose components and cause, and turn

on the Malfunction Indicator Lamp (MIL).

- Trouble information shall be read by the standard diagnosis tools (GST).

■ OBD-II/EOBD Regulations《 Major Check List 》

The warning light shall be on before the emission reaches 1.5 times of the permissible

Limit due to any of the following troubles or performance degradation.

- Catalyst purification rate (this diagnosis is for HC emission only. This is being phased in

for 1.75 times of HC limit from TLEV), misfire, EGR System, O2 sensor and fuel system

secondary air system.

- Diagnose all sensors and actuators used for controlling the engine to see if they function

properly as well as wirings for an open/short circuit.

- Diagnose the entire evaporation system to see if it leaks.

Chapter 6: OBD-II/EOBD Diagnosis Menu

- Perform diagnosis when the PCV valve and the crankcase or the PCV valve and the intake manifold is disconnected.

- Diagnose the thermostat when the coolant temperature fails to reach the specified temperature where the diagnosis can be made to other items in a given time after starting the engine.

3.How to Connect Diagnostic Connector and Select Diagnosis Program

(It is common to Korean, Japanese, European and USA vehicles)

1. Locate the diagnostic connector in the vehicle.

-Most OBD-II vehicles have their diagnostic connectors on the section over the brake pedal under the steering wheel. (OBD-II Diagnostic connector location)

- Since vehicles without the OBD-II diagnostic connector do not conform to the OBD-II/EOBD communication protocol, you cannot use the OBD-II/EOBD vehicle diagnosis function to them.

2. Use the diagnosis cable to connect the vehicle's diagnostic connector and New Lite+

3. Turn on New Lite+.

- As OBD-II vehicles feed power through the diagnostic connector to the module, they do not need any additional power supply.

4. Press the OBD-II/EOBD button on main screen of New Lite+ to see diagnosis items.

5. Diagnosis function includes Auto-searching, ISO9141-2/KWP2000, J1850PWM/J 1850VPW, CAN communication(Figure 5-1) etc.

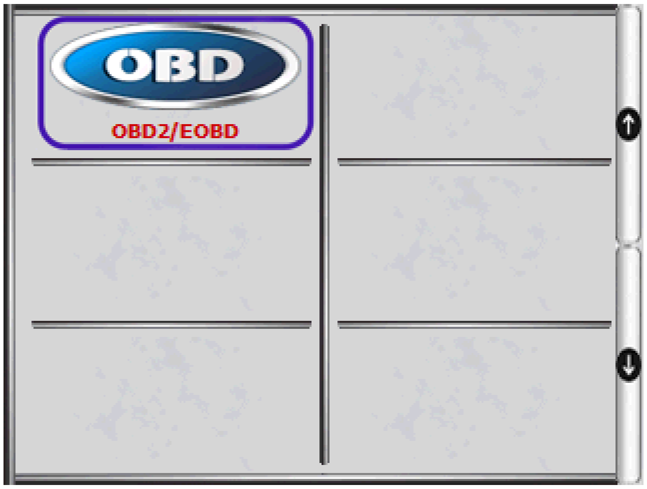
Chapter 6: OBD-II/EOBD Diagnosis Menu

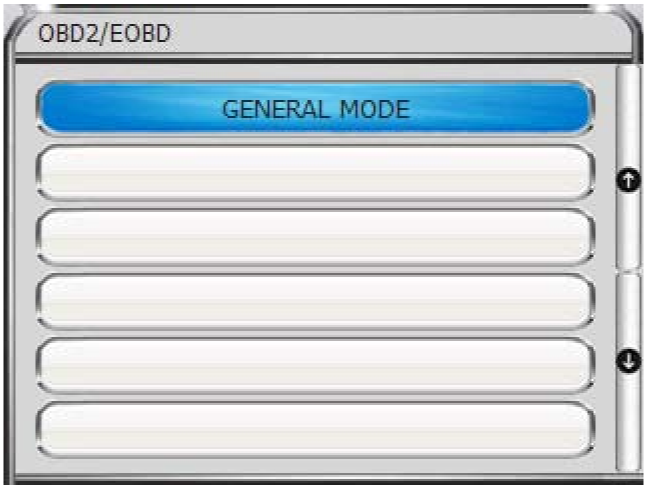
please refer to Chapter 7 OBD-II Vehicle Diagnosis for more information.

Tip! Whenever performing diagnosis, make sure that the ignition switch is in the "ON" position. If the ignition switch is placed in the "OFF" position, power cannot be feed to the ECU and the diagnosis with New Lite+ cannot be performed.

5-1) Communication screen

5-2) Connect a OBD2 16pin connector. (DLC main cable)

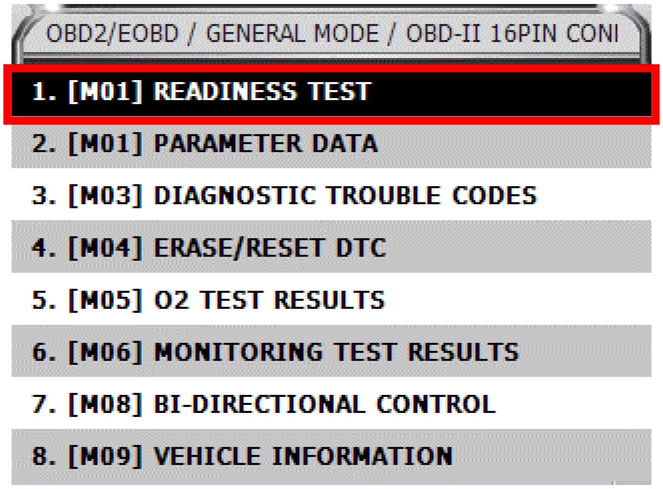




Chapter 7: OBD-II/EOBDVehicle Diagnosis

1. READINESS TEST

-The readiness test tries making communication with your vehicle to review general items of ECU modules that response.



