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IMPORTANT SAFETY INFORMATION

DANGER

When an engine is operating, keep the service area well-ventilated or attach a building exhaust removal system to the engine exhaust system. Engines produce various poisonous compounds (hydrocarbon, carbon monoxide, nitrogen oxides, etc.) that cause slower reaction time and result in death or serious personal injury.

WARNING

Read all safety warnings and instructions.

Note: Failure to follow the warnings and instructions may result in electric shock, fire and/or serious injury.

1. Always perform automotive testing in a safe environment.
2. Do not connect or disconnect any test equipment while the ignition is on or the engine is running.
3. **DO NOT attempt to operate the tool while driving the vehicle. Have second personal operate the tool. Any distraction may cause an accident.**
4. 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.
5. NEVER smoke or allow a spark or flame in vicinity of battery or engine. Do not operate the tool in explosive atmospheres, such as in the presence of flammable liquids, gases, or heavy dust.
6. Keep a fire extinguisher suitable for gasoline/chemical/electrical fires nearby.
7. Wear an ANSI-approved eye shield when testing or repairing vehicles.
8. Put blocks in front of the drive wheels and never leave the vehicle unattended while testing.
9. Use extreme caution when working around the ignition coil, distributor cap, ignition wires and spark plugs. These components create hazardous voltage when the engine is running.
10. To avoid damaging the tool 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.

11. 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.
12. Keep the tool dry, clean, free from oil, water or grease. Use a mild detergent on a clean cloth to clear the outside of the equipment when necessary.
13. Keep clothing, hair, hands, tools, test equipment, etc. away from all moving or hot engine parts.
14. Store the tool and accessories in a locked area out of the reach of children.
15. Do not use the tool while standing in water.
16. Do not expose the tool or power adapter to rain or wet conditions. Water entering the tool or power adapter increases the risk of electric shock.

Using This Manual

This manual contains device usage instructions.

Some illustrations shown in this manual may contain modules and optional equipment that are not included in your system.

Conventions

The following conventions are used.

Bold Text

Bold text is used to highlight selectable items such as buttons and menu options.

Example:

Tap **OK**.

Notes and Important Messages

Notes

A NOTE provides helpful information such as additional explanations, tips, and comments.

Example:

Note: 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.

Warning

WARNING indicates a hazardous situation which, if not avoided, could result in minor or moderate injury to the operator or to bystanders.

Example:

Warning: 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.

Danger

DANGER indicates an imminently or potentially hazardous situation which, if not avoided, could result in death or serious injury to the operator or to bystanders.

Example:

Danger: 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.

Illustrations

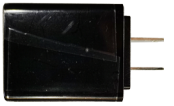
Illustrations used in this manual are samples, the actual testing screen may vary for each vehicle being tested. Observe the menu titles and on-screen instructions to make correct option selection.

Table of Contents

1 Packing List

Common accessories are same, but for different destinations, the accessories may vary. Please consult from the local agency or check the package list supplied with this tool together.

No.	Name	Qt.	Picture & Notes
1	**Display Tablet**	1	
2	**VCI Dongle**	1	
3	**OBD II Extension Cable**	1	 (Connects the VCI dongle to the OBD II vehicle's DLC.)
4	**Data Cable (Type A-Mini B)**	1	 (Connects the tablet to the VCI dongle).

5	**Charging Cable (Type-A to Type-C)**		 (Connects the power adaptor to charge the tablet.)
6	**Power Adaptor**	1	 (For charging the tablet.)
7	**Password Envelope**	1	 (A piece of paper bearing Product S/N and Activation Code, which is required for your registration.)

2 Overview

2.1 Introduction

SS LINK, developed by SMARTSAFE TECH CO., is specially designed as a comprehensive ADAS calibration product. It can work with the VCI (Vehicle Communication Interface) dongle to perform full car model and full system diagnosis (including reading/clearing the diagnostic trouble codes and reading data stream etc.). Additionally, it also can work with the specific ADAS calibration tools to perform ADAS calibration.

It supports the following functions:

- ADAS Calibration: This function enables you to perform ADAS (Advanced Driver Assistance System) calibration operations. This function requires the SS LINK to work with the specific ADAS calibration tool (such as X-431 ADAS Mobile / X-431 ADAS PRO).

