Dianwei ADAS Installation Manual

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I. Overview

This document is a guide for installing ADAS, and it is only applicable to commercial vehicles.

II. Preparation

1. The Product Includes

ADAS camera, DMS camera, splitter cable, CAN Box, DC-DC converter, and RS232 cable (optional).

2. Tools Needed for Installation

1) Basic tools:

S (opposite sides) = 5mmL Allen wrench

D (bit diameter) = 4mm+ Phillips screwdriver

D (bit diameter) = 2.5mm slotted screwdriver

2) Self-tapping screws, tape measure, black tape, and wipe.

Special tools: An Android mobile phone with AutoRing Installation Instruction App and an AutoRing calibration board (not required for Auto Calibration).

3. Installation Location

Make sure that the vehicle is parked on a flat ground, preferably near a road for testing.

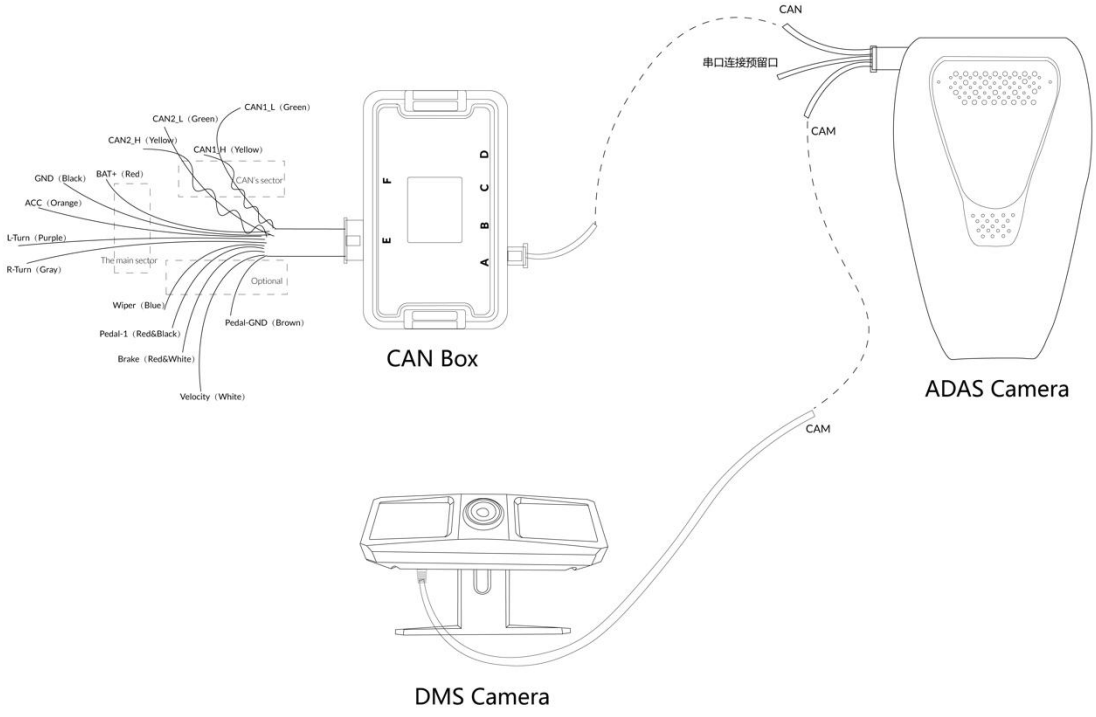
4. Installing ADAS Installation Instruction App

Install AutoRing Installation Instruction App on an Android phone.

III. Installation Steps

1. Wiring

Connection Chart



1)

2) Obtain the Speed via GPS, and Obtain Turning Information via the Left-right Turn Analog Signal Wire

   a) Open up the dashboard and find the left/right turn analog signal wire, always-on power supply wire, ACC, and Ground wire by using a multimeter or electroprobe.

