USER MANUAL

INTELLIGENT ADAS IA700

(AUTEL-CSCC100)

Patent

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Autel will not be liable for any direct, special, incidental, or indirect damages, or for any economic consequential damages (including the loss of profits) as a result of using this equipment.

IMPORTANT

Before operating or maintaining this equipment, please read this manual carefully, paying extra attention to the safety warnings and precautions.

For Services and Support

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For technical assistance in all other markets, please refer to *Technical Support* in this manual.

Safety Information

For your own safety and the safety of others, and to prevent damage to the equipment and vehicles upon which it is used, it is important that the safety instructions presented throughout this manual be read and understood by all persons operating or coming into contact with the equipment.

There are numerous procedures, techniques, tools, and parts required for servicing vehicles, as well as the skills of the person doing the work. Because of the vast number of test applications and variations in the products that can be tested with this equipment, we cannot possibly anticipate or provide advice or safety messages to cover every circumstance. It is the automotive technician's responsibility to be knowledgeable of the system being tested. It is crucial to use proper service methods and test procedures. It is essential to perform tests in an appropriate and acceptable manner that does not endanger your safety, the safety of others in the work area, the device being used, or the vehicle being tested.

Before using the equipment, always refer to and follow the safety messages and applicable test procedures provided by the manufacturer of the vehicle or equipment being tested. Use the equipment only as described in this manual. Be sure to read, understand, and follow all safety messages and instructions in this manual.

Safety Messages

Safety messages are provided to help prevent personal injury and equipment damage. All safety messages are introduced by a signal word indicating the hazard level.

DANGER

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

WARNING

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 herein cover situations Autel is aware of at the time of publication. Autel cannot know, evaluate or advise you as to all of the possible hazards. You must be certain that any condition or service procedure encountered does not jeopardize your personal safety.

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 carbon monoxide, an odorless, poisonous gas that causes slower reaction time and can lead to serious personal injury or loss of life.

It is not advised to use headphones at a high volume

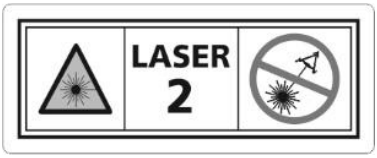
Listening at high volumes for long periods of time may result in loss of hearing.

Safety Warnings

- Always perform automotive testing in a safe environment.
- Wear safety eye protection that meets ANSI standards.
- Keep clothing, hair, hands, tools, test equipment, etc. away from all moving or hot engine parts.
- Operate the vehicle in a well-ventilated work area, for exhaust gases are poisonous.
- Put the transmission in PARK (for automatic transmission) or NEUTRAL (for manual transmission) and make sure the parking brake is engaged.
- Put blocks in front of the drive wheels and never leave the vehicle unattended while testing.
- Be extra cautious when working around the ignition coil, distributor cap, ignition wires and spark plugs. These components create hazardous voltages when the engine is running.
- Keep a fire extinguisher suitable for gasoline, chemical, and electrical fires nearby.
- Do not connect or disconnect any test equipment while the ignition is on or the engine is running.
- Keep the test equipment dry, clean, free from oil, water or grease. Use a mild detergent on a clean cloth to clean the outside of the equipment as necessary.
- Do not drive the vehicle and operate the test equipment at the same time. Any distraction may cause an accident.
- 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.
- To avoid damaging the test equipment or generating false data, make sure the vehicle battery is fully charged and the connection to the vehicle's DLC is clean and secure.
- Do not place the test equipment on the distributor of the vehicle. Strong electro-magnetic interference can damage the equipment.

LASER RADIATION

 Never point the laser beam at people, particularly at their face or eyes.



The term laser equipment refers to devices, systems or test set-ups generating, transmitting or employing laser radiation.

The class of the laser device indicates the level of potential danger associated with its accessible laser radiation. In the case of class 2 laser equipment, the accessible laser radiation is in the visible spectral range (400 nm to 700 nm).

The eyelids provide sufficient protection for inadvertent brief eye contact with such laser radiation. Class 2 laser devices may therefore be used without further precautionary measures if the user is definitely not required to either look into the laser intentionally for extended periods of time (>0.25 s) or repeatedly look into the laser or at directly reflected laser radiation.

⚠ **WARNING**

Taking medication or alcohol consumption will slow down the reflex action of the eyelids. This results in a particular risk. Wearing laser safety glasses of protection level R1 is recommended for anyone who is under the influence of medication.

Persons who are not trained to work with laser equipment and on the hazards of laser radiation, may not enter workplaces where work takes place with laser beams nor a laser emitting device.

Safety measures:

- The operator is to place the warning “Warning of Laser beam” at eye level and in a visible manner at the measuring station.
- Do not look directly into laser source.
- The operator must comply with the intended use.

INFRARED RADIATION

Infrared device inside. Avoid direct eye exposure.

Hot surface. Avoid contact directly.

Safety measures:

- The operator is to place the warning “Warning of Infrared Radiation” at eye level and in a visible manner at the measuring station.
- Do not look directly into IR source.
- The operator must comply with the intended use of the product.

WEAR SAFETY SHOES

Safety shoes must be worn.

When performing work with risk of injury to the feet, notice about the necessity of wearing protective shoes must be given. Foot injuries can, for example, be caused by falling over or falling tools or work items, trapping the foot, occurrence of nails or metal shavings in the soles, etc.

Safety measures:

- The operator is to place the mandatory sign “Wear Safety Shoes” at eye level and in a clearly visible manner at the measuring station.
- Operators should always wear the recommended protective shoes.

CONTENTS

1 Using This Manual

This manual contains equipment usage instructions.

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

1.1 Conventions

The following conventions are used:

1.1.1 Bold Text

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

Example:

- Tap **OK**.

1.1.2 Notes and Important Messages

Notes

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

Important

IMPORTANT indicates a situation that if not avoided may result in damage to the equipment or vehicle.

1.1.3 Hyperlink

Hyperlinks are available in electronic documents. Blue italic text indicates a selectable hyperlink; blue underlined text indicates a website link or an email address link.

1.1.4 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.

1.1.5 Procedures

An arrow icon indicates a procedure. Example:

➢ **To perform the rolling compensation**

1. Adjust the position of the wheel chock by moving it approximately **300 mm (11.81 in)** behind the wheel. Push the vehicle in a backward direction.
2. Cease pushing the vehicle and allow the calibration frame to take measurements.
3. Push the vehicle forward.
4. Stop pushing the vehicle and wait for the calibration frame to measure again.
5. The measurements will be shown on the screen. Follow the on-screen instructions to make any necessary adjustments.

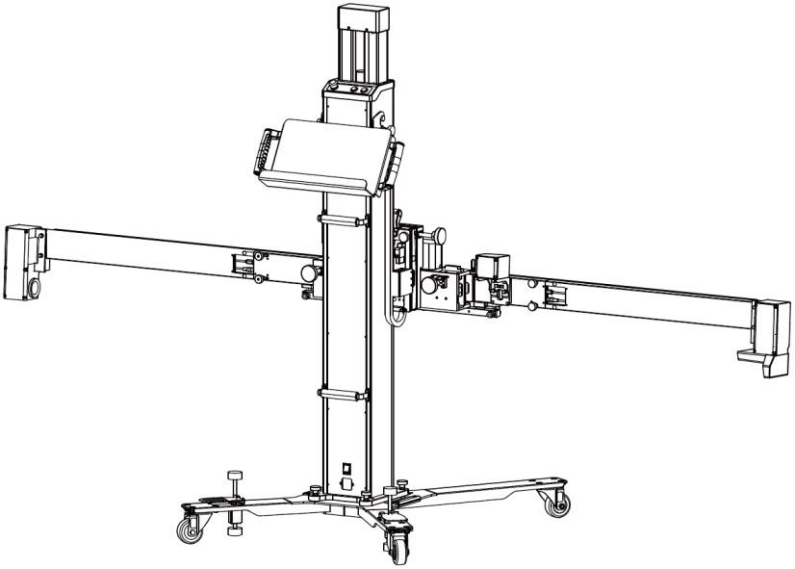
2 General Introduction

The IA700 calibration frame is a piece of highly specialized equipment designed to support ADAS calibration function and alignment precheck on a wide range of vehicles. It is specifically designed to work in conjunction with the Autel MaxiSys tablet which will provide comprehensive guidance and instructions during the calibration or precheck process.

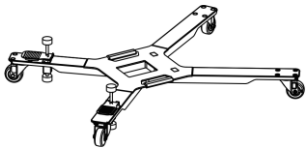
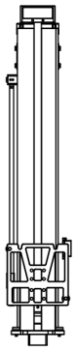
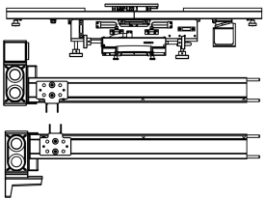
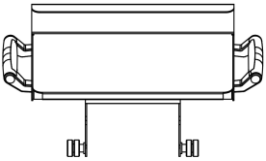
2.1 Calibration Frame Kit

2.1.1 Calibration Frame (AUTEL-CSCC100)

The IA700 calibration frame comes flat-packed and has been disassembled into four main parts prior to shipment, including the base, the stand, the crossbar, and the tablet holder. In addition to the calibration frame, the tire clamp kit, the target kit, and additional accessories are also included in the package. To assemble them correctly, refer to the instructions provided in the quick reference guides.



Frame Components

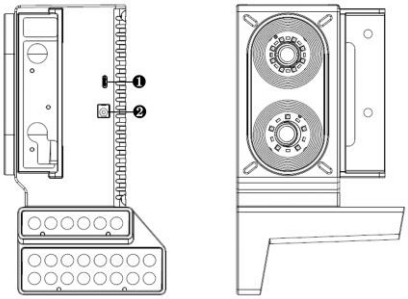
Component Name	Illustration	Description
Base		Serves as a stable and supportive foundation, allowing the calibration frame to be easily moved around as needed.
Stand		Supports the hanging of crossbar and enables you to attach reflector, radar calibration box, etc.
Crossbar		Separates into three sections: left arm, arm connector, and right arm. Supports the hanging of target boards. The camera kit is attached on the crossbar.
Tablet Holder		Supports holding your MaxiSys tablet during ADAS calibration and alignment precheck for hands-free.

Camera Kit (AUTEL-CSC0500/18)

The camera kit AUTEL-CSC0500/18 mainly includes the left camera unit, the center camera, and the right camera unit.

Left Camera Unit

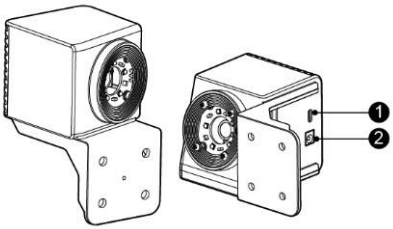
The left camera unit, which includes two cameras, should be mounted on the left side of the calibration frame.



1. USB Port
2. Power Port

Center Camera

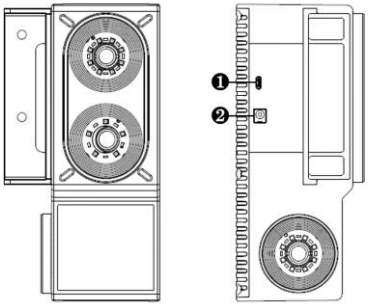
The center camera should be mounted in the middle of the calibration frame.



1. USB Port
2. Power Port

Right Camera Unit

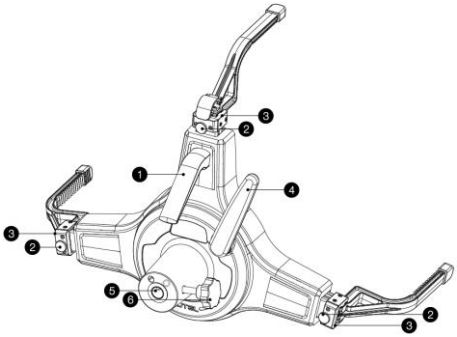
The right camera unit, which consists of three cameras, should be mounted on the right side of the calibration frame.



1. USB Port
2. Power Port

2.1.2 Tire Clamp Kit (AUTEL-CSC0500/17)

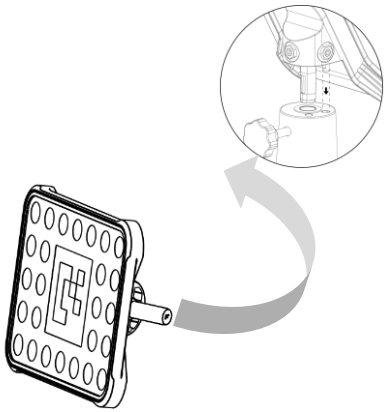
Four tire clamps are included in the kit. Each tire clamp has three pawls. The tire clamps can be adjusted by its pawls to fit tires from 19 to 37 inches in diameter.



1. Lifting Handle
2. Control Button
3. Pawl Slot
4. Locking Handle
5. Target Mounting Hole — for inserting the target.
6. Locking Knob

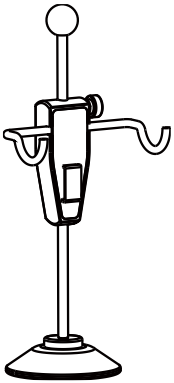
2.1.3 Target Kit (AUTEL-CSC0500/16)

Four targets are included in the kit. Install the targets onto the assembled tire clamps.



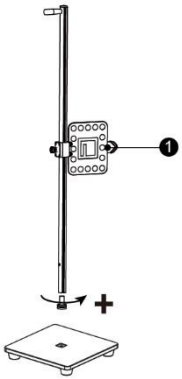
2.1.4 Steering Wheel Holder Stand Tool (AUTEL-CSC0500/27)

The steering wheel holder stand tool (steering wheel lock) is used to fix the steering wheel.



2.1.5 Alignment Aid (AUTEL-CSC0500/08)

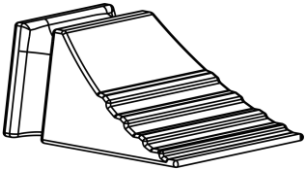
The alignment aid is used to measure the distance from the calibration frame to each position of the vehicle body.



1. Distance Measuring Target

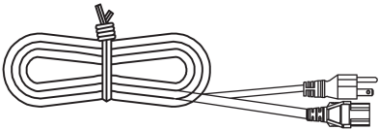
2.1.6 Wheel Chock

The wheel chock is used to chock the wheel to prevent your vehicle from rolling away.



2.1.7 AC Power Cord

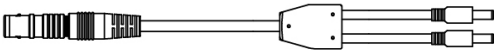
The AC power cord is used to power the calibration frame.



*The AC power cord illustrated is for reference only. The actual product may differ.

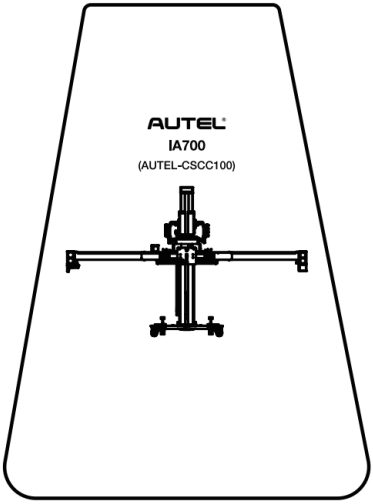
2.1.8 12/24 V Power Cord

The Autel tablet or Autel NV calibrator can be powered from the calibration frame using the 12 V input cord, while the radar calibration box can be powered from the calibration frame using the 24 V input cord.



2.1.9 Equipment Cover

The equipment cover is used to shield the calibration frame when not in use for a long period of time to prevent dust accumulation.

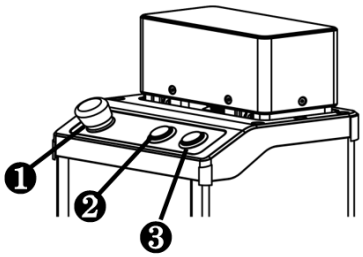


2.2 Controls

The calibration frame has control buttons and knobs for easy adjustments during the ADAS calibration procedure and alignment precheck.

2.2.1 Control Buttons

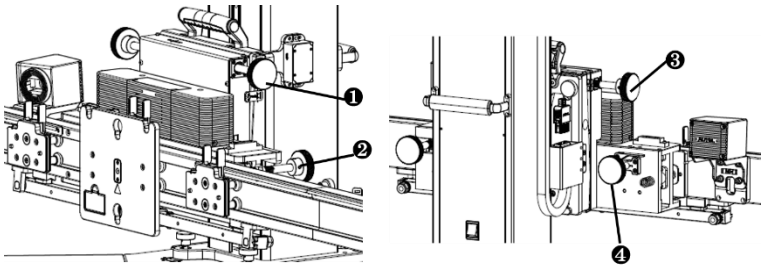
Three control buttons are available: **EMERGENCY STOP** button, **UP** button, and **DOWN** button. When there is an emergency, press the **EMERGENCY STOP** button to immediately halt the movement of the crossbar. In normal operation, press the **UP** button to raise the crossbar, or press the **DOWN** button to lower the crossbar.



1. EMERGENCY STOP Button
2. UP Button
3. DOWN Button

2.2.2 Control Knobs

The fine-tuning mechanism, located in the middle of the calibration frame, features four control knobs. Each is responsible for adjusting different aspects: pitch angle, yaw angle, roll angle, and crossbar position (left/right).



1. Pitch Angle Adjustment Knob
2. Yaw Angle Adjustment Knob
3. Roll Angle Adjustment Knob
4. Crossbar Position Adjustment Knob (Left/Right)

2.3 Specifications

2.3.1 Frame Specifications

Item	Description
Model	AUTEL-CSCC100
Rated Power	260 W
Power Supply	100–264 VAC, 50/60 Hz
Current	5 A Max
Frame Dimensions (W x H x D)	1016.74 x 2671.60 x 3355 mm (40.03 x 105.18 x 132.09 in)
Frame Height Range	1455–3355 mm (57.28–132.09 in)
Crossbar Height Range	300–2200 mm (11.81–86.61 in)
Crossbar Length	2671.60 mm (105.18 in)
Operating Temp.	-10–50 °C (14–122 °F)
Storage Temp.	-20–60 °C (-4–140 °F)

2.3.2 Camera Specifications

Item	Description
Model	AUTEL-CSC0500/18
Connecting Port	• Power Port • USB Type-C Port
Number of Cameras	6
Pixels Per Camera	3072*2048
Operating Temp.	-10–50 °C (14–122 °F)

Item	Description
Storage Temp.	-20–60 °C (-4–140 °F)
Dimensions	Left Camera Unit: 127.9 x 220.7 x 123 mm (5.04 x 7.90 x 4.84 in) Center Camera: 75 x 128.1 x 92.5 mm (2.95 x 5.04 x 3.64 in) Right Camera Unit: 113 x 216.2 x 92.5 mm (4.45 x 8.51 x 3.64 in)

2.4 Auxiliary Positioning Tools (Optional)

To perform ADAS calibration and alignment precheck using the IA700, in addition to the calibration frame and Autel MaxiSys tablet, you will also need relevant auxiliary positioning tools such as target boards and patterns. When executing specific functions, the MaxiSys tablet will prompt you with the necessary tools to prepare. If you do not already have them, you can purchase from your local Autel distributor. See *Appendix* for details.

3 Tablet Configuration

Before you conduct ADAS calibration function or alignment precheck, it is essential to configure basic settings on the Autel MaxiSys tablet, including activating ADAS software, connecting the IA700, configuring ADAS network, selecting ADAS calibration method, and establishing vehicle communication. These settings are crucial for establishing effective communication and connectivity between the IA700 and the tablet.

NOTE

The IA700 is compatible with the Autel MaxiSys tablets when upgraded with ADAS software (purchased separately). MaxiSys Ultra is taken as an example for illustrations to explain the process.

3.1 Activating ADAS Software

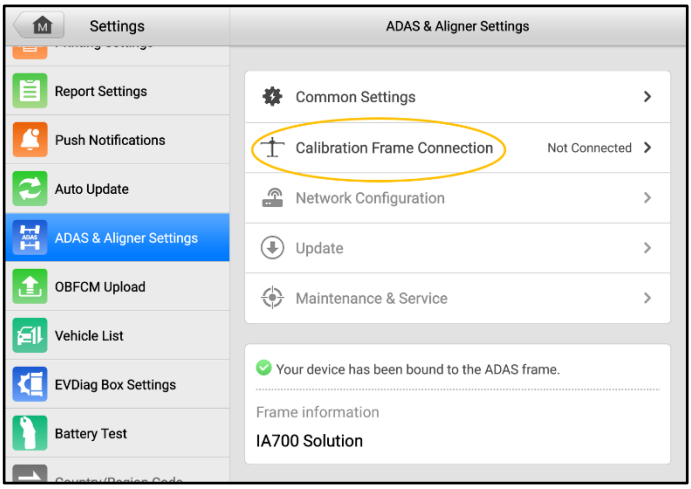
To perform ADAS calibration functions or alignment precheck supported by the IA700 using the MaxiSys tablet, the ADAS software activation is required. If it is not activated, consult Autel technical personnel to make activation.

3.2 Connecting the IA700

The communication between the MaxiSys tablet and the IA700 is established via Wi-Fi. Follow the steps below to connect the IA700 to the MaxiSys tablet.

- **To connect IA700 to MaxiSys tablet**

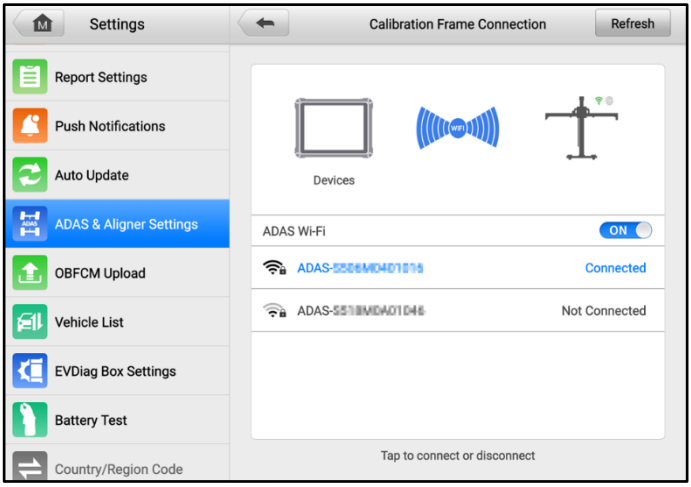
  1. Tap **Settings > ADAS & Aligner Settings**, then select the **Calibration Frame Connection** option to display the Calibration Frame Connection screen.