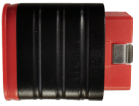
> Note: By default, the ADAS calibration function is disabled. To ensure normal use of the calibration function, users need to activate the pin card (included with the Calibration Tool) to unlock it on the SS LINK first.

- ADAS Report: A quick access to view ADAS diagnostic reports.
- ADAS Coverage: Checks which vehicle models are supported on the tablet.
- ADAS Guide: Includes the product introductions, user manuals and adjustment steps of the X-431 ADAS PRO and X-431 ADAS Mobile.
- ADAS Demo: This function works as a demonstration program, guiding you how to perform ADAS calibration.
- Diagnose: This module allows you to quickly achieve full car model and full system vehicle diagnosis. Diagnosis functions include: Read DTCs, Clear DTCs, Read Data Stream, Special Functions etc.
- One-click Update: Lets you update your diagnostic software online.
- Moreover, it also supports system OTA upgrade, TeamViewer Quick Support, Browser, File explorer, Camera, Gallery, Screen Recording and Email etc.

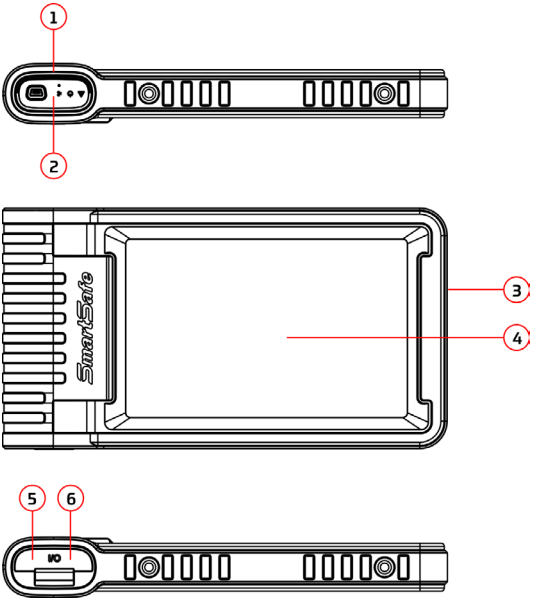
There are two main components to the SS LINK:

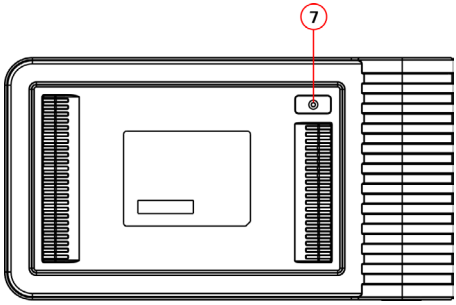
- Display tablet -- the central processor and monitor (For details, please refer to Chapter 2.2.)

- VCI dongle -- the device for accessing vehicle data (For details, please refer to Chapter 2.3.)



2.2 Display Tablet





1. Docking slot for VCI dongle

For housing the VCI dongle.

2. VCI dongle

It is pre-installed in the docking slot on the top of the display tablet. Use the hand to press the dongle once, it will be automatically ejected from the docking slot. When it is not in use, please reinsert it into the slot to avoid loss.

3. Power source/Lock screen button

- When the tablet is off, turn on it by pressing the button for 3 seconds.
- When the tablet is on, press the button to wake up the screen or turn off the screen.
- Turn off the tablet by pressing the button for over 3 seconds; force a shut down by pressing the button for over 8 seconds.

4. Screen

5. Charging port

Connect a charger for charging or data transmission.

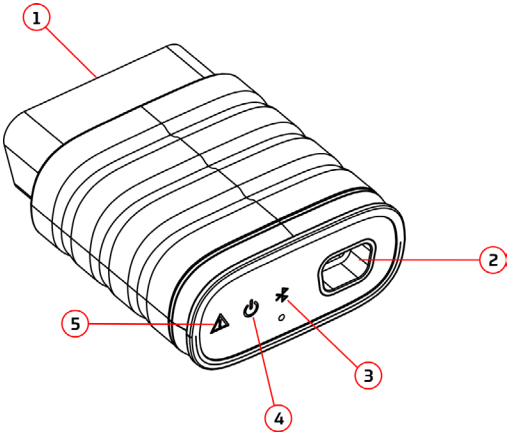
6. USB expansion slot

Connect the tablet to the VCI dongle via data cable.

7. Rear camera

2.3 VCI Dongle

This dongle works as a VCI (Vehicle Communication Interface) device. It is used to obtain vehicle data, and then send it to the tablet for analysis via Bluetooth.



