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Important Safety Precautions

Important: To avoid personal injury, property damage, or accidental damage to the product, read all of the information in this section before using the product.

- Never collide, throw, or puncture the tool, and avoid falling, extruding and bending it.
- Do not insert foreign objects into or place heavy objects on your device. Sensitive components inside might cause damage.
- Do not use the tool in exceptionally cold or hot, dusty, damp or dry environments.
- In places using the tool may cause interference or generate a potential risk, please turn it off.
- The tool is a sealed unit. There are no end-user serviceable parts inside. All internal repairs must be done by an authorized repair facility or qualified technician. If there is any inquiry, please contact the dealer.
- Never place the tool into apparatus with strong electromagnetic field.
- Keep the tool far away from magnetic devices because its radiations can damage the screen and erase the data stored on the tool.
- DANGER: Do not attempt to replace the internal rechargeable lithium battery. Contact the dealer for factory replacement.
- CAUTION: Please use the included battery and charger. Risk of explosion if the battery is replaced with an incorrect type.
- Do not delete unknown files or change the name of files or directories that were not created by you, otherwise your software might fail to work.

Precautions on using the tool

Before using this test equipment, please read the following safety information carefully.

- Always perform automotive testing in a safe environment.
- Wear an ANSI-approved eye shield when testing or repairing vehicles.
- The vehicle shall be tested in a well ventilated work area, as engines produce various poisonous compounds (hydrocarbon, carbon monoxide, nitrogen oxides, etc.)
- Do not connect or disconnect any test equipment while the ignition is on or

the engine is running.

- Put blocks in front of the drive wheels and never leave the vehicle unattended while testing.
- Keep the test equipment dry, clean, free from oil, water or grease. Use a mild detergent on a clean cloth to clear the outside of the equipment as necessary.
- Do not drive the vehicle and operate the test equipment at the same time. Any distraction may cause an accident.
- Keep clothing, hair, hands, tools, test equipment, etc. away from all moving or hot engine parts.
- Before starting the engine, put the gear lever in the Neutral position (for manual transmission) or in the Park (for automatic transmission) position to avoid injury.
- To avoid damaging the test equipment or generating false data, please make sure the vehicle battery is fully charged and the connection to the vehicle DLC (Data Link Connector) is clear and secure.
- Automotive batteries contain sulfuric acid that is harmful to skin. In operation, direct contact with the automotive batteries should be avoided. Keep the ignition sources away from the battery at all times.

Precautions on operating vehicle's ECU

- Do not disconnect battery or any wiring cables in the vehicle when the ignition switch is on, as this could avoid damage to the sensors or the ECU.
- Do not place any magnetic objects near the ECU. Disconnect the power supply to the ECU before performing any welding operations on the vehicle.
- Use extreme caution when performing any operations near the ECU or sensors. Ground yourself when you disassemble PROM, otherwise ECU and sensors can be damaged by static electricity.
- When reconnecting the ECU harness connector, be sure it is attached firmly, otherwise electronic elements, such as ICs inside the ECU, can be damaged.

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1 Introductions

1.1 Product Profile

Featuring a quad-core processor, and a 5.5 inch capacitive screen, X-431 Diagu V delivers diagnostic functionality which helps to diagnose vehicle issues more efficiently.

In addition, the tablet supports WLAN connection, one-click update, diagnostic feedback and all kinds of common service functions.

1.2 Features

1. Diagnostics:

A. Diagnose

- ◆ Diagnose the electronic control systems of prevailing vehicle models covering Asian, European, American and Chinese. Diagnosis functions include: Read DTCs, Clear DTCs and Read data stream etc.
- ◆ Specially designed for Android platform with clear and user-friendly interface.

B. Special function: some common maintenance and reset items including Oil lamp reset, DPF regeneration, ABS bleeding etc. can be done.

C. Diagnostic Feedback: enables you to submit the vehicle issue to us for analysis and troubleshooting.

D. One-click Update: lets you update diagnostic software and APK more efficiently.

2. Browser: built-in WLAN module makes surfing on the internet freely.
3. Email: allows you to send and receive emails.
4. Settings: configures personalized tablet through it.
5. Applications: other android based applications can be customized to install or uninstall.

1.3 Components & Controls

There are two main components to the diagnostic system:

- **Display tablet** -- the central system and monitor for the system (for details, please refer to Chapter 1.3.1).
- **VCI connector** -- the Vehicle Communication Interface for accessing vehicle data (for details, please refer to Chapter 1.3.2).

1.3.1 Display Tablet

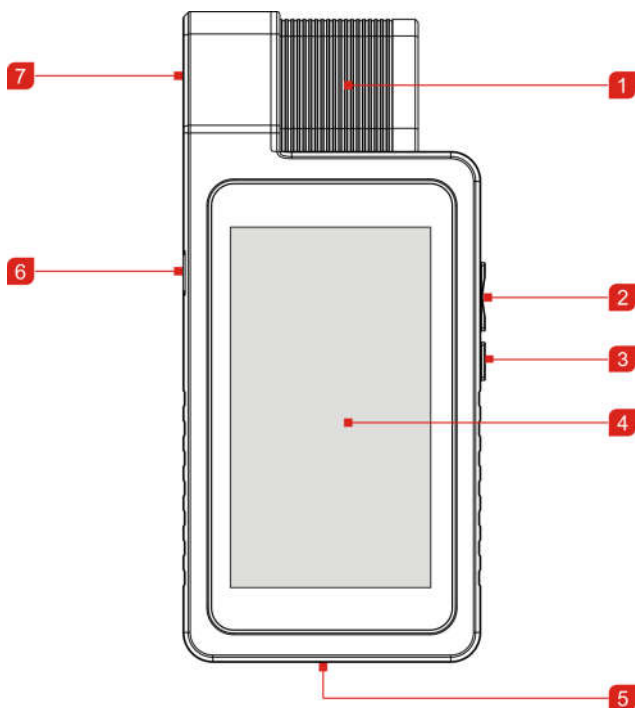


Fig. 1-1 Front View

1 **VCI connector**

2 **VOLUME +/- Key**

To adjust the volume.

		To print the screen, hold and press the POWER and VOLUME – key until a snapshot pops up on the screen. The captured snapshot is saved in the “Screenshots” folder.
3	POWER/Screen lock key	In Off mode, press it for 3 seconds to turn the tablet on. In On mode: ♦ Press it to activate the LCD if the LCD is off. ♦ Press it to turn off the LCD if the LCD lights up. ♦ Press it for 3 seconds to turn it off. ♦ Press it for 8 seconds to perform forced shutdown.
4	LCD screen	
5	Microphone	
6	Charging port	Connects the power adaptor for charging the tablet.
7	Slot for VCI connector	For housing the VCI connector. Note: When the VCI connector is not in use, please insert it into the slot to avoid loss.

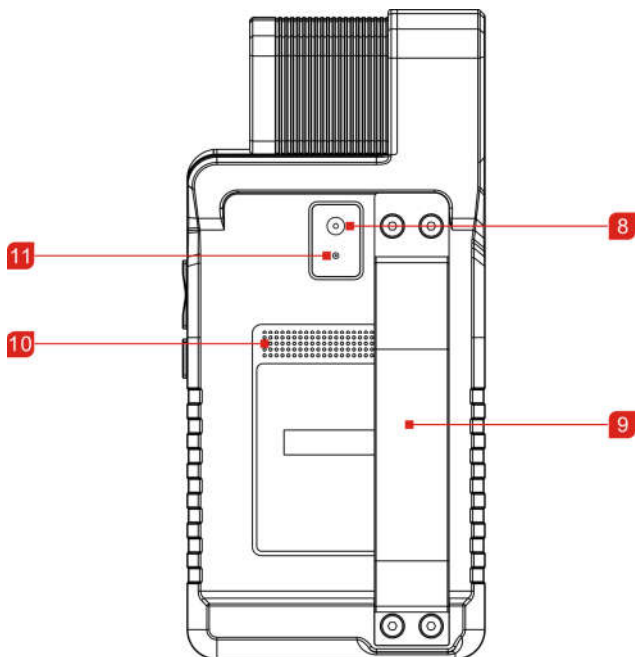


Fig. 1-2 Rear View

8 **Rear camera**

9 **Soft rubber belt**

10 **Speakers**

11 **Camera flash**

1.3.2 VCI Connector (Only applies to 12V passenger cars)

The VCI connector works as a vehicle communication interface device, which is used to connect to the vehicle's DLC (Data Link Connector) socket directly or via OBD II extension cable to read the vehicle data and then send it to the tablet via wireless BT communication.