OBD2/EOBD / GENERAL MODE / OBD-II 16PIN CONI

1. [M01] READINESS TEST
2. [M01] PARAMETER DATA
3. [M03] DIAGNOSTIC TROUBLE CODES
4. [M04] ERASE/RESET DTC
5. [M05] O2 TEST RESULTS
6. [M06] MONITORING TEST RESULTS
7. [M08] BI-DIRECTIONAL CONTROL
8. [M09] VEHICLE INFORMATION

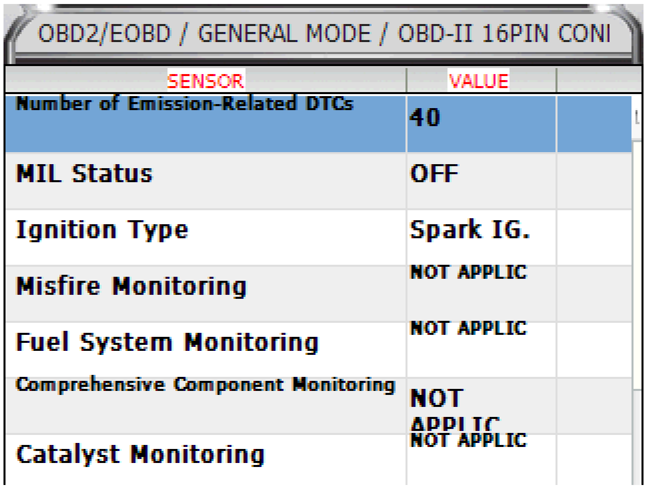
1-1. If communication with the vehicle is established successfully, the menu above appears. Select READINESS TEST.

Tip!

If no menu like above is displayed or communication cannot be established, check the vehicle condition and the connections status of the diagnostic connector again.

In addition, check if your vehicle supports OBD-II communication.

Chapter 7: OBD-II/EOBDVehicle Diagnosis



OBD2/EOBD / GENERAL MODE / OBD-II 16PIN CONI

SENSOR	VALUE
Number of Emission-Related DTCs	40
MIL Status	OFF
Ignition Type	Spark IG.
Misfire Monitoring	NOT APPLIC
Fuel System Monitoring	NOT APPLIC
Comprehensive Component Monitoring	NOT APPLIC
Catalyst Monitoring	NOT APPLIC

*Results

1. NOT CMPLTD: The test has not been completed.

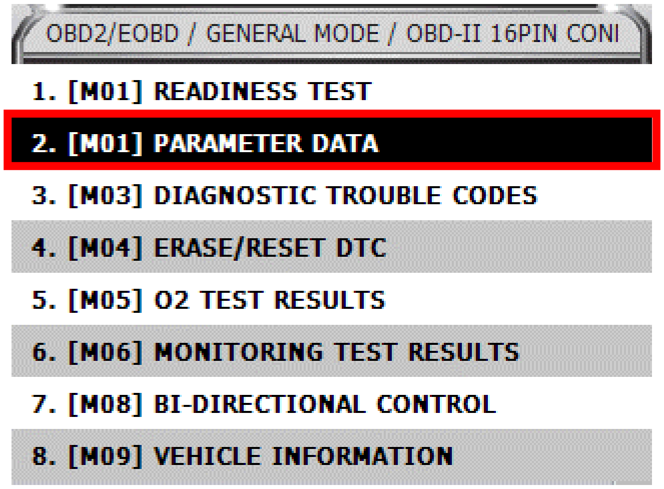
   - This appears when the test was not completed owing to the abnormal ECU or sensorrequired to display the test result.

2. COMPLETED: The test has been completed.

3. NON APPLIC: The item is not applied to the tested vehicle.

Chapter 7: OBD-II/EOBDVehicle Diagnosis

2. PARAMETER DATA


OBD2/EOBD / GENERAL MODE / OBD-II 16PIN CONI
1. [M01] READINESS TEST
2. [M01] PARAMETER DATA
3. [M03] DIAGNOSTIC TROUBLE CODES
4. [M04] ERASE/RESET DTC
5. [M05] O2 TEST RESULTS
6. [M06] MONITORING TEST RESULTS
7. [M08] BI-DIRECTIONAL CONTROL
8. [M09] VEHICLE INFORMATION

-You can check the PARAMETER DATA specified by the OBD-II/EOBD standard in this menu.

2-1. If communication with the vehicle is established successfully, the above menu appears. Select the PARAMETER DATA.

Tip! If no menu like above picture is displayed or communication cannot be established, check the vehicle condition and the connection status of the diagnostic connector again.

In addition, check if your vehicle supports OBD-II communication.