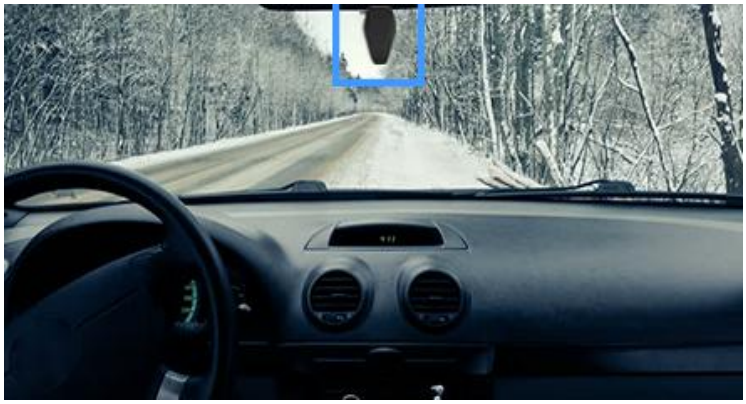
   b) Connecting the device: connect CAN Box's interface E with the splitter cable, and then connect the other end of the splitter cable to the vehicle electric signal; connect CAN Box's interface A with a connector on one end of the DC-DC converter, and the plug on the other end of the DC-DC converter should be connected to the side on ADAS camera labeled "CAN"; DMS camera plug connects to the side on ADAS camera labeled "CAM".

2. ADAS Camera Installation

1) Installation Locations

   a) For a large or medium vehicle, install the ADAS camera near the center bottom of the windshield.

b) For a smaller vehicle, install the ADAS camera in the middle upper part of the windshield underneath the rear view mirror.



Note: ADAS camera can be installed in the wiper working area, but should not be blocked by the wipers.

2) Installation Process

a) Use a dry wipe to clean the installation area of the windshield.

b) **Remove the protection film from the ADAS camera's lens.**

c) Remove the 3M protection film, and keep ADAS camera vertical to the windshield while attaching it onto the windshield.

d) Before placing the camera, adjust the camera angle and make sure it is horizontal..

3) Connect the Wi-Fi Hotspot

a) Connect the power cable. Wait until the flashing red light becomes steady green, long press Power and Volume- keys at the same time until the green light is off, and the device will reboot in 30 seconds. The device becomes a Wi-Fi hotspot when the flashing red LED light becomes a white light.

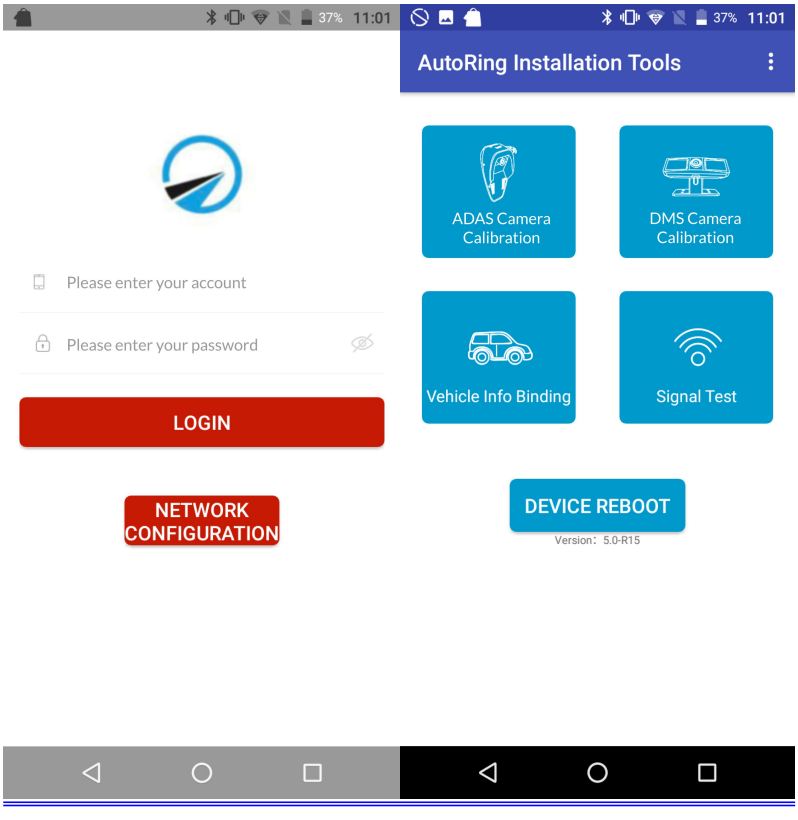
b) Connect the Wi-Fi hotspot to a mobile phone with AutoRing Installation Instruction app installed.