Fig. 1-3 VCI connector

1	OBD-16 diagnostic connector	Connect to the vehicle's DLC or OBD II extension cable.
2	Mode indicator	• It illuminates red when the VCI connector is connected to the vehicle's DLC. • Blue indicates the VCI connector is working in wireless BT communication mode.

1.4 Technical Parameters

Display tablet:

Operating system	Android
Processor	Quad core
Memory	2GB
Storage	32GB
LCD screen	5.5 inch high definition screen with a resolution of 1280 x 720 pixels
Camera	Rear-facing 5MP camera
Working temperature	0°C ~ 50°C

VCI connector:

Working voltage	9~18V
Working temperature	0°C ~ 50°C
Storage temperature	-20°C ~ 70°C
Relative humidity	20% ~ 90%

1.5 Package List

While opening the package for the first time, please carefully check the following components. Common accessories are same, but for different destinations, the accessories may vary. Please consult from the local agency or check the package list supplied with the tool together.

- Display tablet
- VCI connector (For connecting OBD II vehicles)
- Password envelope (A piece of paper bearing Product S/N and Activation Code for product registration)
- OBD II extension cable (For connecting the VCI connector to OBD II vehicle)

- OBD I adaptor (Optional. For connecting the non-16pin connector and the VCI connector)
- Cigarette lighter cable (Optional. To supply power to the non-16pin connector from the vehicle's cigarette lighter receptacle)
- Battery clamps cable (Optional. To supply power to the non-16pin connector from the vehicle's battery)
- Power adaptor (For charging the tablet)
- Non-16pin connectors (Optional. For connecting vehicles equipped with non-OBD II management system)

2 Preparations

2.1 Charging the tablet

1. Plug one end of the included power adaptor into the charging port of the tablet.
2. Connect the other end to the AC outlet.

If  appears on the screen, it indicates it is being charged. If the logo changes into , it indicates that the battery is fully charged. Unplug the power adaptor from the tablet.

2.2 Using your battery

- ♦ If the battery remains unused for a long period of time or the battery is completely discharged, it is normal that the tool will not power on while being charged. Please charge it for a period of 5 minutes and then turn it on.
- ♦ Please use the included power adaptor to charge your tool. No responsibility can be assumed for any damage or loss caused as a result of using power adaptors other than the one supplied.
- ♦ While the tablet has low battery, a beep will sound. If it is very low, the tablet will be switched off automatically.

2.3 Power on/off

2.3.1 Power on

Press [POWER] to turn the tool on.

*Note: If it is the first time you have used this tool or the tool remains idle for a long period of time, the tool could fail to turn on. Please charge the tool for a minimum of 5 minutes and attempt to turn on again.

2.3.2 Power off

Press [POWER] for 3 seconds, an option menu will pop up on the screen. Tap "Power off" to turn the tool off.

2.4 Tips on finger operations



Single-tap: To select an item or launch a program.



Double-tap: To zoom in so that the text on a webpage appears in a column that fits your device's screen.



Long press: Tap and hold on the current interface or area until a contextual menu pops up on the screen, and then release it.



Slide: To jump to different pages.



Drag: Tap the application icon and drop it to other location.



Spread apart/pinch together: To zoom in manually, place two fingers on the screen and then spread them apart. To zoom out, place two fingers apart on the screen and then pinch them together.

2.5 Screen layout

There are five on-screen buttons available on the bottom of the screen.



HOME

Tap it to navigate to the Android's home screen.



RECENT APP

Tap it to view the currently running applications.



VCI STATUS

Shows whether the VCI device is properly connected or not.



SCREENSHOT

Tap it to capture the current screen.



BACK

Tap it to return to the previous screen.

2.6 Adjust brightness

 **Tips:** Reducing the brightness of the screen is helpful to conserve the battery power.

1. On the home screen, tap **Settings -> Display -> Brightness level**.
2. Drag the slider to adjust it.

2.7 Set standby time

If no activities are made within the defined standby period, the screen will be locked automatically and the system enters sleep mode to save power.

1. On the home screen, tap **Settings -> Display -> Sleep**.
2. Choose the desired sleep time.

3 Network Setup

*Note: If you don't need to use WLAN for a while, you can turn it off to conserve battery life.

The tablet has built-in WLAN module that can be used to get online. Once you're online, you can register App, surf the Internet, get apps, send email, and check for software updates etc.

3.1 Connect to a WLAN network

1. On the home screen, tap **Settings -> WLAN**.
2. Slide the switch to ON, the tablet will start searching for all available wireless networks.
3. Select a desired wireless network,
 - If the chosen network is open, the tablet will connect automatically;
 - If the selected network is encrypted, a network password will need to be entered.
4. When "Connected" appears, it indicates the WLAN connection is complete.

*Note: When WLAN is not required, this should be disabled to conserve battery power.

When this tool is in range, it will connect to the previously linked network automatically.

3.2 Disconnect from a WLAN network

1. On the home screen, tap **Settings -> WLAN**.
2. Tap the network with a **Connected** status, then tap "Disconnect".

4 Getting Started & Vehicle Connection

4.1 Diagnosis Flowchart

For new users, please follow the operation chart shown in Fig. 4-1 to get familiar with and start using this tool.

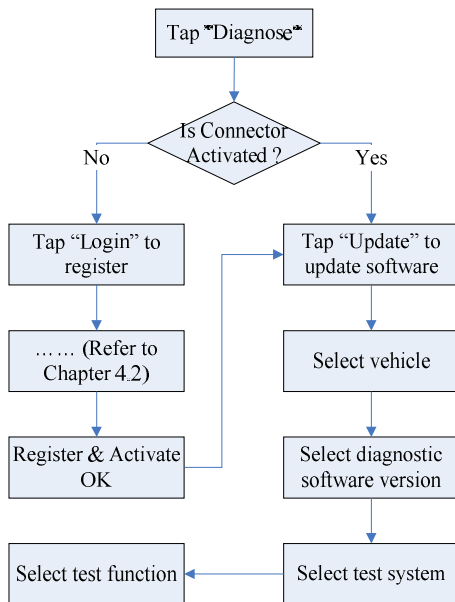


Fig. 4-1

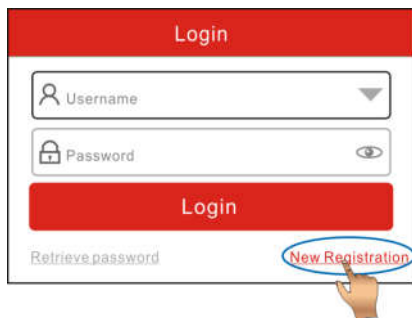
4.2 Getting Started

During initial use, tap the application icon on the home screen to launch it and enter the main menu screen.

By default, all software is pre-installed on the tablet and can be used to diagnose vehicles even if you do not experience the product registration. To enable you to get one-click update and enjoy more functions and better service, you are recommended to make app sign-up and product activation for the first time.

4.2.1 User registration

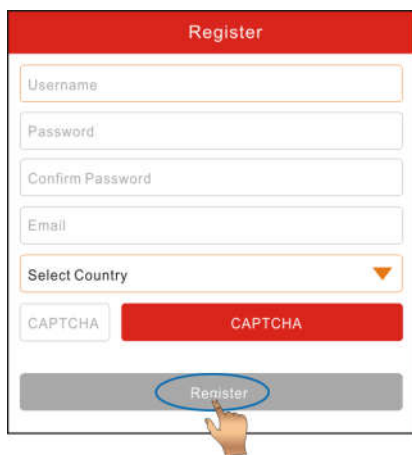
Tap “Login” on the upper right corner of the Job menu, the following window will pop up on the screen:



The image shows a login interface with a red header bar containing the word "Login". Below the header are two input fields: "Username" with a person icon and "Password" with a lock icon and an eye icon for toggling visibility. A large red "Login" button is positioned below these fields. At the bottom, there are two links: "Retrieve password" on the left and "New Registration" on the right. The "New Registration" link is circled in blue, and a hand icon is pointing at it.