2. Swipe the Wi-Fi toggle switch to enable calibration frame Wi-Fi. The tablet will search for available units. The Wi-Fi name of the IA700 calibration frame will be “ADAS,” suffixed with a serial number. Tap the appropriate unit to connect. When a connection is established, the connection status reads “Connected.”

NOTE

It may take up to 30 seconds to connect the calibration frame to a MaxiSys tablet. Please wait patiently.



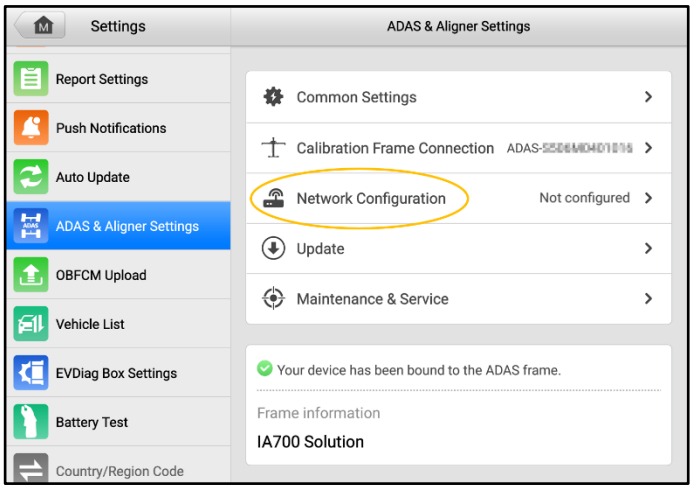
3. Tap the **Back** button on the top of the screen to return to the Settings Menu.

3.3 Configuring ADAS Network

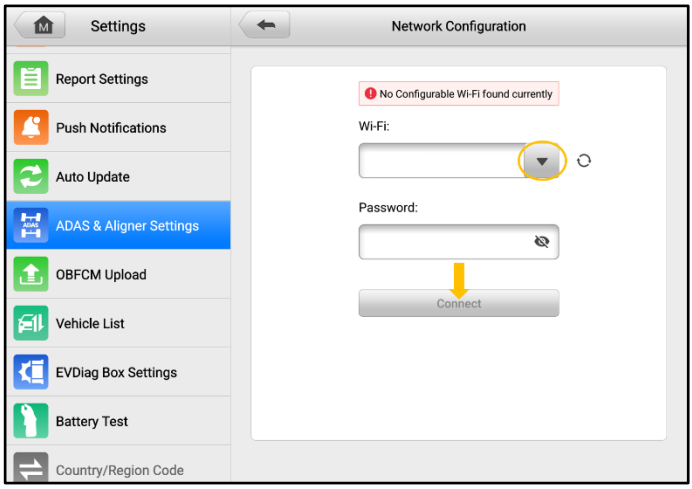
After connecting the IA700 to the MaxiSys tablet via Wi-Fi, you will need to configure the ADAS network by doing the following steps.

➢ **To configure ADAS network**

1. Tap **Settings > ADAS & Aligner Settings**, then select the **Network Configuration** option to display the Network Configuration screen.



2. Tap the drop-down button to select your Wi-Fi network, then enter the password. If you are unable to find your Wi-Fi network in the list, check the Wi-Fi settings and ensure that your network is active and within range, then tap the **Refresh** button to search for available Wi-Fi networks again. Tap **Connect** once you have confirmed.



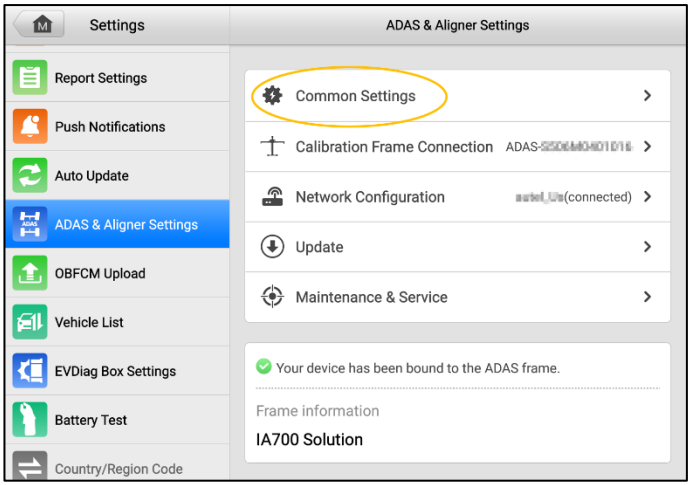
3. Tap the **Back** button on the top of the screen to return to the Settings Menu.

3.4 Selecting Calibration Method

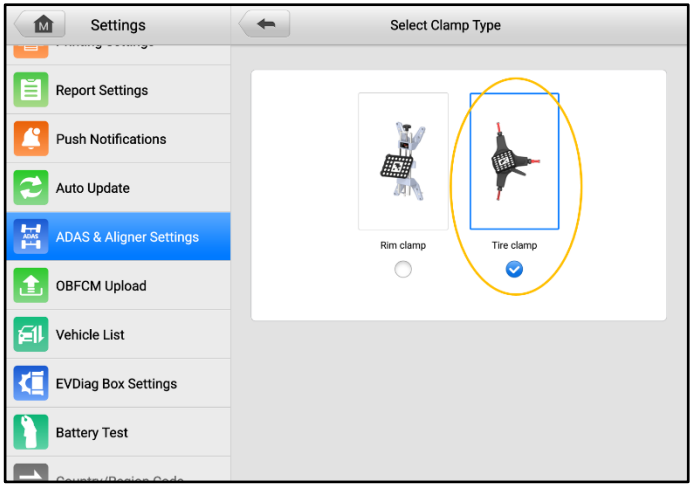
The ADAS calibration method will differ depending on the version of your calibration frame.

➢ **To select ADAS calibration method**

1. Tap **Settings > ADAS & Aligner Settings**, then select **Common Settings**.



2. From the Common Settings screen, tap on **Select Clamp Type**, then the following screen will display. For the tire clamp version of the calibration frame, select **Tire Clamp**.



3. The basic settings are now complete. Tap the **Home** button to exit the Settings application.

3.5 Establishing Vehicle Communication

The calibration procedures for ADAS calibration functions and alignment precheck may vary depending on the specific vehicle. The MaxiSys tablet is required to establish a communication with the vehicle before performing these functions.

➢ **To connect the vehicle to the MaxiSys tablet**

1. Connect the VCI (Vehicle Communication Interface) device to the vehicle's DLC (Data Link Connector) for both communication and power source.
2. Connect the VCI device to the tablet via Bluetooth pairing or other supported connection methods.
3. The VCI status button on the bottom tool bar of the screen shows a green badge, indicating the vehicle is connected to the tablet.

➢ **To identify the vehicle using the MaxiSys tablet**

1. After the vehicle is successfully connected to the MaxiSys tablet, the tablet will need to retrieve the VIN (Vehicle Identification Number) information, so as to access the vehicle-specific calibration procedures.
2. Auto VIN scan is the most commonly used VIN identification method. To access the scanning method, tap the **Diagnostics** application on the MaxiSys Job Menu, then tap the **VID** button to open the drop-down menu, and select **Auto Detect**.
3. The tablet starts VIN scanning on the vehicle's ECU. Once the vehicle is successfully identified, the tablet will guide you to the Main Menu screen.
4. If the vehicle supports ADAS calibration function or alignment precheck, you will typically find these function options displayed on the Main Menu screen.

NOTE

The steps provided are a general overview of the vehicle connection and identification process. Consult the user manual or documentation for your vehicle and MaxiSys tablet for detailed instructions on how to establish the connection and perform the identification.

4 ADAS Calibration Function

The IA700, when used in conjunction with the Autel MaxiSys tablet, supports the calibration of various systems encompassed in Advanced Driver-Assistance Systems (ADAS). This includes systems such as Lane Departure Warning (LDW), Adaptive Cruise Control (ACC), Blind Spot Detection (BSD), and Night Vision System (NVS). Additionally, the Around View Monitoring (AVM) and Head-Up Display (HUD) calibrations can be performed without requiring the use of a calibration frame.

This chapter describes the functions and the calibration procedures of the above systems. Since the calibration procedures may vary depending on vehicle information, status, and tool selection, the guidance below is for reference only and needs to be adjusted according to the specific circumstances.

4.1 Lane Departure Warning (LDW) Calibration

The function of Lane Departure Warning (LDW) system is to help prevent unintentional lane departures while driving. It uses cameras or other sensors to monitor the vehicle's position within the lane markings on the road. If the system detects that the vehicle is drifting or crossing the lane without the use of turn signals, it provides visual, audible, or haptic alerts to alert the driver.

4.1.1 Selecting Calibration Background

Select prior to performing calibration based on the actual situation:

1. Repaired or replaced the front video camera.
2. Repaired or replaced the front windshield.
3. Adjusted the chassis.
4. Adjusted the vehicle body height.
5. Relearned the vehicle height through vehicle height sensor.

4.1.2 Selecting the Parking Spot

Select the parking spot for your vehicle to be calibrated. This selection will determine the vehicle body height, which is crucial for accurate calibration.

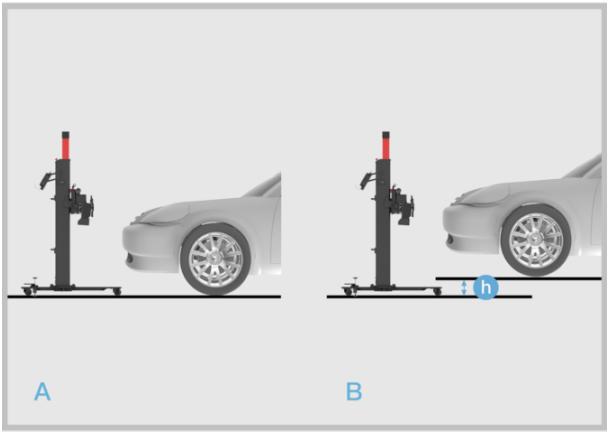
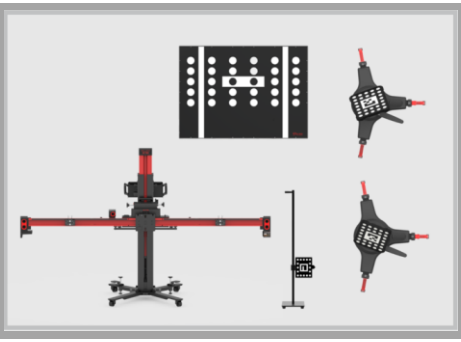


Figure A: Level ground.

Figure B: A spot (e.g., workshop station) where the calibration frame and vehicle are not at the same level. If you select this spot, you need to measure the height gap between the two levels and enter the measured value into the tablet.

4.1.3 Preparing Calibration Tools

To complete the calibration process, ensure that you have the following tools prepared.



- ✓ Calibration Frame AUTEL-CSCC100;
- ✓ Target Board AUTEL-CSC0601/01;
- ✓ Tire Clamp AUTEL-CSC0500/17/LR;
- ✓ Tire Clamp AUTEL-CSC0500/17/RR;
- ✓ Target AUTEL-CSC0500/16/LR;
- ✓ Target AUTEL-CSC0500/16/RR;
- ✓ Alignment Aid AUTEL-CSC0500/08.

4.1.4 Preparations Before Calibration

1. Park the vehicle on a level surface. Center the steering wheel, and keep the front wheels of the vehicle in a straight-ahead position (If necessary, perform the wheel alignment first). Ensure there is a minimum space of **3000 mm (118.11 in)** in front of the vehicle.
2. Bring the vehicle to a complete stop, and confirm the rear thrust angle is aligned and turn the ignition off.
3. Ensure the vehicle's coolant and engine oil are at recommended levels and the gas tank is full. The vehicle should not be carrying any additional load (such as passengers or cargo).
4. Attach the VCI to the vehicle and connect the MaxiSys tablet to the VCI (If the MaxiSys tablet and VCI are connected through diagnostic cable, guide the cable through window).
5. Close all doors and turn off all exterior lighting.
6. Adjust the tire pressure to the specified value.
7. If needed, connect the vehicle to a battery maintainer to prevent battery discharge.
8. For vehicles with air suspension, activate the vehicle's jack mode.
9. Ensure the windshield and the camera lenses are clean, and there are no obstacles blocking the camera's view.
10. Ensure the calibration area is well lit.
11. Clean the dashboard, and free the dashboard from any foreign objects that can cause glare on the windshield.

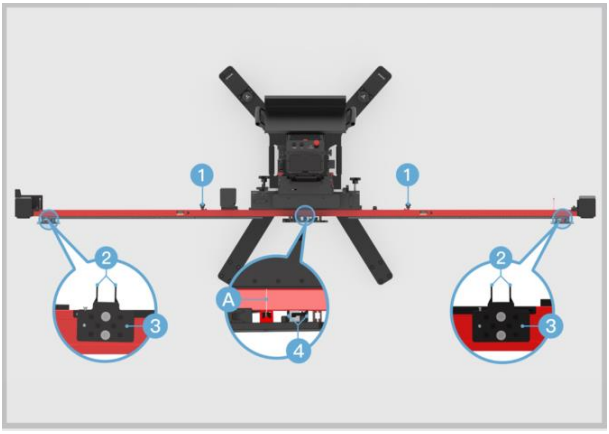
NOTE

- Ensure there is no reflection on the windshield (reflective objects can be covered with a black cloth).
- If your vehicle is equipped with air suspension or you have lifted/lowered the ride height, adjust the ride height to vehicle manufacturer's before proceeding with the calibration.
- The calibration frame must be placed as requested before this calibration function can be performed.

4.1.5 Positioning Auxiliary Tools

➢ **To place the calibration frame and align the marked line**

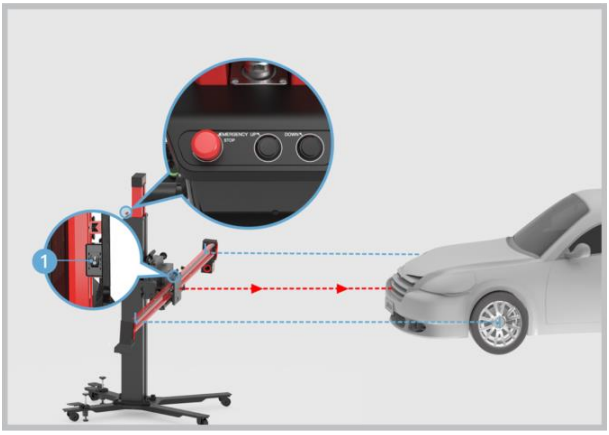
1. Move the calibration frame to the level ground in front of the vehicle. If the target board has been installed onto the crossbar, remove it and fold up the target board holder.
2. Unfold the crossbar arms at both ends horizontally, and tighten the bolts (1) at the joints of the crossbar arms.
3. Press and hold the handles (2) on the sliding blocks, then move the sliding blocks (3) on both sides to both ends and release the handle to fix the sliding block.
4. Press and hold the handle (4) on the sliding plate to move the sliding plate, so that the pointer on the sliding plate is aligned with the white marked line in position A, and then release the handle to fix the sliding plate.



5. Loosen the handle (1) and rotate the fine-tuning bolt (2) until the position A is aligned with the red marked line. Tighten the handle (1) to secure the crossbar.
6. Rotate the fine-tuning bolt (3) until the position B is aligned with the red marked line.
7. Rotate the fine-tuning bolt (4) until the position C is aligned with the white marked line, and rotate the fine-tuning bolt (5) until the position D is aligned with the white marked line.
8. Connect the power supply and then turn on the power switch (6).

➢ **To aim the laser at the front center of the vehicle**

1. Place the calibration frame directly before the front center of the vehicle. Keep the front wheels in a straight-ahead position.
2. Press the **UP** and **DOWN** buttons on the back of the calibration frame to adjust the height of the crossbar so that it is roughly at the same height as the center of the front wheel.
3. Hold the handle on the calibration frame and slowly move the calibration frame until the horizontal distances between the centers of front wheels and the back of the crossbar are basically equal. Then turn on the laser (1) and aim it at the front center of the vehicle.

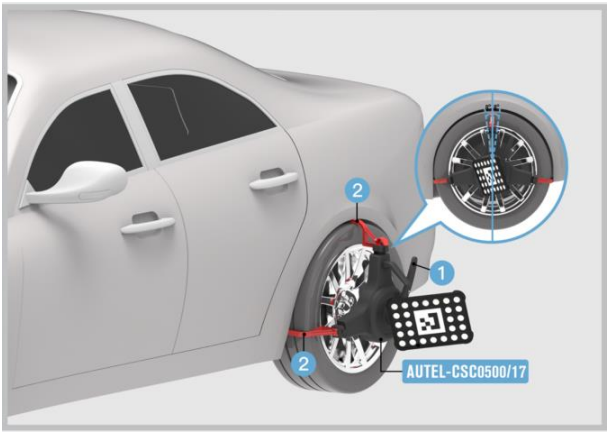


NOTE

In case of an emergency, press the **EMERGENCY STOP** button to stop the movement of the crossbar.

➢ **To install the tire clamps with target**

1. Check the tire clamps to ensure the pawls are equal in length.
2. Attach the two tire clamps AUTEL-CSC0500/17 to the rear tires respectively, and lock the locking handle (1) until the pawls (2) are tightly secured.

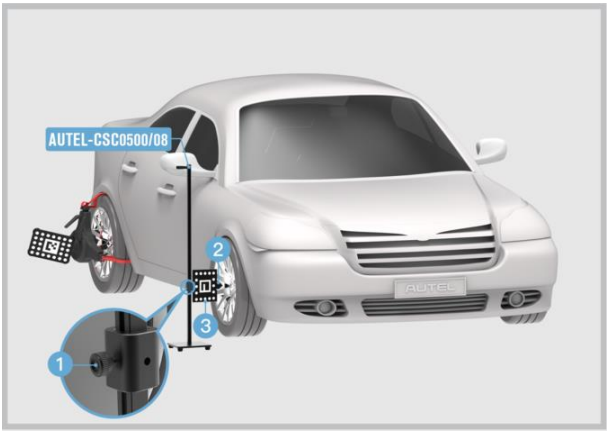


NOTE

- Ensure the tire clamps are vertically installed on the tire and the installation angle should be within the range of -8°–8°.
- After the tire clamps with target are installed, the calibration frame will automatically identify the targets. If the targets are not identified, follow the on-screen instructions to enable the automatic lifting & search function. Ensure there are no obstructions which may interfere with the movement of the crossbar during this process.

➢ **To place and adjust the distance measuring target**

1. Place the distance measuring target AUTEL-CSC0500/08 near the center of the right front wheel of the vehicle (subject to the driving direction of the vehicle). Loosen the bolt (1) to adjust the height of the target pointer (2) so that it is roughly at the same height as the center of the front wheel. Then tighten the bolt (1) to fix the target.
2. Move the distance measuring target to ensure the pointer (2) of the target is directly aimed at the center of the right front wheel. Meanwhile, the white dotted side of the panel (3) faces the driving direction of the vehicle.

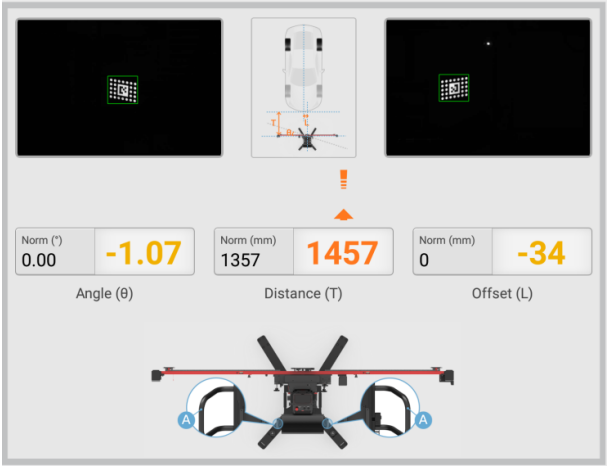


NOTE

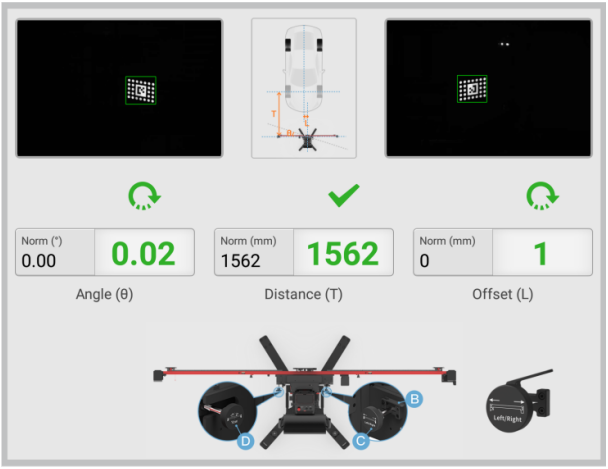
- Do not move the distance measuring target during the recognition process.
- Remove the distance measuring target after its position is obtained.

➢ **To adjust the position of the calibration frame**

1. Hold the handle (A) on the calibration frame and move the calibration frame until the distance value is displayed in green and ensure the calibration frame and the vehicle are roughly aligned.



2. Rotate the fine-tuning bolt (D) until the angle value is displayed in green. Loosen the handle (B) on the crossbar and rotate the fine-tuning bolt (C) according to the direction indicated by the arrow until the offset value is displayed in green, then tighten the handle (B) to secure the crossbar.