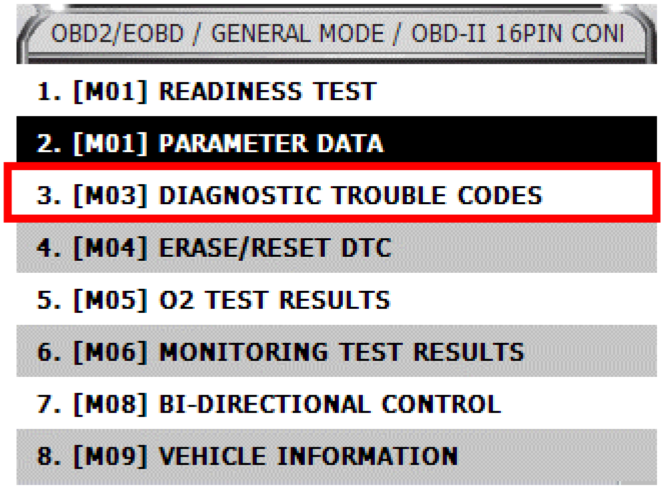
2-2 Sensor data are listed on the screen as shown in above figure. you can check values of each sensor.

Tip! -Refer to the description from "Chapter6 vehicle diagnosis for each button`s function.

Chapter 7: OBD-II/EOBDVehicle Diagnosis

- Live data items in OBD-II communication may be different from live data items that are checked by selecting cars because live data items in OBD-II standard are provided.

4. Diagnostic Trouble Codes


OBD2/EOBD / GENERAL MODE / OBD-II 16PIN CONI
1. [M01] READINESS TEST
2. [M01] PARAMETER DATA
3. [M03] DIAGNOSTIC TROUBLE CODES
4. [M04] ERASE/RESET DTC
5. [M05] O2 TEST RESULTS
6. [M06] MONITORING TEST RESULTS
7. [M08] BI-DIRECTIONAL CONTROL
8. [M09] VEHICLE INFORMATION

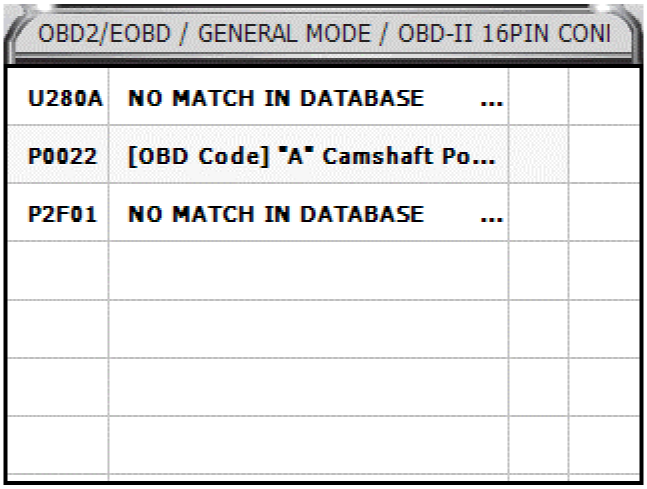
-Press this button to check trouble code of current vehicle.

3-1. Communication with vehicle is properly established, the above menu appears. Select Diagnostic Trouble Codes.

Tip!

If the above menu is not appeared and Communication cannot be established, check the vehicle condition and the connection status of the diagnostic connector again. Also, check if your vehicle supports OBD-II communication.

Chapter 7: OBD-II/EOBDVehicle Diagnosis



OBD2/EOBD / GENERAL MODE / OBD-II 16PIN CONI

U280A	NO MATCH IN DATABASE ...		
P0022	[OBD Code] "A" Camshaft Po...		
P2F01	NO MATCH IN DATABASE ...		

2-2. DTCs are listed on the screen as shown in above figure. You can check values of each sensor.

- You can erase DTCs by pressing “F3” button.

Tip!

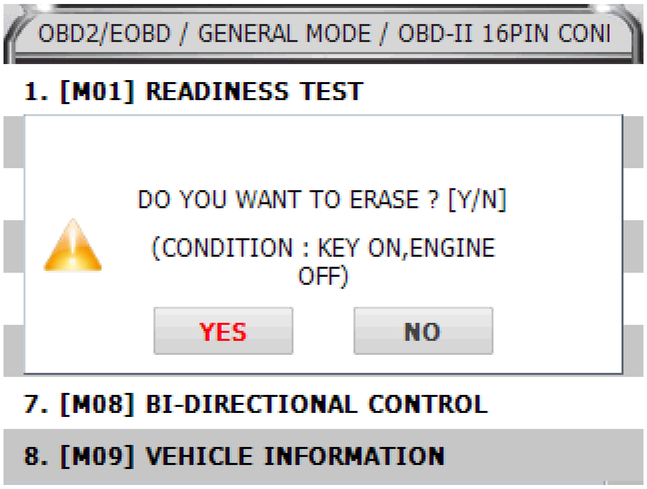
- Refer to the description of "Chapter6 Vehicle Diagnosis" for each button`s function.
- Live data items in OBD-II communication may be different from live data items that are checked by selecting cars because live data items in OBD-II standard are provided.

4. Erase/Reset DTC

1. Select a car model and system in the diagnosis menu. Then, if communication with the vehicle is established successfully, the menu shown in Figure of Page65 appears.

Select the ERASE/RESET DTC button.

