AD410

Safety Precautions and Warnings

To avoid injury or damage to the vehicle and/or scan tool, first read this manual and observe the following safety precautions when working on a vehicle:

- First, turn off the ignition. Connect the 16-pin connector, and then turn on the ignition.
- Always perform vehicle tests in a safe environment.
- Do not attempt to operate or observe the unit while driving a vehicle.
- Operating or observing the device distracts to the driver and may result in a fatal accident.
- Wear safety glasses that meet the standards of ANSI.
- Keep clothing, hair, hands, tools, test equipment, etc. away from all moving or hot engine parts.
- Operate the vehicle in a well-ventilated area: Exhaust fumes are toxic.
- Place blocks in front of the drive wheels and never leave the vehicle unattended while performing tests.
- Use extreme caution when working near the ignition coil, distributor cap, ignition wires and spark plugs. These components generate dangerous voltages when the engine is running.
- Keep a fire extinguisher nearby that is suitable for gasoline, chemical, and electrical fires.
- Keep the scan tool dry, clean, and free of oil/water or grease. If necessary, use a mild detergent on a clean cloth to clean the outside of the scan tool.

2. General Information

2.1 On-Board Diagnostics (OBD) II

The first generation of on-board diagnostics (called OBD I) was developed by the California Air Resources Board (CARB) and introduced in 1988 to monitor some components of vehicle emission control. With the advancement of technology and the desire to improve the on-board diagnostic system, a new generation of on-board diagnostic system was developed. This second generation on-board diagnostic system is called "OBD II".
The OBD II system is designed to monitor emission control systems and major engine components by performing either continuous or periodic tests of specific components and vehicle conditions. When a problem is detected, the OBD II system turns on a warning light (MIL) on the vehicle's instrument panel to alert the driver, typically with the words "Check Engine" or "Service Engine Soon." The system also stores important information about the detected malfunction so a technician can accurately find and fix the problem. Below are three such valuable pieces of information:

1) Whether the malfunction indicator lamp (MIL) is set to 'On' or 'Off';
2) Whether diagnostic trouble codes (DTCs) are stored and if so, which ones;
3) Status of the standby monitor.

2.2 Diagnostic Trouble Codes (DTCs)

OBD II Diagnostic Trouble Codes are codes stored by the on-board computer diagnostic system in response to a problem detected in the vehicle. These codes identify a specific problem area and are intended to give you an indication of where in the vehicle a fault may be occurring. OBD II Diagnostic Trouble Codes consist of a five-character alphanumeric code. The first character, a letter, indicates which control system sets the code. The other four characters, all numbers, provide additional information about where the DTC originated and what operating conditions triggered it. Below is an example that illustrates the structure of the digits:

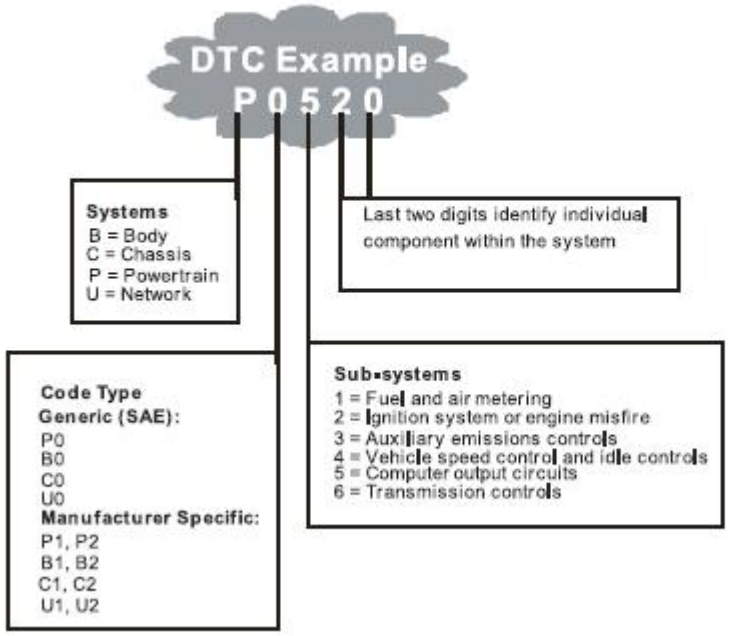


Figure 1-2: Explanation of a diagnostic trouble code.

2.3 Location of the Data Link Connector (DLC)

The DLC (Data Link Connector or Diagnostic Link Connector) is the standardized 16-pin connector used to connect diagnostic tools to the vehicle's on-board computer. The DLC is typically located 12 inches from the center of the instrument panel (dashboard), under or on the driver's side of most vehicles. If the Data Link Connector is not located under the dashboard, there should be a sticker there indicating its location. On some Asian and European vehicles, the DLC is located behind the ashtray and the ashtray must be removed to access the connector. If you can not find the DLC, check the vehicle's service manual to see where it is located.

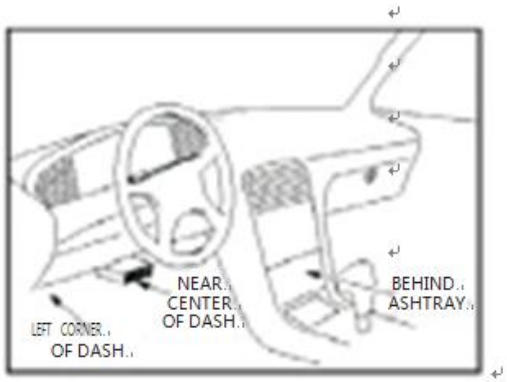
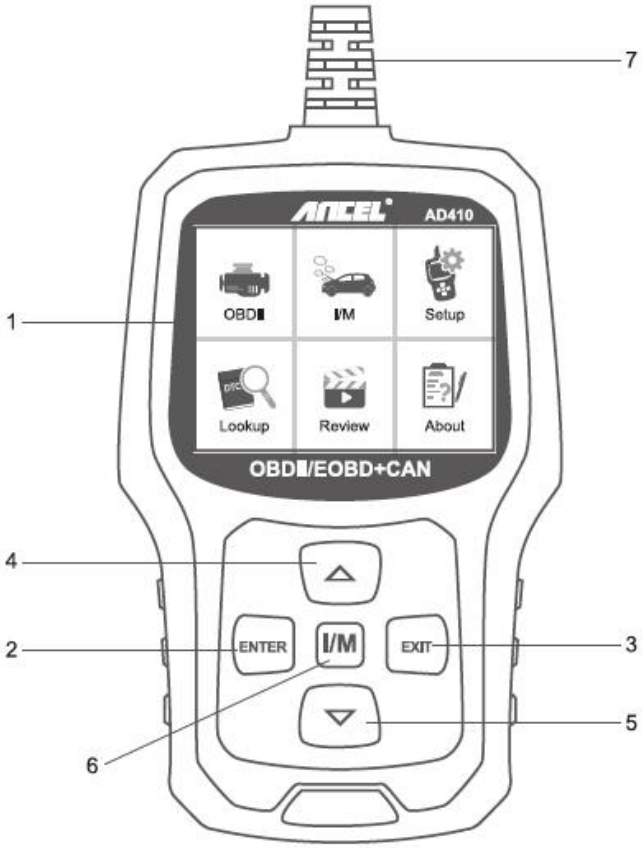


