



(Android)

Wheel Alignment

BY- 7000

User Manual

Preface

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This equipment is for the use of professional technicians or maintenance personnel.

Matters needing attention

The operator of the instrument must pass the training of the company, and can operate after passing the training.

The operator must have some basic knowledge of computer application.

The operator must understand the basic knowledge of four-wheel positioning.

Check whether the power connection line contact is reliable, whether there is damage.

If the power supply voltage is unstable, please equip your own AC regulator.

Check whether the car lift is firm and level regularly to ensure the correct test and the safety of personnel.

Remove obstacles around the car lift so as not to affect the operation.

Check all loose bolts and parts at the end of service and tighten them up for safety.

Four-wheel locator can not be placed on a vibrating object or tilted, should avoid direct sunlight or humidity.

Four-wheel locator belongs to precision testing equipment, there are sensitive components, in the process of use should be taken gently, do not throw random, otherwise light will lead to shell deformation, heavy will lead to internal components failure, affect the normal use.

Avoid splashing liquid on the surface of the four-wheel locator, lest liquid enter the system and cause permanent damage.

After use, please cut off all power supplies.

Four-wheel locator is tested through the method of image, do not let the strong light to the sensor interference, and should avoid the object between the sensor blocking the light.

Excerpt parameters:

Measurement parameters, range and accuracy

1 Total front beam Angle

Measuring range: $\pm 6^\circ$.

Accuracy: $\pm 4'$ in $\pm 2^\circ$ range, $\pm 10'$ in other ranges.

2. Front beam Angle of single wheel

Measuring range: $\pm 3^\circ$.

Accuracy: $\pm 2'$ in $\pm 2^\circ$ range, $\pm 5'$ in other ranges.

3. Wheel camber

Measuring range: $\pm 10^\circ$.

Accuracy: $\pm 2'$ in $\pm 4^\circ$ range, $\pm 10'$ in other ranges.

4 kingpin rear Angle

Measuring range: $\pm 15^\circ$.

Accuracy: $\pm 2'$ in the range of $\pm 12^\circ$, $\pm 10'$ in other ranges.

5 kingpin incliner

Measuring range: $\pm 20^\circ$.

Accuracy: $\pm 6'$ in range of 0° -- $+18^\circ$, $\pm 10'$ in other ranges.

6 thrust Angle

Measuring range: ± 6 °.

Accuracy: ± 2' in ± 2 ° range, ± 10' in other ranges.

7 axis Angle

Measuring range: ± 6 °.

Accuracy: ± 2' in ± 2 ° range, ± 10' in other ranges.

8 Indicates value requirements

8.1 Display value resolution

The angular resolution is 1', where the forward beam value is 1' in Angle or 0.1mm in mm.

8.2 Zero drift

Zero drift is not greater than 4' within 30min.

8.3 Indicating value error

The value error is ± 4'.

8.4 Indicate value stability

The indicated stability is ± 2' within 10s.

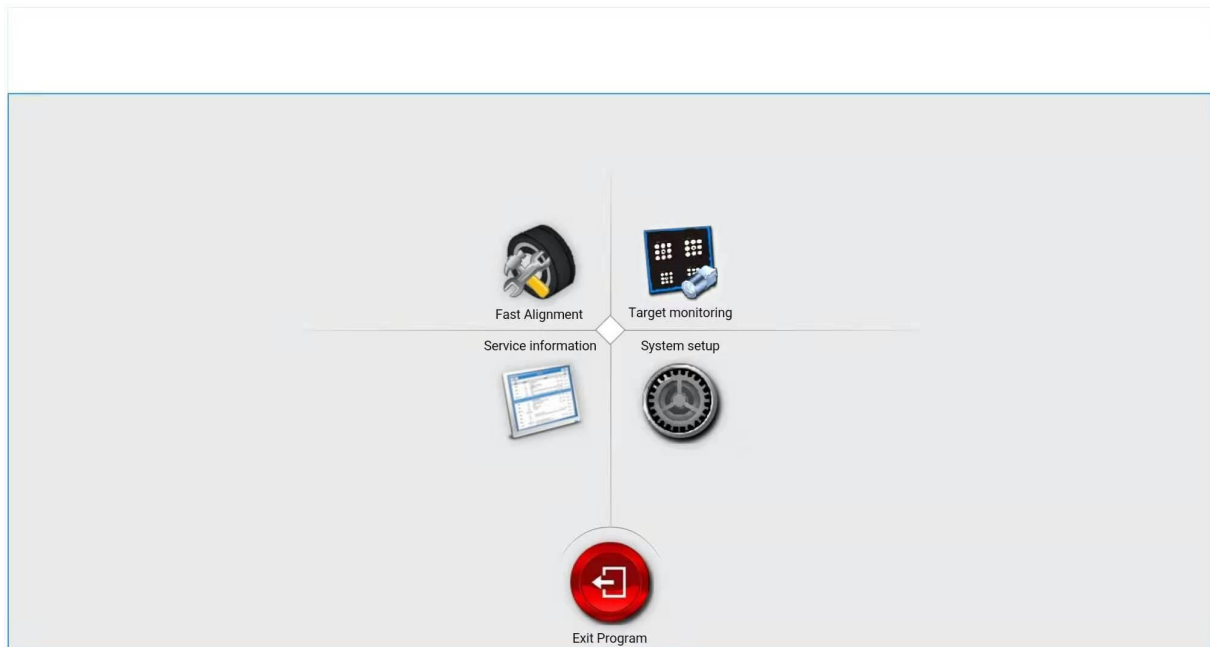
Power Supply	100 - 240 V, 50 / 60 Hz, 1 Ph
Working Temperature	41 °F...104 °F (+5 °C...+40 °C)
Cameras (Total)	2
Tire Diameter	9 27/32 - 31 1/2 in (250 - 800 mm)
Wheelbase	62 63/64 - 82 43/64 in (1.6 - 2.1 m)
Track Width	70 55/64 - 177 11/64 in (1.8 - 4.5 m)
Product Weight	440.92 lbs (200 kg)
Shipping Weight	529.11 lbs (240 kg)
Shipping Dimensions	39.76 x 36.61 x 54.33 in (1010 x 930 x 1380 mm) 110.24 x 11.81 x 15.75 in (2800 x 300 x 400 mm)

