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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 device 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.
- **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.

Precautions on Using X-431 PRO GT

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.

FCC Requirement

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device 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.

Note: 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.

The device has been evaluated to meet general RF exposure requirement. The SAR limit of USA (FCC) is 1.6W/kg averaged over one gram of tissue. Device types Professional Diagnostic Tool with model X-431 PRO GT has also been tested against this SAR limit. The highest reported SAR values for body-worn is 0.86W/kg. This device was tested for typical body-worn operations with the back of the handset kept 0mm from the body. The use of accessories that do not satisfy these requirements may not comply with FCC RF exposure requirements, and should be avoided.

Hereby, Launch Tech Co., Ltd. declares that this AUTO Smart Diagnostic Tool (Model X-431 PRO GT) is in compliance with the essential Requirements and other relevant provisions of Radio Equipment Directive 2014/53/EU.

Operation frequency and Max. RF output power:

WiFi 802.11b/g/n: 2402-2480MHz, 16.22dBm;

Bluetooth 2412-2472MHz, 5.80dBm;

The RF frequencies can be used in Europe without restriction.

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1 Introduction

1.1 Product Profile

X-431 PRO GT is a new Android-based vehicle trouble diagnostic tool. It is characterized by covering a wide range of vehicle models, featuring powerful functions, and providing precise test result.

Through simple Bluetooth communication between the VCI dongle and tablet, it achieves full car model and full system vehicle trouble diagnosis, which include Reading DTCs, Clearing DTCs, Reading Data Stream, Actuation Test and Special Functions.

X-431 PRO GT adopts Android operating system and 8" touch screen with a resolution with 1280 x 800 pixels.

1.2 Features

1. Diagnose:

- Smart Diagnosis: This module allows you to use the VIN information of the currently identified vehicle to access its data (including vehicle information, historical diagnostic records) from the cloud server to perform quick test.
 - Local Diagnosis: To diagnose a vehicle by performing menu-driven command manually. Diagnosis functions include: Read DTCs, Clear DTCs, Read Data Stream, Special Functions etc.
 - Remote Diagnosis: This option aims to help repair shops or technicians launch instant messaging and remote diagnosis, making the repair job getting fixed faster.
 - Reset: All kinds of common maintenance and reset items including Oil lamp reset, DPF regeneration, ABS bleeding can be done.
 - One-click Update: Lets you update your diagnostic software online.
 - Diagnostic feedback: Enables you to submit the vehicle issue to us for analysis and troubleshooting.
2. Wi-Fi connection is supported.
3. Web browser: Users can make online search and visit any website.

1.3 Technical Specifications

X-431 PRO GT tablet:

| | |
|---------------------|--|
| Operating system | Android |
| Memory | 2GB |
| Storage | 32GB |
| Screen | 8 inch capacitive touch screen with a resolution of 1280 x 800 pixels |
| Connectivity | <ul style="list-style-type: none">• Wi-Fi (802.11b/g/n)• BT 4.0 |
| Working temperature | 0°C ~ 50°C |
| Storage temperature | -20°C ~ 70°C |

VCI dongle:

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

2 Knowledge of X-431 PRO GT

There are two main components to the X-431 PRO GT system:

- X-431 PRO GT tablet – the central processor and monitor for the system (See Chapter "2.1").



Fig. 2-1

- VCI dongle – the device for accessing vehicle data (See Chapter "2.2").



Fig. 2-1

2.1 X-431 PRO GT Tablet

The tablet acts as the central processing system, which is used to receive and analyze the live vehicle data from the VCI dongle and then output the test result.



Fig. 2-1 X-431 PRO GT tablet

| | | |
|---|----------------------------|--|
| 1 | Slot for VCI dongle | To store the VCI dongle. |
| 2 | VCI dongle | Press it once and then release it, it will be ejected from the slot automatically. |

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*Note: If it is not in use, remember to unplug it from the vehicle's DCL and re-insert it into the slot on the back of the tablet.

| | | |
|----|---|---|
| | | In Off mode, press it for 3 seconds to turn the tablet on. In On mode: <ul style="list-style-type: none">• 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. |
| 3 |  | Move cursor up or down for selection. |
| 4 |  | Move cursor left or right for selection; or turn page up and down when more than one page is displayed. |
| |  | Confirms a selection (or action) from a menu list. |
| 5 |  | Return to the previous screen. |
| 6 |  | Press to navigate to the home screen. |
| 7 | Speakers | |
| 8 | Foldable Stand | Flip out it to any angle and work comfortable at your desk, or hang it on the steering wheel. |
| 9 | LCD Screen | Indicates the test result. |
| 10 | Charging LED | RED means Charging, and GREEN means Fully Charged. |
| 11 | DC-IN Port | To connect to AC outlet for charging. |

2.2 VCI Dongle (Only applies to 12V cars)

The VCI dongle 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 Bluetooth.

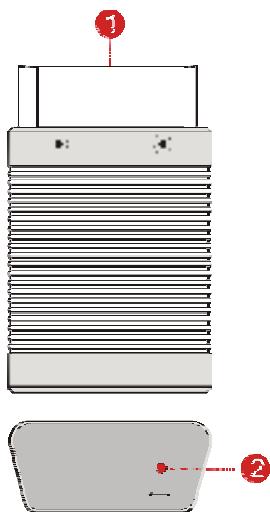


Fig. 1-2 VCI device

| | | |
|---|------------------------------------|---|
| 1 | OBD-16 diagnostic connector | To connect on vehicle's OBD II DLC. |
| 2 | Mode indicator | <ul style="list-style-type: none">• It illuminates red when the VCI dongle is connected to the vehicle's DLC.• Blue indicates the VCI dongle is working in wireless (BT) communication mode. |

2.3 Package List

Common accessories are same, but for different destinations, the accessories (such as diagnostic software, testing connectors) may vary. Please consult from

the local agency or check the package list supplied with the tool together.

| No. | Item | Descriptions | Qt. |
|-----|-----------------------------|--|----------|
| 1 | X-431 PRO GT tablet | Indicates the test result. | 1 |
| 2 | VCI dongle | Collects the vehicle data and sends it to the tablet for analysis. | 1 |
| 3 | OBD II extension cable | To connect the VCI dongle to the OBD II vehicle's DLC. | 1 |
| 4 | Password envelope | A piece of paper bearing the product Serial Number and Activation Code for product registration. | 1 |
| 5 | Power adaptors & cable | For charging the tablet via AC outlet. | 1 |
| 6 | Cigarette lighter cable | To supply power to the non-16pin connector from the vehicle's cigarette lighter receptacle. | Optional |
| 7 | Battery clamps cable | To supply power to the non-16pin connector from the vehicle's battery. | 1 |
| 8 | OBD I adaptor box | For connecting the VCI dongle and non-16pin adaptor cable. | 1 |
| 9 | Non-16pin adaptor cable kit | To connect to the vehicle equipped with non-OBD II management system. | 1 |

3 Preparations

3.1 Charging the tablet

1. Insert one end of the included charging cable into the power adaptor.
2. Connect the other end into the DC-IN port of the tablet.
3. Plug the adaptor into 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 AC outlet.

3.2 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.

3.3 Power on/off

3.3.1 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.