Chapter 7: OBD-II/EOBDVehicle Diagnosis


OBD2/EOBD / GENERAL MODE / OBD-II 16PIN CONI
1. [M01] READINESS TEST
YES
NO
7. [M08] BI-DIRECTIONAL CONTROL
8. [M09] VEHICLE INFORMATION

DO YOU WANT TO ERASE ? [Y/N]

(CONDITION : KEY ON,ENGINE OFF)

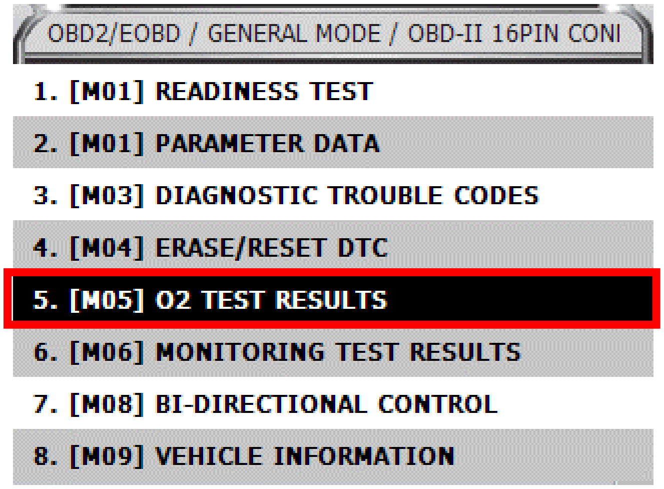
2. If the YES & NO window is shown, Select the YES button to clear DTC or select the NO button to return back to previous step.

Tip!

There are current and old DTCs. When trying to clear old DTCs, they are cleared immediately and they are not set again. However, when trying to clear current DTCs, they are cleared for a short period of time but they are activated again. In this case, clear DTCs again after checking and repairing malfunction parts for the corresponding DTCs.

Chapter 7: OBD-II/EOBD Vehicle Diagnosis

5. Monitoring Test Results


OBD2/EOBD / GENERAL MODE / OBD-II 16PIN CONI
1. [M01] READINESS TEST
2. [M01] PARAMETER DATA
3. [M03] DIAGNOSTIC TROUBLE CODES
4. [M04] ERASE/RESET DTC
5. [M05] O2 TEST RESULTS
6. [M06] MONITORING TEST RESULTS
7. [M08] BI-DIRECTIONAL CONTROL
8. [M09] VEHICLE INFORMATION

- This menu displays the monitoring test results while the vehicle is being normally operated.

- To test systems and units of different manufacturers, it is required to specify test IDs and component IDs.

-If there is no test item supported by the vehicle manufacturer, an error message will be displayed.

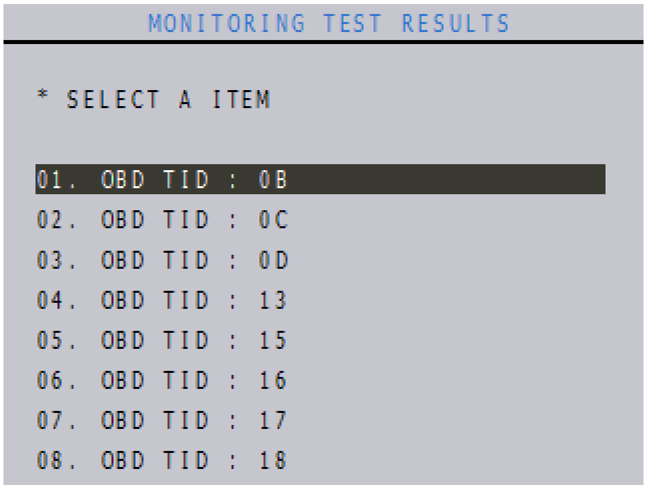
5-1. If communication with the vehicle is established successfully, the menu above appears. Select MONITORING TEST RESULTS.

Tip!

If no menu like picture above is displayed or communication cannot be established, check the vehicle condition and the connection status of the diagnostic connector again.

In addition, check if your vehicle supports OBD-II communication.

Chapter 7: OBD-II/EOBDVehicle Diagnosis



```
MONITORING TEST RESULTS

* SELECT A ITEM

01. OBD TID : 0B
02. OBD TID : 0C
03. OBD TID : 0D
04. OBD TID : 13
05. OBD TID : 15
06. OBD TID : 16
07. OBD TID : 17
08. OBD TID : 18
```

6. Bi-Directional Control

- You can control and test functions related with OBD-II system.

6-1.If communication with the vehicle is established successfully, the menu above appears. Select BI-DIRECTIONAL CONTROL.

Tip!

If no menu like picture above is displayed or communication cannot be established, check the vehicle condition and the connection status of the diagnostic connector again.

In addition, check if your vehicle supports OBD-II communication.

7.VEHICLE INFORMATION

- This menu displays information of the ECU installed in your vehicle.
- You can check only the ECU that provides its module information.
- This menu displays information of the ECU installed in your vehicle.
- You can check only the ECU that provides its module information.

Chapter 7: OBD-II/EOBD Vehicle Diagnosis

7-1. If communication with the vehicle is established successfully, the menu above appears. Select Vehicle Information.

Tip! If no menu like picture above is displayed or communication cannot be established, check the vehicle condition and the connection status of the diagnostic connector again.

In addition, check if your vehicle supports OBD-II communication.

- This menu displays information of the ECU installed in your vehicle like the picture above.

Chapter 8: Program Download

It is necessary to download the vehicle diagnosis program to your product in order to use it. if here is any update due to a new model, system or development, the program should be updated to the latest one. Also, the latest firmware and PIC data are provided for update to ensure the best performance of your product. For this update, the dedicated program is needed. The following describes how to install the program.

