D5S Smart Diagnostic System

USER MANUAL



Xtoolonline

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XTOOL® also reserves the right to make changes at any time without prior notice.

IMPORTANT:

Before you start using or maintaining this unit, make sure to read this manual thoroughly. Pay close attention to the safety warnings and precautions provided.

Product Support Information

Technical Assistance

Website: https://www.xtoolonline.com

Mail: support@xtoolonline.com

ADD: Room 601, Block A, Zaoan Bussiness Building, Shigu Road, Xili Residential District, Nanshan District, Shenzhen

Corporate & Business: business@xtoolonline.com, sales@xtoolonline.com

Manuals / Technical Documentation

This manual is periodically revised to ensure the latest information is included.

Product Training Videos

Diagnostic Tool specific training videos are available on our website. Follow along and learn the basics of Diagnostic Tool operation with our free training videos.

Videos are product specific and are available at: https://www.xtoolonline.com /support/product-videos Click on the "Support"- "Product Videos"-"Diagnostic Tools" tab, select the applicable Diagnostic Tool, then select the training video you want to watch.

Safety Information

For your safety, the safety of others, and to prevent damage to devices and vehicles, it is crucial to read and understand all safety instructions presented in this manual before operating or coming into contact with the device.

General Safety Instructions:

- Read and Understand: Ensure that all operators and individuals in the vicinity of the device have read and understood the safety instructions.
- Proper Use: Only use the device as described in this manual. Always adhere to the safety messages and test procedures provided by the vehicle or equipment manufacturer.

- Knowledge and Skill: The automotive technician must be knowledgeable about the system being tested. Familiarize yourself with proper service methods and test procedures.
- Acceptable Testing Practices: Perform tests in a manner that ensures your safety, the safety of others, and prevents damage to the device and the vehicle.

Specific Responsibilities:

- Refer to Manufacturer Guidelines: Always consult and follow the safety messages and applicable test procedures from the vehicle or equipment manufacturer before using the device.
- Use Appropriate Tools and Techniques: Due to the variety of test applications and product variations, it's important to use the correct tools and techniques for each specific task.
- Anticipate Safety Requirements: While this manual provides comprehensive guidance, it cannot cover every potential situation. Technicians must be prepared to handle unforeseen circumstances safely.

By adhering to these guidelines and responsibilities, you can ensure a safe and effective working environment while using the device.

Safety Messages

Safety messages are included to prevent both personal injury and damage to equipment. Each safety message begins with a signal word that indicates the level of hazard involved.

 **Danger**

This signal word indicates "an imminently hazardous situation which, if not avoided, will result in death or serious injury to the operator or to bystanders."

 Warning

This signal word "indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury to the operator or to bystanders."

Safety Instructions

The safety messages provided here address situations that XTOOL is aware of. XTOOL cannot anticipate, evaluate, or provide advice on all potential hazards. You must be certain that any condition or service procedure encountered does not jeopardize your personal safety.

Danger

When the engine is running, ensure the service area is well ventilated or connect a building exhaust removal system to the engine exhaust. Engines emit carbon monoxide, a colorless and poisonous gas that can impair reaction times and lead to serious injury or even death.

Safety Warnings

Safe Environment: Always perform automotive testing in a safe environment.

Eye Protection: Wear safety eye protection that meets ANSI standards.

Avoid Hazards: Keep clothing, hair, hands, tools, and test equipment away from all moving or hot engine parts.

Ventilation: Operate the vehicle in a well-ventilated work area to avoid inhaling poisonous exhaust gases.

Transmission and Brakes: Put the transmission in PARK (for automatic) or NEUTRAL (for manual) and ensure the parking brake is engaged.

Wheel Blocks: Place blocks in front of the drive wheels and never leave the vehicle unattended while testing.

Ignition System Caution: Be extra cautious around the ignition coil, distributor cap, ignition wires, and spark plugs, as these components generate hazardous voltages when the engine is running.

Fire Extinguisher: Keep a fire extinguisher suitable for gasoline, chemical, and electrical fires nearby.

Test Equipment Connections: Do not connect or disconnect any test equipment while the ignition is on or the engine is running.

Clean Equipment: Keep the test equipment dry, clean, and free from oil, water, or grease. Use a mild detergent on a clean cloth to clean the outside of the equipment as necessary.

No Driving While Testing: Do not drive the vehicle and operate the test equipment simultaneously to avoid distractions that may cause an accident.

Service Manual Reference: Refer to the service manual for the vehicle being serviced and adhere to all diagnostic procedures and precautions. Failure to do so may result in personal injury or damage to the test equipment.

Battery Check: Ensure the vehicle battery is fully charged and the connection to the vehicle DLC is clean and secure to avoid damaging the test equipment or generating false data.

Avoid Electromagnetic Interference: Do not place the test device on the vehicle's distributor, as strong electromagnetic interference can damage the device.

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1. Introduction

The XTOOL D5S vehicle scanner is an essential tool for DIY enthusiasts addressing common automotive issues such as engine, transmission, ABS, and SRS systems. This advanced diagnostic device efficiently identifies and clears fault codes while analyzing data streams to ensure timely detection of problems.

The D5S features an upgraded dual-core 1.2GHz CPU, 128MB RAM, and 32GB of expandable ROM, all operating on a user-friendly Linux system, complemented by a robust 3150mAh 3.6V battery for extended usage between charges.

It includes 15 highly sought-after maintenance services, all with lifetime free updates, such as Oil Light Reset, EPB, SAS, DPF, BMS Reset, Throttle, TPMS Reset, ABS Bleeding, Injector Coding, Gearbox Matching, Suspension, Window Initialization, Headlight, EGR Relearn, and Gear Learning.

Additionally, the D5S allows users to view up to four data streams simultaneously in a single interface, presented graphically for easy comparison, enabling informed and precise decision-making. With free lifetime updates, users can stay current with the latest parameters, vehicle models, and functionalities—eliminating the need for annual software fees.

This chapter introduces the basic features of the Diagnostic Tool, including the control buttons, data ports, battery pack, and power sources. Technical Specifications are provided at the end of this chapter.

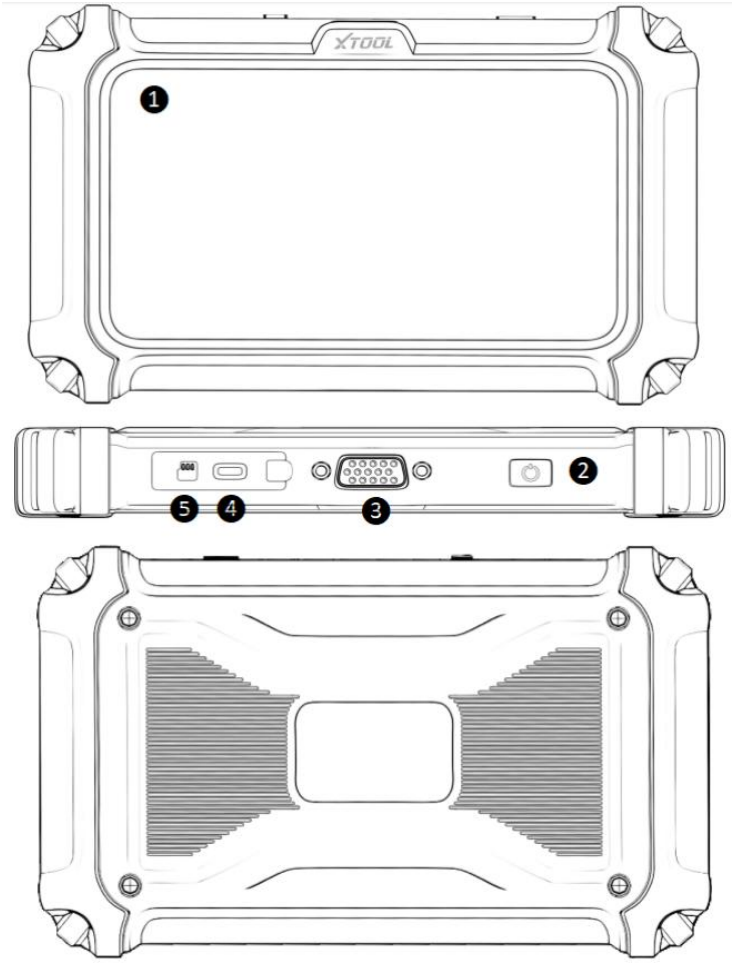
1.1 Data and Power Connections



1.2 Battery Pack



1.3 Main Ports of The Tablet



❶ 5-inch Touch Screen

❷ Power Button

❸ VGA15PIN-Port

❹ Type-C Port

❺ Memory card slot

1.4 Power Sources

The XTOOL D5S Diagnostic Tool can receive power from the following three methods:

- Internal Battery Pack
- AC Power Supply
- 12-Volt vehicle power

1.5 Internal Battery Pack

The D5S Diagnostic Tool can be powered from the internal rechargeable battery pack. A fully charged battery provides sufficient power for about 3.5 hours of continuous operation.

Battery charging occurs when the Diagnostic Tool is connected to the AC Power Supply and to a live AC power source.

1.6 AC Power Supply

You can power the Diagnostic Tool by connecting it to a standard AC outlet using the AC power supply. The connector at the end of the output cable from the AC power supply should be plugged into the DC power supply input jack located on the top of the Diagnostic Tool. It's important to use only the AC power supply that was provided specifically for this purpose to ensure proper and safe operation of the tool.

1.7 12-Volt Vehicle Power

Locate the vehicle's OBDII port, which is typically found beneath the driver's seat, near the steering wheel. Insert the 16-pin connector of the OBDII cable into the vehicle's OBDII port, and connect the 15-pin end of the OBDII cable to the device, tightening the nut to ensure a secure connection.

1.8 Technical Specifications

Item	Description/Specification
Display	5.45 Inch(1440*720 Resolution）
Operating System	Linux
Protocols Supported	CAN FD/FCA
Processor	Dual-core 1.2GHz
Memory	128M+32G (support memory expansion 128G)
Connectivity	Type-C
Operating Method	Flat Panel Touchscreen
Upgrade Method	Device Connects to Wi-Fi for Online Upgrade
Battery	3150mAh 3.6V
Wi-Fi	2.4G/5Ghz
Tested Battery Life	3.5 Hours
Dimensions	19.5*2.8*11.5(CM)
Free Renewal Update	Lifetime
Charging Method	Type-C Charging
Sensor	Gravity/ Light Sensor
Audio	Microphone
Speaker	Built-In Speaker
Weight(Including Battery)	0.4KG
Gross Weight	0.84KG
Operating Temp Range(Ambient)	-4°F ~ 140°F (-20°C ~ 60°C)
Storage Temp(Ambient)	-40~158°F (-40~70°C)
Operating Humidity	<90%

1.9 What's In The Box

Name	QTY
D5S	1
VAG to OBD-II-16 Main Cable	1

Quick Guide	1
Packing List	1
Color Carton	1
USB Type-C Main Cable	1

2. Getting Stared

Ensure that the Diagnostic Tool is adequately powered by either checking its battery status or connecting it to an external power supply (refer to Power Sources on page 2 for details).

NOTE:

The images and illustrations depicted in this manual may differ from the actual ones due to color discrepancies and image reproduction quality.

Turn on/off or Force Shutdown

The following sections explain how to turn the XTOOL D5S Diagnostic Tool on and off, as well as how to perform an emergency shutdown.

2.1 Turning On

To turn on the XTOOL D5S Diagnostic Tool, press and hold the power button located on the top right of the device for approximately five seconds. The tool will automatically power on if the internal battery pack has sufficient charge or if it is connected to an AC power supply. If the internal battery pack is completely drained, you need to charge it for more than 6 hours and then turn it on again.

2.2 Turning Off

To turn off the XTOOL D5S Diagnostic Tool, press and hold the power button for more than three seconds. The tool will then automatically power off.

IMPORTANT:

Before turning off the XTOOL D5S Diagnostic Tool, make sure to terminate all vehicle communications. If you try to power off the tool while it is still communicating with the vehicle, a warning message will appear. Forcing a shutdown during communication could potentially cause issues with the ECM (Engine Control Module) on certain vehicles. It's crucial never to disconnect the DBD-15 main cable while the Diagnostic Tool is actively communicating with the vehicle ECM.

2.3 Emergency Shutdown

During normal operation turn the Diagnostic Tool off using the Turning Off procedure above. The emergency shutdown procedure should only be used if the Diagnostic Tool does not respond to navigation or control buttons or operates erratically. To force an emergency shutdown, press and hold the Power button for at least five seconds.

IMPORTANT:

Using the emergency shutdown procedure while communicating with the vehicle ECM may cause issues with the ECM on some vehicles.

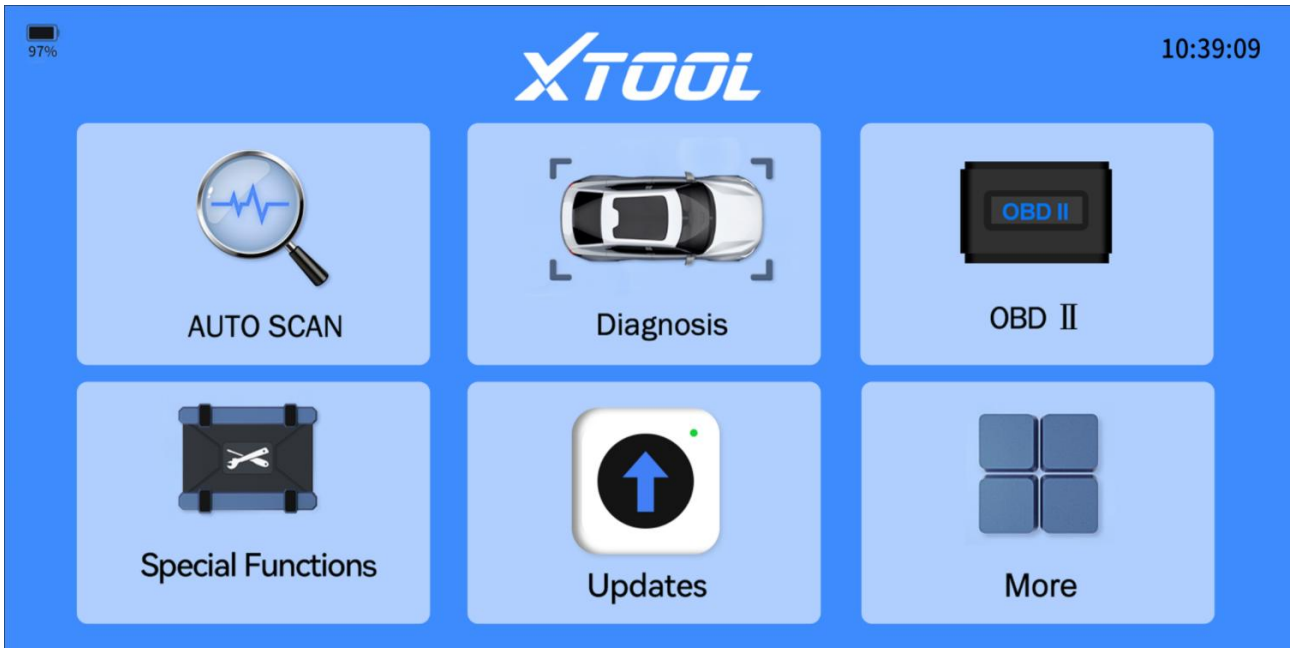
3. Get to Know the Diagnostic Tool

This chapter details the layout and icons of the diagnostic screen of the tablet used with the Diagnostic Tool.

3.1 Screen Layout & Screen Icons

When you turn on the Diagnostic Tool, you will see the diagnostic screen appear. The following section provides details about the layout of the diagnostic screen.

3.2 Screen Layout



3.3 Screen Icons

3.3.1 Auto Scan

The Diagnostic Tool automatically detects and decodes the VIN (Vehicle Identification Number), then proceeds to scan comprehensively through all available vehicle electronic control modules for diagnostics. This process ensures thorough assessment and identification of potential issues across the vehicle's systems.

3.3.2 Diagnostic

Clicking the "Diagnostic" icon will bring up the diagnostic menu. From there, you can navigate using Auto VIN to automatically detect the vehicle's details or manually input vehicle information such as make, model, year, and configuration for diagnostics. You can perform vehicle diagnostics after selecting the correct model.

3.3.3 OBD-II

OBD-II (On-Board Diagnostics) functions include reading vehicle fault codes, clearing codes, monitoring real-time data (such as engine RPM, vehicle speed, etc.), and detecting emission system issues. These features help quickly diagnose and maintain the vehicle's health.

3.3.4 Special Function

This section covers the most commonly performed maintenance services used by both car repair Do-It-Yourselves and professionals for day-to-day auto maintenance tasks.

3.3.5 Updates

This section allows you to download diagnostic software programs individually or in batches.

3.3.6 More

This section allows you to perform several tasks:

- Set up the user account and workshop profile, if applicable.
- Access firmware information.
- You can view the diagnostic report here.
- Change the language.
- Modify the measurement units during the diagnostic process.
- Etc...

4. How to Diagnose Vehicles

This chapter covers the fundamental operation of the Diagnostic Tool function.

The Diagnostic Tool function enables communication with a vehicle's electronic control systems. This capability allows you to retrieve diagnostic trouble codes (DTCs), view PID data, and perform advanced functions such as resets, relearns, matchings, adaptations, initializations, and more.

4.1 My Vehicles

"My vehicles" function allows you to add the diagnostic programs you use often to save time navigating the vehicles.

Click "Diagnostic" icon on the diagnostic screen, you will see "My vehicles" listed in the top left taskbar. To add diagnostic program that you use often into this section, click the add icon> select the brand of your vehicle> click "completed" to finish adding brands operations.

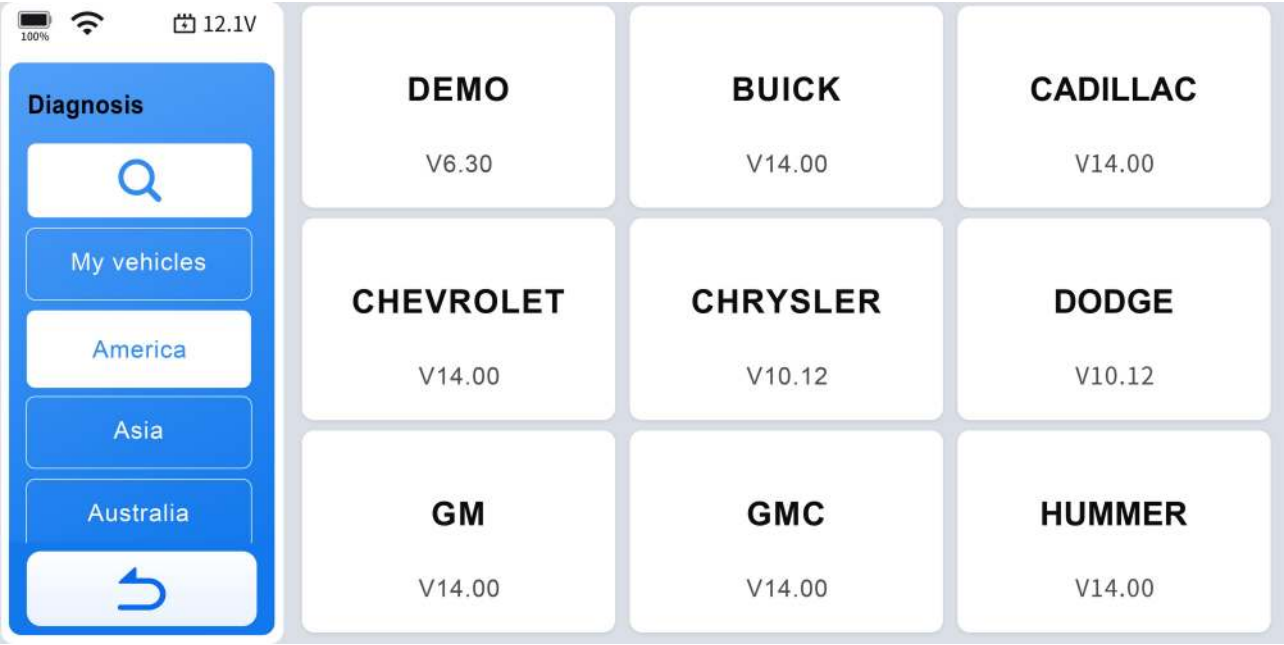
To remove a diagnostic program for "My vehicles" list, click the pen icon select the diagnostic program you want to remove> click "Remove" to finish removing it from the list.

4.1.1 Vehicle Coverage List

To check compatibility, please consult tech support via support@xtoolonline.com at any time or refer to our website: https://www.xtoolonline.com /support/vehicle-coverage (for reference only, subject to confirmation from tech support: support@xtoolonline.com).

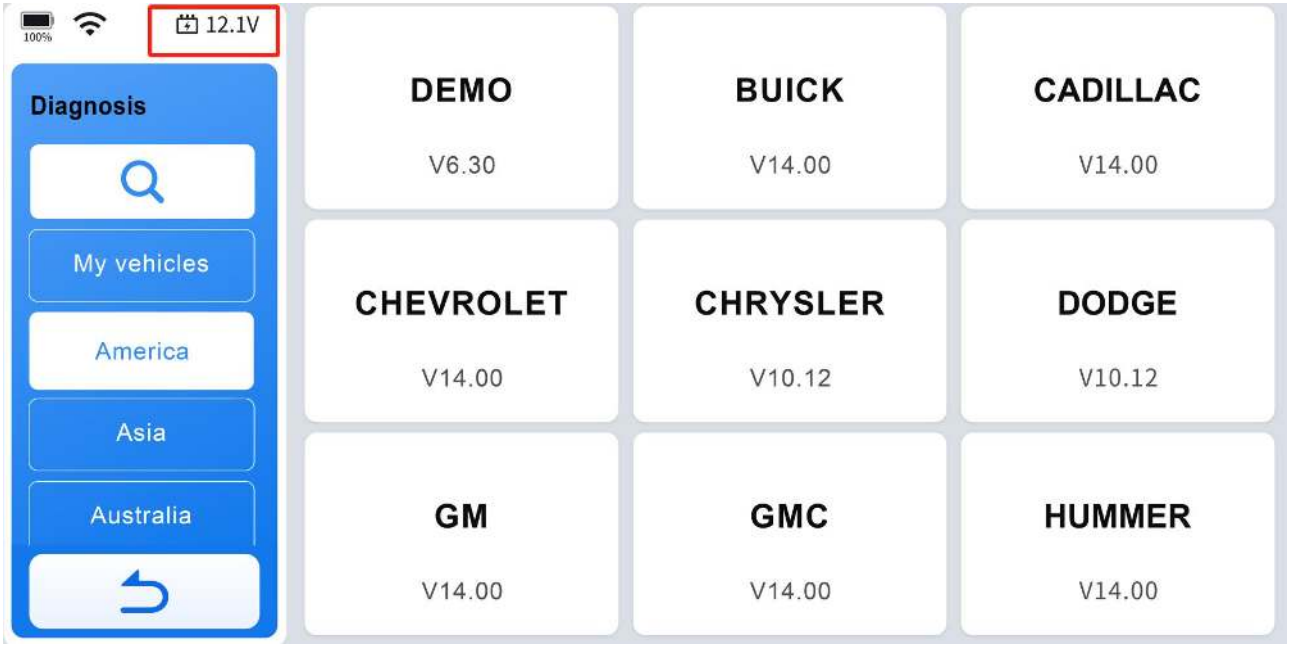
4.2 Software Program Version

This Diagnostic Tool displays the current software program version at the bottom of each vehicle manufacturer's screen. For instance, the current installed BUICK software program is V14.00, as depicted in the picture below:



4.3 Vehicle Voltage Display

The area circled in red in the image shows the real-time voltage of the vehicle's battery, allowing you to monitor the battery voltage while using the device.



4.4 Demo Program

The "DEMO" program simulates the vehicle navigation process, displays available function options, and demonstrates the appearance of the menu. It serves as a training tool to familiarize yourself with the operations and capabilities of the Diagnostic Tool.

IMPORTANT:

The DEMO program may not display the most current vehicle diagnostic procedures or the actual screen interface. It is not intended for checking vehicle coverage or compatibility.

4.5 Wi-Fi Connection

This Diagnostic Tool can connect to 2.4 GHz or 5.0 GHz Wi-Fi or hotspot. Click More> Settings> Wi-Fi connection> Switch on Wi-Fi connection> Select the Wi-Fi you want to connect and enter the password to connect.

If the Wi-Fi connection is unstable, or if you are in an area without access to home Wi-Fi, you can connect to your mobile phone hotspot instead.

How to turn on the mobile hotspot:

● **For iOS users**

Go to Settings> Turn on cellular network> Personal Hotspot> Switch on ''Allow Others to Join'' and ''Maximize Compatibility'' to set up your phone's hotspot. Then, connect the Diagnostic Tool to the hotspot by following the steps mentioned earlier.