3.3.2 Power off

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

3.4 Screen layout

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

-
- | | |
|--|---|
|  Home | Tap to navigate to the Home screen. |
|  Recent Apps | Tap it to display a list of applications that are currently running or recently used. |
|  VCI | Shows whether the VCI dongle is connected properly or not. |
|  Screenshot | Tap it to capture the current screen and all captured screenshots are stored in the Screenshots folder. |
|  Back | Tap it to return to the previous screen or exit the application. |
-

3.5 Adjust brightness

*Tips: Reducing the brightness of the screen is helpful to save the power of the tablet.

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

3.6 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 **Tablet Settings > Display > Sleep**.
2. Choose the desired sleep time.

3.7 Network Setup

*Note: Once WLAN is set as ON, the tablet will consume more power. While WLAN keeps unused, please turn it off to conserve battery power.

The tablet has a built-in Wi-Fi module that can be used to get online. Once you're online, you can register the tool, update the diagnostic software & APK, surf the Internet and send email on your network.

3.7.1 Connect to a Wi-Fi network

1. On the home screen, tap **Tablet Settings -> Wi-Fi**.
2. Tap or slide the **Wi-Fi** switch to **ON**, the tablet starts searching for all available wireless LANs.
3. Choose the desired Wi-Fi access point / network,
 - If the network you chose is open, you can connect directly.
 - If the selected network is encrypted, you have to enter the right security key (network password).

3.7.2 Disconnect from a Wi-Fi network

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

4 Initial Use

4.1 Getting Started

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

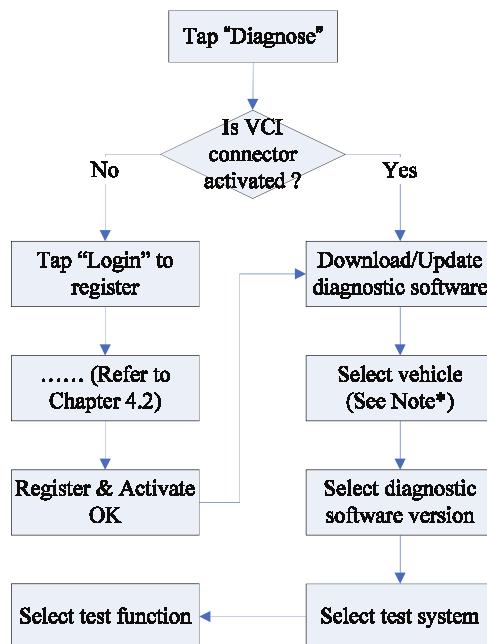


Fig. 4-1

Note*: If "VIN Scan" or "Intelligent Diagnosis" function is performed, this step shall not apply.

4.2 Register & Download Diagnostic Software

4.2.1 User registration

After the tablet is initialized, tap “Login” on the upper right corner of the screen, a screen similar to the following appears.



Fig. 4-2

(If you are a new user, follow A to proceed.)

(If you have registered to be a member, go to B to login the system directly.)

(In case you forgot password, refer to C to reset a new password.)

A. If you are a new user, tap “New Registration” to enter registration page. See Fig. 4-3.



Fig. 4-3

In Fig. 4-3, fill in the information in each field (Items with * must be filled). After inputting, tap “Register”, a screen similar to the following will appear:



Fig. 4-4

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

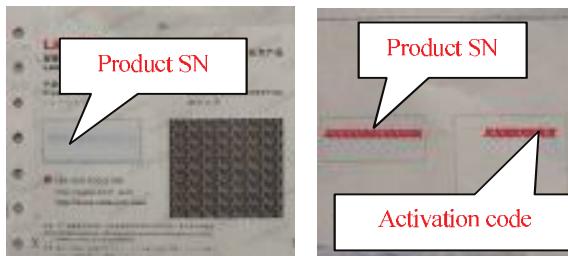


Fig. 4-5

Note: To exit and activate it later, tap "Skip". In this case, you can activate your connector by tapping "Activate VCI" in "User Info". For details, please refer to Chapter 9.4.

Tap "Activate" to finish your registration. See Fig. 4-6.

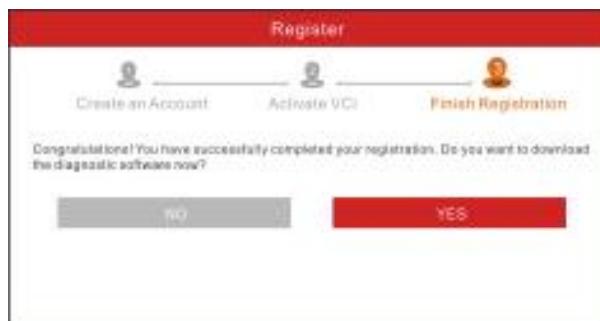


Fig. 4-6

To download the diagnostic software, tap "Yes" to enter the software update screen.

Tap "No" to download and install it later.

On the update page, tap "Update" to start downloading. To pause downloading, tap "Stop". To resume it, tap "Continue". Once download is complete, the system will install the software package automatically.

***Note:** In process of download, please make sure the tablet has a strong Wi-Fi signal. It may take several minutes to finish it, please be patient to wait.

B.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.

C.If you forgot the password, tap "Retrieve password" and then follow on-screen instructions to set a new password.

4.2.2 Job menu

It mainly includes the following items:

| Name | Description |
|-----------------------|---|
| Intelligent Diagnosis | This module allows you to obtain vehicle data from the cloud server to perform quick test via reading VIN, which provides a perfect solution to various defects |

| | |
|---------------------------|--|
| | resulting from step-by-step menu selection. In addition, user can also check the historical repair records online through this module. |
| Local Diagnosis | To diagnose a vehicle manually. |
| Remote Diagnosis | This option aims to help repair shops or technicians launch instant messaging and remote diagnosis, making the repair job getting fixed faster. |
| Software Update | To update vehicle diagnostic software and APK. |
| Diagnostic History | Generally once a vehicle diagnosis is performed, the tablet will automatically save every details of diagnostic process. This function provides a quick access to the tested vehicles. Test can be resumed from the last operation, without starting from scratch. |
| Reset | To perform all kinds of common repair & maintenance items, including electronic throttle position reset, ABS bleeding, oil lamp reset etc. |
| Feedback | To feed back the recent 20 diagnostic logs to us for issue analysis. |
| Maintenance Help | Abundant maintenance data are available, which helps repair professionals diagnose and repair vehicles efficiently, accurately and profitably. |
| User Info | To manage VCI, my reports, diagnostic software, change password, configure Wi-Fi printer and system settings and logout etc. |
| Vehicle Coverage | To view all the vehicle models that the tablet covers. |
| Tablet Setting | Configures the system settings of the tablet. |
| Other Modules | Includes How-To videos, product manual and FAQ. |

4.2.3 Vehicle menu layout

After downloading the diagnostic software, go to "Local Diagnosis" to check if all software are completely downloaded and installed.

Tap "Local Diagnosis", a screen similar to the following figure appears:



Fig. 4-7

VINScan button: Tap it to scan the Vehicle Identification Number (VIN) code of your vehicle. OBD VIN and INPUT VIN are included. This function does not apply to the commercial vehicles.