Fig. 4-2

1. If you are a new user, tap “New Registration”. See Fig. 4-3.



The image shows a registration interface with a red header bar containing the word "Register". Below the header are several input fields: "Username", "Password", "Confirm Password", "Email", and "Select Country" with a dropdown arrow. Below these fields are two CAPTCHA boxes, each labeled "CAPTCHA". At the bottom, there is a large grey "Register" button. The "Register" button is circled in blue, and a hand icon is pointing at it.

Fig. 4-3

*Note: To obtain better service, you need to provide real information.

- A. Create App account: In Fig. 4-3, fill in the information in each field and then tap “Register”, a screen similar to the following will appear:

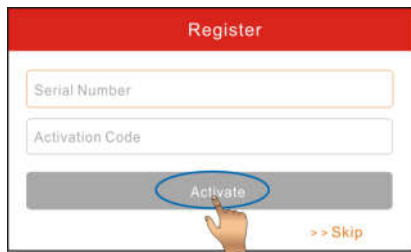


Fig. 4-4

B. Activate the VCI connector: In Fig. 4-4, input the Serial Number and Activation Code, which can be found in the password envelope.

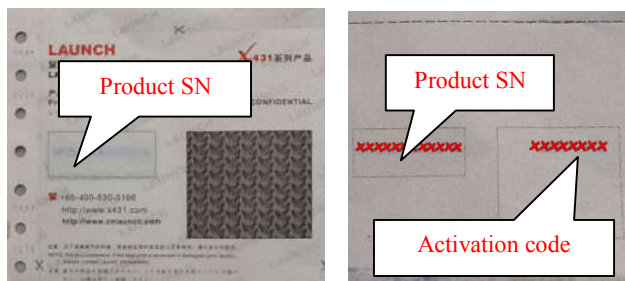


Fig. 4-5

*Note: To exit and activate it later, tap “Skip”. In this case, you can activate your connector by tapping “Activate Connector” in “Personal Center”. For details, please refer to Chapter 9.3 Activate Connector.

C. Update diagnostic software: Tap “Activate”, a dialog box similar to Fig. 4-6 will appear:

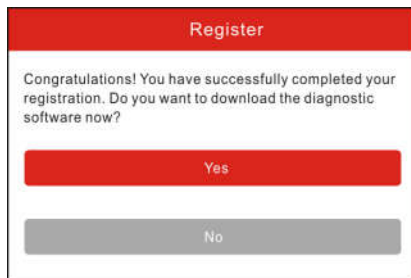


Fig. 4-6

To download the diagnostic software, tap “Yes” to enter the software download page. Tap “No” to download it later.

On the download page, tap “Update” to start downloading. It may take several minutes to finish it, please be patient to wait. To pause downloading, tap “Pause”. To resume it, tap “Continue”.

Once download is complete, the system will install the software package automatically.

2. If you have registered to be a member, input your name and password, and then tap the “Login” button to enter the main menu screen directly.

*Note: The tablet has an auto-save function. Once the username and password are correctly entered, the system will automatically store it. Next time you login the system, you will not be asked to input the account manually.

3. If you forgot the password, tap “Retrieve Password”, and then follow the on-screen instructions to retrieve it.

4.2.2 Job menu

It mainly includes the following items:

Name	Description
Diagnose	Configures the tablet to operate as a diagnostic tool.
Special Function	To perform some maintenance items, including electronic throttle position reset, ABS bleeding, oil lamp reset etc.

Feedback Diagnosis	This option allows you to feed back the diagnostic reports/software bugs to us for troubleshooting and analysis.
Software Upgrade	To update vehicle diagnostic software.
Maintenance Help	To browse the FAQ, Quick Start Guide, User Manual and How-To videos.
Personal Center	To manage, activate your VCI connector, diagnostic report or personal information etc.

4.3 Connections

4.3.1 Preparation

Normal testing conditions

- Turn on the vehicle ignition key.
- Vehicle battery voltage range should be 9-18 Volts.
- Throttle should be in a closed position.

Select the VCI connector

If the tool is testing vehicles equipped with universal OBD II diagnostic socket, please use the included VCI connector (For vehicles with non-OBD II diagnostic socket, a non-16 pin connector is required).

4.3.2 DLC location

The DLC (Data Link Connector) is typically a standard 16-pin connector where diagnostic tools interface with a vehicle's on-board control modules. The DLC is usually located 12 inches from the center of the instrument panel, under or around the driver's side for most vehicles. See Fig. 4-7 for DLC location of different vehicles. If DLC is not located under dashboard, a label should be there telling location. For some Asian and European vehicles, the DLC is located behind the ashtray and the ashtray must be removed to access the connector. If the DLC cannot be found, refer to the vehicle's service manual.

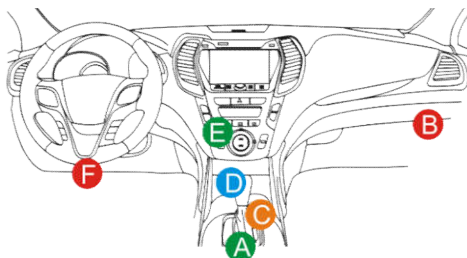


Fig. 4-7

4.3.3 Vehicle connection

The method used to connect the VCI connector to a vehicle's DLC depends on the vehicle's configuration as follows:

- A vehicle equipped with an OBD II management system supplies both communication and 12V power through a standardized DLC.
- A vehicle not equipped with an OBD II management system supplies communication through a DLC connection, and in some cases supplies 12V power through the cigarette lighter receptacle or a connection to the vehicle battery.

Follow the steps mentioned below to connect OBD II vehicle:

1. Locate vehicle's DLC.
2. Plug the VCI connector into the vehicle's DLC (It is suggested to use the OBD II extension cable to connect the VCI connector and DLC socket).
3. Choose one of the two ways to obtain power from:
 - A. Power adaptor: Connect one end of the included power adaptor to charging port of the tablet, and the other end to AC outlet.
 - B. Internal battery pack

For non-OBDII vehicle, proceed as follows:

1. Locate vehicle's DLC.
2. Select the corresponding non-16pin connector.
3. Plug the non-16pin end of the connector into the DLC, then connect the other end to the OBD I adaptor, and then tighten the captive screws.
4. Connect the other end of the adaptor to the included VCI connector.

5. To supply power to OBD I adaptor from:

A. Cigarette Lighter Cable (optional): Connect one end of the cigarette lighter cable to vehicle's cigarette lighter receptacle, and the other end to the power jack of OBD I adaptor.

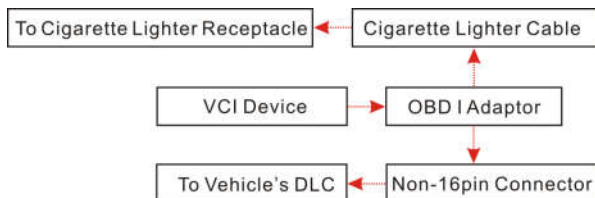


Fig. 4-8

B. Battery Clamps Cable (optional): Connect one end of the battery clamps cable to vehicle's battery, and the other end to the power jack of OBD I adaptor.

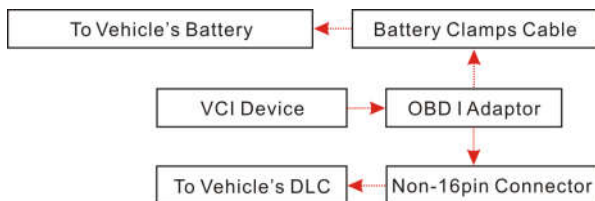


Fig. 4-9

4.4 Communication Setup

1. Go to the Bluetooth setting screen by tapping "Settings" -> "Bluetooth", slide the Bluetooth switch to ON and the tablet starts searching for all available Bluetooth device.
2. Tap the desired VCI to pair and match. By default, the Bluetooth ID of the VCI is 98*****00 (where ***** stands for 8 digits).
3. If the Bluetooth pair request pops up on the screen, enter the request pin code (default code: 0000 or 1234).
4. Once the VCI is paired with the tablet, it will be shown under the paired device tab.

5 Start Diagnostics

Follow the steps mentioned below to start a new diagnostic session.

Tap “Diagnose”, and then tap a corresponding diagnostic software logo.

Take Demo as an example to demonstrate how to diagnose a vehicle.