Figure 1-3: The DLC connector (left) is located in the area of the vehicle interior you see on the right (black arrow).

3. Using the Scan Tool

3.1 Tool Description - ANCEL AD410

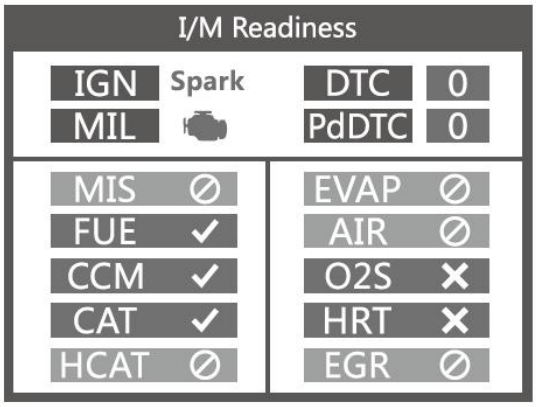


1. LCD DISPLAY - Displays test results. 2.4" TFT 262K true color,320*240 QVGA LCD display.

2. ENTER BUTTON –Confirms a selection (or action) from a menu.

3. EXIT BUTTON –Cancels a selection (or action) from a menu or returns to the menu.

4. UP SCROLL BUTTON -Scroll up an item by item menu.
5. DOWN SCROLL BUTTON -Scroll down an item-by-item menu.
6 . "I/M"BUTTON - Quick State Emissions Readiness Check and Drive Cycle Check.

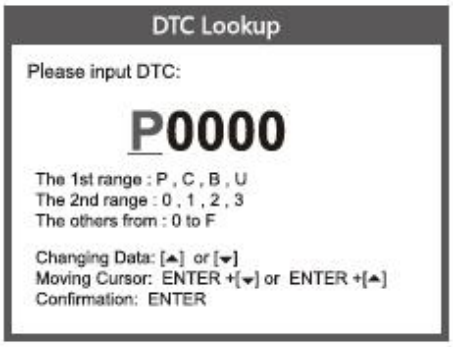


Comments:
MIL Yellow- Dashboard MIL ON
MIL Grey-Dashboard MIL OFF
-no support
-complete
-not complete 7. OBDII CONNECTOR - Connect the scan tool to the vehicle's Data Link Connector (DLC)

3.2 Specifications
1) Display: 2.4" TFT 262K true color
2) Operating temperature: 0 to 50℃ (32 to 140 Fº).
3) Storage temperature: -20 to 70℃ (-4 to 158 Fº).
4) External power supply: 8.0 to 18.0 V power supply from vehicle battery
5) Dimensions: 124x77.4x23.5mm 6) Weight: 0.35kg

3 Supplied accessories
1) User manual - Instructions for operating the device.
2) USB cable - Used to upgrade the scan tool.

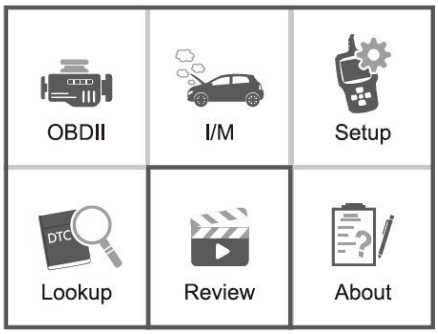
3.4 DTC Lookup
The DTC Lookup function allows you to search for definitions of codes stored in the built-in code library.
1) From the main menu, use the UP /DOWN keys to select Code
Lookup and press ENTER.

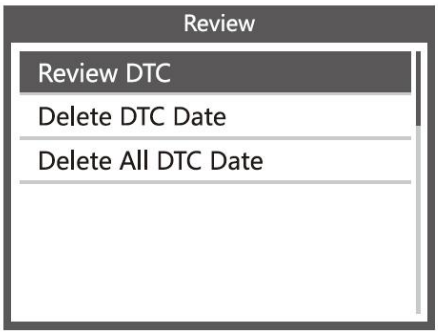


To query the error code, press enter + up, cursor to the left; press enter + down, the cursor to the right.

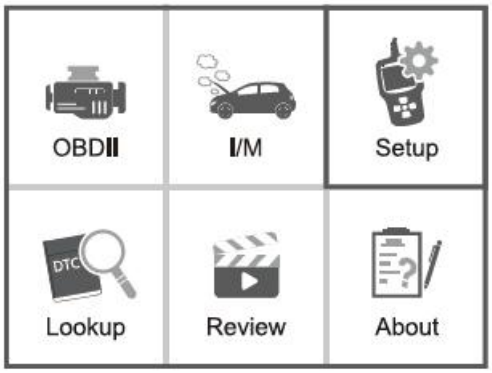
For manufacturer specific codes, you must select a vehicle make in an additional screen to search for DTC definitions.
If no definition is found (SAE or manufacturer specific), the scan tool will display "DTC definition not found!". Please refer to the vehicle's service manual".
2) Press the EXIT key and return to the main menu.