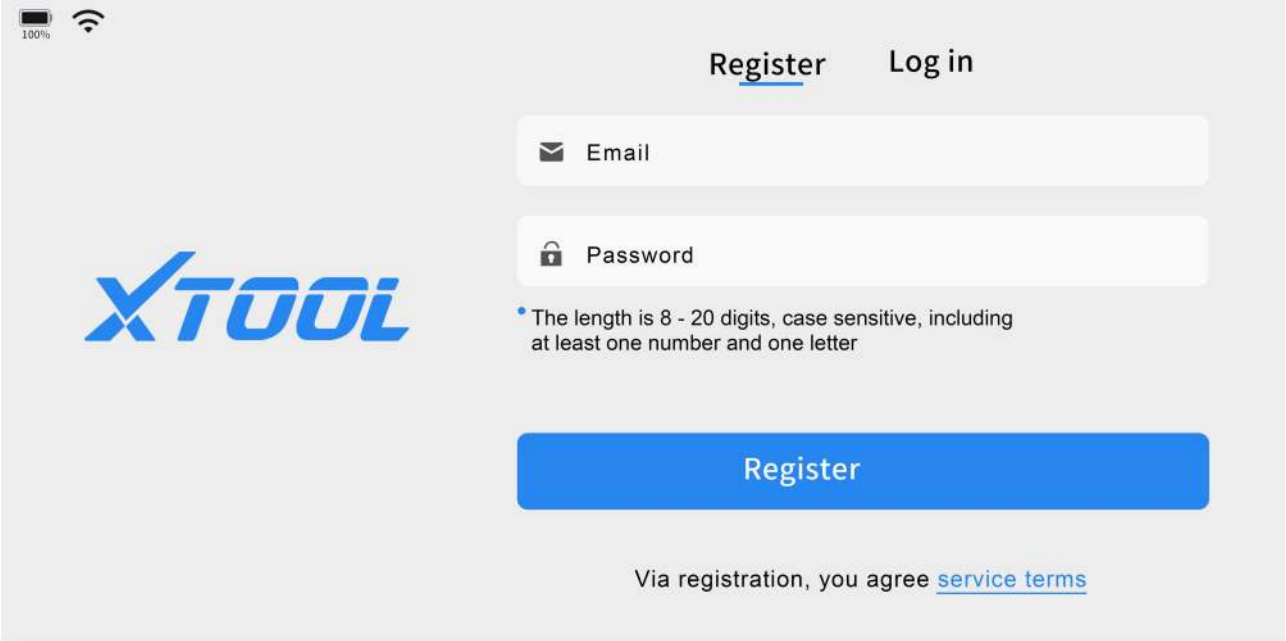
● **For Android users**

Go to Settings> Wireless & networks> Tethering & portable hotspot> Portable WLAN hotspot> Switch on hotspot> Configure WLAN hotspot> Encryption Type> WPA2 PSK. In ''Show Advanced Options,'' ensure that ''Max connections allowed'' has available slots for the Diagnostic Tool.

NOTE:

A Wi-Fi connection is not necessary for diagnostics with most vehicle brands. However, for certain brands, like Peugeot, that require access to an online server for diagnostics, it is essential to connect to Wi-Fi.

4.6 Product Activation



Step 1: Select an available Wi-Fi network.

Step 2: For first-time users, after pressing and holding the power button to turn on the system, the system will automatically enter a guided process and prompt the

user to enter a valid email address and set a login password. Click "Register" to open the registration page. If you have already registered, click the "log in" button and enter your email and password to log in.

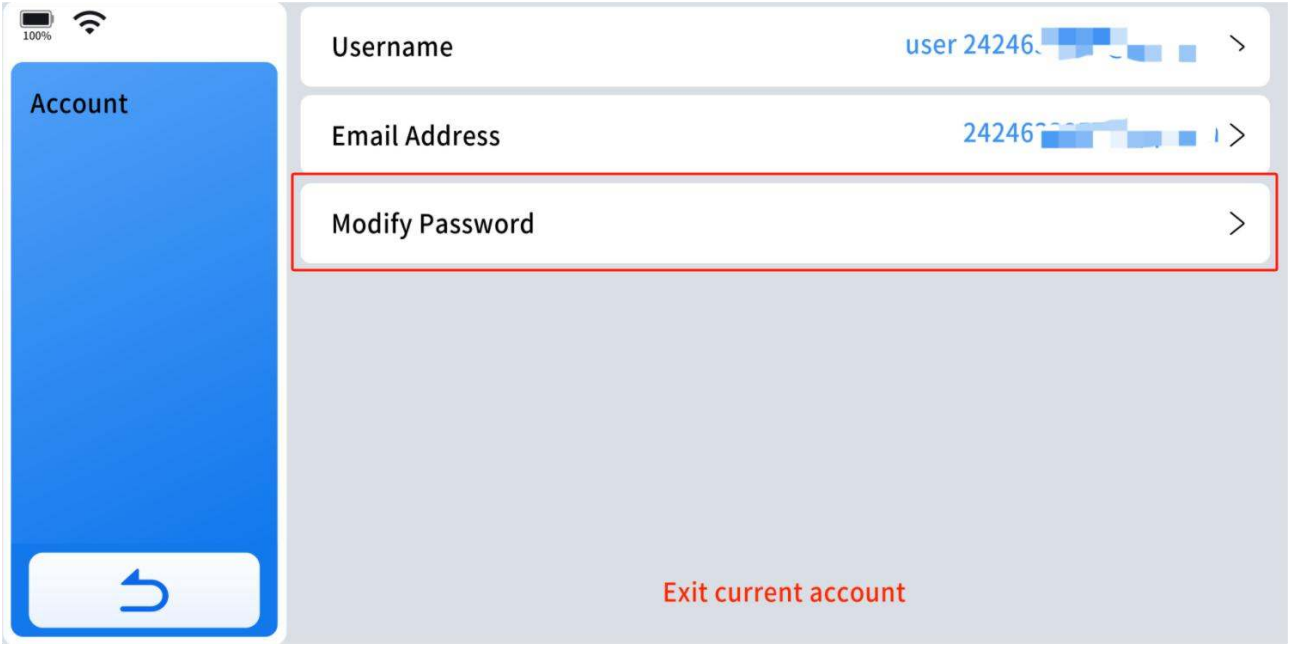
Step 3: Click "Start to use" to enter the diagnostic system and begin using the device.

NOTE:

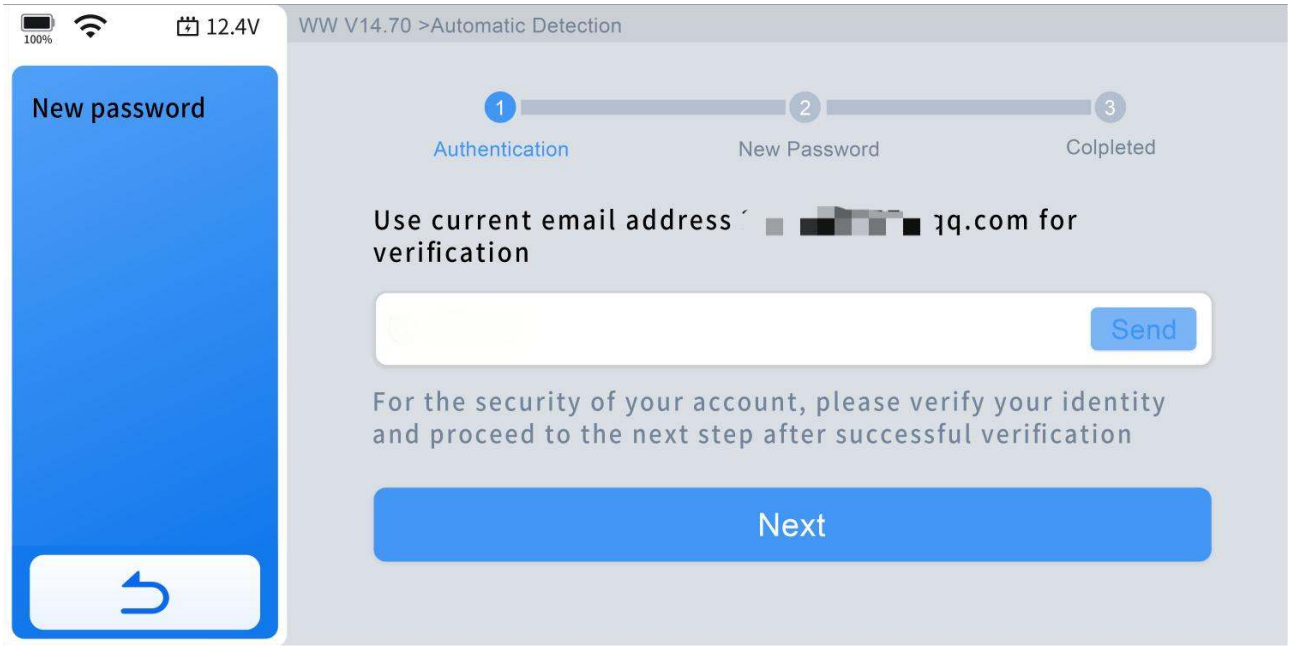
If you are unable to register the Diagnostic Tool or you can't see the activation screen, contact our support team via support@xtoolonline.com.

4.6.1 Verification Code

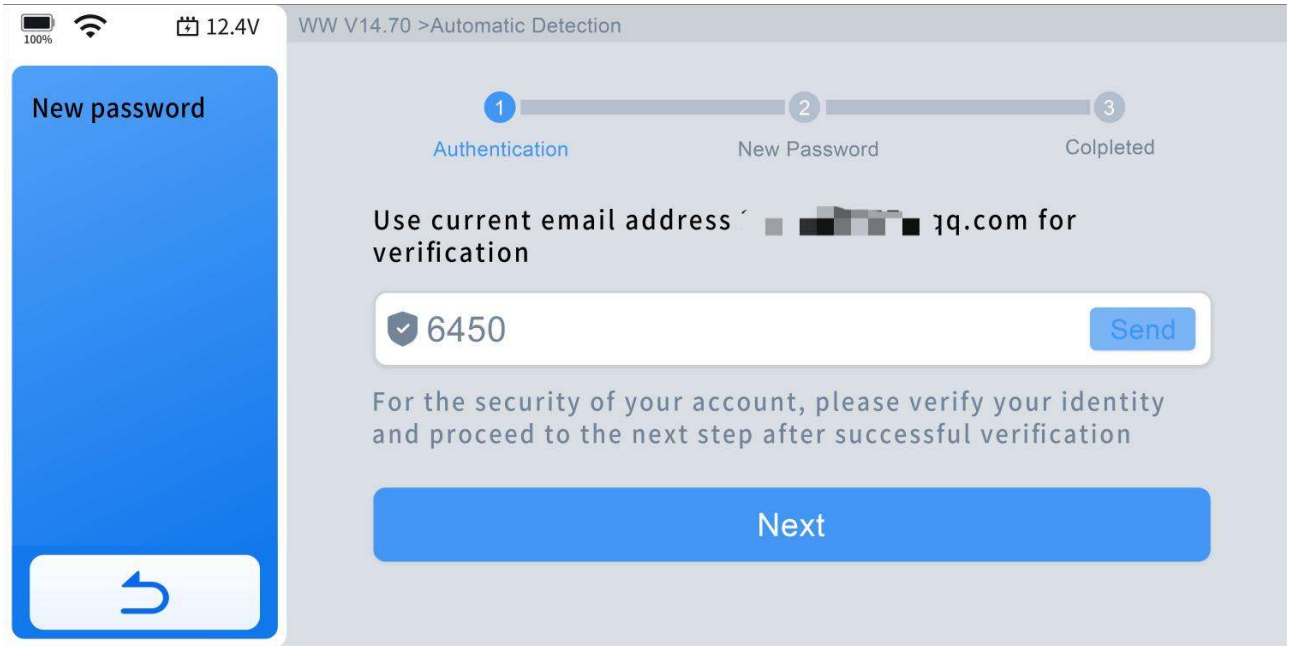
Step 1: If you forget your password, enter More menu, click "Profile-Account-Modify password".



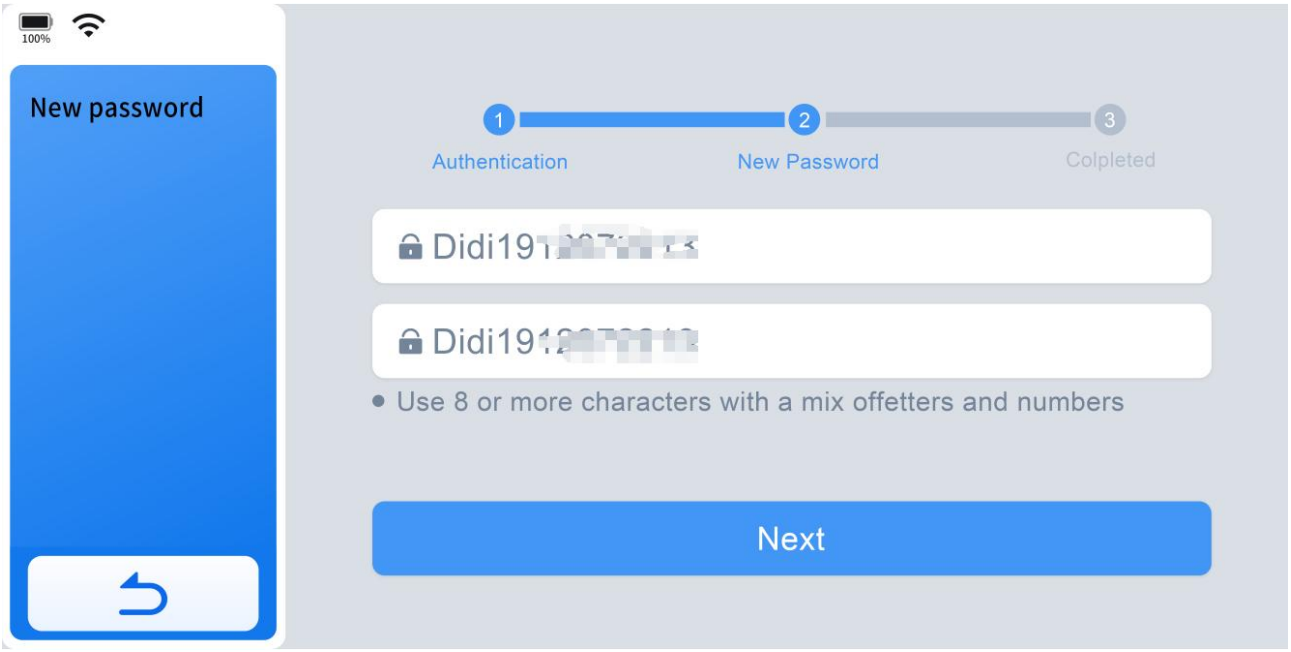
Step 2: Make sure your network is stable. Then click "Send" button, and we will send a four-digit verification code to your registered email.



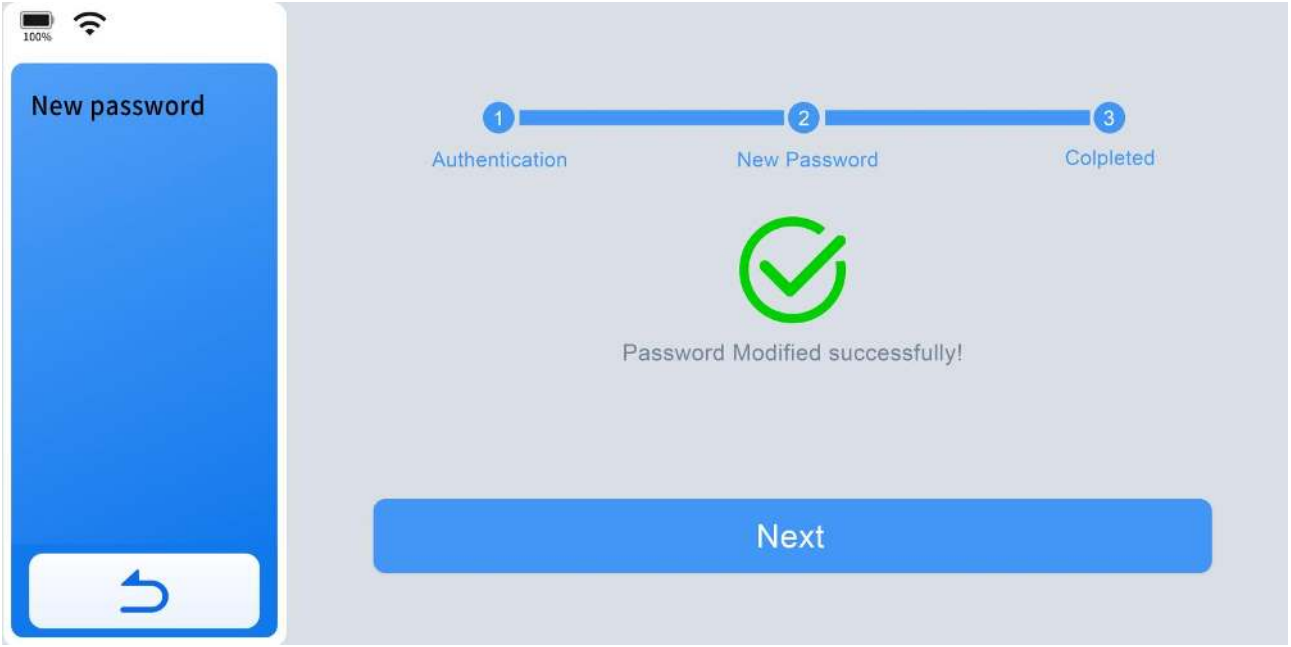
Step 3: Enter the four-digit code in the "Verification code" field, and then click "Next." If you don't see the verification code in your inbox, please check your spam folder.



Step 4: Enter the new password you want to set. You need to enter it twice; the second entry is to confirm that the first entry is correct.

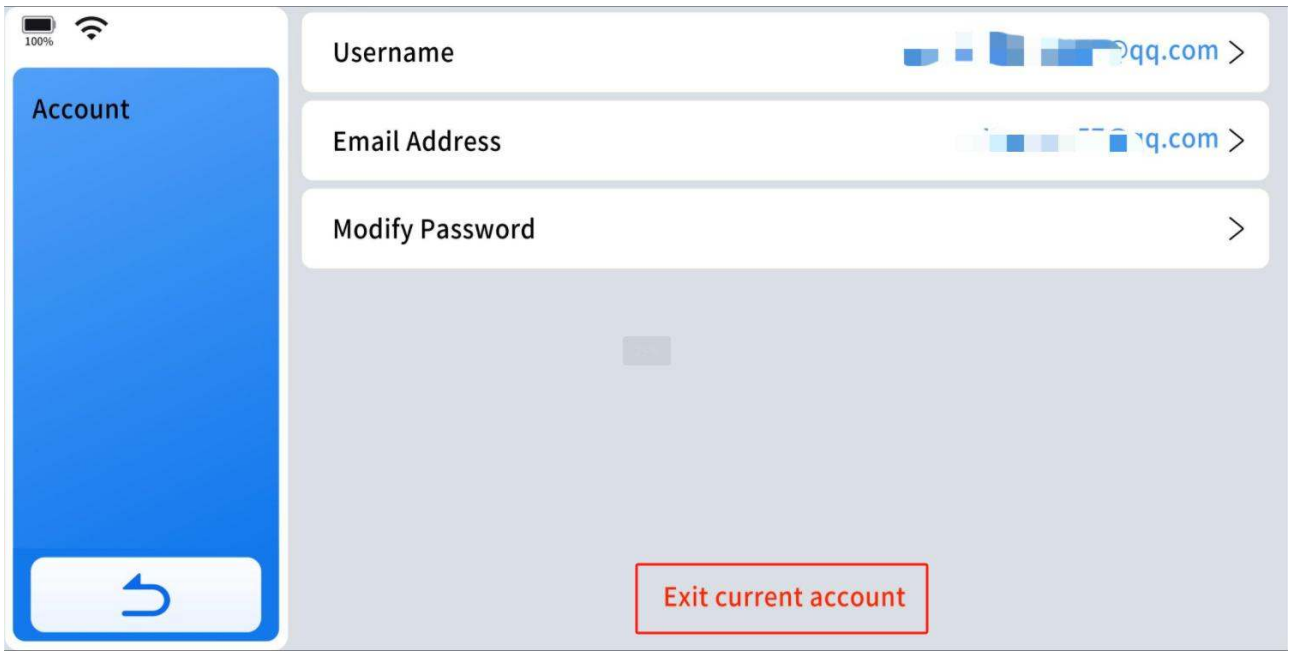


Step 5: After clicking "Next," when the page displays a message "Password Modified Successfully!", it means the operation was successful. If the success message does not appear, please try again in a stable network environment.

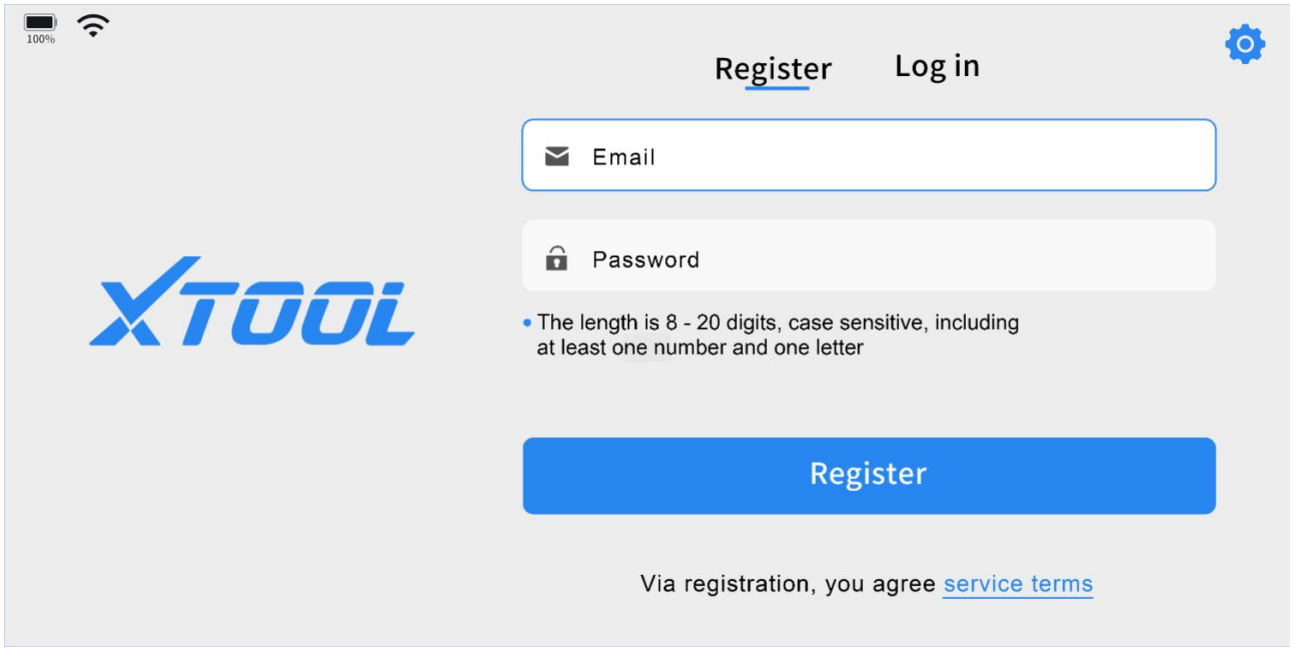


4.6.2 Delete Activation Information

If you want to log in with a different account, you need to first clear the existing login information. Enter "More" menu, click "Profile-Account-Exit current account", and click OK.

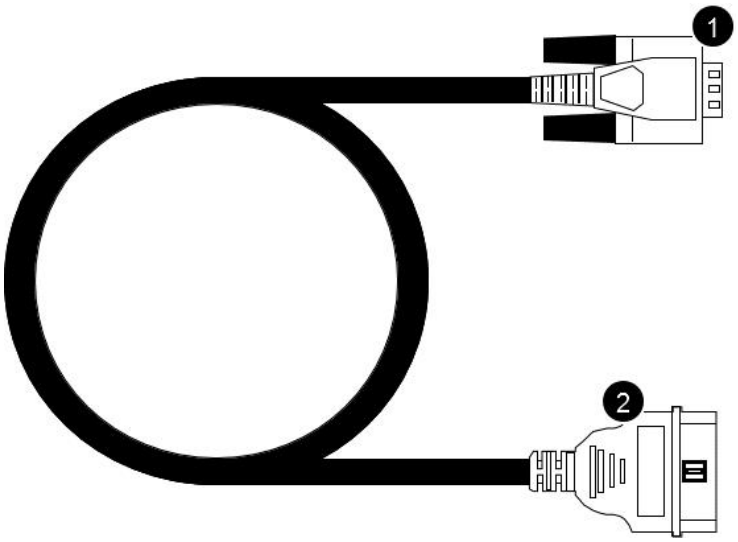


Return to the initial registration page. If you want to create a new account, click "Create Account." If you want to log in to an existing account, click "Log In."



4.7 Vehicle Connection

- **OB15 to OBD2-16 Main Cable**



❶ VGA Port-connect to tablet

❷ OBD2-16 Connector-connect to vehicle’s OBD port

● **Vehicle Connection**

The scan tool must be connected to the vehicle's OBD-II port to allow the tablet to establish communication with the vehicle.

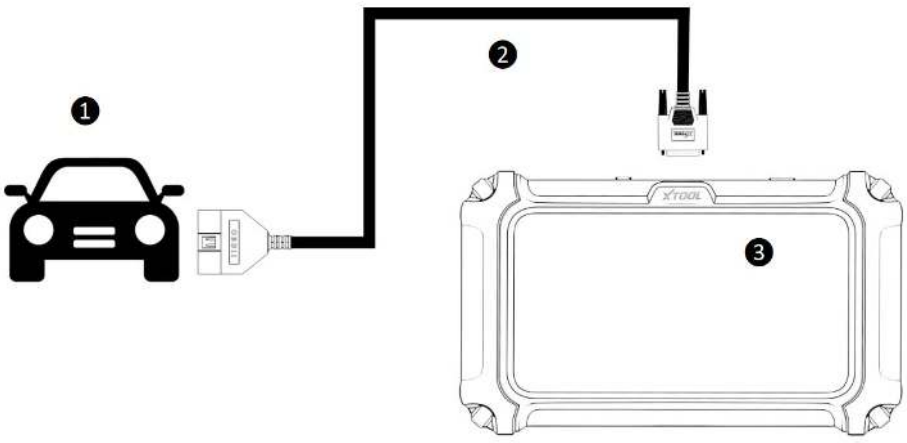
Please perform the following steps:

Step 1: Turn on the tablet.

