A Division of TUXEDO Distributors, LLC.

3D IMAGE WHEEL ALIGNER

Manual

Model: IWA-60-1500-K

V. 1.1.17

Table of Contents

I. Introduction....3
1.1 Warning....3
1.2 Safety warning....3
II. Getting Started....5
2.1 Equipment transport conditions....5
Uncrating Instructions....5
2.2 Smart LED board....6
2.3 Equipment and Servicing....8
1. Check List....8
2. Camera Care....9
3. Target Care....9
III. Installation Guide....10
3.1 Installation Dimensions....10
3.1.1 Camera Beam Position....10
3.1.2 Level Lift....11
3.2 Positioning....13
3.3 Installing wheel clamps and target....14
3.3.1 Installing wheel clamps....14
3.3.2 Fixing targets....14
3.4 Installing/Removing brake depressor....15
3.5 Installing/Removing steering wheel holder....15
IV. Software....16
4.1 Opening/Closing Alignment software....16
4.2 Hot keys....17
4.3 Visual Check....18
4.4 Standard Measurement....18
4.5 Quick Measurement....36
4.6 Aligner Management....39
V. Technical data....44
5.1 Measuring Range....44
5.2 Power supply unit....44
Appendix I . Troubleshooting....45

I. Introduction

The purpose of this manual is to provide safe and practical instructions for operation and maintenance of the imaging wheel aligner.

1.1 Warning

This aligner is designed for INDOOR USE ONLY. Exposure to damp or wet locations can cause damage to the aligner's components or injury to the user and will void warranty.

The computer in this aligner is capable of connecting to a network and/or the Internet. This functionality is only for use when receiving support for the aligner. The computer should be connected to the Internet if possible, however it should never be used for recreational or administrative purposes. Any malfunctions due to unauthorized software, malware, viruses, or similar web based threats are not considered manufacturing defects and are not covered under warranty.

Do not plug in the cabinet power cord until all connections have been verified. Damage or injury can result.

1.2 Safety Warning

This imaging aligner is intended for use by properly trained automotive technicians. The safety messages presented in this section and throughout the manual are reminders to exercise extreme care when performing wheel alignments with this product.

There are many variations in procedure, technique, tools, and parts for servicing vehicles. The manufacturer cannot possibly anticipate or provide advice or safety messages to cover every situation. It is the automotive technician's responsibility to be knowledgeable about the vehicle to be aligned. It is essential to use proper servicing methods. Always perform wheel alignments in an appropriate manner, that does not endanger operator safety, the safety of others in the work area, the equipment, or the vehicle being serviced.

Read this manual carefully before powering up the aligner. Save this manual, and all supplied illustrative material, in a folder near the aligner cabinet, where it is readily accessible for reference by operators.

The technical documentation supplied is considered an integral part of this equipment; in the event of sale all relative documentation must remain with the system.

This manual is only valid for the equipment model and serial number indicated on the nameplate of the included aligner. The nameplate is attached to the back of the cabinet.

WARNING!

Any modifications to this aligner may cause serious injury or damage to the aligner. The manufacturer and distributors are not responsible for any injury caused by improper use, abuse, or unauthorized repair.

II. Getting Started

2.1 Equipment Transport Conditions

The aligner must be shipped in its original packing and stowed in the position indicated on the outside.

To avoid damage, never place other items on top of the packaging.

Handling of the crated aligner must be performed only with an appropriate lifting device such as a forklift or pallet jack.

Only personnel who are experienced and qualified in freight handling procedures should handle any transportation or moving of the crated aligner.

Inspect for any damage to the crate and notify your local distributor (and/or freight company) immediately if any damage is observed.

Uncrating Instructions:

Carefully remove packing materials. Be careful when cutting banding material as items may loosen and fall, causing personal harm or injury.

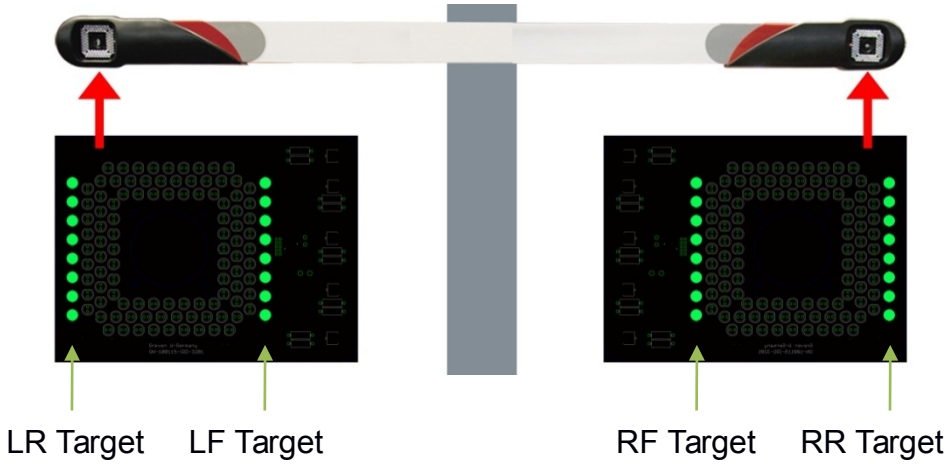
Always wear gloves when uncrating to prevent scratches, abrasions, or cuts due to the contact with packing materials.

Retain all packaging in case you need to return any parts for warranty or servicing. Carefully unpack and inventory all items. Familiarize yourself with all components before beginning set up and assembly.

2.2 Smart LED Board

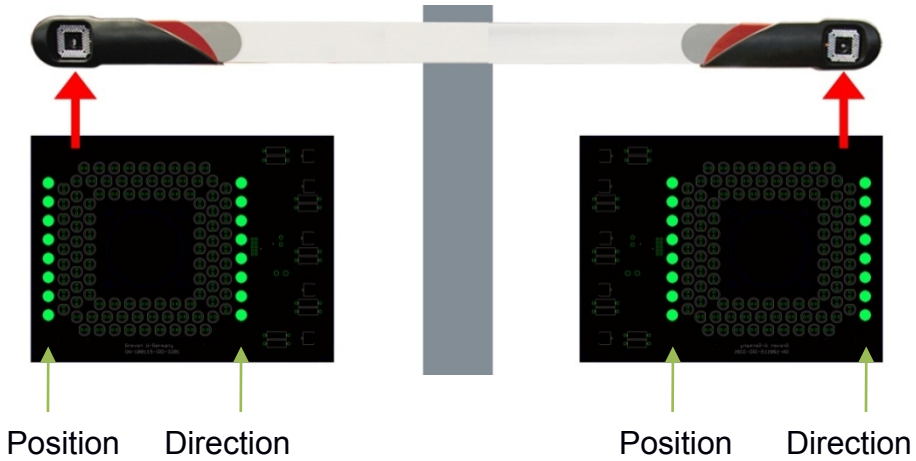
Smart LED board includes the following features：

Target Level Indication



If the target is not leveled, LED lights will turn red. When all the lights turn green and the middle two lights start to blink, the target is leveled.

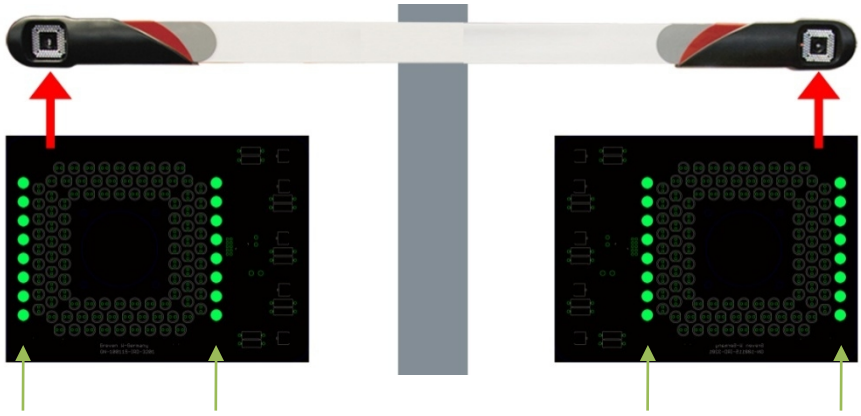
Forward/Backward Moving Car Indication



The left line of LED lights represents the position of the vehicle. The right line

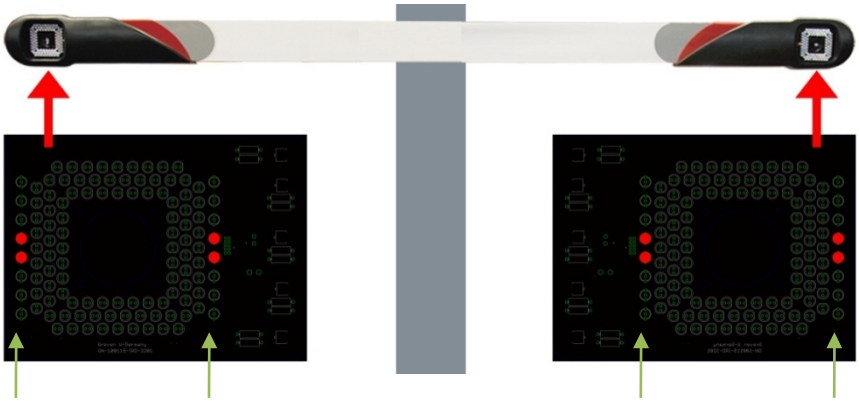
of LED lights shows the direction, forward or backward, of the measured vehicle.

Swing Caster Indication



The left line of LED lights represents the direction of turning angle, clockwise or counterclockwise, of the measured vehicle. The right line of LEDs show the progress of the turning angle.

Target Blocking Indication



When the middle two lights turn red and start to blink, the corresponding target is blocked.

2.3 Equipment and Servicing

1. Check List

Standard Configuration：

Computer	1
Post	1
Monitor	1
Cabinet	1
Software	1
Printer	1
Target	1 Set

Wheel Clamp	4
Wheel Stopper	2
Steering Wheel Holder	1
Brake Depressor	1
Manual	1
Power Cord	1

Warning!

Please use the original accessories provided by the manufacturer. The manufacturer and distributors are not liable for any damage or injury caused by improper use.

2. Camera Care

Keep hand and tools away from camera.

Warning: Keep grease away from the lenses. Do not use water, detergents, or ammonia when cleaning the lenses. Do not use heavy pressure when cleaning. **Do not use a shop rag**, they may contain particles and chemicals that can damage the lenses.

A non-ammonia cleaner may be sprayed onto a clean, lint free cloth to gently clean the lenses. Non-ammonia glass wipes may also be used, such as Armor All glass wipes..

Do not spray cleaners directly onto the targets.

3. Target Care

Keep targets clean, keep hands and tools away from the surface of targets.
Check that wheel clamps and targets are firmly attached and avoid dropping the targets.

Note: When the targets are not in use, detach the targets and clamps. Store them on the cabinet. Do not put the target faces downward onto any surface.

Warning: Do not use water, detergents, or ammonia when cleaning the targets. Do not use heavy pressure when cleaning. **Do not use a shop rag**, they may contain particles and chemicals that can damage the targets.

A non-ammonia cleaner may be sprayed onto a clean, lint free cloth to gently clean the targets. Non-ammonia glass wipes may also be used, such as Armor All glass wipes.

Do not spray cleaners directly onto the targets.