1. OBD-16 diagnostic connector

Connects the OBD-II extension cable or directly plug into the vehicle's DLC (Data Link Connector) port.

2. Data transmission port

Connects to the display tablet via data cable to perform vehicle diagnosis.

3. Communication LED

It lights up and keeps flashing when the VCI dongle is communicating with the tablet.

4. Power LED

It lights up when powered on.

5. Error LED

It lights up when communication failure occurs.

2.4 Technical Parameters

Display Tablet

- CPU: 4-core Cortex-A53 processor
- Memory: 2GB
- ROM: 32GB
- Screen Size: 8 inches
- Resolution: 800*1280 pixel
- Camera: 8MP rear-facing camera
- Working Voltage: 5V
- Working Current: ≤2.5A
- Working Environment: 0℃ ~50℃
- Storage Environment: -10℃ ~60℃

VCI Dongle

- Working Voltage: 12V
- Working Current: ≤60mA
- Working Environment: 0℃ ~50℃
- Storage Environment: -10℃ ~60℃

3 Initial Use

3.1 Charge The Tablet

Follow the steps below to charge the tablet:

1. Connect one end of the charging cable to the USB socket of the power adapter.
2. Connect the other end to the charging port on the bottom of the host.
3. Plug the charger power plug into a power outlet to start charging.

When it displays the charging is completed.

Notes:

- It is normal that the tablet won't turn on when charging because the battery has not been used for a long time or it is exhausted. Please turn on the tablet again after charging the battery for a while.
- Please charge the tablet through the charger in the package. We assume no responsibility for damages and losses caused by charging with chargers other than those included with the package.
- The battery can be recharged repeatedly. However, as the battery is wearable, the standby time of the device will be shortened after long-time use. Please avoid frequent repeated charging so as to extend battery life.

3.2 Power On & Off

3.2.1 Power on

Long press the POWER button and then the start interface will appear.

3.2.2 Power off

Long press the POWER button until the dialog box pops up, and tap **Shutdown** to turn it off or tap **Restart** to reboot it.

3.3 Wi-Fi Setup

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

Note: Once WLAN is set as ON, the tablet will consume more power. While it keeps unused, please set it off to save power. While WLAN is not in use, please turn it off to conserve battery power.

1. In the Job Menu, tap **Others -> Tablet Setting -> Network & Internet -> Wi-Fi**.
2. Slide the Wi-Fi switch to ON, the tablet starts searching for available wireless LANs.
3. Select the desired WLAN network from the list. If the chosen network is open, you can connect directly. A password may be required for secured networks.

3.4 Adjust Brightness

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

1. In the Job Menu, tap **Others -> Tablet Setting -> Display -> Brightness level**.
2. Drag the slider to adjust it.

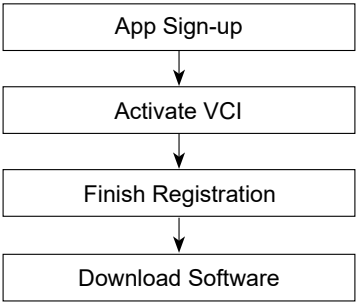
3.5 Set Standby Time

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. In the Job Menu, tap **Others -> Tablet Setting -> Display -> Advanced -> Sleep**.
2. Choose the desired sleep time.

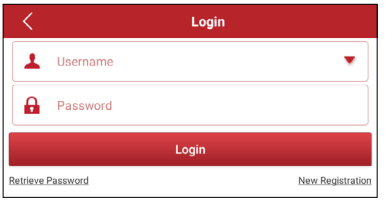
3.6 Register & Download Diagnostic Software

For new users, please follow the operation chart shown below to get started with this tool.



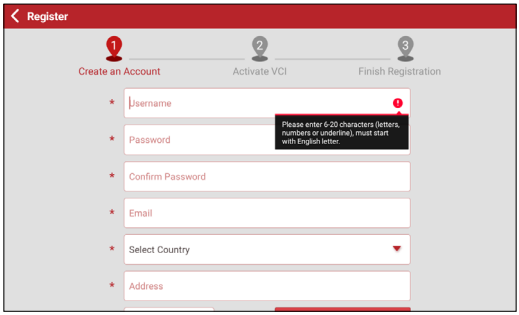
Note: Before registering, please make sure that the tablet has a strong and stable Wi-Fi signal.