Step 2: Connect the vehicle and tablet using the main test cable.

Step 3: Turn on the vehicle's ignition switch to start the diagnostic process.

The connection method is shown in the figure below:



❶ Vehicle

❷ OB15 to OBD2-16 Main Cable

❸ Tablet

NOTE:

If the OBD port of your vehicle is located on the chassis or in a hard-to-reach area, you can contact us to purchase an OBD extension cable for easier operation.

4.8 Diagnose Vehicles

To ensure proper communication and diagnostics, the vehicle must be correctly identified. The vehicle identification process is menu-driven, and you should follow the screen prompts to enter the required information. Exact procedures may vary depending on the region and the vehicle manufacturer.

Steps to Identify a Vehicle:

Step 1: Follow the screen prompts to enter the necessary vehicle information.

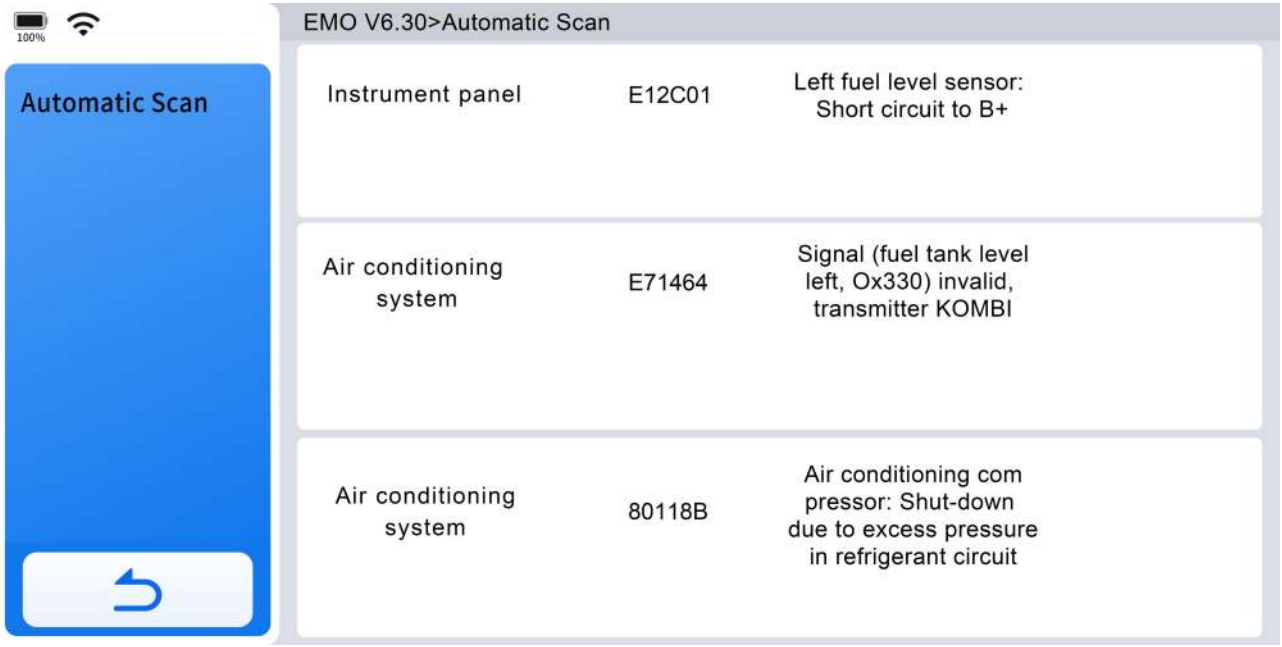
Step 2: Options for vehicle identification include:

- VIN (Vehicle Identification Number)
- Region
- Manufacturer and Model
- Other specific criteria as required by the Diagnostic Tool

4.8.1 Auto Scan

4.8.1.1 Auto Identification

Click the "Auto Scan"> "Auto Identification" icon on the diagnostic screen, and the Diagnostic Tool will automatically scan and decode the vehicle's VIN for identification.



IMPORTANT:

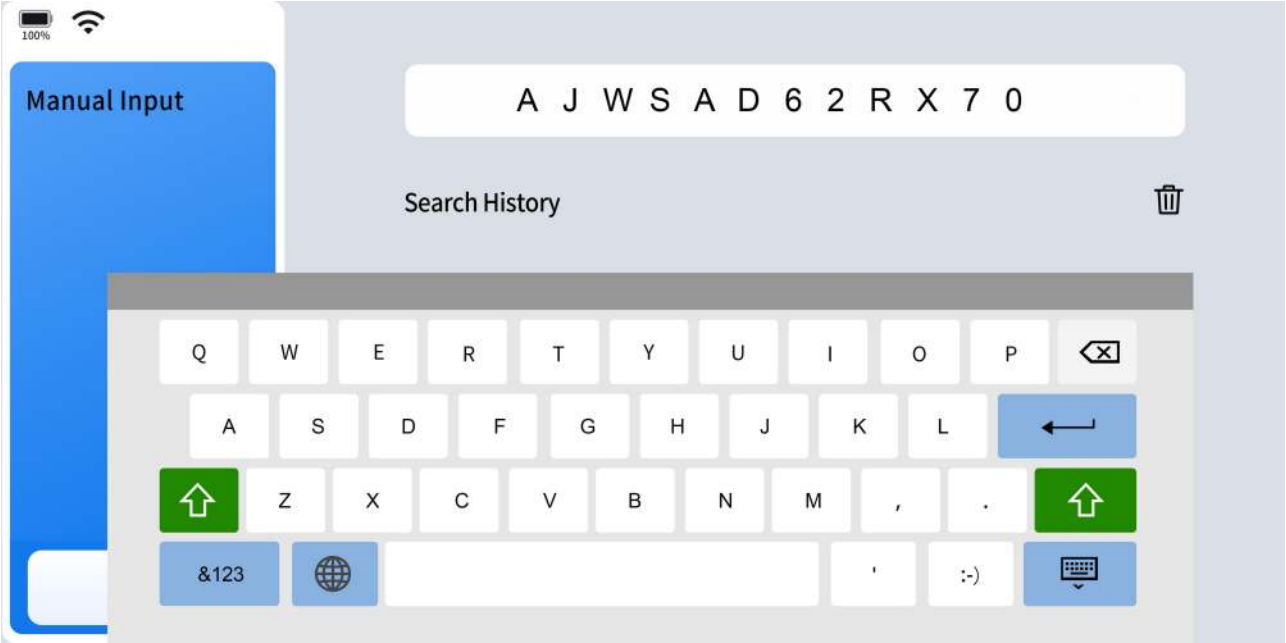
There is a common misconception that the Diagnostic Tool cannot perform diagnostics if it fails to detect or decode the VIN. If the Auto Scan option fails, it's recommended to try other vehicle identification methods. Use Manual Selection as a reliable alternative to manually enter the vehicle's region and manufacturer. This ensures you can proceed with diagnostics even if automatic VIN detection is unsuccessful.

NOTE:

Auto Identification functionality may not be compatible with all vehicles. If Auto Identification fails, it is advisable to try alternative options.

4.8.1.2 Manual Input

When the automatic scan cannot identify the vehicle, it is recommended to manually input the VIN to recognize the vehicle.



There are four reasons why it cannot be scanned automatically:

- The vehicle is too old to come with AUTO SCAN function on itself.
- The VIN is not written in the ECU of the vehicle, you will need to write the VIN in the ECU first.
- The VIN is too rare or too new and it is not recorded in the VIN database.
- Vehicle of the same model might have different configurations and the information provided in VIN is not enough to select the correct vehicle, so you will need to manually select the configurations.

4.8.2 Diagnostic

Click "Diagnostic" icon on the screen, the Diagnostic Tool will bring up vehicle selection menu.

NOTE:

In cases where vehicle VIN numbers cannot be decoded, if both Auto Identification and Manual Input failed, it is recommended to try using Manual Selection instead.

4.8.2.1 Automatic Detection

Click "Diagnostic"> Select region where the vehicle brand is originated, for example "Americas"> Select the vehicle brand, for example "CADILLAC"> Select "Automatic Detection" to automatically detect and identify the vehicle the Diagnostic Tool is connected to.

NOTE:

Automatic Detection may not work with all vehicle models. If none of the options mentioned above are successful, it is advisable to use Manual Selection.

4.8.2.2 Manual Selection

When the "Auto Scan" and "Manual Input" fails to identify the vehicle, you can always select "Manual Selection" to identify the vehicle and proceed to diagnostics. Manual Selection is the most reliable vehicle identification option.

To identify a vehicle through "Manual Selection", click "Diagnostic"> Select the vehicle brand, for example "CADILLAC"> Select region where the vehicle brand is originated, for example "Americas"> Select "Manual Selection"> Select the model year> Model Name and you may go through a few other selections before you see "Automatic Scan" and "System Selection" on the screen.

4.8.2.2.1 Automatic Scan

It is to scan available vehicle modules for diagnostics.

4.8.2.2.2 System Selection

Once you have identified the potential issues with the vehicle, you can select an individual vehicle module for diagnostics. This enables more targeted and efficient troubleshooting.

4.9 Diagnostics

Once the vehicle is correctly identified, the Diagnostic Tool will be able to scan and access the vehicle's electronic control systems to retrieve diagnostic trouble codes (DTCs), PID data (Parameter IDs), freeze frame data, and ECU information.

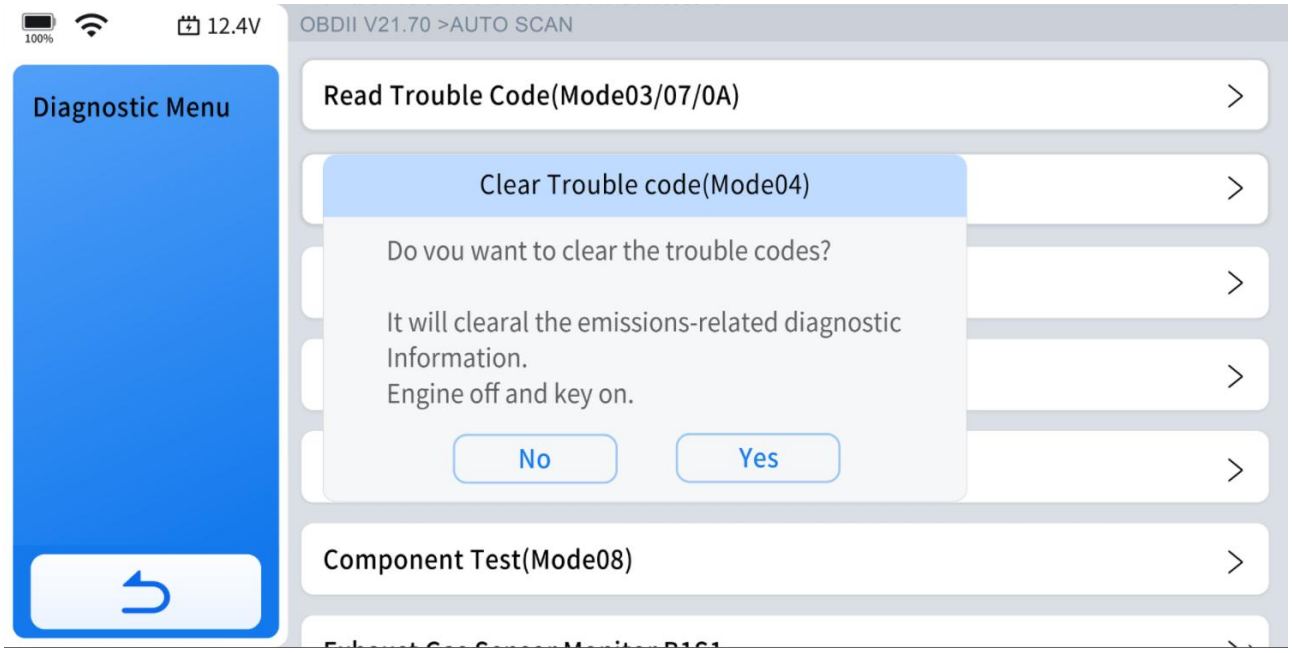
4.9.1 Read Codes

When viewing the diagnostic trouble code (DTC) records retrieved from the vehicle's electronic control module, selecting them may open a sub-menu with viewing options.

During the diagnosis process, if the Diagnostic Tool displays ''System is OK'' or ''No Trouble Code,'' it indicates that either there are no related fault codes stored in the ECU or that faults are not monitored by that specific ECU. Many faults may be related to mechanical system issues or circuit operation problems. It's also possible that a sensor signal may be inaccurate but within acceptable limits, which can be further examined using Live Data (PID).

4.9.2 Clear Codes

This function erases DTC records, including both current and historical data, as well as other stored information from the vehicle's electronic control module (ECM).



When the erase command is sent through the diagnostic program, the vehicle's electronic control module (ECM) will verify whether the issue has been resolved over multiple drive cycles. Some faults are immediately detected by the ECU when the ignition key is in the ''run'' position, even without the engine running. However, other faults may require very specific test conditions to be met, such as engine

coolant temperature within a specific range, vehicle speed maintained for a certain duration, throttle position within a defined range, etc.

4.9.3 DTC Erased While Fault Remains

If fault codes are erased while the underlying issue remains unresolved, the fault codes will reappear after a few drive cycles.

4.9.4 DTC Erased and Fault Fixed- History Code

If the fault has been fixed but a trouble code remains stored, the ECU may sometimes detect the resolution and either clear the fault code or reclassify it as a historical code.

4.9.5 DTC Erased and Fault Fixed- History Cleared

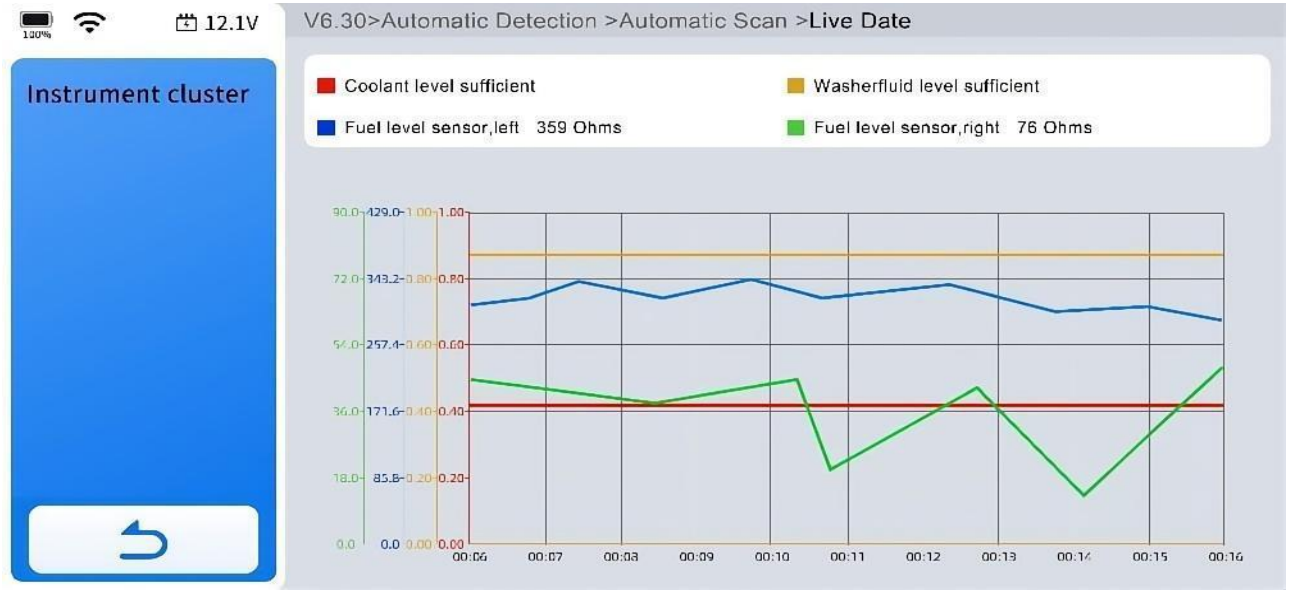
If the fault has been fixed and you clear the fault codes, the fault history will also be erased. If another technician is going to investigate the issue, it's not recommended to clear the fault codes, as this may erase valuable information that could assist in diagnosing the problem.

NOTE:

Clearing codes typically erases the freeze frame data associated with those codes.

4.9.6 PID Data

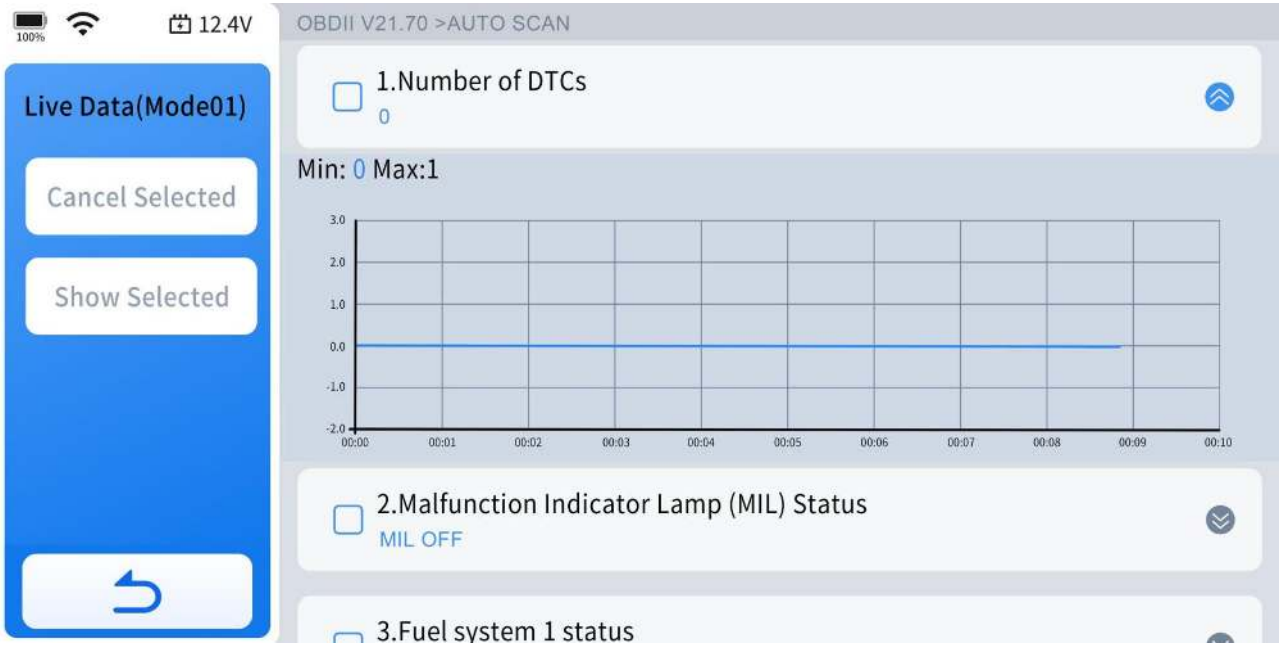
Displays PID data for various sensors from the vehicle electronic control module. This Diagnostic Tool allows viewing real-time PID data of various sensors in a list, view individual PID data in graphing, analog dashboard, view custom PID data up to 4 sensors in a list, individual graphing and merged graphing.



4.9.6.1 View Waveform Chart

Click the circled area in the diagram to view the waveform chart for each data stream.





4.9.6.2 Select Live Data

After selecting the data streams you want to view, click "Custom" to display only the selected data streams, without interference from other data streams.

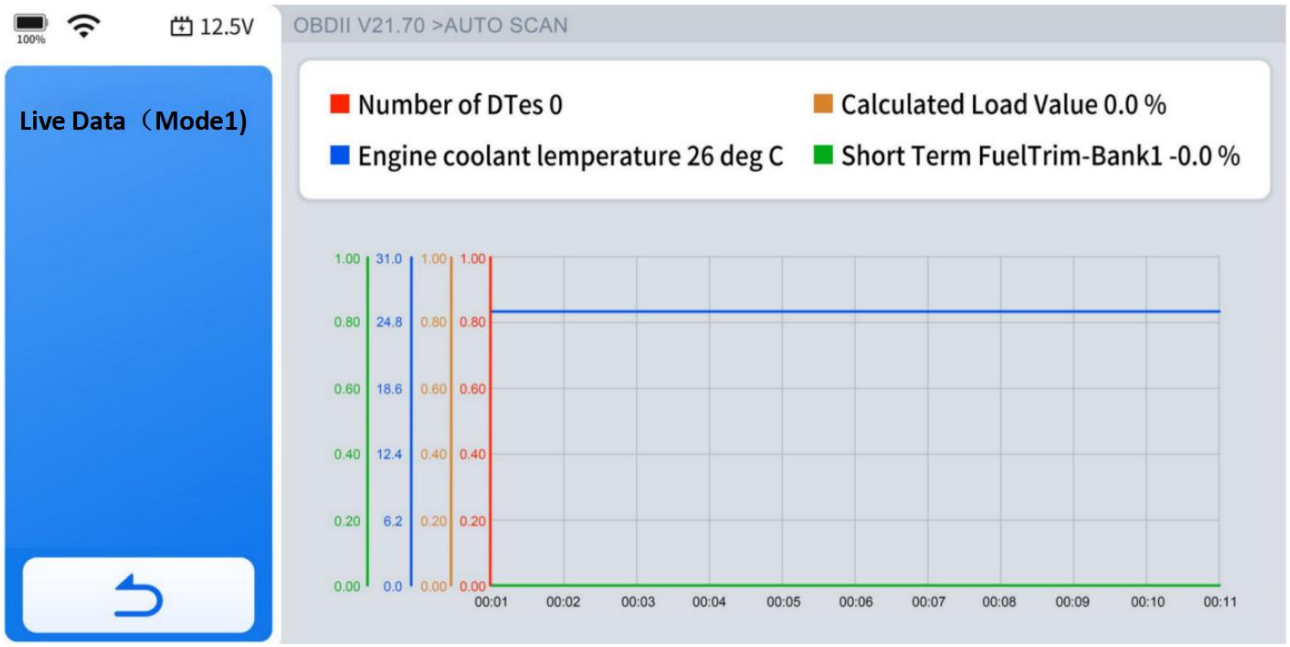


NOTE:

You can select up to four data streams at a time.

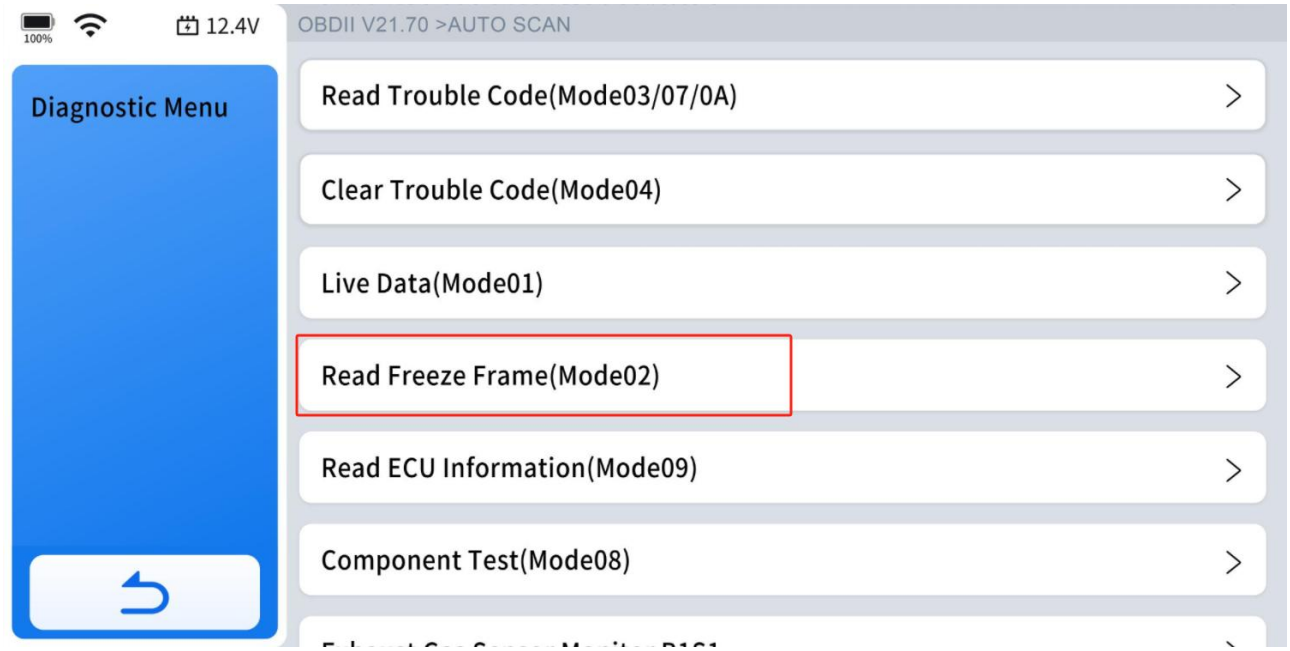
4.9.6.3 4-IN-1 Live Data

Select the data streams you want to view, click "Custom-Combine," and you will get a combined 4-in-1 graphical data stream.