III. Installation Guide

3.1 Installation Dimensions

3.1.1 Camera Beam Position ≥100mm (4 Inches)

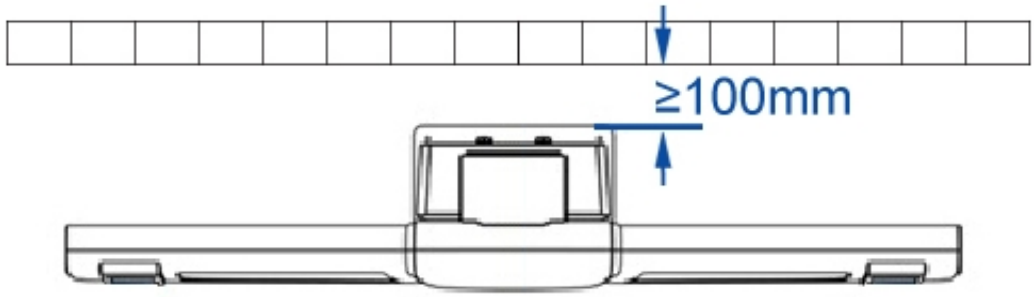


Diagram: Distance between post and wall

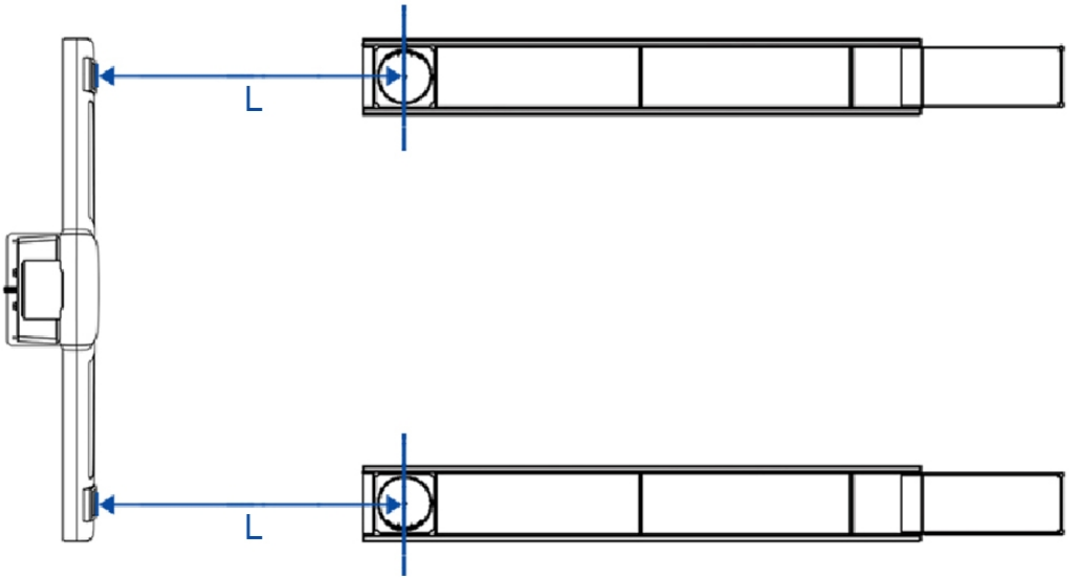


Diagram: Distance between cameras to center of turn table.
(See Table on page 11)

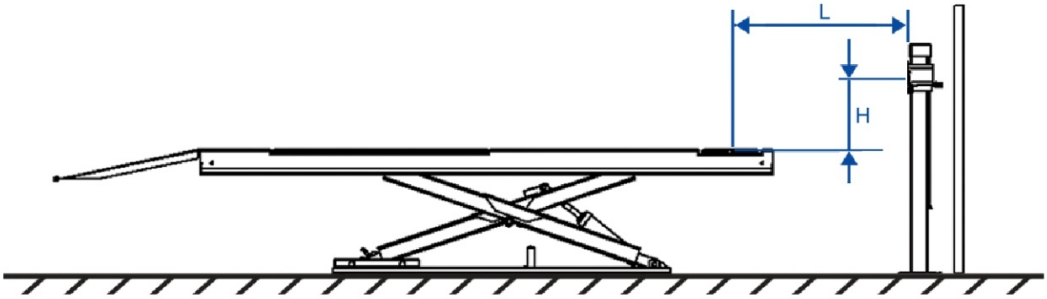


Diagram: Offset between Camera beam and turn table

L	H
1800mm / 71”	550mm / 21.5”
2000mm / 78.75”	550mm / 21.5”
2200mm / 86.5”	600mm / 23.5”
2500mm / 98.5”	600mm / 23.5”
2800mm / 110.25”	600mm / 23.5”

3.1.2 Lift Levelness

All eight measurement points need to be within 2mm (1/8”)

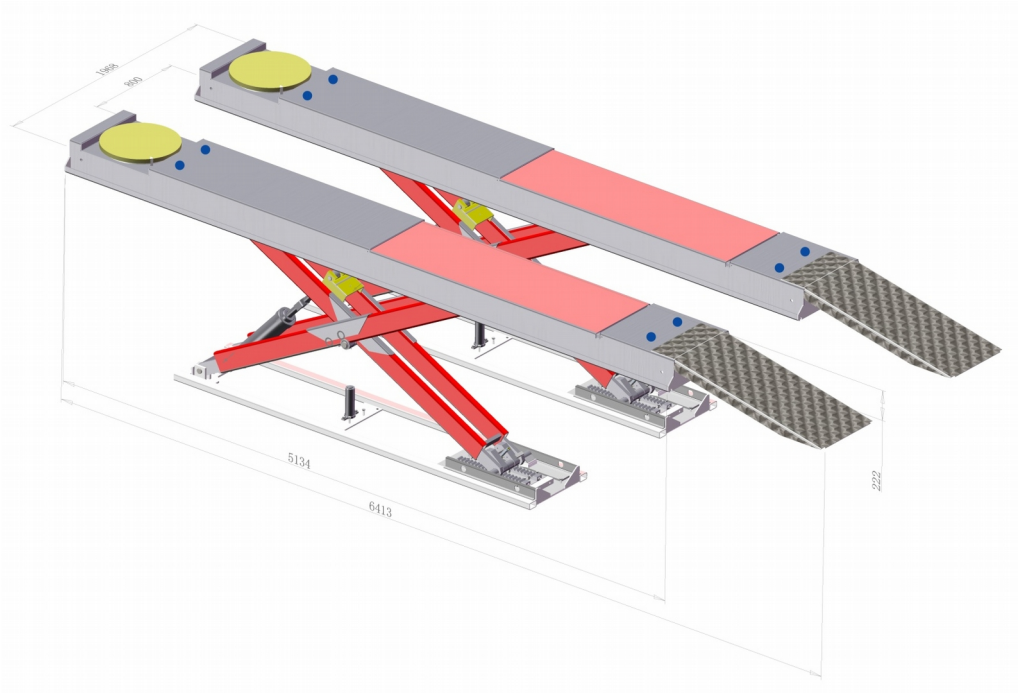


Diagram: Requirement for leveling lift.

3.2 Positioning

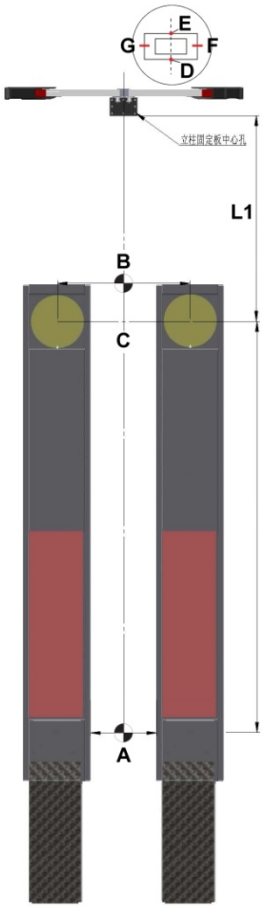


Diagram: Positioning for **fixed** camera post & beam assembly.

Measure the distance between the inner sides of the runways on the lift and find the center point. Shown as A and B. Find the center line of the lift using these two points.

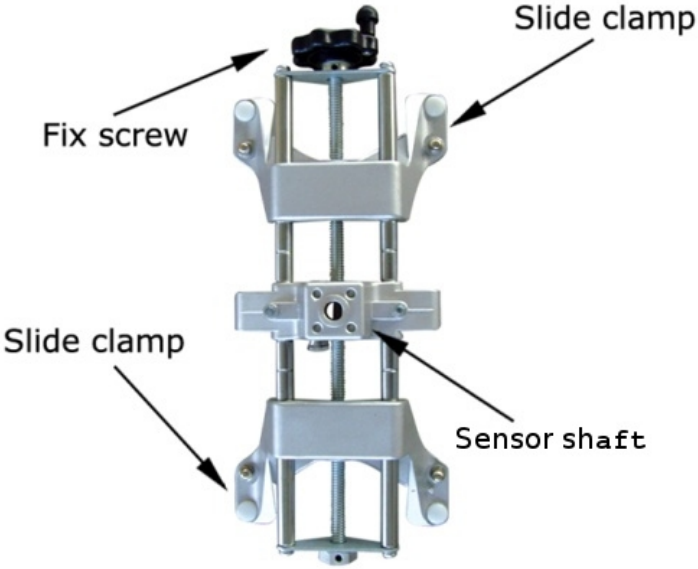
With turn table locked, at the alignment level, find the center point of the turn table. Link the two center points of the turn table, as shown at C.
From the center line of the turn table, measure L1. Mark the first position of the post

Mark the four point for the base of the post. Shown as E and D.

NOTE: This is also the optimum positioning for **mobile** units.

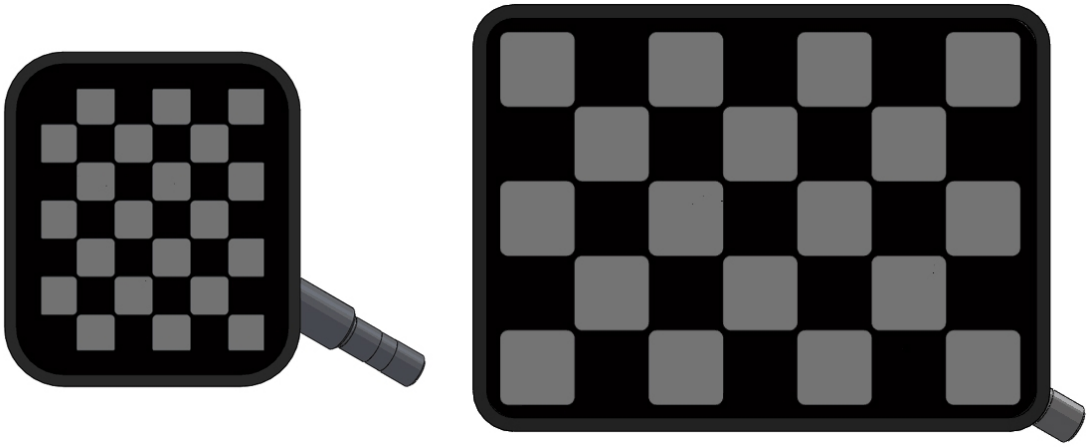
3.3 Installing Wheel Clamps and Target

3.3.1 Installing Wheel Clamps



Caution: Different wheels may have different clamping surfaces. Special fingers may be required when used on specialty or high end wheels.

3.3.2 Attaching Targets



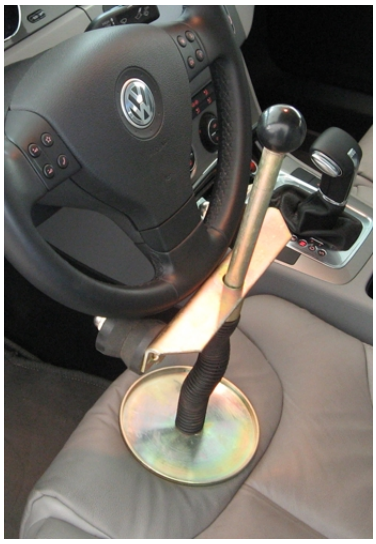
Always check that wheel clamps are firmly attached to wheels. Socket pins of the measurement board may be lightly lubricated to protect the pin and

socket. Mount the two small targets in the front and the two larger targets in the rear. Keep the bubble level on top.

3.4 Installing/Removing Brake Depressor

Place a cloth underneath the depressor to protect the seat if necessary. After run out compensation, install the brake depressor for further measurements.

3.5 Installing/Removing Steering Wheel Holder.



The steering wheel holder holds the steering wheel in position and locks the wheels.

1. Place the steering wheel holder on the seat and press the plate against the seat.
2. Slide the arms downwards against the seat.
3. Release the arms so that pressure is exerted on the steering wheel.
4. Remove in the reverse order.

IV. Software

4.1 Opening/Closing Alignment Software

Switch on power supply and push the power button to start the computer. The computer should start the alignment software automatically. In case the alignment software does not start, click on the icon to start the alignment software.

If you do not see a shortcut for the alignment software, please make sure your alignment software is properly installed; contact your local service center if necessary.

NOTICE: If running this software on win8 or win10, please set to "Run as administrator."

4.2 Hot keys

This aligner uses an IBM standard keyboard, there are 12 function keys from F1 to F12 located on the top of the keyboard. There are also specific function keys located on the right side of the keyboard, such as "Page Up", "Page Down", "Enter" "Home" and arrow directional keys. Instructions for these function keys will be explained in following sections.

F10 - Help

Version

PgUp - Previous

PgDn - Next

Home - Press HOME key under any screen to go back to software main menu screen

Warning: Do NOT directly switch off the power supply to shut down the computer. Switching off power directly may affect proper operation of the Operating System.