Wi-Fi Name: Device IMEI (IMEI is on the sticker on the left of the device)

Wi-Fi Password: 12345678

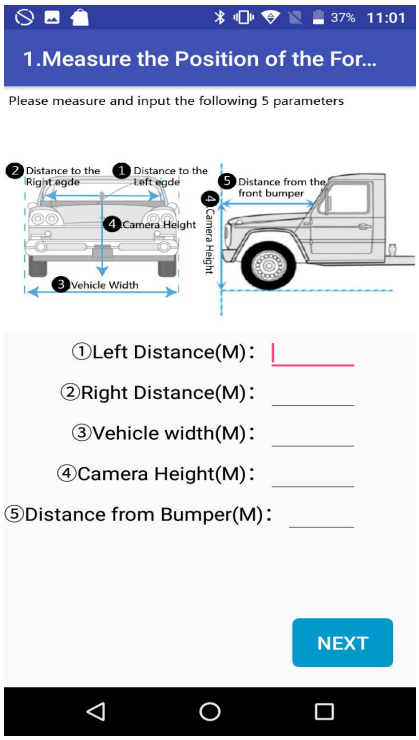
4) Start the Installation Instruction App

Start ADAS Installation Instruction App, and enter the username and password to log in.



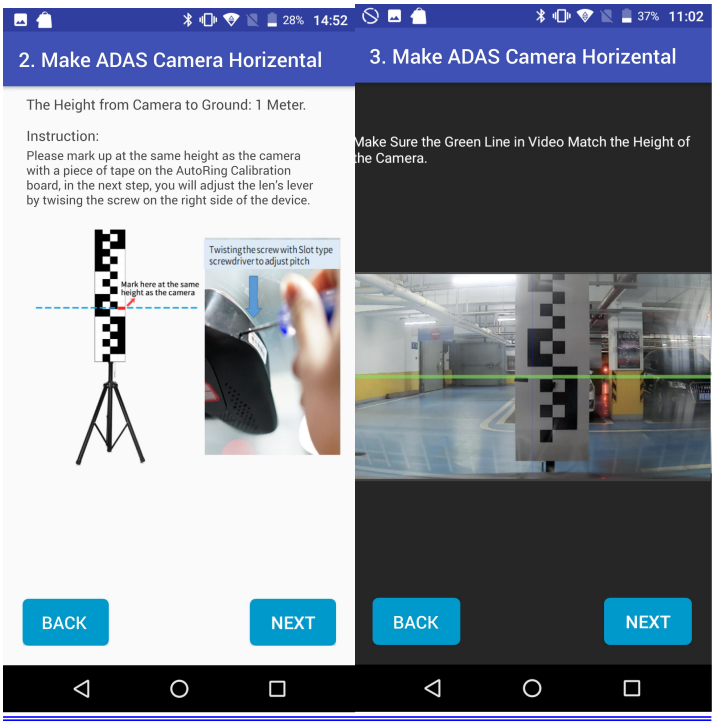
5) ADAS Camera Calibration

a) Fill in the Calibration Parameters



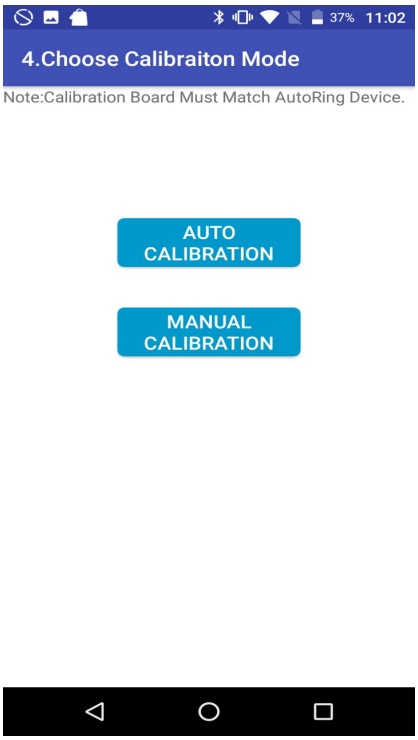
- Measure lateral distance from the ADAS camera to the left and right windshield edges.
- Measure the width of the vehicle: the distance between the front wheels (outer edges of the wheels).
- Measure ADAS camera's height from the ground: vertical distance between the ADAS camera and the ground.
- Measure ADAS camera distance from the vehicle's front end: horizontal distance to the front bumper (i.e. end of front bumper) of the vehicle.
- After filling in the parameters, tap Next.