1). Tap the “DEMO”, a screen similar to the following appears:

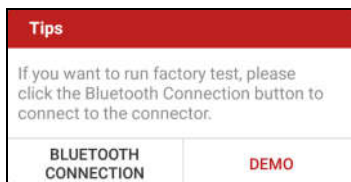


Fig. 5-1

2). Tap “Demo” to ignore the connection and jump to the test item selection screen (*Note: No connection is required for DEMO program).

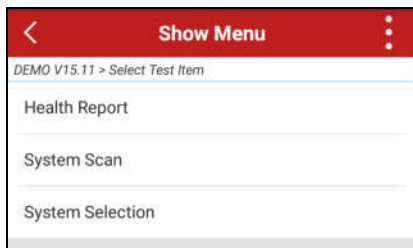


Fig. 5-2

5.1 Health Report (Quick Test)

This function varies from vehicle to vehicle. It enables you to quickly access all the electronic control units of the vehicle and generate a detailed report about vehicle health.

*Note: Diagnostic Trouble Codes or Fault Codes can be used to identify which engine systems or components that are malfunctioning. Never replace a part based only on the DTC definition. Retrieving and using DTCs for troubleshooting vehicle operation is only one part of an overall diagnostic strategy. Follow testing procedures (in vehicle's

service manual), instructions and flowcharts to confirm the locations of the problem.

Tap “Health Report”, the system start scanning the ECUs. Once the scanning is complete, a screen similar to the following appears:

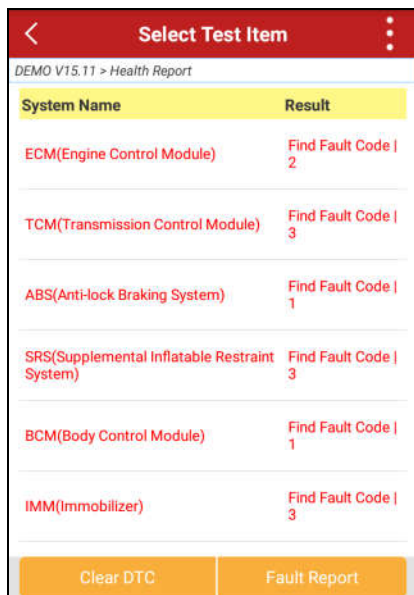


Fig. 5-3

In Fig. 5-3, the tested system with fault code appears in red and the system with OK displays in black (normally).

Tap the desired system to enter the test function selection page. For detailed operations on test function, please refer to Chapter 5.3.

On-screen Buttons:

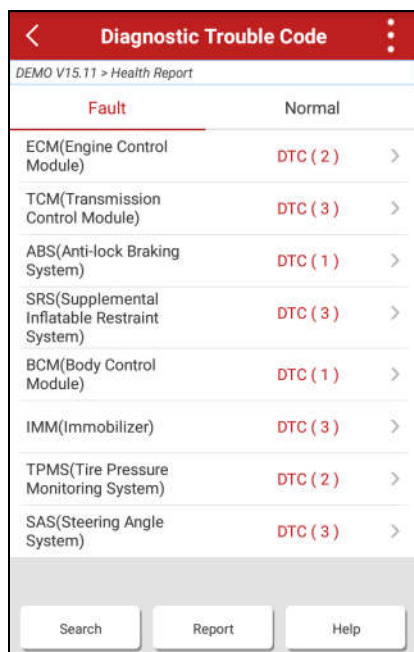
Clear DTC: Tap to clear the existing diagnostic trouble codes. See Chapter 5.1.2.

*Note: Clearing DTCs does not fix the problem(s) that caused the code(s) to be set. If proper repairs to correct the problem that caused the code(s) to be set are not made, the code(s) will appear again and the check engine light will illuminate as soon as the problem that cause the DTC to set manifests itself.

Fault Report: Tap to view the health report in details. See Chapter 5.1.1.

5.1.1 View fault report

This function allows you to view the health report in details.



Fault	Normal
ECM(Engine Control Module)	DTC (2) >
TCM(Transmission Control Module)	DTC (3) >
ABS(Anti-lock Braking System)	DTC (1) >
SRS(Supplemental Inflatable Restraint System)	DTC (3) >
BCM(Body Control Module)	DTC (1) >
IMM(Immobilizer)	DTC (3) >
TPMS(Tire Pressure Monitoring System)	DTC (2) >
SAS(Steering Angle System)	DTC (3) >

Search Report Help

Fig. 5-4

In Fig. 5-4:

The systems that have been found OK are displayed in black under the *Normal* tab.

The tested systems with faults are listed under the *Fault* tab and the number of DTC is displayed in red next to the system. Tap > to view the detailed DTC information of the current system.

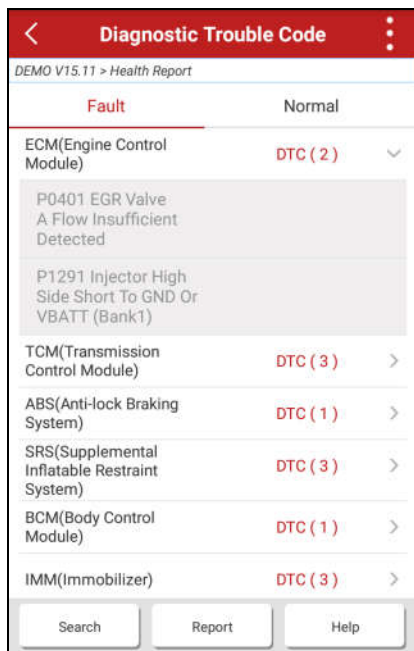


Fig. 5-5

On-screen Buttons:

Search: Highlight a certain DTC item, and then tap it to launch the browser to search for more detailed information about the selected DTC online.

Report: To save the current data in text format. All reports are saved under the tab "Report" in "My Report" from "Personal Center" menu. For details on report operations, please refer to Chapter 9.1 "My Report".

5.1.2 Clear DTC

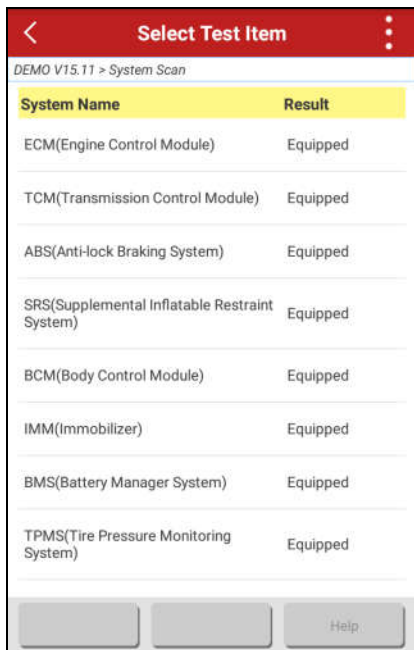
This function lets you clear the existing diagnostic trouble codes in health report.

Tap "Clear DTC", a confirmation dialog box appears. Tap "Yes" to clear all the diagnostic trouble codes. Tap "No" to abort it.

5.2 System Scan

This option allows you to quickly scan which systems are installed on the vehicle.

In Fig. 5-2, tap “System Scan”, the system start scanning the systems. Once the scanning is complete, the screen will display the result. See Fig. 5-6.



The screenshot shows a mobile application interface titled "Select Test Item". Below the title bar, it says "DEMO V15.11 > System Scan". There is a table with two columns: "System Name" and "Result". The table lists eight systems, all of which are marked as "Equipped". At the bottom of the screen, there are three buttons: a large grey button on the left, a medium grey button in the center, and a smaller button on the right labeled "Help".

System Name	Result
ECM(Engine Control Module)	Equipped
TCM(Transmission Control Module)	Equipped
ABS(Anti-lock Braking System)	Equipped
SRS(Supplemental Inflatable Restraint System)	Equipped
BCM(Body Control Module)	Equipped
IMM(Immobilizer)	Equipped
BMS(Battery Manager System)	Equipped
TPMS(Tire Pressure Monitoring System)	Equipped

Fig. 5-6

In Fig. 5-3, tap the desired system to advance to the test function selection page. For detailed operations on test function, please refer to Chapter 5.3.

5.3 System Selection

This option allows you manually select the test system and function step by step.