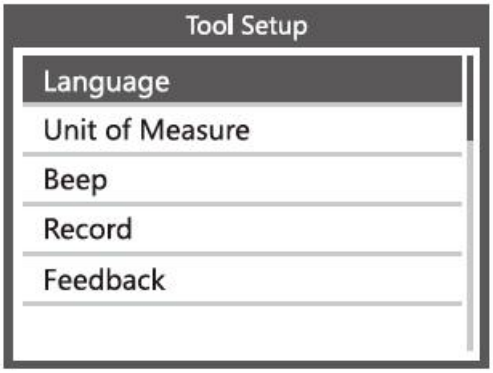
3.5 Review
This function allows you to review the recorded DTCs. Select the [Review] menu and press the ENTER key. The screen will be displayed as follows:





3.6 Setting up the tool
The scan tool allows you to make the following adjustments and settings:
1) Select language: Select the language you want to use.
2) Unit of measurement: Set the unit of measurement to English or Metric.
3) Set Beep: Switches ON /OFF beep tone.
4) Record: ON Turns recording on/off.
5) Feedback.

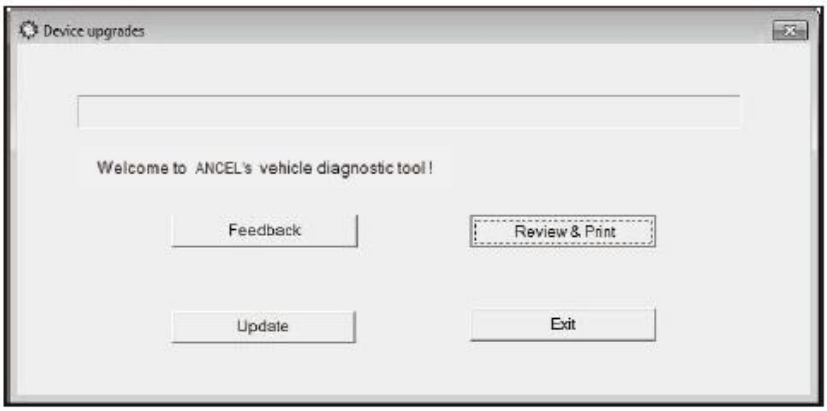


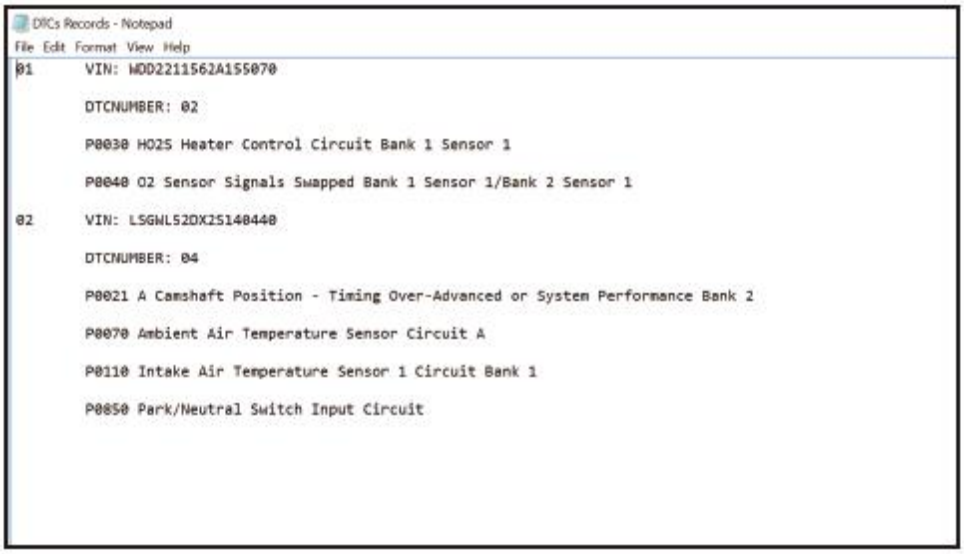


3.7 Reviewing and printing diagnostic reports

1. Download the upgrade file from the ANCEL website.
2. the device is connected to the computer via a USB cable. .
3. open the "Update" application.

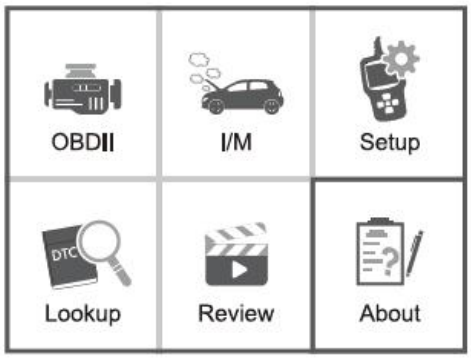
4. Click " Review & Print " and automatically generate diagnostic reports.

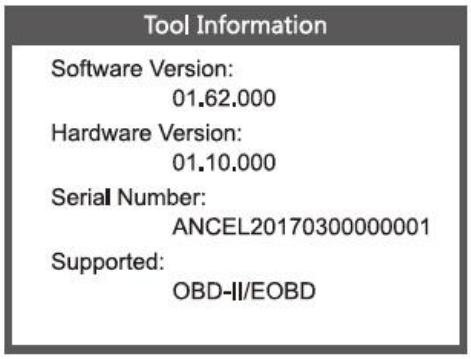




3.8 About

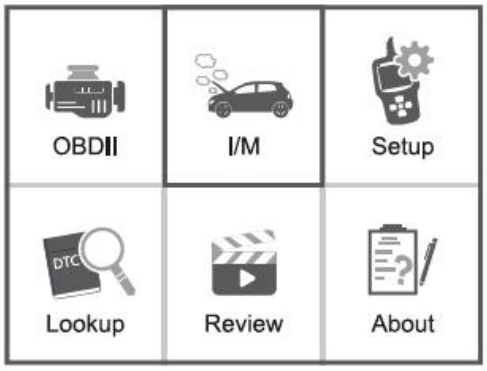
Select [About] and the following is displayed:

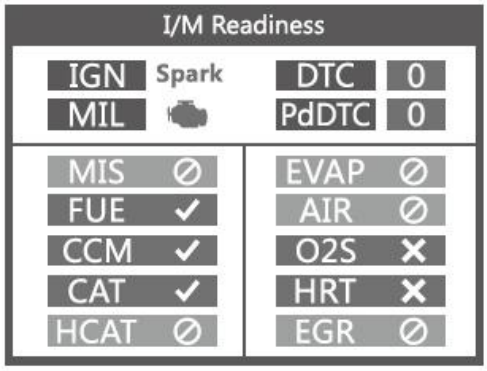




3.9 I/M

Select [I/M] and the following is displayed：





4. OBD II Diagnostics

CAUTION: Do not connect or disconnect test equipment while the ignitionis on or the engine is running.