4.9.7 Freeze Frame

When a fault code is triggered, the vehicle's ECU saves related data from that moment to generate a freeze frame. It is typically used to analyze the root cause of the fault, along with fault codes and PID data. The freeze frame data displayed varies across vehicles, and some vehicles may not support freeze frame functionality.



4.9.8 To Exit the Diagnostic Program

Exiting all diagnostic programs and returning to the main diagnostic screen will end the diagnosis.

4.9.9 Exiting Diagnostics

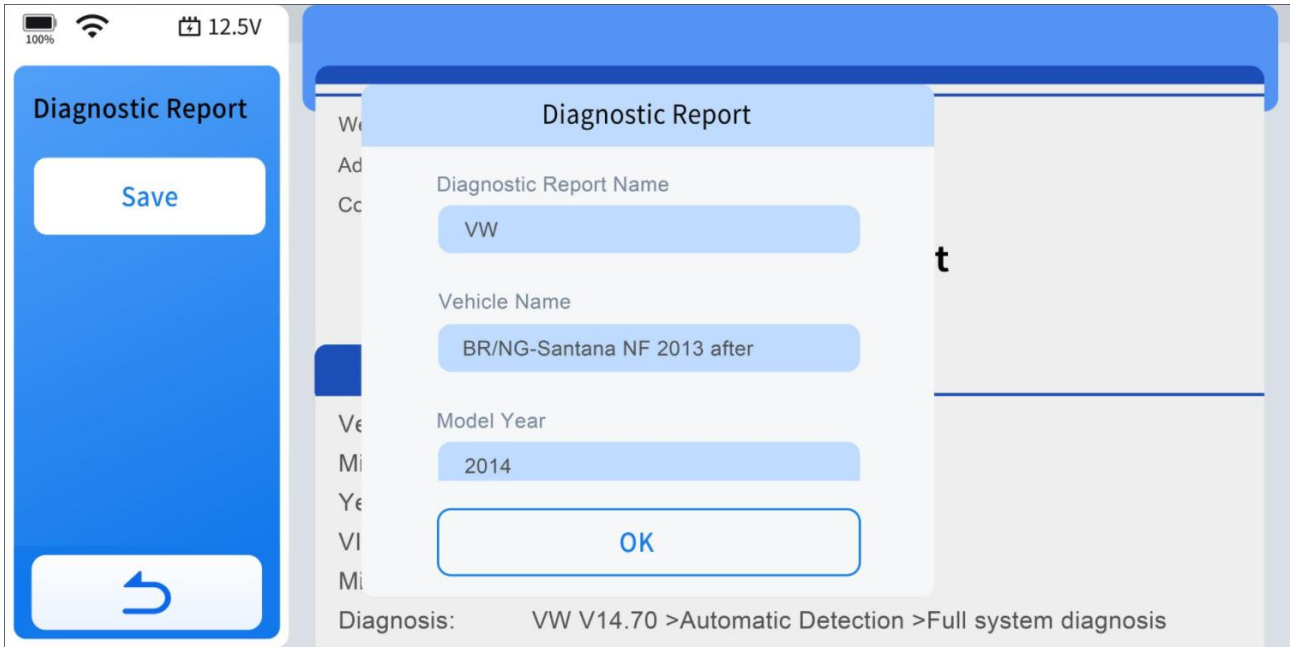
Diagnostics remain active as long as there is an active communication link with the vehicle. To exit tests and turn off the Diagnostic Tool, you must first interrupt this communication link. A warning message will appear if you manage to shut down the Diagnostic Tool while it is communicating with the vehicle.

NOTE:

Damage to the vehicle's electronic control module (ECU) may occur if communication is disrupted. Always ensure the main cable is securely connected during testing. Be sure to exit all tests before disconnecting the main cable or turning off the Diagnostic Tool.

4.10 Diagnostic Report

After completing the diagnostics and returning to the main screen, enter the VIN, mileage, and model year. Click "OK" on the report generation form to create a diagnostic report for later review or sharing.



Go to "Diagnostic Report" in the More menu to view all generated diagnostic reports. Click on the report you want to review based on its date and time, or share it via email by clicking "Share by E-mail".

4.11 Diagnostic Speed

The Diagnostic Tool provides fast scanning and diagnostics for all vehicle modules. However, the time it takes to scan and diagnose all modules varies across vehicles. Factors that could influence diagnostic speed include the vehicle's communication protocol and the number of control modules it has.

Generally speaking, the Diagnostic Tool scans all modules faster on vehicles using the latest communication protocols than on older ones. For example, scanning a vehicle that uses the CAN protocol takes less time than one using the older ISO9141 protocol. Additionally, it takes longer to scan a modern vehicle with many modules than a less sophisticated vehicle with only a few modules.

4.12 Integrated Module

In some cases, particularly with older vehicle models, manufacturers may integrate two or more electronic control systems into a single vehicle module. This integration can lead to confusion or complexity during the diagnostic and repair process.

Listed below are two most common examples:

Powertrain Control Module(PCM)- Integrates Engine and Transmission systems.

Brake Control Module(BCM)- Integrates ABS and EPB systems.

The information above indicates that if you cannot find "Transmission" or a similar option in the diagnostic menu, you should look for "Transmission Oil Temperature" under the PID (live data) menu in the Powertrain Control Module (PCM). Similarly, if you are searching for the ABS Bleeding feature, go to the Special Function under the Brake Control Module (BCM). This approach helps you locate specific diagnostic features within the Diagnostic Tool.

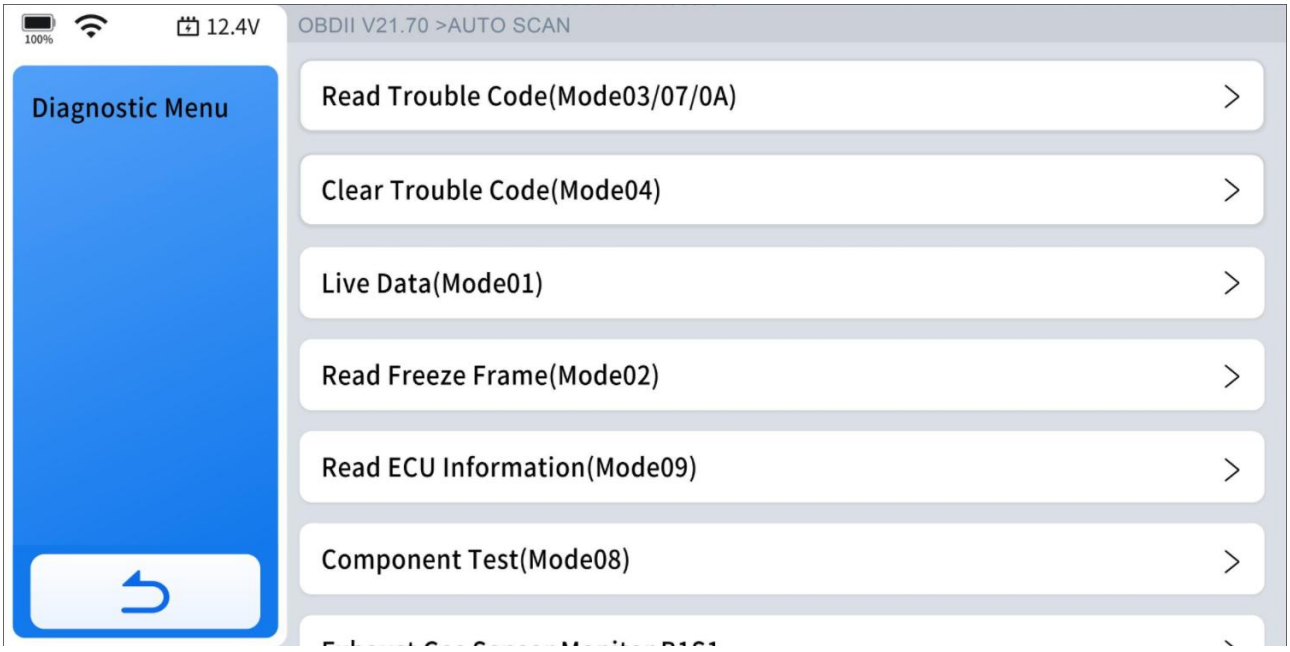
5. OBD-II

This chapter describes the concept, protocols, test functions, and basic operation of the OBD-II/EOBD function.

This option provides a quick way to check DTCs, identify the cause of an illuminated malfunction indicator lamp (MIL), check monitor status prior to emissions certification testing, verify repairs, and perform other emissions-related services.

The OBD-II function allows you to access "generic" OBD-II data.
Generic OBD-II data is data limited to emission related diagnostics such as:

- Checking for emissions-related diagnostic trouble codes (DTCs)
- Checking the cause of an illuminated malfunction indicator lamp (MIL)
- Checking monitor status prior to emissions certification testing



To access other available electronic control module (ECU) data for vehicle-specific systems, parameters, or enhanced diagnostics, use ''Auto scan'' or ''Diagnostic'' to access all systems or individual system diagnostics. The OBD-II function is used to access ''generic'' OBD-II/EOBD data for OBD-II/EOBD compliant vehicles that are not included in the all systems or individual systems diagnostics.

IMPORTANT:

Generic OBD-II data are not included in the engine system diagnostic data.

5.1 OBD-II Protocols

Global OBD uses 5 communication protocols:

- SAE J1850PWM
- SAEJ1850VPW
- ISO 9141-2
- ISO 14230-4
- ISO 15765-4

5.2 Help

Describes DLC location position, DTC library, Abbreviations and OBD background information like OBD-II modes and etc.



5.3 10 Modes of OBD-II

Mode $01 – Live Data

Mode $02 – Read Freeze Frame

Mode $03 – Read Trouble Code

Mode $04 – Clear Trouble Code

Mode $05 – O2S Monitoring Test

Mode $06 – On-Board Monitor Test

Mode $07 – Read Trouble Code

Mode $08 – Component Test

Mode $09 – Read ECU Information

Mode $0A – Read Trouble Code

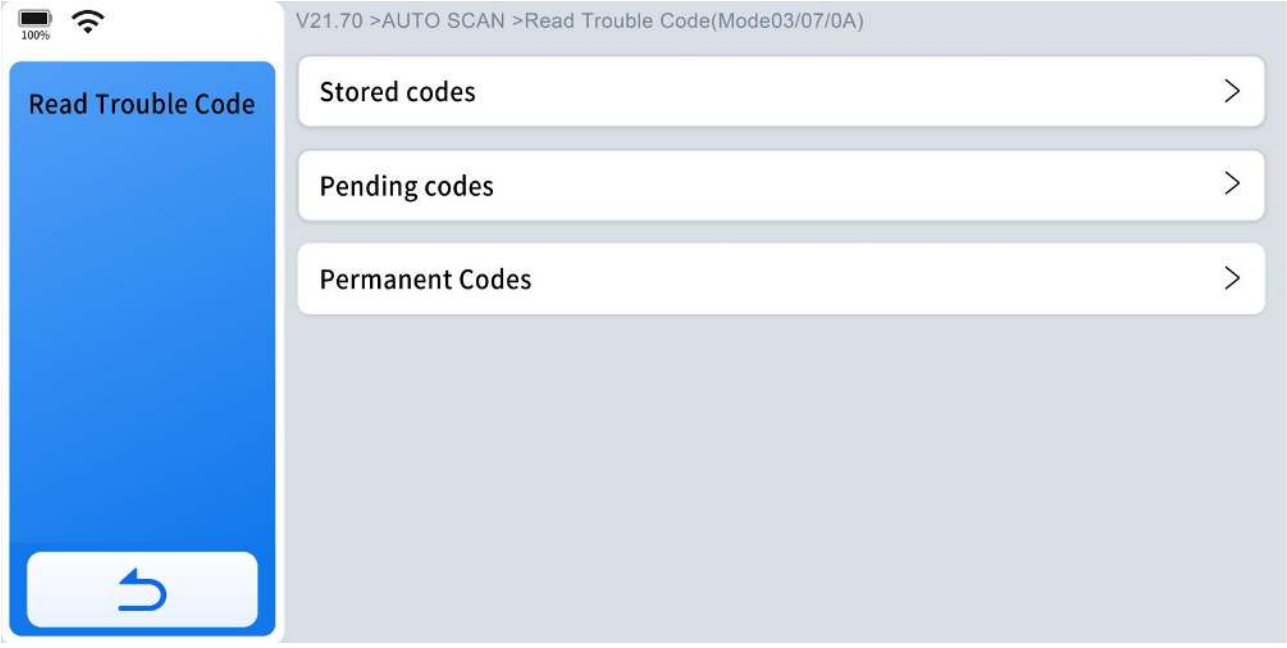
5.4 Connecting the Main Cable

The main cable must be connected to both the Diagnostic Tool and the vehicle's OBD-II port for OBD-II testing. For details, refer to ''Vehicle Connection'' on page 16.

5.5 OBD-II/EOBD Menu

5.5.1 Read Trouble Code

The "Read Trouble Code" option displays a list of current emission-related DTCs, including Stored Codes (Generic and Manufacturer-Specific Codes), Pending Codes, and Permanent Codes.



OBD-II codes are prioritized based on their emission severity, with higher priority

codes taking precedence. This prioritization affects whether the Malfunction Indicator Lamp (MIL) illuminates and how the code erase procedure is managed. Different vehicle manufacturers implement these priorities in various ways, leading to differences in how codes are ranked and addressed across different makes and models.

5.5.1.1 Stored Codes

Stored codes refer to current emission-related DTCs from the vehicle's ECM. OBD-II codes are prioritized based on their emission severity, with higher priority codes overriding lower priority ones. The priority of the code determines whether the MIL is illuminated and how the code erase procedure is handled. Vehicle manufacturers implement this ranking differently, leading to variations between makes.

5.5.1.2 Pending Codes

The purpose of this function is to enable the Diagnostic Tool to obtain "pending" or maturing diagnostic trouble codes. These are codes whose setting conditions were met during the last drive cycle, but need to be met on two or more consecutive drive cycles before the DTC actually sets.

Use this function following a vehicle repair and code clearing procedure to verify test results after a single drive cycle.

- If a test failed during the drive cycle, the DTC associated with that test is reported. If the pending fault does not occur again within 40 to 80 warm-up cycles, the fault is automatically cleared from memory.
- Test results reported by this function do not necessarily indicate a faulty component or system. If test results indicate another failure after additional driving, then a DTC is set to indicate a faulty component or system, and the MIL is illuminated.

5.5.1.3 Permanent Codes

This option displays a record of any "Permanent" codes. A permanent status DTC is one that was severe enough to illuminate the MIL at some point, but the MIL may not be on at the present time.

Whether the MIL was switched off by clearing codes or because the setting conditions did not repeat after a specified number of drive cycles, a record of the

DTC is retained by the ECM. Permanent status codes automatically clear after repairs have been made and the related system monitor runs successfully.

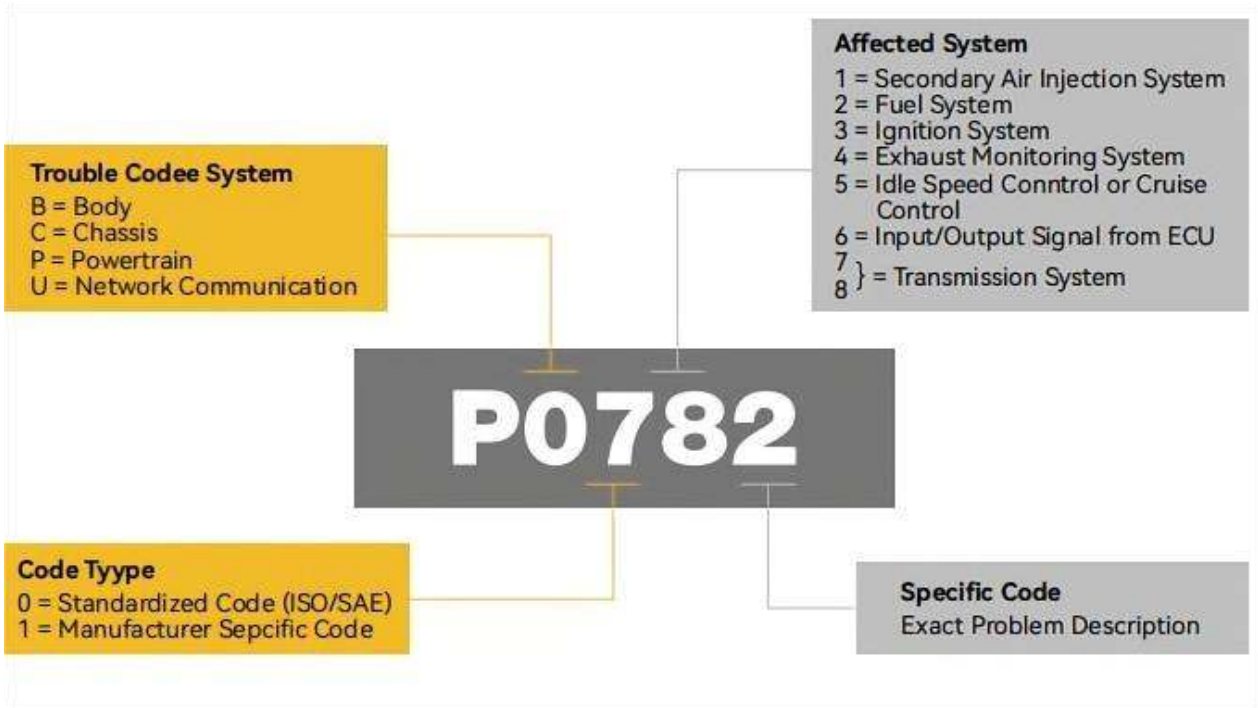
5.5.1.4 Generic & Manufacturer-Specific Codes

Code Definitions:

Diagnostic Trouble Code (DTC) -- Trouble codes are how OBD-II identifies and communicates to technicians where and what on-board problems exist. The first number in the DTC indicates whether the code is an SAE generic code (applies to all OBD-II systems) or is specific to the vehicle manufacturer. The remaining three numbers provide information regarding the specific vehicle system and circuit. An analysis of a typical OBD-II code is shown below.

Generic Codes -- DTC with the second character as "0" is a Generic Code.

Manufacturer-Specific Code -- DTC with second character as "1" is a Manufacturer-Specific Code.



5.5.1.5 Definition of Fault Code

5.5.1.5.1 First DTC Character

The first DTC character is always a letter. There are four types of codes:

● **P codes**, "P" indicates a problem with the powertrain. It includes the engine, transmission, drivetrain, and fuel system.

● **C codes**, "C" indicates a problem with the chassis. It refers to mechanical systems outside the passenger compartment, such as steering, suspension, and braking.

● **B codes**, "B" indicates a problem with the body. It covers parts that are found in the passenger compartment area.

● **U codes**, "U" indicates a problem with the vehicle's onboard computers and integration functions that the OBD manages.

5.5.1.5.2 Second DTC Character

The second DTC character is a numeric digit, either a "0" or a "1":

0, A "0" indicates a standard SAE international code. It's also known as a generic code, meaning that it applies to all vehicles following the OBD-II international standard.

1, A "1" represents a code that is specific to the car's make or model. It's known as an enhanced code, meaning it doesn't fall under an SAE standard. If you see a "1," reach out to the vehicle manufacturer directly for more information.

5.5.1.5.3 Third DTC Character

If the second DTC character is a "0," then the third character helps you determine which subsystems are malfunctioning. There are nine numbers:

0, Fuel and air metering and auxiliary emission controls

1, Fuel and air metering injection system

2, Fuel and air metering (injection system)

3, Ignition systems or misfires

4, Auxiliary emission controls

5, Vehicle speed control, idle control systems, and auxiliary inputs

6, Computer output circuit

7-8, Transmission

5.5.1.5.4 Fourth and Fifth DTC Character

The fourth and fifth DTC codes are two-digit numbers from 0 to 99, known as the "Specific Fault Index." It identifies the exact malfunction that a vehicle has.

5.5.3 Clear Trouble Code(Mode $04)

This option is designed to erase all emission-related diagnostic data stored in the memory of the selected ECM. This includes Diagnostic Trouble Codes (DTCs), freeze frame data, and test results. While OBD-II/EOBD displays generic data only, clearing codes removes all stored information, including any enhanced codes and freeze frame details.

When you select the clear codes function, a confirmation screen appears to prevent accidental data loss. You must choose "Yes" on the confirmation screen to proceed with the operation.

5.5.4 Live Data(Mode $01)

Use this function to view current emission-related data from the selected electronic control module (ECM) of the vehicle. The main screen layout consists of two primary columns: the left-hand column provides descriptions of each parameter, while the right-hand column displays the corresponding parameter values along with their units or states.

5.5.4.1 View Waveform Chart

Click the circled area in the diagram to view the waveform chart for each data stream.



5.5.4.2 Select Live Data

After selecting the data streams you want to view, click "Show Selected" to display only the selected data streams, without interference from other data streams.

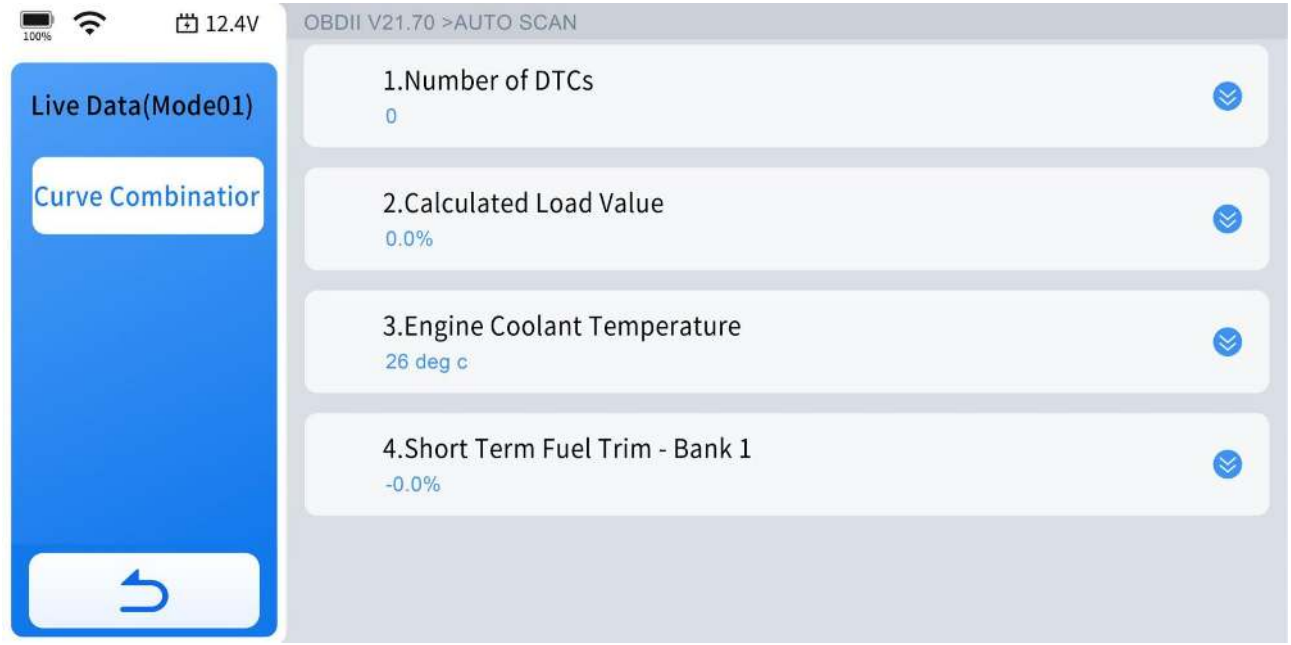


NOTE:

You can select up to four data streams at a time.

5.5.4.3 4-IN-1 Live Data

Select the data streams you want to view, click "Curve Combinatior," and you will get a combined four-in-one graphical data stream.



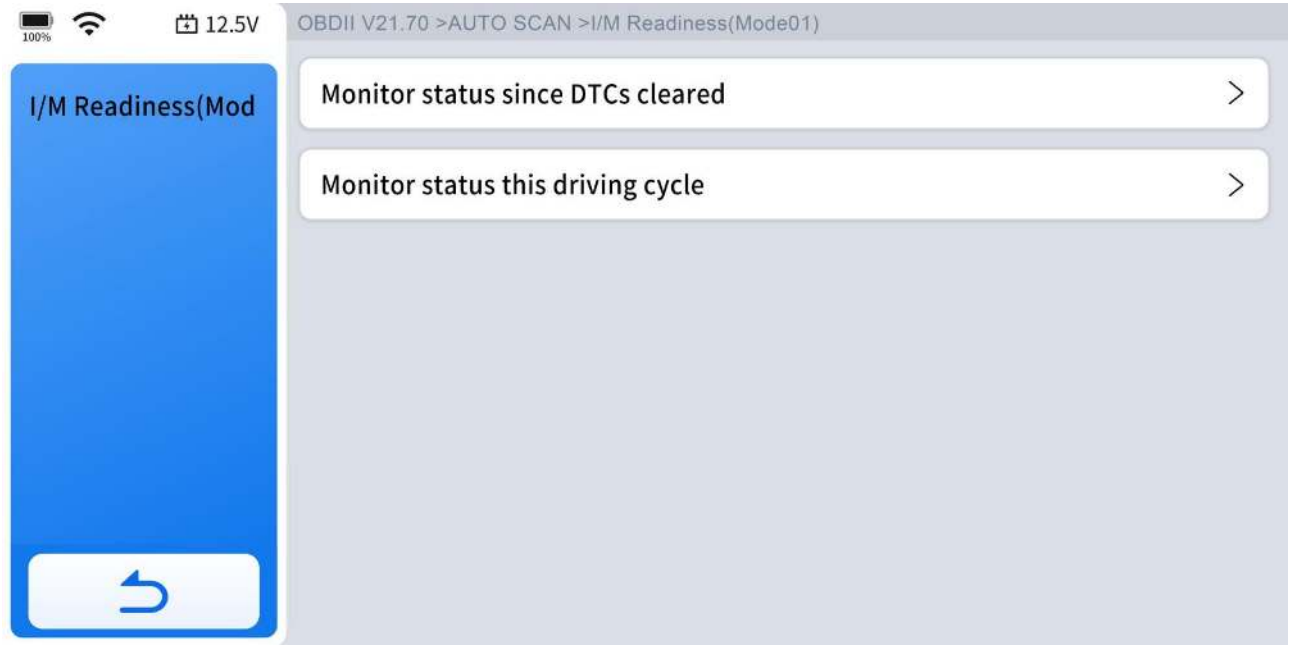
5.5.5 Read Freeze Frame(Mode $02)

Freeze frame data provides a snapshot of critical parameter values at the moment a diagnostic trouble code (DTC) is set. This function allows you to display freeze frame data for any stored emission-related DTC. Typically, the stored freeze frame data corresponds to the last DTC that occurred.