In Fig. 5-2, tap “System Selection”, the screen displays as follows:

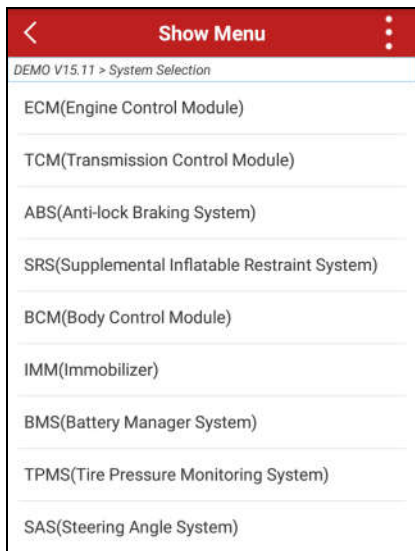


Fig. 5-7

Swipe the screen from the bottom to view the vehicle system on the next page.
Tap the desired system (take “ECM” for example) to jump to the test function page.

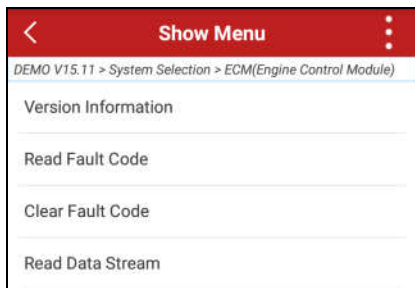


Fig. 5-8

*Note: Different vehicle has different diagnostic menus.

5.3.1 Version Information

This function is used to read the version information of system mode, vehicle VIN, software and ECU.

5.3.2 Read Fault Code

This function displays the detailed information of DTC records retrieved from the vehicle's control system.

*Note: Retrieving and using DTCs for troubleshooting vehicle operation is only one part of an overall diagnostic strategy. Never replace a part based only on the DTC definition. Each DTC has a set of testing procedures, instructions and flow charts that must be followed to confirm the location of the problem. This information can be found in the vehicle's service manual.

In Fig. 5-8, tap "Read DTC", the screen will display the diagnostic result.

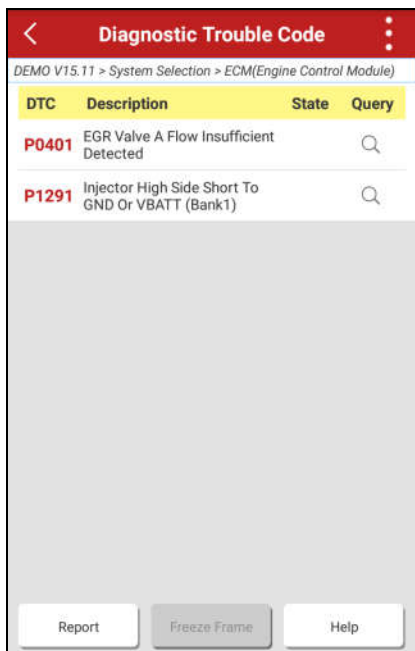


Fig. 5-9

On-screen Buttons:

 : Highlight a certain DTC item, and then tap it to search for more information about the selected DTC online.

Report: To save the current data in text format. All reports are saved under the tab "Diagnostic Report" in "My Report" from "Personal Center" menu. For details on report operations, please refer to Chapter 9.1 "My Report".

Freeze Frame: When an emission-related fault occurs, certain vehicle conditions are recorded by the on-board computer. This information is referred to as freeze frame data. Freeze frame data includes a snapshot of critical parameter values at the time the DTC is set.

5.3.3 Clear Fault Code

After reading the retrieved codes from the vehicle and certain repairs have been carried out, you can use this function to erase the codes from the vehicle. Before performing this function, please be sure the vehicle's ignition key is in the ON position with the engine off.

Clearing DTCs does not fix the problem(s) that caused the code(s) to be set. If proper repairs to correct the problem that caused the code(s) to be set are not made, the code(s) will appear again and the check engine light will illuminate as soon as the problem that cause the DTC to set manifests itself.

In Fig. 5-8, tap "Clear Fault Code", a confirmation dialog box pops up on the screen. Tap "Yes", the system will automatically delete the currently existing trouble code.

*Note: After clearing, you should retrieve trouble codes once more or turn ignition on and retrieve codes again. If there are still some trouble codes in the system, please troubleshoot the code using a factory diagnosis guide, then clear the code and recheck.

5.3.4 Read Data Stream

This option lets you view and capture (record) real-time Live Data. This data including current operating status for parameters and/or sensor information can provide insight on overall vehicle performance. It can also be used to guide vehicle repair.

*Note: If you must drive the vehicle in order to perform a troubleshooting procedure, ALWAYS have a second person help you. Trying to drive and operate the diagnostic tool at the same time is dangerous, and could cause a serious traffic accident.

In Fig. 5-8, tap “Read Data Stream”, the system will display data stream items.

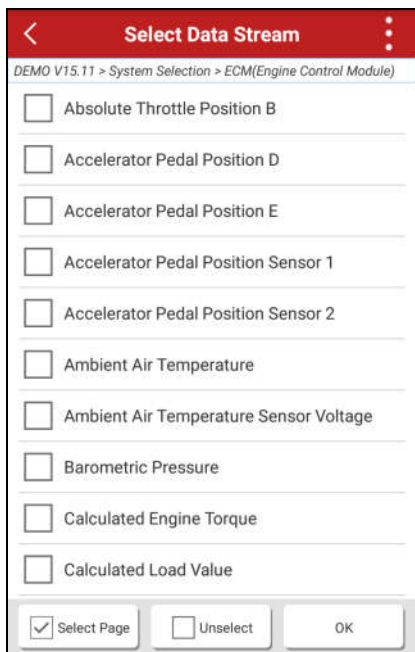


Fig. 5-10

On-screen Buttons:

Select Page: Tap it to select all items of the current page. To select certain data stream item, just check the box before the item name.

Unselect: Tap it to deselect all data stream items.

OK: Tap it to confirm and jump to the next step.

After selecting the desired items, tap “Confirm” to enter the data stream reading page.

Name	Value	Standard	Unit
Absolute Throttle Position B	12.94	0 - 100	%
Accelerator Pedal Position D	15.69	0 - 100	%
Accelerator Pedal Position E	15.69	0 - 100	%
Accelerator Pedal Position Sensor 1	1.04	0 - 5	V
Accelerator Pedal Position Sensor 2	0.55	0 - 5	V
Ambient Air Temperature	69.8	-40 - 419	degree F
Ambient Air Temperature Sensor Voltage	1.74	0 - 5	V
Barometric Pressure	14.43 1/2	0 - 16.99	psi

Fig. 5-11

*Notes:

1. If the value of the data stream item is out of the range of the standard (reference) value, the whole line will display in red. If it complies with the reference value, it displays in black (normal mode).
2. The indicator 1/X shown on the bottom of the screen stands for the current page /total page number. Swipe the screen from the right/left to advance/return to the next/previous page.

On-screen Buttons:

Record: Tap to start recording diagnostic data for future playback and analysis. The saved file follows the naming rule: It begins with vehicle type, and then the record starting time and ends with .x431 (To differentiate between files, please configure the accurate system time). The file is stored in "My Report" under

“Personal Center” menu. For details on playback operations, please refer to Chapter 9.1 “My Report”.

To stop reading the data stream, tap ☐ before the recording progress bar.

Saved data: Tap to access to “My Reports”.

Report: Tap to save the current waveform as a diagnostic record.

There are 3 types of display modes available for data viewing, allowing you to view various types of parameters in the most suitable way.

- ✓ **Value** – this is the default mode which displays the parameters in texts and shows in list format.

The following display modes are under Graph tab.

- ✓ **Graph** – displays the parameters in waveform graphs. Refer to Fig. 5-12.

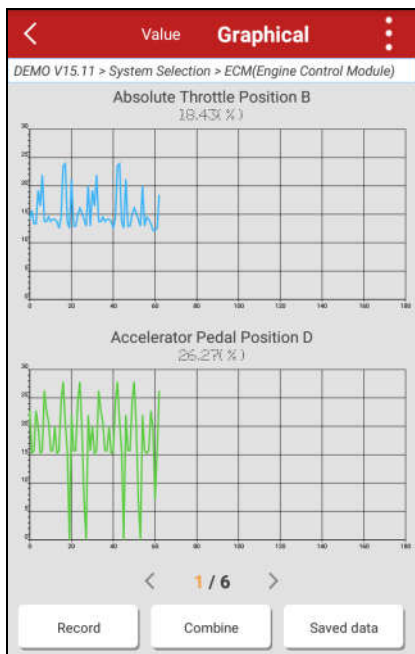


Fig. 5-12

- ✓ **Combine** – this option is mostly used in graph merge status for data comparison. In this case, different items are marked in different colors. See Fig. 5-13.