In the Job Menu, tap **Login** on the upper right corner of the screen. The following dialog box will pop up on the screen.

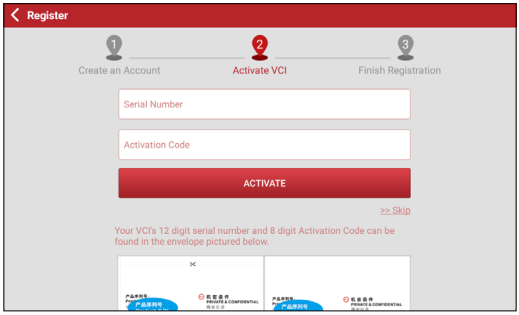


(If you are a new user, follow A to proceed.)
(If you have registered to be a member, go to B to login the system directly.)
(In case you forgot the login password, refer to C to reset a new password.)

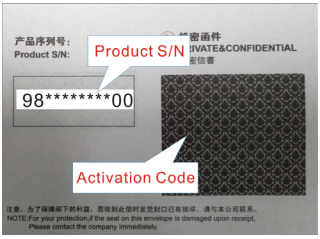
A. If you are a new user, tap **New Registration** to enter registration page.



Fill in the information in each field (Items with * must be filled). After inputting, tap **Register**, the following screen will appear:

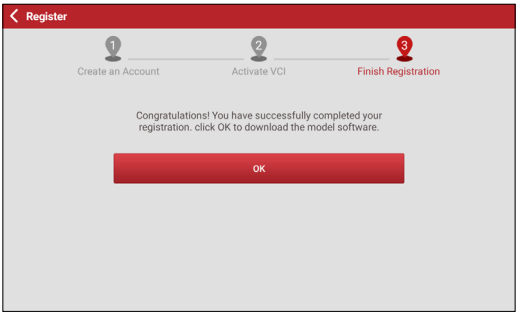


Input the Serial Number and Activation Code, which can be found in the Password Envelope.

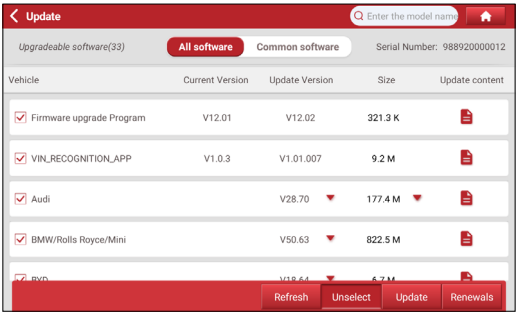


Note: To exit and activate it later, tap **Skip**. In this case, you can activate it by tapping **Others -> User Info -> Activate VCI**.

Tap **Activate** to finish your registration.



Tap **OK** to enter the software download page.



On the software download page, tap **Update** to start downloading. When downloading 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.

After sign-up is successfully complete, the **Login** button on the upper right corner of

the screen will change into . Tap it to revise personal information.

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

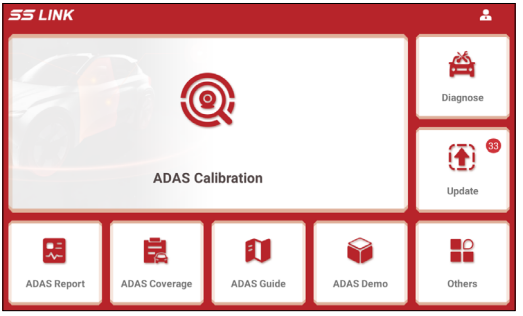
Note: The tablet has an auto-save function. Once the username and password are correctly entered, the system will automatically store it. Next time you login the system, you will not be asked to input the account manually.

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

4 Getting Started

4.1 Job Menu

It mainly includes the following items:



ADAS Calibration	This function enables you to perform ADAS calibration operations. This function requires the SS LINK to work with the specific ADAS calibration tool (such as X-431 ADAS Mobile / X-431 ADAS PRO).
Diagnose	This module allows you to quickly achieve full car model and full system vehicle trouble diagnosis.
Update	Updates vehicle diagnostic software and APK.
ADAS Report	Views and manages ADAS reports, diagnostic reports and diagnostic records.
ADAS Coverage	Checks the ADAS calibration of which vehicle models are supported on the tablet.
ADAS Guide	Includes the product introductions, user manuals and adjustment steps of the X-431 ADAS PRO and X-431 ADAS Mobile.
ADAS Demo	This function works as a demonstration program, guiding you how to perform ADAS calibration step by step.