- 1 *Note: Before using this function, the corresponding diagnostic software and Auto search file need to be downloaded on your tool first while downloading the diagnostic software.
- 2 **All** Tab: Displays all the vehicle makes in the vehicle menu.
- 3 **Common** Tab: Displays all the commonly used vehicle makes.
- 4 Vehicle region buttons: Tap different buttons to switch to corresponding vehicles.
- 5 Search bar: Enables you to use the virtual keyboard to quickly locate the vehicle model. Input the desired vehicle model to start searching.

4.2.4 Diagnostics toolbar

The diagnostics toolbar contains a number of buttons that allow you to print the displayed data or make other controls. It is displayed on the upper right corner of the screen and goes through the whole diagnostic session. The table below provides a brief description for the operations of the diagnostics toolbar buttons:



Fig. 4-8

| Name | Button | Description |
|--------------|--------|---|
| Home | | Returns to Job menu screen. |
| Print | | Tap to print the current screen. To perform printing, you need to purchase an extra Wi-Fi |

| | | |
|------|---|---|
| | | printer manufactured by LAUNCH separately and then properly configure it following the steps described in Chapter 9.10.3. |
| Exit |  | To exit the diagnostic application. |

4.3 Connections

4.3.1 Preparation

Normal testing conditions

- Turn on the vehicle power supply.
- The vehicle battery voltage should be 9~18V.
- Throttle should be in a closed position.

4.3.2 DLC location

The DLC (Data Link Connector) is typically a standard 16 pin connector where diagnostic code readers interface with the vehicle's on-board computer. The DLC is usually located 12 inches from the center of the instrument panel (dash), under or around the driver's side for most vehicles. If Data Link Connector 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 for the location.

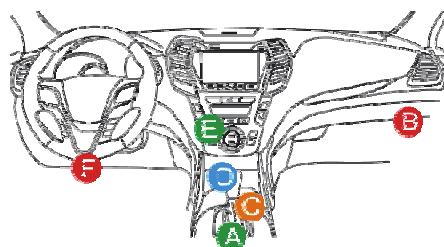


Fig. 4-9

4.3.3 Vehicle connection

The method used to connect the diagnostic 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 socket.
2. Plug the VCI dongle into the vehicle's DLC socket (It is suggested to use the OBD II extension cable to connect the VCI dongle and DLC).
3. Choose one of the two ways to obtain power from:
 - A. Power adaptor: Connect one end of the included power adaptor to DC IN 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 socket.
2. Select the corresponding non-16pin connector.
3. Plug the non-16pin end of the connector into the DLC socket, and 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 dongle.
5. To supply power to OBD I adaptor from:
 - A. Cigarette Lighter Cable: 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.

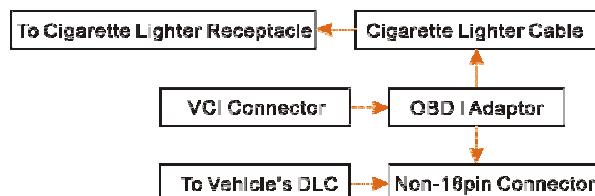


Fig. 4-10

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

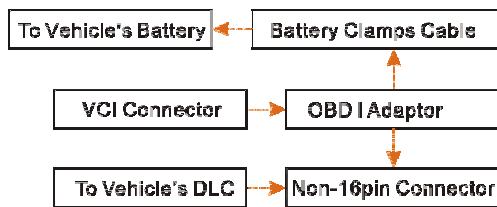


Fig. 4-11

4.4 Communication Setup

There are two kinds of ways available for the tablet to pair with the VCI dongle.

1. Plug the VCI dongle into the vehicle's DLC directly (or using the OBD II extension cable). The power LED of the VCI dongle lights up.
2. Enter Bluetooth setting screen by tapping "Tablet Settings" → "Bluetooth", slide the Bluetooth switch to ON and the tablet starts searching for all available Bluetooth device.
3. Tap the desired VCI dongle to pair and match. By default, the Bluetooth ID of the VCI dongle is 98*****00 (where ***** stands for 8 digits.).
4. If the Bluetooth pair request pops up on the screen, enter the request pin code (default code: 0000 or 1234).
5. Once the VCI dongle is paired with the tablet, it will be shown under the paired device tab.

Note: In case no Bluetooth setting is done before diagnostic software is launched, you can also configure it in process of vehicle diagnosis.

5 Diagnosis

5.1 Intelligent Diagnosis

Through simple Bluetooth communication between the tablet and VCI dongle, you can easily get the VIN (Vehicle Identification Number) information of the currently identified vehicle. Once the VIN is successfully identified, the system will retrieve it from the remote server and then guide you to vehicle information page without step-by-step manual menu selection.

The vehicle information page lists all historical diagnostic records of the vehicle, which lets the technician have a total command of the vehicle faults. In addition, a quick dial to local diagnosis and diagnostic function are also available on this page for reducing the roundabout time and increasing productivity.

Notes:

- Before using this function, please make sure the VCI dongle is properly connected to the vehicle's DLC. For detailed connection, see Chapter 4.3.3 "Vehicle Connection".
- A stable network connection is required for this function.

Follow the steps below to proceed.

Tap "Intelligent Diagnosis" on the Job menu screen to start scanning.

Note: If the VCI dongle is not paired up with the tablet before doing this step, a prompt message box will appear:



Fig. 5-1

*Note: If the VCI connector is not paired up with the tablet before doing this step, a prompt message box will appear:

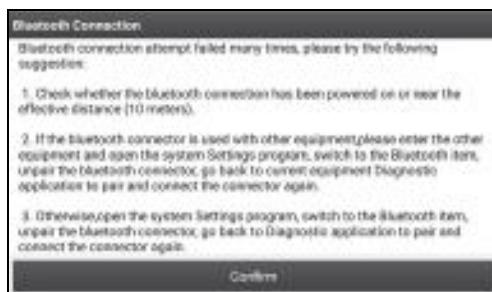


Fig. 5-2

Check all the possible reasons of Bluetooth connection failure carefully, and then tap "Confirm".



Fig. 5-3

If the VCI connector was once used with other devices, you need to cancel the pairing of the connector first in either of the following ways:

- Tap "Tablet Settings" -> "Bluetooth" -> Choose the desired VCI connector from the Paired list. Tap , and then tap "FORGET" to unpair it.
- Tap "Settings" -> "VCI Management" -> Tap "Deactivate matching".

Tap "Scan" to start searching for the VCI connector and pairing up with it.



Fig. 5-4

1. After pairing is complete, the handset starts reading the vehicle VIN.
 - A. If the VIN can be found from the remote server database, a screen similar to Fig. 5-5 displays:



Fig. 5-5

- Tap “Diagnostic” to start a new diagnostic session.
 - Tap “Maintenance record” to view its historical repair record. If there are records available, it will be listed on the screen in sequence of date. If no records exist, the screen will show “No Record”.

| | | | | |
|--|---------------------------------|------------------|----------|--------------------|
| 2017 5/11 | Number of diagnostic systems:1 | Number of STCs:0 | 11:43:13 | View record |
| | | | | |
| 2017 5/10 | Number of diagnostic systems:34 | Number of STCs:2 | 09:10:23 | View record |
| | | | | |
| 2017 5/9 | Number of diagnostic systems:34 | Number of STCs:2 | 14:31:00 | View record |
| | | | | |
| 2017 5/8 | Number of diagnostic systems:34 | Number of STCs:2 | 16:53:05 | View record |
| Quick access: Scan VIN or enter VIN manually | | | | |
| OK | | | | |

Fig. 5-6

- Tap “View record” to view the details of the current diagnostic report.
- To perform other functions, tap “Quick access” to directly go to the function selection screen. Choose the desired one to start a new diagnostic session.