The way the Android box is wired to the transformer:



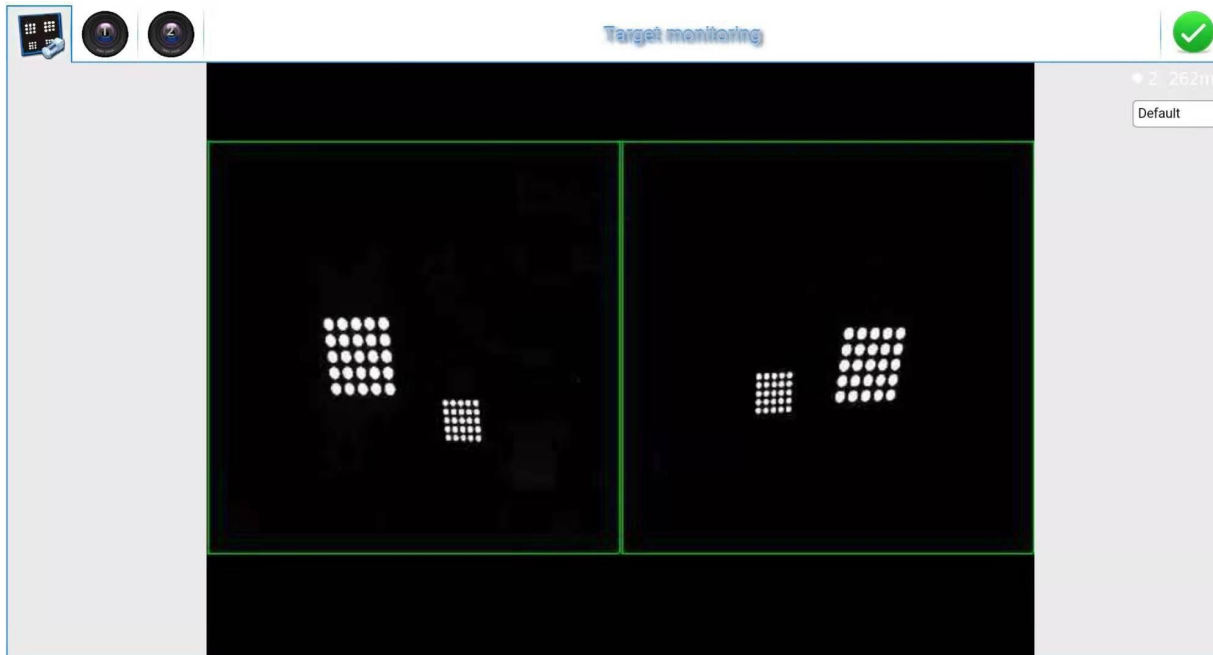
Positioning detection: the whole process is operated by mouse

Select the quick positioning icon on the main interface (as shown below) to enter the positioning and detection interface:



Positioning detection is the main part of this software, including target monitoring, rapid positioning, maintenance data, system setting four steps.

Target monitoring: Target should not be too close to the edge of target monitoring



Rapid positioning

As the first step of positioning detection, it is necessary to introduce standard data for the tested vehicles. Standard data should be introduced from this table for reference in the subsequent testing process. The interface is shown as follows:

Update vehicle database Please select model

Screening names or abbreviation	Screening vehicle names(Click the right arrow to search in the library)	Effective year	2006 - 2019
Self added model	ALLANTE	1987 - 2019	
ACURA	ATS ALL WHEEL DRIVE	2016 - 2019	
ALFA ROMEO	ATS ALL WHEEL DRIVER	2017 - 2019	
ALPINE	ATS REAR WHEEL DRIVE:WITH RPO FE2	2016 - 2019	
AMERICAN MOTORS	ATS REAR WHEEL DRIVE:WITH RPO FE2	2017 - 2019	
ASIA MOTOR CO.	ATS REAR WHEEL DRIVE:WITH RPO FE3	2017 - 2019	
ASTON MARTIN	ATS REAR WHEEL DRIVE:WITH RPO FE3	2016 - 2019	
AUDI	ATS REAR WHEEL DRIVE:WITH RPO FE4(ATS-V)	2016 - 2019	
BENTLEY	ATS REAR WHEEL DRIVE:WITH RPO FE4(ATS-V)	2017 - 2019	
BMW	ATS aLL WHEEL DRIVER	2013 - 2015	
BMW AIPINA	ATS rear wheel driver, sports suspension(FE3)	2013 - 2019	
BRASINCA	ATS rear wheel driver, standard suspension(FE2)	2013 - 2019	
BUICK	BLS all wheel driver	2008 - 2019	
CADILLAC	BLS sports suspension	2006 - 2019	
CHEVROLET	BLS standard suspension	2006 - 2019	
CHEVROLET TRUCK	BROUGHAM	1977 - 1984	
CHINA MOTOR	BROUGHAM	1985 - 2019	
CHRYSLER	CATERA	1997 - 2019	
CITROEN	CIMARRON	1985 - 2019	
DACIA	CIMARRON	1982 - 1984	
DAEWOO	CIMARRON EXCEPT 60 SERIES TIRE	1987 - 2019	
DAIHATSU	CIMATTON WITH 60 SERIES TIRE	1987 - 2019	
DE TOMASO	CT6 ALL WHEEL DRIVE:WITH RPO NYS(ACTIVE REAR STEERING)	2016 - 2019	
DELOREAN	CT6 ALL WHEEL DRIVE:WITH RPO NYS(ACTIVE REAR STEERING)	2017 - 2019	
DERWAYS	CT6 ALL WHEEL DRIVE:WITHOUT RPO NYS(ACTIVE REAR STEERING)	2016 - 2019	
Dodge/Ram/SRT	CT6 ALL WHEEL DRIVE:WITHOUT RPO NYS(ACTIVE REAR STEERING)	2017 - 2019	
DODGE TRUCK	CT6 REAR WHEEL DRIVE	2017 - 2019	

Parameter name	MIN	Standard	MAX
Left Front Camber	-1.28°	-0.79°	-0.30°
Right Front Camber	-1.28°	-0.79°	-0.30°
Front Toe	0.20°	0.28°	0.36°
Left Caster	2.40°	2.90°	3.40°
Right Caster	2.40°	2.90°	3.40°
Left SAI			
Right SAI			
Left Rear Camber	-1.20°	-0.90°	-0.60°
Right Rear Camber	-1.20°	-0.90°	-0.60°
Rear Toe	0.16°	0.23°	0.30°
Max turn inside			
Max turn outside			

Weight load instructions

Operation method:

Based on the model you are testing, click the corresponding entry directly to introduce this data into subsequent tests.