Others	Includes the tablet settings, system OTA upgrade, TeamViewer Quick Support, Browser, File explorer, Camera, Gallery, Screen Recording and Email etc.

4.2 Connection

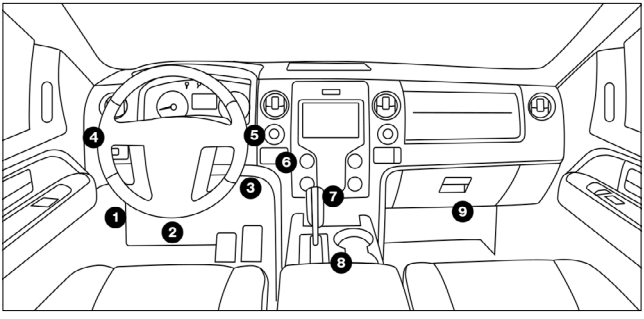
4.2.1 Preparation

Normal testing conditions

- Turn on the vehicle power supply.
- Vehicle battery voltage range should be 9-18V.
- Throttle should be closed at its close position.

4.2.2 DLC Location

For Passenger Cars, the DLC (Data Link Connector or Diagnostic Link Connector) is the standardized 16-cavity 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.



4.2.3 Vehicle Connection

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 socket).

4.3 Communication Setup

There are 2 ways available for the tablet to communicate with the VCI dongle: BT(wireless) communication and USB cable connection. User can choose either of the following ways to establish communication.

4.3.1 Pairing up via Wireless (BT) Communication

After the sign-up is successfully completed, the Bluetooth communication between the tablet and the VCI dongle is automatically established and user has no need to configure it again.

4.3.2 USB Cable Connection

1. Connect one end of the included data cable to the Data transmission port of the VCI dongle.
2. Connect the other end to the USB expansion slot of the tablet. The power LED of the VCI dongle will light up.

Note: The USB connection provides the most stable and fastest communication. When both the communication methods are applied at the same time, the tablet will use the USB communication as the default priority.

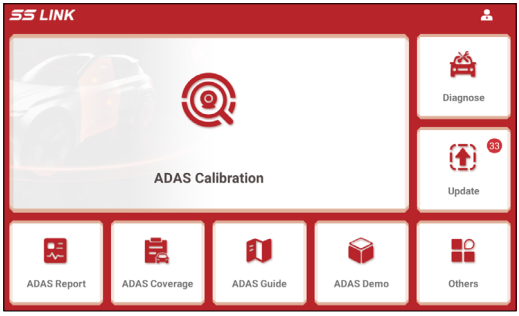
5 ADAS Operation

5.1 Enable ADAS Calibration Function (For Initial Use)

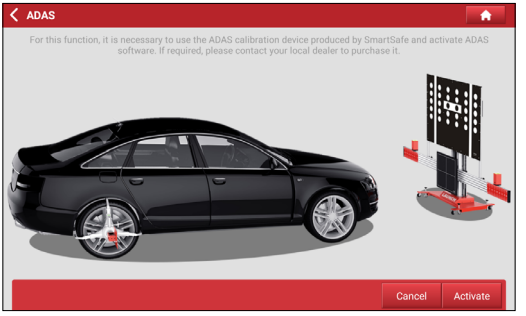
The ADAS feature on this diagnostic tool is disabled by default and user needs to activate this feature with the Activation Code (optional) before performing this function. Moreover, it also requires the diagnostic tool to work with the ADAS calibration tool manufactured by LAUNCH (calibration tools from other manufacturers will not be supported). As a comprehensive and flexible calibration tool, the ADAS calibration tool enables you to effectively and accurately calibrate a wide range of camera-based & radar-based driver assistance systems, e.g. the front camera for the lane departure warning system, the radar sensor for the ACC (Adaptive Cruise Control) or the camera for adaptive headlights.

Follow the steps below to activate it.