B. If the tablet failed to access the VIN information, the screen will enter the VIN manual input mode.

Input the VIN and tap “OK” to start scanning. If the VIN exists on the remote server, the system will enter the vehicle information screen. See Fig. 5-5.

Notes:

- The most recognizable location for this VIN is in the top left corner on the vehicle’s dashboard. Other locations include the driver’s door or post, and the firewall under the hood.
- In general, vehicle identification numbers are standardized - all contain 17 characters. VIN characters may be capital letters A through Z and numbers 1 through 0; however, the letters I, O and Q are never used in order to avoid mistakes of misreading. No signs or spaces are allowed in the VIN.

5.2 Local Diagnosis

Tap “Local Diagnosis” to enter the vehicle selection page.

VIN Scan and manual diagnosis are available for your selection.

A. VIN Scan

While performing VIN Scan, user needs to enter the vehicle VIN manually.



Fig. 5-7

After the VIN is successfully decoded, the vehicle information will be displayed on the screen. Tap "Next" to navigate to the diagnostic function selection screen.

B. Manual Selection

Tap a corresponding diagnostic software logo, and then follow the on-screen instruction to access the diagnostic software.

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

- 1). **Select diagnostic software version:** Tap the "DEMO" to go to Step 2. (Note: If more than one version is available on this tablet, it will be listed on the screen.)



Fig. 5-8

On-screen Buttons:

Vehicle Coverage: Tap to view the vehicle models that the current diagnostic software covers.

What's New: Tap to view the optimized items and enhancements.

Software introduction: Tap to check the software function list.

Note: Tap to read some precautions on using the current diagnostic software.

Search Bluetooth: Tap to search for the available VCI Bluetooth connector.

Notes:

- No Bluetooth connection is required for DEMO program.
- If a vehicle is tested and no Bluetooth connection is made before diagnosis, tap “Search Bluetooth”, a dialog box similar to the following appears:



Fig. 5-9

Tap “Scan” to start searching for the VCI dongle. Once it is found, tap it to start pairing.

If the tablet has paired with the VCI dongle, it will enter Step 2 directly.

OK: Tap it to go to next step.

- 2). **Select test item:** Select the desired test item to proceed.



Fig. 5-10

5.2.1 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.

Tap “Health Report”, the system start scanning the ECUs.

Once the scanning is complete, a screen similar to the following appears:



Fig. 5-11

In Fig. 5-11, the tested system with fault code appears in red and the system with OK displays in black (normally).

On-screen Buttons:

Enter: Tap to enter the diagnostic menus of the current system.

Search: Tap to launch the browser to search for more detailed information about the current DTC online.

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

*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.

Report: Tap to save it as a diagnostic report.



Fig. 5-12

Input the required information, and then tap "OK" to save it.

Alternatively you can also set the workshop information in "User Info" -> "Settings" -> "Print Information".

Once you configured the information, it will be automatically generated every time you saved the diagnostic report. All vehicle and workshop information will be appended to the diagnostic report.

To skip the workshop information, tap "Skip" to go to the next step.

All reports are saved under the tab "Diagnostic Report" in "My Report" from "User Info" menu. For details on report operations, please refer to Chapter 9.1 "My Report".

5.2.2 System Scan

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

In Fig. 5-10, tap "System Scan", the system start scanning the systems. Once the scanning is complete, the screen will display the result.

| Select Test Item | |
|---|----------|
| All test items (10 items) | |
| System Name | Status |
| ECM[Engine Control Module] | Equipped |
| TCM[Transmission Control Module] | Equipped |
| ABS[Anti-lock Braking System] | Equipped |
| SRS[Supplemental Inflatable Restraint System] | Equipped |
| BGM[Body Control Module] | Equipped |
| IMM[Immobilizer] | Equipped |
| IDS[Inventory Manager System] | Equipped |
| TPMS[Tire Pressure Monitoring System] | Equipped |
| On-board computer, available options | |
| Total number of items: 10 | |

Fig. 5-13

Tap the desired system to advance to the test function selection page. For detailed operations on test function, please refer to Chapter 5.2.3.

5.2.3 System Selection

This option allows you manually select the test system and function step by step.
In Fig. 5-10, tap "System Selection", the screen displays as follows:

| Show Items | |
|-------------------------------|---|
| All test items (10 items) | |
| ECM[Engine Control Module] | TCM[Transmission Control Module] |
| ABS[Anti-lock Braking System] | SRS[Supplemental Inflatable Restraint System] |
| BGM[Body Control Module] | IMM[Immobilizer] |
| IDS[Inventory Manager System] | TPMS[Tire Pressure Monitoring System] |
| SAS[Steering Angle System] | |
| Total number of items: 10 | |

Fig. 5-14

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. 5-15

Note: Different vehicle has different diagnostic menus.

A. Version Information

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

B. Read Fault Code

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

*Notes:

- 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.
- 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. 5-15, tap "Read DTC", the screen will display the diagnostic result.



Fig. 5-16

On-screen Buttons:

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.

Help: Tap to view the help information.

Code Search: Tap it to search for more information about the current DTC online.

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

C. 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. 5-15, tap "Clear Fault Code", a confirmation dialog box pops up on the screen.



Fig. 5-17

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.

D. 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. 5-15, tap “Read Data Stream”, the system will display data stream items.



Fig. 5-18

On-screen Buttons:

Select Page: Tap it to select all items of the current page.

Select All: Tap it to select all items. 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 "OK" to enter the data stream reading page.

| Name | Value | Standard Range | Unit | English | Metric |
|-------------------------------------|---------|----------------|----------|---------|--------|
| Absolute Throttle Position B | 14.8 | 0-100 | % | | |
| Accelerator Pedal Position D | 24.31 | 0-100 | % | | |
| Accelerator Pedal Position E | 22.35 | 0-100 | % | | |
| Accelerator Pedal Position Sensor 1 | 12.8 | 0-5 | % | | |
| Accelerator Pedal Position Sensor 2 | 0.00 | 0-5 | % | | |
| Ambient Air Temperature | 21 | -40-212 | degree C | | |
| Parameter ID: 0x1000000000000000 | | | | | |
| Next page / Previous page | Up/Down | Left/Right | OK | Report | Reset |
| 1 | 2 | 3 | 4 | 5 | 6 |

Fig. 5-19

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 blue (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.
3. The real time (Live Data) vehicle operating information (values/status) that the on-board computer supplies to the tool for each sensor, actuator, switch, etc. is called Parameter Identification Data (PID).

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.

- ✓ Graph – displays the parameters in waveform graphs.
- ✓ Combine – this option is mostly used in graph merge status for data comparison. In this case, different items are marked in different colors.

On-screen Buttons:

 **Graph(Single):** Tap it to view the waveform.



Fig. 5-20

Compare Sample: Tap it to select the sample DS file, the values you customized and saved in process of DS sampling will be imported into the "Standard Range"(See below) column for your comparison.

*Note: Before executing this function, you have to sample the values of data stream items and save it as a sample DS file.