Note:

1. The process of detection operation does not have to be operated in the default order of the system.

The operator can also jump directly to the test that needs to be done according to the actual need.

Simply select the test action you want from the navigation bar at the top of the page.

2. The table currently provided is the same as the common data in the system management page. You can also add the standard data of the system to this table.

Start location survey

The dynamic test interface is as follows:

Interface description:

A Current position of vehicle.

The car on the interface moves up and down according to the position of the actual vehicle.

B Target collection.

If a target acquisition error, the corresponding target image will appear red.

C Pushing prompt image.

The operator can push according to this image.

As shown, the operator is required to push backward.

D prompt bar.



Operation method:

Step 1 After entering the interface, the system will automatically check the installation status of each target

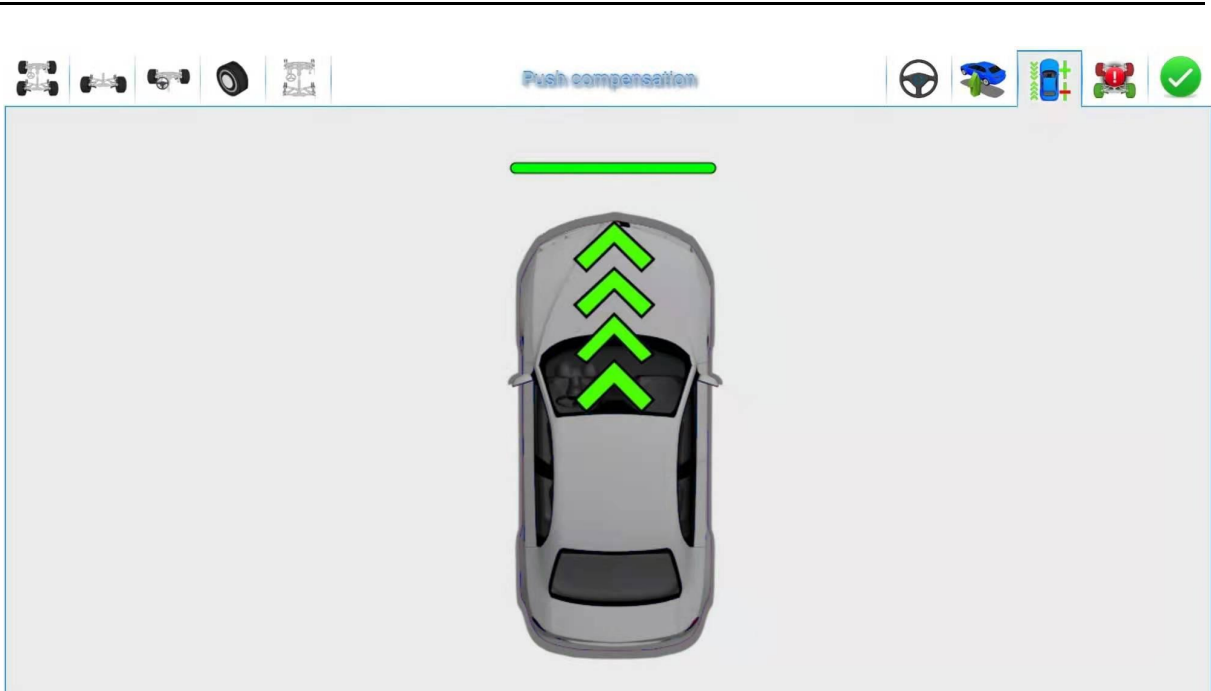
Step 2 If each target has been installed correctly, enter the following interface.

At this point, the user should push backward slowly and evenly.

And then stop.



Step 3 When the following interface appears, please pull the car back to its original position slowly and at a constant speed.



Step 4 After pulling back, the system may take a few seconds to calculate. Please wait.



Step 5 If the measurement is successful, the system will automatically jump to the interface of measurement results, otherwise it will prompt to re-measure.