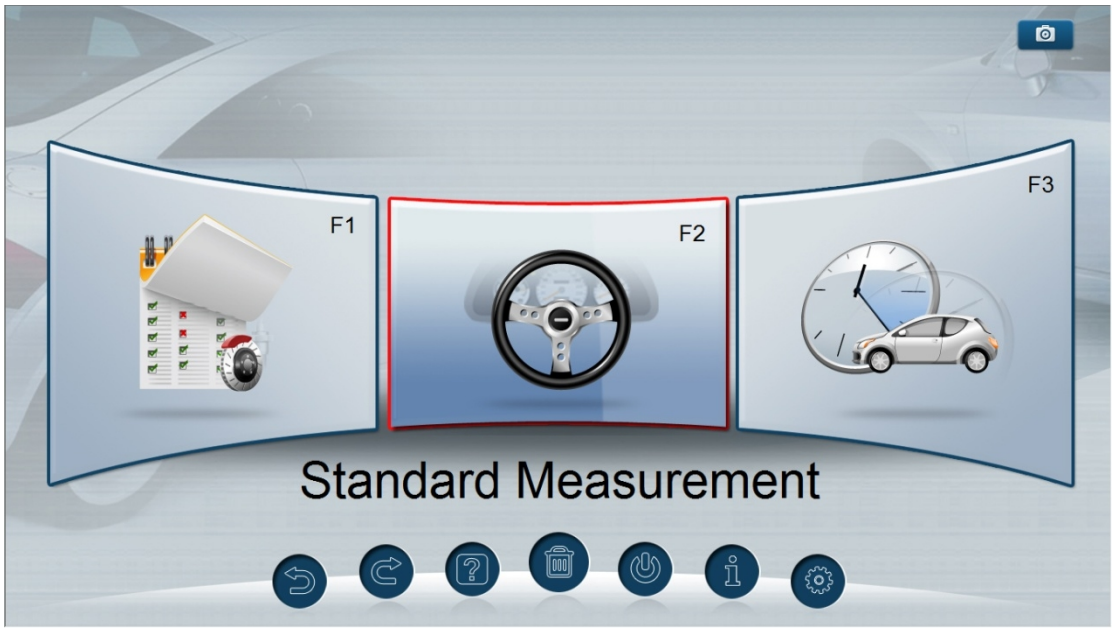


Diagram: Main screen

Help

Previous

Next

Clear Run Out

ESC –Exit Program

Version Info

Management

4.3 Visual Check

Click or press F1 to enter visual check.

Diagram: Visual Check

Defective, replacement needed.

Warning, repair needed.

Normal, no action needed.

Next: Enter next screen.

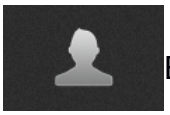
Print: Print check table or check report as desired.

4.4 Standard Measurement

After visual check，click standard measurement to enter measurement screen. Or click or press F2.

Standard measurement: Select customer → Select vehicle manufacturer →

Run out compensation → Caster Measurement → Rear Axle Measurement → Live Caster Adjustment → Front Axle Measurement → Print.

1. Select  Enter customer info. Click “New Customer” and enter customer info.

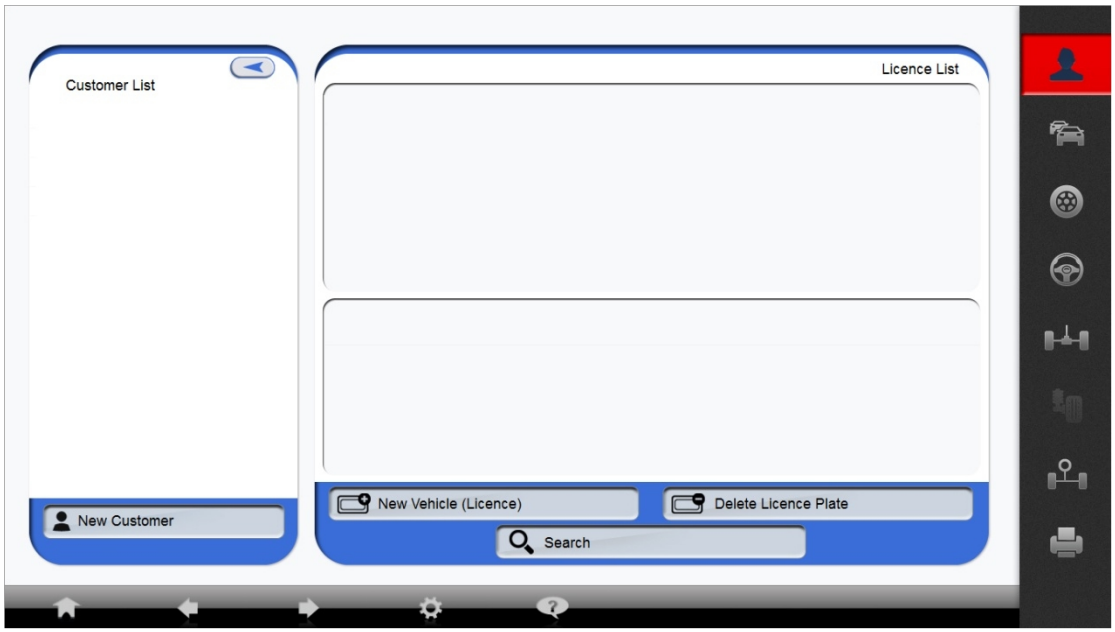


Diagram: Standard Measurement- Select Customer

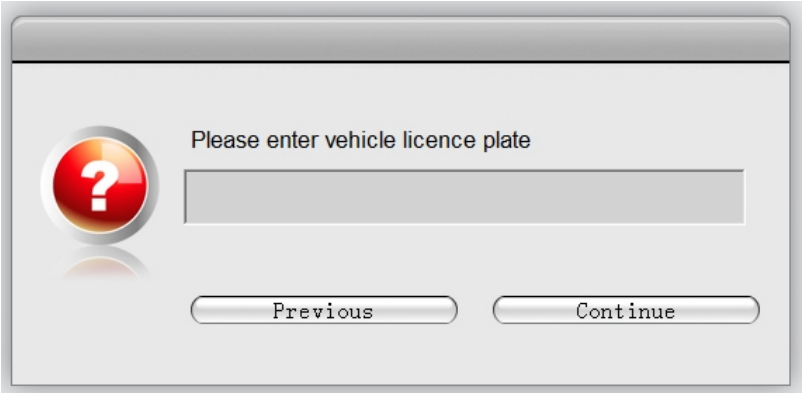
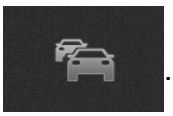


Diagram: Enter license plate number.

2. Select vehicle model  . Select vehicle specification, Select vehicle manufacturer, year and model.

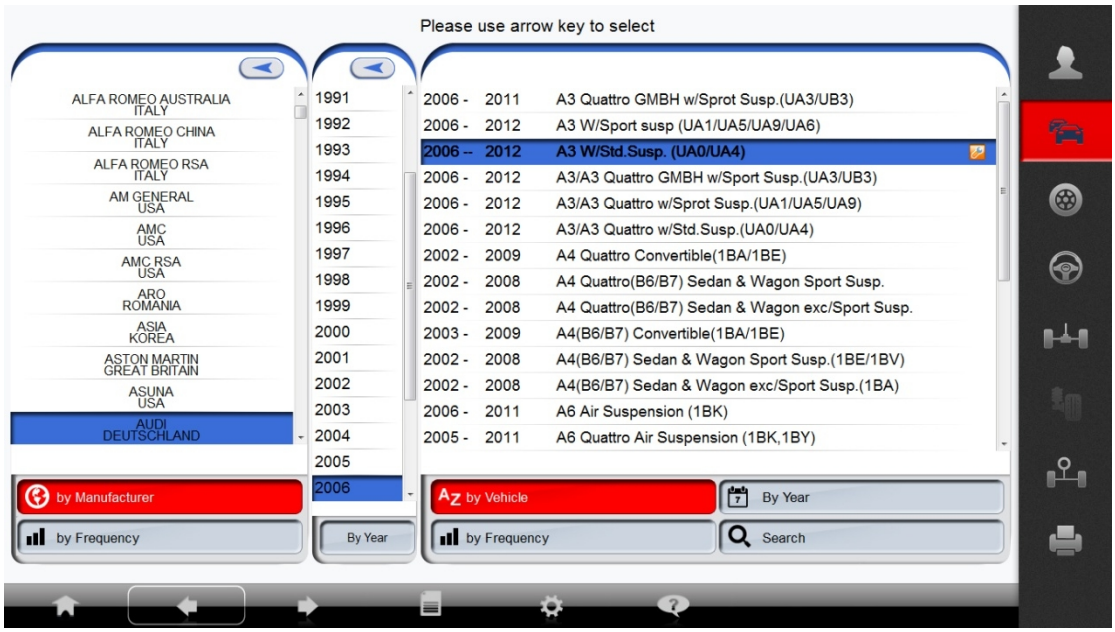


Diagram: Standard Measurement - Select vehicle model.

Click next to enter manufacturer spec page.

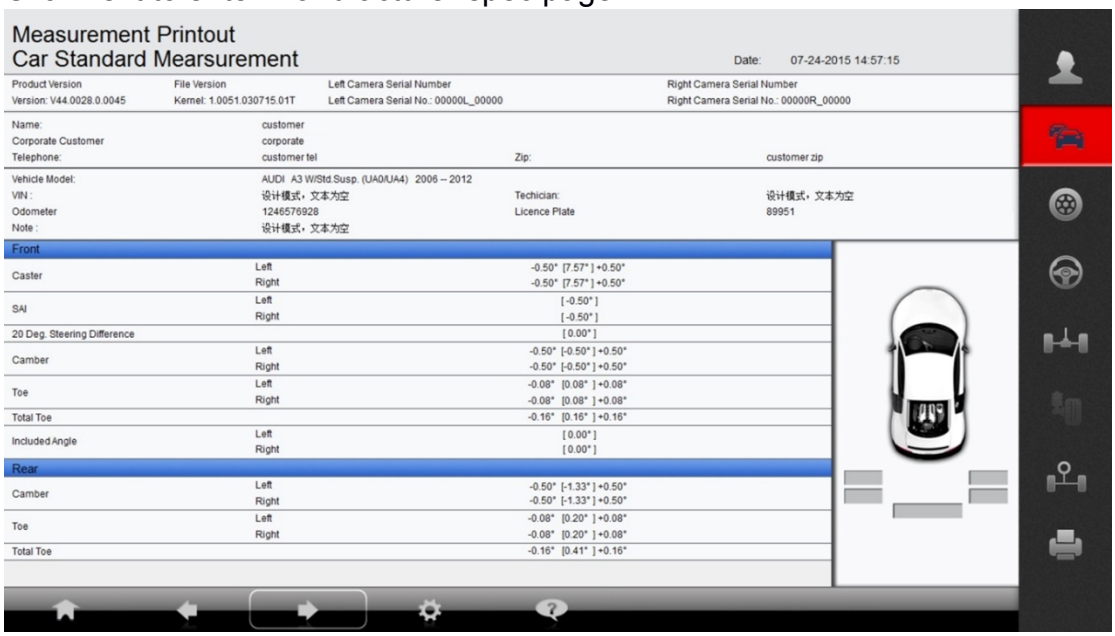
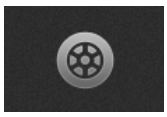


Diagram: Standard Measurement – Manufacturer Spec

3. Click next or  to enter run out compensation.

During the alignment process, run out compensation is very important. Skipping compensation will cause inaccurate alignment readings.

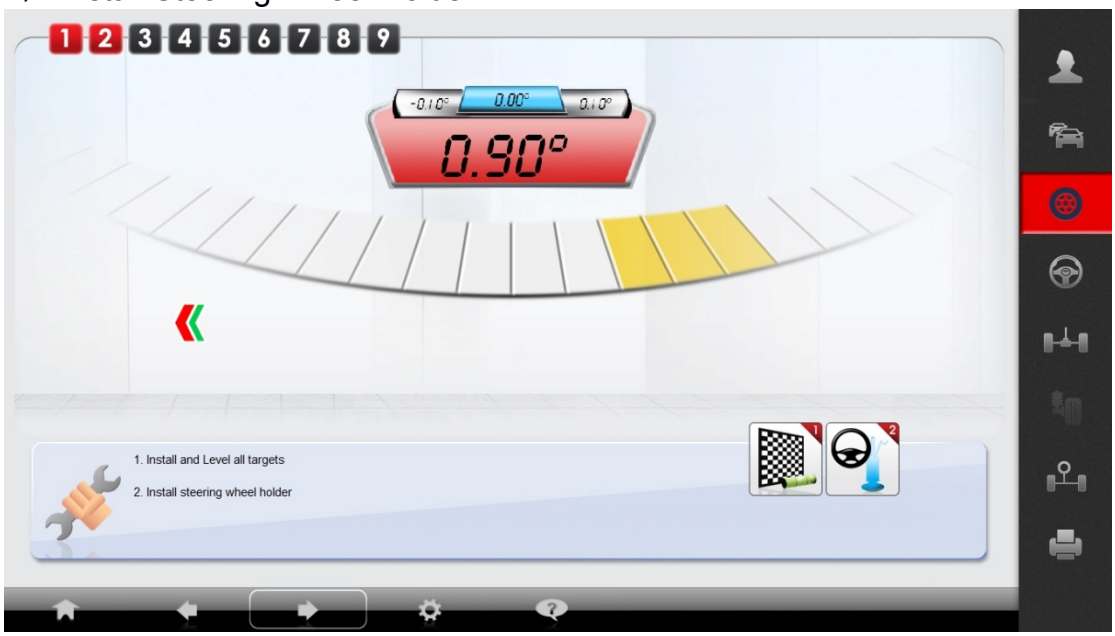
Before continuing, make sure both turn tables are locked and wheel stoppers are in place.

Place the rear wheel stopper away from the tire, the distance may differ depending on the size of the tire.