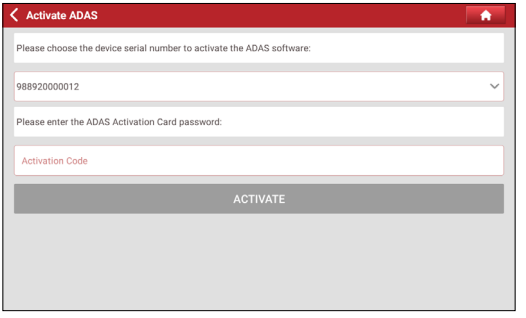
1. Tap **ADAS Calibration** on the Job Menu.



3. Tap **Activate** to enter the ADAS activation screen.



4. Scratch or scrap the designated area on the Activation Card to reveal the password, and input the 24-digit password to activate it.



5. Now the ADAS function becomes accessible and is ready for use.

5.2 General Operations for ADAS Calibration

5.2.1 Precondition for the use of the ADAS calibration tool

- Vehicle system is working properly.
- No trouble codes (not including the ADAS-related trouble codes) stored in ECU memories.
- Prepare X-431 ADAS Mobile / X-431 ADAS PRO calibration tool and vehicle-specific calibration reference pattern (sold separately).
- Front & rear axle track is properly adjusted.

5.2.2 Workstation requirements

To make you work smoothly and calibrate accurately, please make sure the following workstation requirement are met.

- Make sure the vehicle is parked with all wheels on an even floor surface.
- The lighting system around the calibration workstation should be a non-frequency flash source, including but not limited to: LED light source, industrial lighting complying with international standards, dual light source in opposite phase.
- In the field of view of the camera, there should be no direct light source into the camera, otherwise the camera will reduce the exposure so that the captured calibration pattern becomes darker, adversely affecting the calibration.
- The light source should ensure that there is no reflected spot on the calibration panel.
- The light source should ensure uniform illumination distribution in the calibration workstation.
- The brightness of the light should not be changed, and ensure that there will be no other changing light source around the workstation, such as a driving vehicle with lights ON, etc.

5.3 Calibration Operation

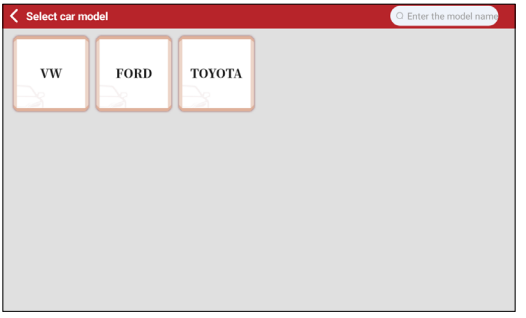
The calibration operation should be performed strictly following the on-screen instructions on the diagnostic tool. For some vehicle models, calibration pattern and calibration tool are not mandatory. But for some camera-based ADAS, the calibration cannot be done without the help of calibration tool and calibration pattern. In this case, for the positioning of the calibration tool and vehicle, it is necessary for the user

to manually finish it.

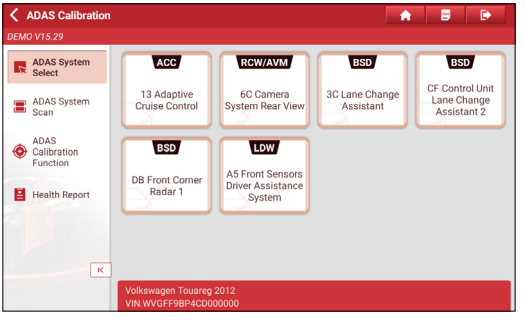
The following information demonstrates the basic procedures on how to perform ADAS calibration operations.

Note: Before doing ADAS calibrations, plug the VCI dongle into the vehicle's DLC port, then establish Bluetooth communication between the tablet and vehicle.

Tap **ADAS DEMO** on the Job Menu, the following screen will appear:



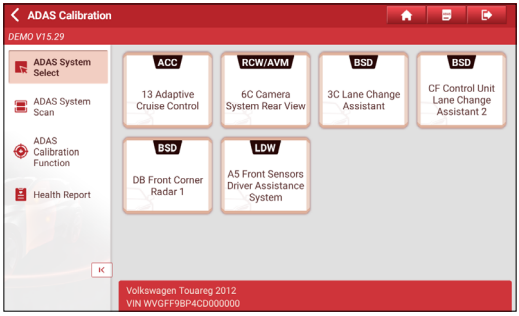
Tap **VW** (take VW as an example), the following screen will appear:



Note: Different vehicles have different diagnostic menus.

