LAUNCH

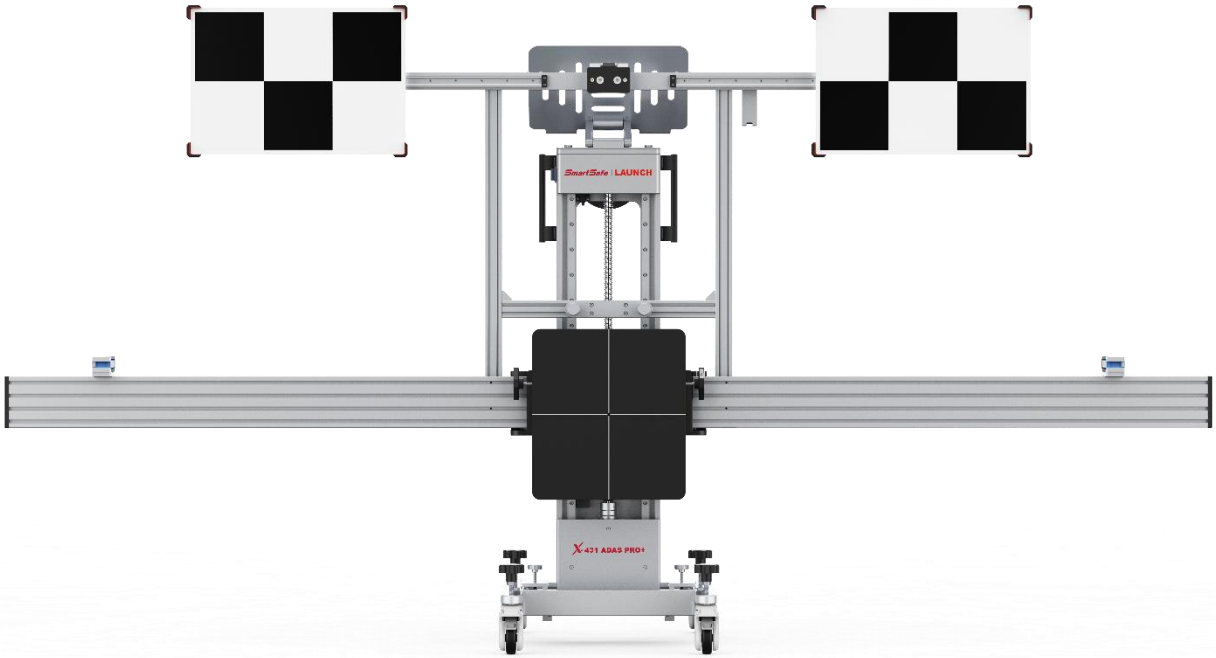
Stock Code：HK02488

X-431 ADAS PRO PLUS

X-431 ADAS PRO PLUS

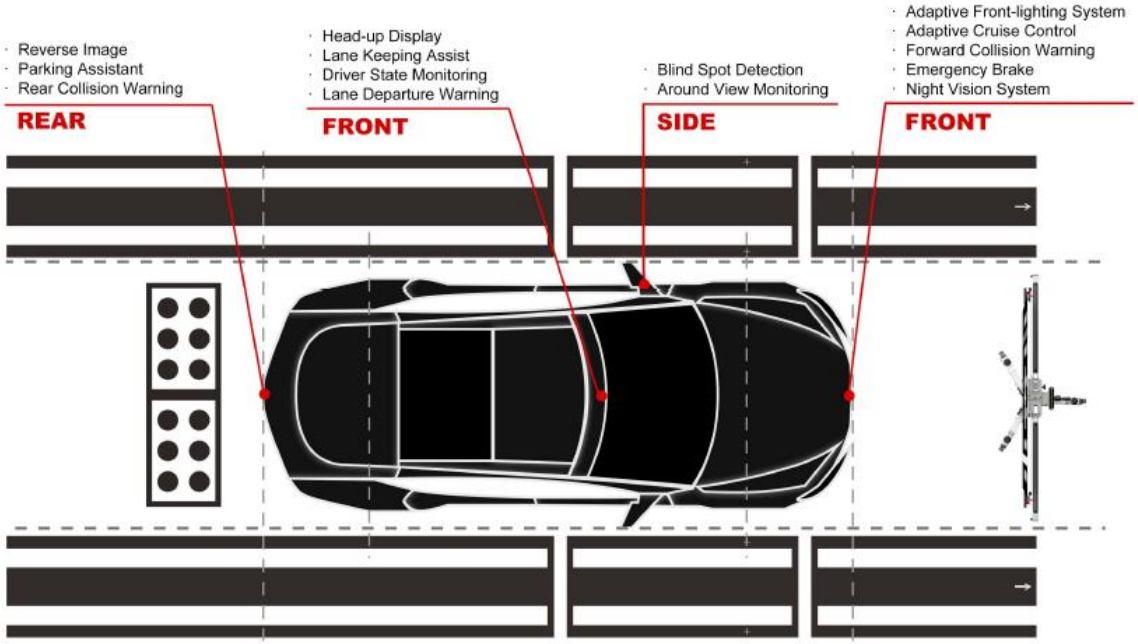
- New Upgraded Aluminum Alloy Material
- Ultra-high Precision ADAS Calibration

X-431 ADAS PRO PLUS



ADAS - Advanced Driving Assistance System

It uses the sensors(Millimeter radar, Lidar, Single\binocular camera and other sensors) installed in the vehicle to induce the surroundings, collect data, identify, detect and track static and dynamic objects during driving. And combines with navigation map data to perform system calculations and analysis, so that drivers can be aware of potential dangers in advance, and effectively increase the comfort and safety of driving.



ADAS Systems

Camera Sensor

LKA — Lane Keeping Assist System

LDW — Lane Departure Warning System

AVM — Around View Monitor System

NV — Night Vision System

VCW — Vehicle Collision warning System

Radar Sensor

ACC — Adaptive Cruise Control

BSD — Blind Spot Detection

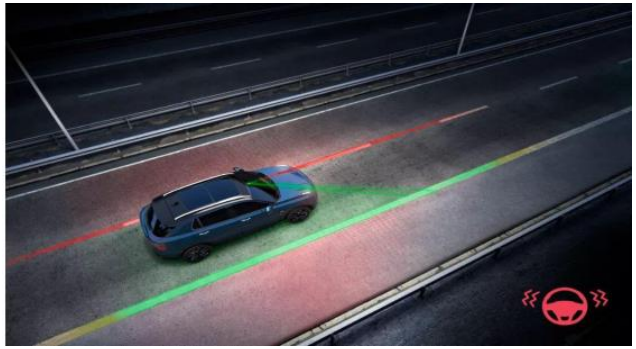
AEB — Autonomous Emergency Braking

.....