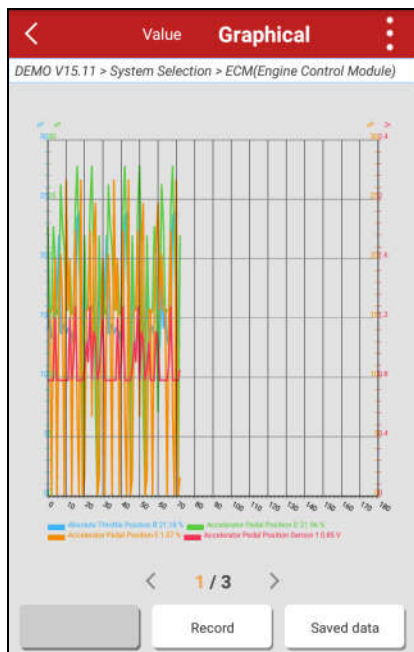


Fig. 5-13

On-screen Buttons:

Record: Tap to start recording diagnostic data for future playback and analysis. The saved file follows the naming rule: It begins with vehicle type, and then the record starting time and ends with .x431 (To differentiate between files, please configure the accurate system time). The file is stored in “My Report” under “Personal Center” menu. For details on playback operations, please refer to Chapter 9.1 “My Report”.

To stop reading the data stream, tap ☐ before the recording progress bar.

Saved data: Tap to access to “My reports”.

6 Reset

In addition to amazing & powerful diagnostic function, the tool also features various service functions. The most commonly performed service functions contain:

- Oil Reset Service
- Electronic Parking Brake Reset
- Steering Angle Calibration
- ABS Bleeding
- TPMS (Tire Pressure Monitor System) Reset
- Gear Learning
- IMMO Service
- Injector Coding
- Battery Maintenance System
- Diesel Particulate Filter (DPF) Regeneration
- Electronic Throttle Position Reset

There are two methods to reset service lamp: Manual reset or Auto reset. Auto reset follows the principle of sending command from the tool to vehicle's ECU to do resetting. While using manual reset, users just follow the on-screen instructions to select appropriate execution options, enter correct data or values, and perform necessary actions, the system will guide you through the complete performance for various service operations.

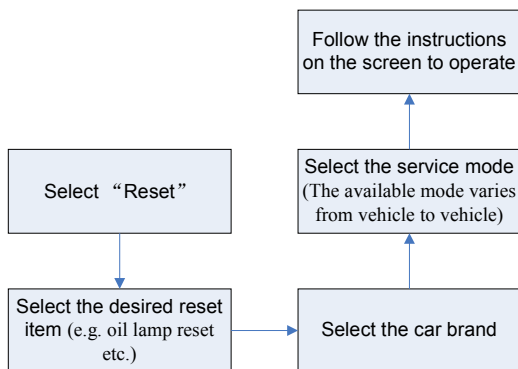


Figure 6-1

6.1 Oil Reset Service

This function allows you to perform reset for the engine oil life system, which calculates an optimal oil life change interval depending on the vehicle driving conditions and climate.

This function can be performed in the following cases:

1. If the service lamp is on, you must provide service for the car. After service, you need to reset the driving mileage or driving time so that the service lamp turns off and the system enables the new service cycle.
2. After changing engine oil or electric appliances that monitor oil life, you need to reset the service lamp.

6.2 Electronic Parking Brake Reset

1. If the brake pad wears the brake pad sense line, the brake pad sense line sends a signal sense line to the on-board computer to replace the brake pad. After replacing the brake pad, you must reset the brake pad. Otherwise, the car alarms.
2. Reset must be performed in the following cases:
 - a) The brake pad and brake pad wear sensor are replaced.
 - b) The brake pad indicator lamp is on.
 - c) The brake pad sensor circuit is short, which is recovered.

- d) The servo motor is replaced.

6.3 Steering Angle Calibration

To reset the steering angle, first find the relative zero point position for the car to drive in straight line. Taking this position as reference, the ECU can calculate the accurate angle for left and right steering.

After replacing the steering angle position sensor, replacing steering mechanical parts (such as steering gearbox, steering column, end tie rod, steering knuckle), performing four-wheel alignment, or recovering car body, you must reset the steering angle.

6.4 ABS Bleeding

This function allows you to perform various bi-directional tests to check the operating conditions of Anti-lock Braking System (ABS).

1. When the ABS contains air, the ABS bleeding function must be performed to bleed the brake system to restore ABS brake sensitivity.
2. If the ABS computer, ABS pump, brake master cylinder, brake cylinder, brake line, or brake fluid is replaced, the ABS bleeding function must be performed to bleed the ABS.

6.5 Tire Pressure Monitor System Reset

This function allows you to quickly look up the tire sensor IDs from the vehicle's ECU, as well as to perform TPMS replacement and sensor test.

1. After the tire pressure MIL turns on and maintenance is performed, the tire pressure resetting function must be performed to reset tire pressure and turn off the tire pressure MIL.
2. Tire pressure resetting must be performed after maintenance is performed in the following cases: tire pressure is too low, tire leaks, tire pressure monitoring device is replaced or installed, tire is replaced, tire pressure sensor is damaged, and tire is replaced for the car with tire pressure monitoring function.

6.6 Gear Learning

The crankshaft position sensor learns crankshaft tooth machining tolerance and

saves to the computer to more accurately diagnose engine misfires. If tooth learning is not performed for a car equipped with Delphi engine, the MIL turns on after the engine is started. The diagnostic device detects the DTC P1336 'tooth not learned'. In this case, you must use the diagnostic device to perform tooth learning for the car. After tooth learning is successful, the MIL turns off.

After the engine ECU, crankshaft position sensor, or crankshaft flywheel is replaced, or the DTC 'tooth not learned' is present, tooth learning must be performed.

6.7 IMMO Service

An immobilizer is an anti-theft mechanism that prevents a vehicle's engine from starting unless the correct ignition key or other device is present. Most new vehicles have an immobilizer as standard equipment. An important advantage of this system is that it doesn't require the car owner to activate it since it operates automatically. An immobilizer is considered as providing much more effective anti-theft protection than an audible alarm alone.

As an anti-theft device, an immobilizer disables one of the systems needed to start a car's engine, usually the ignition or the fuel supply. This is accomplished by radio frequency identification between a transponder in the ignition key and a device called a radio frequency reader in the steering column. When the key is placed in the ignition, the transponder sends a signal with a unique identification code to the reader, which relays it to a receiver in the vehicle's computer control module. If the code is correct, the computer allows the fuel supply and ignition systems to operate and start the car. If the code is incorrect or absent, the computer disables the system, and the car will be unable to start until the correct key is placed in the ignition.

To prevent the car being used by unauthorized keys, the anti-theft key matching function must be performed so that the immobilizer control system on the car identifies and authorizes remote control keys to normally use the car.

When the ignition switch key, ignition switch, combined instrument panel, ECU, BCM, or remote control battery is replaced, anti-theft key matching must be performed.

6.8 Injector Coding

Write injector actual code or rewrite code in the ECU to the injector code of the

corresponding cylinder so as to more accurately control or correct cylinder injection quantity.

After the ECU or injector is replaced, injector code of each cylinder must be confirmed or re-coded so that the cylinder can better identify injectors to accurately control fuel injection.

6.9 Battery Maintenance System Reset

This function enables you to perform a resetting operation on the monitoring unit of vehicle battery, in which the original low battery fault information will be cleared and battery matching will be done.

Battery matching must be performed in the following cases:

- a) Main battery is replaced. Battery matching must be performed to clear original low battery information and prevent the related control module from detecting false information. If the related control module detects false information, it will invalidate some electric auxiliary functions, such as automatic start & stop function, sunroof without one-key trigger function, power window without automatic function.
- b) Battery monitoring sensor. Battery matching is performed to re-match the control module and motoring sensor to detect battery power usage more accurately, which can avoid an error message displaying on the instrument panel.