However, for certain DTCs that have a significant impact on vehicle emissions, priority is given. In these cases, the highest priority DTC is the one for which the freeze frame records are retained, ensuring critical diagnostic information is preserved.

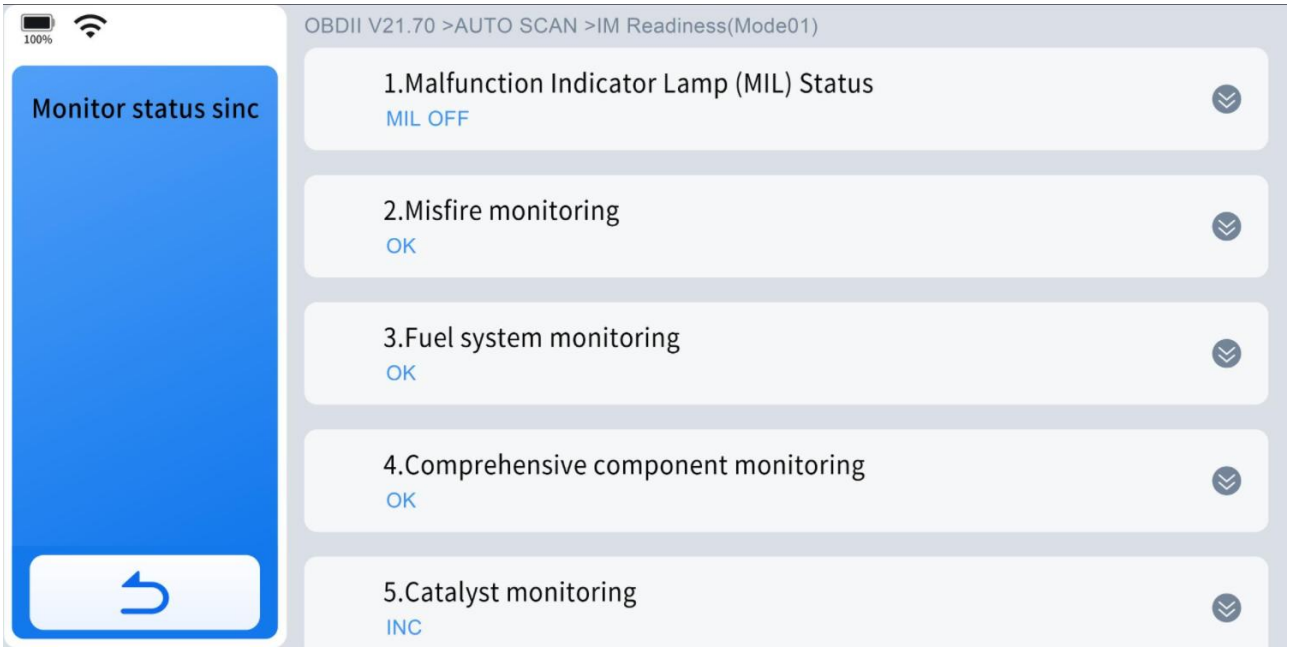
5.5.6 I/M Readiness(Smog Check)

This function is used to check the readiness of the monitoring system. It is an excellent function to use prior to having a vehicle inspected for compliance to a state emissions program. Selecting I/M Readiness opens a sub-menu with two choices:



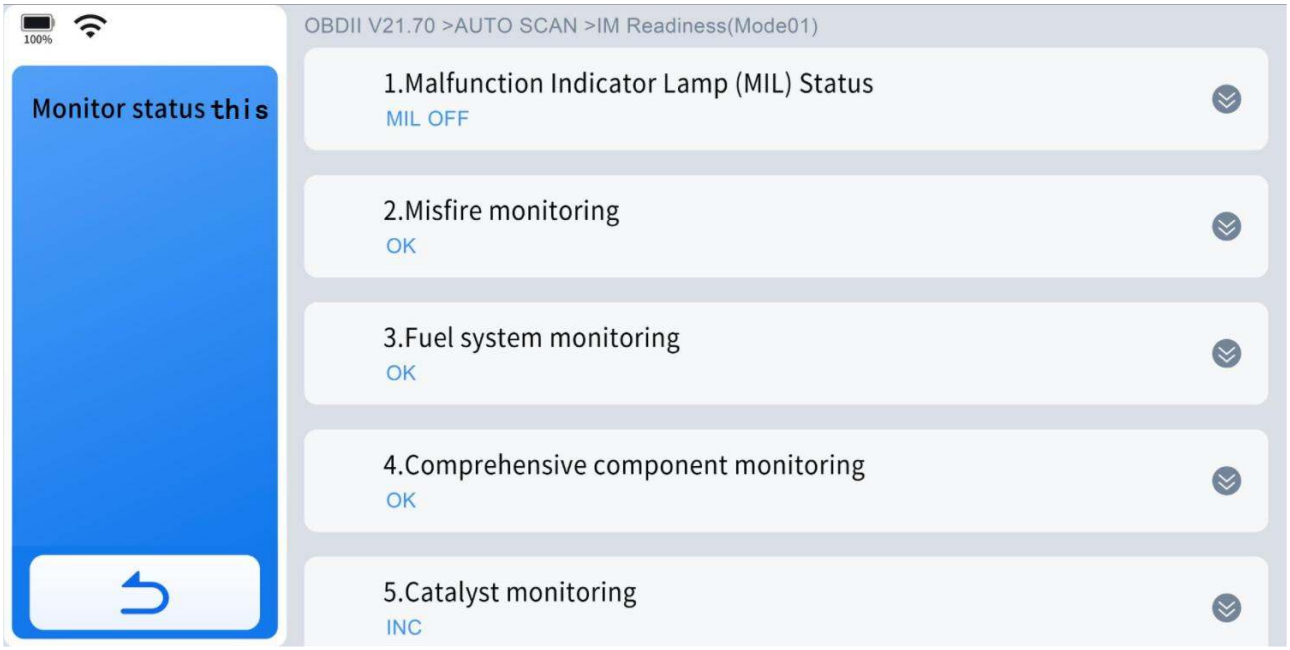
5.5.6.1 Since DTCs Cleared

Displays the status of monitors since the last time the DTCs are cleared.



5.5.6.2 This Driving Cycle

Displays the status of monitors since the beginning of the current driving cycle.



5.5.7 O2S Monitoring Test(Mode $05)

This option opens a menu of tests designed to check the integrity of the oxygen sensors (O2S). Selecting a test displays all pertinent O2S parameters specific to that test. The test ID is prominently displayed at the top of the data list.



5.5.8 On-Board Monitor Test (Mode $06)

This function allows you to view the results of On-Board Monitor tests. The tests are useful after servicing or after erasing a vehicle’s control module memory.

The data provided pertains to specific systems and components that the onboard diagnostic system continuously monitors, such as misfire counters, as well as those it monitors intermittently. Selecting a specific system or component displays its corresponding test results.



5.5.9 Component Test(Mode $08)

This function enables bidirectional control (to limited extend) of the ECM. The purpose of this function is to allow the Diagnostic Tool to control the operation of an onboard system, test, or component, such as EVAP leakage test or other test. This function is useful in determining whether the ECM responds to a command well.

5.5.10 Read ECU Information

This function displays the names of some ECUs (Electronic Control Units) and the protocols supported by the device. It also provides calibration information for the device.

IMPORTANT:

Not all vehicles support all service modes, so the available menu selections will vary accordingly.

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6. Special Functions

This chapter details various scheduled service and maintenance functions, also referred to as "Special Functions." A typical special function screen presents a series of menu-driven executive commands. By following on-screen instructions to select appropriate execution options, enter correct values or data, and perform necessary actions, the screen prompts will guide you through the complete process for various special functions.



6.1 Maintenance Light Reset

The Diagnostic Tool can be used to reset the engine oil life system, which calculates the optimum oil life change interval based on the vehicle's driving conditions and climate. The oil life reminder must be reset each time the oil is changed so that the system can calculate when the next oil change is due.

This function can be performed in the following cases:

- 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.

- After changing engine oil or electric appliances that monitor oil life, you need to reset the service lamp.

The operation guidelines of the Oil Reset function are shown as below:

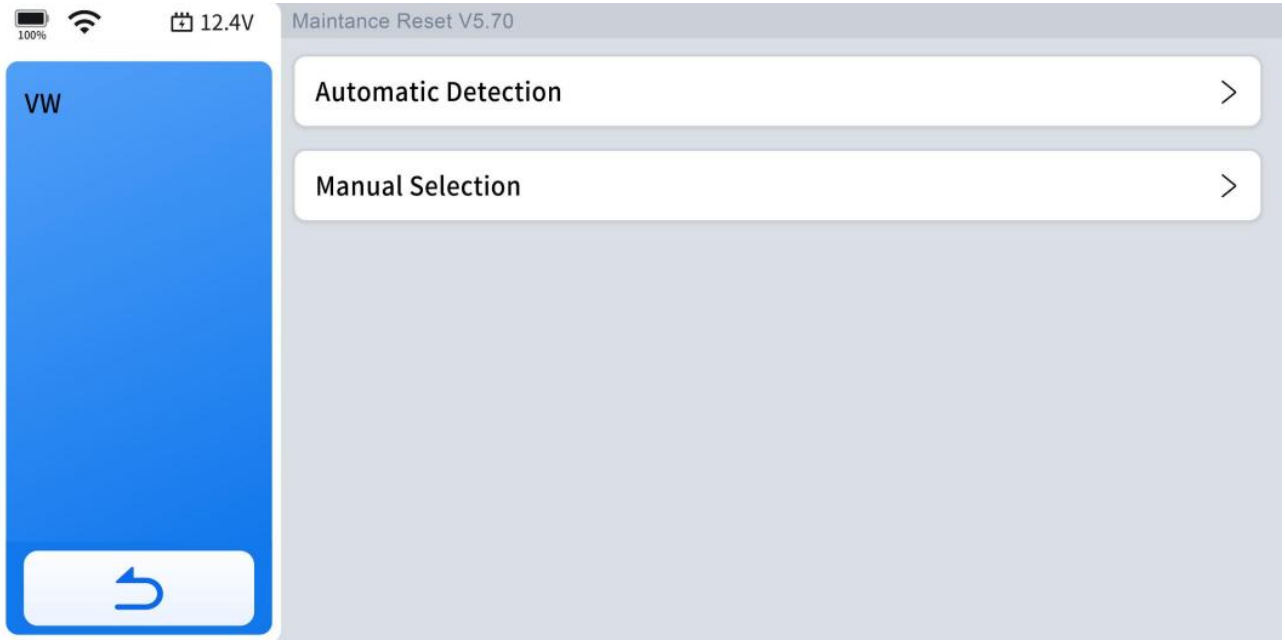
Step 1: Enter the Oil Reset menu and select vehicle model according to the vehicle being tested.



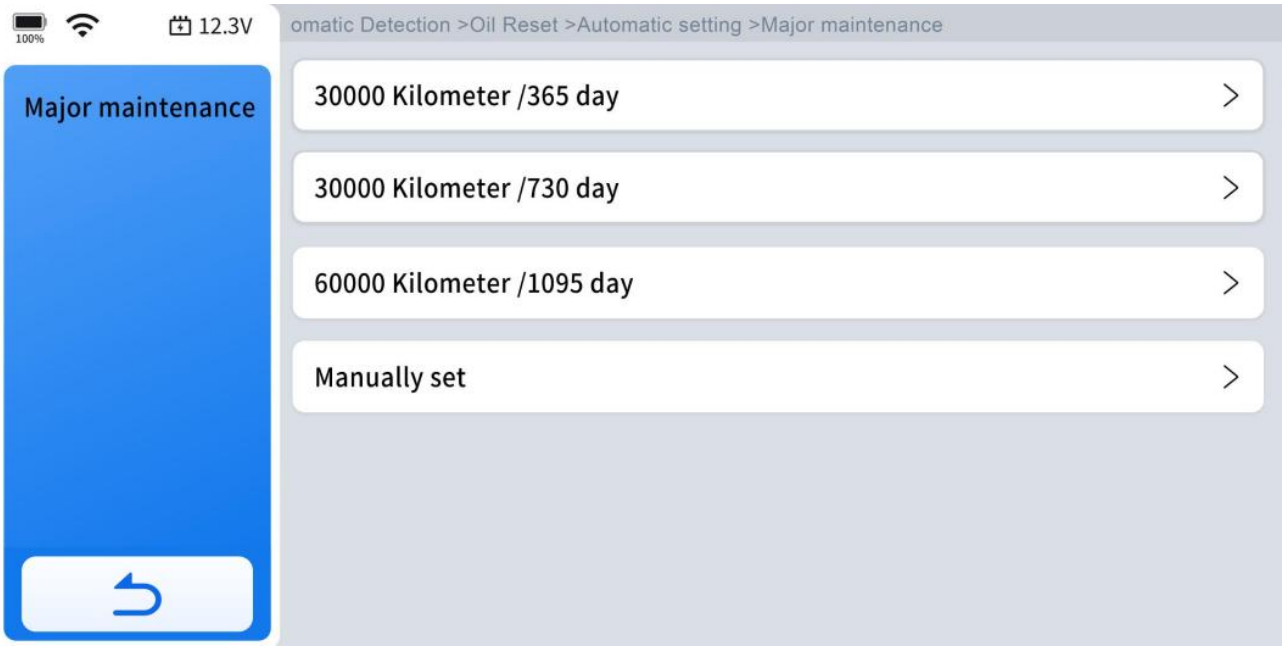
Step 2: Select the appropriate identification method.



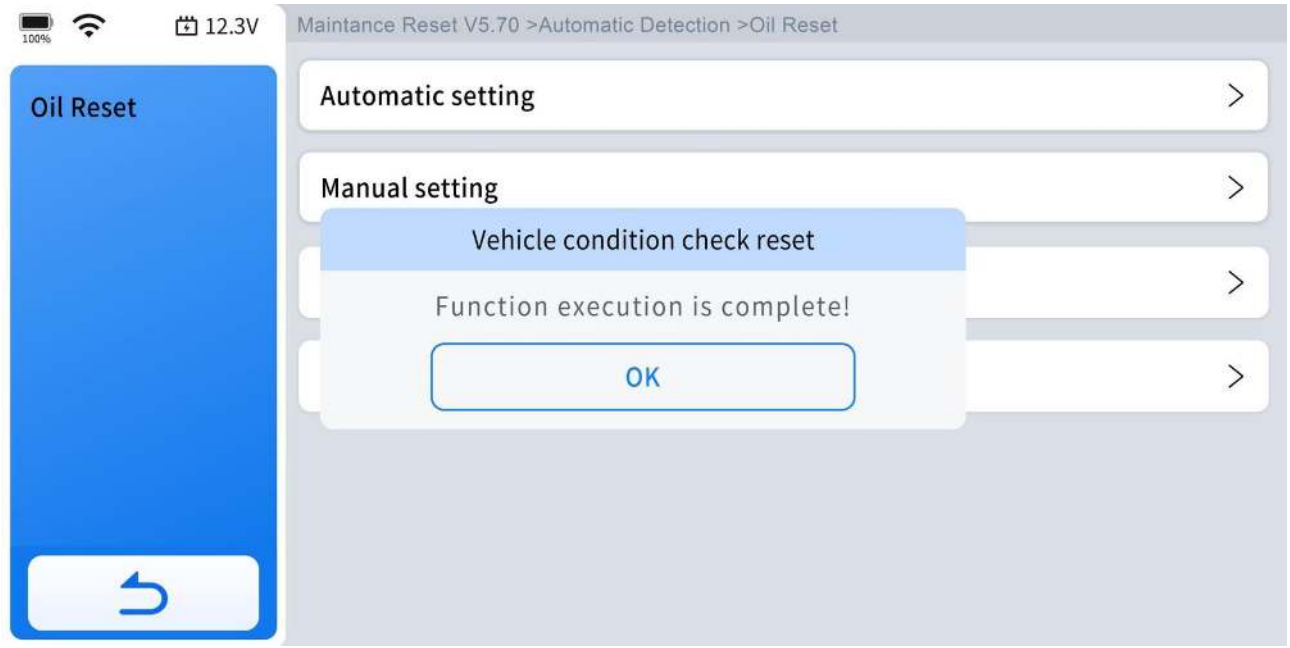
Step 3: Enter automatic setting menu.



Step 4: Confirm the [New value] you just entered, and then click "OK" at the bottom right to complete the procedure.



Step 5: Message of "Write successfully" displays when Oil Reset function has been successfully performed.



6.2 EPB

1. If the brake pad wears the brake pad sense line, the brake pad sense line will send a signal to the onboard computer asking for replacing the brake pad. After replacing the brake pad, you must reset the brake pad to clear the trouble code.

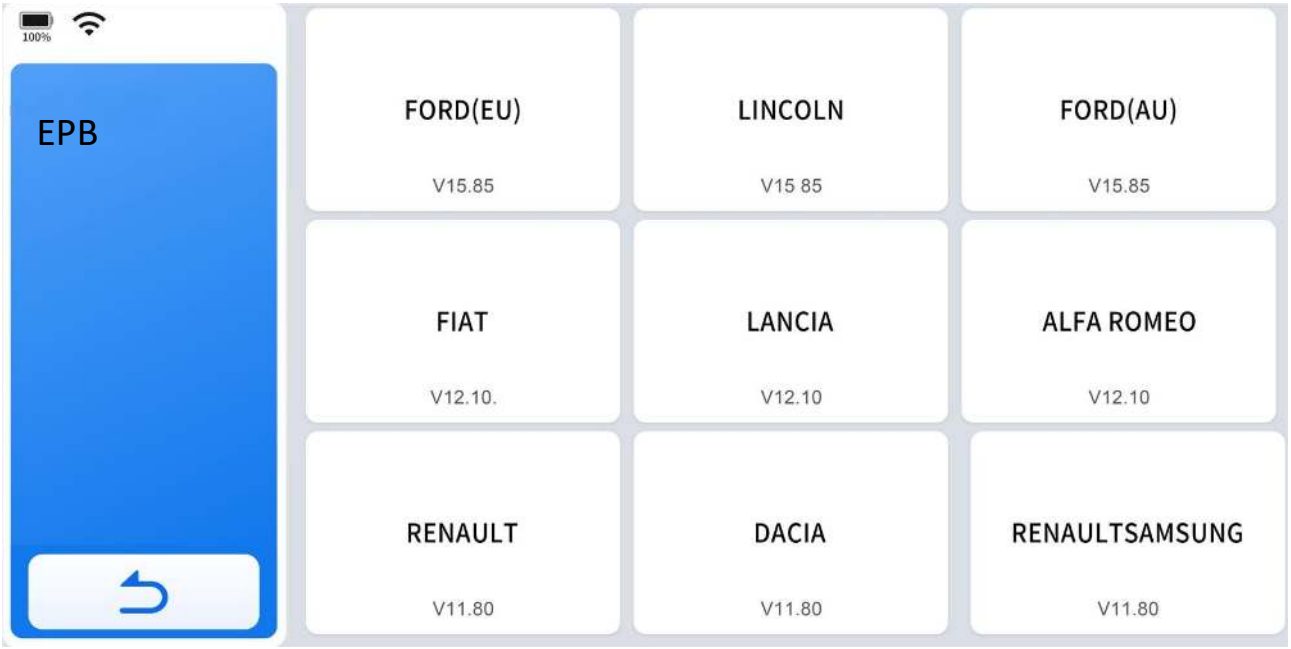
Otherwise, vehicle will continue to falsely notify the driver that the brake pads are in need of replacement.

2. A reset must be performed in the following cases:

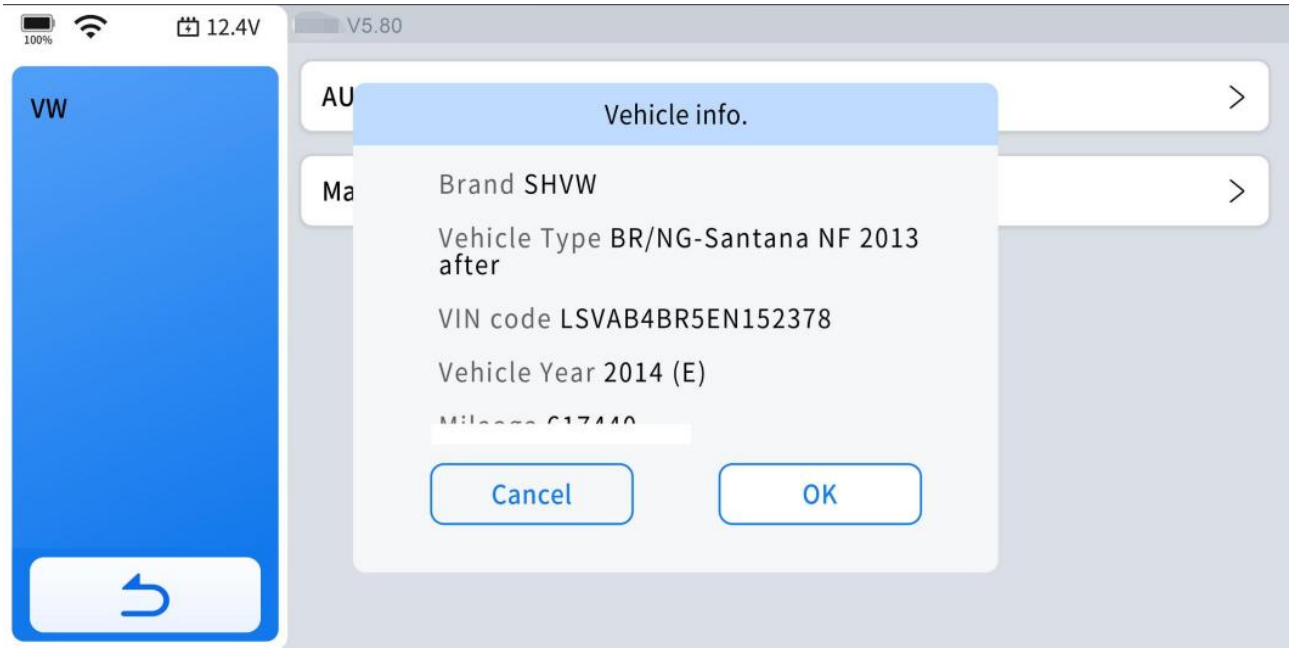
- The brake pad and brake pad wear sensor are replaced.
- The brake pad indicator lamp is on.
- The brake pad sensor circuit is shorted.
- The servo motor is replaced.

The operation guidelines of the EPB function are shown as below:

Step 1: Enter the EPB menu and choose relevant models according to the vehicle being tested.



Step 2: Ensure your vehicle type.



Step 3: Enter the maintenance mode menu and release the handbrake brake.



Step 4: Wait until the message of "Successful operation" pops up. And press "OK" to exit the menu.