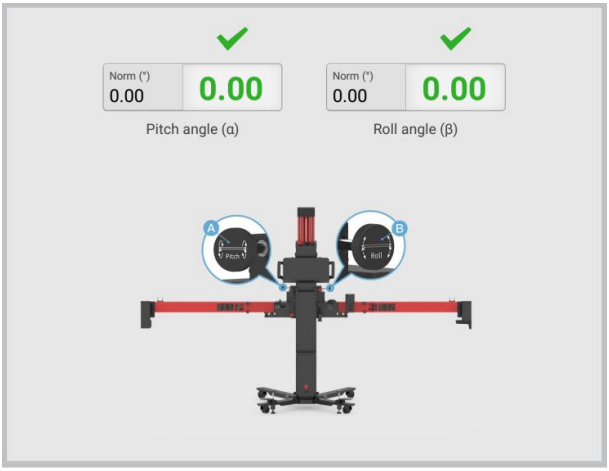
3. The position adjustment for the calibration frame is completed.

NOTE

After the calibration frame is properly positioned, press down on both the bolts on the base to secure the calibration frame.

➢ **To adjust the pitch angle or roll angle**

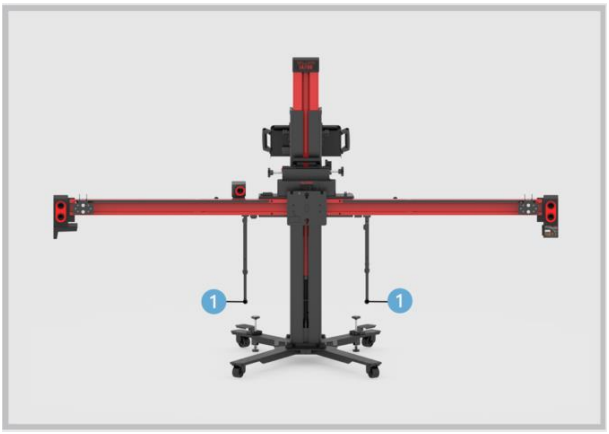
1. Rotate the fine-tuning bolt (A) so that the value of pitch angle is displayed in green.
2. Rotate the fine-tuning bolt (B) so that the value of roll angle is displayed in green.



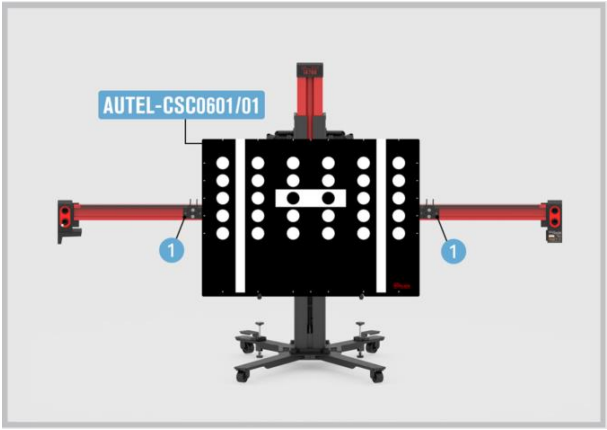
4.1.6 Starting Calibration

➢ **To attach the target board**

1. Unfold and straighten the target board holders (1) on both sides of the crossbar. Pull the ends down to extend the target board holders.

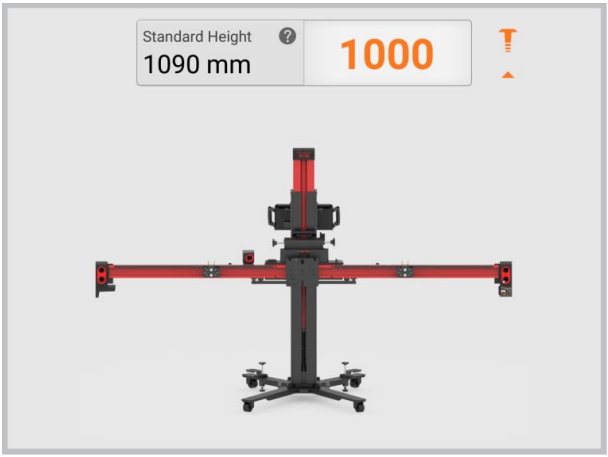


2. Attach the target board AUTEL-CSC0601/01 to the calibration frame and fix the target board with the two sliding plates (1) on both sides of the crossbar.

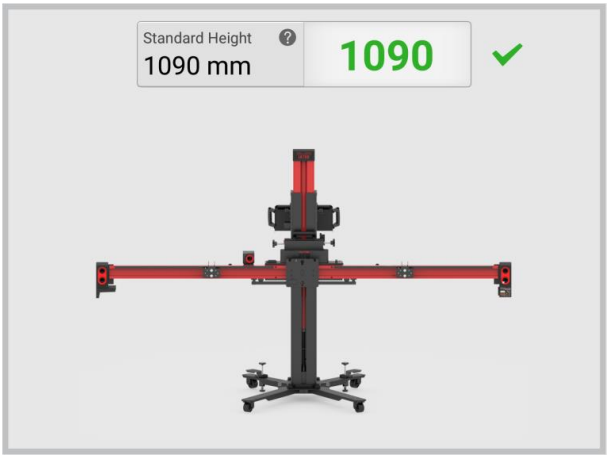


➢ **To adjust the crossbar height**

1. Follow the on-screen instructions to adjust the crossbar height to the standard height, which is the distance from the center of the crossbar to the surface where the vehicle is parked.



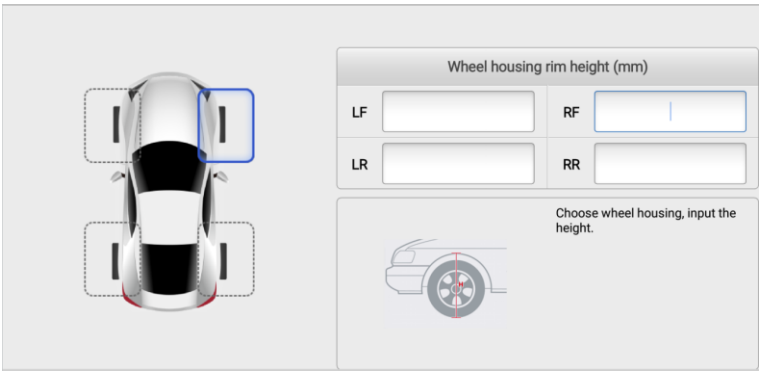
2. When the value is displayed in green and a check mark appears on the right, it indicates that the crossbar height is adjusted to the standard height suitable for the target board.



NOTE

- Ensure there are no obstructions which may interfere with the movement of the crossbar during this process.
- Turn off the sliding plate laser. Remove the tire clamps, targets, and distance measuring targets after this adjustment.

3. Enter the height for each wheel housing. Make sure that the value range should be **550–1000 mm (21.65–39.37 in)**. If the heights are within this range, the calibration is successful.



4.2 Adaptive Cruise Control (ACC) Calibration

The ACC system allows the driver to maintain a calibrated distance from the vehicle ahead. Based on the distance and speed of the front vehicle, the system can automatically decelerate or accelerate the vehicle. This helps to maintain a safe and consistent distance from the vehicle in front, providing convenience and enhancing safety during highway driving or in traffic conditions.

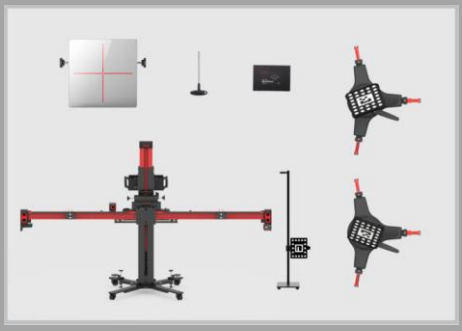
4.2.1 Selecting Calibration Background

Select prior to performing calibration based on the actual situation:

1. Repaired or replaced the Adaptive Cruise Control (ACC) radar sensor control unit.
2. The ACC radar sensor deviation angle is out of normal range.
3. Adjusted the position of the ACC radar sensor on the vehicle body.
4. Repaired or replaced the bumper or radiator grill.
5. Adjusted the chassis.

4.2.2 Preparing Calibration Tools

To complete the calibration process, ensure that you have the following tools prepared.



- ✓ **Calibration Frame AUTEL-CSCC100;**
- ✓ **Reflector AUTEL-CSC0602/01;**
- ✓ **Mini Reflector AUTEL-CSC0602/07;**
- ✓ **Tire Clamp AUTEL-CSC0500/17/LR;**
- ✓ **Tire Clamp AUTEL-CSC0500/17/RR;**
- ✓ **Target AUTEL-CSC0500/16/LR;**
- ✓ **Target AUTEL-CSC0500/16/RR;**
- ✓ **Alignment Aid AUTEL-CSC0500/08;**
- ✓ **Hex Wrench AUTEL-CSC0602/06 or Other Radar Adjusters (not included).**

4.2.3 Preparations Before Calibration

NOTE

- Before calibration, check if the vehicle is equipped with night vision system.
- If night vision system is equipped, use the MaxiSys tablet to check if calibration is needed. If calibration is needed, follow the night vision system calibration instructions on the tablet to complete calibration.
- If no night vision system is present or it does not need to be calibrated, perform ACC radar sensor calibration.

1. Park the vehicle on a level surface. Center the steering wheel and keep the front wheels of the vehicle in a straight-ahead position (If necessary, perform the wheel alignment first). Ensure there is a minimum space of **3000 mm (118.11 in)** in front of the vehicle.
2. Bring the vehicle to a complete stop. Confirm the rear thrust angle is aligned and turn the ignition off.
3. Ensure the vehicle's coolant and engine oil are at recommended levels and the gas tank is full. The vehicle should not be carrying any additional load (such as passengers or cargo).
4. Attach the VCI to the vehicle and connect the MaxiSys tablet to the VCI (If the MaxiSys tablet and VCI are connected through diagnostic cable, guide the cable through window).
5. Close the vehicle doors and turn off all exterior lighting.
6. Adjust the tire pressure to the specified value.
7. If needed, connect the vehicle to a battery maintainer to prevent battery discharge.
8. For vehicles with air suspension, activate the vehicle's jack mode.
9. Generally, the ACC radar sensor is located on the grill under the vehicle emblem, or behind the vehicle emblem, or on either side of the bumper.
10. Remove the grill on the ACC radar sensor to check if the sensor is damaged or firmly attached. If it is damaged or not secure, repair or fix it.
11. Ensure the surface of the radar sensor is clean.

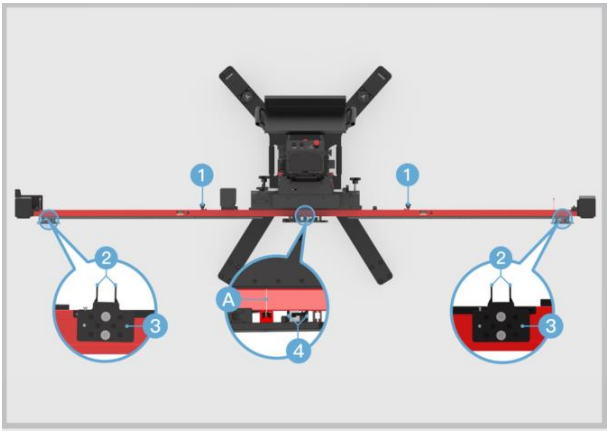
NOTE

- The actual location of the sensor varies by vehicle.
- The calibration frame must be placed as requested before this calibration function can be performed.

4.2.4 Positioning Auxiliary Tools

➢ **To place the calibration frame and align the marked line**

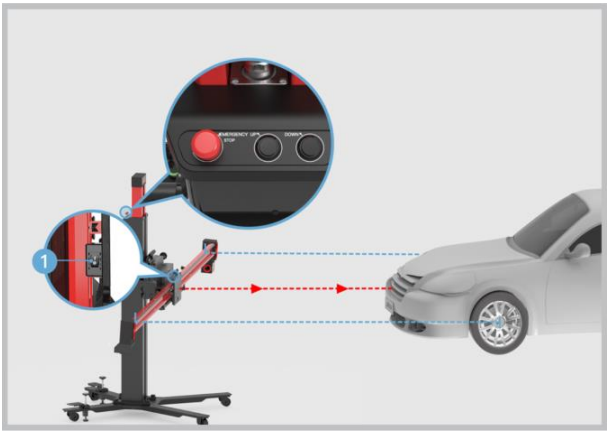
1. Move the calibration frame to the level ground in front of the vehicle. If the target board has been installed onto the crossbar, remove it and fold up the target board holder.
2. Unfold the crossbar arms at both ends horizontally, and tighten the bolts (1) at the joints of the crossbar arms.
3. Press and hold the handles (2) on the sliding blocks, move the sliding blocks (3) on both sides to both ends and release the handle to fix the sliding block.
4. Press and hold the handle (4) on the sliding plate to move the sliding plate, so that the pointer on the sliding plate is aligned with the white marked line in position A, and then release the handle to fix the sliding plate.



5. Loosen the handle (1) and rotate the fine-tuning bolt (2) until the position A is aligned with the red marked line. Tighten the handle (1) to secure the crossbar.
6. Rotate the fine-tuning bolt (3) until the position B is aligned with the red marked line.
7. Rotate the fine-tuning bolt (4) until the position C is aligned with the white marked line, and rotate the fine-tuning bolt (5) until the position D is aligned with the white marked line.
8. Connect the power supply and then turn on the power switch (6).

➢ **To aim the laser at the front center of the vehicle**

1. Place the calibration frame directly before the front center of the vehicle. Keep the front wheels in a straight-ahead position.
2. Press the **UP** and **DOWN** buttons on the back of the calibration frame to adjust the height of the crossbar so that it is roughly at the same height as the center of the front wheel.
3. Hold the handle on the calibration frame and slowly move the calibration frame until the horizontal distances between the centers of front wheels and the back of the crossbar are basically equal. Then turn on the laser (1) and aim it at the front center of the vehicle.

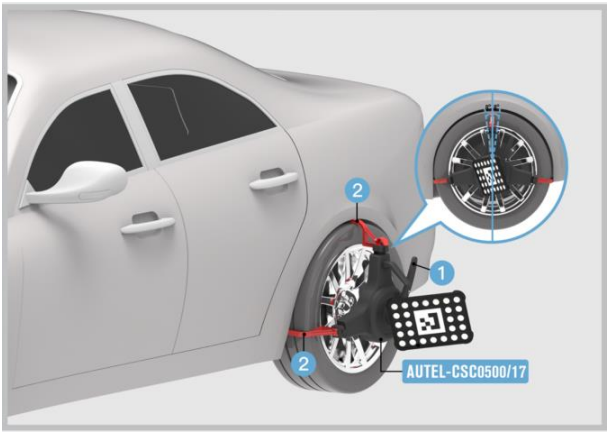


NOTE

In case of an emergency, press the **EMERGENCY STOP** button to stop the movement of the crossbar.

➢ **To install the tire clamps with target**

1. Check the tire clamps to ensure the pawls are equal in length.
2. Attach the two tire clamps AUTEL-CSC0500/17 to the rear tires respectively, and lock the locking handle (1) until the pawls (2) are tightly secured.

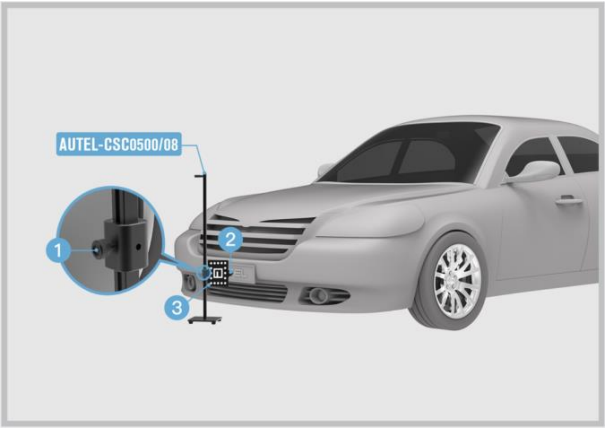


NOTE

- Ensure the tire clamps are vertically installed on the tire and the installation angle should be within the range of -8°–8°.
- After the tire clamps with target are installed, the calibration frame will automatically identify the targets. If the targets are not identified, follow the on-screen instructions to enable the automatic lifting & search function. Ensure there are no obstructions which may interfere with the movement of the crossbar during this process.

➢ **To place and adjust the distance measuring target**

1. Place the distance measuring target AUTEL-CSC0500/08 in front of the vehicle. Loosen the bolt (1) to adjust the height of the target pointer (2) so that it is roughly at the same height as the center of the front bumper. Then tighten the bolt (1) to fix the target.
2. Move the distance measuring target to ensure the pointer (2) of the target touches the front bumper and is pointing at the centerline of the vehicle as close as possible. Meanwhile, face the white dotted side of the panel (3) towards the calibration frame.

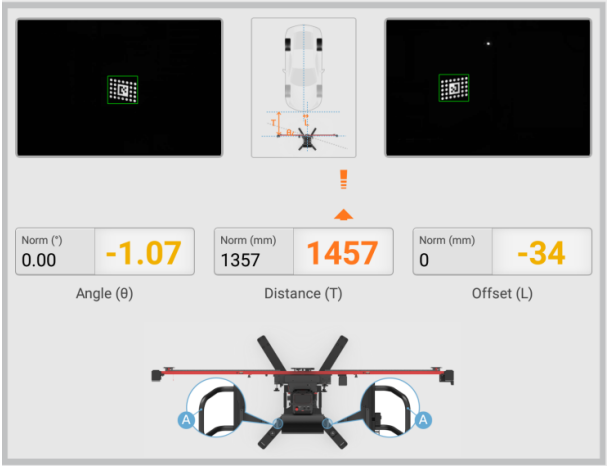


NOTE

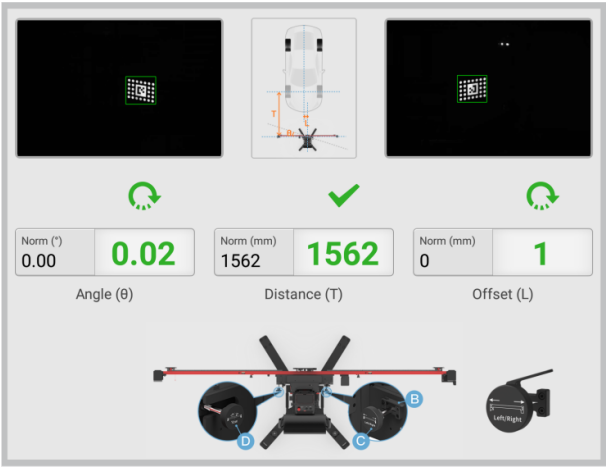
- Do not move the distance measuring target during the recognition process.
- Remove the distance measuring target after its position is obtained.

➢ **To adjust the position of the calibration frame**

1. Hold the handle (A) on the calibration frame and move the calibration frame until the distance value is displayed in green and ensure the calibration frame and the vehicle are roughly aligned.



2. Rotate the fine-tuning bolt (D) until the angle value is displayed in green. Loosen the handle (B) on the crossbar and rotate the fine-tuning bolt (C) according to the direction indicated by the arrow until the offset value is displayed in green, then tighten the handle (B) to secure the crossbar.



3. The position adjustment for the calibration frame is completed.

NOTE

After the calibration frame is properly positioned, press down on both the bolts on the base to secure the calibration frame.

4.2.5 Starting Calibration

➢ **To attach and adjust the reflector**

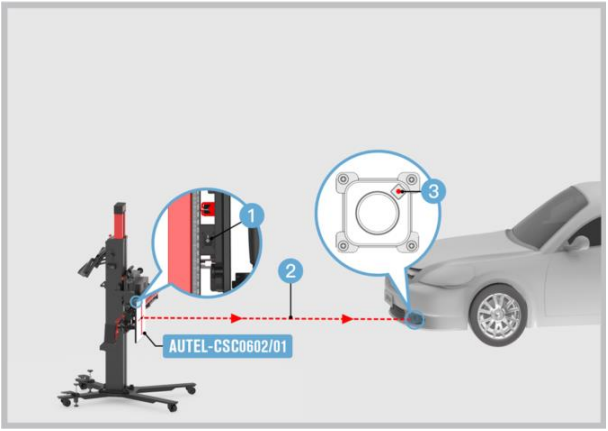
1. Fully attach the reflector AUTEL-CSC0602/01 to the crossbar sliding plate.
2. Rotate the bolt (1) on the reflector so that the side labeled 2 is facing up.

3. Rotate the fine-tuning bolts (1) and (2) to ensure the bubble in the bubble level (3) of the reflector is centered.

NOTE

Turn off the sliding plate laser. Remove the tire clamps, targets, and distance measuring targets after this adjustment.

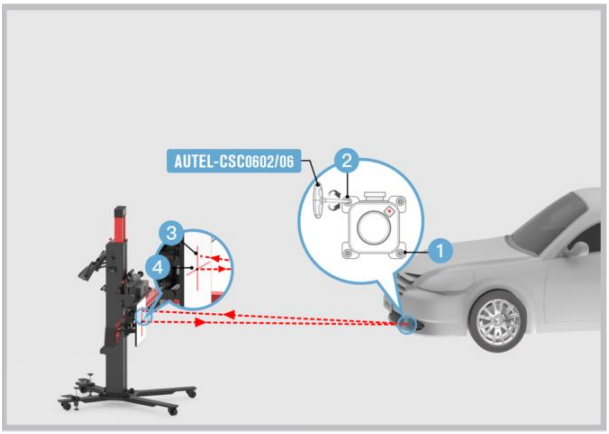
4. Move the reflector AUTEL-CSC0602/01 left or right to aim the laser beam (2) at the mini reflector (3) on the radar sensor (on the right side of the vehicle's driving direction).



NOTE

- If the bubble in the bubble level deviates from the center during the adjustment, adjust the bolts on the base so that the bubble in the bubble level is centered.
- The location of the mini reflector may vary by vehicle.
- If there is no mini reflector on the sensor, attach the mini reflector AUTEL-CSC0602/07 on any flat place on the radar surface and aim the laser beam at this mini reflector.