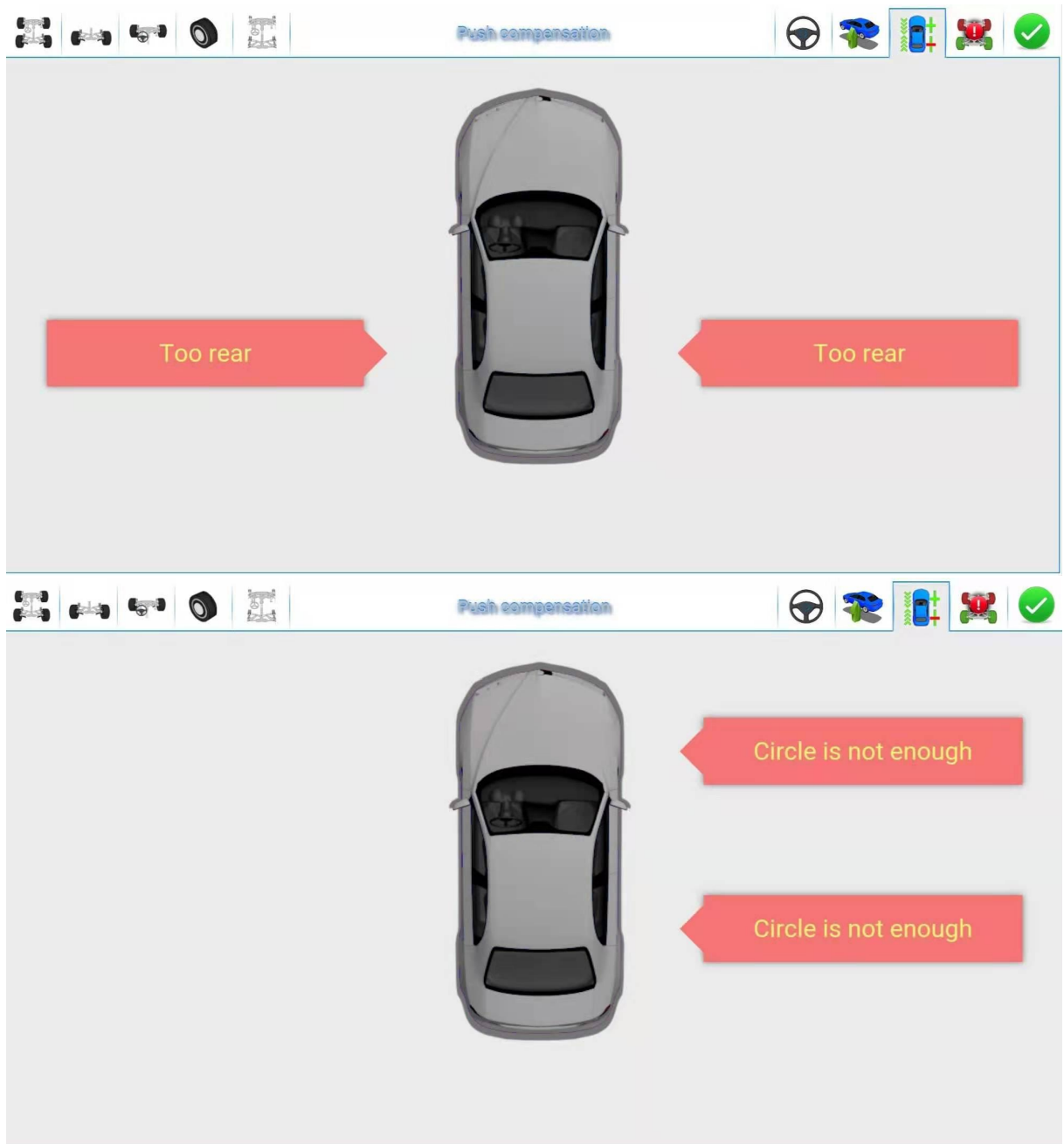


 Note:

1. In the measurement process, the objects or people between the camera and the target should be removed to avoid the target being blocked and affecting the measurement results.
2. Before measurement, the steering wheel must be centered, locked and fixed, so as not to rotate the steering wheel during the process of pushing, which will affect the test results
3. Before pushing the cart, the four target angles should be adjusted to lean 80 degrees forward



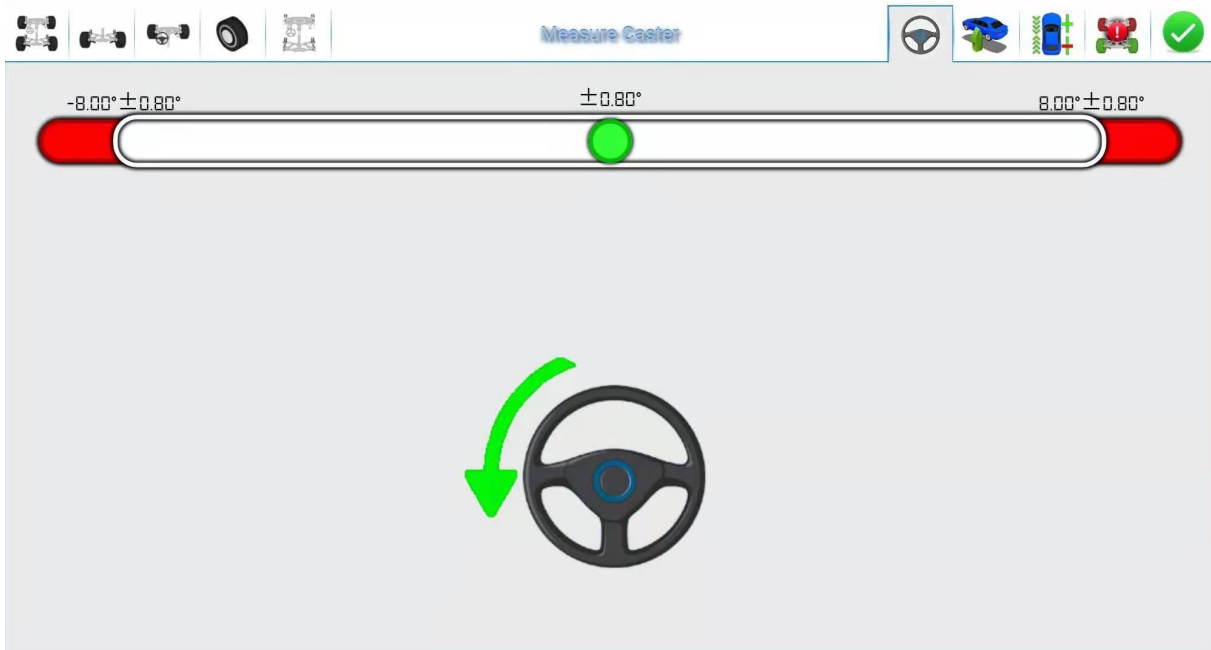
4. the target Angle is wrong or the target or the camera has gray



King pin measurement

The kingpin measurements are for the front wheels and include kingpin roll and kingpin roll.

With the kingpin inclination Angle can make the car weight evenly distributed on the bearing, protect the bearing is not damaged, and make the steering force average, steering light.



The existence of the rear Angle of the kingpin can make the intersection point of the steering axis and the road in front of the tire junction, and the road resistance to the tire can be used to keep the car straight forward. The interface is shown in the figure below:

A Scroll bar.

The green box slides left and right as the steering wheel rotates, and turns red when it reaches a critical point, indicating that the operator should turn the steering wheel in reverse.