b) Adjust ADAS Camera's Pitch Angle



- Enter the interface to adjust ADAS camera's horizontal level. Based on the guide, mark the camera's height from the ground on a reference material in front of the vehicle (e.g. a wall, AutoRing calibration board, etc.), tap Next.
- Enter the interface to adjust ADAS camera's horizontal level. Rotate the screw on the ADAS camera's right side with a slotted screwdriver to adjust the lens pitch angle. Once the horizontal green line overlaps the mark on the reference material, tap Next.

c) Choose Calibration Mode



d) Auto Calibration

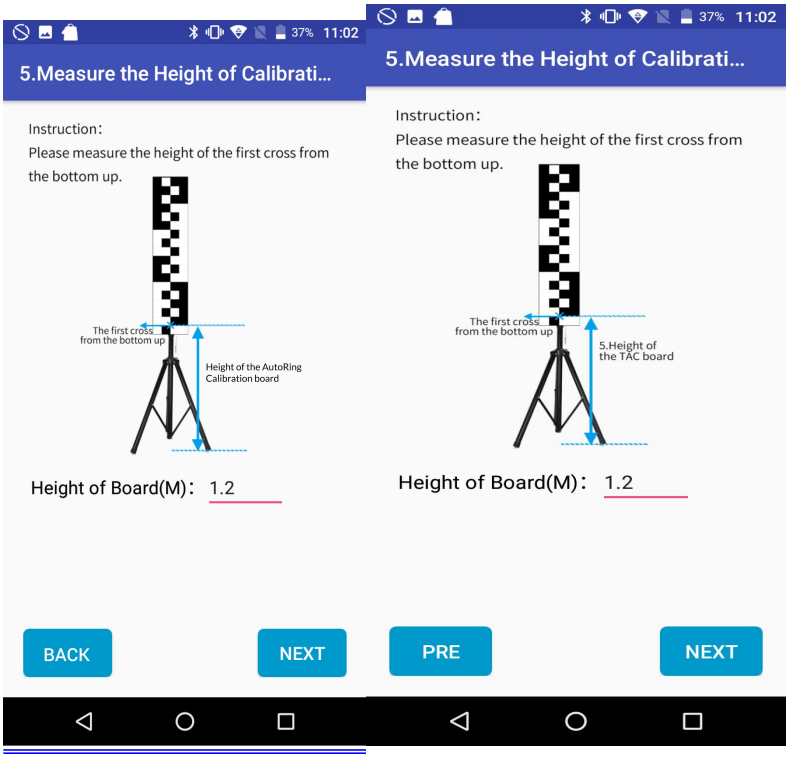
Auto Calibration means that after completing the following steps, the device will automatically complete the calibration:

Step One: After selecting Auto Calibration, you still need to complete the remaining app functions including DMS Camera Calibration, Vehicle Info Binding, Signal Test, and Device Reboot.

Step Two: Please drive the vehicle to a road with clear lane markers on both sides, try to choose a flat and straight road and drive above 30km/h until you hear "Auto calibration successful". The process should take 5-10 minutes to complete (Occasional stops, turns, and no lane marker do not affect the calibration).

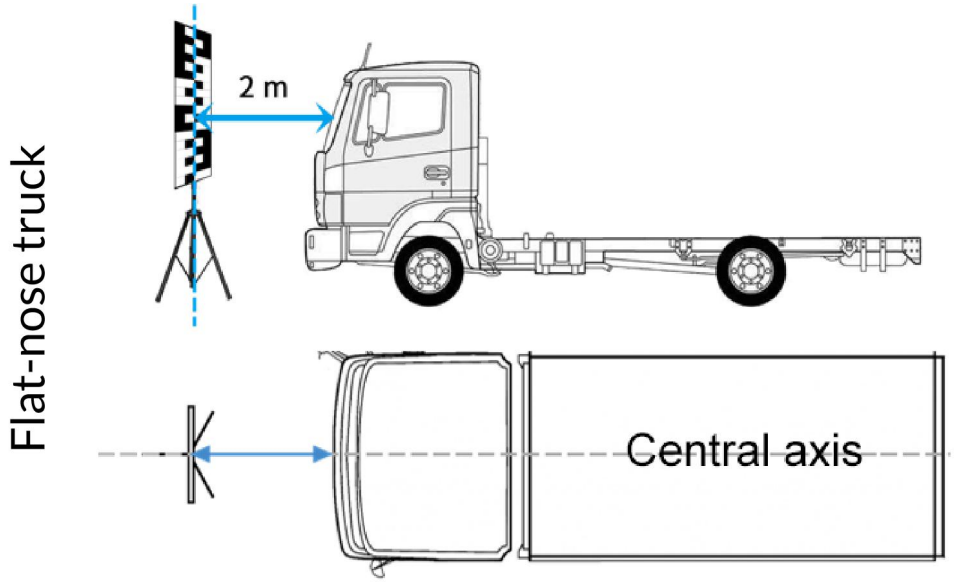
e) Manual Calibration - Measures the AutoRing Calibration Board's Height from the Ground (ignore this step in Auto Calibration)