5. Use the hex wrench AUTEL-CSC0602/06 or other radar adjusters (not included) to adjust the sensor bolts (1) and (2) so that the reflected laser (3) aligns with the origin (4).

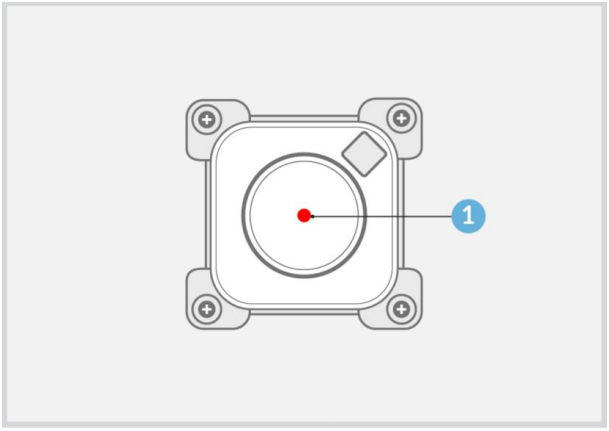


NOTE

The location of the adjusting bolt may vary by vehicle. Adjust the diagonal bolts until the reflected laser aligns with the origin.

➢ **To calibrate the left ACC radar sensor**

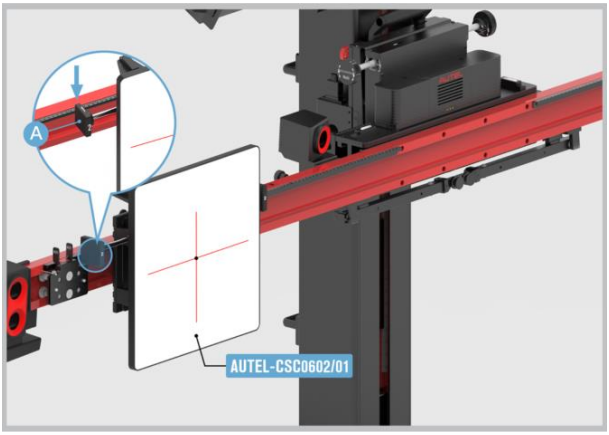
1. Turn on the sliding plate laser.
2. Adjust the height of the crossbar and move the reflector left or right to aim the laser beam at the center (1) of the radar sensor. Then turn off the sliding plate laser.



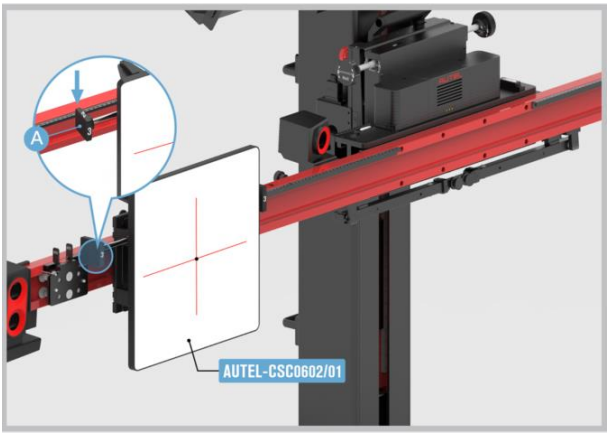
NOTE

If the bubble in the bubble level deviates from the center during the adjustment, adjust the bolts on the base so that the bubble in the bubble level is centered.

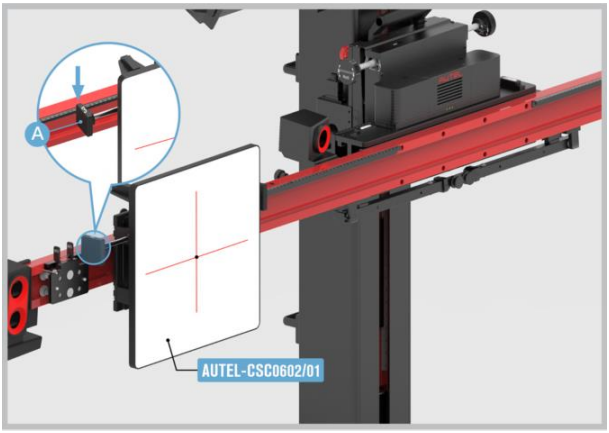
3. Rotate the knob (A) on the reflector AUTEL-CSC0602/01 so that the side labeled 1 is facing up.



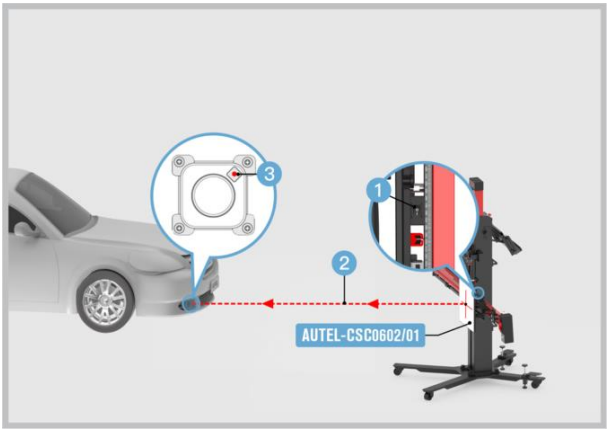
4. Rotate the knob (A) on the reflector AUTEL-CSC0602/01 so that the side labeled 2 is facing up.



5. Rotate the knob (A) on the reflector AUTEL-CSC0602/01 so that the side labeled 3 is facing up.



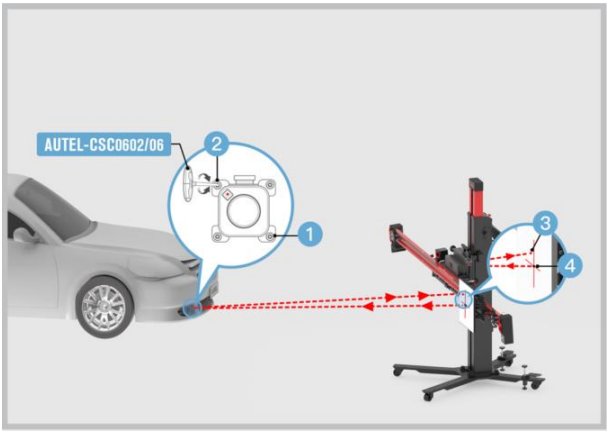
6. Turn on the laser (1). Adjust the height of the crossbar and move the reflector AUTEL-CSC0602/01 left or right to aim the laser beam (2) at the mini reflector (3) on the radar sensor (on the right side of the vehicle's driving direction).



NOTE

- If the bubble in the bubble level deviates from the center during the adjustment, adjust the bolts on the base so that the bubble in the bubble level is centered.
- The location of the mini reflector may vary by vehicle.
- If there is no mini reflector on the sensor, attach the mini reflector AUTEL-CSC0602/07 on any flat place on the radar surface and aim the laser beam at this mini reflector.

7. Use the hex wrench AUTEL-CSC0602/06 or other radar adjusters (not included) to adjust the sensor bolt (1) and (2) so that the reflected laser (3) aligns with the origin (4).

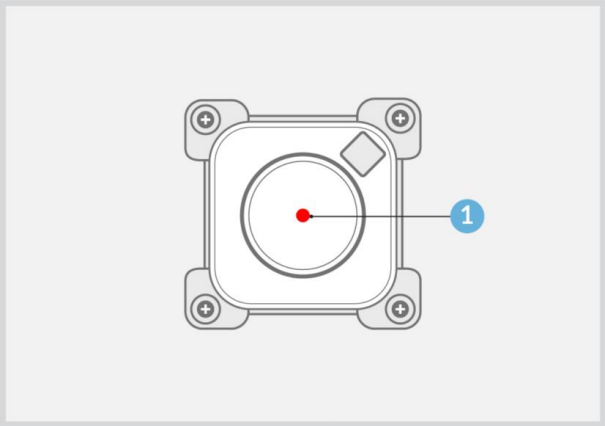


NOTE

The location of the adjusting bolt may vary by vehicle. Adjust the diagonal bolts until the reflected laser aligns with the origin.

➢ **To calibrate the right ACC radar sensor**

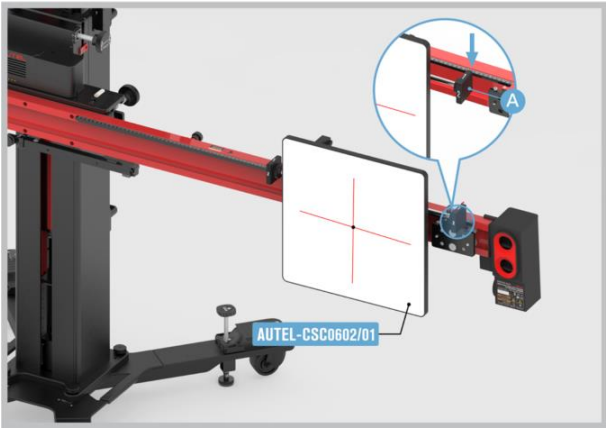
1. Adjust the height of the crossbar and move the reflector left or right to aim the laser beam at the center (1) of the radar sensor on the right side of the driving direction, and turn off the sliding plate laser.



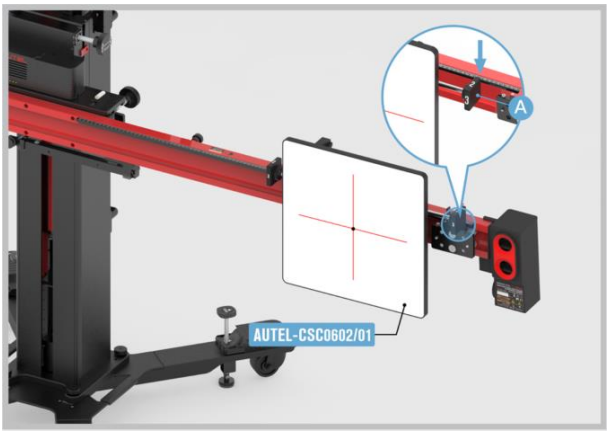
NOTE

If the bubble in the bubble level deviates from the center during the adjustment, adjust the bolts on the base so that the bubble in the bubble level is centered.

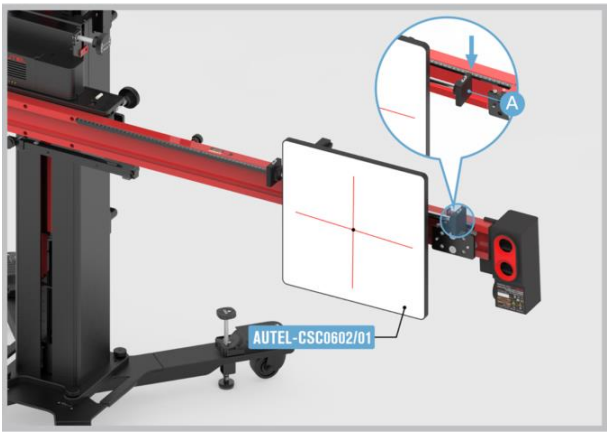
2. Rotate the knob (A) on the reflector AUTEL-CSC0602/01 so that the side labeled 1 is facing up.



3. Rotate the knob (A) on the reflector AUTEL-CSC0602/01 so that the side labeled 2 is facing up.



4. Rotate the knob (A) on the reflector AUTEL-CSC0602/01 so that the side labeled 3 is facing up.



4.3 Blind Spot Detection (BSD) Calibration

The blind spot detection system is designed to address the visual blind spot in the rearview mirror of a vehicle. This blind spot can prevent the driver from seeing vehicles in adjacent lanes before changing lanes. By utilizing the blind spot detection system, the blind spot is effectively monitored and potential collision accidents during lane changes can be avoided.

4.3.1 Selecting Calibration Background

Select prior to performing calibration based on the actual situation:

1. Required or replaced the lane change assist control unit.
2. Repaired or replaced the rear bumper hood/trunk.
3. Adjusted the position of lane change assist control unit on the vehicle.

4.3.2 Selecting the Parking Spot

Select the parking spot for your vehicle to be calibrated. This selection will determine the vehicle body height, which is crucial for accurate calibration.

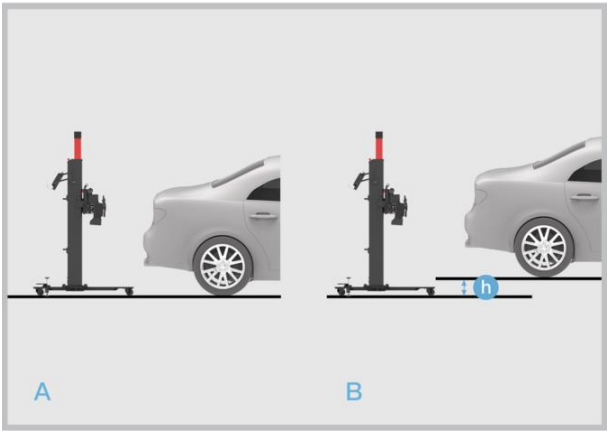
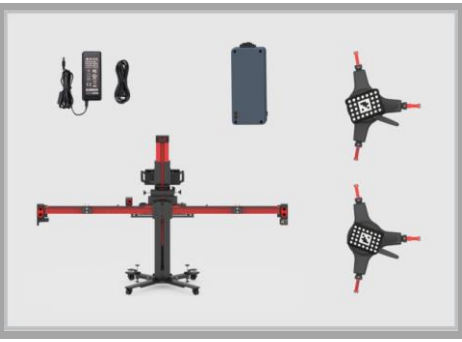


Figure A: Level ground.

Figure B: A spot (e.g., workshop station) where the calibration frame and vehicle are not at the same level. If you select this spot, you need to measure the height gap between the two levels and enter the measured value into the tablet.

4.3.3 Preparing Calibration Tools

To complete the calibration process, ensure that you have the following tools prepared.



- ✓ **Calibration Frame AUTEL-CSCC100;**
- ✓ **Radar Calibration Box AUTEL-CSC0605/01;**
- ✓ **Tire Clamp AUTEL-CSC0500/17/LF;**
- ✓ **Tire Clamp AUTEL-CSC0500/17/RF;**
- ✓ **Target AUTEL-CSC0500/16/LF;**
- ✓ **Target AUTEL-CSC0500/16/RF;**
- ✓ **24 V Power Adapter.**

4.3.4 Preparations Before Calibration

1. Park the vehicle on a level surface. Center the steering wheel, and keep the front wheels of the vehicle in a straight-ahead position (If necessary, perform the wheel alignment first). Ensure there is a minimum space of **4000 mm (157.48 in) * 4000 mm (157.48 in)** behind the vehicle (starting from the rear axle).
2. For vehicles with air suspension, please set the chassis height as medium or automatic (shown on the instrument panel).
3. Ensure the vehicle's coolant and engine oil are at recommended levels and the gas tank is full. The vehicle should not be carrying any additional load (such as passengers or cargo).
4. Attach the VCI to the vehicle and connect the MaxiSys tablet to the VCI (If the MaxiSys tablet and VCI are connected through diagnostic cable, guide the cable through window).
5. Apply the parking brake and close all doors. No one should be inside the vehicle.
6. Adjust the tire pressure to the specified value.
7. If needed, remove the tinsel label on the bumper cover.

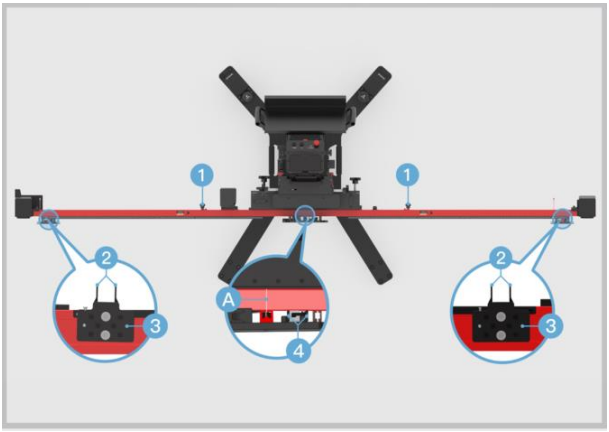
NOTE

- Do not open or close doors during calibration.
- The calibration frame must be placed as requested before this calibration function can be performed.

4.3.5 Positioning Auxiliary Tools

➢ **To place the calibration frame and align the marked line**

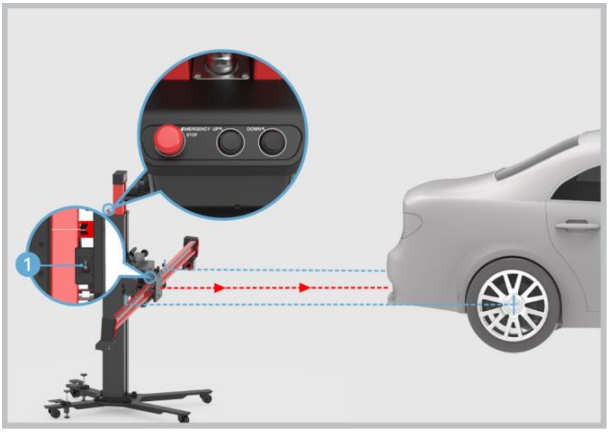
1. Move the calibration frame to the level ground behind the vehicle. If the target board has been installed onto the crossbar, remove it and fold up the target board holder.
2. Unfold the crossbar arms at both ends horizontally, and tighten the bolts (1) at the joints of the crossbar arms.
3. Press and hold the handles (2) on the sliding blocks, move the sliding blocks (3) on both sides to both ends and release the handle to fix the sliding block.
4. Press and hold the handle (4) on the sliding plate to move the sliding plate, so that the pointer on the sliding plate is aligned with the white marked line in position A, and then release the handle to fix the sliding plate.



5. Loosen the handle (1) and rotate the fine-tuning bolt (2) until the position A is aligned with the red marked line. Tighten the handle (1) to secure the crossbar.
6. Rotate the fine-tuning bolt (3) until the position B is aligned with the red marked line.
7. Rotate the fine-tuning bolt (4) until the position C is aligned with the white marked line, and rotate the fine-tuning bolt (5) until the position D is aligned with the white marked line.
8. Connect the power supply and then turn on the power switch (6).

➢ **To aim the laser at the rear center of the vehicle**

1. Place the calibration frame directly behind the rear center of the vehicle.
2. Press the **UP** and **DOWN** buttons on the back of the calibration frame to adjust the height of the crossbar so that it is roughly at the same height as the center of the rear wheel.
3. Hold the handle on the calibration frame and slowly move the calibration frame until the horizontal distances between the centers of rear wheels and the back of the crossbar are basically equal. Then turn on the laser (1) and aim it at the rear center of the vehicle.

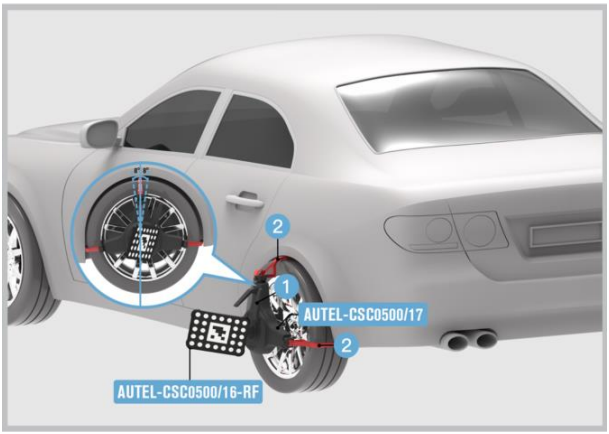


NOTE

In case of an emergency, press the **EMERGENCY STOP** button to stop the movement of the crossbar.

➢ **To install the tire clamps with target**

1. Check the tire clamps to ensure the pawls are equal in length.
2. Attach the two tire clamps AUTEL-CSC0500/17 to the rear tires respectively, and lock the locking handle (1) until the pawls (2) are tightly secured.

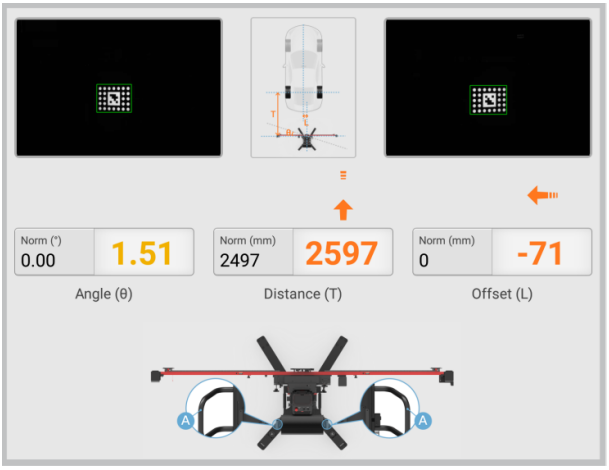


NOTE

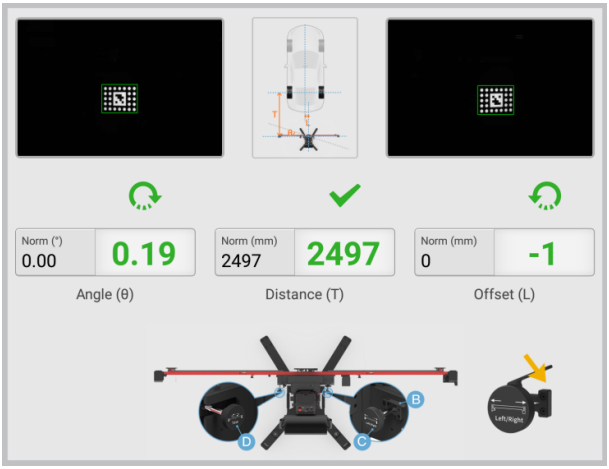
- The target AUTEL-CSC0500/16/LF should be installed on the right rear wheel, and the target AUTEL-CSC0500/RF should be installed on the left rear wheel.
- Ensure the tire clamps are vertically installed on the tire and the installation angle should be within the range of -8°–8°.
- After the tire clamps with target are installed, the calibration frame will automatically identify the targets. If the targets are not identified, follow the on-screen instructions to enable the automatic lifting & search function. Ensure there are no obstructions which may interfere with the movement of the crossbar during this process.