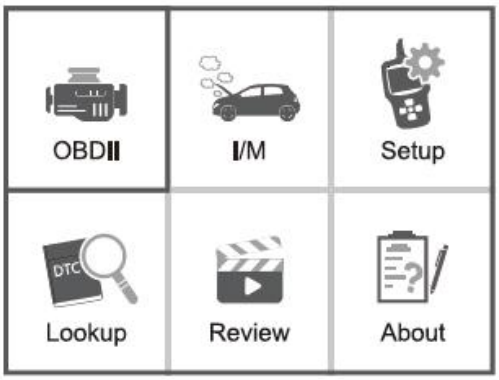
1) Turn off the ignition.

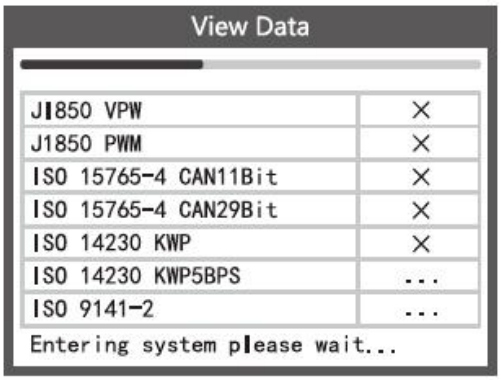
2) Locate the vehicle's 16-pin Data Link Connector (DLC).

3) Plug the scan tool cable connector into the vehicle's DLC.

4) Turn on the ignition. The engine may be off or running.

5) Press ENTER to enter the main menu. UPUse the /DOWN key to select Diagnostics from the menu.



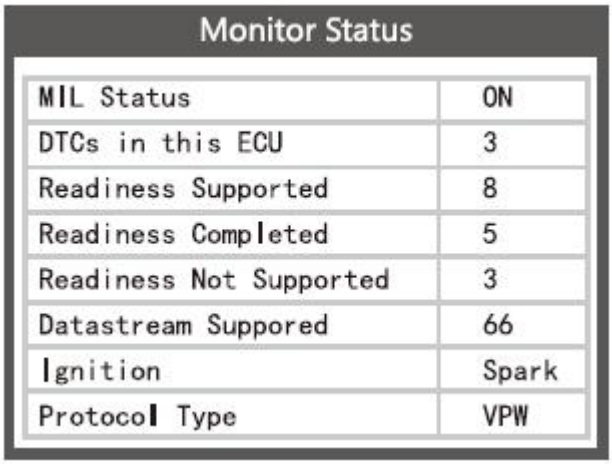


6) Press ENTER to confirm.

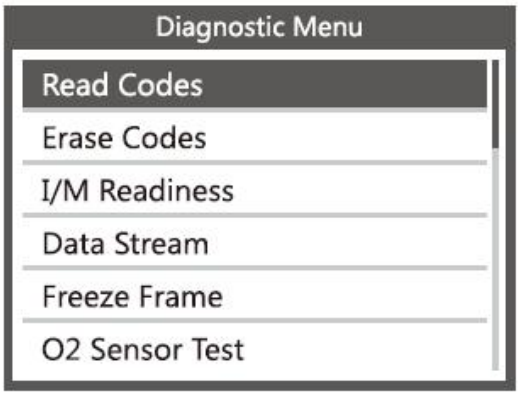
When the message "LINKING ERROR!" appears on the display.

- Make sure that the ignition is ON;
- Check that the OBD II connector of the scan tool is securely connected to the DLC of the vehicle;
- Turn off the ignition and wait for about 10 seconds. Turn the ignition back on and repeat the process from step 5.

4.1 Read Codes 1) Select [Read Codes] and press ENTER in the diagnostic menu. If there are some codes, the screen will display the codes as follows.

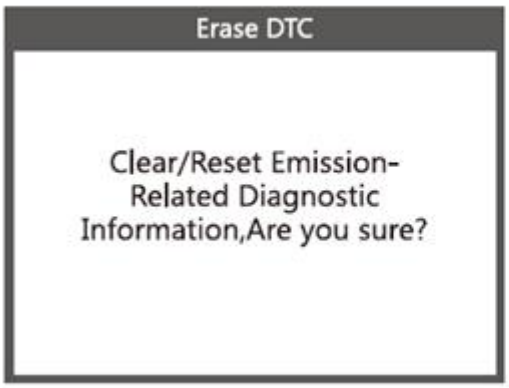


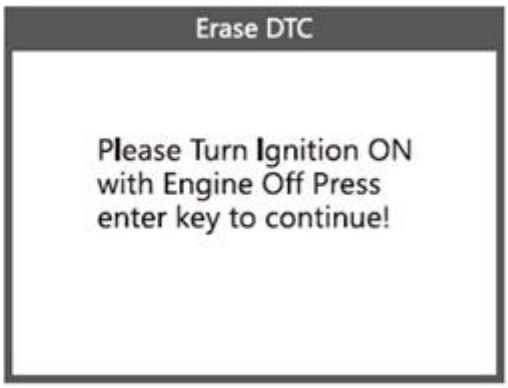
2) According to the above figure, select another item by pressing UP or DOWN and press ENTER to confirm.