6.10 Diesel Particulate Filter (DPF) Regeneration

DPF regeneration is used to clear PM (Particulate Matter) from the DPF filter through continuous combustion oxidation mode (such as high temperature heating combustion, fuel additive or catalyst reduce PM ignition combustion) to stabilize the filter performance.

DPF regeneration may be performed in the following cases:

- a) The exhaust back pressure sensor is replaced.
- b) The PM trap is removed or replaced.
- c) The fuel additive nozzle is removed or replaced.
- d) The catalytic oxidizer is removed or replaced.
- e) The DPF regeneration MIL is on and maintenance is performed.
- f) The DPF regeneration control module is replaced.

6.11 Electronic Throttle Position Reset

This function enables you to make initial settings to throttle actuators and returns the “learned” values stored on ECU to the default state. Doing so can accurately control the actions of regulating throttle (or idle engine) to adjust the amount of air intake.

7 Diagnosis Feedback

This item allows you to feedback your diagnostic problems to us for analysis and troubleshooting.

Tap “Diagnostic Feedback”, a pop-up message will appear:

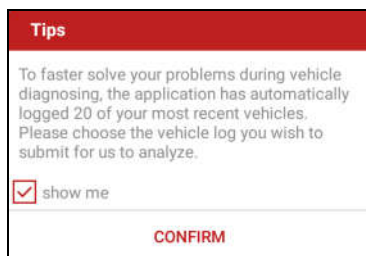


Fig. 7-1

Tap “CONFIRM” to choose the vehicle diagnostic record page.

A). Tap the desired vehicle to enter the diagnostic log selection page.

Select the check box and tap “Submit”. A screen similar to the following will appear:

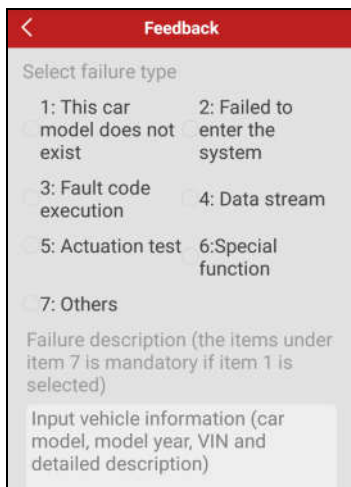


Fig. 7-2

Check the box before the failure type, fill in the detailed failure description in the blank text box and telephone or email address. After inputting, tap "Submit Result" to send it to us.

B). Tap "History", the diagnostic logs marked with different color indicate the process status of the diagnostic feedback. Black/Red/Blue means the diagnostic feedback is fixed/pending/in process respectively.

8 Software Update

8.1 Update Diagnostic Software & APP

Once a newer diagnostic software version is detected, a prompt message will pop up on the screen. To keep synchronized with the latest version, tap “Update now” to enter the update center.

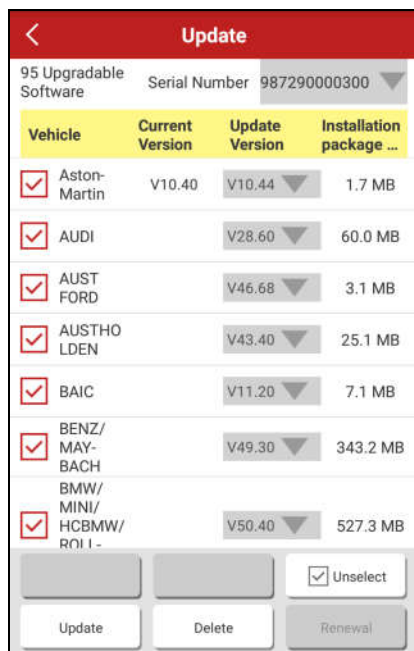


Fig. 8-1

Tap “Update” to start downloading. Once downloading is finished, the software packages will be installed automatically.

To delete the older version saved on the local storage, select the check box and then tap “Delete”. Once it is successfully removed, the vehicle logo on the diagnostic main menu will disappear at the same time.

*Note: Before update, please make sure the tablet has a strong WLAN connection.

8.2 Renew Subscription

If the software subscription is due or expires, the system will prompt you to renew your subscription and a “Renew” button will appear on the bottom of the update page.

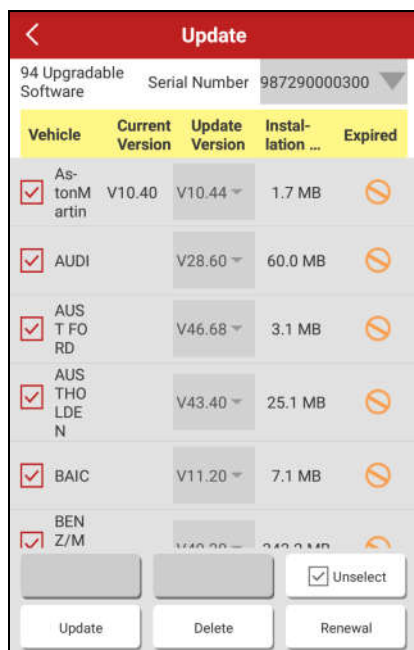


Fig. 8-2

Tap “Renewal” to navigate to the payment screen.

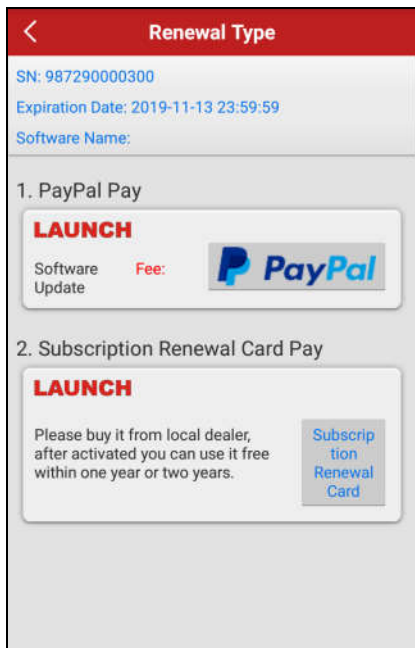


Fig. 8-3

There are two ways available for you to make payment: PayPal and Subscription Renewal Card (*need to buy it from the local dealer where you purchased the tool).

A. Using PayPal

1. Select “PayPal”, and then follow the on-screen instructions to finish the transaction.
2. After payment, go to update center to update the diagnostic software.

B. Using Subscription Renewal Card

1. Select “Subscription Renewal Card”.



Fig. 8-4

2. Input the 24-digit pin code of Subscription Renewal Card and then tap "Submit" to finish the renewal.
3. Go to update center to update the diagnostic software.

9 Personal Center

This function allows users to manage the VCI connector and diagnostic reports, and personal information.

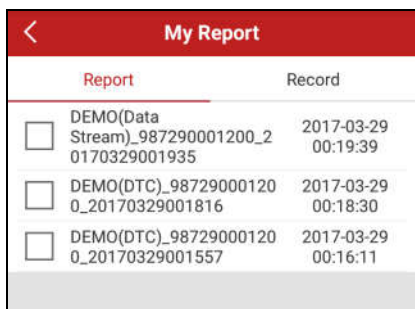
9.1 My Report

This option is used to view the diagnostic report generated in process of vehicle diagnosis. Additionally, delete, share operations are also supported.

Tap “**My Report**”, there are total 2 options available.

If user records the running parameters while reading data stream, it will be saved as .x431 file and appear under **Record** tab.

In case the DTC result is saved on Read Trouble Code page, the files will be listed under **Report** tab.



< My Report		
Report		Record
☐	DEMO(Data Stream)_987290001200_20170329001935	2017-03-29 00:19:39
☐	DEMO(DTC)_987290001200_20170329001816	2017-03-29 00:18:30
☐	DEMO(DTC)_987290001200_20170329001557	2017-03-29 00:16:11

Fig. 9-1

9.2 My Connector

This option is used to manage all your activated connectors.

If several VCI connectors are activated on this tool, a list of connectors will be displayed on the screen. Once you choose the connector that belongs to other account, you have to log out, and then input the right account to continue.

9.3 Activate Connector

If the VCI connector has not been activated during the product registration, or if you have lost the bound connector and bought another brand-new one, please

use this option to activate it.