6.3 SAS

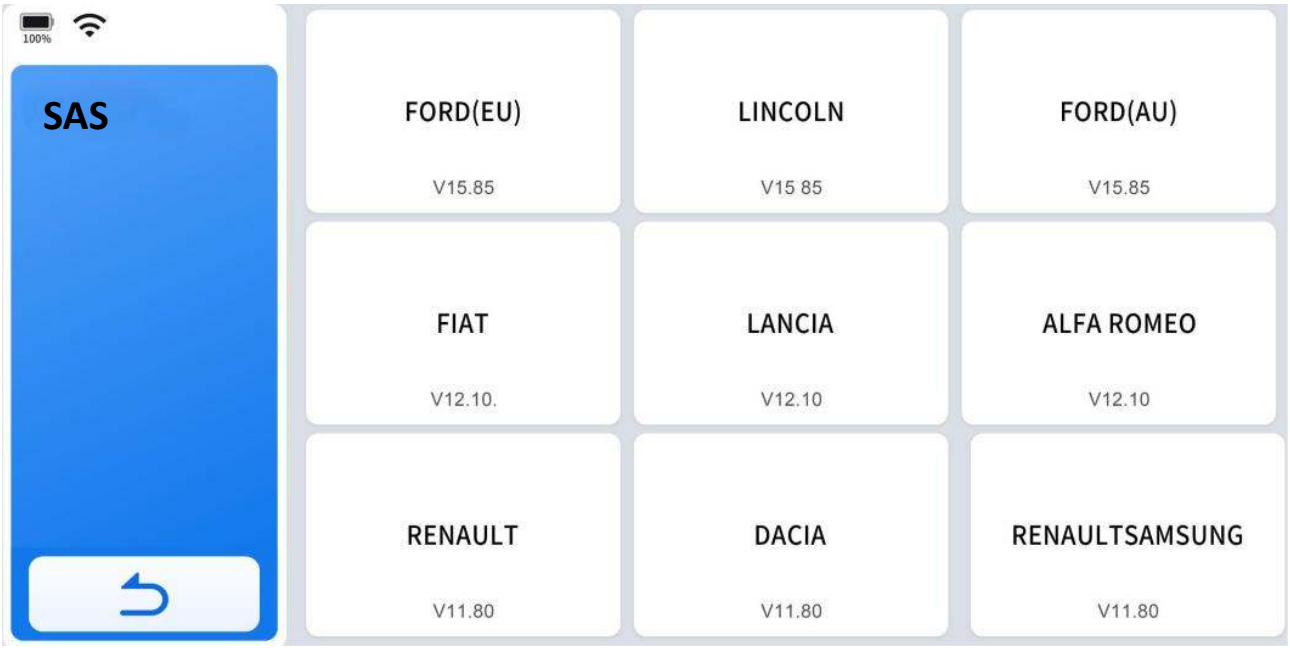
Steering Angle Sensors (SAS) System Calibration permanently stores the current steering wheel position as the straight-ahead position in the SAS EEPROM. Therefore, the front wheels and the steering wheel must be set exactly to the straight-ahead position before calibration. In addition, the VIN is also read from the instrument cluster and stored permanently in the SAS EEPROM. On successful completion of calibration, the SAS fault codes will be automatically cleared.

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

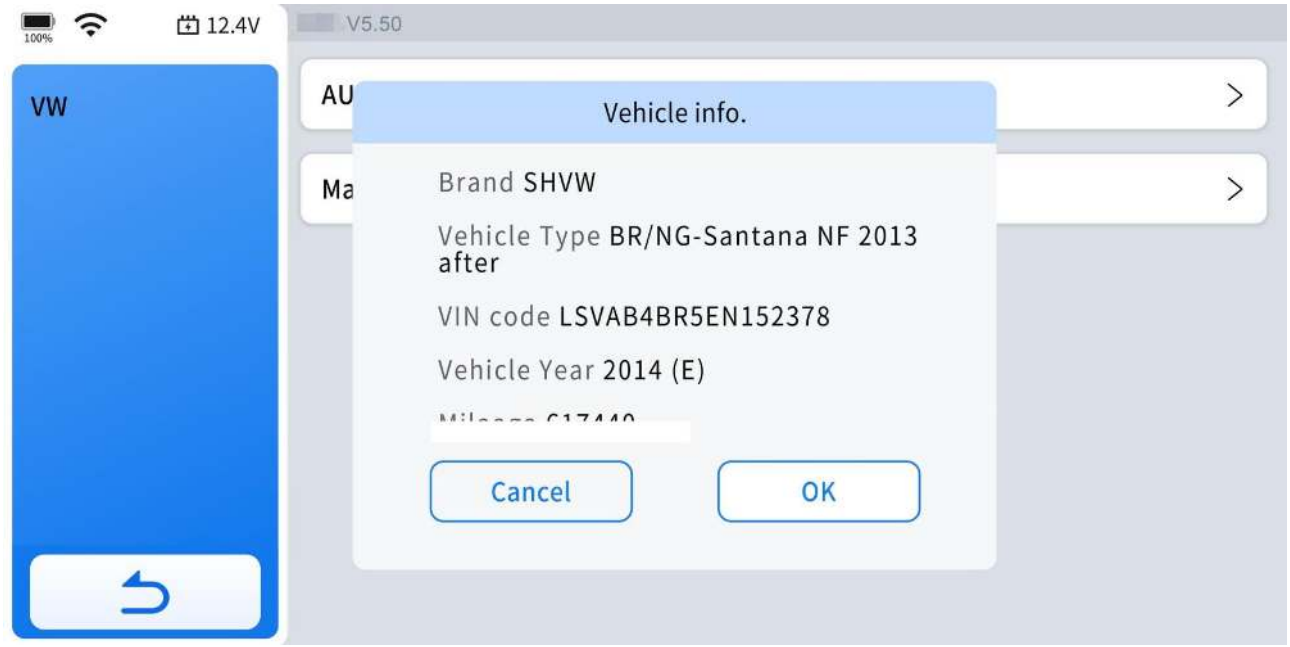
After replacing the steering angle position sensor, replacing steering mechanical parts (such as steering gearbox, steering column, end tie rod, steering knuckle), performing four-wheel alignment, or repairing the car body, you must reset the steering angle.

The operation guidelines of the SAS function are shown as below:

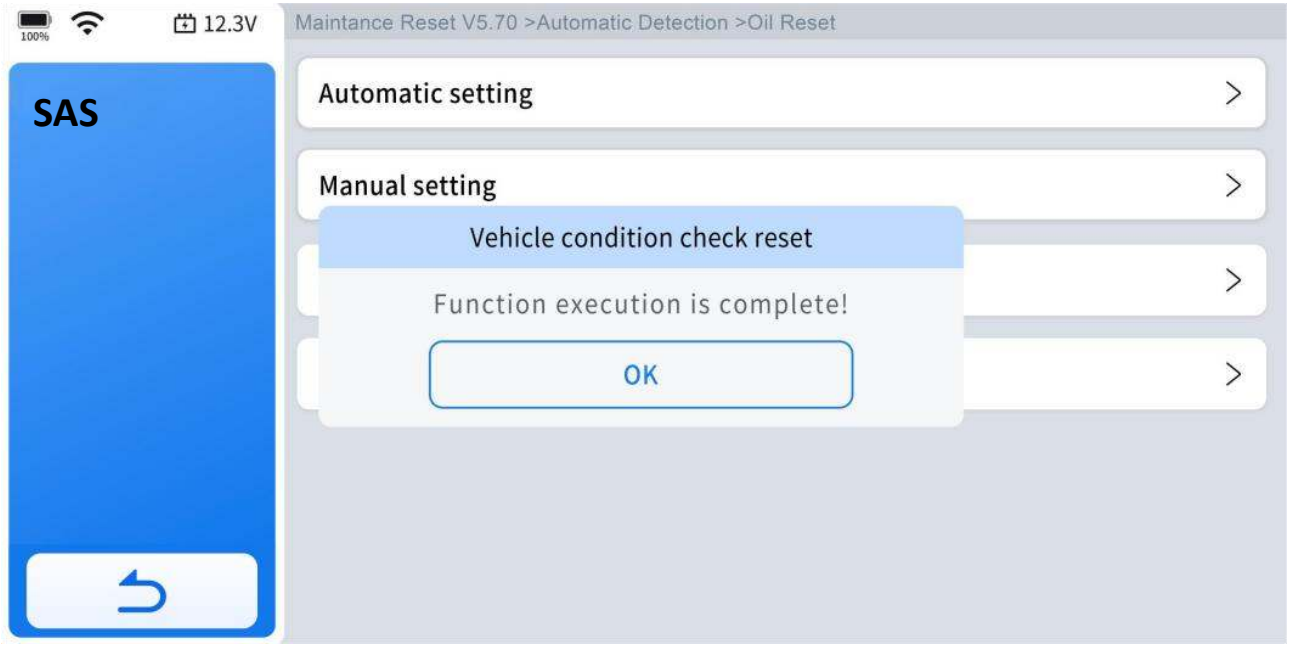
Step 1: Enter the SAS menu and choose the vehicle model according to the vehicle being tested.



Step 2: Ensure you vehicle type.



Step 4: Follow the instructions displayed and press "OK" after completing the instructions shown.



Message of "Function execution is completed" displayed when SAS reset function has been successfully completed.

6.4 BMS Reset

The Battery Management System (BMS) allows the Diagnostic Tool to evaluate the battery charge state, monitor the close-circuit current, register the battery replacement and activate the rest state of the vehicle.

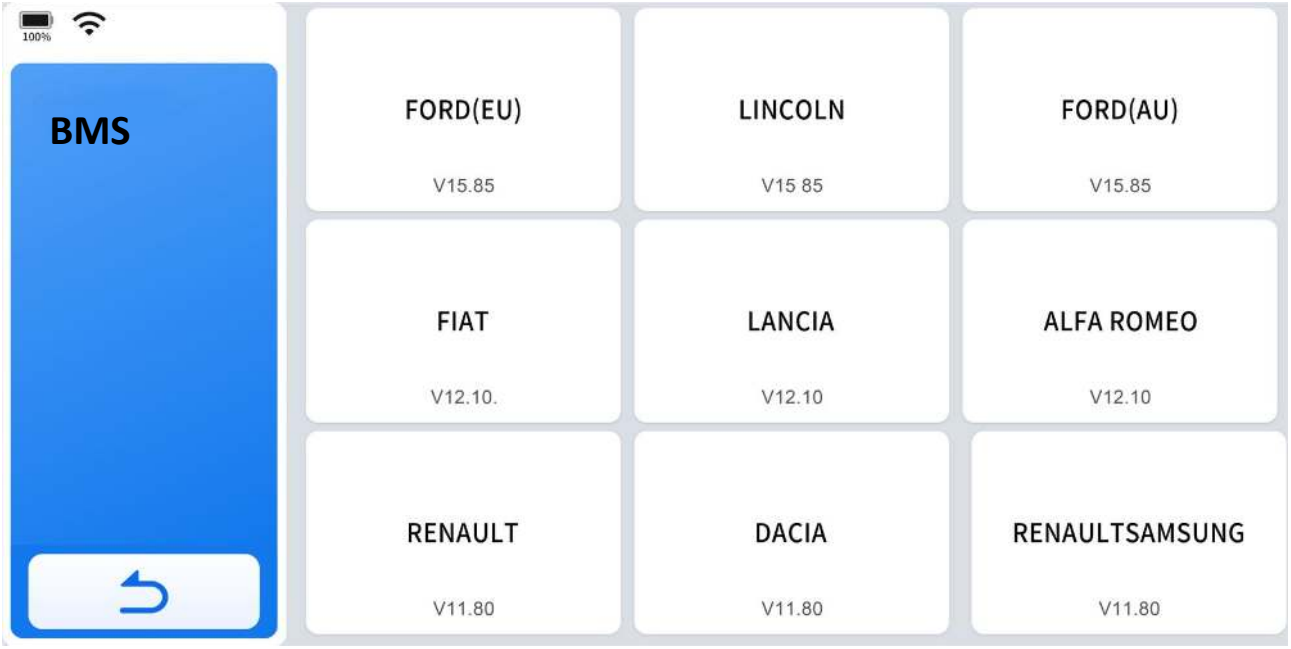
This function enables you to perform a resetting operation on the monitoring unit of the vehicle battery, in which the original low battery fault information will be cleared and battery matching will be performed.

Battery matching must be performed in the following cases:

- The 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 or power window without automatic function.
- 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 displayed on the instrument cluster.

The operation guidelines of the BMS Reset function are shown as below:

Step 1: Enter the BMS Reset menu and choose relevant models according to the vehicle being tested.



Step 2: Enter the battery adjustment menu.



Step 3: Click the "Battery Matching" icon.



Follow the instructions on the screen and wait for the success prompt to appear.

6.5 Injector Coding

This function can write the identification code of the fuel injector into the ECU so that the ECU can recognize the new injector.

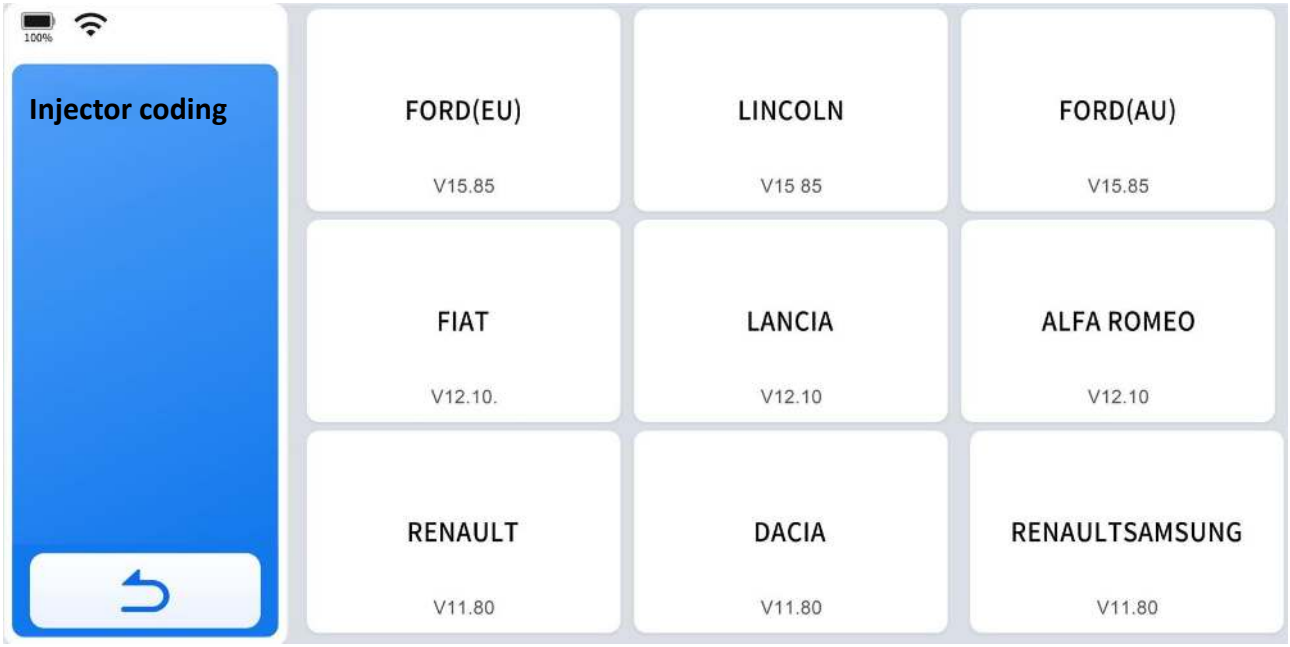
After the ECU or injector is replaced, the injector code of each cylinder must be confirmed or re-coded so that the cylinder can better identify injectors to accurately control fuel injection.

In general cases, there is no need to perform the coding matching function after cleaning;

The identification of the fuel injector includes its working accuracy value and type value. When replacing an injector you need to find the corresponding model for replacement; At present, mainstream cars support injector coding functions.

The operation guidelines of the Injector Coding function are shown as below:

Step 1: Enter the Injector coding menu and choose relevant chassis models according to the vehicle being tested.



Step 2: Click "injector matching" icon.



Step 3: Select the option that matches your vehicle.



Wait until the message "Write successfully" pops up means that you have done.

6.6 DPF/GPF

The Diesel Particle Filter (DPF) function manages DPF regeneration, DPF component replacement teach-in, and DPF teach-in after replacing the ECM.

The ECM monitors driving style and selects a suitable time to employ regeneration. Vehicles driven a lot at idling speed and low load will attempt to regenerate earlier than vehicles driven more with higher load and speed. For regeneration to take place, a prolonged high exhaust temperature must be obtained.

In the event of the car being driven in such ways that regeneration is not possible, i.e., frequent short journeys, a diagnostic trouble code will eventually be registered in addition to the DPF light and "Check Engine" indicators displaying. A service regeneration can be requested in the workshop using the Diagnostic Tool.

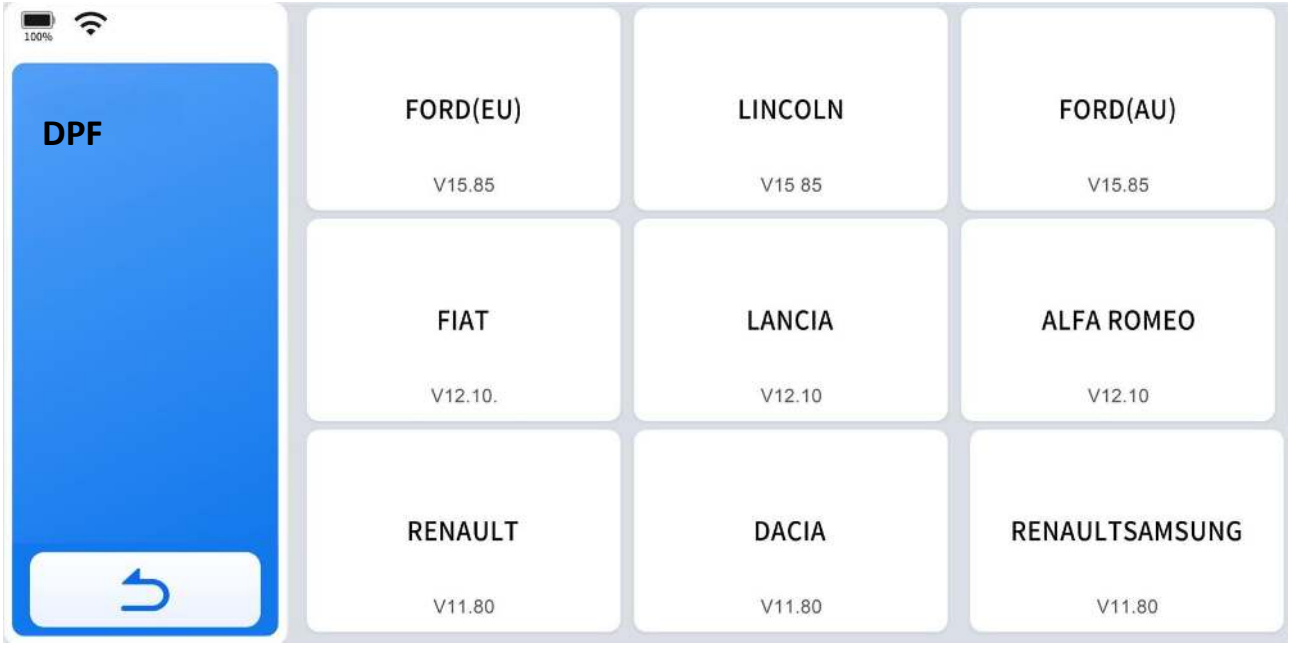
DPF regeneration is used to clear PM (Particulate Matter) from the DPF filter through continuous combustion oxidation mode (such as high-temperature heating combustion, fuel additive or catalyst reduce PM ignition combustion) to stabilize the filter performance.

DPF regeneration may be performed in the following cases:

- The exhaust back pressure sensor is replaced.
- The PM trap is removed or replaced.
- The fuel additive nozzle is removed or replaced.
- The catalytic oxidizer is removed or replaced.
- The DPF regeneration MIL is on and maintenance is performed.
- The DPF regeneration control module is replaced.

The operation guidelines of the DPF function are shown as below:

Step 1: Enter the DPF menu and choose relevant models according to the vehicle being tested.



Step 2: Choose the function you are going to perform.



Follow the instructions on the device screen until you see a confirmation of ''successful operation.''

6.7 TPMS Reset

This function allows to perform the learning and matching and resetting functions of the tire pressure sensor.

TPMS Reset may be performed in the following cases:

- Tire replacement
- After troubleshooting tire pressure related problems
- Other causes of loss of signal from the tire pressure sensor

The operation guidelines of the DPF function are shown as below:

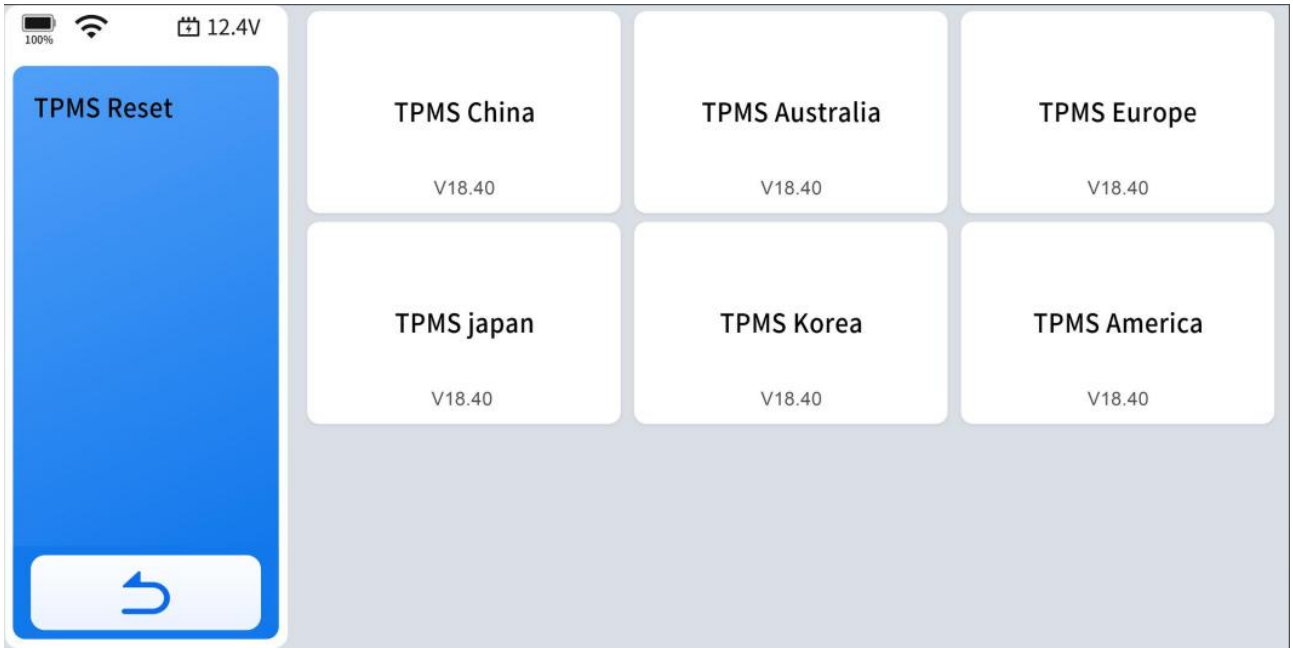
Step 1: For tire pressure sensor matching, some vehicle models may need the TPMS activation tool;

Step 2:Tire pressure imbalance may also cause the tire pressure light;

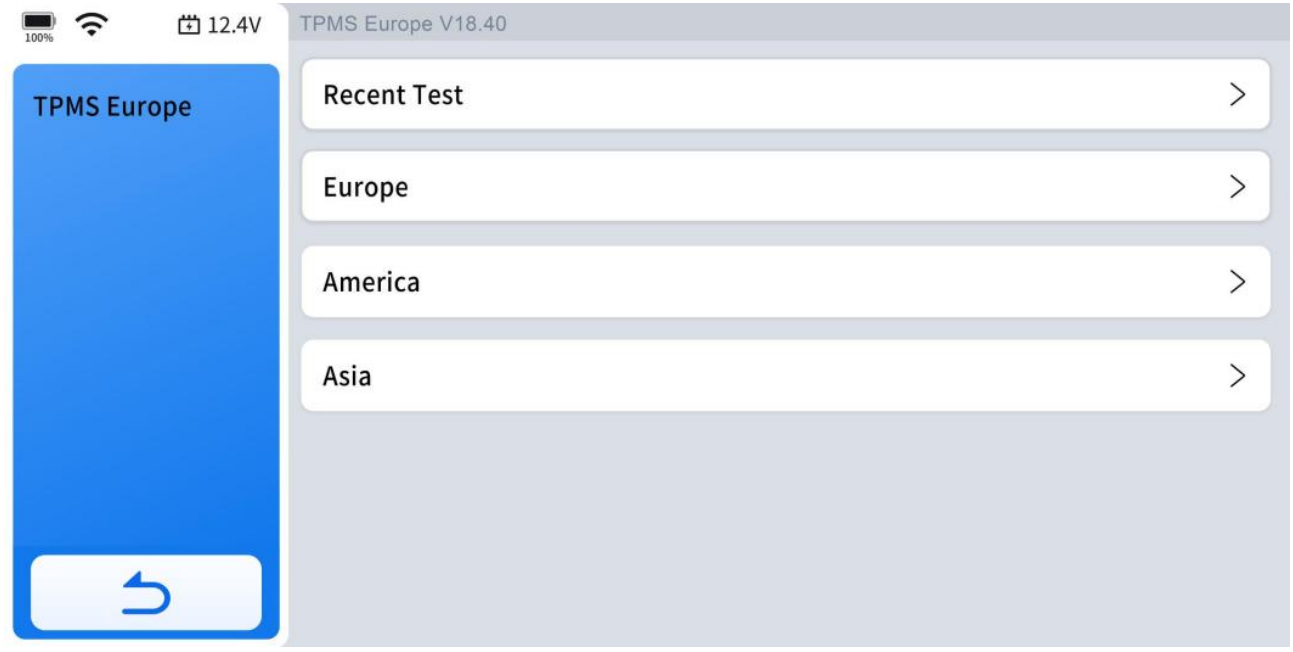
Step 3: After learning process, you may need to run the car for some while before the fault light goes off;

Step 4: This function is only available for activated tire pressure sensors. If you have a brand-new sensor, please use the professional tire pressure device.

Even for the same model, its tire pressure system may differ by the region where it is manufactured. Therefore, under the TPMS Reset function, we provide 6 menus for the major automotive manufacturing regions, including Korea, Japan, USA, China, Australia and Europe, as shown below:



And then please enter the sub-menu by the origin region of car make and select the vehicle model you need.



TPMS reset can be further divided into 4 methods, such as Automatic Relearn, Static Relearn, Copy ID and OBD Relearn, which is depending on the specific model. Also, even if the relearning methods are the same, the learning procedure may differ.