➢ **To adjust the position of the calibration frame**

1. Hold the handle (A) on the calibration frame and move the calibration frame until the distance value is displayed in green and ensure the calibration frame and the vehicle are roughly aligned.



2. Rotate the fine-tuning bolt (D) until the angle value is displayed in green. Loosen the handle (B) on the crossbar and rotate the fine-tuning bolt (C) according to the direction indicated by the arrow until the offset value is displayed in green, then tighten the handle (B) to secure the crossbar.



3. The position adjustment for the calibration frame is completed.

NOTE

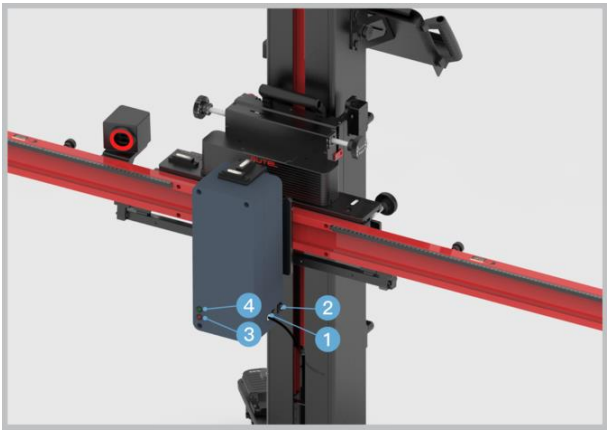
After the calibration frame is properly positioned, press down on both the bolts on the base to secure the calibration frame.

4.3.6 Starting Calibration

➢ **To attach and adjust the radar calibration box**

1. Fully attach the radar calibration box AUTEL-CSC0605/01 onto the sliding plate.
2. Rotate the fine-tuning bolts (1) and (2) so that the bubble in the bubble level (3) of radar calibration box is centered.

3. Plug the included power cord into the power port (1). Turn on the switch (2) and the red LED (3) will light up. Do not go to the next step until approximately 10 seconds later when the green LED (4) lights up.

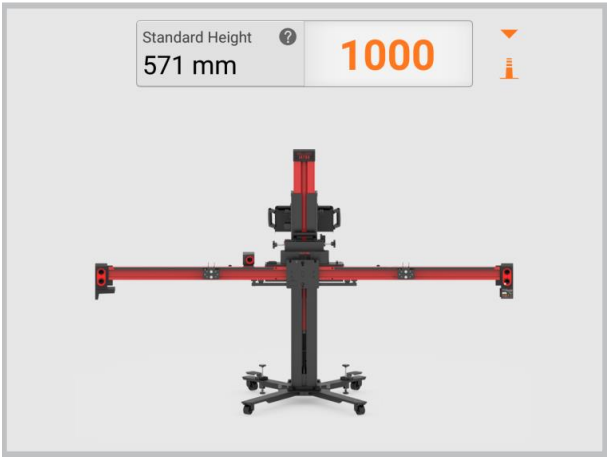


NOTE

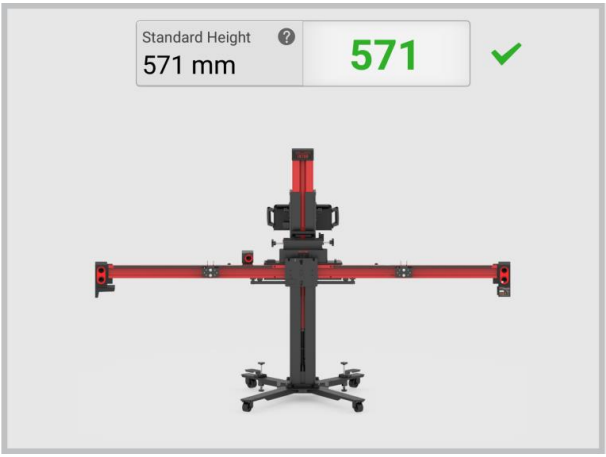
There are two ways to connect the power supply: one is to use the 24 V power adapter that matches the radar calibration box, and the other is to use the 24 V power cord equipped with the calibration frame.

➢ **To adjust the crossbar height**

1. Follow the on-screen instructions to adjust the crossbar height to the standard height, which is the distance from the center of the crossbar to the surface where the vehicle is parked.



2. When the value is displayed in green and a check mark appears on the right, it indicates that the crossbar height is adjusted to the standard height suitable for the target board.

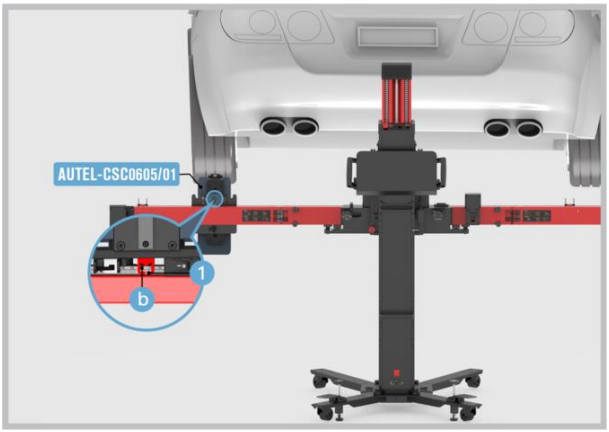


NOTE

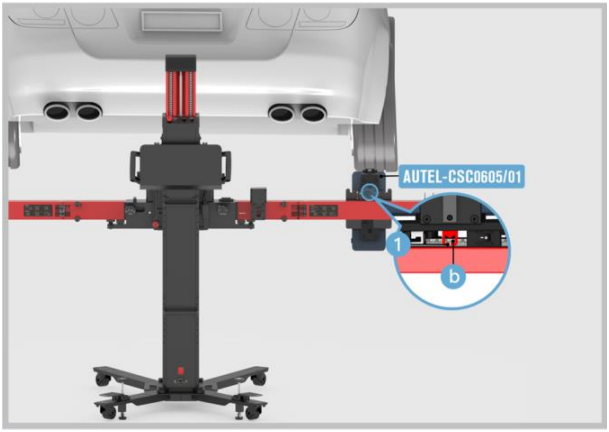
- Ensure there are no obstructions which may interfere with the movement of the crossbar during this process.
- Turn off the sliding plate laser. Remove the tire clamps, targets, and distance measuring targets after this adjustment.

➢ **To calibrate the left and right control units**

1. Move the radar calibration box AUTEL-CSC0605/01 to the left of the vehicle's driving direction, and aim the marked line (1) on the pointer (on the back of the crossbar sliding plate at **b=700 mm (27.56 in)** on the crossbar ruler.



2. Move the radar calibration box AUTEL-CSC0605/01 to the right of the vehicle's driving direction, and aim the marked line (1) on the pointer (on the back of the crossbar sliding plate at **b=700 mm (27.56 in)** on the crossbar ruler.



NOTE

If the bubble in the bubble level deviates from the center during the adjustment, adjust the bolts on the base so that the bubble in the bubble level is centered.

4.4 Night Vision System (NVS) Calibration

The night vision system with a thermographic camera enhances visibility during night driving, allowing drivers to have better awareness of road conditions, vehicle conditions, and more. This technology optimizes visibility and helps drivers make informed decisions while driving at night.

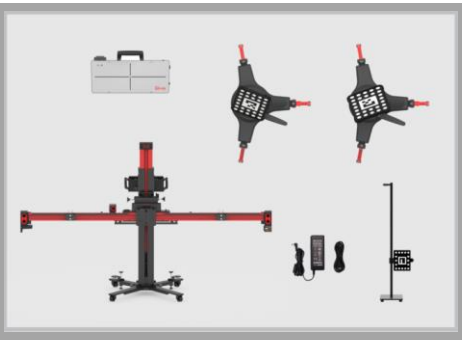
4.4.1 Selecting Calibration Background

Select prior to performing calibration based on the actual situation:

1. Repaired or replaced the Night Vision System (NVS) camera.
2. Repaired or replaced the bumper or radiator grill.
3. Adjusted the chassis.
4. Changed the vehicle body height.
5. Changed the position of NVS camera on the vehicle body.

4.4.2 Preparing Calibration Tools

To complete the calibration process, ensure that you have the following tools prepared.



- ✓ **Calibration Frame AUTEL-CSCC100;**
- ✓ **NV Calibrator AUTEL-CSC0603/01;**
- ✓ **Tire Clamp AUTEL-CSC0500/17/LR;**
- ✓ **Tire Clamp AUTEL-CSC0500/17/RR;**
- ✓ **Target AUTEL-CSC0500/16/LR;**
- ✓ **Target AUTEL-CSC0500/16/RR;**
- ✓ **Alignment Aid AUTEL-CSC0500/08;**
- ✓ **12 V Power Adapter.**

4.4.3 Preparations Before Calibration

1. Center the steering wheel, and keep the front wheels of the vehicle in a straight-ahead position (If necessary, perform the wheel alignment first).
2. Ensure the vehicle's coolant and engine oil are at recommended levels and the gas tank is full. The vehicle should not be carrying any additional load (such as passengers or cargo).

3. Attach the VCI to the vehicle and connect the MaxiSys tablet to the VCI (If the MaxiSys tablet and VCI are connected through diagnostic cable, guide the cable through window).
4. Apply the parking brake. Close all doors and turn off all external lighting.
5. Adjust the tire pressure to the recommended value.
6. Keep the vehicle in a cold state.
7. If needed, connect the vehicle to a battery maintainer to prevent battery discharge.
8. Check if the Night Vision System (NVS) camera is inside the holder and if the view is unobstructed. (The NVS camera is generally located near the grill or the front emblem of the vehicle).
9. Check if the protective window of NVS camera is damaged. If yes, please replace it.

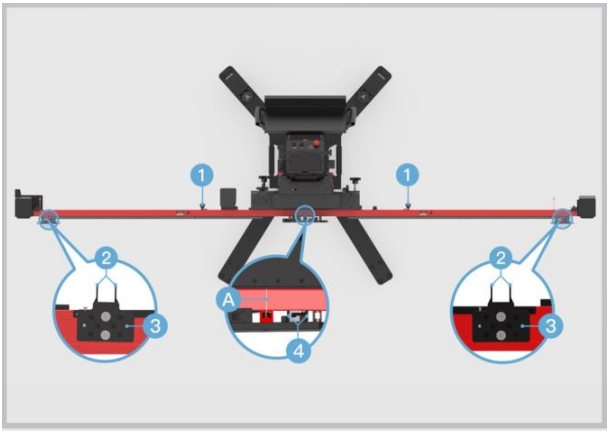
NOTE

- Camera location may vary by vehicle.
- The calibration frame must be placed as requested before this calibration function can be performed.

4.4.4 Positioning Auxiliary Tools

➢ **To place the calibration frame and align the marked line**

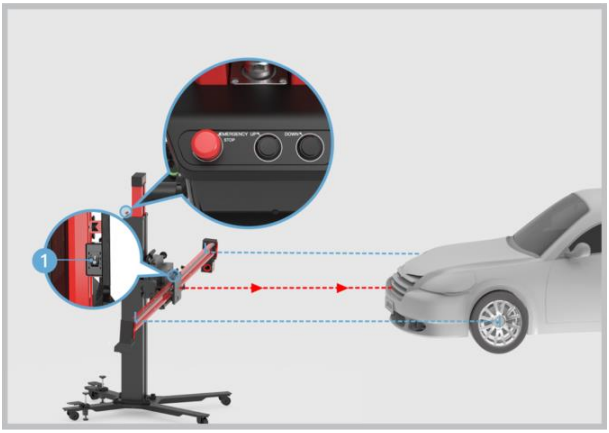
1. Move the calibration frame to the level ground in front of the vehicle. If the target board has been installed onto the crossbar, remove it and fold up the target board holder.
2. Unfold the crossbar arms at both ends horizontally, and tighten the bolts (1) at the joints of the crossbar arms.
3. Press and hold the handles (2) on the sliding blocks, move the sliding blocks (3) on both sides to both ends and release the handle to fix the sliding block.
4. Press and hold the handle (4) on the sliding plate to move the sliding plate, so that the pointer on the sliding plate is aligned with the white marked line in position A, and then release the handle to fix the sliding plate.



5. Loosen the handle (1) and rotate the fine-tuning bolt (2) until the position A is aligned with the red marked line. Tighten the handle (1) to secure the crossbar.
6. Rotate the fine-tuning bolt (3) until the position B is aligned with the red marked line.
7. Rotate the fine-tuning bolt (4) until the position C is aligned with the white marked line, and rotate the fine-tuning bolt (5) until the position D is aligned with the white marked line.
8. Connect the power supply and then turn on the power switch (6).

➢ **To aim the laser at the front center of the vehicle**

1. Place the calibration frame directly before the front center of the vehicle. Keep the front wheels in a straight-ahead position.
2. Press the **UP** and **DOWN** buttons on the back of the calibration frame to adjust the height of the crossbar so that it is roughly at the same height as the center of the front wheel.
3. Hold the handle on the calibration frame and slowly move the calibration frame until the horizontal distances between the centers of front wheels and the back of the crossbar are basically equal. Then turn on the laser (1) and aim it at the front center of the vehicle.

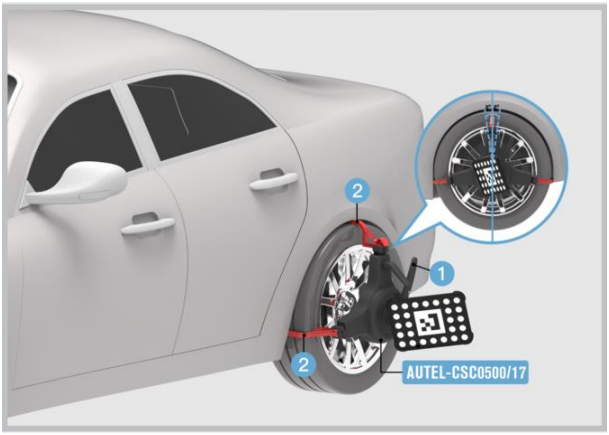


NOTE

In case of an emergency, press the **EMERGENCY STOP** button to stop the movement of the crossbar.

➢ **To install the tire clamps with target**

1. Check the tire clamps to ensure the pawls are equal in length.
2. Attach the two tire clamps AUTEL-CSC0500/17 to the rear tires respectively, and lock the locking handle (1) until the pawls (2) are tightly secured.

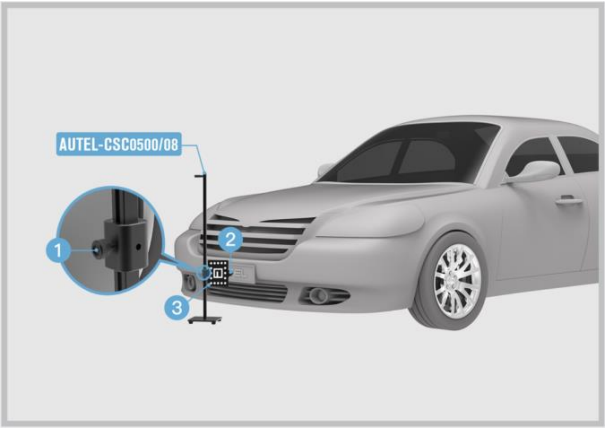


NOTE

- Ensure the tire clamps are vertically installed on the tire and the installation angle should be within the range of -8°–8°.
- After the tire clamps with target are installed, the calibration frame will automatically identify the targets. If the targets are not identified, follow the on-screen instructions to enable the automatic lifting & search function. Ensure there are no obstructions which may interfere with the movement of the crossbar during this process.

➢ **To place and adjust the distance measuring target**

1. Place the distance measuring target AUTEL-CSC0500/08 in front of the vehicle. Loosen the bolt (1) to adjust the height of the target pointer (2) so that it is roughly at the same height as the center of the front bumper. Then tighten the bolt (1) to fix the target.
2. Move the distance measuring target to ensure the pointer (2) of the target touches the front bumper and is pointing at the centerline of the vehicle as close as possible. Meanwhile, face the white dotted side of the panel (3) towards the calibration frame.

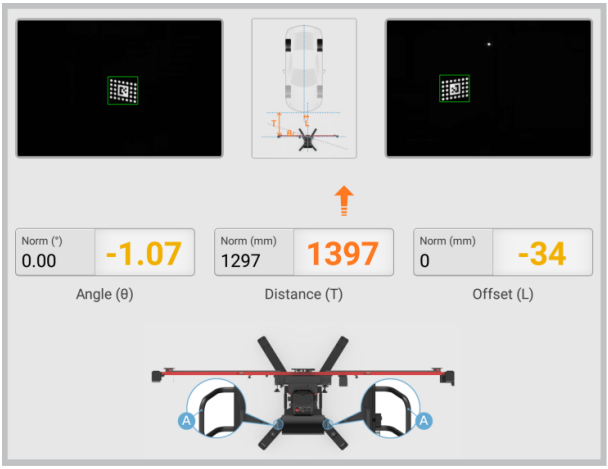


NOTE

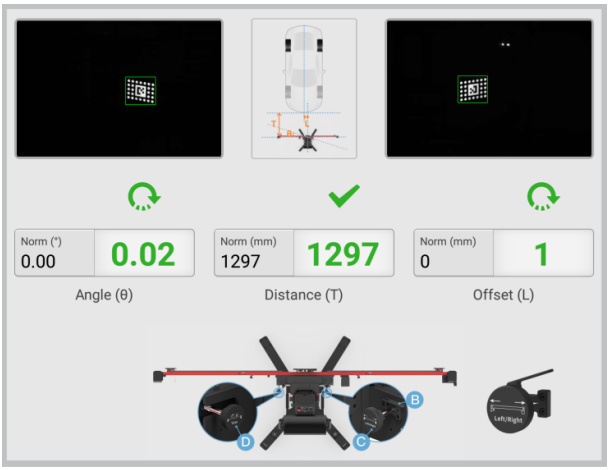
- Do not move the distance measuring target during the recognition process.
- Remove the distance measuring target after its position is obtained.

➢ **To adjust the position of the calibration frame**

1. Hold the handle (A) on the calibration frame and move the calibration frame until the distance value is displayed in green and ensure the calibration frame and the vehicle are roughly aligned.



2. Rotate the fine-tuning bolt (D) until the angle value is displayed in green. Loosen the handle (B) on the crossbar and rotate the fine-tuning bolt (C) according to the direction indicated by the arrow until the offset value is displayed in green, then tighten the handle (B) to secure the crossbar.



3. The position adjustment for the calibration frame is completed.

NOTE

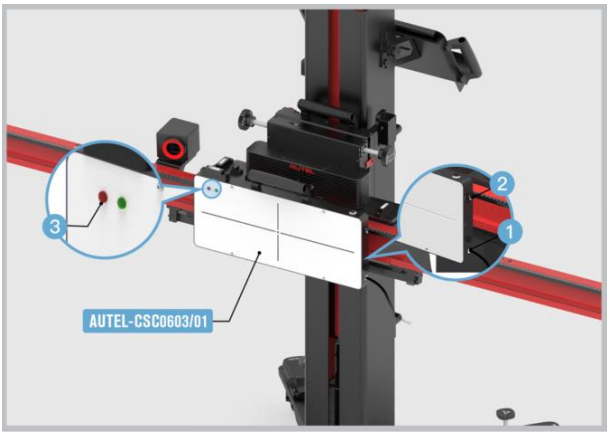
After the calibration frame is properly positioned, press down on both the bolts on the base to secure the calibration frame.

4.4.5 Starting Calibration

➢ **To install and adjust the NV calibrator**

1. Install the NV calibrator AUTEL-CSC0603/01 onto the crossbar sliding plate. Rotate the fine-tuning bolts (1) and (2) to ensure the bubble in the bubble level (3) of the NV calibrator is centered.

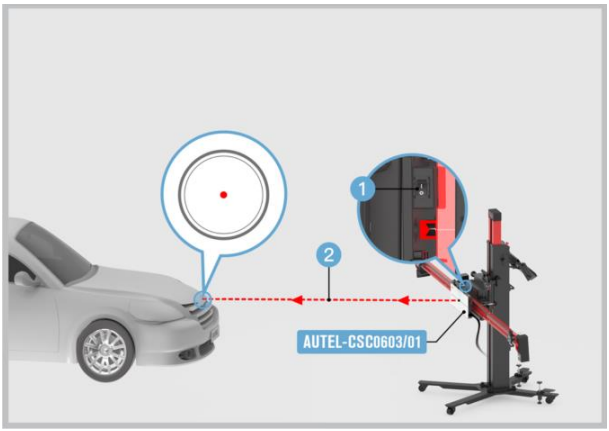
2. Plug the included power cord into the power port (1). Turn on the power switch (2) and the red LED (3) will light up.



NOTE

There are two ways to connect the power supply: one is to use the 12 V power adapter that matches the NV calibrator, and the other is to use the 12 V power cord equipped with the calibration frame.

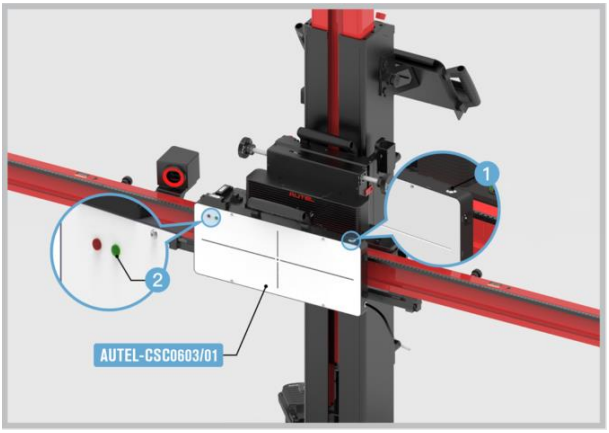
3. Turn on the laser (1). Adjust the height of the crossbar and slide NV calibrator AUTEL-CSC0603/01 left or right to aim the laser beam (2) at the center of the NVS camera.



NOTE

If the bubble in the bubble level deviates from the center during the adjustment, adjust the bolts on the base so that the bubble in the bubble level is centered.