LKA — Lane Keeping Assist System / LDW — Lane Departure Warning System

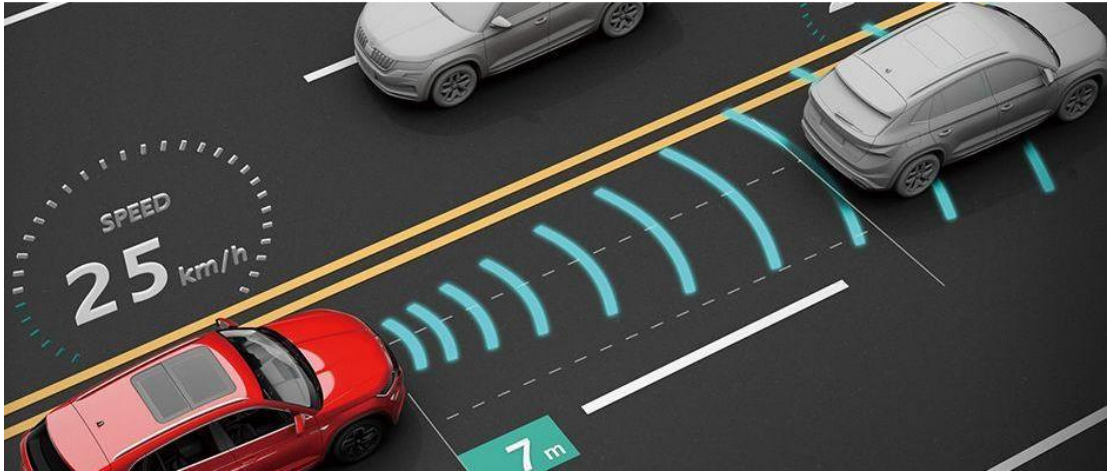
LDW -- By the front windshield camera sensor detecting the lane lines ahead on the road, LDW system will alert the driver if the vehicle is about to veer out of lane. The system will correct the vehicle back into lane and avoid collisions.

LKA -- Lane keeping assist uses a video camera to detect the lane markings ahead of the vehicle and to monitor the vehicle's position in its lane.



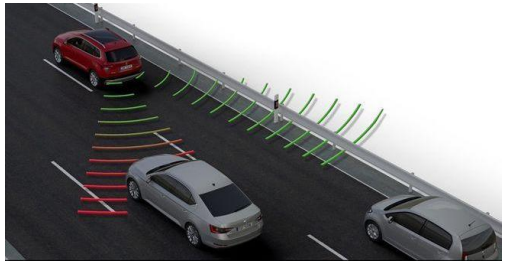
ACC — Adaptive Cruise Control

By the front millimeter Wave radar sensor detecting other vehicles in the front of the driver's vehicle, ACC system will adjust the driver's vehicle maintain a safe distance from vehicles ahead based on the preset value. The automobile will decide speeds by itself. ACC system assists drivers with braking if there is an emergency.



BSD — Blind Spot Detection

By the millimeter Wave radar sensor on the rear bumper of the vehicle detecting other vehicles approaching the rear of the driver's vehicle - a common blind spot area. When the driver activates the turn signal, BSD system will alert the driver with an indicator light if there is a vehicle nearby. Some vehicles with active control system function can modify the direction of the vehicle to avoid a collision.



AVM — Around View Monitor System

By the camera sensors detecting the surrounding environment of the vehicle and the system's stitching computing on the graphics, the data of the vehicle’s surroundings through a virtual bird's-eye view will display on the automobile control. AVM as the main implementation way of IPA function, it assists drivers with parking.

NV — Night Vision System

By the front night vision sensor detecting the front vision of the vehicle, NV system assists the drivers with seeing a clear vision of the surroundings ahead at night. The humans and animals are easily visible on the screen in thermal imaging mechanism to guarantee safe driving.

Supported ADAS Systems


LDW


ACC


BSD


RCW


NVS


AVM


LKA


AFS


APA


AEB


FCW


TSR

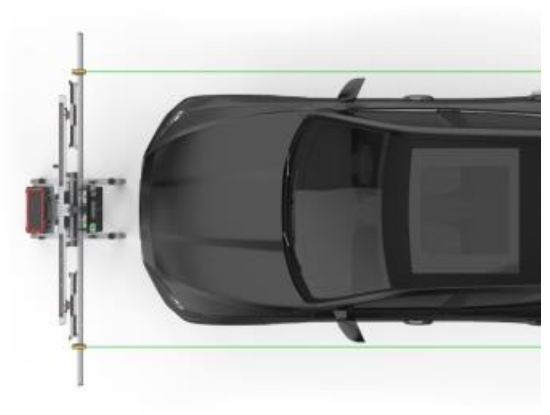

PPS

Features

Ultra-high Precision

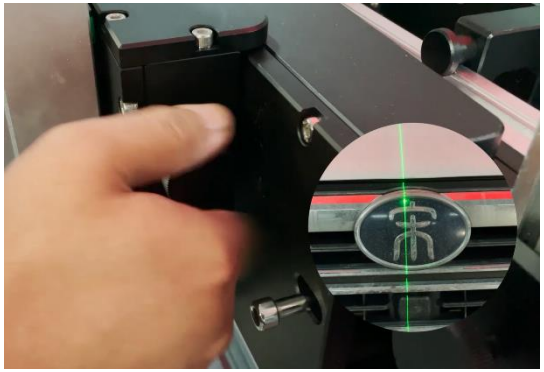
Fast Positioning

Easy to use



Features

- Supports multi-directional fine-tuning, including level, front and back, right and left adjustment. No need to move the device tediously, centering and paralleling in 1 minute.



Features

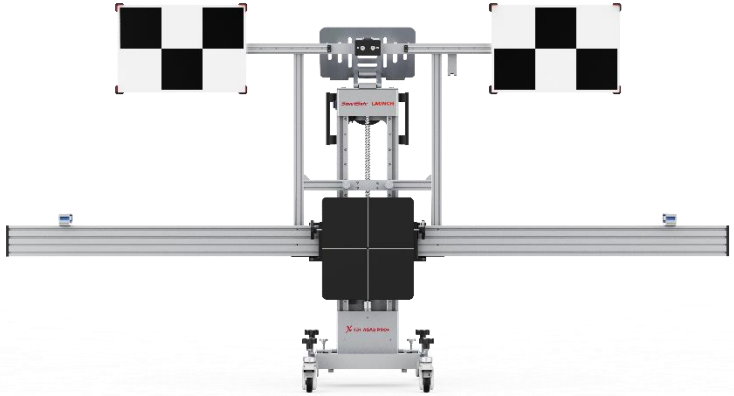
- The beam supports electric lifting and manual adjustment for fast and portable operation.

Features

- Use millimeter precision laser range finder to measure distance without a tape measure.

Features

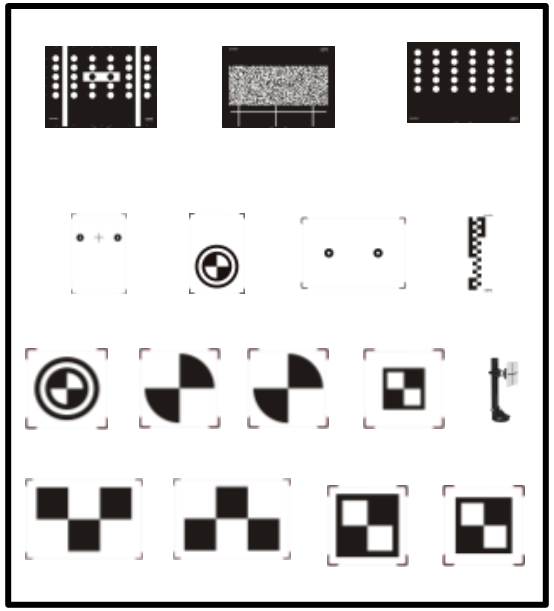
- New upgraded Aluminum Alloy material for durable use.
- Compatible with the X-431 ADAS Mobile targets
- Equipped with detachable tablet stand
- Supports various ADAS system calibration