The screenshot shows the 'Data Streams' screen with a list of six data items. Each item has its current value, standard range, unit, and a 'More' button. The 'Standard Range' column for the first four items is highlighted in yellow.

| Name | Value | Standard Range (in Stream Sample) | Unit | Angle |
|-------------------------------------|------------|-----------------------------------|----------|-------|
| Absolute Throttle Position R | 12.55 | 12.25 - 50 | % | |
| Accelerator Pedal Position D | 15.99 | 8 - 8 | % | |
| Accelerator Pedal Position E | 15.99 | 0 - 12 | % | |
| Accelerator Pedal Position Sensor 1 | 0.78 | 0.78 - 1.08 | V | |
| Accelerator Pedal Position Sensor 2 | 0.4 | 0.38 - 0.48 | V | |
| Ambient Air Temperature | 21 21.0 | 21 - 21 | degree C | |

Fig. 5-21

Save Sample: This item enables you to customize the standard range of live data stream items and save it as DS sample file. Each time you run the data stream items, you can call out the corresponding sample data to overwrite the current standard range.

Tap it to start recording the sample data (*Only data stream items with measurement units will be recorded), and the screen displays as below:



Fig. 5-22

Once recording is complete, tap to stop it and navigate to the data revision screen.

| Name | Min Value | Max Value | Unit |
|-------------------------------------|-----------|-----------|----------|
| Absolute Throttle Position B | 12.55 | 21.96 | % |
| Accelerator Pedal Position D | 0.0 | 27.94 | % |
| Accelerator Pedal Position E | 0.0 | 26.57 | % |
| Accelerator Pedal Position Sensor 1 | 0.76 | 1.28 | V |
| Accelerator Pedal Position Sensor 2 | 0.39 | 0.65 | V |
| Ambient Air Temperature | 21.0 | 21.0 | degree C |

Fig. 5-23

Tap the Min./Max. value to change it. After modifying all desired items, tap "Save" to save it as a sample DS file. All DS files are stored under the "Data Stream Sample" file in "User Info".

Graph: Tap it to view the waveform.



Fig. 5-24

- Combine:** This option is mostly used in graph merge status for data comparison. In this case, different items are marked in different colors (maximum 4 items can be displayed on the same screen simultaneously). If the graph is more than one page, swipe the screen from the left to jump to the next page.



Fig. 5-25

- **Value**: Switches the current graph display mode to Value display mode.
- **Report**: To save the current data in text format. All reports are saved under the tab “Diagnostic Report” in “My Report” from “User Info” menu.
- **Record**: Tap to start recording diagnostic data for future playback and analysis. The file is stored in “My Report” under “User Info” menu.

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

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 “User Info” menu.



Fig. 5-26

Help: Tap to view the help information.

E. Actuation Test

This option is used to access vehicle-specific subsystem and component tests. Available test vary by vehicle manufacturer, year, and model.

During the actuation test, the tablet outputs commands to the ECU in order to drive the actuators, and then determines the integrity of the system or parts by reading the ECU data, or by monitoring the operation of the actuators, such as switching a injector between two operating states.

In Fig. 5-15, tap “Actuation Test”, the system will display as follows:



Fig. 5-27

Simply follow the on-screen instructions and make appropriate selections to complete the test. Each time when an operation is successfully executed, “Completed” displays.

5.3 Remote Diagnosis

This option aims to help repair shops or technicians launch instant messaging and remote diagnosis, making the repair job getting fixed faster.

Tap “Remote Diagnosis” on the Job menu, the screen appears blank by default.

5.3.1 Interface Layout



Fig. 5-28

| | | |
|---|--------------------------|---|
| 1 | Home button | Tap it to navigate to the Job menu screen. |
| 2 | Search bar | Directly input the username of the tablet to start searching, and then tap the desired one to add it into your friend list. |
| 3 | Friend list display area | By default it appears blank. |
| 3 | Message tab | Once an incoming message reaches, a red dot will appear on the upper right corner of the tab. |
| 4 | Contact tab | Tap to enter the friend list. |
| 5 | WEB Remote switch | Tap to slide the switch to ON, the tablet keeps online and becomes accessible on the web client. In this case, inform the technician of your product S/N, and he/she will control your tablet remotely. |

5.3.2 Add Friends

Tap “Contact” to enter the contact page. By default it appears blank.

In the search bar, input the partner’s username and tap “Search” button next to the search bar to starts searching from Launch’s golo business database.

*Note: The partner must be the users who have registered their Launch’s diagnostic tools. They may be the following:

- Workshop
- Technician
- golo users

Once the result matches the keyword, a screen similar to the following will appear:

*Note: Here you can tap “Remote Diagnose” to launch remote diagnostics directly or choose to add the partner into the Contacts list.



Fig. 5-29

There are two methods available for you to add the partner into the Contacts list.

Method 1:

Tap the desired partner's avatar from the list, the following screen appears:

*Tips: If you intend to chat with the partner, just tap the desired partner's name.



Fig. 5-30

Tap "Add friend", a dialog box pops up:



Fig. 5-31

Tap “CONFIRM” to send your request.

Method 2:

Tap the desired partner's name from the list to enter into the instant messaging mode.

Tap  to call out more function options.

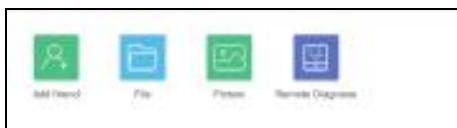


Fig. 5-32

Tap “Add friend”, a dialog box pops up:



Fig. 5-33

Tap “CONFIRM” to send your request.

Once the partner receives the request, a beep will sound. Tap the “Message” tab:

- Once the partner agreed your request, he/she will automatically be listed in the Contact tab.
- If a technician sent you a friend request, you can tap “Agree” to confirm and his/her name will appear in the friend list (Contact). Or tap “Ignore” to ignore this request.

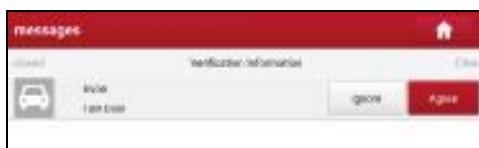


Fig. 5-34

5.3.3 Start Instant Messaging

Note: The I/M (Instant Messaging) function is open to all users who had Launch's diagnostic tool equipped with this module.

After adding your friends, tap the desired partner' avatar to enter a screen similar to the following (Alternatively, you also can directly tap the partner's name from the search result list):



Fig. 5-35

Tap the input field and use the on-screen keyboard to enter the text message, and then tap "Send" to send it.

Tap to send the emoji.

Tap to call out more function options.

Tap "Clear" to delete all the partner's dialog logs.

Tap "Close" to close the current dialog.



Fig. 5-36

File: Choose diagnostic reports or local files to send.

Picture: Choose screenshots or pictures to send.

Remote Diagnostic: To start a remote diagnostic session. For details, refer to Chapter 5.3.4.

5.3.4 Launch Remote Diagnosis (Device-To-Device)

The tablet is allowed to launch remote diagnosis with other diagnostic tools (including but not limited to the X-431 PRO GT) of Launch family, which are equipped with this module.

* Note: Before performing this operation, please make sure the following no matter which side sends the remote request:

- Turn on the vehicle power supply.
- Throttle should be in a closed position.
- The VCI dongle should be properly connected to the vehicle's DLC and a successful communication is required.