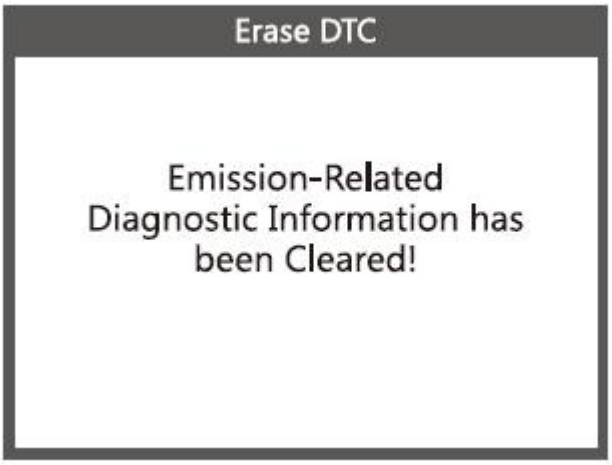
3) After viewing all codes, you can press EXIT to return to the previous menu.

4.2 Delete Codes 1) Select [Delete Codes], the screen will display the interface shown below.
Press ENTER to delete the DTCs, the screen will display the interface shown below:



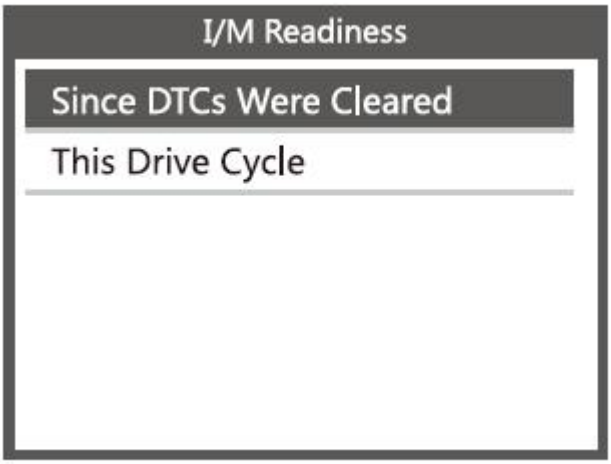


2) Press ENTER according to the figure above. The screen will display the interface shown on the next page:

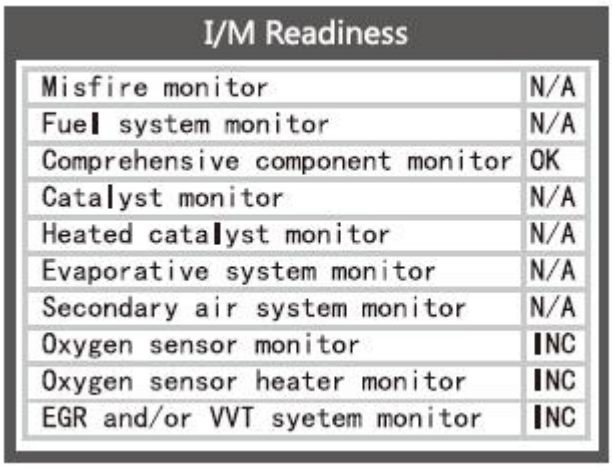


Notes:
Before performing this function, be sure to retrieve and record the error codes.
After clearing, retrieve the error codes again or turn on the ignition and retrieve the codes again. If there are still error codes in the system, please troubleshoot the codes using factory diagnostic guide, clear the codes and check them again.

4.3 I/M Readiness
Select I/M readiness and press ENTER. The screen displays the interface shown below:



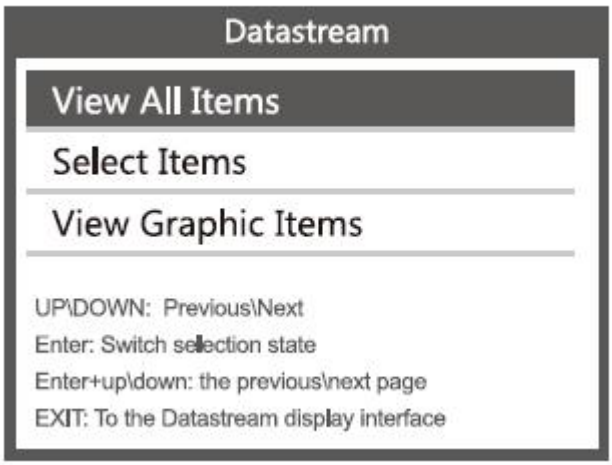
I/M readiness is to test misfire/fuel system/comprehensive component, you can use UP or DOWN to select and press ENTER as follows:



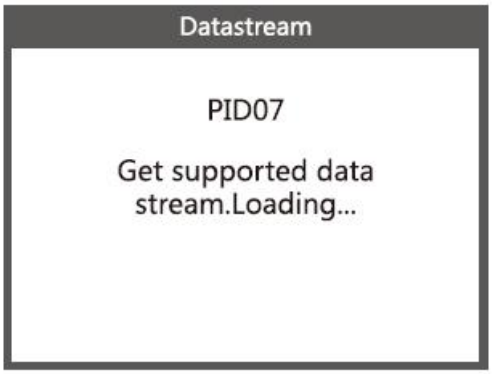
N/A means not available for this vehicle, INC means incomplete or not ready, OK means completed or monitor is ready.

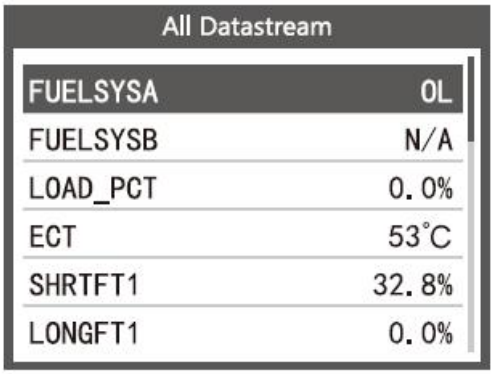
4.4 Data stream

Press the UP or DOWN key to select Data Stream from the main menu, then press ENTER to confirm. The screen will display the interface shown below:



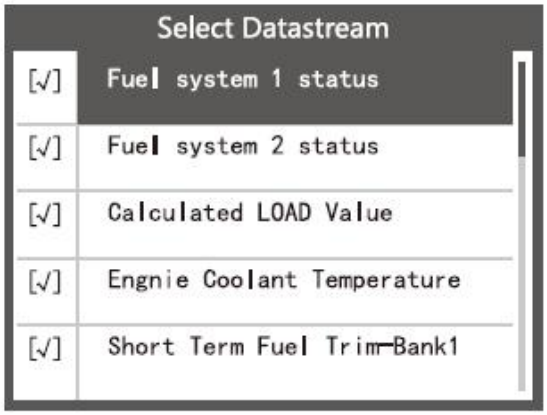
Select [Show all items] and press the ENTER key. The screen displays the interface shown below:





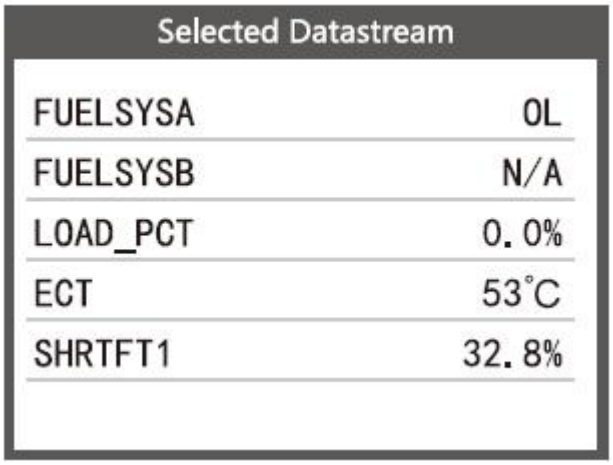
Scroll the page, press up to the last page or down to the next page.
Select one and press [ENTER] to view the details.

Select [Select item] and press Enter. Then press the Enter key again, which will be displayed as follows:



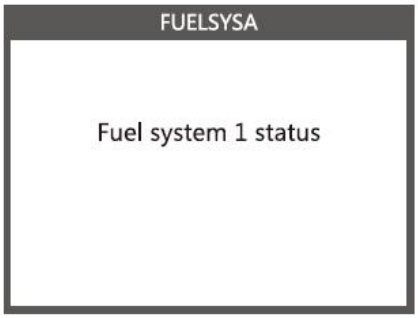
Scroll page, press enter + up, to previous page, press enter + down, the next page.

After you select something and press exit, the screen will be displayed as follows:

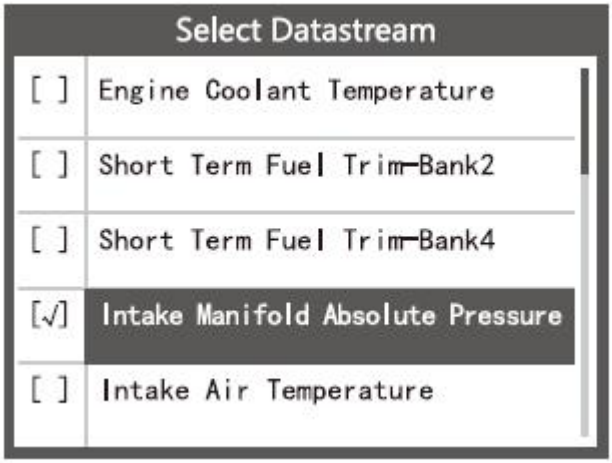


Scroll, press up to go to the last page, or press down to go to the next page.

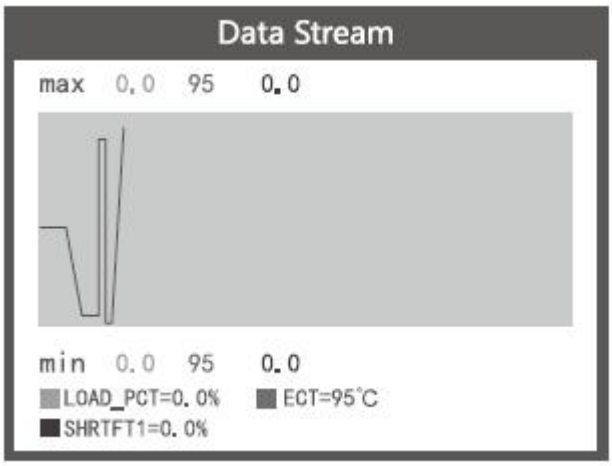
If you want to know the meaning of the abbreviation data, you can press the ENTER key. The screen will display the interface shown below.



Select [Show Graphical Elements] from the Data Stream menu and press ENTER. The screen displays the interface shown below:

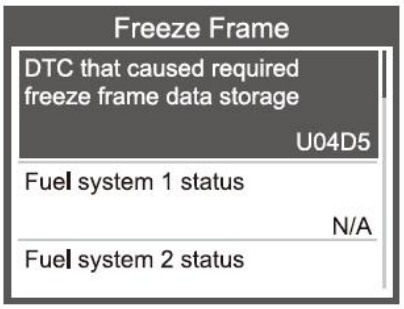


Scroll, press enter + up, to previous page, press enter + down, to next page. Press enter again to select.
Press EXIT to return to the display:



Maximum number of lines is 3.
Press EXIT to return to the previous menu.
You can view all elements of the data stream or select a specific element of the live data with a graph.

4.5 Display Freeze Frame
When an emission-related error occurs, a snapshot of the current vehicle parameters is recorded by ECU.
Note: If the DTCs have been deleted, the freeze data may not be stored in the vehicle.
From the main menu, select Freeze Frame. The screen will display the interface shown below:



You can use the UP / DOWN key to view the data. Press EXIT to return to the Diagnostics menu.

4.6 O2 sensor test

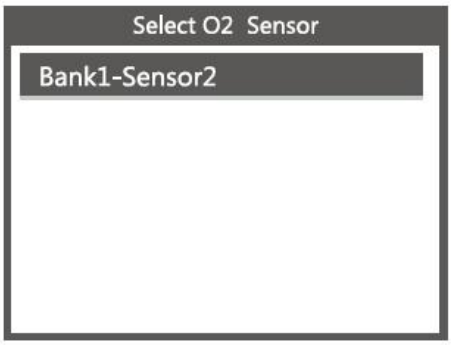
OBD II regulations established by SAE require that applicable vehicles monitor and test oxygen (O2) sensors to detect problems related to fuel efficiency and vehicle emissions. These tests are not demand tests and are performed automatically when engine operating conditions are within specified limits. These test results are stored in the on-board computer memory.