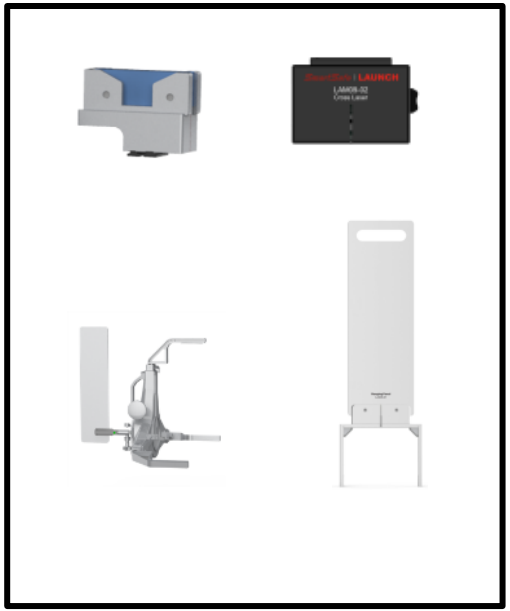
Components and Configuration

Components

Main Frame

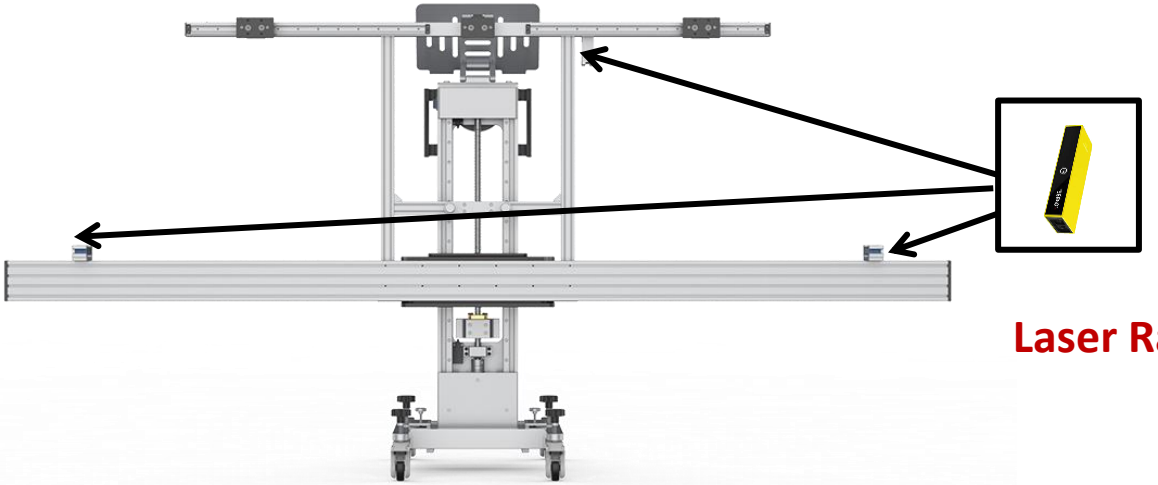


Targets



Accessories

Components



Laser Range Finder

X-431 ADAS PRO PLUS Main Frame

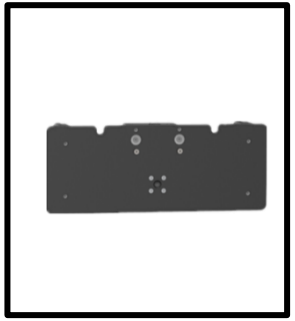
Components

Laser Placement Seat

Center Laser LAC09-02

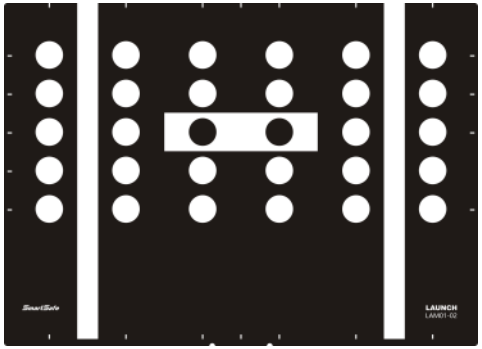
Wheel Clamp

Ranging Panel LAC09-01



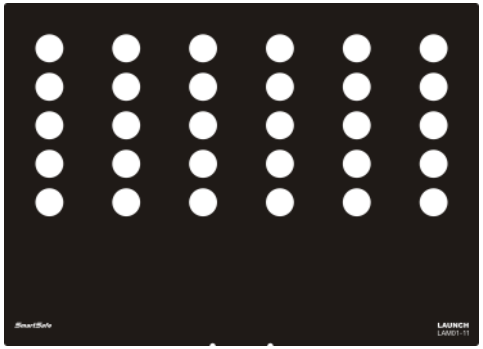
Mounting Plate LAC09-03

LDW Targets



Volkswagen/Audi
LAM01-02

Audi, Porsche, VW, SAIC Volkswagen, Skoda, SEAT, FAW Volkswagen



Alfa Romeo
LAM01-11

Alfa Romeo, Geely

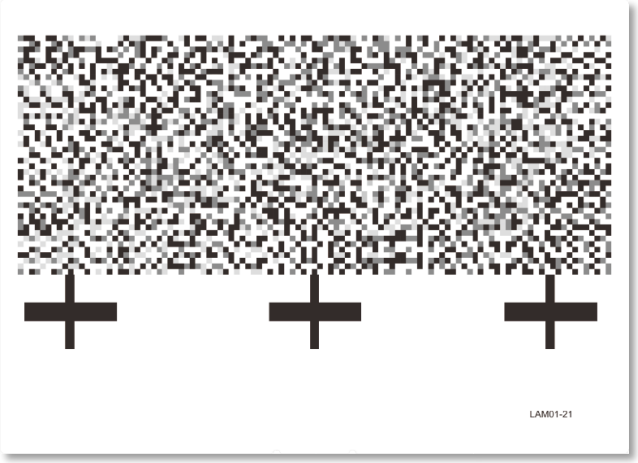
Subaru
LAM01-15

Subaru

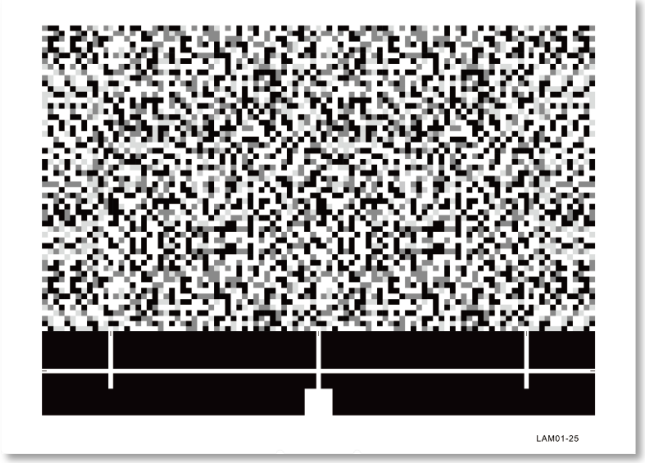
Hyundai/Kia
LAM01-09

Hyundai, Kia, Peugeot, Citroën, Fiat, Jeep, Lancia

LDW Targets

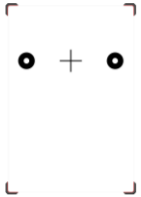


Subaru
LAM01-21



Suzuki/Subaru
LAM01-25

LDW Targets



LAM01-01

Mercedes-Benz, Sprinter, Hyundai, Beijing Benz

LAM01-04-L

Honda, Acura, Dongfeng Honda, GAC Honda

LAM01-04-R

Honda, Acura, Dongfeng Honda, GAC Honda

LAM01-17

Honda, Acura, Dongfeng Honda, GAC Honda

LAM01-20

Honda, Acura, Dongfeng Honda, GAC Honda

LAM09-08 Extension Rod I

Honda, Toyota

LAM01-06-1

Toyota, Lexus, Peugeot, Citroën, FAW Toyota, GAC Toyota

LAM01-06-2

Toyota, Lexus, Peugeot, Citroën, FAW Toyota, GAC Toyota

LAM01-06-3

Toyota, Lexus, Peugeot, Citroën, FAW Toyota, GAC Toyota

LAM01-07-L

Nissan, Infiniti, Dongfeng Nissan

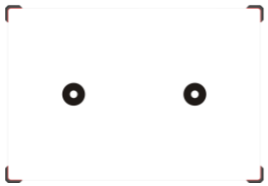
LAM01-07-R

Nissan, Infiniti, Dongfeng Nissan

LAM09-09 Extension Rod II

Honda, Toyota

LDW Targets



LAM01-10

Mazda

LAM01-16-L

Mazda

LAM01-16-R

Mazda

LAM01-12-L

Nissan, Infiniti, Renault, Smart

LAM01-12-R

Nissan, Infiniti, Renault, Smart

LAC01-13

Hyundai, Kia

LAM01-18-L

Suzuki

LAM01-18-R

Suzuki

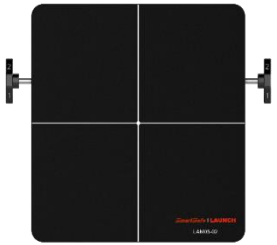
LAM01-19-L

Mitsubishi

LAM01-19-R

Mitsubishi

ACC & Lidar Targets



ACC Reflector
LAM05-02

Apply to ACC & BSD calibration

VW, Audi, Skoda, SEAT, BMW, Rolls-Royce, Sprinter, Porsche, Jeep, Romeo, Mini, Hyundai, Kia, Nissan, Infiniti, Mitsubishi, Suzuki

Corner Reflector
LAC05-03

Apply to ACC & BSD calibration