Follow the on screen instructions：

1） Level Targets

2） Install Steering Wheel Holder



3) Release Brake

Diagram: Standard Measurement- Run Out Compensation

Click Next or press PgDn to continue.

Note: The top corner of the screen may show a “STOP” sign. If it appears, keep the vehicle still. While the “STOP” sign is shown on the screen, any movement may cause inaccurate alignment readings.

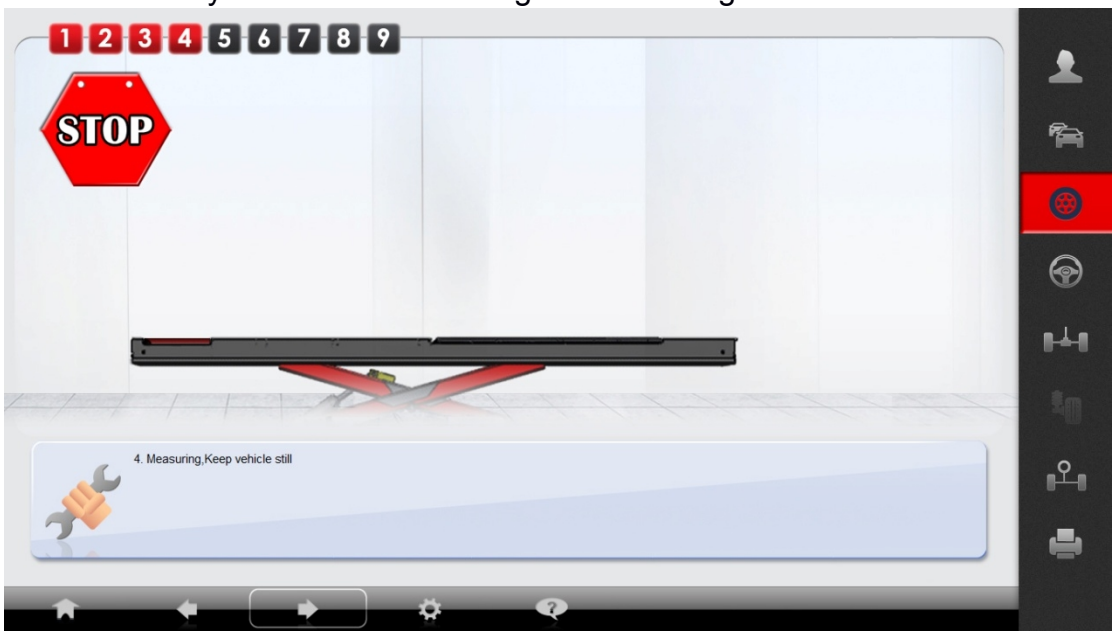


Diagram: Standard Measurement: Run Out Compensation

After first measurement, push vehicle backwards 40 degrees, software displays “STOP” to guide the operator.

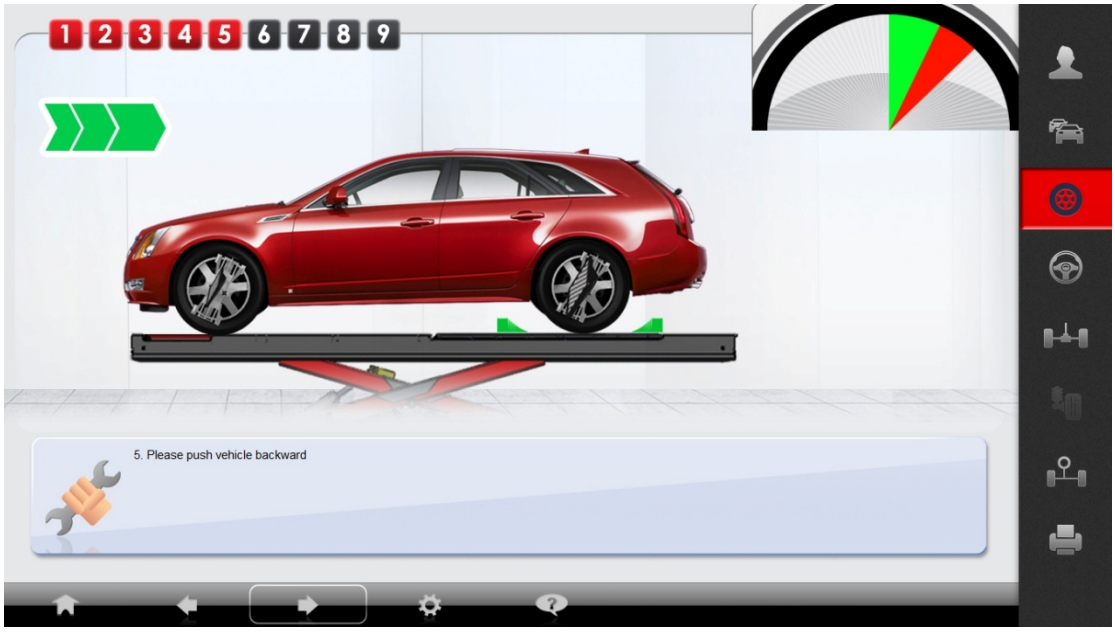


Diagram: Standard Measurement: Run Out Compensation

Once the bar is fully green, software reads 2nd value.

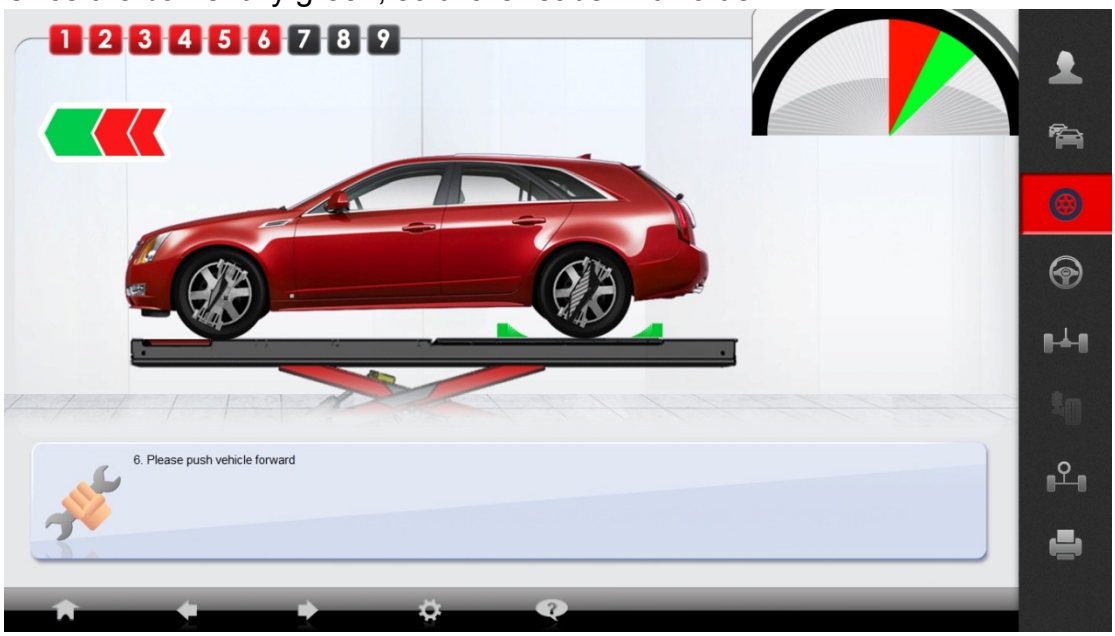


Diagram: Standard Measurement: Run Out Compensation

Push vehicle forward to its original position until the progress bar is green.

Note: Placing one of the wheel stoppers at the original position will allow the vehicle to stop very close to the correct position. Move wheel stopper if needed.

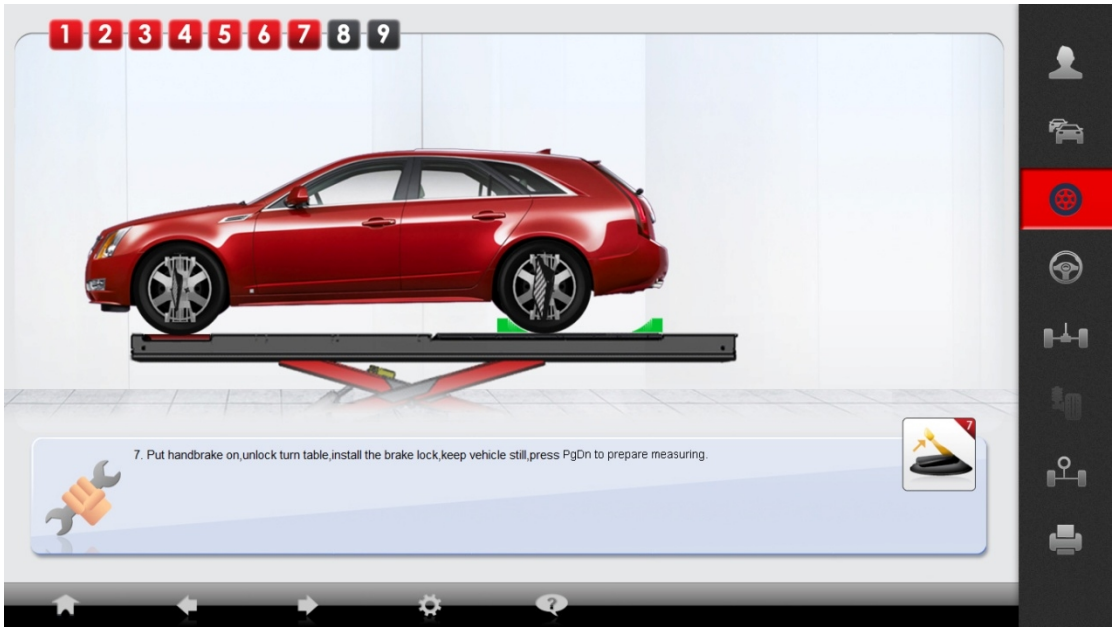


Diagram: Standard Measurement: Run Out Compensation

Push vehicle back to original position, unlock turn tables and click next to continue.

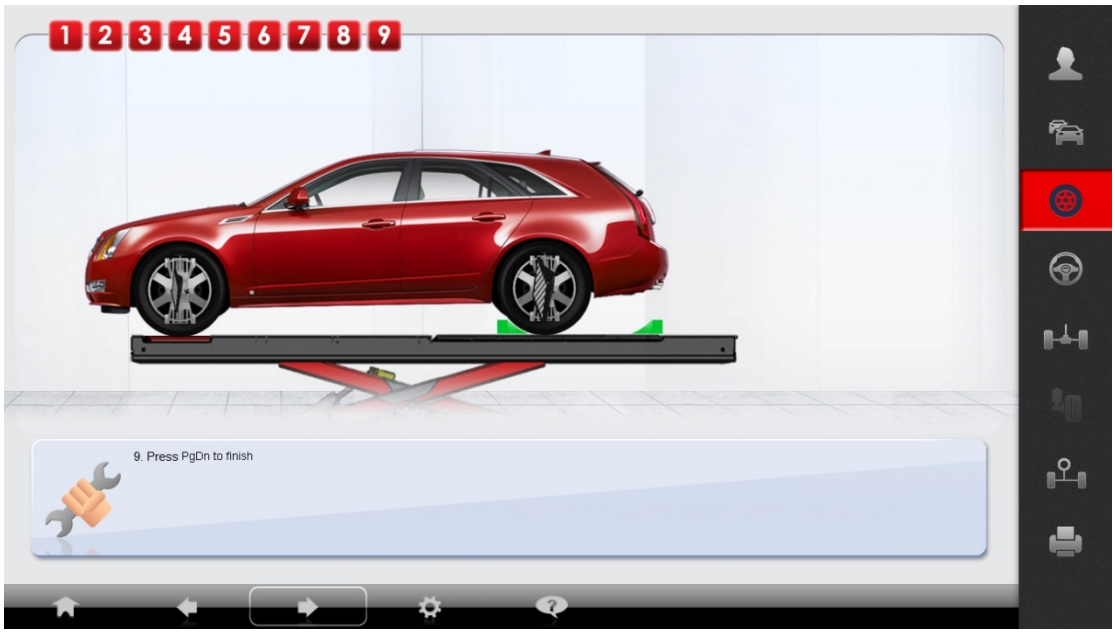


Diagram: Standard Measurement: Run Out Compensation

Click next to finish run out compensation.

4. Caster measurement .

Note: Caster measurement is disabled until full run out compensation is completed.

Option of 10 or 20 degree can be selected in settings.

Center steering wheel first and then follow the instructions on screen. After centering steering wheel, the screen will confirm and start caster measurement.

Diagram: Standard Measurement – Caster

Diagram: Standard Measurement - Caster

Turn steering wheel left 10 or 20 degree (depending on settings) until screen shows “Stop.” Keep steering wheel still until the 10 or 20 degree with red background changes to “OK” with a green background.