In Fig. 5-36, tap "Remote Diagnostic", a pull-down menu including the following options appears:



Fig. 5-37

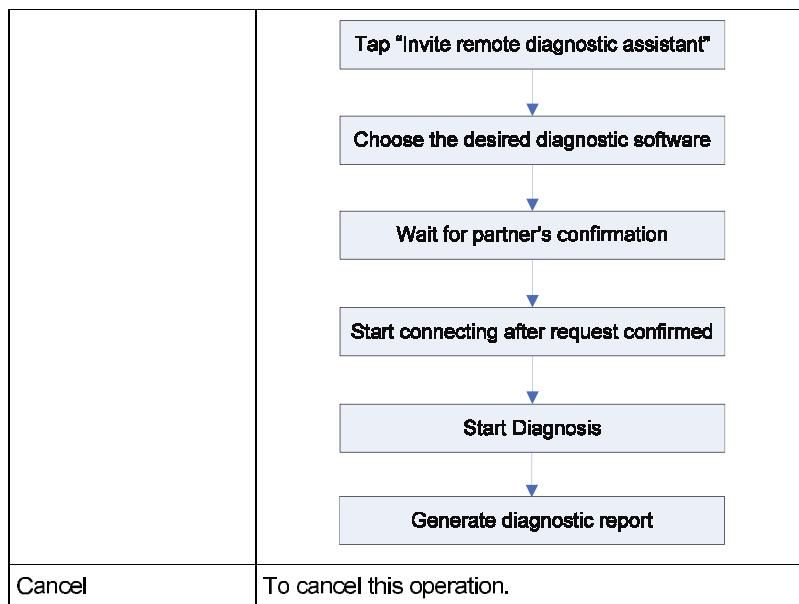
These options are defined as follows:

| Actions | Results |
|-------------------------------|--|
| Request control remote device | <p>Request to control the partner's device remotely to help him diagnose the vehicle.</p> <p>*Notes:</p> <ul style="list-style-type: none">• Remote diagnosis has the same diagnostic steps as manual diagnosis.• Once vehicle diagnosis is complete, a report will be created. Input your comments on this report, and then tap "Send Report" to send it to the partner. |

| | |
|------------------------------------|--|
| | <pre>graph TD; A[Tap "Request control remote device"] --> B[Wait for partner's confirmation]; B --> C[Start connecting after request confirmed]; C --> D[Start Diagnosis]; D --> E[Generate diagnostic report]</pre> |
| Invite remote diagnostic assistant | <p>If you need support, just use this option to invite a technician to perform a remote control on your tool.</p> <p>*Notes:</p> <ul style="list-style-type: none">• Remote diagnosis has the same diagnostic steps as manual diagnosis.• Once you received the report from the partner, tap “View Report” to view details. All diagnostic reports are saved under the “Remote Diagnostic Reports” tab of “My Reports” in “User Info”.  |

LAUNCH

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5.3.5 Launch Remote Diagnosis (Device-To-PC)

Except that the remote diagnosis can be done between different Launch's diagnostic tools that come loaded with the module, user also can ask for remote control from PC client technician.

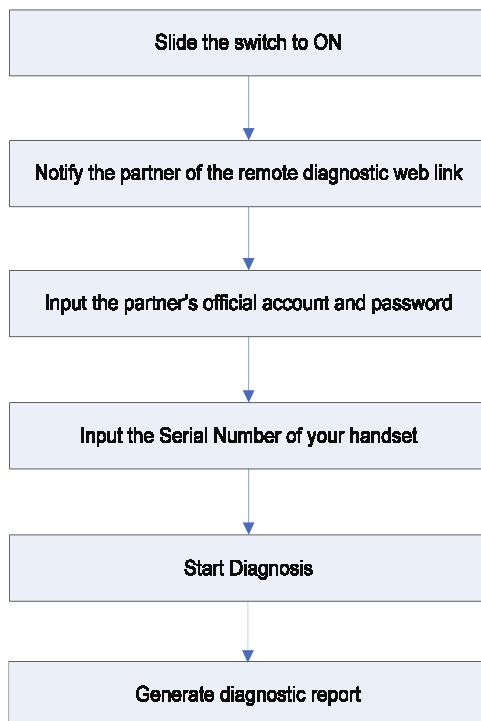


Fig. 5-38

Tap the "Web Remote" tab, the screen displays as follows:



Fig. 5-39

1. Slide the switch “Allow device to be connected to the WEB client remote diagnostic device” to ON so that the partner can find and connect to this device while using the PC.
2. Notify the partner of the PC client website <http://remote.x431.com/cn/>. When the partner accesses the link, the PC displays as below:
*Note: Before processing remote diagnosis, please make sure the tablet is properly connected to the vehicle.

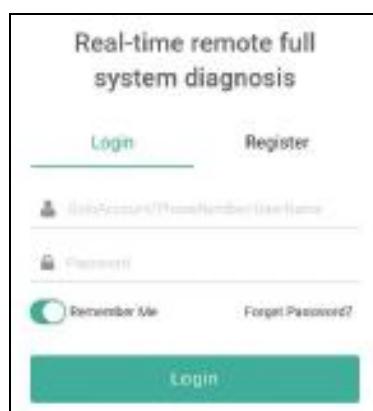


Fig. 5-40

3. Tell the partner to input his own official technician account and password, and then tap “Login” to navigate to the following figure.

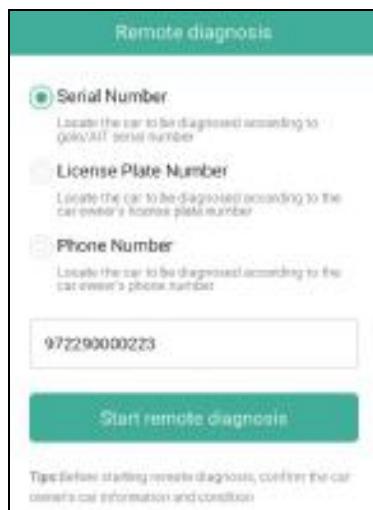


Fig. 5-41

4. Tell the partner to check the box "Series number" and enter the Serial Number provided by you, and then tap "Start remote diagnosis" to control your device remotely.

In process of remote diagnosis, please note the following things:

- 1) You are not suggested to execute any actions.
- 2) The partner is not allowed to save any diagnostic reports or records on your tablet.

The operations in remote diagnosis are same as those in local diagnosis. Once the session is complete, a remote diagnostic report will be automatically generated.

5.4 How to view diagnostic history?

Generally once a vehicle diagnosis is performed, the tablet will record the every details of diagnostic process. The History function provides direct access to the previously tested vehicles and users can resume from the last operation, without the necessity of starting from scratch.

Tap “Diagnostic History” on the Job menu screen, all diagnostic records will be listed on the screen in date sequence.

- Tap certain vehicle model to view the details of the last diagnostic report.
- To delete certain diagnostic history, select it and then tap “Delete”. To delete all historical records, tap “Select All” and then tap “Delete”.
- Tap “Quick access” to directly navigate to the function selection page of last diagnostic operation. Choose the desired option to proceed.

5.5 How to feedback diagnostic logs?

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

Tap “Feedback”, the following 3 options will be displayed on the left column of the screen.

A. Feedback

Tap a tested vehicle model to enter the feedback screen.