B Direction of rotation.

Indicates the direction of rotation of steering wheel.

C Target state.

When the target acquisition error occurs, the corresponding wheel will appear red.

The normal color is shown.

D. Current steering Angle.

E Operation tips.



Operation method:

Step 1: When the steering wheel is adjusted to the straight front state, that is, when the two front wheels are equal to the front beam, the small round ball on the operation interface will move to the middle position.

Step 2: Turn the steering wheel more than 8 degrees to the right. When the steering wheel reaches the specified position, the square will change from red to red (when the steering wheel is less than -8 degrees or more than 8 degrees, the ball will be green).

Step 3: Turn left to the steering wheel is less than -8 degrees, and the box changes from red and green to red after reaching the specified position.

Step 4: Turn the steering wheel to the right, and the main engine beeps three times to complete the measurement when approaching 0 degrees.

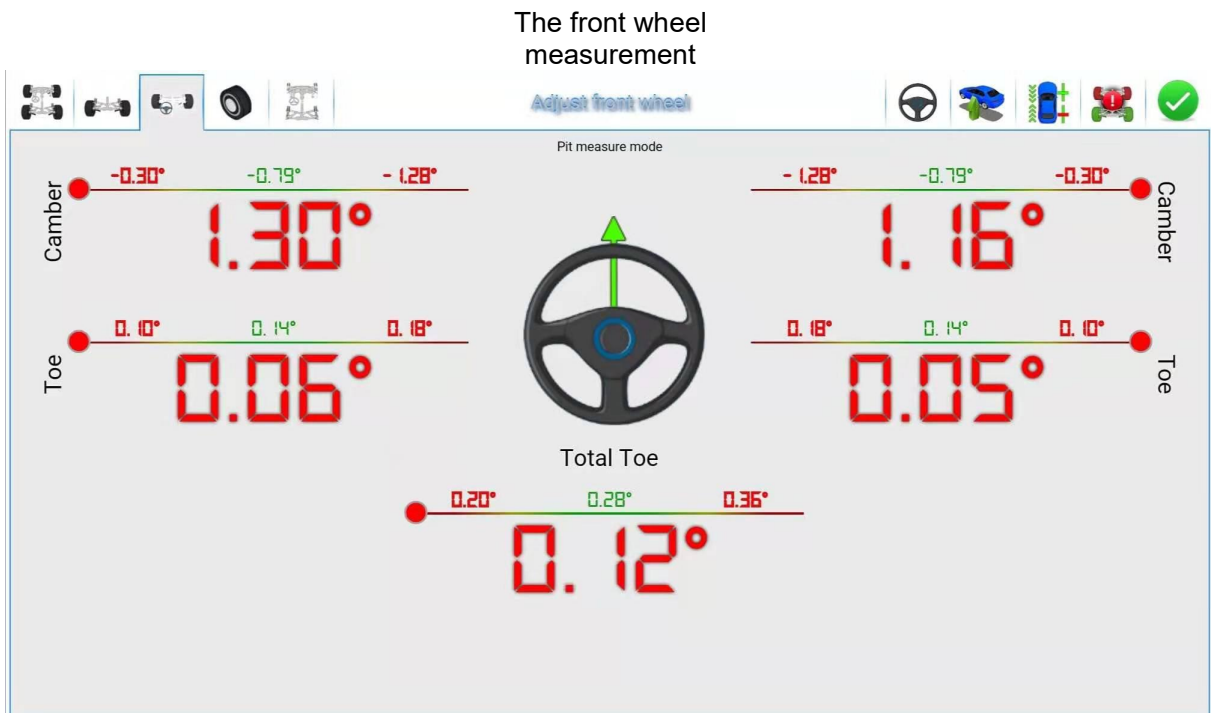
If the measurement fails, the system will prompt you to re-measure, otherwise the system will automatically turn to the interface of measurement results.

 Note:

Before measuring the kingpin, please install the brake plate fixing frame, pull the handbrake, to ensure that the wheel does not roll, and remove the steering wheel fixing frame.

The rear wheels measuring



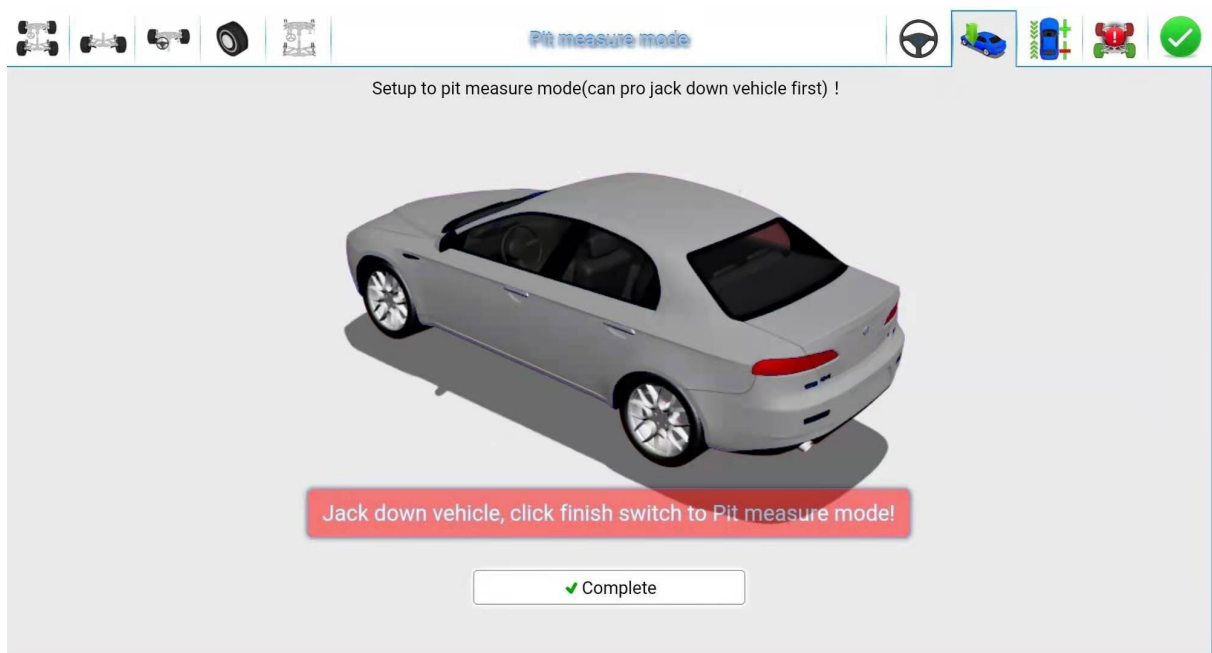


Adjust the back roll: the front of the steering wheel can measure the back Angle, and then like the camber, the need to jacking adjustment is pressed to rise the vehicle.