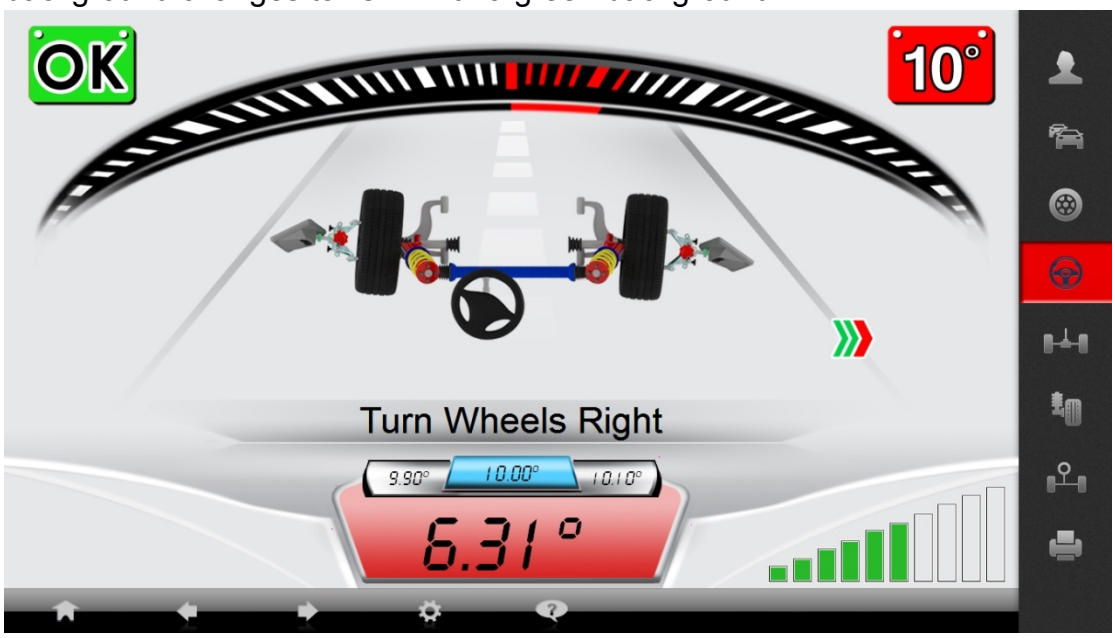


Diagram: Standard Measurement - Caster

Turn wheel to the right until the screen shows “Stop.” Follow the same procedure as previously indicated.

Diagram: Standard Measurement - Caster

Diagram: Standard Measurement - Caster

Center steering wheel after taking readings at both sides.

5. Rear Axle

After caster measurement, the rear axle reading opens automatically. Follow the instruction and physically center the steering wheel.

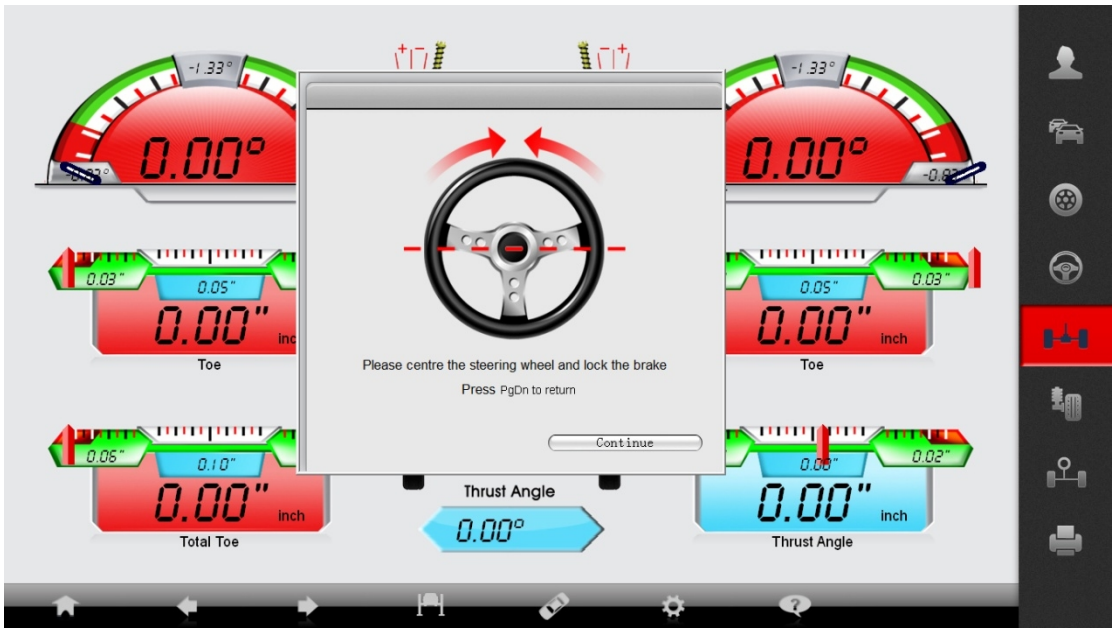


Diagram: Standard Measurement – Rear Axle

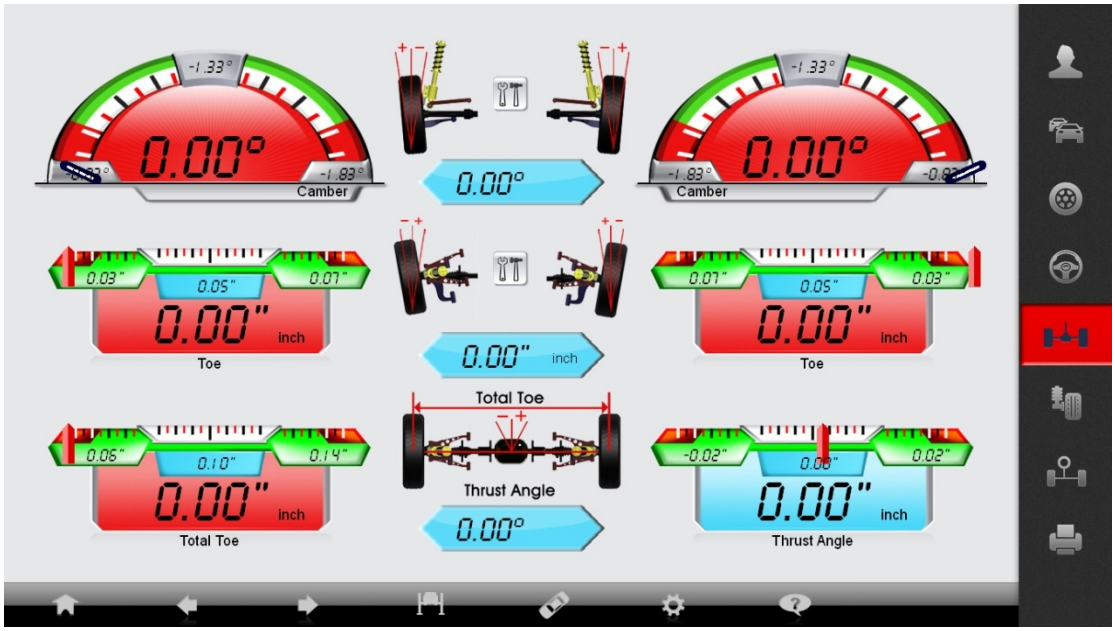
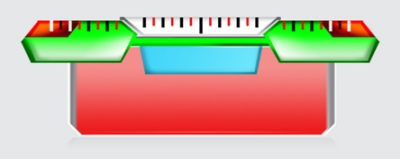


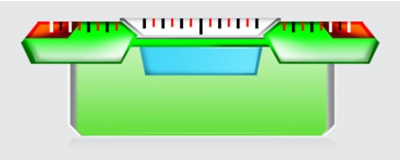
Diagram: Standard Measurement – Rear Axle

Rear axle screen displays rear camber, individual toe, total toe and thrust angle. All meters have manufacturer spec and tolerance, displayed in order of: minimum acceptable value, manufacturer value, maximum acceptable value.

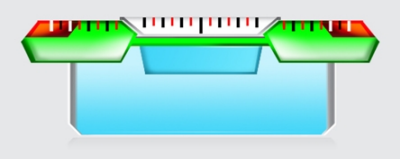
The background of a meter indicates if the value is an acceptable reading or not.



Red background indicates out of tolerance.



Green background indicates within acceptable tolerance.



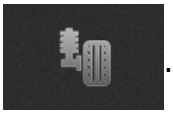
Blue background indicates close to manufacturer value.

When the reading is out of manufacturer tolerance, the wheel diagram beside the meter indicates the direction of the wheel that is out of tolerance.

Zoom In：Double clicking the live reading value can zoom in or use arrow key on the keyboard and click enter to zoom in.

Illustration Diagram: Indicates an illustration diagram is available.

Raised Mode: Raise the vehicle and lock camber value.

6. Live caster adjustment  .

After rear axle reading, enter the live caster adjustment screen.

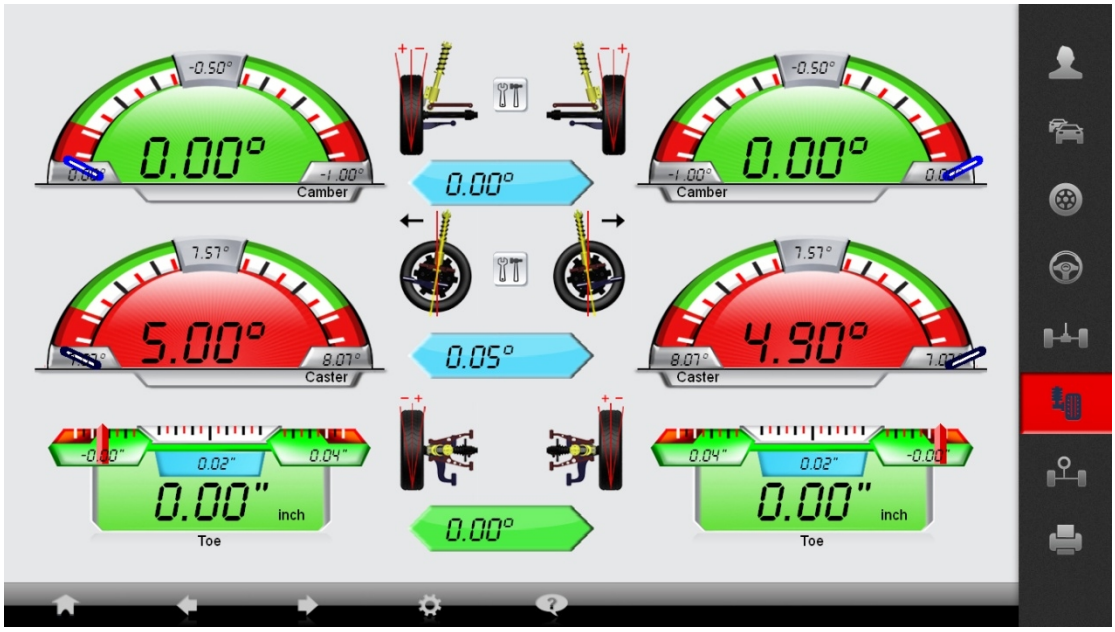


Diagram: Standard measurement – Live Caster

Live caster display: Camber, Caster and toe.

Note: Live caster function is an estimated value of caster.

7. Front Axle

Diagram: Standard Measurement – Front Axle

Front Axle Displays: Camber, individual toe, total toe, and setback.

Toe+: Toe Adjustment

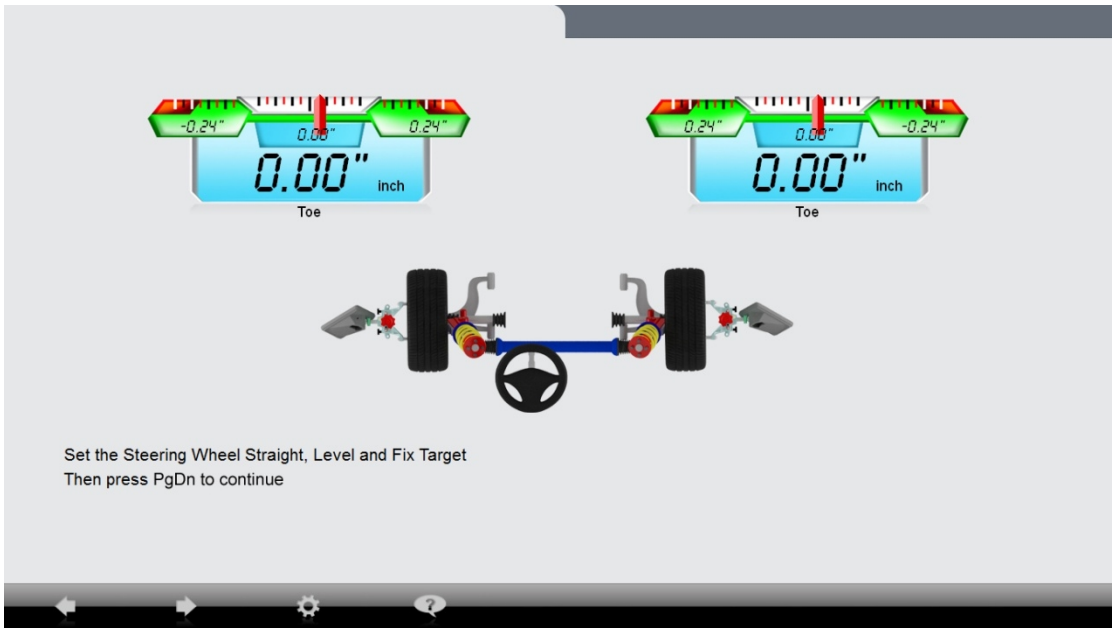


Diagram : Toe+

Enter super toe screen. The screen will instruct you to turn the steering wheel straight ahead. Level and lock targets. Press Page Dn.