- 1) Tap “Choose File” to open the target folder and choose the desired diagnostic logs.
- 2) Choose the failure type and 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. History

Tap it to view all diagnostic feedback records. Different process states are marked with different colors.

C. Offline list

Tap it to display all diagnostic feedback logs which have not been submitted successfully due to network failure. Once the handset gets a stable network signal, it will be uploaded to the remote server automatically.

6 Special (Reset) Function

In addition to amazing & powerful diagnostic function, the tablet 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.

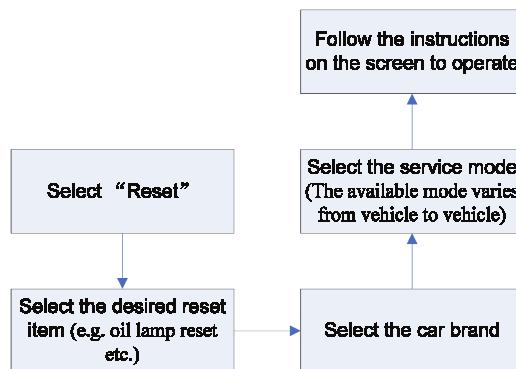


Figure 6-1

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 Software Update

This module allows you to update the diagnostic software & App and set frequently used software.

If you did not download the software in process of product registration or a pop-up message prompting you that some new software can be updated, you may use this option to download it or keep it synchronized with the latest version.

7.1 Update Diagnostic Software & APP

Tap “Software Update” on the Home screen to enter the update center.

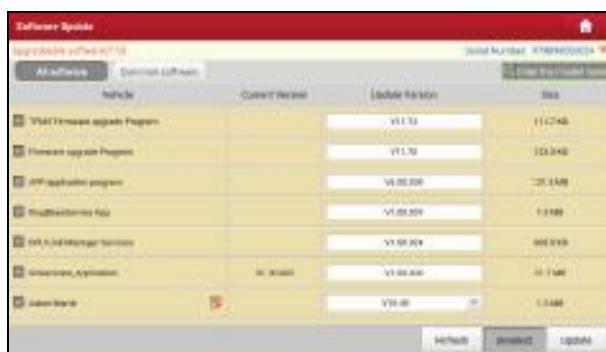


Fig. 7-1

By default, all diagnostic software is selected. To deselect certain software, tap "Unselect", and then check the box next to vehicle model. Tap "Update" to start downloading. It may take several minutes to finish it, please be patient to wait. To pause downloading, tap "Stop". To resume it, tap "Continue". If network connection failure occurs, tap "Retry" to try again.

Once download is finished, the software packages will be installed automatically.

7.2 Set Frequently Used software

To easily locate and quickly update some frequently used software, you can use the "Common Software" option to create a frequently used software list.



Fig. 7-2

Tap “+” on the right edge of the screen, a pop-up window appears. Select the checkbox before the software name and tap “SAVE”, the software will be displayed in the Common software list. Next time you want to update it, just go to “Common Software”.

7.3 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.

Tap “Renewal” to navigate to the payment screen.

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. Tap “Renewal” on the update page to navigate to the renewal type selection screen.
2. Select “PayPal”, and then follow the on-screen instructions to finish the transaction.
3. After payment, go to update center to update the diagnostic software.

B. Using Subscription Renewal Card

1. Tap “Renewal” to navigate to the renewal type selection screen.
2. Select “Subscription Renewal Card”.

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

8 Other Modules

8.1 Email

The function allows you to send and receive email.

*Note: Before sending or receiving email, you have to set up an email account. In addition, this function required a stable network connection.

1. On the Job Menu, tap **Other Modules** > **Email**.
2. Input the **Email** address, tap **NEXT**.
3. Choose the desired email account type.
4. Input the password, tap "Next".

*Note: If "Manual setup" is selected, please consult your email service provider for detailed parameter setting.

5. Follow the on-screen instructions to proceed until the system prompts you that the account setup has been finished.

8.2 System OTA Upgrade

An Over-the-Air (OTA) update is the wireless delivery of new operating system, software or data to tablets and mobile phones. Wireless carriers have traditionally used over-the-air updates to deploy firmware and configure phones or tablets for use on their network. The initialization of a newly purchased tablet required an over-the-air update.

*Note: While performing OTA update, please make sure the tablet battery has at least 70% and DO NOT run any other programs during the update.

1. On the Job Menu, tap **Other modules** > **System OTA Upgrade**.
2. Tap "Check the Latest Version". Once a newer version is found, follow the on-screen instructions to download and install the update file.
3. Be patient to wait until the update is done.

8.3 ES File Explorer

ES File Explorer is a file and application manager. You can access and create folders on the tablet without needing to connect it to a computer.

The app also features an application manager, task killer and download

manager. Another excellent feature is support for cloud storage accounts. This means you can download files directly to the folders you want without using a separate app.

The app has built-in ZIP and RAR sources, so you can access compressed files without unpacking them on your computer first.

For more information, please refer to the associated ES file explorer documents.

8.4 Album

This function allows you to take new pictures and manage the picture library (including screenshots).

9 User Info

This function allows users to manage personal information and VCI dongle.

9.1 My Report

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

Tap “**My Report**”, there are total 3 options available.

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

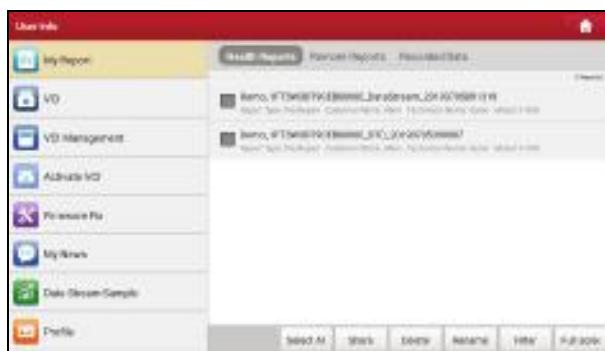


Fig. 9-1

- To select certain report, check the box before the report. To select all reports, tap “Select All”. To deselect all, tap “Unselect”.
- To change the filename of report, tap “Rename”.
- To share the report with others, select the desired one and then tap “Share”.
- Select the desired report and then tap “Delete” to delete it.

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

Tap the desired one to enter, and select the desired data stream items and tap “OK” to jump to the playback page.



Fig. 9-2

On-screen Buttons:

Graph – displays the parameters in waveform graphs.

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

Combine – this option is mostly used in graph merge status for data comparison. In this case, different items are marked in different colors.

Frame Playback – plays back the recorded data stream items frame by frame. Once it is in frame playback mode, this button changes into "Auto Playback".

Remote Reports lists all diagnostic reports generated in process of remote diagnosis.

9.2 VCI

This option allows you to manage all your activated VCI dongles.

If several VCI dongles 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 VCI Management

This option is used for the tablet to deactivate pairing up with the VCI dongle.

* Note: please be sure to keep the VCI dongle powered on while performing the operation.

9.4 Activate VCI

This item lets you to activate a new VCI dongle.