4. Press the button (1) for 2 seconds until the buzzer beeps intermittently. After about 20 seconds, the green LED (2) will light.



NOTE

- NV calibrator AUTEL-CSC0603/01 shuts off automatically after 30 mins. The green LED turns off and the buzzer beeps for 1 second. Press the button (1) for 2 seconds to restart.
- To turn NV calibrator off, press and hold the button (1) for 2 seconds.
- Turn off the sliding plate laser. Remove the tire clamps, targets, and distance measuring target.

4.5 Around View Monitoring (AVM) Calibration

The function of Around View Monitoring (AVM) system is to provide a comprehensive and real-time view of the vehicle's surroundings. AVM system utilizes multiple cameras positioned around the vehicle to capture images, which are then processed and stitched together to create a 360-degree view. This view is displayed on the vehicle's infotainment screen or dedicated display, giving the driver a bird's-eye perspective of the vehicle and its immediate surroundings.

4.5.1 Selecting Calibration Background

Select prior to performing calibration based on the actual situation:

1. Replaced the panoramic camera.
2. Replaced the panoramic camera system control unit.
3. Repaired the components that are equipped with panoramic camera or affect camera installation.
4. Adjusted the chassis.
5. Overlapped areas of images shot by panoramic cameras are dislocated.
6. Adjusted the vehicle body height.
7. Adjusted the position of panoramic camera on vehicle body.

4.5.2 Preparing Calibration Tools

To complete the calibration process, ensure that you have the following tools prepared.

- ✓ **Pattern AUTEL-CSC0806/01;**
- ✓ **Laser AUTEL-CSC0500/04;**
- ✓ **Target Board AUTEL-CSC0804/01 (x2);**
- ✓ **Target Board Holder AUTEL-CSC0804/02 (x2);**
- ✓ **Tape Measure.**

NOTE: The required tools may vary depending on the specific vehicle. The tools listed on the left are for Audi vehicles. It is essential to prepare the necessary tools based on the actual situation and the specific requirements of the vehicle being serviced.

4.5.3 Preparations Before Calibration

1. Park the vehicle on a level surface. Center the steering wheel, and keep the front wheels of the vehicle in a straight-ahead position (If necessary, perform the wheel alignment first). Ensure there is an ample space around the vehicle.
2. Extend the exterior rear-view mirrors on both sides of the vehicle.
3. Ensure all camera lenses are clean. If needed, clean lenses with a damp cloth.
4. Check the respective camera images on the central console display. Replace the camera if the image is affected due to camera damage; check and correct the respective camera position if the image is at an angle.
5. Ensure the vehicle's coolant and engine oil are at recommended levels and the gas tank is full. The vehicle should not be carrying any additional load (such as passengers or cargo).
6. Attach the VCI to the vehicle and connect the MaxiSys tablet to the VCI (If the MaxiSys tablet and VCI are connected through diagnostic cable, guide the cable through window).
7. Apply the parking brake and close all doors, hood and trunk.
8. Adjust the tire pressure to the recommended placard value.
9. Set the ride setting to 'Comfort'.
10. Set the chassis height to 'Normal', and then set it to 'Jack Mode' (the level adjustment function is turned off).
11. If needed, connect the vehicle to a battery maintainer to prevent battery discharge.

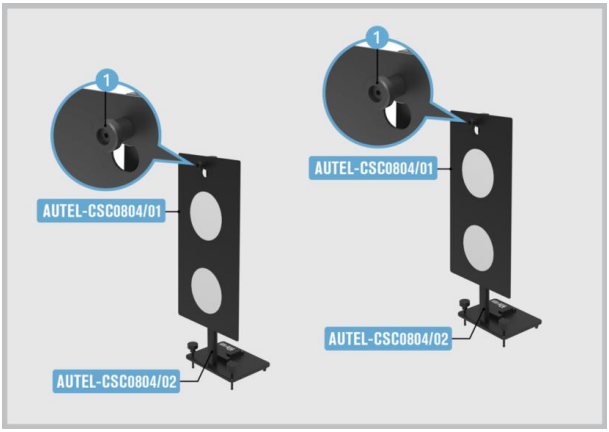
12. Turn on ignition.
13. Ensure no one is inside the vehicle during calibration.
14. To avoid recognition error, ensure there are no objects surrounding the calibration area.
15. Ensure the calibration area is well lit.

NOTE
Do not open or close doors during calibration.

4.5.4 Positioning Auxiliary Tools

➢ **To assemble the target boards**

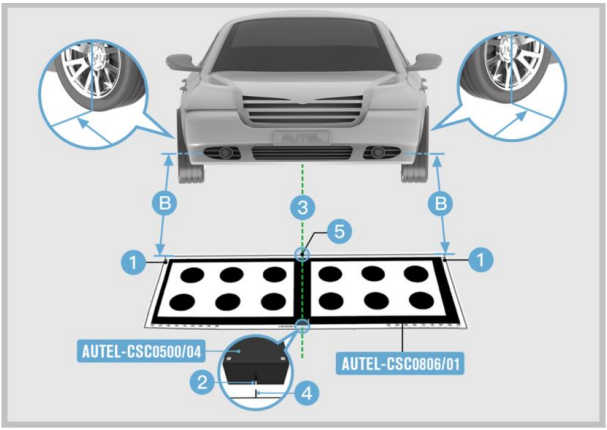
1. Place the target board holder AUTEL-CSC0804/02 on a level surface.
2. Mount the target board AUTEL-CSC0804/01 onto the hook (1) on the top of the target board holder.
3. Assemble the other set in the same way.



4.5.5 Starting Calibration

➢ **To calibrate the front view camera**

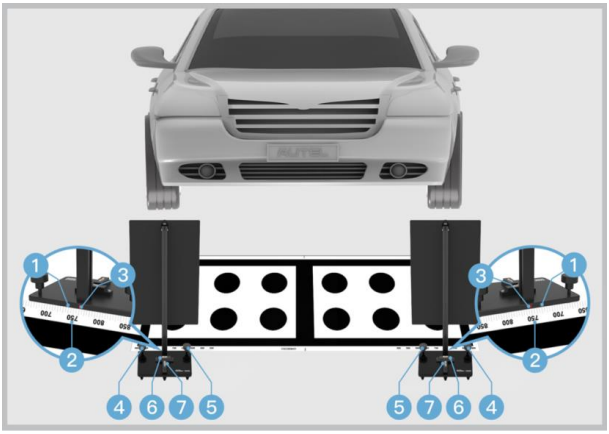
1. Lay the pattern AUTEL-CSC0806/01 directly in front of the vehicle. Measure the distance (**B=4200 mm (165.35 in)**) between the center of the rear wheels and the marked line (1). Ensure the distances on both sides are the same.
2. Place the laser AUTEL-CSC0500/04 in the position displayed in the figure and turn on the laser. Align the marked line (2) on the back of the laser and laser beam (3) with the marked lines (4) and (5) on the pattern respectively.
3. Move the pattern AUTEL-CSC0806/01 left or right to aim the laser beam (3) at the center of the vehicle emblem. Turn off the laser and store it.



NOTE

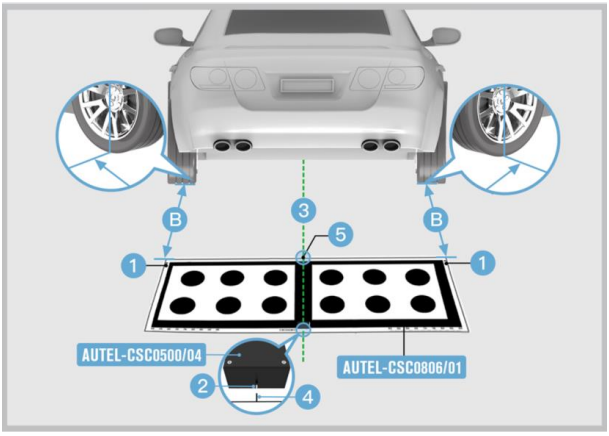
1. Ensure the pattern AUTEL-CSC0806/01 is placed correctly and its surface lies flat and reflects no light.
2. Ensure the position of the laser does not change when moving the pattern.

4. Place the two sets of assembled target boards in the position displayed in the figure. Ensure the side (1) with marked line on the base of the target board holder attaches with the edge of ruler (2) on the pattern.
5. Move the target board holder left or right to aim the marked line (3) at **775** on the ruler (2).
6. Rotate the bolts (4) and (5) so that the bubbles in the bubble levels (6) and (7) are centered.



➢ **To calibrate the rearview camera**

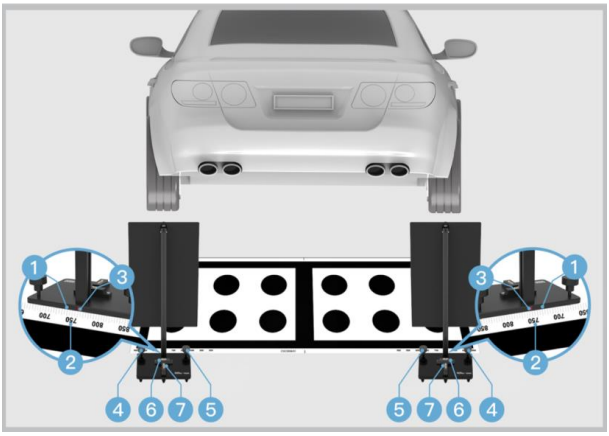
1. Lay the pattern AUTEL-CSC0806/01 directly behind the vehicle. Measure the distance between the center of the rear wheels (**B=1470–1900 mm (57.87–74.8 in)**) and the marked line (1). Ensure the distances on both sides are the same.
2. Place the laser AUTEL-CSC0500/04 in the position displayed in the figure and turn on the laser. Align the marked line (2) on the back of the laser and laser beam (3) with the marked lines (4) and (5) on the pattern respectively.
3. Move the pattern AUTEL-CSC0806/01 left or right to aim the laser beam (3) at the center of the vehicle emblem. Turn off the laser and store it.



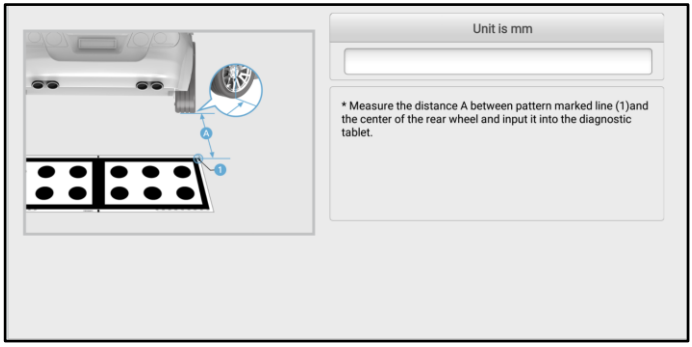
NOTE

1. Ensure the pattern AUTEL-CSC0806/01 is placed correctly and its surface lies flat and reflects no light.
2. Ensure the position of the laser does not change when moving the pattern.

4. Place the two sets of assembled target boards in the position displayed in the figure. Ensure the side (1) with marked line on the base of the target board holder attaches with the edge of the ruler (2) on the pattern.
5. Move the target board holder left or right to aim the marked line (3) at **775** on the ruler (2).
6. Rotate the bolts (4) and (5) so that the bubbles in the bubble levels (6) and (7) are centered.

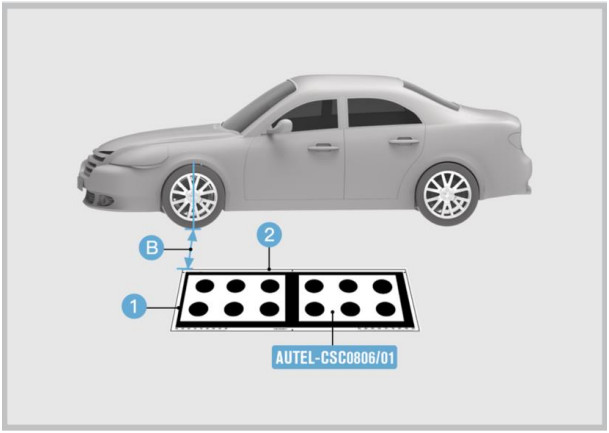


7. Measure the distance A between pattern marked line (1) and the center of the rear wheel and input it into the MaxiSys tablet.



➢ **To calibrate the left view camera**

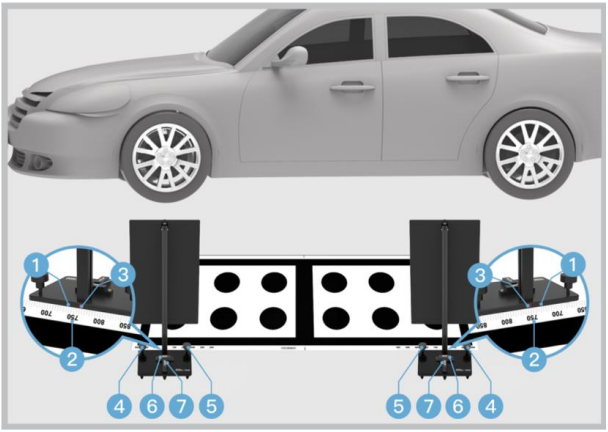
1. Lay the pattern AUTEL-CSC0806/01 on the left side of the vehicle (subject to the driving direction of the vehicle). Ensure the black edge (1) aligns with the center of the front wheel.
2. Ensure the edge (2) of the pattern parallels with the vehicle body, and the distance between the edge (2) and the front wheel (B) is **B=150–200 mm (5.91–7.87 in)**.



NOTE

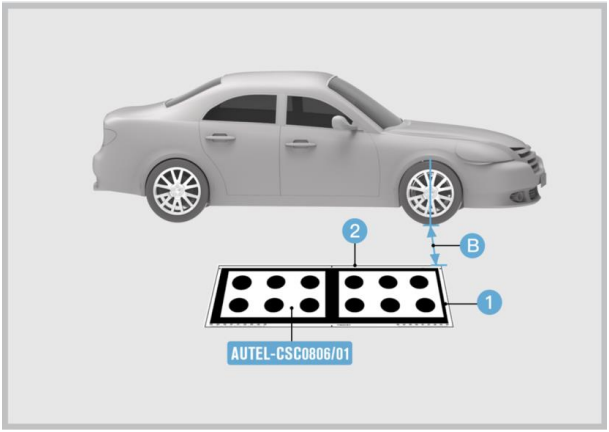
Ensure the pattern AUTEL-CSC0806/01 is placed correctly so that the long side without scale is next to the vehicle and the surface lies flat and reflects no light.

3. Place the two sets of assembled target boards in the position displayed in the figure. Ensure the side (1) with a marked line on the base of the target board holder attaches with the edge of the ruler (2) on the pattern.
4. Move the target board holder left or right to aim the marked line (3) at **775** on the ruler (2).
5. Rotate the bolts (4) and (5) so that the bubbles in the bubble levels (6) and (7) are centered.



➢ **To calibrate the right view camera**

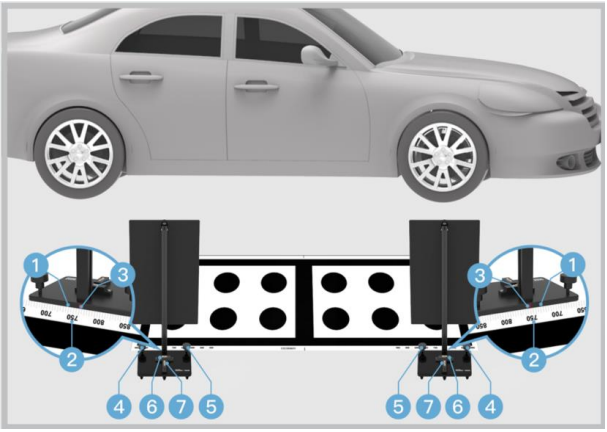
1. Lay the pattern AUTEL-CSC0806/01 on the right side of the vehicle (subject to the driving direction of the vehicle). Ensure the black edge (1) aligns with the center of the front wheel.
2. Ensure the edge (2) of the pattern parallels with the vehicle body, and the distance between the edge (2) and the front wheel (B) is **B=150–200 mm (5.91–7.87 in)**.



NOTE

Ensure the pattern AUTEL-CSC0806/01 is placed correctly so that the long side without scale is next to the vehicle and the surface lies flat and reflects no light.

3. Place the two sets of assembled target boards in the position displayed in the figure. Ensure the side (1) with a marked line on the base of the target board holder attaches with the edge of the ruler (2) on the pattern.
4. Move the target board holder left or right to aim the marked line (3) at **775** on the ruler (2).
5. Rotate the bolts (4) and (5) so that the bubbles in the bubble levels (6) and (7) are centered.



4.6 Head-Up Display (HUD) Calibration

The function of Head-Up Display (HUD) is to project essential information directly into the driver's line of sight, typically onto the windshield or a dedicated display panel. The HUD system allows drivers to access important information without having to look away from the road, reducing distractions and enhancing safety.

4.6.1 Selecting Calibration Background

Select prior to performing calibration based on the actual situation:

1. Replaced Head-Up Display (HUD) control module.
2. Removed and installed windshield.
3. No or incorrect basic setting/adaptation is stored in the DTC memory.

4.6.2 Preparing Calibration Tool

✓ **To complete the calibration process, ensure that you have the Head-Up Display Calibration Board (AUTEL-CSC0707/06) prepared.**

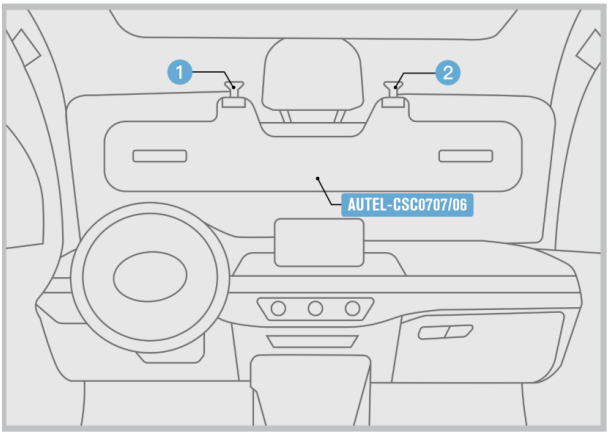
NOTE: The required tool may vary depending on the specific vehicle. The tool listed above is for Audi vehicles. It is essential to prepare the necessary tool(s) based on the actual situation and the specific requirements of the vehicle being serviced.

4.6.3 Preparations Before Calibration

1. Park the vehicle on a level surface.
2. Apply the parking brake. The vehicle must not be moved during the calibration.
3. Fold down the left and right sun visors. Disengage them and move them to the side.

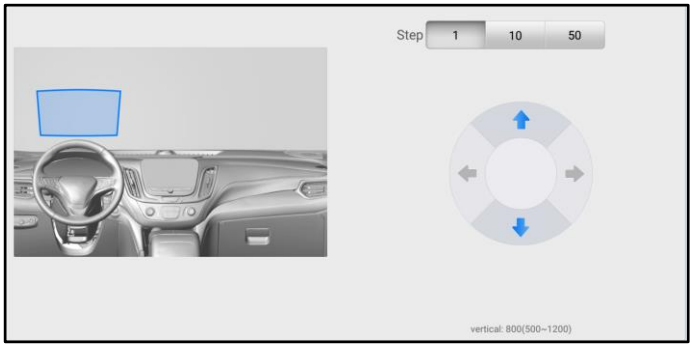
4.6.4 Positioning Auxiliary Tool

Engage the head-up display calibration board AUTEL-CSC0707/06 to the center support (1) and (2) of the sun visor.



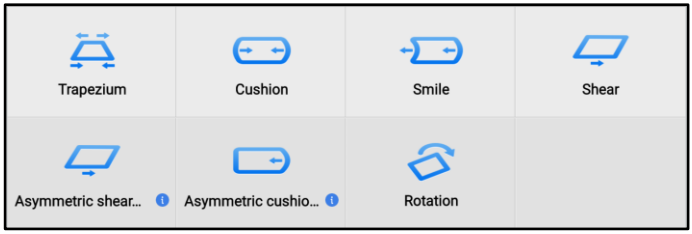
4.6.5 Starting Calibration

Follow the instructions on the tablet to select the range and direction of movement for calibration, ensuring the head-up display aligns with the driver's line of sight.



Correcting Head-up Display Image

The image displayed on the head-up display should be in a rectangular shape. If the images deviate from this shape, they need to be corrected. The abnormal images that appear on the head-up display might resemble the illustrations provided in the figure below. Choose the one that most closely matches the current image shape and follow the on-screen instructions to calibrate to the standard rectangular shape.



5 Alignment Precheck

Alignment precheck is indeed crucial to ensure that the vehicle's alignment is within acceptable parameters before proceeding with a full alignment procedure. It helps identify the existing alignment issues or abnormalities that may affect the accuracy and effectiveness of the alignment process. When the IA700 is connected with the Autel MaxiSys tablet, it supports alignment precheck before ADAS calibration, allowing drivers to detect and address potential problems, such as worn suspension components, damaged steering parts, or misaligned wheels, before attempting a complete alignment. By doing so, it ensures that the subsequent alignment procedure will be successful and that the vehicle's alignment will be properly adjusted to the manufacturer's specifications. This ultimately enhances the overall performance and safety of the vehicle.

5.1 Alignment Precheck Procedure

This section describes the alignment precheck procedure using the IA700 calibration frame. Since the alignment precheck procedure may vary depending on vehicle information, status, and tool selection, the guidance below is for reference only and needs to be adjusted according to specific circumstances.

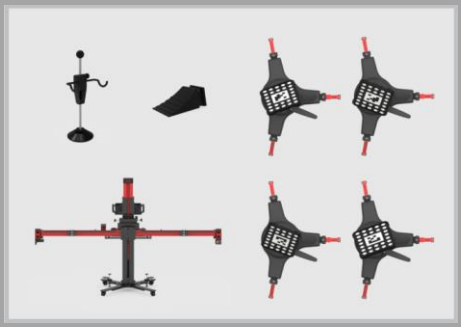
5.1.1 Alignment Precheck Background

Select prior to performing alignment precheck based on the actual situation:

1. The four-wheel alignment parameters may be abnormal.
2. The vehicle is off-track.
3. The vehicle steering wheel is incorrect or shows jitter.
4. Tires are abnormally worn.
5. Parts affecting positioning parameters have been replaced, such as steering rods.
6. Prepare to perform ADAS calibration.