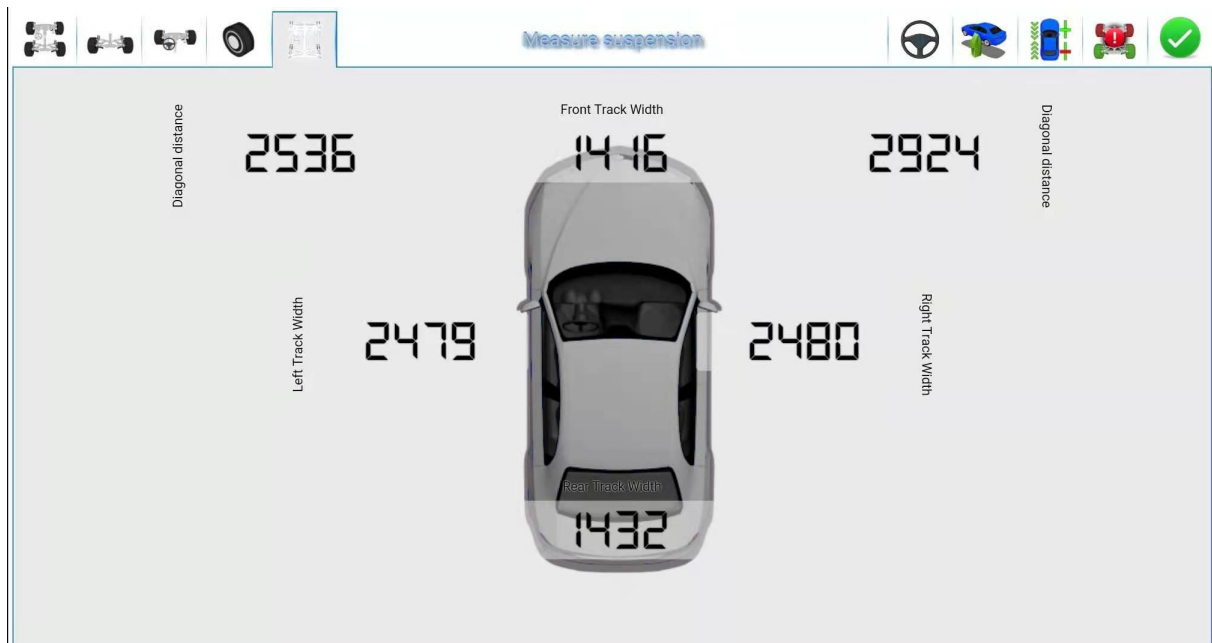


At this time, lift the body, in place, press the completion, you can adjust the wheel.

After adjustment, press down



Chassis measurement: can measure the wheelbase, wheelbase and other chassis data.



Fault detection

Failure analysis results:

✔ Congratulations, good condition !

Automatic detection can only use static data!

⚠ The following reasons may lead to inaccurate detection results :

- No calibration device
- The tyre has been seriously worn out
- The key parts have been seriously worn out
- Ball joint or regulating valve is too loose
- steering wheel is pressed incorrect%left and right tire cross pressure too much
- vehicle overload

Test results are for reference only ! Please judge by technical person !

Pit measure mode

Failure analysis results

Fault condition

Body pull	<input type="text"/>	No
Steering Wheel Shimmy	<input type="text"/>	No
Tire wear	<input type="text"/>	No
Center Steering Effort	<input type="text"/>	No
Body vibration	<input type="text"/>	No

✔ Set as before adjustment

New Maintenance Record

After the detection operation is completed, enter the interface, the system automatically import the detection data, import the user's information by looking up the license plate number, complete the operation and record the cause of the failure.

Service information

+ Create

Date: * * * * License: Name: Tel: Model information

License Name information Model information

Edit new work management

✔ OK

Model information Default (not select model)