Toyota, Lexus, Honda, Acura, Mazda, Subaru, Mitsubishi

Doppler Simulator
LAC05-04

Apply to BSD & corner collision system calibration

VW, Audi, Skoda, SEAT

Audi Lidar Target
LAC05-06

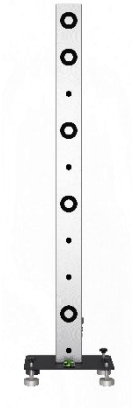
Apply to ACC calibration

VW, Audi

NVS & Other Targets

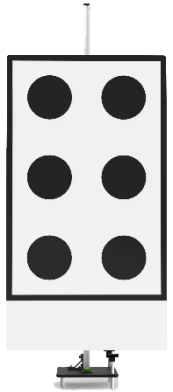
NVS
LAC06-01

VW, Audi, GM



NVS
LAC06-02

Mercedes-Benz



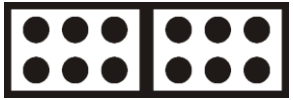
Honda-Lane Watch
LAC04-17

Honda

AVM/RCW Targets -- European

LAC02-02

Mercedes-Benz



LAC02-03

VW, Audi, SEAT,
FAW Volkswagen,
SAIC Volkswagen

LAC04-04

VW, Audi, SEAT,
FAW Volkswagen,
SAIC Volkswagen

LAC04-08-01

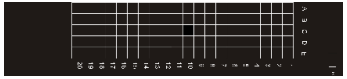
Mercedes-Benz

LAC04-08-02

Mercedes-Benz

LAC04-10-01

Renault



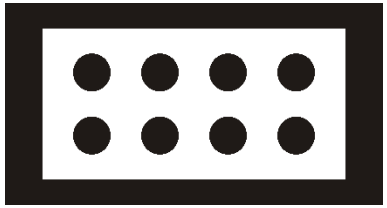
LAC04-10-02

Renault

LAC04-14

VW, Audi, SEAT,
FAW Volkswagen,
SAIC Volkswagen

AVM/RCW Targets -- Asian



LAC04-01

Honda

LAC04-02

Honda

LAC04-11

Nissan, Infiniti

LAC04-15

Nissan, Infiniti

LAC04-12-01

Hyundai

LAC04-12-02

Hyundai

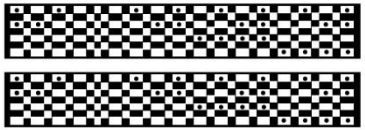
LAC04-13

Mitsubishi

AVM/RCW Targets -- American

LAC04-06

GMC, Buick, Holden,
Cadillac, Chevrolet



LAC04-07

Ford, Lincoln

AVM/RCW Targets -- China

ROEWE - AVM

BYD - AVM

BYD - AVM

Wuling /Baojun - AVM

Wuling /Baojun - AVM

BAIC- AVM

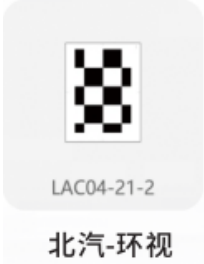
Chery - AVM

Chery - AVM

Chery - AVM

Chery - AVM

Lynk & Co - AVM



BAIC- AVM

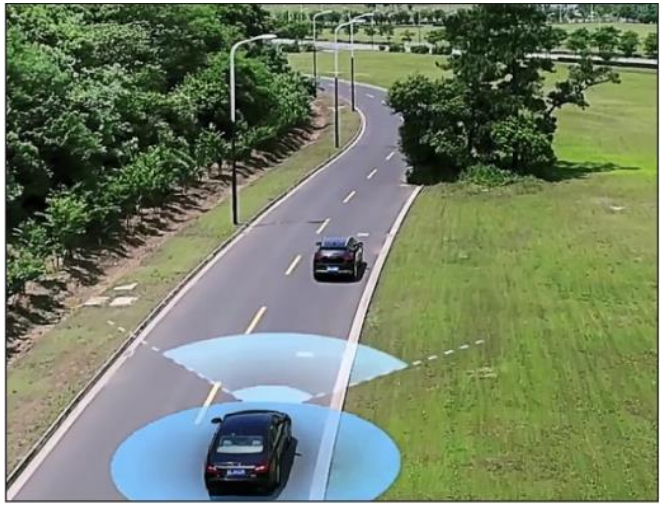
Functions & Usage

When do you need ADAS calibration?

1. The sensor control unit has been repaired or replaced. (The ACC radar/front camera has been replaced)
2. The sensor installation is incorrect.
3. The sensor position has been changed.
4. The windshield/bumper has been removed, repaired or replaced.
5. Chassis structure has been changed/adjusted.

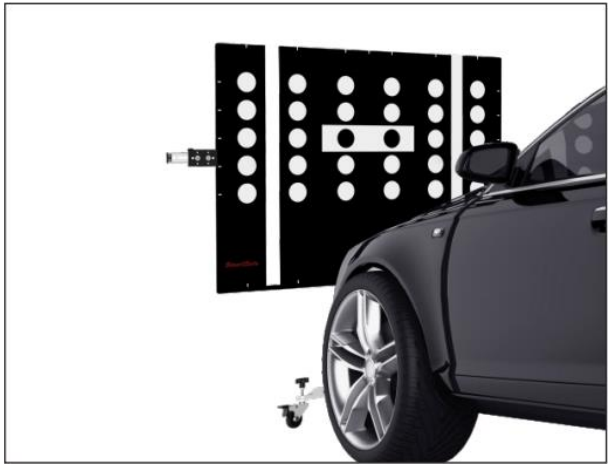
Dynamic Calibration

It doesn’t require an ADAS calibration tool, but requires a test drive at a prescribed steady speed in a clear lane markings road with straight lines under favorable weather conditions. It requires professional diagnostic software with a scan tool to initiate the learning process and fulfill the calibration procedures.