5.1.2 Preparing Alignment Precheck Tools

To complete the alignment precheck process, ensure that you have the following tools prepared.



- ✓ **Calibration Frame AUTEL-CSCC100;**
- ✓ **Tire Clamp AUTEL-CSC0500/17/LF;**
- ✓ **Tire Clamp AUTEL-CSC0500/17/RF;**
- ✓ **Tire Clamp AUTEL-CSC0500/17/LR;**
- ✓ **Tire Clamp AUTEL-CSC0500/17/RR;**
- ✓ **Target AUTEL-CSC0500/16/LF;**
- ✓ **Target AUTEL-CSC0500/16/RF;**
- ✓ **Target AUTEL-CSC0500/16/LR;**
- ✓ **Target AUTEL-CSC0500/16/RR;**
- ✓ **Wheel Chock;**
- ✓ **Steering Wheel Lock.**

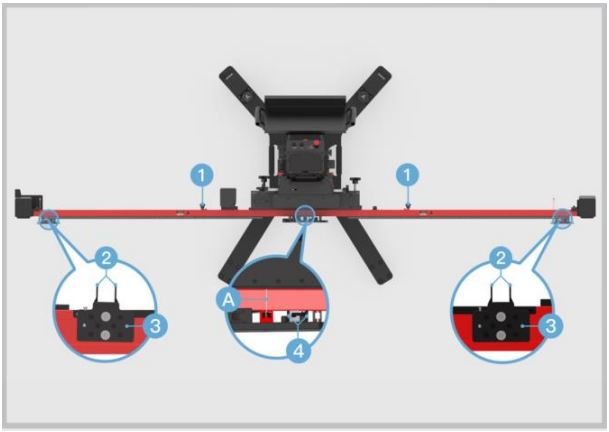
5.1.3 Vehicle Preparations Before Alignment Precheck

1. Park the vehicle on the level ground. Keep the front wheels at a straight-ahead position. Ensure there is a minimum of **1500 mm (59.06 in)** space in front of the vehicle.
2. Place the wheel chocks in front of and behind the left rear wheel to prevent vehicle movement.
3. Center the steering wheel and install the steering wheel lock. Release the parking brake and shift the transmission to N.
4. Keep the vehicle unloaded. Check if the coolant level and the engine oil level are correct. Check if the fuel tank is full.
5. Close all doors and turn off all exterior lightings.
6. Adjust the tire pressure to the specified value.
7. If the vehicle is equipped with the air suspension, adjust the vehicle to the standard mode before performing the measurement. The adjustment process may vary on different models.

5.1.4 Positioning Auxiliary Tools

➢ **To place the calibration frame and align the marked line**

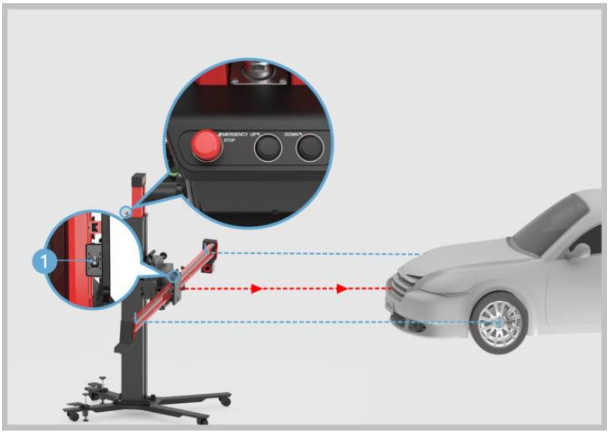
1. Move the calibration frame to the level ground in front of the vehicle. If the target board has been installed onto the crossbar, remove it and fold up the target board holder.
2. Unfold the crossbar arms at both ends horizontally, and tighten the bolts (1) at the joints of the crossbar arms.
3. Press and hold the handles (2) on the sliding blocks, move the sliding blocks (3) on both sides to both ends and release the handle to fix the sliding block.
4. Press and hold the handle (4) on the sliding plate to move the sliding plate, so that the pointer on the sliding plate is aligned with the white marked line in position A, and then release the handle to fix the sliding plate.



5. Loosen the handle (1) and rotate the fine-tuning bolt (2) until the position A is aligned with the red marked line. Tighten the handle (1) to secure the crossbar.
6. Rotate the fine-tuning bolt (3) until the position B is aligned with the red marked line.
7. Rotate the fine-tuning bolt (4) until the position C is aligned with the white marked line, and rotate the fine-tuning bolt (5) until the position D is aligned with the white marked line.
8. Connect the power supply and then turn on the power switch (6).

➢ **To aim the laser at the front center of the vehicle**

1. Place the calibration frame directly before the front center of the vehicle. Keep the front wheels in a straight-ahead position.
2. Press the **UP** and **DOWN** buttons on the back of the calibration frame to adjust the height of the crossbar so that it is roughly at the same height as the center of the front wheel.
3. Hold the handle on the calibration frame and slowly move the calibration frame until the horizontal distances between the centers of front wheels and the back of the crossbar are basically equal. Then turn on the laser (1) and aim it at the front center of the vehicle.

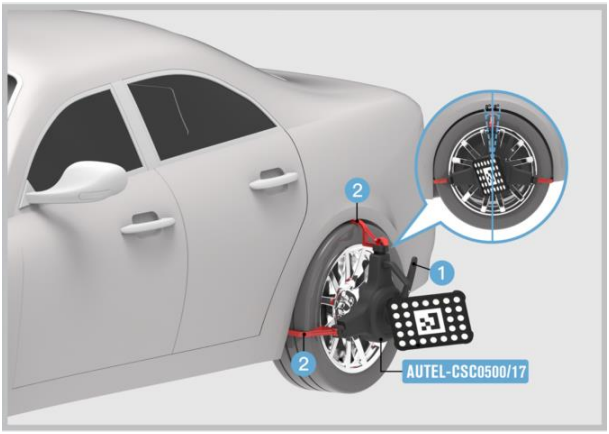


NOTE

In case of an emergency, press the **EMERGENCY STOP** button to stop the movement of the crossbar.

➢ **To install the tire clamps with target**

1. Check the tire clamps to ensure the pawls are equal in length.
2. Attach the four tire clamps AUTEL-CSC0500/17 on four wheels respectively, and lock the locking handle (1) until the pawls (2) are tightly secured.



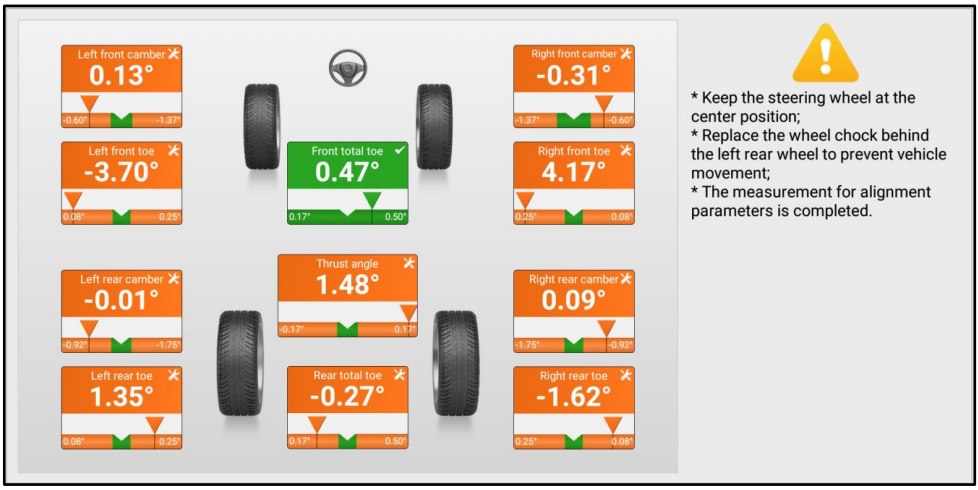
NOTE

Ensure the tire clamps are vertically installed on the tire and the installation angle should be within the range of -8°–8°.

5.1.5 Starting Alignment Precheck

➢ **To perform the rolling compensation**

1. Adjust the position of the wheel chock by moving it approximately **300 mm (11.81 in)** behind the wheel. Push the vehicle in a backward direction.
2. Cease pushing the vehicle and allow the calibration frame to take measurements.
3. Push the vehicle forward.
4. Stop pushing the vehicle and wait for the calibration frame to measure again.
5. The measurements will be shown on the screen. Follow the on-screen instructions to make any necessary adjustments.


Left front camber
0.13°
-0.60°
-1.37°
Left front toe
-3.70°
0.08°
0.25°
Front total toe
0.47°
0.17°
0.50°
Right front camber
-0.31°
-1.37°
-0.60°
Right front toe
4.17°
0.25°
0.08°
Thrust angle
1.48°
-0.17°
0.17°
Left rear camber
-0.01°
-0.92°
-1.75°
Left rear toe
1.35°
0.08°
0.25°
Rear total toe
-0.27°
0.17°
0.50°
Right rear camber
0.09°
-1.75°
-0.92°
Right rear toe
-1.62°
0.25°
0.08°
* Keep the steering wheel at the center position;
* Replace the wheel chock behind the left rear wheel to prevent vehicle movement;
* The measurement for alignment parameters is completed.

6 Maintenance and Service

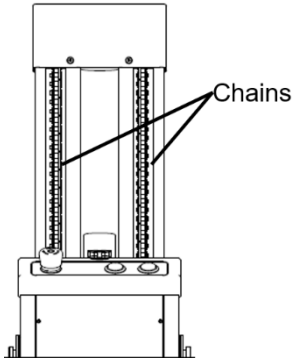
To ensure an optimal performance of the IA700 calibration frame and its accessories, it is strongly recommended to strictly follow the maintenance instructions provided below. And if you have any concerns or questions, do not hesitate to contact us using the contact information provided in this chapter.

6.1 Maintenance Instructions

6.1.1 Frame Maintenance

The following includes how to maintain your calibration frame, together with precautions to take.

- Check connections and fasteners frequently and tighten them promptly if found to be loose.
- Keep the calibration frame clean at all times.
- During transportation and installation, the calibration frame should be handled with care to avoid strong collision or physical prying, which may cause it to suffer permanent deformation.
- Do not use any abrasive, corrosive cleansers or detergent.
- Do not immerse the calibration frame in water or other fluids.
- Maintain the calibration frame in dry conditions and keep it within normal operating temperatures.
- Do not store the calibration frame in humid, dusty or dirty areas.
- Use only authorized accessories. Any malfunction or damage caused by the use of unauthorized accessories will void the limited warranty.
- If the calibration frame should fail despite the care taken in manufacturing and testing procedures, repair should be carried out by an authorized after-sales service center for Autel tools.
- To ensure a smooth lifting and lowering of the calibration frame, apply lubricating oil to both chains every six months.



Maintenance Method: Lift the calibration frame, then position the chain on the back of the calibration frame and apply lubricating oil along the surface of the chain.

6.1.2 Camera Maintenance

- Keep hands and tools away from the camera lens area.
- Do not attempt to clean the camera lens using window cleaner or coarse cloth.
- If cleaning ever becomes necessary, it should be done with special optical cleaning fluid and/or canned air.
- Store the cameras into their respective protective pouches when not in use to protect them against scratches, dust, and other potential hazards.

6.1.3 Target Maintenance

- Do not use hard objects to knock or scratch the target surface, otherwise the target may not be recognized.
- Keep the target away from dirt accumulation, oil or grease, etc. that may render the target unrecognizable.
- Avoid using shop towels or rags to clean the target since their fibers can retain grease, which may subsequently leave a thin film on the target's surface as you continue to wipe.
- Use a mild cleaning solution and soft paper towels to wipe down the target surface.
- Avoid hosing down, immersing the target in water, or spraying cleaner directly onto it, as these actions could potentially damage the optics.
- When cleaning, wipe the entire target thoroughly.

6.1.4 Transportation Precautions

- Transport in well packed status.
- Handle with care during transportation.
- Protect against severe vibration and shock.
- Throwing is strictly prohibited.
- Keep away from moisture.
- Keep away from corrosive substances.

6.1.5 Storage Conditions

- Store the calibration frame in a dry environment to prevent moisture accumulation, which can lead to corrosion.
- Avoid areas with high humidity or exposure to water.
- Maintain a stable temperature to prevent extreme heat or cold.
- Ensure proper ventilation to prevent the buildup of moisture or condensation.
- Before storing, clean the calibration frame thoroughly to remove any dirt, debris, or moisture.
- Handle the calibration frame with care when storing to avoid any impact or damage that could compromise its integrity.

6.2 Service Procedures

This section steers you through self-inspection prior to seeking service, and offers information on technical support, repair services, as well as guidance on how to request replacement or optional parts.

6.2.1 Self-inspection

1. The lifting mechanism of the calibration frame does not work.
    - Check if the power cord is well connected to a power socket.
    - Check if the power switch of the calibration frame is on.

- Check if the EMERGENCY STOP button was accidentally pressed.
- It takes approximately 5 seconds for the calibration frame to function normally after it is switched on. Please be patient during this brief startup period.
- Verify whether the stand of the calibration frame ascends to its maximum height or descends to its minimum height.

2. The lifting mechanism of the calibration frame is difficult to lift or lower.
   - Check if the mounted pattern boards or other tools are obstructing the movement of the lifting mechanism.
   - Check if the pattern board holders are completely extended during the operation of the lifting mechanism.
   - Check if there are obstacles around the calibration frame.
3. The camera does not work.
   - Check if the power cord is connected to your power socket and the power switch of the calibration frame is on.
   - Check if the power cords and USB cords on the crossbar are securely connected.

6.2.2 Technical Support

If you have any question or problem on product operations, please contact us.

Autel China Headquarters

- **Phone:** +86 (0755) 8614-7779 (Monday-Friday, 9AM-6PM Beijing Time)
- **Email:** support@autel.com
- **Address:** Floor 2, Caihong Keji Building, 36 Hi-tech North Six Road, Songpingshan Community, Xili Sub-district, Nanshan District, Shenzhen City, China
- **Web:** www.autel.com

Autel North America

- **Phone:** 1-855-288-3587 (Monday-Friday, 9AM-6PM Eastern Time)
- **Email:** ussupport@autel.com
- **Address:** 36 Harbor Park Drive, Port Washington, New York, USA 11050
- **Web:** www.autel.com/us

Autel Europe

- **Phone:** +49(0)89 540299608 (Monday-Friday, 9AM-6PM Berlin Time)
- **Email:** support.eu@autel.com
- **Address:** Landsberger Str. 408, 81241 München, Germany
- **Web:** www.autel.eu

Autel APAC

Japan:

- **Phone:** +81-045-548-6282
- **Email:** support.jp@autel.com
- **Address:** 6th Floor, Ari-nadoribiru 3-7-7, Shinyokohama, Kohoku-ku, Yokohama-shi, Kanagawa-ken, 222-0033 Japan
- **Web:** www.autel.com/jp

Australia:

- **Email:** ausupport@autel.com
- **Address:** Unit 5, 25 Veronica Street, Capalaba

Autel IMEA

- **Phone:** +971 585 002709 (in UAE)
- **Email:** imea-support@autel.com
- **Address:** 906-17, Preatoni Tower (Cluster L), Jumeirah Lakes Tower, DMCC, Dubai, UAE
- **Web:** www.autel.com

Autel Latin America

Mexico:

- **Phone:** +52 33 1001 7880 (Spanish in Mexico)
- **Email:** latsupport@autel.com
- **Address:** Avenida Americas 1905, 6B, Colonia Aldrete, Guadalajara, Jalisco, Mexico

Brazil:

- **Email:** brsupport@autel.com
- **Address:** Avenida José de Souza Campos n° 900, sala 32 Nova Campinas

Campinas – SP, Brazil

- **Web:** www.autel.com/br

6.2.3 Repair Service

If it is necessary to send back your device for repair, please download and fill out the repair service form from www.autel.com. The following information must be included:

- Contact name
- Return address
- Telephone number
- Product name
- Complete description of the problem
- Proof-of-purchase for warranty repairs
- Preferred method of payment for non-warranty repairs

NOTE

For non-warranty repairs, payment can be made with Visa, Master Card, or with approved credit terms.

Send the equipment to your local agent, or to the address below:

Floor 2, Caihong Keji Building, 36 Hi-tech North Six Road, Songpingshan Community, Xili Sub-district, Nanshan District, Shenzhen City, China

6.2.4 Other Services

You can purchase the accessories directly from authorized tool suppliers of Autel, or your local distributor or agent.

Your purchase order should include the following information:

- Contact information
- Product or part name
- Item description
- Purchase quantity

7 Compliance Information

FCC Statement **FCC ID: WQ8-DA2211**

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

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

⚠**WARNING**

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

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

This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

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

FCC Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20 cm between the radiator & your body.

IC Warning **IC: 10826A-DA2211**

This device complies with Industry Canada's licence-exempt RSS standard(s). Operation is subject to the following two conditions:

(1) This device may not cause interference, and

(2) This device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:

(1) l'appareil nedoit pas produire de brouillage, et

(2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

⚠ **WARNING**

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

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

This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

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

IC Radiation Exposure Statement

This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20 cm between the radiator & your body.

CE Compliance

RED Directive 2014/53/EU.

RoHS Compliance

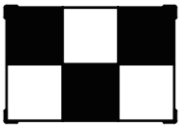
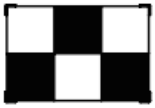
This device is declared to be in compliance with the European RoHS Directive 2011/65/EU.

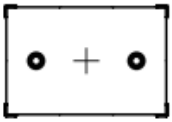
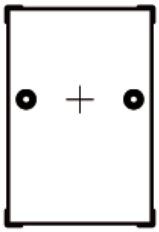
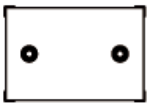
8 Appendix

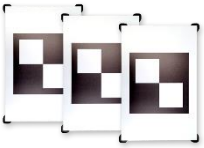
The tools described below are necessary for the calibration process, but it is not guaranteed that all required tools are included. Please make sure to use the specific tools required for the actual calibration process.

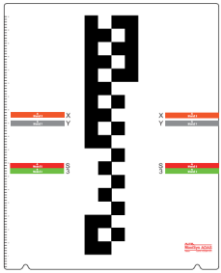
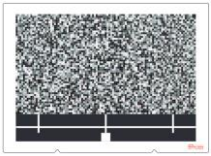
8.1 Tools for Lane Departure Warning (LDW)

8.1.1 Target Boards

Honda LDW II AUTEL- CSC0601/08-L		**Honda LDW II** AUTEL- CSC0601/08-R	
Toyota/Lexus LDW I AUTEL- CSC0601/11		**Toyota LDW II** AUTEL- CSC0601/15	
Nissan LDW I AUTEL- CSC0601/03-L		**Nissan LDW I** AUTEL- CSC0601/03-R	
Nissan/Infiniti/ Renault LDW II AUTEL- CSC0601/06-L		**Nissan/Infiniti/ Renault LDW II** AUTEL- CSC0601/06-R	

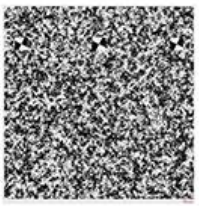
Mercedes-Benz LDW I AUTEL-CSC0601/02		**Mercedes-Benz LDW II** AUTEL-CSC0601/19	
Honda LDW I AUTEL-CSC0601/05		**Hyundai/KIA LDW II** AUTEL-CSC0601/09	
Mitsubishi LDW I AUTEL-CSC0601/22-L		**Mitsubishi LDW I** AUTEL-CSC0601/22-R	
Mazda LDW II AUTEL-CSC0601/13-L		**Mazda LDW II** AUTEL-CSC0601/13-R	
Nissan LDW III AUTEL-CSC0601/04-L		**Nissan LDW III** AUTEL-CSC0601/04-R	
Mazda LDW I AUTEL-CSC0601/12		**Alfa Romeo/Geely LDW** AUTEL-CSC0601/10	

Subaru LDW AUTEL-CSC0611/05	
Hyundai/KIA LDW AUTEL-CSC0601/18	
Maserati LDW I AUTEL-CSC0611/03-L	

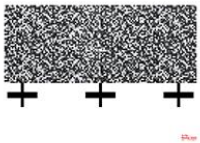
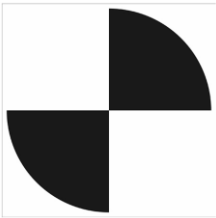
Tesla Model X, Y, S, & 3 LDW AUTEL-CSC0611/07	
Suzuki LDW AUTEL-CSC0601/28	
Maserati LDW I AUTEL-CSC0611/03-R	

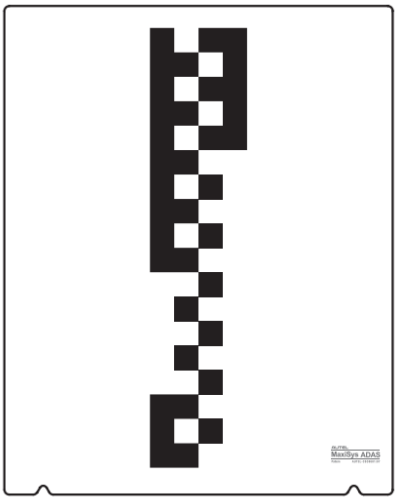
8.1.2 Patterns

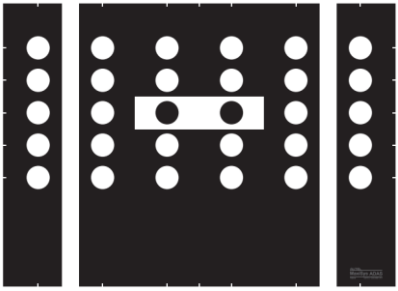
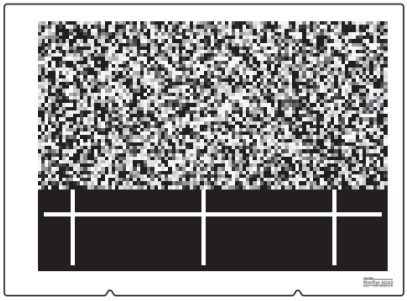
Nissan LDW I AUTEL-CSC0601/03	
Toyota LDW III AUTEL-CSC0601/25	

Daihatsu LDW AUTEL-CSC0601/27	
Honda LDW III AUTEL-CSC0601/24_01	

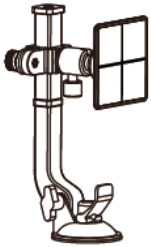
Suzuki LDW AUTEL-CSC0601/23	
Renault LDW AUTEL-CSC0601/20	
Daihatsu LDW AUTEL-CSC0601/26-L	

Subaru LDW II AUTEL-CSC0601/17	
Nissan/Infiniti LDW AUTEL-CSC0601/21	
Daihatsu LDW AUTEL-CSC0601/26-R	

Hyundai/KIA LDW (AUTEL-CSC0601/07)	

Volkswagen LDW (AUTEL-CSC0601/01)	
Subaru LDW I (AUTEL-CSC0601/14)	
Subaru LDW I (AUTEL-CSC0601/14_01)	

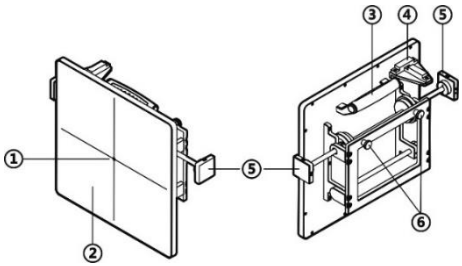
8.1.3 Target

Front Camera Calibrator AUTEL-CSC0701/23	

8.2 Tools for Adaptive Cruise Control (ACC)

8.2.1 Reflector (AUTEL-CSC0602/01)

The reflector is required positioning the calibrate radar for Volkswagen, Porsche, BMW, Nissan, Infiniti, Hyundai, and KIA vehicles.