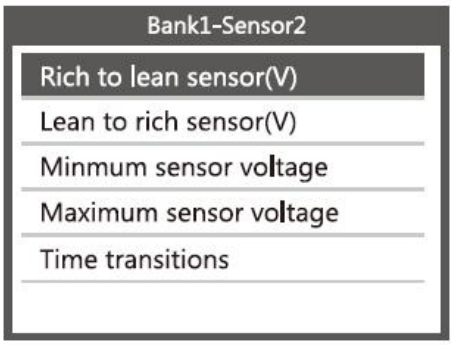
The O2 Sensor Test function allows you to retrieve and display the O2 Sensor Monitor test results for the most recently performed tests from the vehicle's on-board computer.

The O2 sensor test function is not supported by vehicles that communicate via a Controller Area Network (CAN). The results of the O2 sensor test of vehicles with CAN can be found in the "On-Board Mon. Test" chapter.

Select O2 Sensor Test from the Diagnostic Menu and press ENTER. The screen will be displayed as shown below:

Press ENTER, the screen will be displayed as shown below (data is different each time):

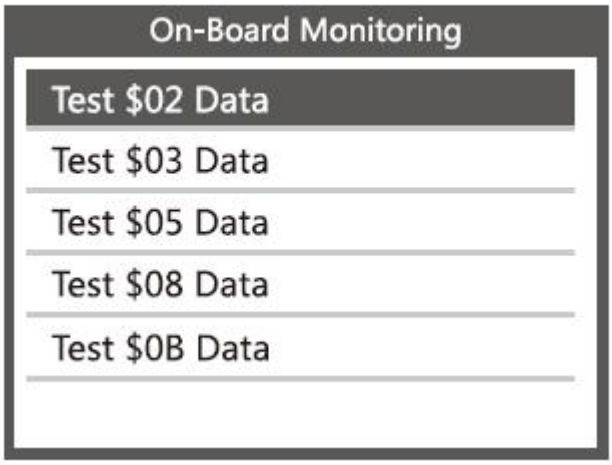




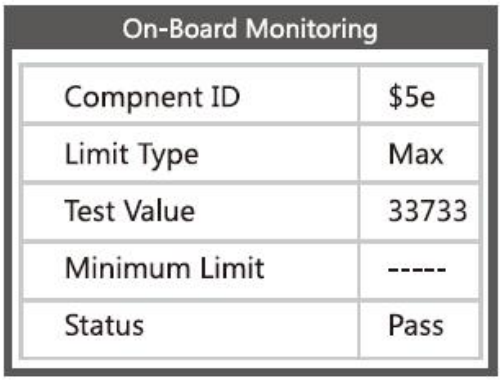
4.7 On-board monitor test

This function allows you to read the results of the on-board diagnostic monitoring. Tests for specific components/systems.

Select On-Board Monitoring from the Diagnostics menu and press ENTER. The screen is displayed as shown below (the data is different each time):



You can use the UP or DOWN keys to select an item and press ENTER. The screen will then be displayed as shown below (the data is different each time):

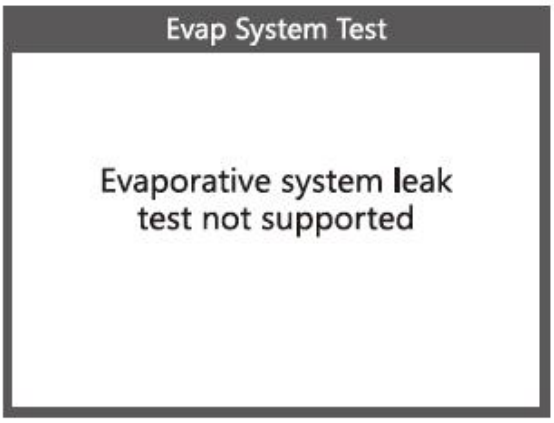


Press EXIT to return to the diagnostics menu.

4.8 EVAP System Test

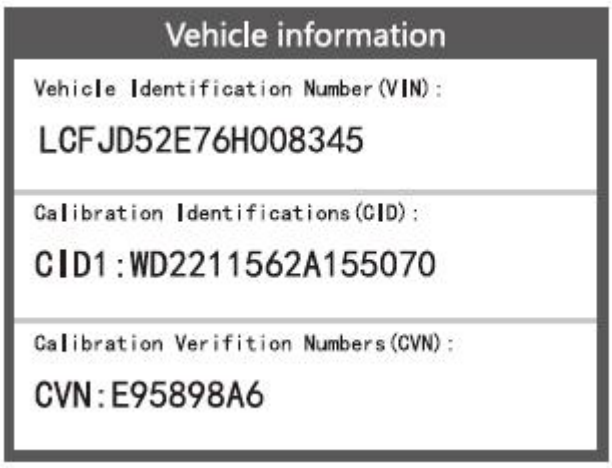
The EVAP function allows you to initiate a leak test for the vehicle's EVAP system. The scanner does not perform the leak test, but signals the vehicle's on-board computer to start the test. Before using the system test function, refer to the vehicle's repair manual for instructions on how to stop the test.

Select EVAP System Test and press ENTER. The screen will display the appropriate system information EVAP. Some vehicle manufacturers do not allow external devices to control the vehicle system. If the vehicle supports this feature, it will be displayed as shown below:



4.9 Vehicle Info

Select [Vehicle Info] and press ENTER. The screen displays information such as VIN (vehicle identification number), CID (calibration number ID), and CVN (calibration check number), as shown below (different data will be displayed for different vehicles):



ress EXIT to return to the diagnostics menu.

5. Update

1) Download the update software and unzip the file.

2) Connect the device to the computer using a USB cable.