How to Install download program

-Use the AC/DC Adaptor supplied by our company to turn on New Lite+.

- Download new software after check how to download it in our website.
Website: http://www.carmanit.com

- Please contact to where you purchased about downloading latest software.

Appendix: Registration

# We explain how to register using windows 7.

How to register?

# You can register on website or where you purchase our products. # Website address for registration: http://www.carmanit.com

How to register through website

1. Input http://www.carmanit.com into the address bar on browsers.

2. Refer to the JOIN page in our website.

Q&A

Q) Communication cannot be established.

A) 1. Check the connection of the diagnostic cable.

- Communication cannot be established if the diagnostic cable is not properly connected. - Some old vehicles may have a problem on pin of DLC. 2. Check if power is properly supplied to the main module. - Vehicle diagnosis can be affected by unstable power source. - You need to check power from battery or from DLC connector.

- If the vehicle diagnostic cables cannot supply power from vehicle, connect the cigarette lighter power cable for power.

- If there is electric potential difference between New Lite+ batteries and vehicle batteries, communication is not available.

* If the problem is not solved, a hardware of scanner or a vehicle may be out of order.

* If so, the scanner requires to be repaired * Flooded cars may be not communicated also it will cause damage to your scanner. So, check if there is any short circuit in advance before scanning the flooded cars.

Q) I cannot turn on the module.

A) 1. Check if the battery in the module is charged. - The built-in battery may not be charged. 2. The battery may not be able to function due to the ambient temperature.

- Avoid excessively hot or cold areas. 3. If battery life is over, booting by battery is not available.

* If DLC cable, cigarette cable or AC/DC adapter cannot supply power and booting is not available, it is required to be repaired.

Q) The touch screen does not function properly.

A) 1. The touch screen coordinates may not be correctly aligned. - It is possible to test the touch screen coordinates by selecting the CONFIGURATION from the main menu and then selecting DISPLAY and Test Touch Coordinate menus in order. If the coordinates are not correct, correct them using the Calibrate Touch Screen function.

* If the problem is not solved, a hardware of scanner or a vehicle may be out of order.

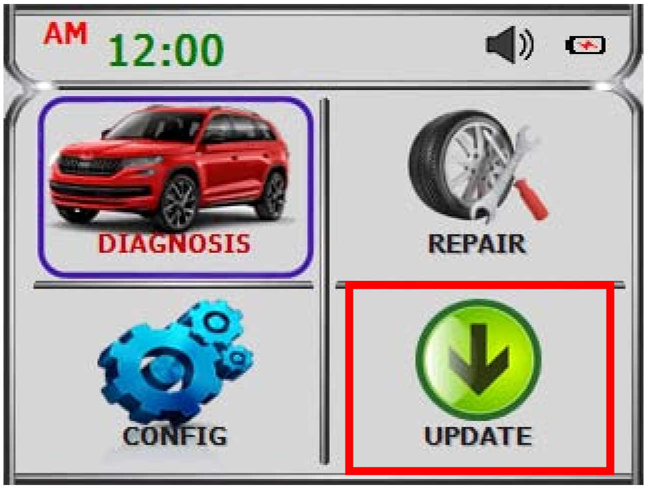
* If so, the scanner requires to be repaired.

Chapter 9: Update Manual

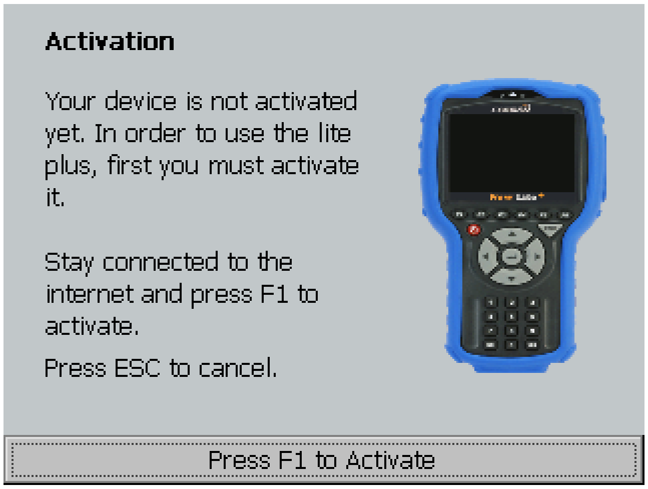
To update your New Lite + follow the steps below:

A) ONLINE UPDATE:

1. Go to UPDATE menuon your New Lite +.



- If you are updating your device for the first time, you have to activate your device. Make sure that you are connected to the internet during this procedure. Press “F1” to activate your device.



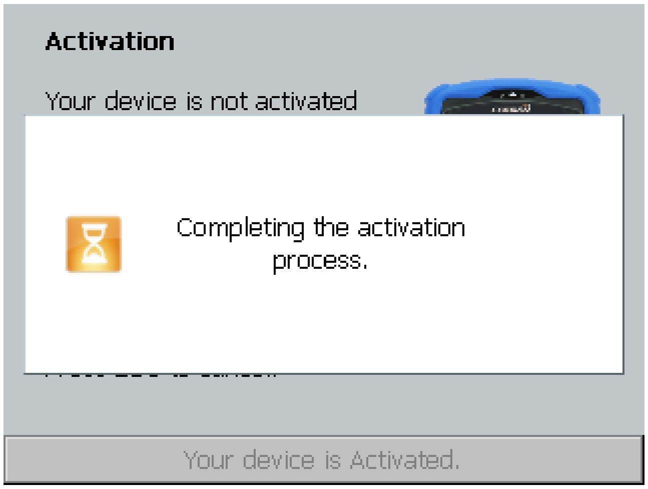
Activation

Your device is not activated yet. In order to use the lite plus, first you must activate it.