Static Calibration

It is performed by an ADAS calibration tool frame and targets. A static calibration requires professional diagnostic software with a scan tool to fulfill the calibration procedures. Before a static calibration, the work station should prepare a standardized area to get started. If not a qualified work area in normal conditions, it will affect the accuracy of the calibration.

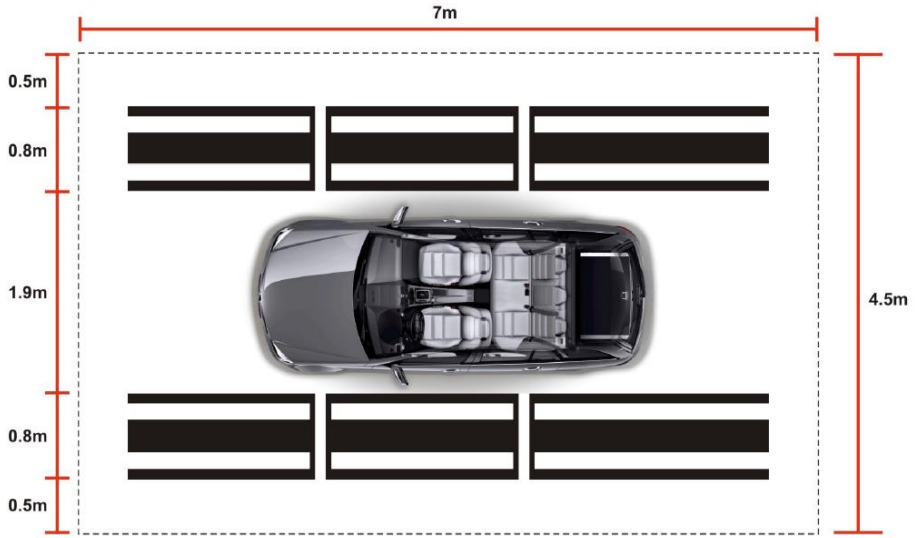


Preparation

Preparation for ADAS calibration

1. No damage of vehicle sensors.
2. No deformation of sensor frame.
3. Ensure the tire are properly inflated.
4. Apply the parking brake and keep the doors closed.
5. Ensure that the coolant and oil of the vehicle within the recommended range, and fill up the fuel tank. Make sure no passengers or goods in the vehicle.
6. Connect the scan tool to vehicle, make sure no DTCs exist except ADAS related fault codes.
7. Please use the correct targets and distance parameters according to the operation guide.
8. Please do not lean on the vehicle during the calibration process.

Preparation



Preparation for calibration area：

1. Enough space around the vehicle and level work area are required to complete the calibration procedures. (Suggest calibration area 5m*9m).
2. No large obstacles in the work area.
3. No light intrusion to the targets
4. No light intrusion to the front camera area.
5. No wind intrusion to sway or move the targets.

Vehicle Coverage

European

Mercedes-Benz, BMW, Volkswagen, Audi, Land Rover, Jaguar, Volvo, Fiat, Opel, Seat, Skoda, Renault, Citroen, Smart, Mini, Peugeot, Porsche, and more.

American

GM, Ford, Chrysler, Buick, Cadillac, Chevrolet, Dodge, Jeep, Lincoln, GMC, Holden, and more.

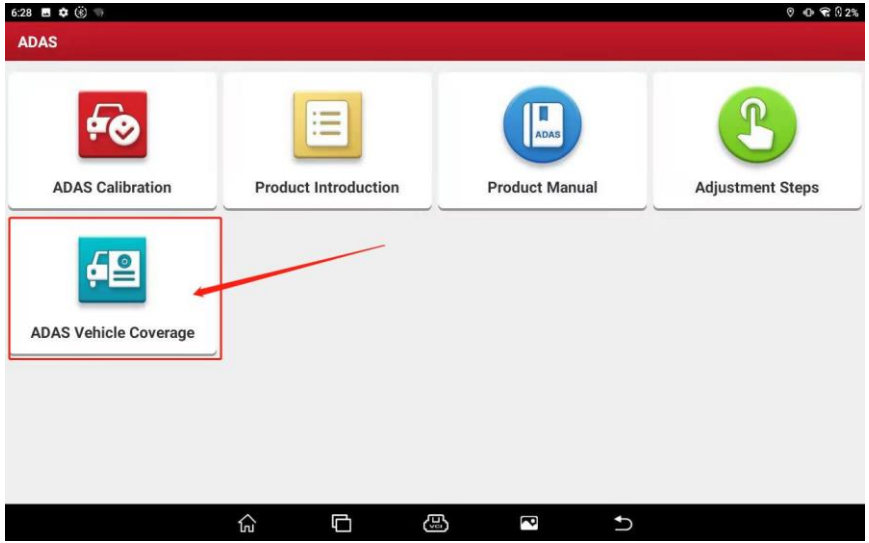
Asian

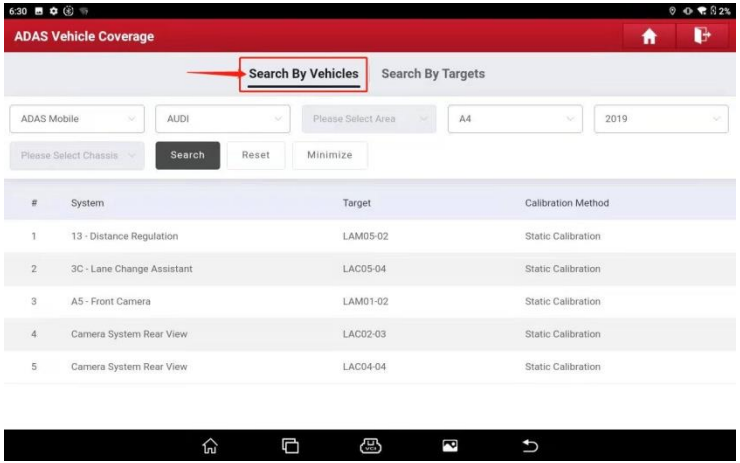
Toyota, Lexus, Honda, Acura, Nissan, Infiniti, Kia, Hyundai, Mazda, Mitsubishi, Suzuki, Subaru and more.

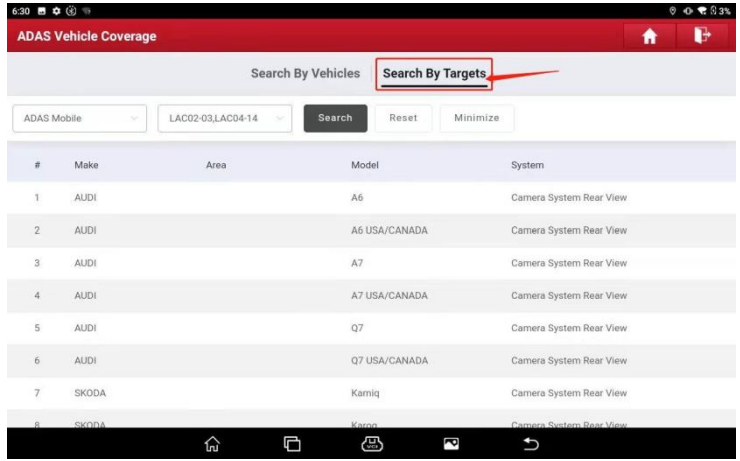
Chinese

JAC, HAVAL, Geely, Great Wall, Chery, BYD, GM China, Roewe, Hyundai, Kia, Volkswagen, SAIC-GM-Wuling, and more.