License **Fault condition**

Customer Body pull No

Tel Steering Wheel Shimmy No

Mileage KM Tire wear No

Service cost Center Steering Effort No

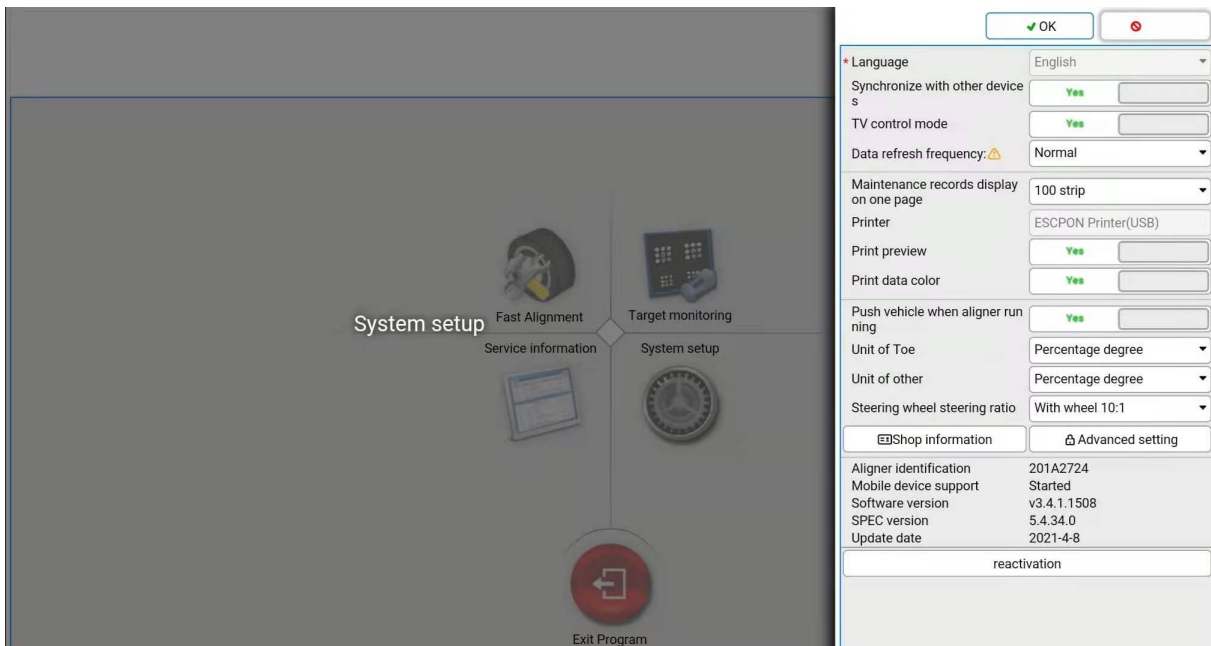
Date 2021-4-14 Body vibration No

Remark Other

Parameter name	Before Adj	Range	After Adj
Left Front Camber	-		
Right Front Camber	-		
Left Front Toe	-		
Right Front Toe	-		
Front Total Toe	-		
Left Caster	-		
Right Caster	-		
Left SAI	-		
Right SAI	-		
Left SAI	-		
Right IA	-		
Left Rear Camber	-		
Right Rear Camber	-		
Left Rear Toe	-		
Right Rear Toe	-		
Rear Total Toe	-		
Thrust Angle	-		

System Settings

Select the system setting icon on the main interface to enter the system management interface, as shown in the figure below:



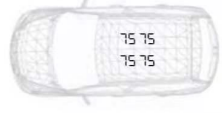
Through the system management can carry out a full range of management and maintenance of the system operation, which provides a number of functional options.

Standard data view

This page provides the parameter information of each model of car factory setting.

The database contains the information of various series of products produced by many manufacturers at home and abroad during the production period, and the contents of the database can be timely updated through the operation of system

Update vehicle database Please select model OK Cancel

Screening names or abbreviation	Screening vehicle names(Click the right arrow to search in the library)	Effective year	Copy to self added vehicle Library
Self added model	ALLANTE	1987 - 2019	2006 - 2019
ACURA	ATS ALL WHEEL DRIVE	2016 - 2019	Front Track Width
ALFA ROMEO	ATS ALL WHEEL DRIVER	2017 - 2019	RearTrack Width
ALPINE	ATS REAR WHEEL DRIVE:WITH RPO FE2	2016 - 2019	Wheelbase
AMERICAN MOTORS	ATS REAR WHEEL DRIVE:WITH RPO FE2	2017 - 2019	Parameter name MIN Standard MAX
ASIA MOTOR CO.	ATS REAR WHEEL DRIVE:WITH RPO FE3	2017 - 2019	Left Front Camber - 1.28° -0.79° -0.30°
ASTON MARTIN	ATS REAR WHEEL DRIVE:WITH RPO FE3	2016 - 2019	Right Front Camber - 1.28° -0.79° -0.30°
AUDI	ATS REAR WHEEL DRIVE:WITH RPO FE4(ATS-V)	2016 - 2019	Front Toe 0.20° 0.28° 0.36°
BENTLEY	ATS REAR WHEEL DRIVE:WITH RPO FE4(ATS-V)	2017 - 2019	Left Caster 2.40° 2.90° 3.40°
BMW	ATS aLL WHEEL DRIVER	2013 - 2015	Right Caster 2.40° 2.90° 3.40°
BMW AIPINA	ATS rear wheel driver, sports suspension(FE3)	2013 - 2019	Left SAI
BRASINCA	ATS rear wheel driver, standard suspension(FE2)	2013 - 2019	Right SAI
BUICK	BLS all wheel driver	2008 - 2019	Left Rear Camber - 1.20° -0.90° -0.60°
CADILLAC	BLS sports suspension	2006 - 2019	Right Rear Camber - 1.20° -0.90° -0.60°
CHEVROLET	BLS standard suspension	2008 - 2019	Rear Toe 0.16° 0.23° 0.30°
CHEVROLET TRUCK	BROUGHAM	1977 - 1984	Max turn inside
CHINA MOTOR	BROUGHAM	1985 - 2019	Max turn outside
CHRYSLER	CATERA	1997 - 2019	Weight load instructions
CITROEN	CIMARRON	1985 - 2019	
DACIA	CIMARRON	1982 - 1984	
DAEWOO	CIMARRON EXCEPT 60 SERIES TIRE	1987 - 2019	
DAIHATSU	CIMATTON WITH 60 SERIES TIRE	1987 - 2019	
DE TOMASO	CT6 ALL WHEEL DRIVE:WITH RPO NYS(ACTIVE REAR STEERING)	2016 - 2019	
DELOREAN	CT6 ALL WHEEL DRIVE:WITH RPO NYS(ACTIVE REAR STEERING)	2017 - 2019	
DERWAYS	CT6 ALL WHEEL DRIVE:WITHOUT RPO NYS(ACTIVE REAR STEERING)	2016 - 2019	
Dodge/Ram/SRT	CT6 ALL WHEEL DRIVE:WITHOUT RPO NYS(ACTIVE REAR STEERING)	2017 - 2019	
DODGE TRUCK	CT6 REAR WHEEL DRIVE	2017 - 2019	

upgrade. The interface is shown as follows:

Directly click on the manufacturer and select the corresponding model.

This system provides the function of printing information, in order to facilitate the operator in the process of operation can be convenient to check the data.

Note: there is another non-cart wheel compensation method: lift wheel compensation, which is to rotate each tire to compensate after lifting the car. This is also for customers who do not want to push or do not have room to operate.