● **Automatic Relearn**

Step 1. Install tire pressure sensor appropriately.

Step 2. Adjust all TPMS sensors to the standard value.

Step 3. Keep the vehicle at a complete standstill status for more than 20 minutes (with the engine off and power off).

Step 4. Drive at 30—100km/h for more than 15 minutes.

Step 5. The vehicle will automatically relearn the value, after that, the tire pressure warning will disappear.

Step 6. If the relearn procedure fails, please repeat steps 2-5.

● **Static Relearn**

Step 1: Install all tire pressure sensors appropriately.

Step 2: Pull up the parking brake.

Step 3: Turn the ignition to ON/RUN with the engine off.

Step 4: Enter the tire pressure learning mode through the instrument panel on vehicle. There will be the corresponding prompt, which are differ from different car make and model, please subject to the vehicle manual or consult a professional).

Step 5: Starting from the left front wheel (some models flash the turn signal at the corresponding position), use the TPMS Activation Tool to activate the sensor, and the vehicle will sound the horn or flash the turn signal at the corresponding position after successful activation.

NOTE:

The first sensor should be learned within 2 minutes, otherwise please repeat step 4.

Step 6: After the left front wheel sensor is successfully relearned. For the remaining, please activate the remaining tire pressure sensors in the order of right front, right rear and left rear. The prompt and activation success status are the same as step 5.

NOTE:

The remaining sensor learning needs to be completed within 3 minutes, otherwise please repeat the relearn procedure from step 4!

Step 7: Turn the vehicle off and power off. Adjust all sensors to the standard value.

Step 8: Tire pressure warning light will disappear after success. If procedure fails, please repeat steps 4-7.

● **OBD Relearn**

Step 1. A TPMS Activation Tool is needed

Step 2. Install tire pressure sensor appropriately

Step 3. Adjust all TPMS sensors to the standard value

Step 4. Activate all sensors in the order of left front, right front, right rear, left rear

Step 5. Connect TPMS Activation Tool to the OBD port of vehicle and perform the OBD relearn function to write the sensor ID

Step 6. Keep the vehicle powered off for more than 25 minutes

Step 7. Drive at 30-100km/h for more than 15 minutes. If relearn successful, the tire pressure warning light will go off. Otherwise, please repeat steps 4-7.

● **Copy ID Relearn**

Step 1. Use a TPMS Activation Tool to activate the original sensor, copy the sensor ID to the tire pressure activation device.

Step 2. And then program the copied ID into the new sensor through the TPMS Activation Tool (The binary of ID format should be the same as the original sensor).

Step 3. Remove the original sensor that has been just copied the ID, install the new sensor that has just been programmed, and put the tire back on.

● **Method 1:**

Step 1. Use a TPMS Activation Tool to activate the original sensor, copy the sensor ID to the tire pressure activation device.

Step 2. And then program the copied ID into the new sensor through the TPMS Activation Tool (The binary of ID format should be the same as the original sensor).
Step 3. Remove the original sensor that has been just copied the ID, install the new sensor that has just been programmed, and put the tire back on.

● **Method 2:**

Step 1. Use the TPMS Activation Tool to connect the vehicle OBD port, enter the tire pressure system, copy the ID of the sensor to be replaced.
Step 2. And then program the copied ID into the new sensor through the TPMS Activation Tool (The binary of ID format should be the same as the original sensor).
Step 3. Remove the original sensor that has been just copied the ID, install the new sensor that has just been programmed, and put the tire back on.

● **Method 3:**

Step 1. Remove the original sensor.
Step 2. Use the TPMS Activation Tool to copy the original sensor ID into the new sensor manually (The binary of ID format should be the same as the original sensor).
Step 3. Install the new sensor to the tire correctly, set the tire pressure to the standard value, and put the tire back on the vehicle.

Note:

1. Tire pressure standard is usually displayed in these places:

● Vehicle owner's manual
● Label next to the driver's door (near the B-pillar)
● Drawer next to the driver's seat of the vehicle
● Fuel tank cap

2. This scanning tool is not a replacement for a TPMS activation tool. It only provides TPMS reset/ relearn functions. Activating TPMS sensors requires a professional TPMS activation tool. If you need a professional TPMS activation tool, please contact us: support@xtoolonline.com.

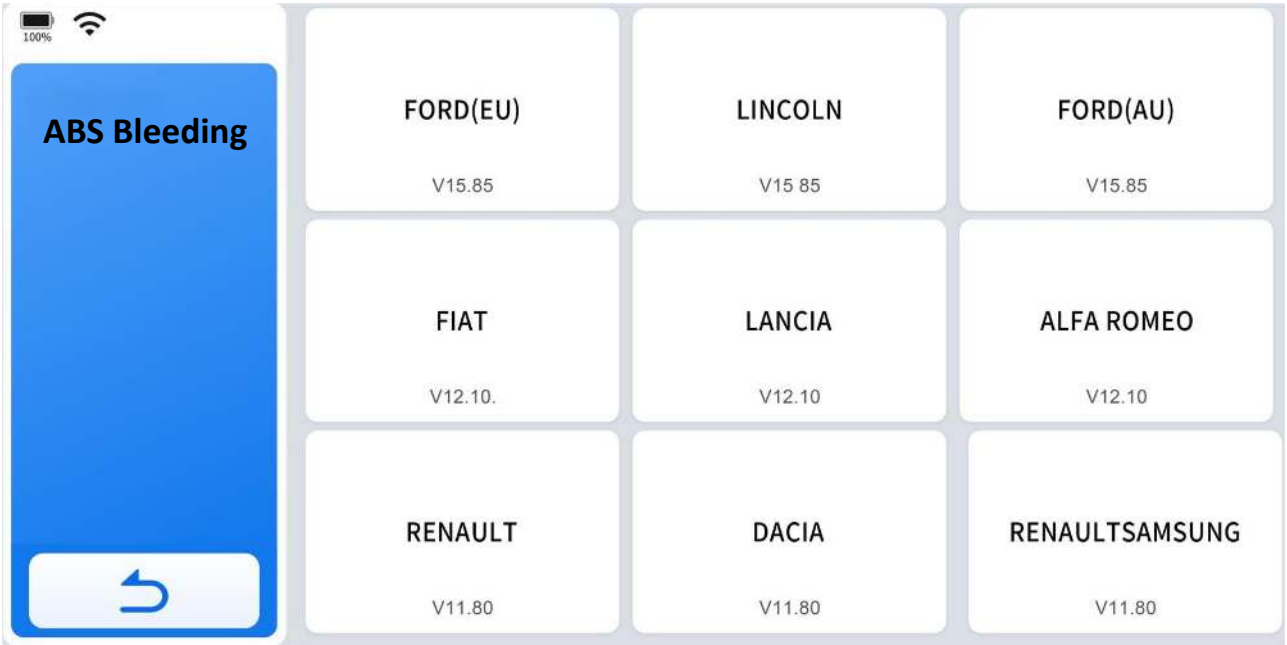
6.8 ABS Bleeding

Anti-Lock Braking System keeps the tires from locking up immediately when there are brakes. Keeping ABS in good condition can give full play to the effectiveness of the brakes, shorten the braking time and distance, prevent the vehicle from skidding and tailing during emergency braking, ensure good driving stability and steering maneuverability, and avoid violent friction between the tires and the ground to reduce tire wear. When the ABS contains air, the ABS bleeding function must be performed to bleed the brake system to restore ABS brake sensitivity. ABS Bleeding can be performed in the following cases:

- Replace the rear brake distributor pump or the front brake distributor pump
- Severe brake fluid shortage
- Change the brake fluid

The operation guidelines of the ABS Bleeding function are shown as below:

Step 1: Enter the ABS Bleeding menu and choose relevant models according to the vehicle being tested.



Step 2: Follow the prompt steps and complete the function.

Caution

- The ABS pump screw needs to be unscrewed.

● Brake fluid will be under pressure during this process. Secure the bleed hose and open bleeder screws slowly.

● Some vehicles do not support automatic bleeding, but manually bleeding.

6.9 Throttle Matching

Also called Throttle Reset or Throttle Match. This function enables you to reset the throttle actuators and 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.

6.10 Gearbox Matching

This function can complete the self-learning of the gearbox and improve the shift quality, when the gearbox is disassembled or repaired which may cause shifting delay or impact.

6.11 Suspension System

This function can adjust the vehicle body height sensor for level calibration after replacing the vehicle height sensor or control module in the air suspension system, or when the vehicle level is not correct.

6.12 Windows Initialization

When the vehicle battery is disconnected, the windows may not work right. This function is used to perform door window matching to recover the ECU initial memory, and recover the automatic ascending and descending function of power window.

6.13 Headlight Adjustment

Also called Headlight Matching or AFS Reset. This function can initialize the adaptive headlight system. The headlight system can decide whether to automatically turn on the headlights based on the ambient light intensity, monitor the vehicle's driving speed, body posture, etc., and adjust the headlight lighting angle.

6.14 VGT Adaption

Also called VGT Turbo Calibration. This function is used to calibrate the newly installed component. This needs to be done every time there's an initial installation or swap of the VGT. This is always done when the component has been detected as operating "out of range".

6.15 Crank Sensor Relearn

This function enables you to perform tooth learning for the vehicle, to turn off the MIL.

It needs to be performed in the following cases:

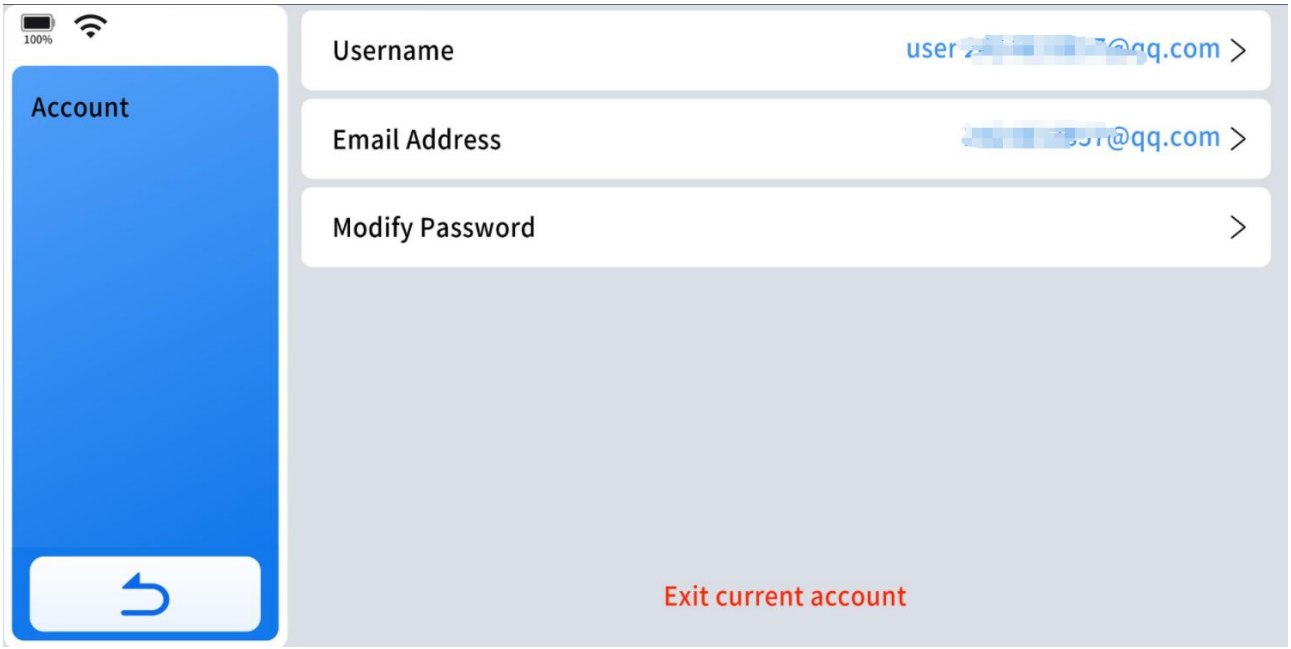
1. After the engine ECU, crankshaft position sensor, or crankshaft flywheel is replaced.
2. The DTC "tooth not learned" is present.

7. More

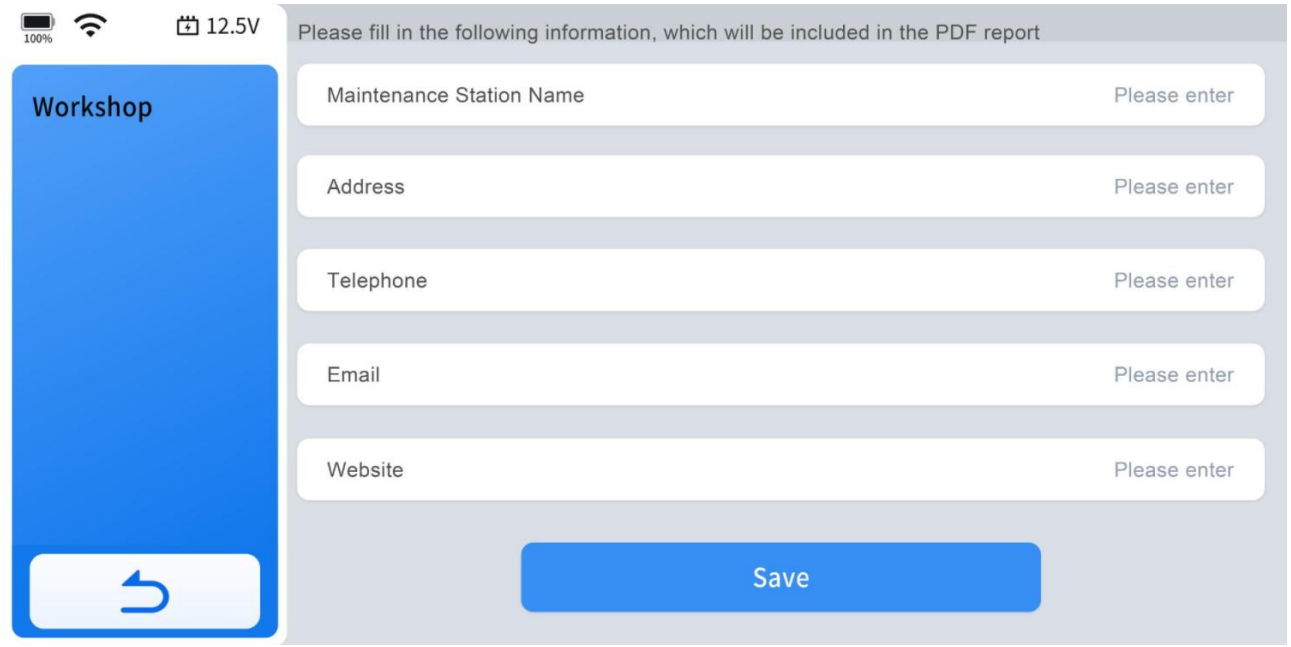
This chapter covers the settings for the diagnostic software or tablet, including the tablet's language, units used in the diagnostic program, USB port mode configuration, and more.

7.1 My Account

Go to "More"> "Profile"> "Account" to check your email address and change your password.

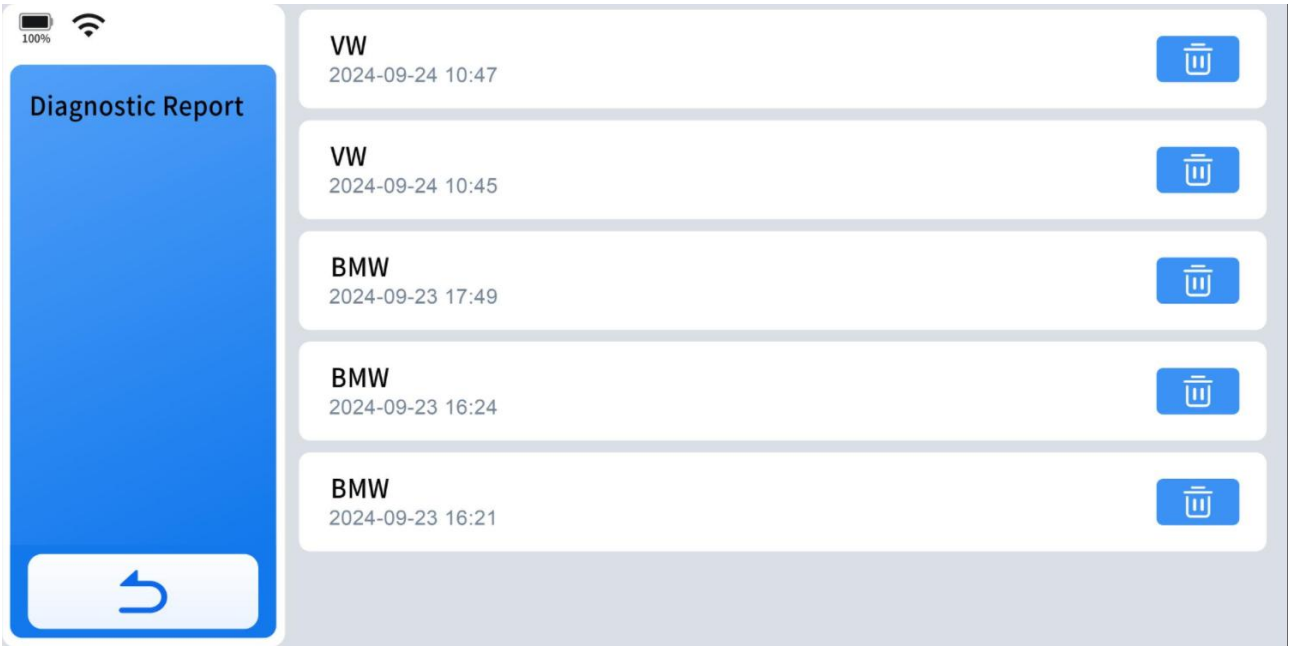


Go to "More"> "My Account"> "Workshop" to add your job information if needed.



7.2 Diagnostic Report

Here you can view all historical diagnostic reports, you can select the report you want to view based on the date of each report.



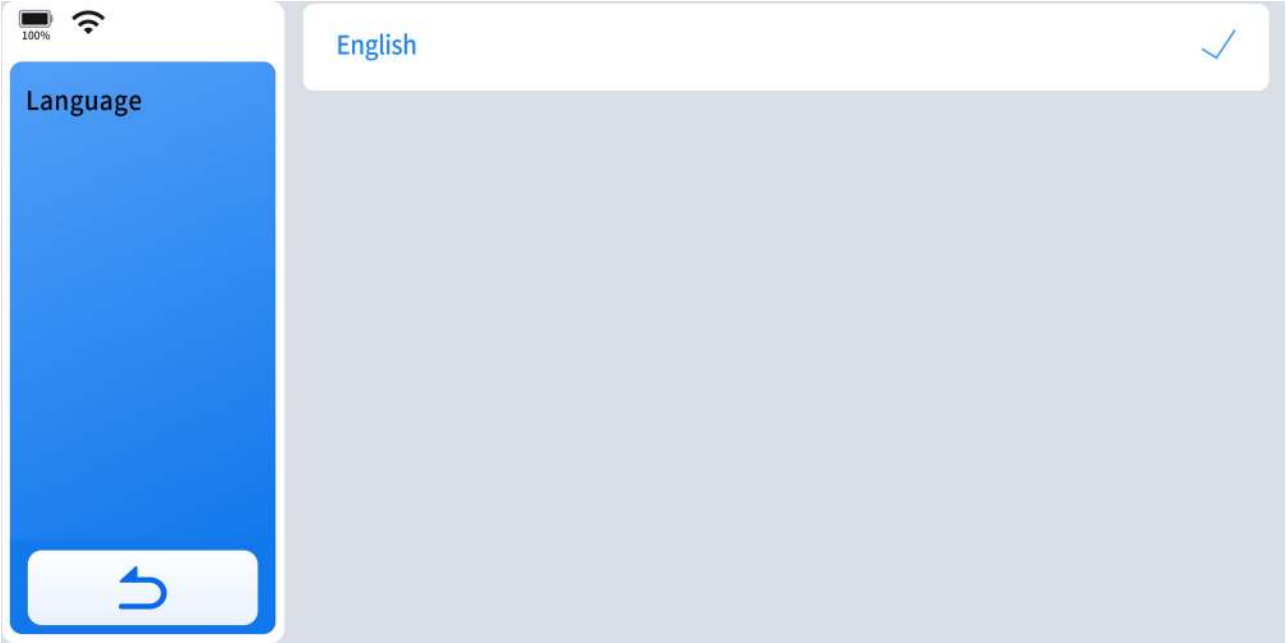
7.3 Settings

It covers the settings for the diagnostic software or tablet, including the tablet's language, units used in the diagnostic program, and more.



7.3.1 Language

This function allows you to modify the language you need, so you won't have any language problems during use.



Here are the detailed steps:

(1) Contact Your Dealer: Provide your tablet's Serial Number (S/N) to your dealer and specify the desired language.

(2) Factory Data Reset: More> Settings> About>Factory Data Reset

(3) Log in Again with Your Registered Account.

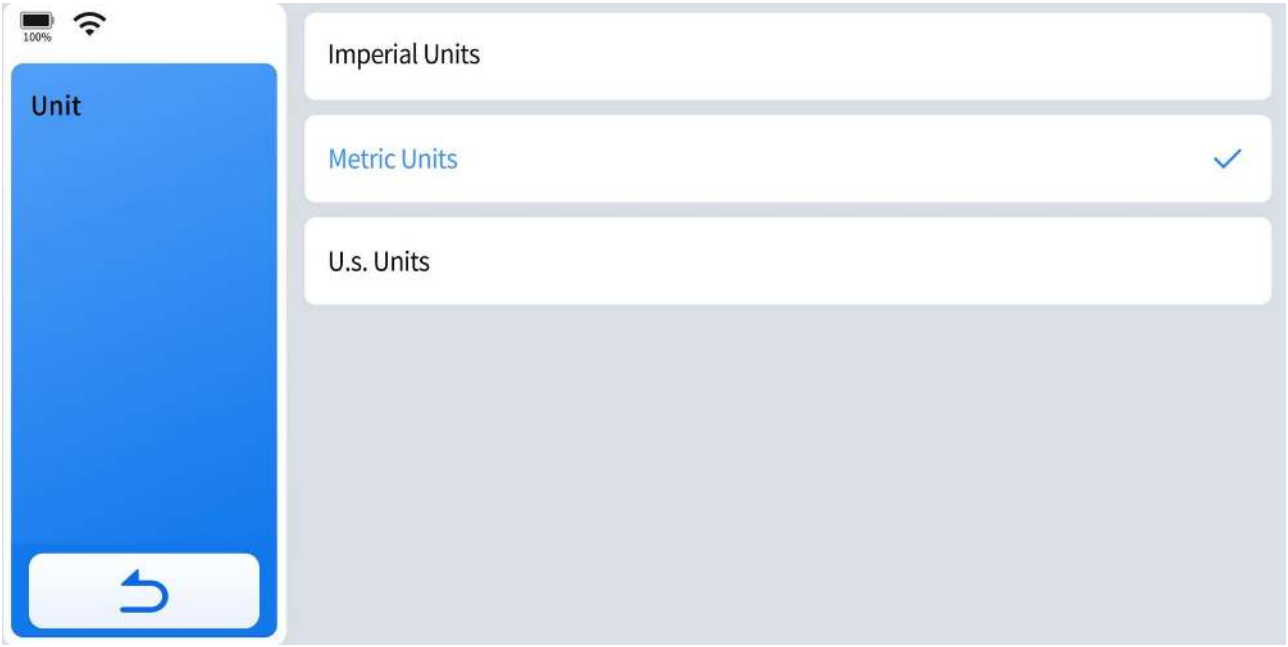
(4) Remove English Diagnostic Software.

(5) Choose the Language You Preferred: More> Settings> Language> Choose The Language You Want

(6) Re-download the Software in the Language You Have Chose.

7.3.2 Unit

This setting provides 3(three) sets of units to measure various sensor values.