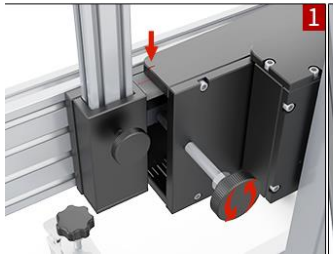
Vehicle Coverage Inquiry

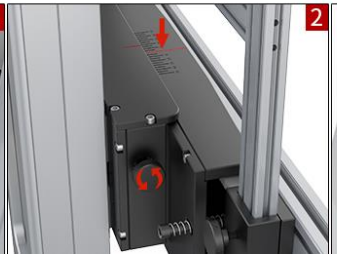


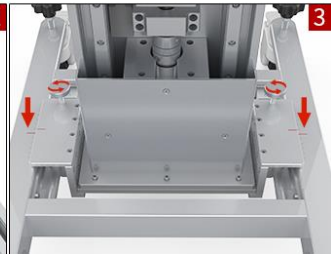




Operation Steps







Step 1 -- Reset the device

Check the following positions and reset.

① Parallel fine-tuning position

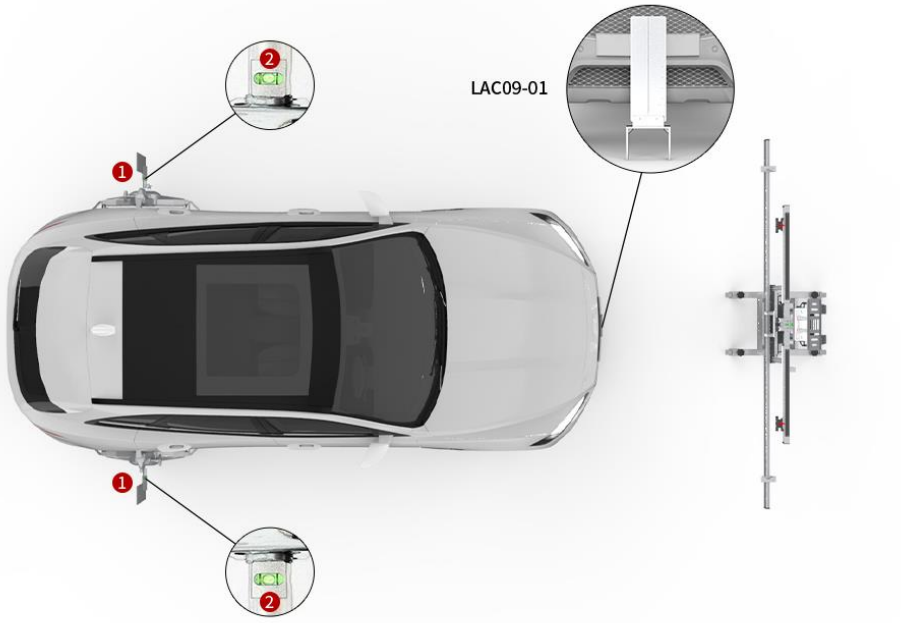
② Left and right fine-tuning position

③ Front and rear fine-tuning position

Operation Steps

Step 2 -- Condition 1

The method of measuring from vehicle head to target



Install the wheel clamp and ranging panel

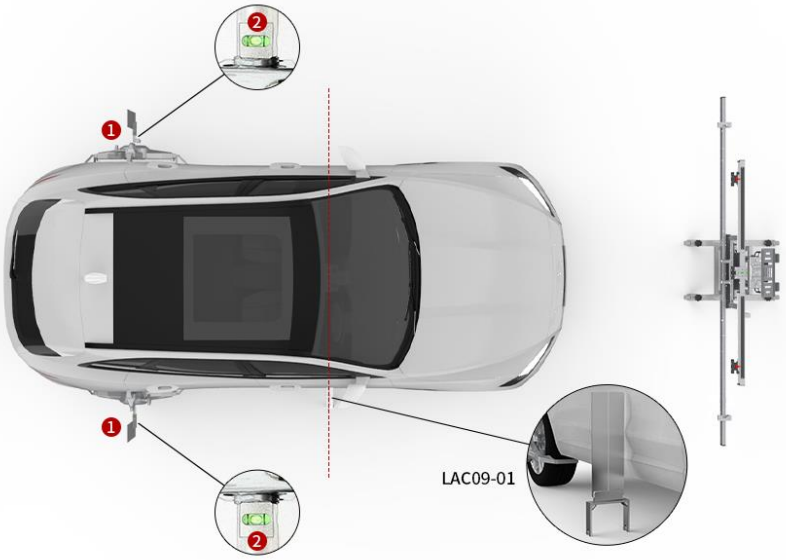
1. Install the wheel clamp ① on vehicle left and right rear wheels, and ensure that the spirit level ② is centered.

2. Place **Ranging panel LAC09-01** in front of vehicle and make sure it is close to the bumper and parallel to vehicle.

Operation Steps

Step 2 -- Condition 2

The method of measuring from camera to target



Install the wheel clamp and ranging panel

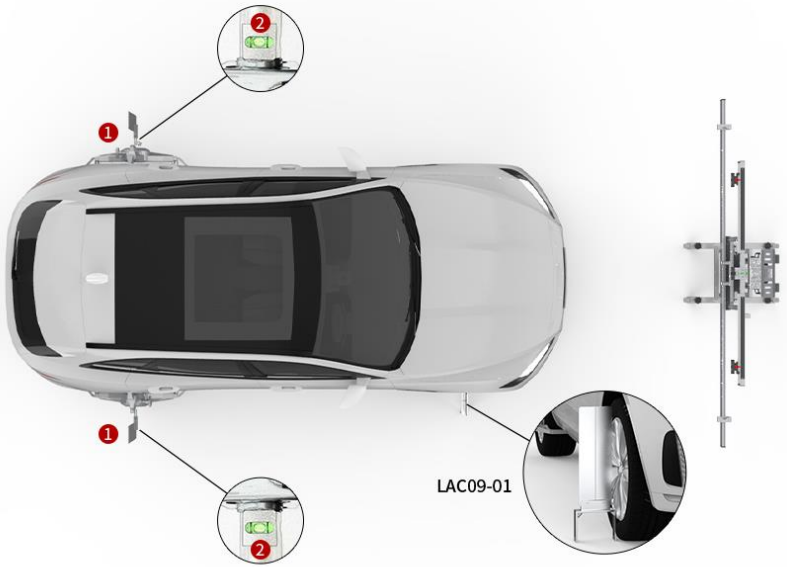
1. Install the wheel clamp ① on vehicle left and right rear wheels, and ensure the spirit level ②.

2. Place **Ranging panel LAC09-01** on the side of the front camera and make sure it is perpendicular to the vehicle body.