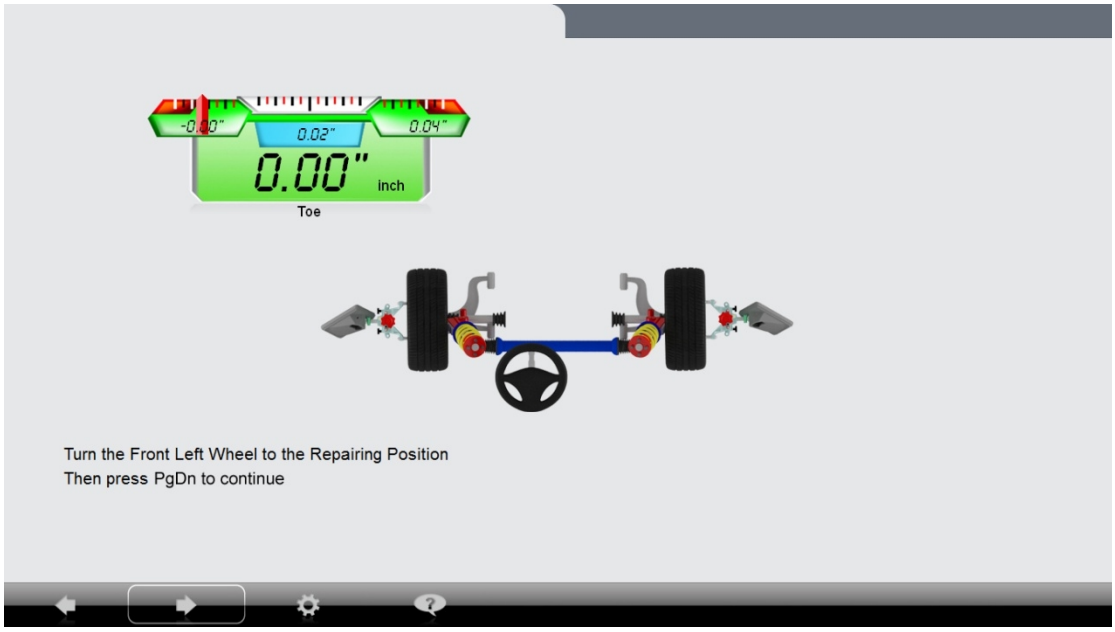


Diagram: Toe+

Turn steering wheel to the left adjustment position, level the target and follow instruction on the screen.

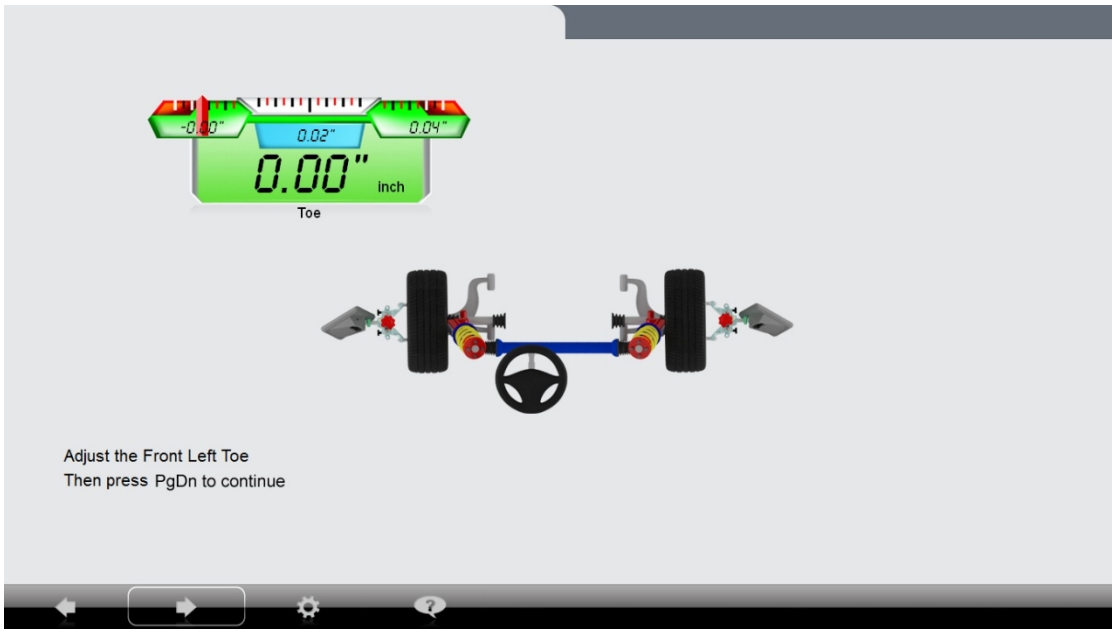


Diagram: Toe+

Adjust left toe.

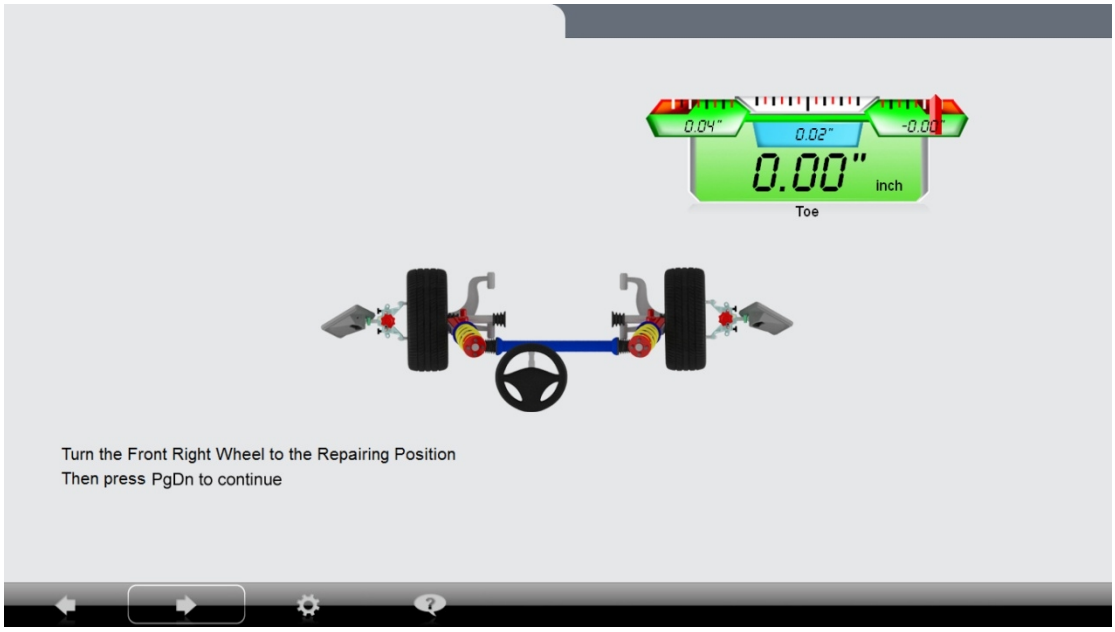


Diagram: Toe+

Turn steering whee to the right adjustment position and follow instruction on screen.

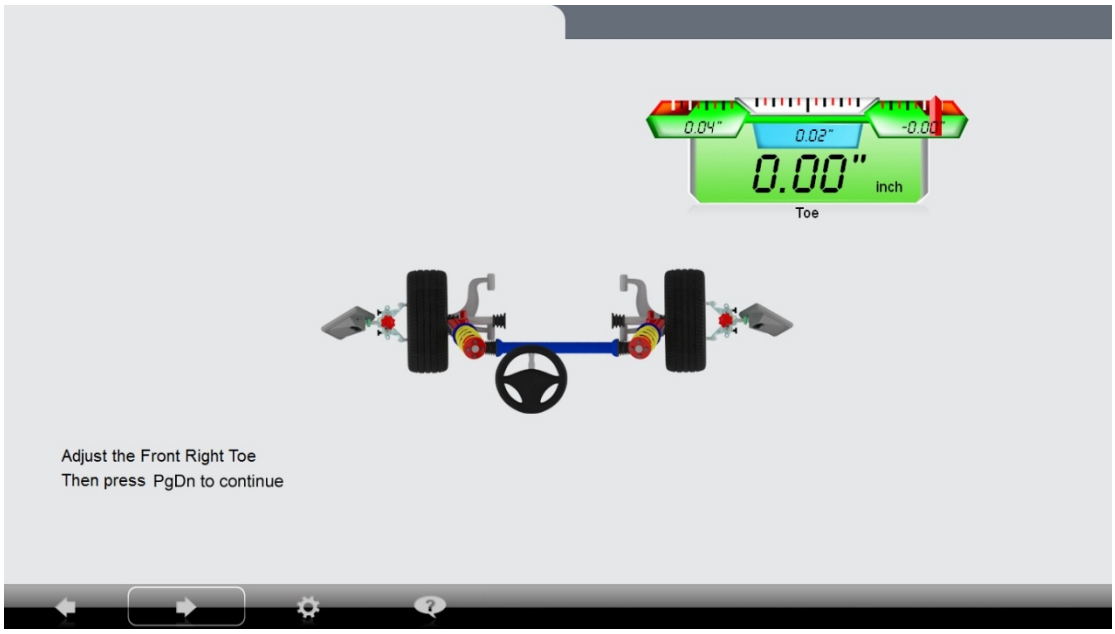


Diagram: Toe+

After the measurement, the software will gather required data and compare its data to manufacturer data, adjust the value to green or blue.