Stay connected to the internet and press F1 to activate.

Press ESC to cancel.

Chapter 9: Update Manual

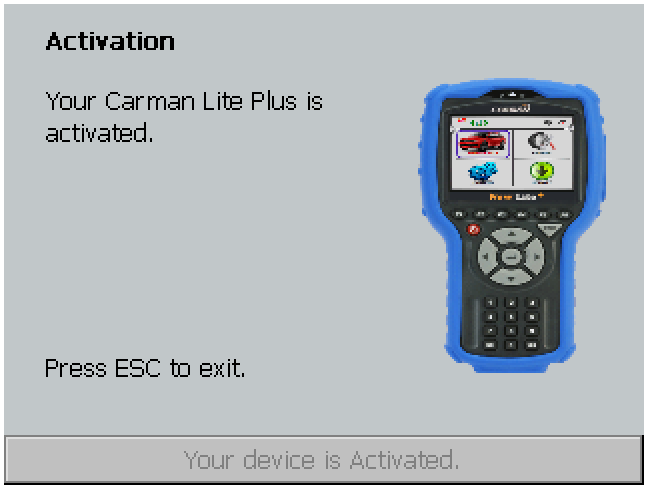


Activation

Your device is not activated

Completing the activation process.

Your device is Activated.



Activation

Your Carman Lite Plus is activated.

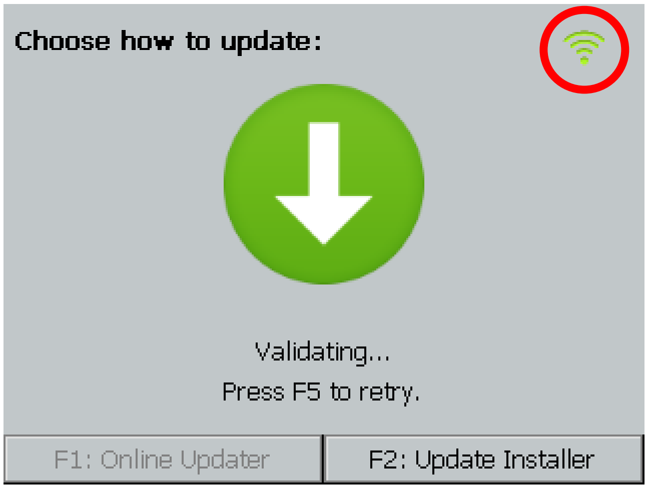
Press ESC to exit.

Your device is Activated.

2. If your device is connected to internet successfully you will see the page below and the Wi-Fi sign will be green.

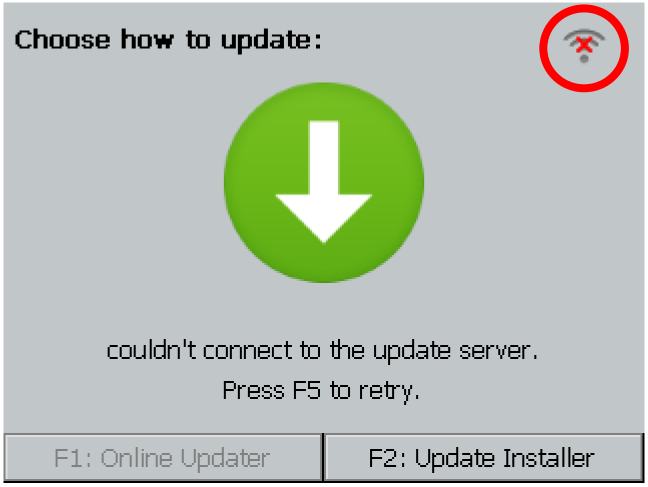
   If the Wi-Fi is not connected go to config menu and choose a proper Wi-Fi.

Chapter 9: Update Manual



Choose how to update:

Validating...
Press F5 to retry.

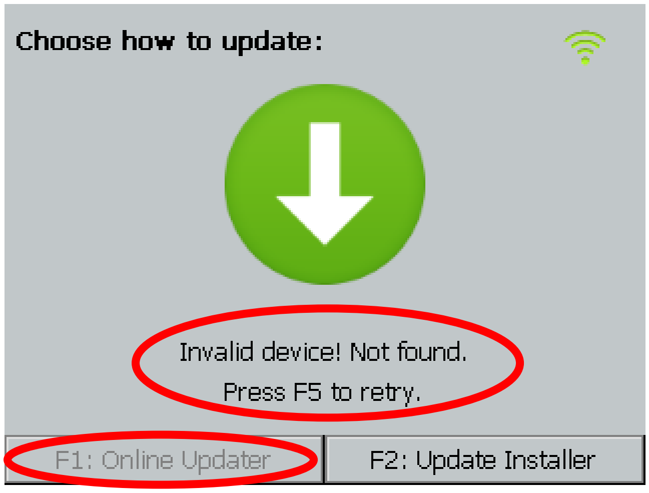


Choose how to update:

couldn't connect to the update server.
Press F5 to retry.

3. If your device serial number is not valid you will see this message on this page. You may call your dealer or company.