Operation Steps

Step 2 -- Condition 3

The method of measuring from the front wheel to target

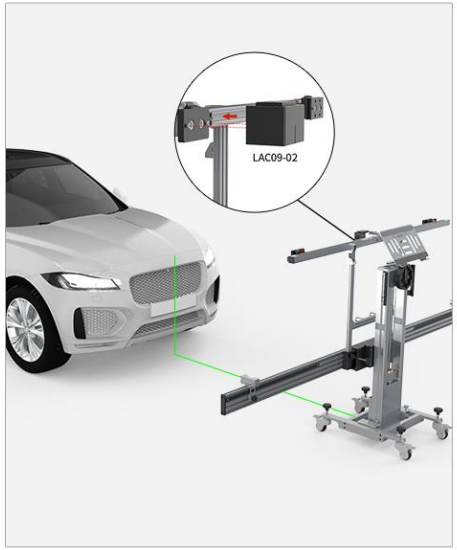


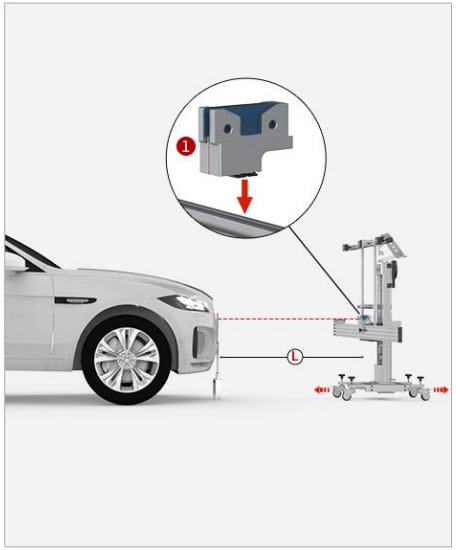
Install the wheel clamp and ranging panel

1. Install the wheel clamp ① on vehicle left and right rear wheels, and ensure the spirit level ②.
2. Place **Ranging panel LAC09-01** on the center of the vehicle front wheel and make sure it is perpendicular to the front wheel.

Operation Steps

Step 3 -- Determine the distance of device placement





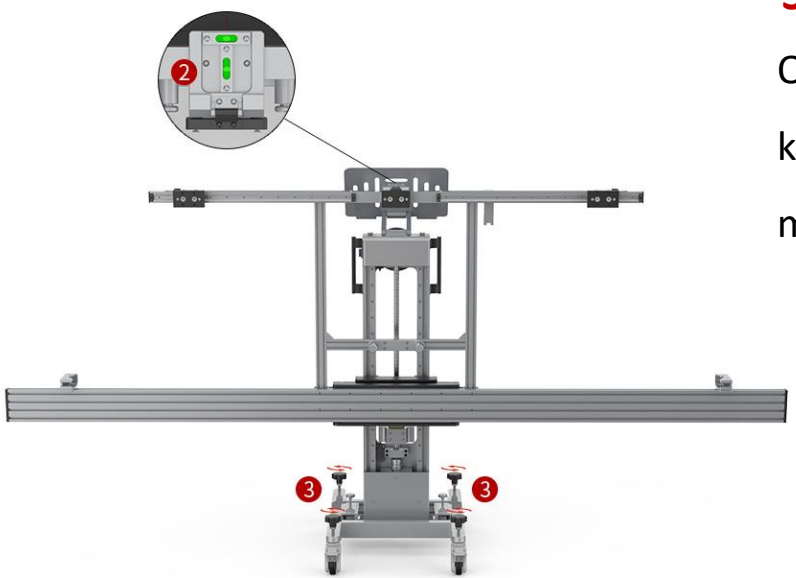
1. Install **Central laser LAC09-02** on **Mounting plate LAC09-03** and turn on the laser, place the device in front of the vehicle so that the laser beam irradiates on the center of vehicle.

2. Install the rangefinder ① on the middle of the beam, turn on the rangefinder so that the laser spot irradiates on **Ranging panel LAC09-01** .

3. Move the device back and forth to make the value of rangefinder ① is L, L=_____mm .

Note: If the laser spot cannot be irradiated on the ranging panel, adjust the device height.

Operation Steps

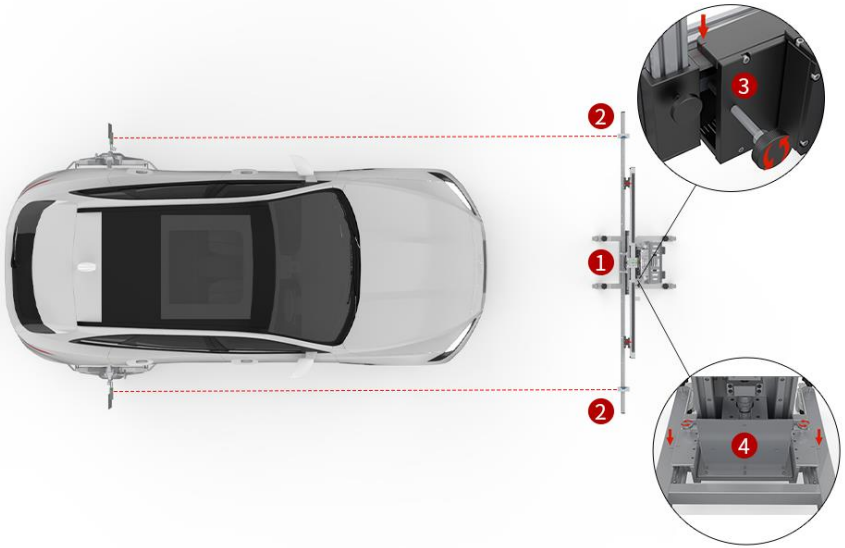


Step 4

Observe the spirit level ②, turn the base adjustment knob ③, adjust the device to the level and lock the moving wheels.

Operation Steps

Step 5 -- Adjust the device to be parallel to the vehicle and centered



1. Turn on and move the rangefinder ② on both sides of the beam so that the laser spot irradiates on the wheel clamp panel.

2. Adjust the parallel fine-tuning knob ③ to make the values of rangefinder ② on both sides consistent (allowed tolerance: ±1mm).

3. Check if the value of rangefinder ① is still L, L=_____mm， If not, it can be adjusted by the front and rear fine-tuning knob ④.

Operation Steps

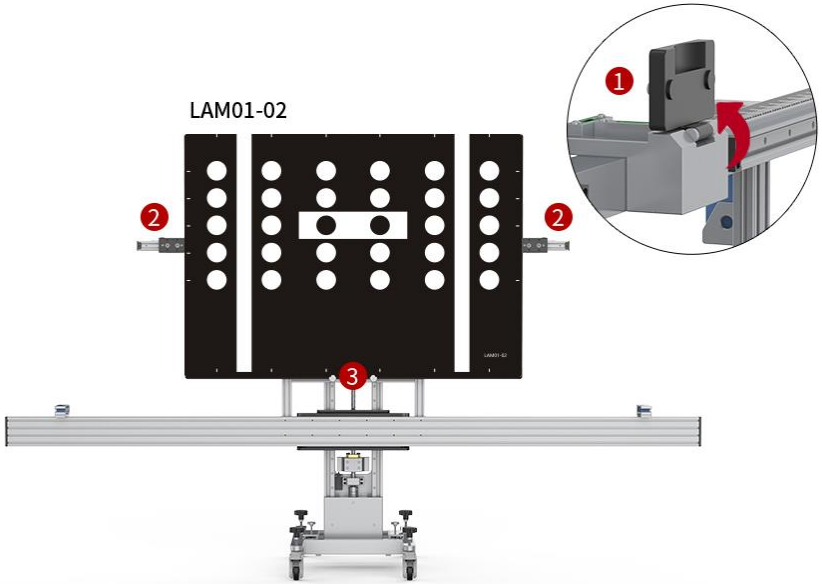
Step 6 -- Adjust the device to be parallel to the vehicle and centered

1. Adjust the left and right fine-tuning knob ① to make the laser beam of **Center laser LAC09-02** irradiates on the center of vehicle.

2. Turn off and remove the **Center laser LAC09-02**.

Operation Steps

Step 7 -- Install the target



Big Target

1. Turn up the middle hanging plate ① of target support, and move the left and right sliding blocks ② to both sides.

2. Use the LAM01-_____ target, align the groove on the bottom of target with the support rod clamping position ③, and lock and fix the target through the left and right sliding blocks ②.