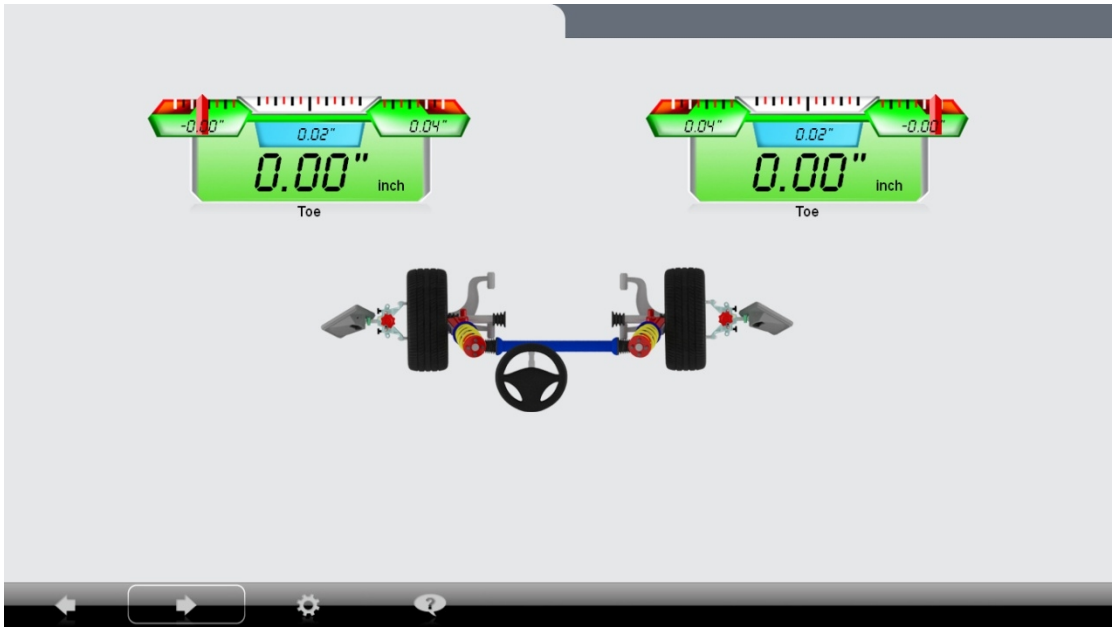


Diagram: Toe+

Toe Curve: VAG Adjustment

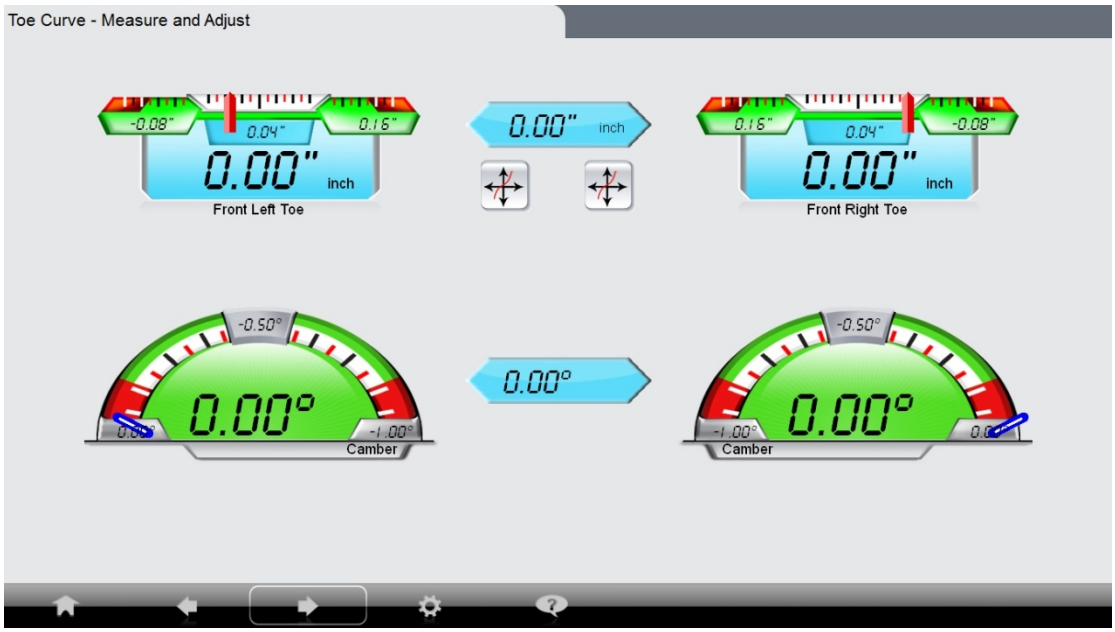
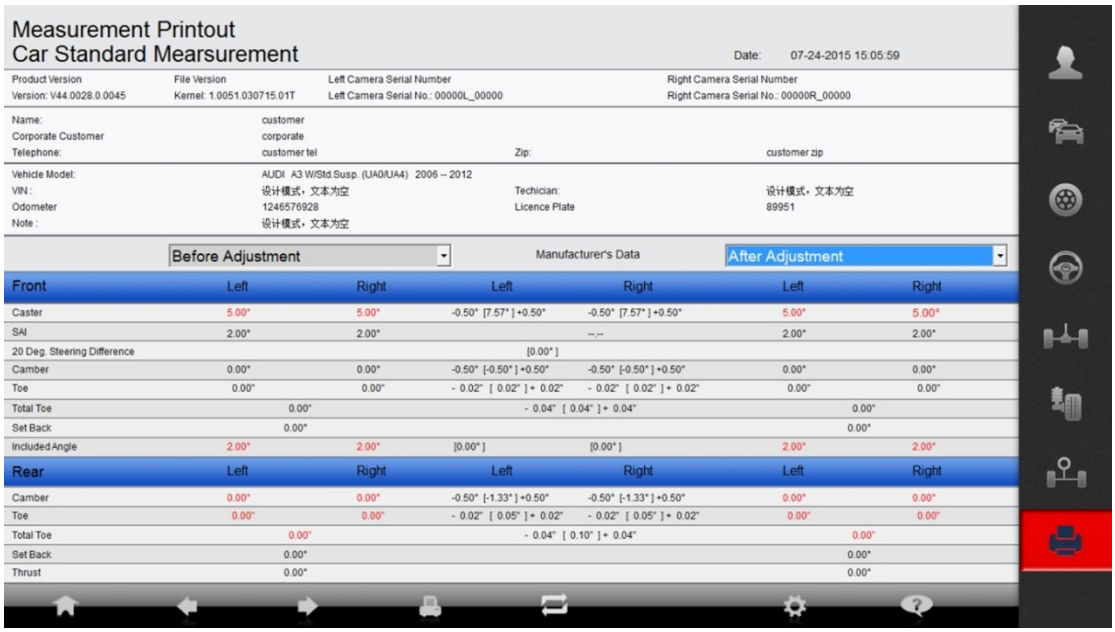


Diagram: Toe Curve

8. Print



Measurement Printout
Car Standard Mearsurement

Date: 07-24-2015 15:05:59

Product Version	File Version	Left Camera Serial Number	Right Camera Serial Number
Version: V44.0028.0.0045	Kernel: 1.0051.030715.01T	Left Camera Serial No.: 00000L_00000	Right Camera Serial No.: 00000R_00000

Name:	customer		
Corporate Customer	corporate		
Telephone:	customer tel	Zip:	customer zip
Vehicle Model:	AUDI A3 W/Std.Susp. (UA0/UA4) 2006 – 2012		
VIN :	设计模式，文本为空	Techician:	设计模式，文本为空
Odometer	1246576928	Licence Plate	89951
Note :	设计模式，文本为空		

	Before Adjustment		Manufacturer's Data		After Adjustment	
Front	Left	Right	Left	Right	Left	Right
Caster	5.00°	5.00°	-0.50° [7.57°] +0.50°	-0.50° [7.57°] +0.50°	5.00°	5.00°
SAI	2.00°	2.00°	--.--		2.00°	2.00°
20 Deg. Steering Difference			[0.00°]			
Camber	0.00°	0.00°	-0.50° [-0.50°] +0.50°	-0.50° [-0.50°] +0.50°	0.00°	0.00°
Toe	0.00°	0.00°	- 0.02° [0.02°] + 0.02°	- 0.02° [0.02°] + 0.02°	0.00°	0.00°
Total Toe	0.00°		- 0.04° [0.04°] + 0.04°		0.00°	
Set Back	0.00°				0.00°	
Included Angle	2.00°	2.00°	[0.00°]	[0.00°]	2.00°	2.00°
Rear	Left	Right	Left	Right	Left	Right
Camber	0.00°	0.00°	-0.50° [-1.33°] +0.50°	-0.50° [-1.33°] +0.50°	0.00°	0.00°
Toe	0.00°	0.00°	- 0.02° [0.05°] + 0.02°	- 0.02° [0.05°] + 0.02°	0.00°	0.00°
Total Toe	0.00°		- 0.04° [0.10°] + 0.04°		0.00°	
Set Back	0.00°				0.00°	
Thrust	0.00°				0.00°	

Diagram: Standard Measurement - Results

The result page displays all measurement values. Red indicates out of range, black indicates normal. The left column is measurements before adjustment, the center is manufacturer specs, and the right column is after adjustment.

Print: Prints a report with all readings and customer info.

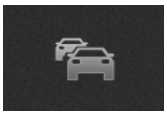
Manufacturer Value: Enter the manufacturer spec page.

Compare: Compare values with previous measurements.

4.5 Quick Measurement

From the main screen, click or F3 to enter quick measurement.

Quick Measurement：Select Vehicle → Run Out Compensation → Front/Rear Axle→ Print.

1. Select Vehicle 

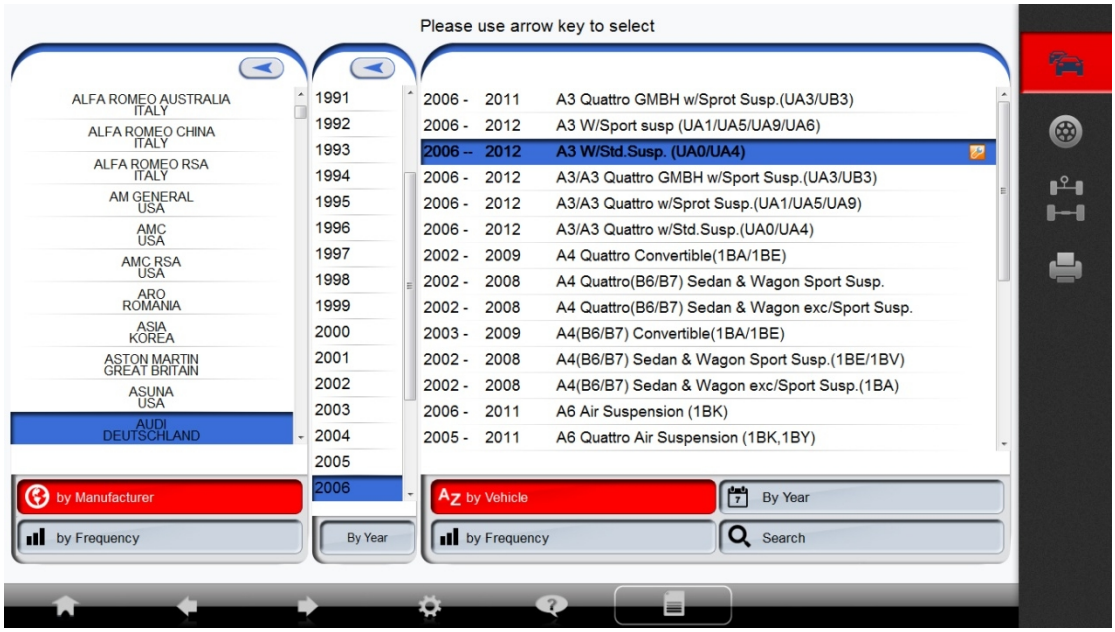


Diagram: Quick Measurement – Select vehicle manufacturer, year, and model.

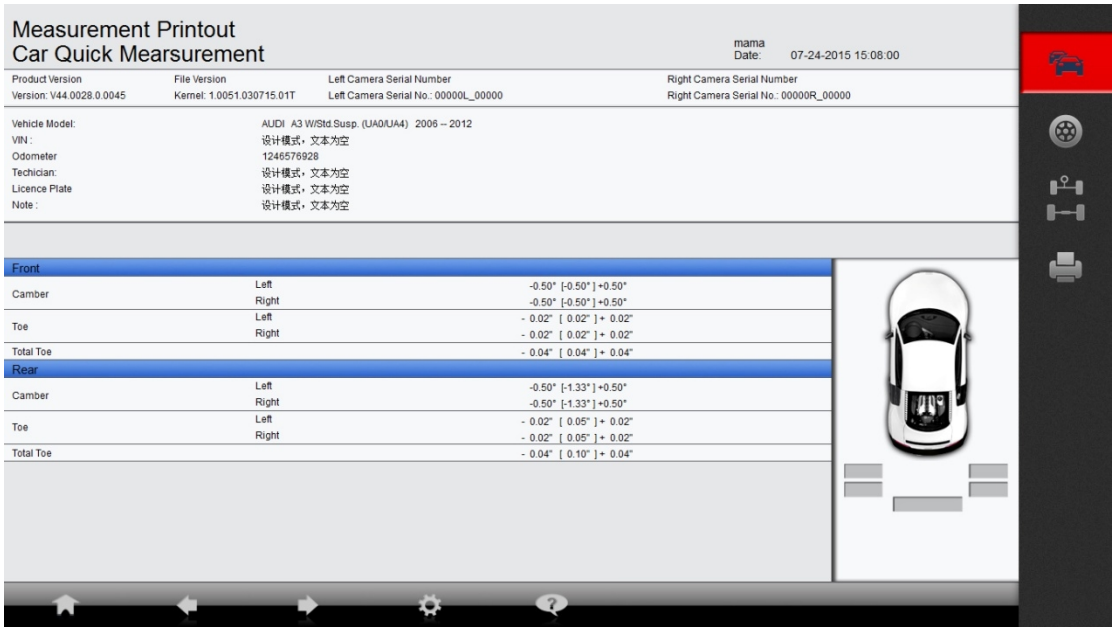
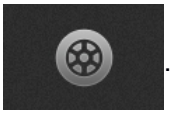


Diagram: Quick Measurement – Manufacturer spec

2. Run out compensation  .

After selecting vehicle spec, perform run out compensation and follow the on screen instructions.