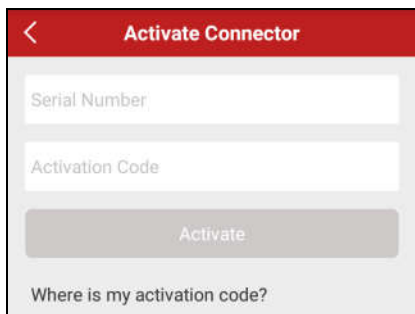


Fig. 9-2

Input the Serial Number and Activation Code, and then tap “Activate” to activate it.

*Note: The Serial Number and Activation Code can be found from the password envelope.

9.4 Firmware Fix

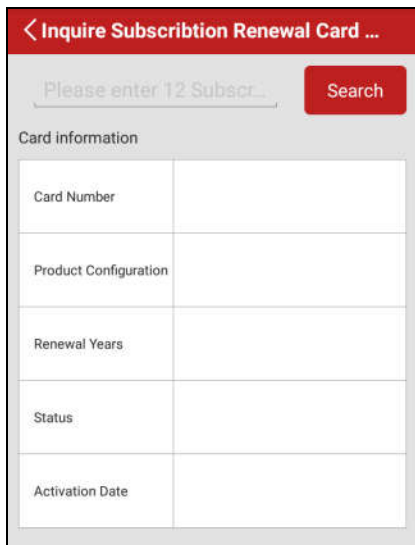
Use this item to upgrade and fix diagnostic firmware. During fixing, please do not cut power or switch to other interfaces.

9.5 My Order

Use this item to check the historical order information.

9.6 Inquire Subscription Renewal Card Status

If you renew your subscription with the subscription renewal card, use this option to check the status of the renewal card.



Card information	
Card Number	
Product Configuration	
Renewal Years	
Status	
Activation Date	

Fig. 9-3

Enter the 12-digit subscription renewal card number, and tap or click “Search” to check the status. It mainly includes the product configuration, renewal years and activation date etc.

9.7 Profile

Use this item to view and configure personal information.

9.8 Change password

This item allows you to modify your login password.

9.9 Settings

This function allows users to configure system settings.

9.9.1 Units of Measurement

It is designed to set the measurement unit. Metric System and English System

are available.

9.9.2 About

The software version information and disclaimer are included.

9.9.3 Log out

This option allows you to logout the system.

To logout the current user ID, tap “Exit from current account”.

10 Others

10.1 Synchronization

You can transfer media files and APK between the PC and tablet.

10.1.1 Connect to PC

1. Use the data cable (optional) to connect the tablet to your PC.
2. Swipe from the top, a message “Connected as a media device” appears.

10.1.2 Run on PC

Perform the following steps:

- Locate the new disc.
- Copy the files.

10.1.3 Install an application

Do the following steps:

1. Tap **Settings** -> **Security**, and set the “Unknown sources” to ON, which allows you to install apps from unknown sources.
2. A dialog box appears on the screen, tap “OK” to confirm.
3. Set the tool as “Connected as a media device”, and copy the APK file from the PC to the tool.

10.2 Clear Cache

 **Warning:** Doing so clears all browsing records and accounts and enables the tablet to run smoothly and quickly.

1. Tap **Settings** -> **Apps**.
2. Tap  and select “Sort by size” to arrange all applications in size order.
3. Tap certain application, then tap “Clear Cache” to release the space these cache files are occupied.

11 FAQ

1. How to save power?

- Please turn off the screen while the tool keeps idle.
- Set a shorter standby time.
- Decrease the brightness of the screen.
- If WLAN connection is not required, please turn it off.
- Disable GPS function if GPS service is not in use.

2. Communication error with vehicle ECU?

Please confirm:

1. Whether diagnostic connector is correctly connected.
2. Whether ignition switch is ON.
3. If all checks are normal, send vehicle year, make, model and VIN number to us using Feedback feature.

3. Failed to enter into vehicle ECU system?

Please confirm:

1. Whether the vehicle is equipped with this system.
2. Whether the VCI dongle is correctly connected.
3. Whether ignition switch is ON.
4. If all checks are normal, send vehicle year, make, model and VIN number to us using Feedback feature.

4. How to reset the tablet?

 **Warning:** Resetting may cause data loss. Before doing so, please make sure important data and information has been backed up.

Do the following to reset the tablet:

1. Tap "Settings" -> "Back & Reset".
2. Tap "Factory data reset".
3. Tap "Reset tablet".

4. Tap "Clear all data" to start resetting until the tool automatically reboots.

5. How to activate the VCI?

*Note: Before registration, please make sure the network is properly connected.

If you have activated a VCI device before, but bought a new VCI one due to the loss or other reasons, please follow the below steps to activate:

1. Tap the application icon on the home screen to launch it.
2. Tap "Personal Center" -> "Activate Connector".
3. Input product S/N and activation code, which can be found from the included password envelope, then tap "Activate".
4. After activation is complete, go to "Personal Center" -> "My Connector" to check if the activated VCI is displayed in the list or not. Multiple VCIs can be bound to one tool. If you intend to use one of the VCIs to diagnose or test a vehicle, just switch to the corresponding one.

Warranty

THIS WARRANTY IS EXPRESSLY LIMITED TO PERSONS WHO PURCHASE LAUNCH PRODUCTS FOR PURPOSES OF RESALE OR USE IN THE ORDINARY COURSE OF THE BUYER'S BUSINESS.

LAUNCH electronic product is warranted against defects in materials and workmanship for one year from date of delivery to the user.

This warranty does not cover any part that has been abused, altered, used for a purpose other than for which it was intended, or used in a manner inconsistent with instructions regarding use. The exclusive remedy for any automotive meter found to be defective is repair or replacement, and LAUNCH shall not be liable for any consequential or incidental damages.

Final determination of defects shall be made by LAUNCH in accordance with procedures established by LAUNCH. No agent, employee, or representative of LAUNCH has any authority to bind LAUNCH to any affirmation, representation, or warranty concerning LAUNCH automotive meters, except as stated herein.

Disclaimer

The above warranty is in lieu of any other warranty, expressed or implied, including any warranty of merchantability or fitness for a particular purpose.

Purchase Order

Replaceable and optional parts can be ordered directly from your LAUNCH authorized tool supplier. Your order should include the following information:

Order quantity

Part number

Part name

Customer Service

Any question during the operation, please call +86-755-84527891.

If your unit requires repair service, return it to the manufacturer with a copy of the sales receipt and a note describing the problem. If the unit is determined to be in warranty, it will be repaired or replaced at no charge. If the unit is determined to be out of warranty, it will be repaired for a nominal service charge

plus return freight. Send the unit pre-paid to:

Attn: Customer Service Department

LAUNCH TECH CO., LTD.

Launch Industrial Park,

North of Wuhe Avenue,

Banxuegang, Bantian,

Longgang, Shenzhen, Guangdong

P.R.China, 518129

Launch website: <http://www.cnlaunch.com>

<http://www.x431.com>

<http://www.dbscar.com>

Statement:

LAUNCH reserves the rights to make any change to product designs and specifications without notice. The actual object may differ a little from the descriptions in the manual in physical appearance, color and configuration. We have tried our best to make the descriptions and illustrations in the manual as accurate as possible, and defects are inevitable, if you have any question, please contact local dealer or after-sale service center of LAUNCH, LAUNCH does not bear any responsibility arising from misunderstandings.

FCC Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference

to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to

radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the

following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

To assure continued compliance, any changes or modifications not expressly approved by the party.

Responsible for compliance could void the user's authority to operate this equipment. (Example- use only shielded interface cables when connecting to computer or peripheral devices).

This equipment complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) This device must accept any interference received, including interference that may cause undesired operation.

The SAR limit adopted by USA and Canada is 1.6 watts/kilogram (W/kg) averaged over one gram of tissue. The highest SAR value reported to the Federal Communications Commission (FCC) and the Industry Canada (IC) for this device type when it is tested properly worn on the body is 0.95 W/kg.

The device complies with the RF specifications when the device is used near your at a distance of 0 mm from your body. Ensure that the device accessories

such as a device case and a device holster are not composed of metal components. Keep your device 0 mm away from your body to meet the requirement earlier mentioned.

This device was tested for typical body-worn operations. To comply with RF exposure requirements, a minimum separation distance of 0 mm must be maintained between the user's body and the handset, including the antenna. Third-party belt-clips, holsters, and similar accessories used by this device should not contain any metallic components. Body-worn accessories that do not meet these requirements may not comply with RF exposure requirements and should be avoided. Use only the supplied or an approved antenna.