Please tighten the anchor screws on the AutoRing calibration board and holding screws on the tripod to ensure that the height of the calibration from the ground does not change.

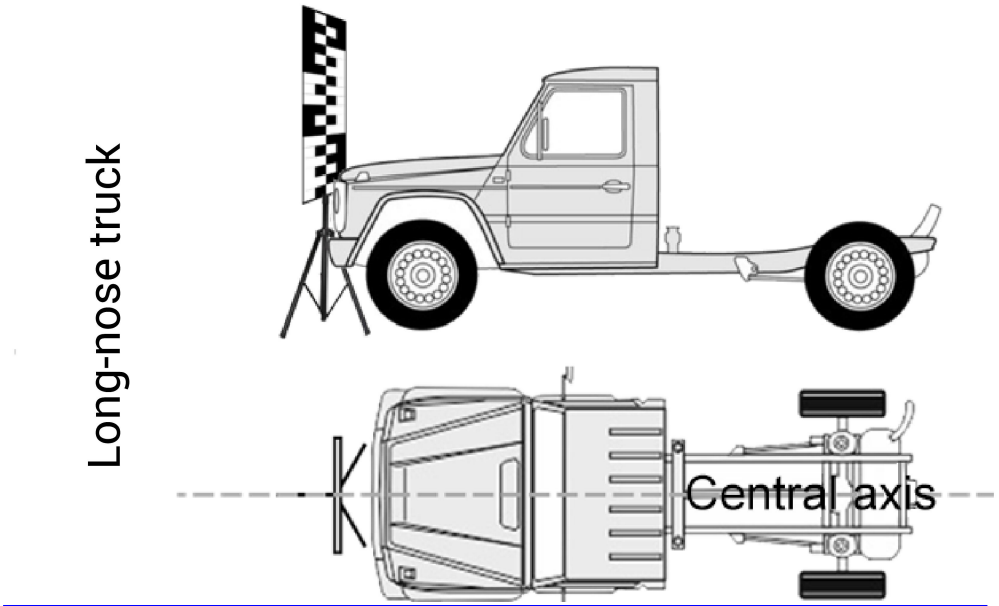


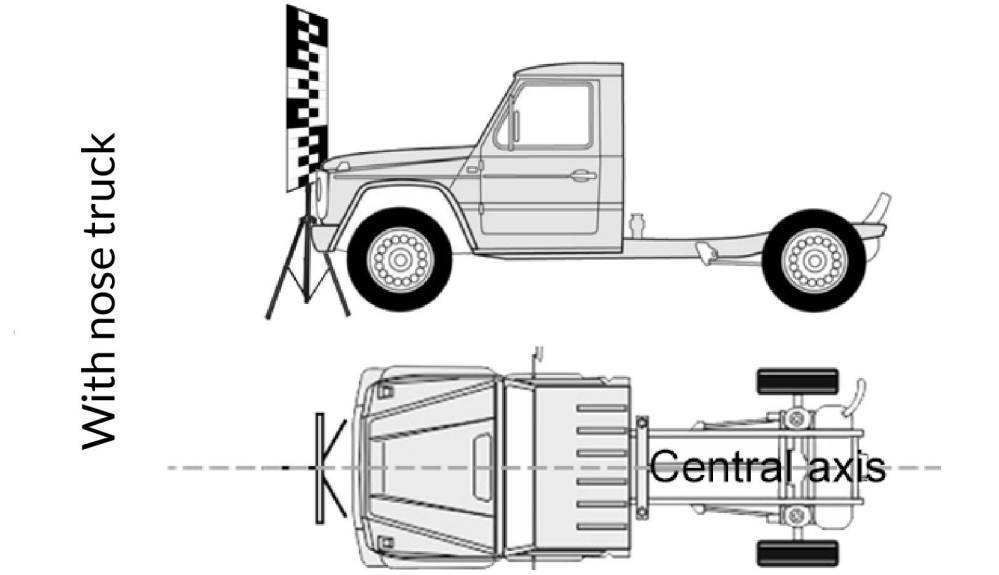
f) Manual Calibration - Place the AutoRing Calibration Board (ignore this step in Auto Calibration)

For flat-nose trucks, place the AutoRing calibration board 2 meters in front of the flat-nose truck's on its central axis.