Chapter 9: Update Manual

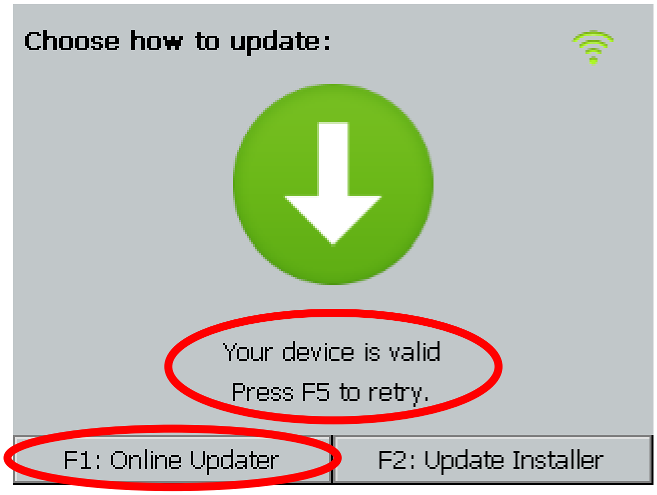


Choose how to update:

Invalid device! Not found.
Press F5 to retry.

Online updater is inactive in this situation.

4. If your device's serial number is valid, the message will appear as below.



Choose how to update:

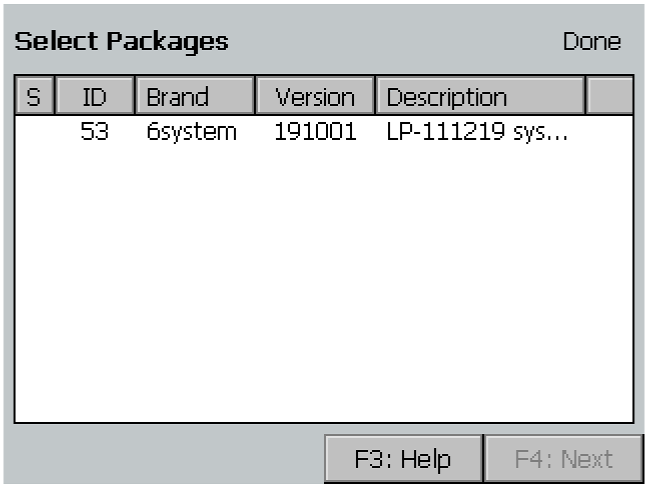
Your device is valid
Press F5 to retry.

Online updater is active in this situation.

5. Press “F1” to update online.

Chapter 9: Update Manual

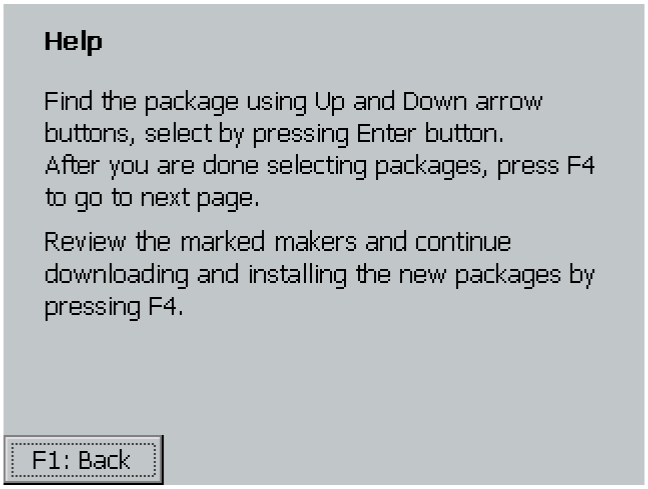
You can select desired groups to be updated by using “Up” and “Down” and “Enter” buttons.



Select Packages

S	ID	Brand	Version	Description
	53	6system	191001	LP-111219 sys...

Press” F3” to see the details of active buttons in this menu.



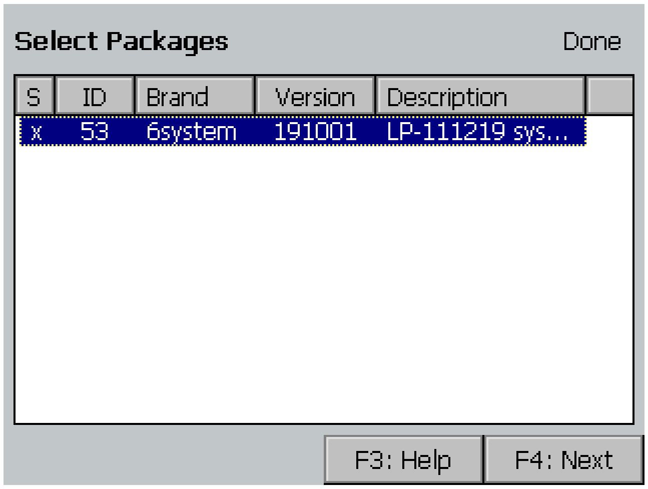
Help

Find the package using Up and Down arrow buttons, select by pressing Enter button.
After you are done selecting packages, press F4 to go to next page.

Review the marked makers and continue downloading and installing the new packages by pressing F4.