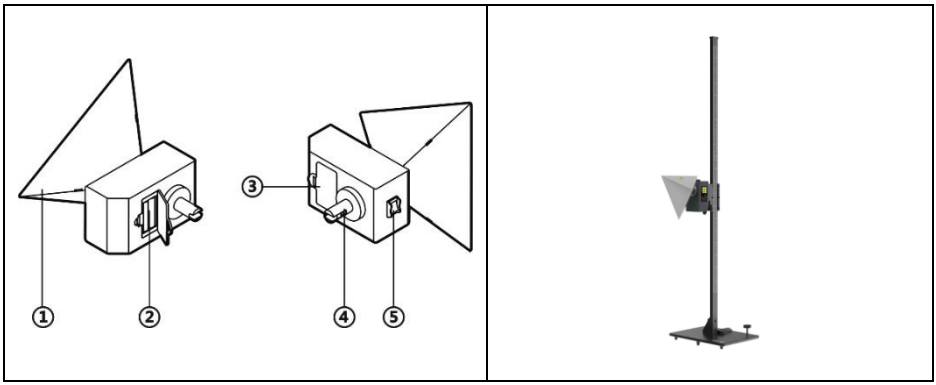
1. Laser Pass-thru Hole
2. Reflector Surface
3. Handle
4. Gradienter
5. Gear Knob — for different gears as required for different calibration.
6. Pothook

8.2.2 Mini Reflector (AUTEL-CSC0602/07)

Together with laser on the calibration frame, the mini reflector is used to adjust the reflector on the calibration frame parallel with the radar.

8.2.3 Corner Reflector (AUTEL-CSC0802/01)

Calibrate the millimeter-wave radar for Honda, Toyota, Hyundai, and KIA vehicles by attaching to the calibration stand (AUTEL-CSC0800).

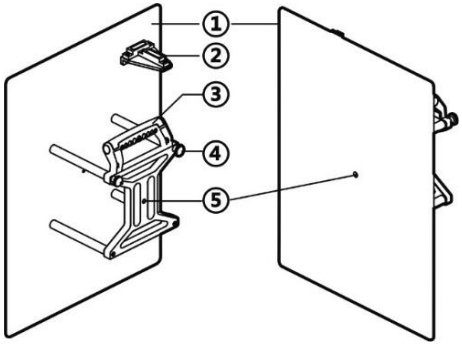


1. Triangular Signal Receiving Board
2. 7# dry battery
3. Battery Box
4. Fixed Axis
5. Power Switch

Item	Description
Model	AUTEL-CSC0802/01
Voltage	5 V
Current	0.8 A
Rate	4 W
Laser Class	Class 2
Wavelength	650 nm
Spot Size	5 mm
Laser Rate	0.5–1 mW
Working Range	20 m
Dimensions	168 x 168 x 165 mm (6.61 x 6.61 x 6.50 in)
Working Temp.	-10–40 °C (14–104 °F)

8.2.4 Radar Calibration Plate (AUTEL-CSC0602/02)

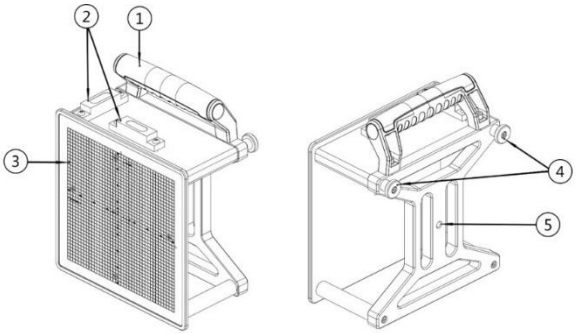
Calibrate continental radar for Nissan and Infiniti vehicles by attaching to the sliding board on the calibration frame.



1. Plate Surface
2. Gradienter
3. Handle
4. Pothook
5. Laser Pass-thru Hole

8.2.5 Radar Calibration Plate (AUTEL-CSC0602/08)

Calibrate radar for Volkswagen vehicles by attaching to the calibration frame.



1. Handle
2. Gradienter
3. Scale Board
4. Installation Buckle
5. Laser Hole

8.2.6 Radar Calibration Plate (AUTEL-CSC0802/03)

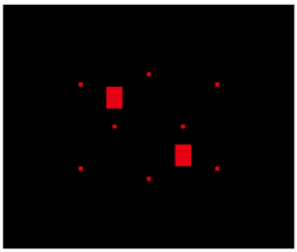
Calibrate radar for Nissan vehicles by attaching to the calibration stand.

8.2.7 LiDAR Reflector (AUTEL-CSC0802/04)

The LiDAR reflector is the essential tool for precise LiDAR sensor calibration on Toyota vehicles.

8.2.8 Radar Calibration Plate (AUTEL-CSC0602/03)

The radar calibration plate is for Daihatsu ACC radar calibration.

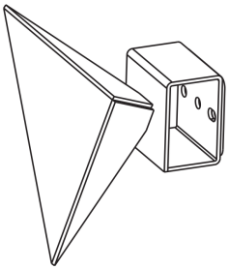


8.2.9 Radar Calibration Plate (AUTEL-CSC0602/04)

The radar calibration plate is for Volkswagen radar calibration.

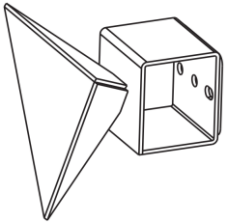
8.2.10 Corner Reflector (AUTEL-CSC0802/10)

The corner reflector is for ACC/BSD calibration on Toyota, Honda, and Subaru vehicles.



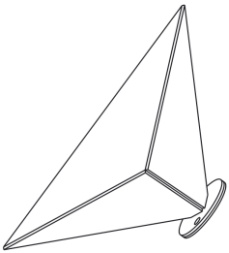
8.2.11 Corner Reflector (AUTEL-CSC0802/11)

The corner reflector is for ACC/BSD calibration on Mazda and Hyundai vehicles.



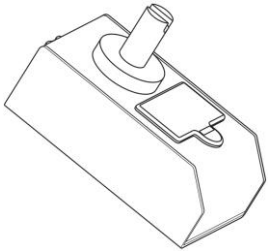
8.2.12 Corner Reflector (AUTEL-CSC0802/12)

The corner reflector is for ACC/BSD calibration on Mitsubishi vehicles.



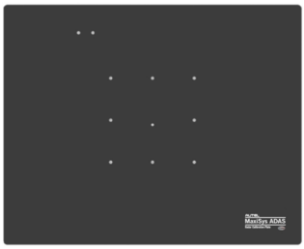
8.2.13 Corner Reflector Laser (AUTEL-CSC0802/13)

Together with corner reflectors for radar calibration.



8.2.14 Mopar Radar Plate (AUTEL-CSC0602/09)

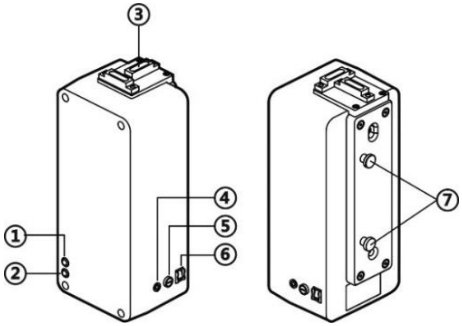
Calibrate radar for 2021 and newer Chrysler, Dodge, Jeep, and RAM vehicles.



8.3 Tools for Blind Spot Detection (BSD)

8.3.1 Radar Calibration Box (AUTEL-CSC0605/01)

The radar calibration box is attached to the sliding board on the crossbar of the calibration frame to calibrate the Blind Spot Detection (BSD) system of Volkswagen vehicles.

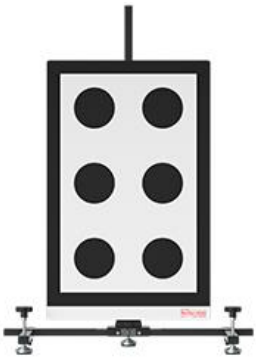


1. Power LED (Green)
2. Power LED (Red)
3. Gradienter
4. DC Power Supply Input Port
5. Fuse socket
6. Power Switch
7. Pothook

Item	Description
Model	AUTEL-CSC0605/01
Voltage	24 V
Current	1 A
Rate	24 W
Dimensions	338 x 150 x 135 mm (13.31 x 5.91 x 5.31 in)
Operating Temp.	-20–50 °C (-4–122 °F)

8.3.2 Camera Calibration Plate (AUTEL-CSC0805/02)

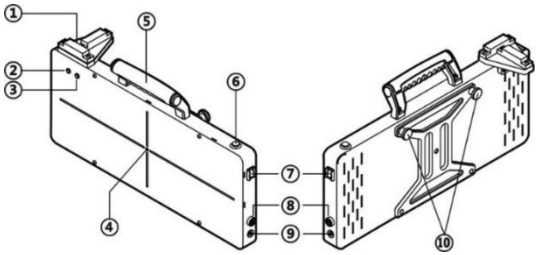
Calibrate Lane Watch for Honda vehicles by attaching to the calibration stand.



8.4 Tools for Night Vision System (NVS)

8.4.1 NV Calibrator (AUTEL-CSC0603/01)

The NV calibrator AUTEL-CSC0603/01 is attached to the sliding board on the crossbar of the calibration frame to calibrate the Night Vision System (NVS) of Volkswagen, Audi, GM, and Porsche vehicles.



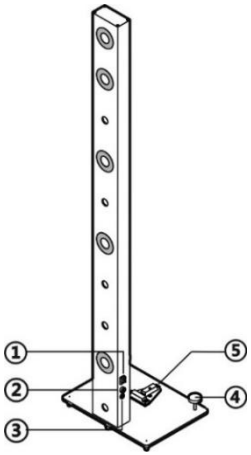
1. Gradienter
2. Power LED (Red)
3. Power LED (Green)
4. Laser Pass-thru Hole
5. Handle
6. Operating Switch
7. Power Switch

8. Fuse Socket
9. DC Power Supply Input Port
10. Pothook

Item	Description
Model	AUTEL-CSC0603/01
Voltage	12 V
Current	3 A
Rate	36 W
Dimensions	400 x 47 x 240 mm (15.75 x 1.85 x 9.45 in)
Operating Temp.	-20–50 °C (-4–122 °F)

8.4.2 NV Calibrator (AUTEL-CSC0803/01)

The NV calibrator AUTEL-CSC0803/01 is used to calibrate the Night Vision System (NVS) of Mercedes-Benz vehicles.



1. Power Switch
2. Fuse Socket
3. DC Power Supply Input Port
4. Horizontal Adjusting Knob
5. Gradienter

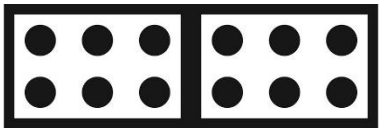
Item	Description
Model	AUTEL-CSC0803/01
Voltage	12 V
Current	4 A
Rate	24 W
Dimensions	400 x 47 x 240 mm (15.75 x 1.85 x 9.45 in)
Operating Temp.	-20–50 °C (-4–122 °F)

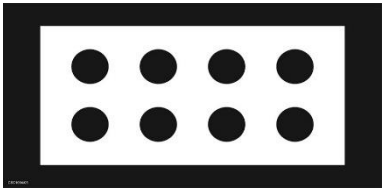
8.4.3 Pattern (AUTEL-CSC0603/03)

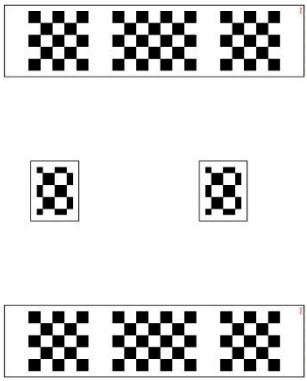
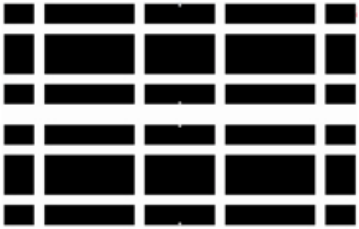
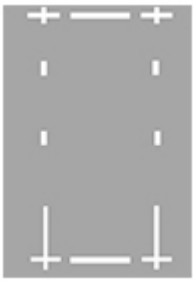
The pattern is used to calibrate the Night Vision System (NVS) on Toyota/Lexus vehicles.

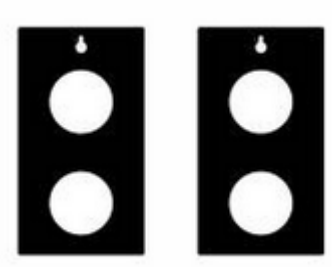
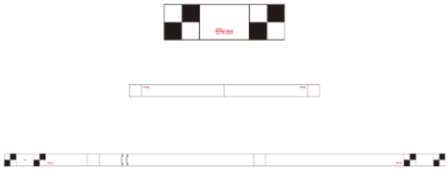
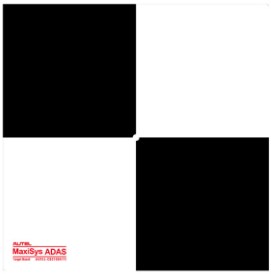
8.5 Tools for Around View Monitoring (AVM)

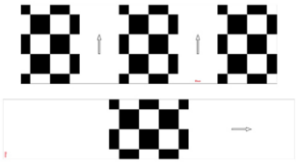
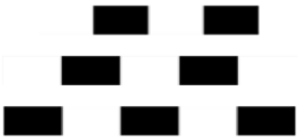
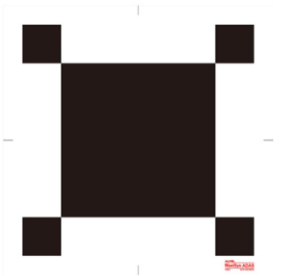
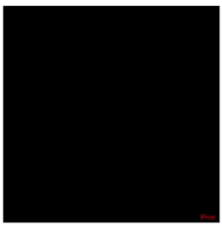
8.5.1 Patterns

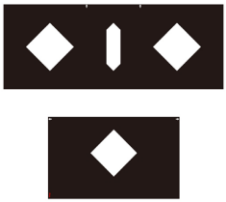
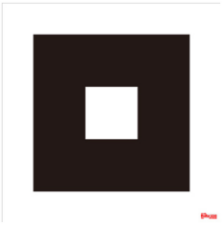
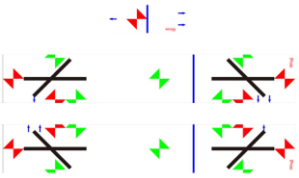
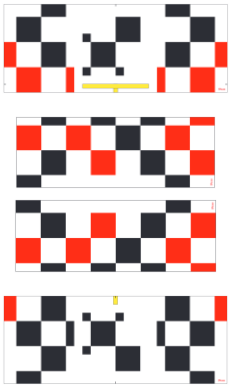
Volkswagen AVM (AUTEL-CSC0806/01)	
Honda AVM (AUTEL-CSC1004/02)	

Honda AVM (AUTEL-CSC1004/03)	
Volkswagen AVM (AUTEL-CSC1004/01)	
Ford AVM (AUTEL-CSC1004/05)	
Cadillac AVM (AUTEL-CSC1004/06)	
Porsche AVM (AUTEL-CSC1004/07)	

PSA VAM (AUTEL-CSC1004/08)	
Mitsubishi AVM AUTEL-CSC1004/09	
Toyota AVM AUTEL-CSC1004/10	

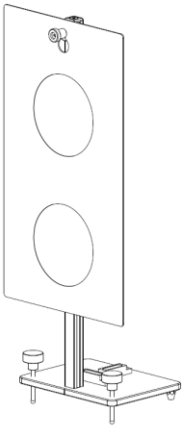
Volkswagen AVM AUTEL-CSC0804/01	
Hyundai/KIA AVM AUTEL-CSC1004/04-1 (x4) AUTEL-CSC1004/04-2 (x2) AUTEL-CSC1004/04-3 (x2)	
Nissan AVM AUTEL-CSC1004/11	
Great Wall Motor AVM AUTEL- CSC1004/12	

Geely AVM AUTEL-CSC1004/13	
Geely AVM AUTEL-CSC1004/14	
Geely AVM AUTEL-CSC1004/15	
Mercedes-Benz AVM AUTEL-CSC1006/02/01 AUTEL-CSC1006/02/02 AUTEL-CSC1006/02/03	
LYNK&CO AVM AUTEL-CSC1004/16	
Great Wall Motor AVM AUTEL-CSC1004/17	

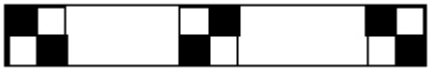
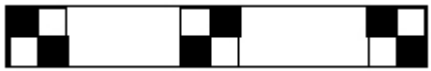
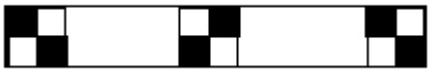
BYD AVM AUTEL-CSC1004/18	
Trumpchi AVM AUTEL-CSC1004/19	
Roewe AVM AUTEL-CSC1004/20	
Chery AVM AUTEL-CSC1004/21	
MAXUS AVM AUTEL-CSC1004/24-A AUTEL-CSC1004/24-B AUTEL-CSC1004/24-C AUTEL-CSC1004/24-D	

8.5.2 Target Board Holder (AUTEL-CSC0804/02)

Together with pattern AUTEL-CSC0806/01 and target board AUTEL-CSC0804/01 to calibrate the Around View Monitoring (AVM) system.



8.6 Tools for Rear Collision Warning (RCW)

Mercedes-Benz RCW (AUTEL-CSC1006/01)	
Nissan RCW Not in China (AUTEL-CSC1006/03)	
Nissan RCW in China (AUTEL-CSC1006/04)	
Nissan RCW (AUTEL-CSC1006/05)	

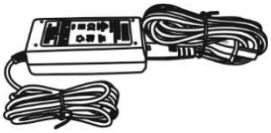
8.7 Tools for Head-Up Display (HUD)

Volkswagen HUD AUTEL-CSC0707/01; **Volkswagen HUD** AUTEL-CSC0707/02; **Volkswagen HUD** AUTEL-CSC0707/03; **Volkswagen HUD** AUTEL-CSC0707/04; **Volkswagen HUD** AUTEL-CSC0707/05; **Volkswagen HUD** AUTEL-CSC0707/06; **Volkswagen HUD** AUTEL-CSC0707/07; **Volkswagen HUD** AUTEL-CSC0707/08.	

8.8 Assistance Tools

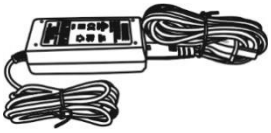
8.8.1 12 V Power Adapter

The 12 V power adapter is used to power the NV calibrator AUTEL-CSC0603/01 for Volkswagen vehicles and the NV calibrator AUTEL-CSC0803/01 for Mecedes-Benz vehicles.



8.8.2 24 V Power Adapter

The 24 V power adapter is used to power the radar calibration box AUTEL-CSC0605/01.



8.8.3 Tesla Diagnostic Adapter Cables

The Autel Tesla diagnostic adapter cable kit, which includes LAN001, CAN001, and CAN002, allows Autel MaxiSys tablet users to connect with Tesla models S, X, Y, and 3 from 2019 and newer.

8.8.4 Laser (AUTEL-CSC0500/04)

The laser is to identify whether the vehicle and the pattern are on the same central axis.

Item	Description
Model	AUTEL-CSC0500/04
Voltage	5 V
Current	0.8 A
Rate	4 W
Laser Class	Class 2
Wavelength	520 nm
Laser Rate	0.5–1 mW
Working Range	10 m
Dimensions	93 x 74 x 55 mm (3.67 x 2.91 x 2.17 in)
Operating Temp.	0–65 °C (32–149 °F)

8.8.5 Calibration Stand (AUTEL-CSC0802)

The calibration stand is to hold calibration plates for Nissan and Honda vehicles.

Autel Intelligent Technology Corp., Ltd.

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