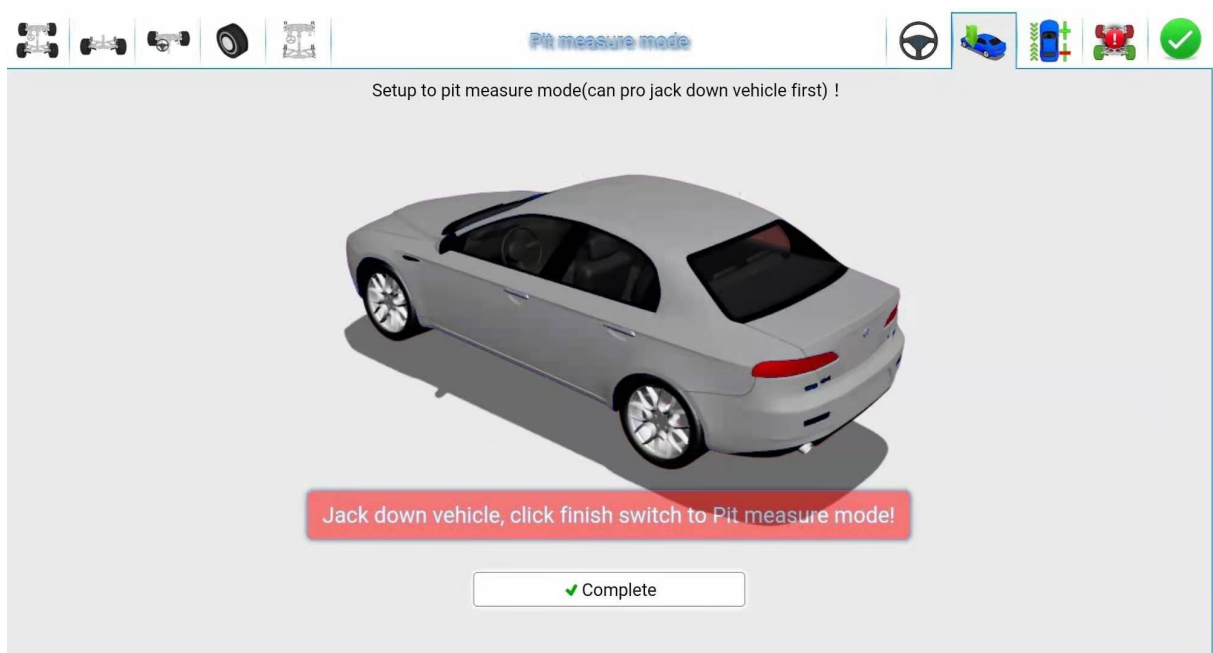
Jackup measure mode

Setup to jack up measure mode(can not pro jack up vehicle first) !

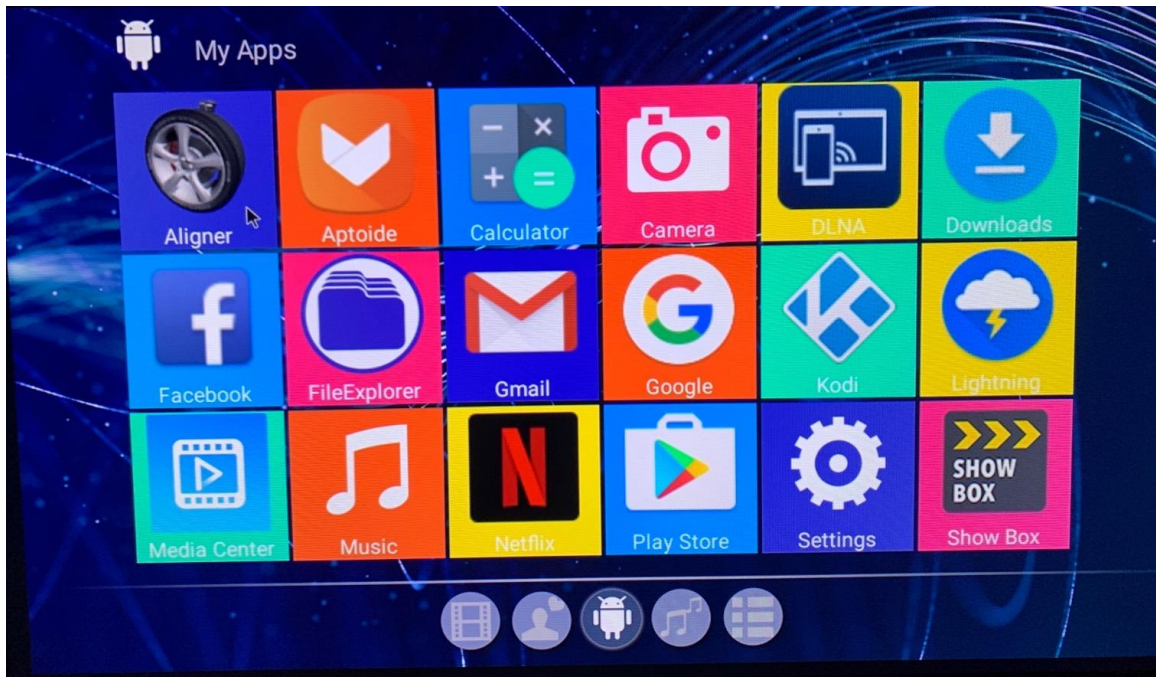


Jack up vehicle, click finish switch to Jack up measure mode!

Complete



Go back to the main menu and reenter by clicking "My Application" to find the wheel location program with the tire logo.



Packing list

BY-7000

Serial number	Name	Quantity
1	Column	1
2	Camera beam (Contains data lines and transformers)	1
3	Wheel clamp	1 x 4
4	The target	1 x 4
5	Corner plate (Contains two stop blocks and two transition blocks)	1 x 2
6	Steering wheel locked	1
7	Pendant	1 x 4
8	Fixed screw	A set of
9	Display	1
10	Android box	1
11	Wireless mouse and keyboard	A set of
12	HDMI cable	1
13	U disk data	1
14	The instructions	1
15	Network line	1
16	The router	1
17	Tablet PC	1