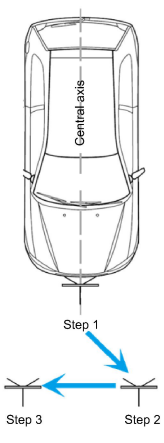
For long-nose trucks, place AutoRing calibration board on the central axis of the vehicle against the bumper.





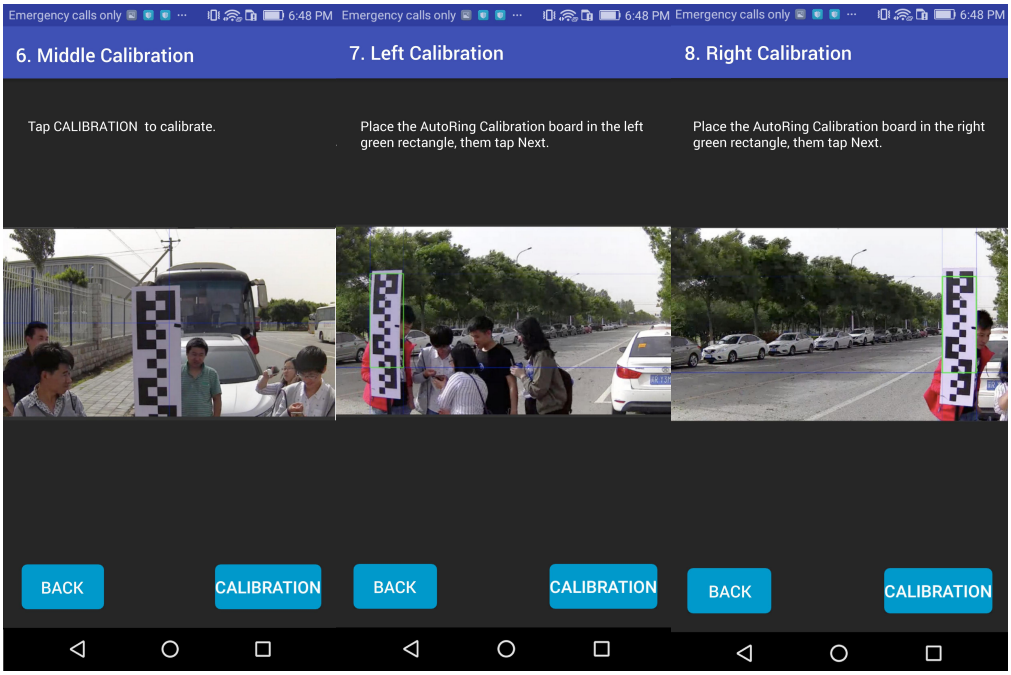
g) Manual Calibration – Start Calibration

- Middle Calibration: Place AutoRing calibration board on the central axis, 2 meters in front of a flat-nose truck, or against the bumper of a long-nose truck. Tap



Calibration to complete the Middle Calibration. (See Figure 1)

- Left Calibration: Move AutoRing calibration board to the left. Keep AutoRing Calibration board parallel with the front of the vehicle till its left and right edge overlaps the green box in the image. Tap Next to complete Left Calibration. (See Figure 2)
- Right Calibration: Move AutoRing calibration board to the right. Keep AutoRing calibration board parallel with the front of the vehicle till its left and right edge overlaps the green box of the image. Tap Next to complete Right Calibration. (See Figure 3)

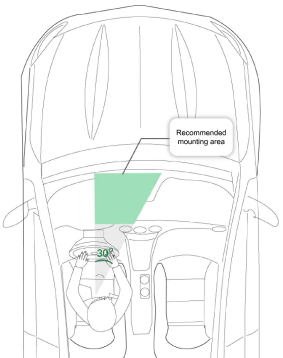


(Figure 1) (Figure 2) (Figure 3)