3) The update software is only supported by 7/8/10. In Windows 7, you need to install the driver, in Windows 8/10, you can run the update software directly.

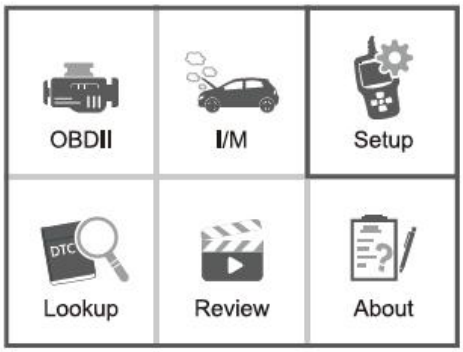
Note:

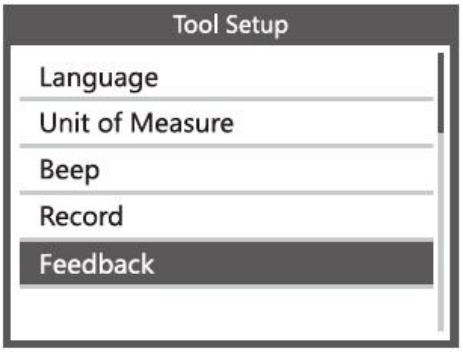
Windows XP and Apple computers do not support upgrades.

If you do not understand the upgrade steps in the instructions, please contact ANCEL customer service.

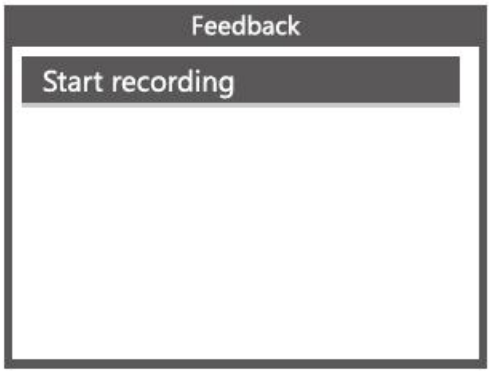
6. Feedback

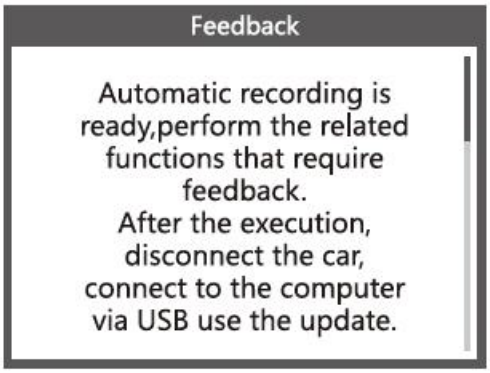
1. If the [OBDII] function indicates an error associated with the vehicle, please use the feedback function.
Select [Feedback] and the following will be displayed:





Select [Start recording] to open the recording function and the following will be displayed:

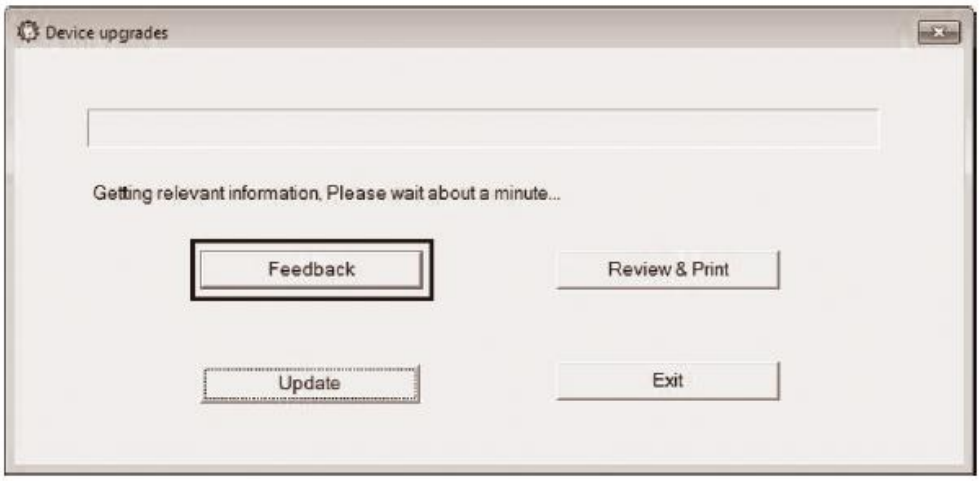


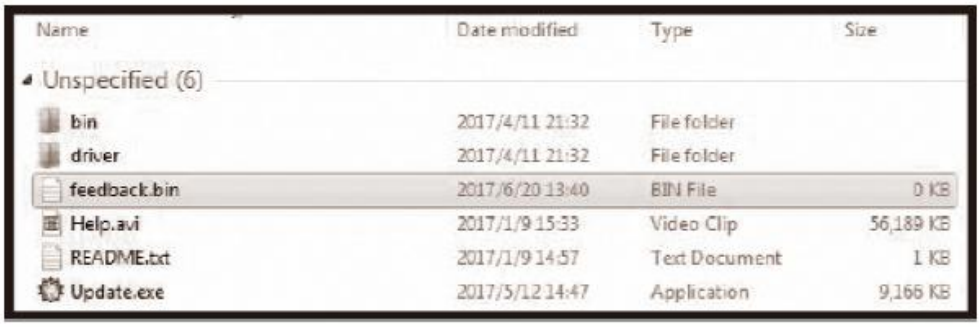


Next : Press EXIT and return to the main menu.
Select the [OBDII] menu to restart the detection and record the data.

Transfer the data to your computer and generate the feedback file.
Download the upgrade file from the ANCEL website to your computer.
The device is connected to the computer via a USB cable.
Select the "Update" file and the following is displayed:

Click on "Feedback" and the following will be displayed:





Please send the feedback.bin file to support@anceltech.com.

Click on "Feedback" and the following will be displayed:
7.Warranty 1) This warranty is limited to the person who purchases ANCEL products.
2) ANCEL products are warranted against defects in materials and workmanship for a period of one year (12 months) from the date of shipment to the user.

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