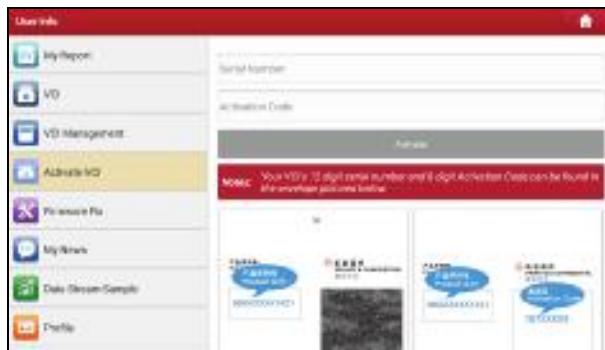


Fig. 9-3

Input the Serial Number and Activation Code, and then tap "Activate" to activate the VCI dongle.

For details on how to obtain Activation Code, tap the link below to get help.

9.5 Firmware Fix

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

9.6 My News

This option allows you to receive some commercial and promotional activity messages.

9.7 Data Stream Sample

This feature allows you to manage the recorded data stream sample files.

9.8 Profile

Use this item to view and configure personal information.

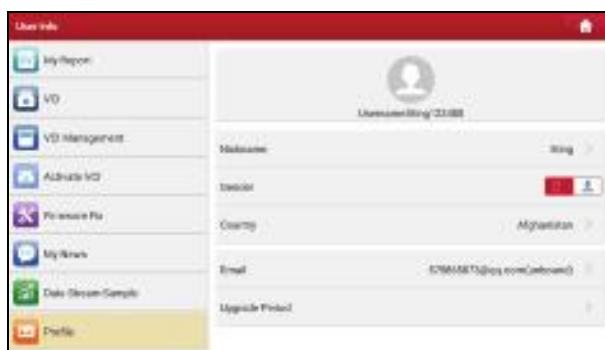


Fig. 9-4

- Tap the user image to change it.
- Tap > next to "Free Upgrade Period" to check the due date of all diagnostic software.

9.9 Change password

This item allows you to modify your login password.

9.10 Settings

It enables you to make some application settings and view software version information etc.

9.10.1 Units of Measurement

It is designed to configure the measurement unit. Metric System and English System are available.

9.10.2 Print Information

This option lets you define your print information. It mainly includes Workshop, Address, Telephone, Fax and License Plate.



Fig. 9-5

After inputting, tap "Save".

Once you saved the print information, it will be entered automatically in the "Add Information" box every time you save the diagnostic report.

9.10.3 Printer Set

This option is designed to establish a wireless connection between the tablet and the Wi-Fi printer (sold separately) while performing printing operations.

Follow the steps below to connect the printer.

1. Tap "Printer Set".

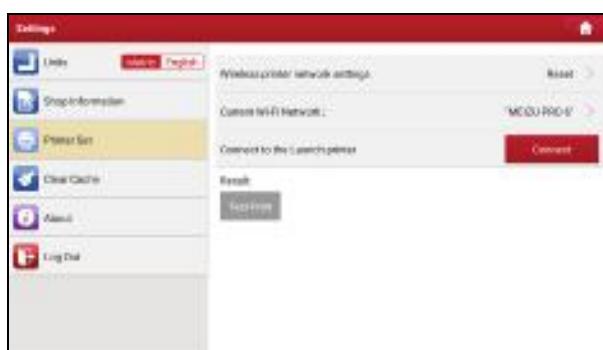


Fig. 9-6

A. If it is the first time you have operated this printer, please proceed the following:

2. For initial use, you are suggested to reset the printer: Press and hold [MODE] & [FEED] for 8 seconds, the following resetting command will be printed out:

```
at + default = 1  
ok  
at + reboot = 1  
rebooting...
```

1. Tap “Reset” to configure Wi-Fi printer.

Step 1: Connect the printer:

Tap “Scan” to start scanning and select the desired printer hotspot named with X-431PRINTER-XXXX (XXXX stands for 4 characters), and then tap “Connect” to enter Step 2.

Step 2: Join the Wi-Fi printer into LAN:

Tap “Scan” to select the desired local Wi-Fi network from the list, and type in the security password (If it is an open network, password is not required), and then tap “Confirm”.

4. Once the Wi-Fi network of the printer is connected and the printer is found, tap “Printing test” to test the printing.

Now you can use the Wi-Fi printer to print!

If the printer is not found, please reset the printer to default factory settings (refer to Step 2 for details) and check whether the current device and the printer are on the same LAN.

B. If you have configured the Wi-Fi printer to the LAN:

2. Tap “Connect to Printer”:

- a). If the local network remains as it is, tap “Test Print” directly to test the printing.
- b). If the local network changes, you have to reset the Wi-Fi printer.

9.10.4 Clear Cache

This item is used to clear the App cache.

Tap “Clear Cache”, a pop-up window will appear on the screen. Tap “OK” to clear cache and the system will restart the App.

9.10.5 About

The software version information and disclaimer are included.

9.10.6 Login/Logout

To logout the current user ID, tap “Logout”.

To login the system again, tap “Login”.

9.11 Diagnostic Software Clear

This item allows you to hide/clear the diagnostic software that is not frequently used.

Tap “Diagnostic Software Clear” to enter.

Under the “Hide Software” tab, select the desired software logo (a “Checkmark” will show in the checkbox located at the lower right corner) and tap “Hide”, it will become invisible. Tap “Unhide” to undo the hide operation.

Under the “Remove Software” tab, select the desired software logo and tap “Delete”, it will disappear from the screen.

*Note: Removing software may completely delete the software from the tablet. If some software is not used and the tablet runs out of space, you can use this feature to remove it. To re-download it, go to “Update” -> “All Software”.

10 FAQ

1. How to save power?

- Please turn off the screen while the tablet 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?

 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 “Tablet 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 register your X-431 PRO GT or new VCI dongle?

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

- A. If this is the first time using the tablet, please refer to "Chapter 4.2.1" in the user manual for product registration.
- B. If you have activated a VCI dongle before, but bought a new VCI dongle 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 "User Info" -> "Activate VCI".
 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, tap "User Info" -> "VCI" to check if the activated VCI dongle is displayed in the connector list or not. Multiple VCI dongles can be bound to one tool. If you intend to use one of the VCI dongles to diagnose or test a vehicle, just switch to the corresponding VCI dongle.

6. How to update the APK and diagnostic software?

1. On the home screen, tap "Software Update".
2. Tap "Update" on the bottom of the screen to start the download. During the upgrade, please make sure the tablet has a stable network connection.

7. How to pair the VCI dongle with the tablet?

Users can pair the VCI dongle with the tablet via Bluetooth when testing the vehicle or in system settings.

1. Turn the ignition on.
2. Plug the VCI dongle (or use the OBD-II extension cable to connect the VCI dongle and the VCI) into the vehicle's DLC.
3. On the home screen, tap **Tablet Setting -> Bluetooth**.
4. Set Bluetooth to "ON". The tablet will search for all the available Bluetooth devices automatically.
5. Tap the name of the connector (98*****00, where ***** stands for 8 digits) to start pairing. Input the Bluetooth request code (default value: 0000 or 1234) if necessary. Once the pairing is properly done, the system will display it as a paired device.

8. How to retrieve the login password?

Please follow below steps to proceed in case you forgot the login password:

1. Tap [Login] button on the upper right corner of the home screen.



2. Tap "Retrieve password".
3. Input product S/N and follow the on-screen prompts to retrieve the password.

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

If you have any questions or comments please forward them to:

Phone: [+86 755 8455 7891](tel:+8675584557891)

Email: overseas.service@cnlaunch.com

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>

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.