6. Press “F4” to continue.

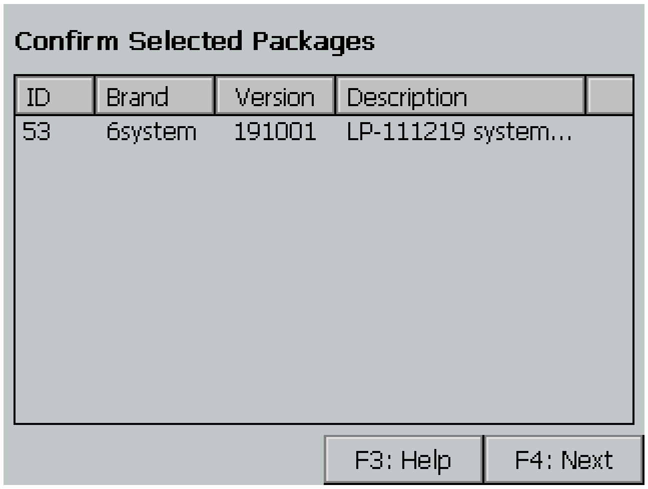
Chapter 9: Update Manual



Select Packages

S	ID	Brand	Version	Description
x	53	6system	191001	LP-111219 sys...

7. Press “F4” to confirm.

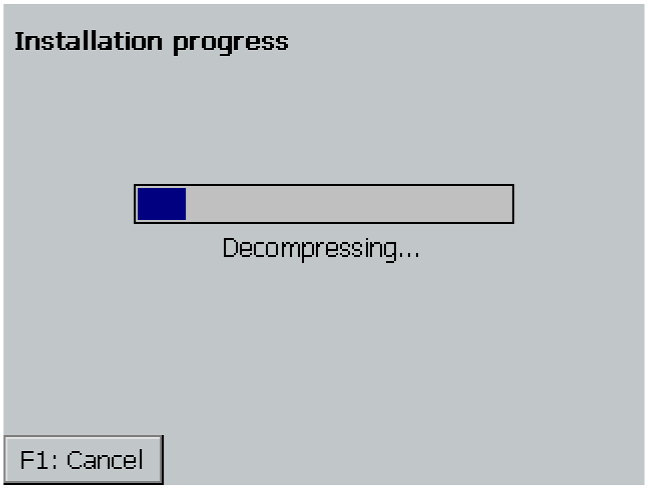


Confirm Selected Packages

ID	Brand	Version	Description
53	6system	191001	LP-111219 system...

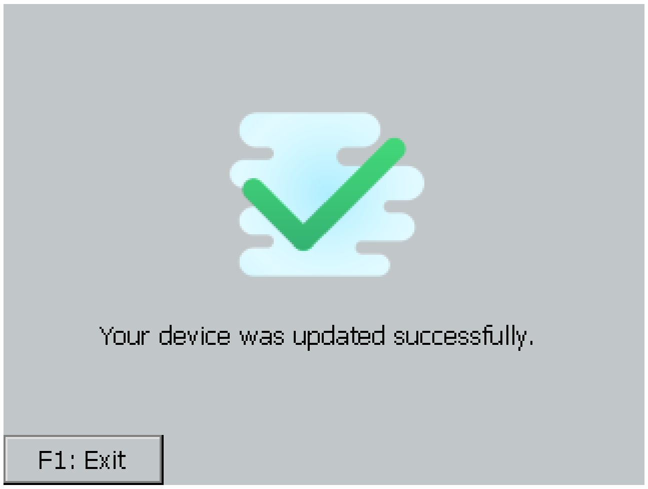
8. Wait until the end.

Chapter 9: Update Manual



Installation progress

Decompressing...



Your device was updated successfully.

9. Your device is up to date now. Press “F1” to exit.
10. If you see the following page, the internet connection might be poor. Try again.

Certificate of Information and Communication Equipment

[Certification Label for Information and Communication Equipment]

Manufacturer: Carman IT Co., Ltd.

Equipment: Vehicle diagnosis device

Model: New Lite+

WARRANTY CARD

Warranty Policy

1. The manufacturer warrants this product to be defect free in material and workmanship for a period of one (1) year from the date of purchase. Defective products may be returned by the original purchaser within the warranty period, postage pre-paid together with proof of purchase date to Carman IT Co. LTD. Defective products will be repaired at manufacturer's discretion, replaced at no charge.
2. The warranty does not apply to any units that have been tampered with, or to damages incurred through improper

   use and care, defects caused by abuse or through the usage for purposes other than the intended use, used in a

   manner inconsistent with the instructions regarding use, and faulty packing or mishandling by any common carrier.
3. Repairs not covered by this warranty will be performed at the current cost for parts and labor. In no event will Carman IT Co. Ltd.'s liability exceed the price paid for the product from direct, indirect, special, incidental or, consequential damages resulting from the use of this product, its accompanying software, or its documentation without obligation to notify any individual or entity. Warranties hereunder extend only to customers and are not transferable.

Warranty Period & Software update

1. Free Software update for Carman IT products is fifteen (15) months from date of purchase. After fifteen (15) months from purchase date, software updates will be optional and will require separate payment per request.

Repair Service

1. If you suspect that you have a problem with this product, please read the operation manual (guide) carefully to ensure that you are operating this product properly.

2. If you conclude that a real problem exists, check your product according to the procedures on the “Trouble Shooting Card” and mark your trial records in the blank.

3. Please return the main body or the troubled parts along with the “Trouble Shooting Card” to the repair service center listed below. Be sure to return them in freight prepaid as we don’t accept freight collect.

Carman IT Co., Ltd.

2F, 144, Hyeonchung-ro, Dongjak-gu, Seoul, 06983, South Korea

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