Operation Steps

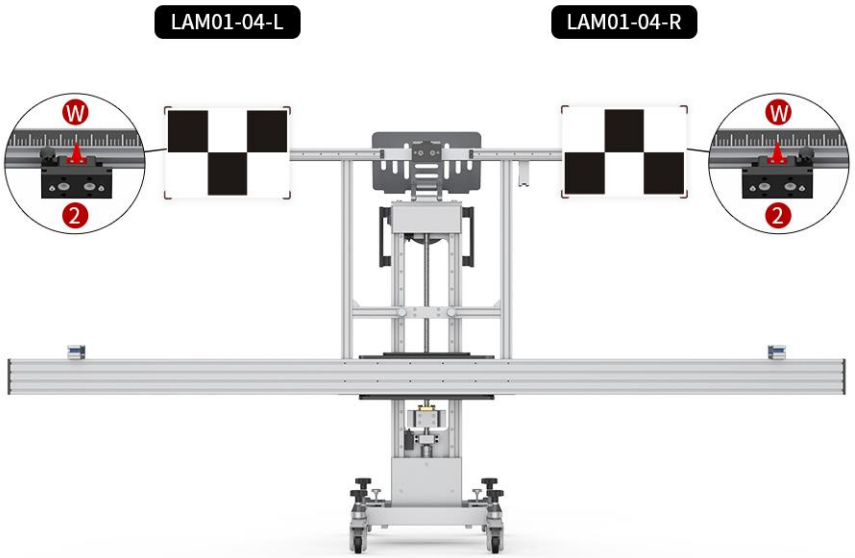
Step 7 -- Install the target

Small target-Condition 1: Single target/single position

Use the LAM01-_____ target and install the target on the middle hanging plate.

Operation Steps

Step 7 -- Install the target



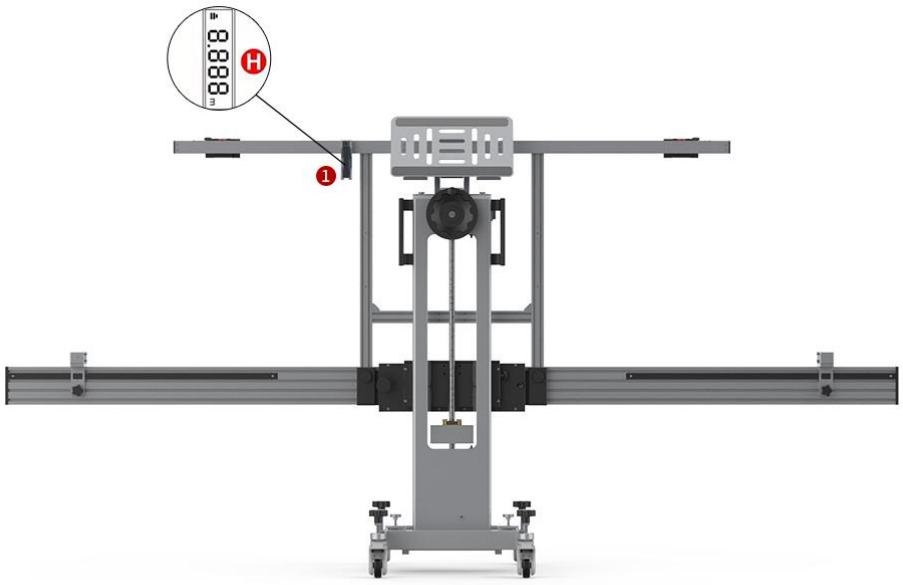
Small target -- Condition 2: Multiple targets/multiple positions

1. Move the left and right sliding blocks ② to position W, W=_____.

2. Use the targets LAM01-_____ and LAM01-_____ , and install the targets on the left and right sliding blocks ②.

Operation Steps

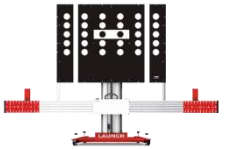
Step 8 -- Adjust the height

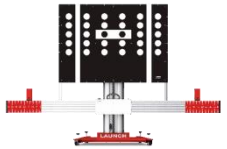


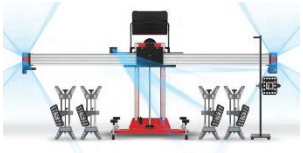
1. Turn on the height range finder① and adjust the device height so that the value of height range finder① is H, H=_____mm.

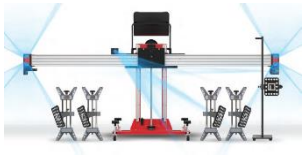
Note: Please make sure that the laser irradiation area is free of water stains and other reflective objects that affect the measurement results.

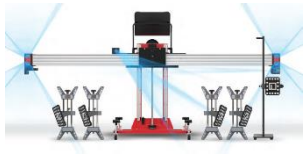
Competitive Analysis

	ADAS PRO+	ADAS Mobile	ADAS PRO
Image			
Applicable Scenario	Fixed Repair Area	Portable, Mobile, Storage	Fixed Repair Area
Setup Time	1min	2min	3-5min
Fine-tuning Function	Left & Right, Back & Forth, Level	Level Fine-tuning	None
Target Type	Small + Big Target	Small + Big Target	Big Target
Measurement Method	Laser Ranging	Tape Measure	Tape Measure
Lifting Method	Electric + Manual	Manual	Electric

	ADAS PRO+	ADAS Mobile	ADAS PRO
Image			
Features	Accurate, Fine-tuned, Fast	Portable, Accurate, Easy-to-use	Electric, Two-way Laser
Customer Assembly Required	Yes	No	Yes
The parts that need to be assembled	Beam, Target Support, Wheel Clamp	None	Base, Upright, Beam, Target Support, Laser, Wheel Clamp
Power	110V~220V Universal Adapter	No	110V~220V Universal Adapter
Tablet Stand	Support	No	No
Mobile Performance	Good	Excellent	Bad

	ADAS PRO+	MaxiSys ADAS(IA800)	HELLR	TEXA RCCS2
Image				
Fine-tuning Function	Left & Right, Back & Forth, Level	Left & Right, Level	None	Level
Centering Method	Laser Ranging Parallel, Center Laser Centering	Camera	Laser Reflection Centering and Parallel	Laser Ranging Parallel, Center Laser Centering. Optional CCD Parallel
Measurement Method	Laser Ranging	Camera image processing system	Tape Measure	Laser Ranging

	ADAS PRO+	MaxiSys ADAS(IA800)	HELLR	TEXA RCCS2
Image				
Advantages	1. Overall fine-tuning, high precision 2. Easy to use 3. Small target for easy storage 4. Electric lifting + manual fine-tuning 5. Fully electronic ranging accuracy ±2mm 6. Placement time less than 1 min.	1. High market recognition 2. Expandable camera module(IA800) 3. Image processing system	Simple and durable, praise by the market	Optional CCD ranging, reliable and easy to use

	ADAS PRO+	MaxiSys ADAS(IA800)	HELLR	TEXA RCCS2
Image				
Defects	Late to market, the market evaluation of the previous generation product is quite satisfactory	1. Target is unstable and easy to fall. 2. The base and the vertical column are sheet metal, the accuracy will be affected by tolerance. 3. Image processing system has strict environmental requirements, such light, sunshine, etc.	1. Simple structure, poor operational experience. 2. Can't do fine-tuning. 3. Big targets are not easy to store and hang. 4. Poor accuracy of measuring distance and height with tape measure.	1. Simple structure, poor operational experience. 2. Only supports level fine-tuning, not convenient to move and adjust in other directions.

Q & A

THANK YOU

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