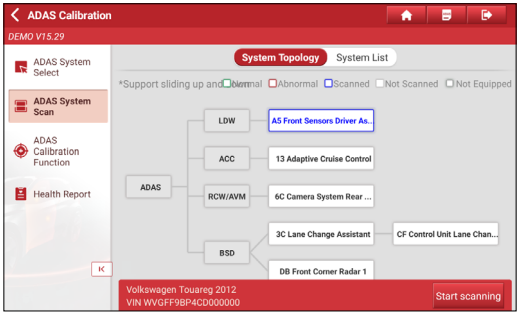
5.3.1 ADAS System Select

This function allows you to select the desired ADAS system to perform diagnosis operation.

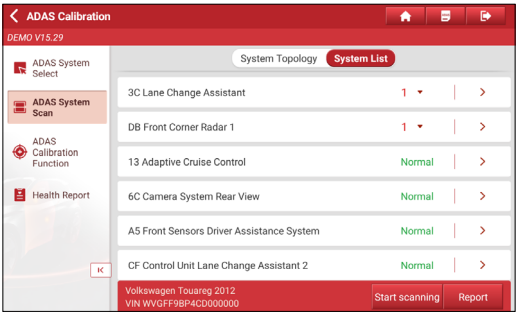


5.3.2 ADAS System Scan

Use this function to scan which ADAS systems are installed on the test vehicle.



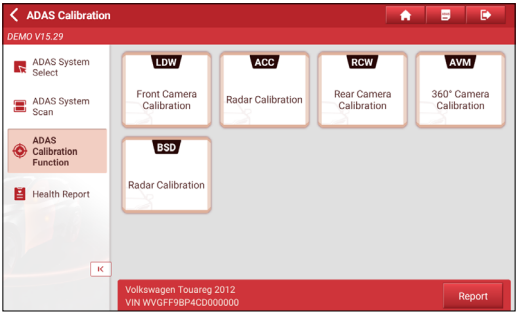
The ADAS systems can be displayed in form of topology or list. Tap **Start Scanning** to start reading DTCs. After scanning is complete, tap the system displayed in red to view the existing DTCs, or tap the system functioning normally to perform other diagnostic functions. For details on diagnostic function, see Chapter 6.2.3.



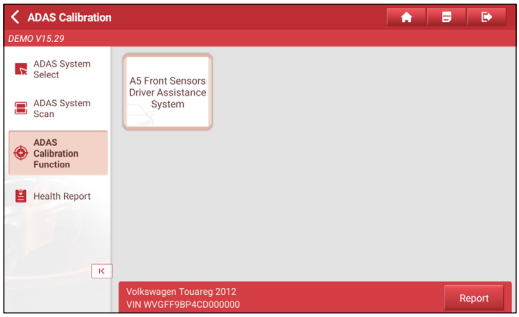
5.3.3 ADAS Calibration Function

This option allows you to perform the ADAS calibration operation. In this case, X-431 ADAS Mobile / X-431 ADAS PRO calibration tool is required. The X-431 ADAS Mobile / X-431 ADAS PRO calibration tool is used to position the calibration targets with the vehicle. The tablet is mainly used to guide you through positioning the X-431 ADAS Mobile / X-431 ADAS PRO and providing the detailed calibration procedures.

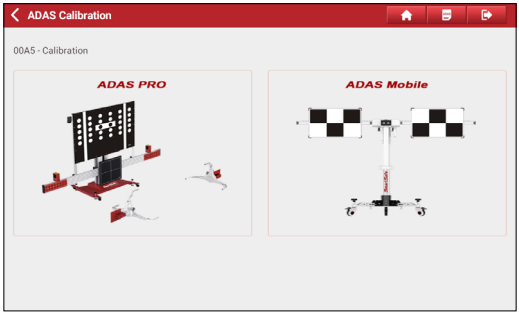
Tap **ADAS Calibration Function** tab, the following screen will appear:



Tap the desired calibration item (Take **Front Camera Calibration** for example), the following screen will appear:

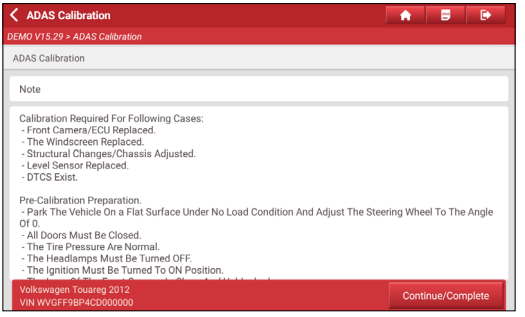


Tap A5 **Front Sensors Driver Assistance System**, the following screen will appear:

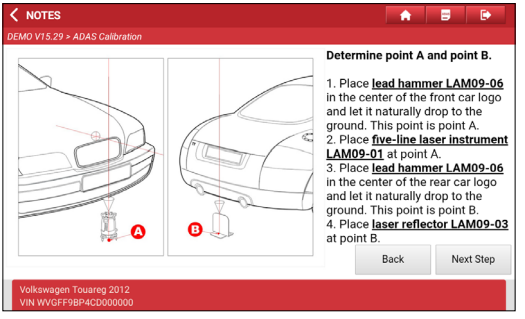


Tap the desired ADAS calibration tool (Take **ADAS Mobile** for example) to go to the next step.

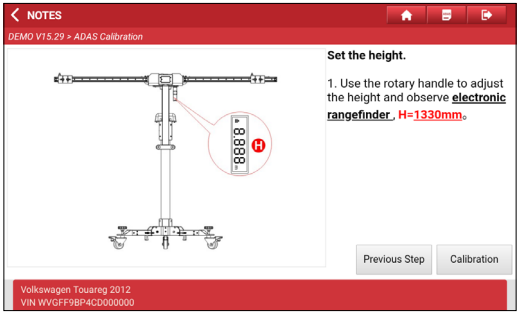
Carefully check the calibration notes and pre-calibration preparation. Swipe the screen from the bottom to view the hidden text if necessary.



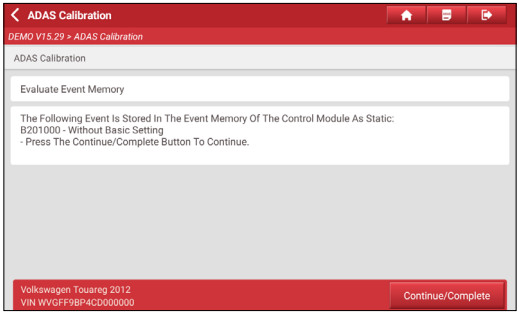
Tap **Continue/Complete** to go to the next step.



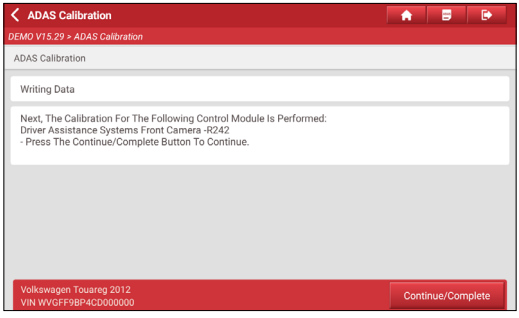
Follow the on-screen prompts to position the ADAS Mobile until the following screen appears.



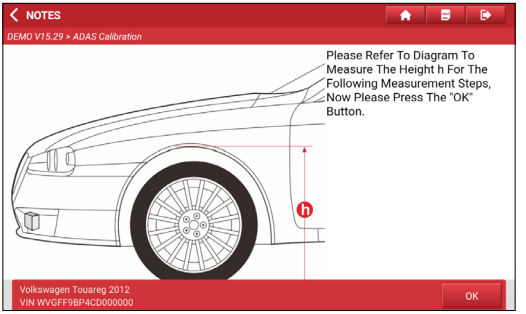
Tap **Calibration** to start calibrating.



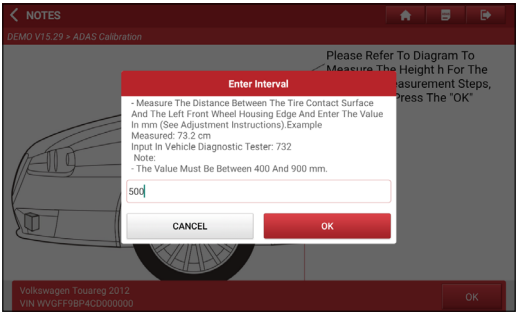
Tap **Continue/Complete** to continue.



Tap **Continue/Complete** to start writing data.



Follow the on-screen instructions to measure the height H (from the tire contact surface to the wheel housing edge) of each wheel respectively, and input the actual measured values.



After inputting all measured values, tap **OK** to continue.