3. DMS Camera Installation

1) Installation Location

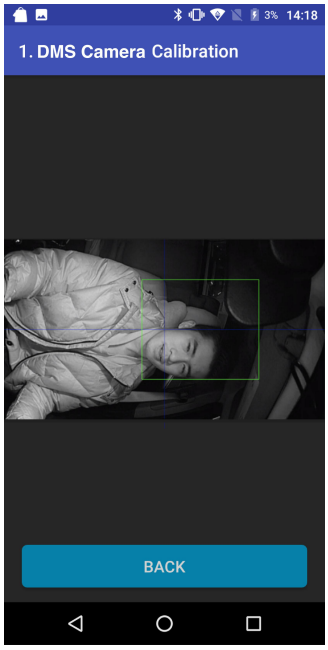
Slightly place DMS camera to the right in front of the driver, and make sure that the



human face is not covered by the steering wheel.

2) DMS Camera Calibration

Tap DMS Camera calibration button, adjust DMS camera lens angle so that the face is located in the green box and the body is located in the middle of the picture; make sure the picture includes both shoulders clearly. After then, return to the main interface on the app.



3) Installation and Angles Setup

Use self-tapping screws to fasten the DMS camera base on the platform firmly(note the outlet is facing down to avoid mounting to the other side).

Use an Allen wrench to fasten the pitch angle of the lens.

Remember to remove the protective lens film and the infrared camera protection film.

4. Vehicle Info Binding

a) Tap Vehicle Info Binding button on the app, scan or manually fill in the license plate number, and tap Bind to complete the pricess.

b) Take a picture of the vehicle's front with the license plate shown clearly.

c) Take a picture of the vehicle's interior including the installed device in the vehicle.

5. Signal Test

To test if the left and right turn signal is properly connected. The device's operation will be affected if it has failed the test.

6. Device Reboot

After completing the installation, tap Device Reboot in the App's main interface. The device will show "Reboot Successful" at the end of the calibration process.

7. Driving Test

- Lane Departure Warning: When the vehicle speed is greater than 50km/h, the alarm is triggered when changing lane without turning on a signal, the device is working properly.
- Yawning Test: When the vehicle speed is greater than 10km/h or within 24 hours of the

installation, the alarm is triggered when yawning, the device is working properly.

III. Appendix I Common Troubleshoots

Scenarios	Solution
After ignition, the signal light is off	Please check whether the always-on power supply or ACC is connected
After turning on the device, a flashing red light appeared	Please check if the DC-DC converter needs a replacement
After turning on the device, a steady red light appeared	Please check if DMS camera is connected
After turning on the device, a steady blue light appeared	Please try to reboot or re-enter the Calibration Mode
LED turned off in a few minutes after the device is turned on	Please check if ACC is connected properly; please check if the vehicle has been turned off
After turning on the device, a steady yellow light appeared	The device has failed
Select Auto Calibration and complete all the calibration configuration. After the rebooting the device, no "Start Calibration" prompt during the first drive	The vehicle speed should be greater than 30km/h during the drive Both sides of the road under calibration should have clearly-marked lanes Please re-calibrate the ADAS camera when the above requirements are both satisfied
Picture cannot be calibrated	Try rebooting the device and re-entering the calibration mode Wi-Fi connection is needed, please check if the phone is connected to the Wi-Fi hotspot
Calibration app prompt 401	Please check if AutoRing calibration board is inside the picture
Calibration app prompt 402, 404, 405	Please place the device in a bright place
Calibration app prompt 406	Please place AutoRing Calibration board in the green box

	during the left-right calibration
Calibration app prompt 407	AutoRing calibration board is too far from the ADAS camera. Please move AutoRing calibration board closer
Calibration app prompt 409	Please re-measure the heights of the ADAS camera and AutoRing calibration board.
Installation Assistant prompt for a mismatched version	Please check if an upgrade is needed
DMS camera no alarm prompt	Please check if the DMS camera is aligned properly The vehicle speed should be greater than 10km/h
ADAS camera no alarm prompt	The alarm needs to reach speed threshold to be triggered Please check if ADAS camera has obtained the vehicle information via the CAN Box configuration program. Please make sure the left/right turn wires are connected properly. Please make sure the ADAS camera calibration is done properly.