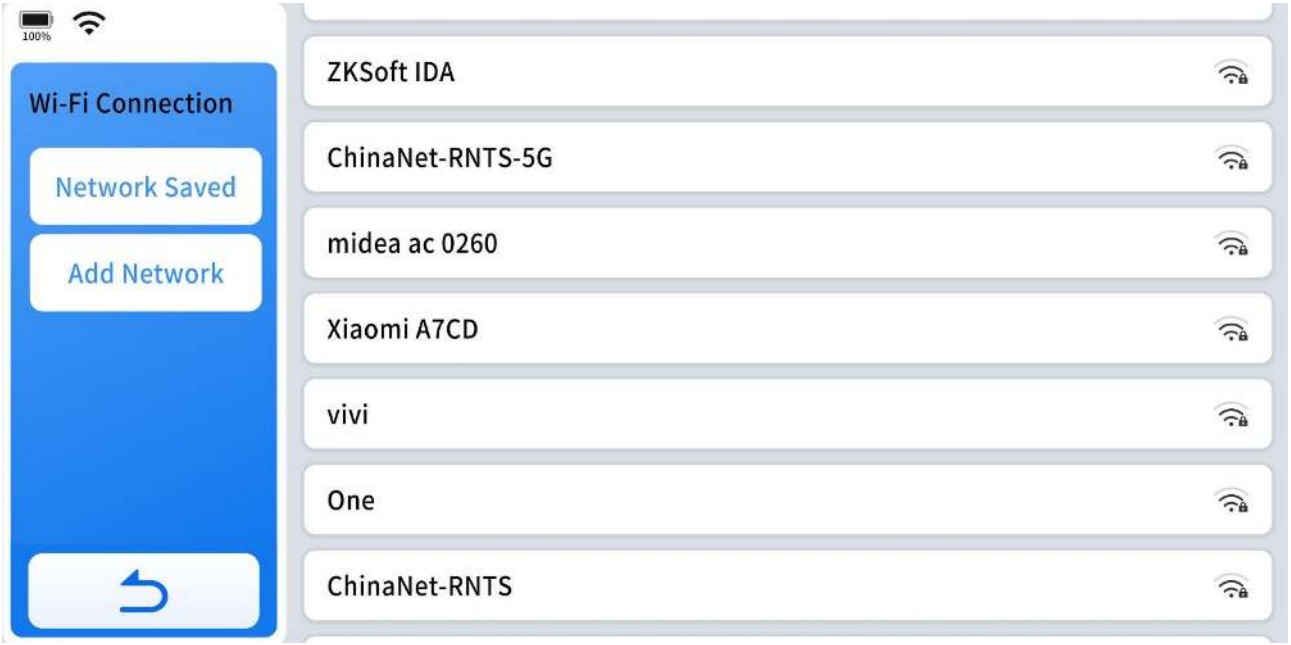
Metric Units: Centimeters, kilometers, grams, kilo,℃,litres, pa, kpa

Imperial Units: Inch, foot, yard, oz, lb, ℉,PSI, mile, galon

US Units: Inch, foot, yard, oz, lb, ℉, PSI, mil, mile

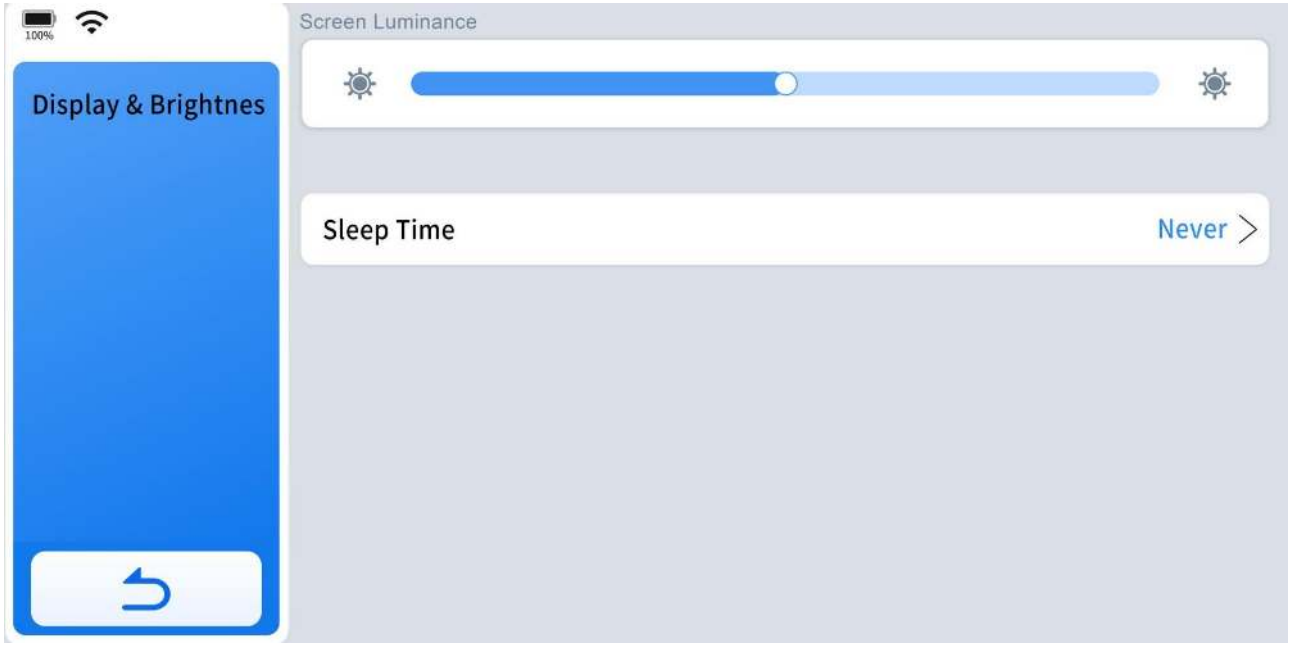
7.3.3 Wi-Fi Connection

Here you can change the available Wi-Fi to ensure network speed.



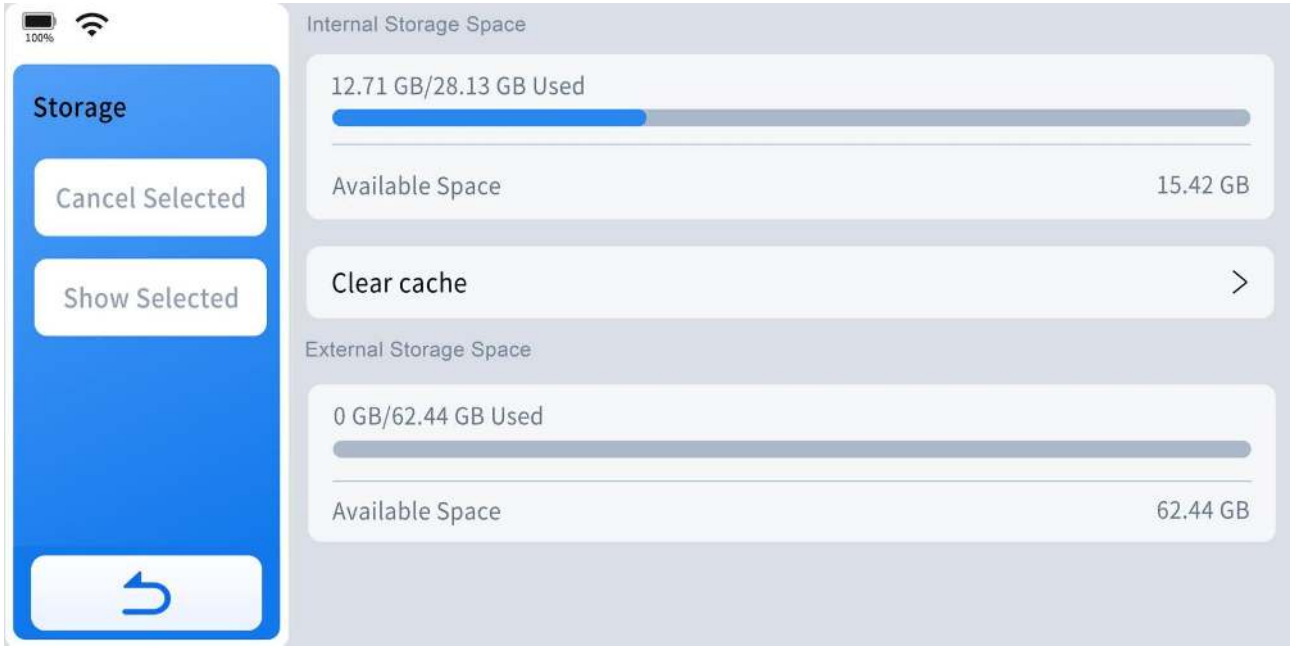
7.3.4 Display & Brightness

Here you can adjust the screen brightness and the sleep time.



7.3.5 Storage

Here you can check the storage space status of your device and clear cache.



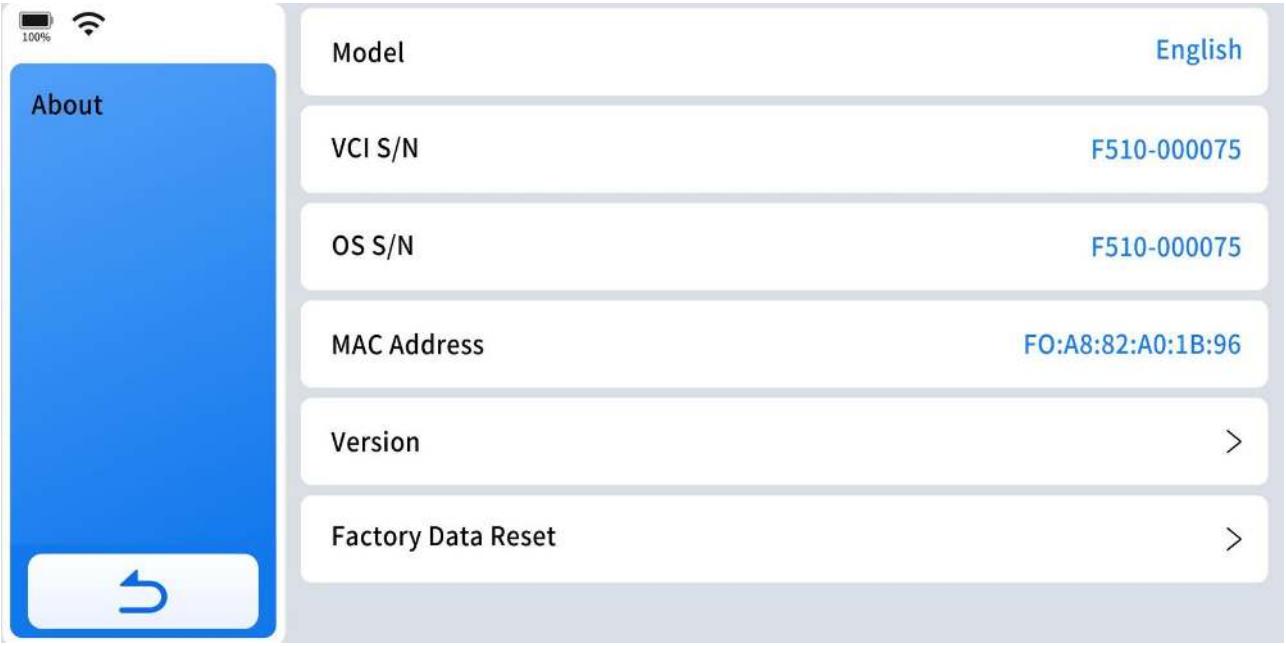
7.3.6 Date & Time

Here you can select the time zone and choose 12-hour or 24-hour format.



7.3.7 About

Here, you can view the device name, serial number, firmware version, device version, and restore the device to factory settings.



8. Software Updates

This chapter details how the software subscription operates and outlines basic procedures for software updates.

Software updates can be performed while connected to a Wi-Fi network or using a mobile phone's hotspot. Using a mobile phone's hotspot is recommended in case of network provider restrictions or when home Wi-Fi is unavailable.

If "Network abnormal" prompt pops up on the screen, try another Wi-Fi or check the router settings or seek help from our support team via www.xtoolonline.com /support.

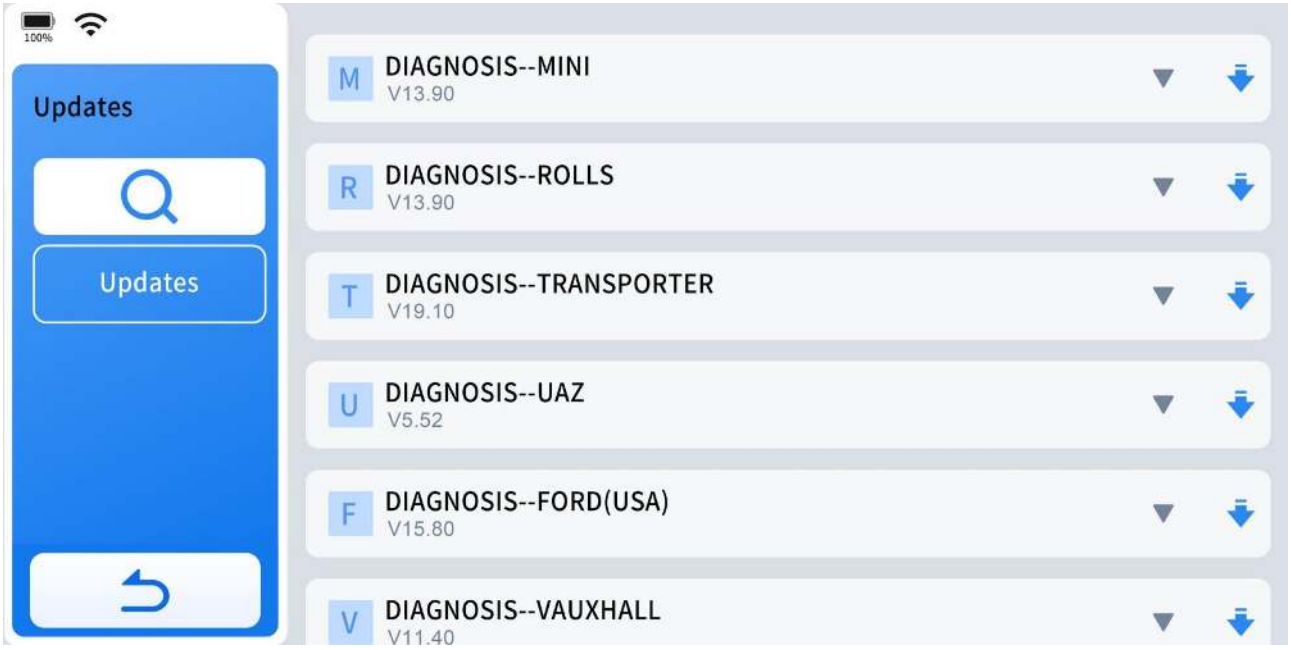
To update the software programs, you have 2 (two) options:

Option 1: Update All Software Programs

Update all by clicking "Update" at the left of the update menu.

Option 2: Update Individual Software Program

Update specific software program by clicking the " " icon at the right side of the corresponding software program. If the update is interrupted, click the " " icon again to proceed.



Delete Software Program:

When the diagnostic tablet has taken up too much memory and become slow, the solution is to delete the software programs you rarely use to free up some space.

How to delete diagnostic software program:

To delete rarely used diagnostic software program, enter Diagnostic menu and click on any diagnostic software package for five seconds. When a blank box appears in the upper left corner of the diagnostic package, check the software package you want to delete and click "Delete" to remove it.

9. Other Functions

9.1 Print the Report

To view the vehicle diagnostic report anytime, you can send the report to your phone or computer and print it out.

Here is the step to print the diagnosis report:

Step 1: Send Diagnostic Report to Your Email: More> Diagnostic Report> Choose the report you want to print> Share by email> Input your email address

Step 2: Receive Diagnostic Reports by Email and Save them on Your Phone or Your iPad.

Step 3: Connect Your Phone or Your iPad to the Printer and Print the Diagnostic Report.

NOTE:

For the safety of the device's firmware, please avoid connecting it directly to the printer.

9.2 Data Logging

For software-related issues such as vehicle communication problems or function failures, data logging often provides crucial information for successful technical support sessions.

To ensure we can assist you effectively, please ensure your Diagnostic Tool remains connected to Wi-Fi for at least 15 minutes. Additionally, provide the Serial Number (S/N). This allows our technical team to access the data logs from the server and begin analyzing the issue to find a solution.

9.3 FAQ Database

This section describes how to access our FAQ database on our website. Visit www.xtoolonline.com and then click "FAQs" or click direct link https://www.xtoolonline.com /faqs

9.4 Corporate Purchase

Whether you represent a company, school, government agency, or NGOs and you want to buy in bulk, reach us through email: Support@xtoolonline.com and get a bulk discount.

9.5 Inventors and Testers Program

That sounds like an exciting opportunity indeed! If you're interested in becoming a product tester, inventor, or contributing to language improvements in the User Manual, it's best to reach out to the company directly through their designated channels. Contacting their support team or customer service would provide you with more detailed information on how to participate in these specific programs. They can guide you on the steps to take and any requirements needed to get involved.

10. Compliance Information

10.1 FCC Compliance / FCC ID: 2AW3IF510

This device complies with Part 15 of the FCC rules and Industry Canada's license-exempt RSSs.

Operation is subject to the following two conditions:

1. This device may not cause harmful interference.

2. This device must accept any interference received, including interference that may cause undesired operation.

Cet appareil est conforme aux CNR exempts de licence d'Industrie Canada.

Son fonctionnement est soumis aux deux conditions suivantes:

1. Ce dispositif ne peut causer des interferences; et

2. Ce dispositif doit accepter toute interférence, y compris les interférences qui peuvent causer un mauvais fonctionnement de l'appareil.

WARNING:

Making changes or modifications without explicit approval from the responsible compliance authority may revoke the user's authorization to operate the equipment.

NOTE:

This equipment has undergone testing and meets the requirements for a Class B digital device, as stipulated by Part 15 of the FCC Rules. These standards are intended to offer reasonable protection against interference when installed in residential environments.

This equipment emits radio frequency energy during operation, which can potentially interfere with radio communications if not installed and used as per the provided instructions. While efforts are made to minimize interference, there is no assurance that it will not occur in specific installations. If interference affects radio or television reception, you can determine if this equipment is the cause by powering it off and on. To mitigate such interference, consider the following measures:

● Reorient or relocate the receiving antenna.

● Increase the separation between the equipment and the receiver.

● Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.

● Consult the dealer or an experienced radio/TV technician for assistance.

10.2 UKCA

(UK Conformity Assessed) is a compliance mark introduced by the UK after Brexit, intended to replace the previous CE mark. It applies to products sold in the UK market, ensuring that these products meet the UK's safety and environmental standards.

10.3 RF Warning Statement

The device has been evaluated to meet general RF exposure requirement.

The device can be used in portable exposure condition without restriction.

The term "IC" before the radio certification number only signifies that IC technical specifications were met.

10.4 ROHS Compliance

This device complies with the European RoHS Directive 2011/65/EU, which restricts the use of certain hazardous substances in electrical and electronic equipment.

10.5 CE Compliance

This product conforms to the essential requirements of the following Directives and bears the CE mark accordingly:

EMC Directive 2014/30/EU

R&TTE Directive 1999/5/EC

Low Voltage Directive 2014/35/EU

10.6 ISED

ISED (Innovation, Science and Economic Development Canada) is a Canadian government department focused on promoting innovation, scientific research, and economic growth. It develops and implements policies to support businesses, encourages entrepreneurship, facilitates international trade, and regulates areas such as telecommunications and consumer protection. ISED aims to enhance Canada's economic competitiveness and foster a culture of innovation.

11. Warranty

Limited Two-Year Warranty

Shenzhen XTOOL tech Intelligent Co., LTD.(the Company) warrants to the original retail purchaser of this XTOOL device that should this product or any part thereof during normal usage and under normal conditions be proven defective in material or workmanship that results in product failure within two year from the date of purchase, such defect(s) will be repaired, or replaced (with new or rebuilt parts) with Proof of Purchase, at the Company's option, without charge for parts or labor directly related to the defect(s).

The Company shall not be liable for any incidental or consequential damages arising from the use, misuse, or mounting of the device.

This warranty does not apply to:

1.Products subjected to abnormal use or conditions, accident, mishandling,neglect, unauthorized alteration, misuse, improper installation/repair or, improper storage;

2. Products whose mechanical serial number or electronic serial number has been removed, altered, or defaced;

3. Damage from exposure to excessive temperature or extreme environmental conditions;

4. Damage resulting from connection to, or use of any accessory or other product not approved or authorized by the Company;

5. Defects in appearance, cosmetic, decorative, or structural items such as framing and non-operating parts;
6. Products damaged from external causes such as fire, dirt, sand, battery leakage, blown fuse, theft, or improper usage of any electrical source.

12. Appendix

12.1 Navigation Path Quick Check

Misfire Counters: Auto Identification> ISO 15765-4 Module $000007E8> On-Board Monitor Test> Misfire Cylinder 1 Data> Misfire count for last/current driving cycles

Fuel Loop Status: Go Diagnostic> Region> Make> Model> Year> System Selection> Full System Diagnosis> Engine Electronics> Live Data> Packet Data flow> Status of Oil Pressure Switches

Readiness Status(Smog Check): OBD-II> I/M Readiness Status

Transmission Oil Temperature: Go Diagnostic> Region> Make> Model> Year> System Selection> Full System Diagnosis> Transmission> Live Data> Transmission Fluid Temperature Filtered

12.2 Terms & Terminology Quick Check

LTFT= Short for Long Term Fuel Trim
STFT= Short for Short Term Fuel Trim
MIS= Short for Misfire
I/M Readiness Status= Technical term for Smog Check
VGT Turbo Actuator Calibration= Turbo Actuator Pre-Align/Self Calibrate
Cam Crank Relearn= Cam Pattern Relearn
Crankshaft Position Variation Learn= Crankshaft Relearn= CASE Learning= Gear Learning

12.3 FAQs

Q1: I haven't found I/M readiness in the menu.

A: Click the "OBD-II" icon >Auto Scan/Select OBD-II Protocol>I/M Readiness

Q2: Unable to find live sensor data as the generic OBD2 scanner, like short-term/long-term fuel trim.

A: Click the "OBD-II" icon > Auto Scan/Select OBD-II Protocol> Live Data> LTFT, STFT or similar term.

Q3: Unable to find the misfire data for my Ford/Dodge/Chrysler/Jeep cars?

A: OBD-II >Auto Scan or Select OBD-II Protocol for your car> On Board Monitor Test> Select "Misfire Cylinder Data" or similar term.

Q4: I can not charge the battery now. I plugged in the cord, it's not charging. The battery is almost dead, only about 10% left.

A: 1. Try to use the original charging cable or OBD test cable to charge the device for more than six hours. (Using the original charging cable to connect the power supply with a stable 12V voltage is preferred)

2. Hold down the shutdown button for 15 seconds and observe whether the device can be turned on normally. (Do not connect the charging cable)

3. Connect the device to the computer through the USB cable to see if the device can be recognized by the computer.

4. If neither of the above methods successfully charges the device, please contact our technical support: support@xtoolonline.com and send a video showing the charging issue.

Q5: Can scanner tune up car?

A: Sorry, D5S Diagnostic Tool does not have the capability to tune up car.

Q6: It was frozen until the battery went flat even I tried the reset button and the power button.

A: Please make sure you have updated the App to the latest version(To update the App to the latest, go to More> Setting> About> Version> APP Version to check the latest App version and update to the latest.). If yes, please reset to factory settings and check again. If it still does not work, please reach us directly via support@xtoolonline.com.

Q7: I cannot update, I've tried Wi-Fi and cell phone as hotpot, however, keep telling me failure connection.

A: This problem could reside with the setting of your router firewall or the network provider in your region that restricts access to the server, please check if your router firewall can access the server or not. If the problem still exists, please reach us via support@xtoolonline.com.

Q8. Why should I connect the scanner to internet once a month?

A: It's a government policy compliant requirement to connect the device to Wi-Fi once a month to report IP location to prevent the device being used for illegal activities. If connecting it to Wi-Fi did not solve the issue, please reach us directly via support@xtoolonline.com ASAP.

Q9: The auto scan/VIN cannot work on my vehicle.

A: As for auto scan/VIN, it does not cover all vehicles as some vehicles did not store VIN in the ECU, some VIN is not included in our coverage database, and some vehicles like Dodge work in "sending command, answering command" mode for vehicle communication.

You can try below alternative navigation methods:

- Turn on the ignition and not start the engine to try auto scan. For older vehicles, please turn on the ignition and start the engine and try auto scan.
- Manual input VIN.
- Diagnosis> America/Europe/Asia> Vehicle Selection> Automatic Detection.
- Diagnosis> America/Europe/Asia> Vehicle Selection> Manually Selection.

Q10: My diagnostic tool cannot connect to Wi-Fi.

A: If it shows "times out", please check your router and make sure that your router selected WPA2, not WPA3(maximum compatibility), and that it has not blocked the outgoing network traffic to non-US regions like China. Switching to mobile phone hotspot will most likely solve the registration issue. You can switch back to home Wi-Fi for software downloads when activation is done.

The second method is to connect to the Wi-Fi extender. If you have the Wi-Fi main modem and the extender. You can try to disconnect the diagnostic tool from the main Wi-Fi and connect it to the internet via the extender.

If it has connected to the internet but shows "connect internet to sync your device", the problem is that the country and time zone (china time zone) in the Android system didn't match what the network time zone was (pacific time zone) and is preventing it from syncing. Please just correct the time zone to pacific time zone by entering more menu> settings> Date & Time> select time zone.

Q11: When activating the device, shows error message "registration failure" after entering your email address.

A: Try mobile hotspot (recommended) or a different network to activate.

Q12: Received a used device with a lock screen password, unable to open the device.

A: Contact our support team with the device's S/N via support@xtoolonline.com to resolve the issue.

Q13: Shall I connect my device to the Internet/ Wi-Fi all the time?

A: No it doesn't need an Internet connection all the time. You just need to register it and download the updates with internet connection. For some special vehicles like Peugeot, scan tools need to be connected to the Internet, because it is required by

the manufacturer. It will require internet connection when you are doing some advanced features like ECU Programming.

Q14: Does your tools can support all the functions on all vehicles?

A: All our tools are comprehensive diagnostic tools that can work on many vehicle brands, but it cannot do all the functions on all vehicles, just like any other scan tools in the market, even the factory scanner can only do functions on their own brand. Because not all vehicles come with the same functions when manufactured and even the vehicles of the same model might have various configurations.

13. Contact Us

Warranty & Support

E-mail: support@xtoolonline.com

Website: https://www.xtoolonline.com/

For Wholesale Business or Become our Distributors:

business@xtoolonline.com/sales@xtoolonline.com

Share us with your friends, join our community to get tutorials, support and more. Scan QR code below to subscribe to our social media:

TikTok

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Facebook:

https://www.facebook.com/XTOOLonline

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Tiktok:
https://www.tiktok.com/@xtoolonline

YouTube:
https://www.youtube.com/@xtoolonline

Create social media content, post online and help our community:
E-mail: marketing@xtoolonline.com