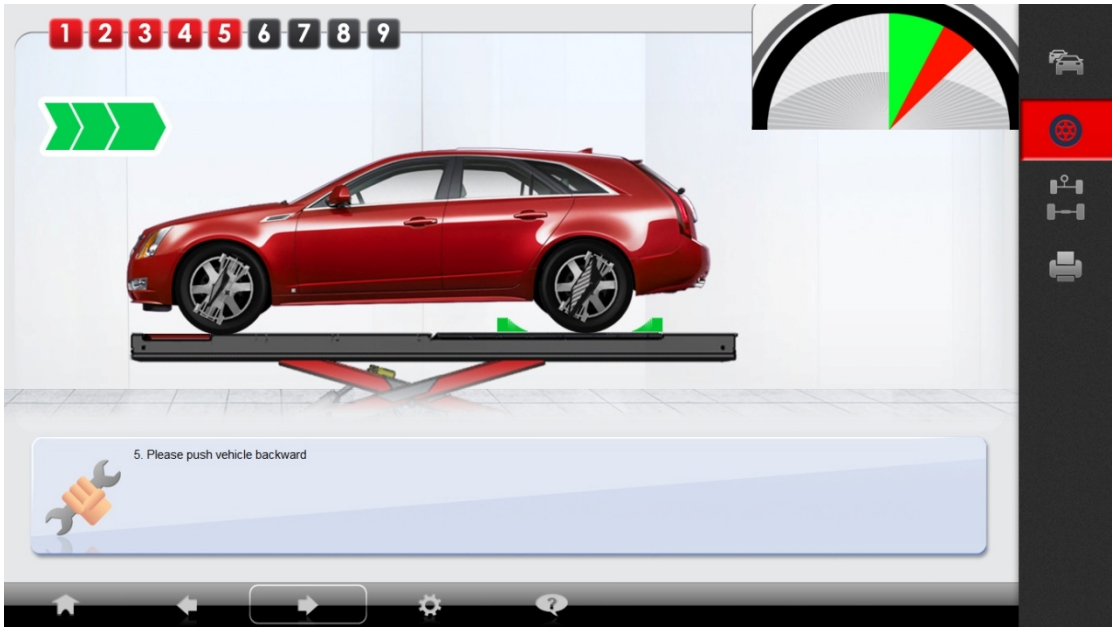
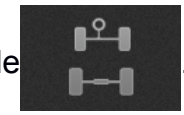


Diagram: Quick Measurement – Run Out Compensation

3. Front/Rear Axle  .

Note: Front/Rear Axle screen is disabled before performing a complete run out compensation.

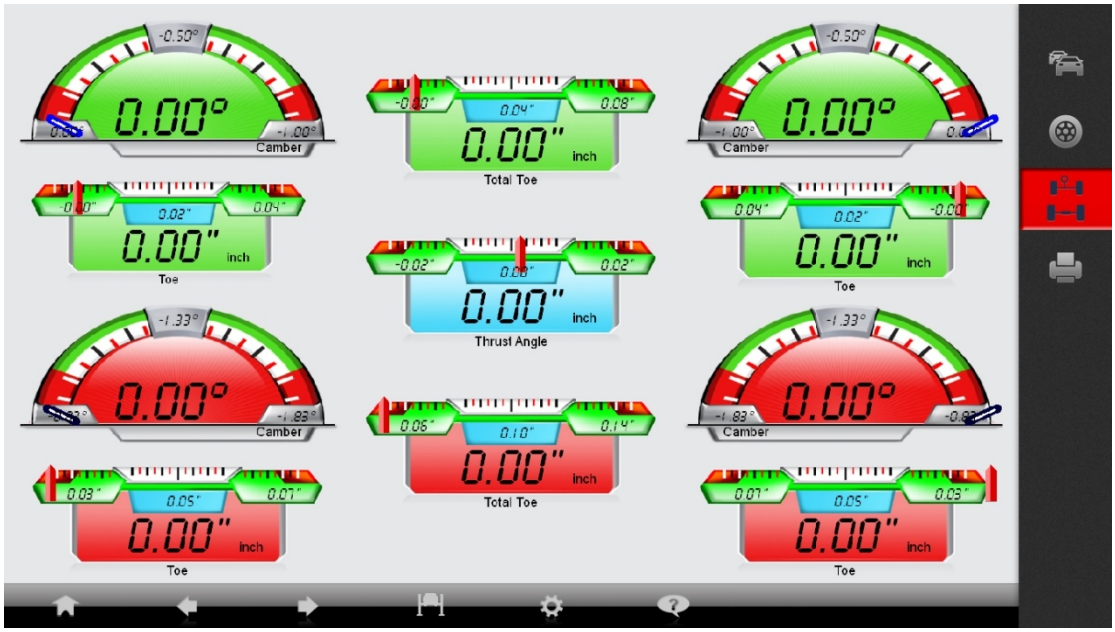
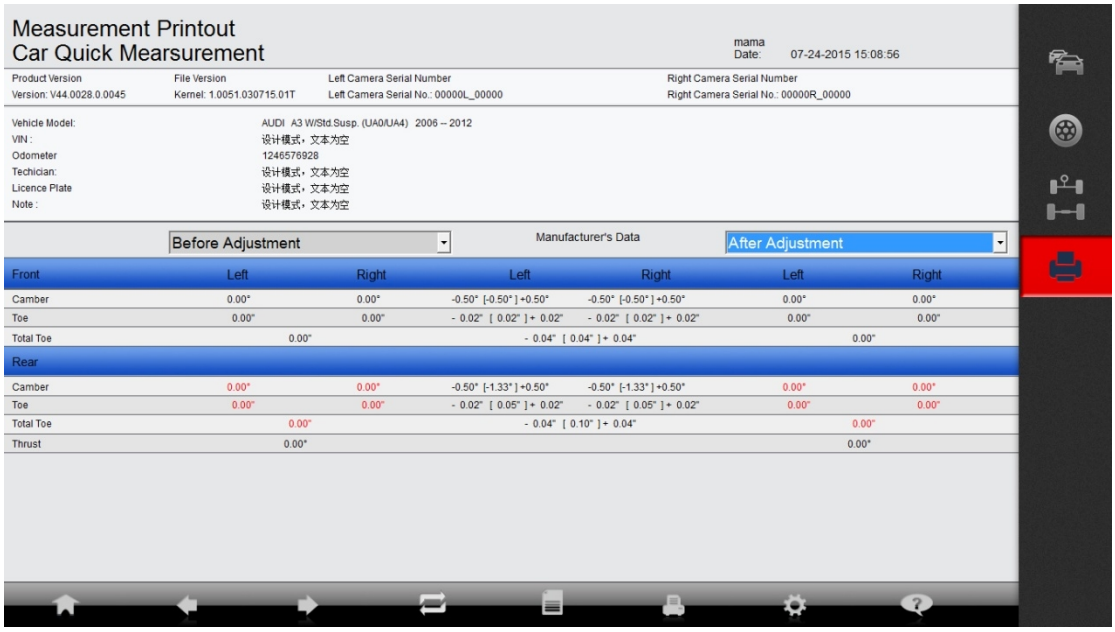


Diagram: Quick Measurement –Front / Real Axle

The Front/Rear Axle screen displays front and rear camber, front and rear toe, front and rear total toe, and thrust angle.

4. Print .



Measurement Printout
Car Quick Mearsurement

mama
Date: 07-24-2015 15:08:56

Product Version	File Version	Left Camera Serial Number	Right Camera Serial Number
Version: V44.0028.0.0045	Kernel: 1.0051.030715.01T	Left Camera Serial No.: 00000L_00000	Right Camera Serial No.: 00000R_00000

Vehicle Model:	AUDI A3 W/Std.Susp. (UA0/UA4) 2006 – 2012
VIN :	设计模式，文本为空
Odometer	1246576928
Techician:	设计模式，文本为空
Licence Plate	设计模式，文本为空
Note :	设计模式，文本为空

Before Adjustment | Manufacturer's Data | After Adjustment

Front	Left	Right	Left	Right	Left	Right
Camber	0.00°	0.00°	-0.50° [-0.50°] +0.50°	-0.50° [-0.50°] +0.50°	0.00°	0.00°
Toe	0.00"	0.00"	- 0.02" [0.02"] + 0.02"	- 0.02" [0.02"] + 0.02"	0.00"	0.00"
Total Toe	0.00"		- 0.04" [0.04"] + 0.04"		0.00"	
Rear						
Camber	0.00°	0.00°	-0.50° [-1.33°] +0.50°	-0.50° [-1.33°] +0.50°	0.00°	0.00°
Toe	0.00"	0.00"	- 0.02" [0.05"] + 0.02"	- 0.02" [0.05"] + 0.02"	0.00"	0.00"
Total Toe	0.00"		- 0.04" [0.10"] + 0.04"		0.00"	
Thrust	0.00"				0.00"	

4.6 Aligner Management

From main screen, click or press F5 on keyboard to enter aligner management. Use this screen to access version number, settings, and maintenance.

Diagram: Aligner Management

- Click the icon or press F1 to display software versions.
- Click the icon or press F2 to changes aligner settings:

F1： Language: Use “PgDn” to confirm.

F2 ： Demo mode: Software displays each screen without connecting cameras. In demo mode, use
Ctrl+left arrow key to demo vehicle moving forward and turning steering left or Ctrl+right arrow for vehicle moving backward or turning steering right.

F3： Caster Sweep: 10 or 20 Degrees

F4： Measurement Mode

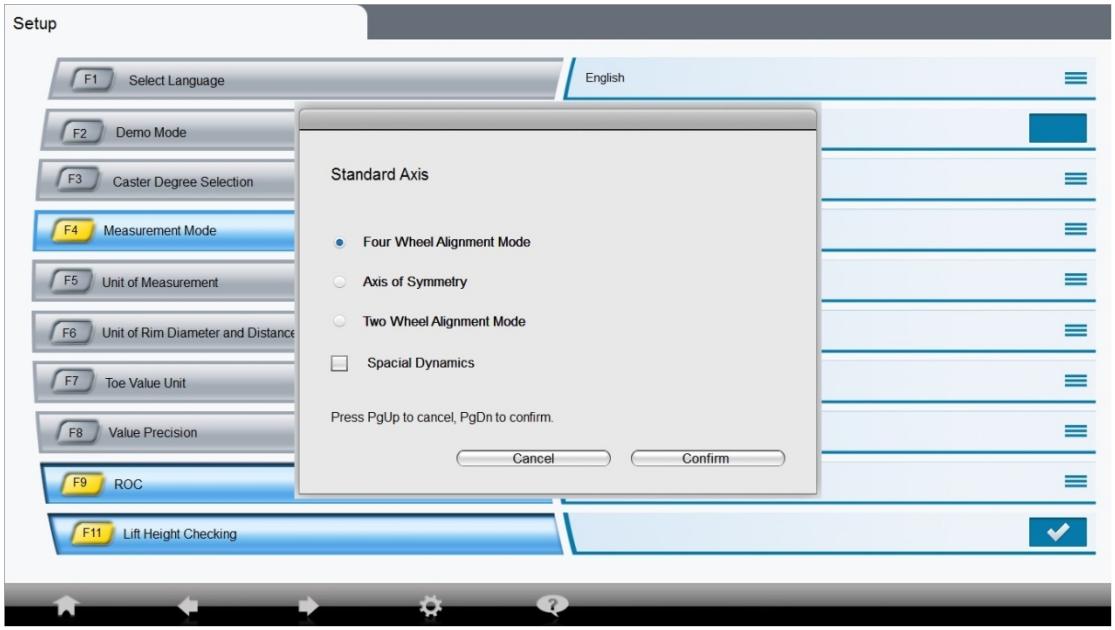


Diagram: Measurement Mode

Choose Four Wheel Alignment Mode, and select “Spacial Dynamics”, then confirm.

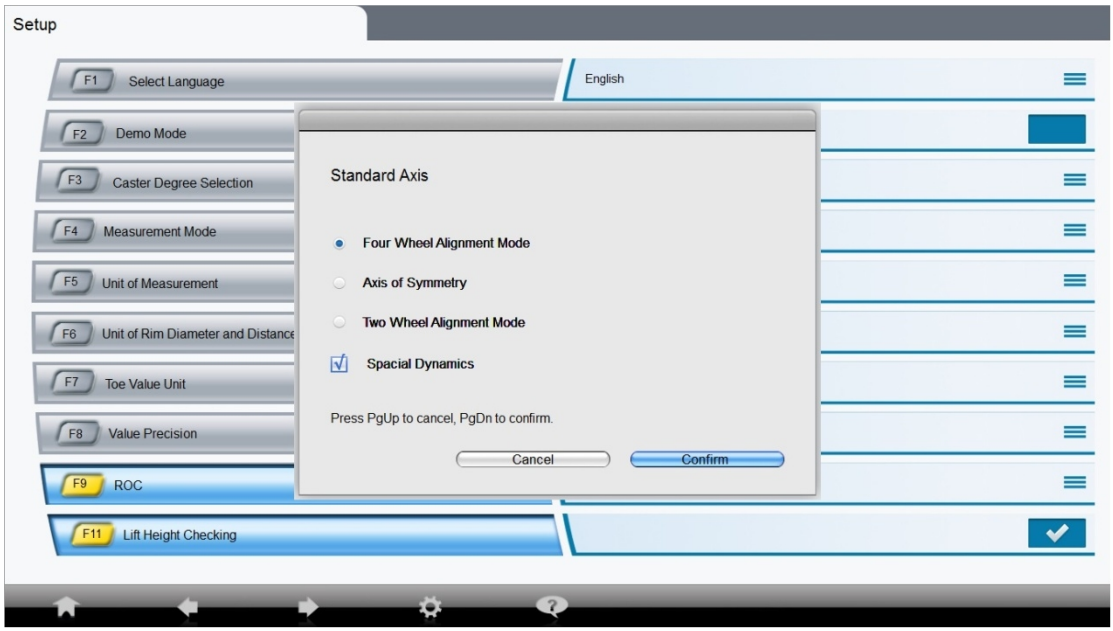


Diagram: Standard-Axis is turned on.

F5: Unit of measurement: Choose 1/60 degree or 1/100 degree.

F6: Unit of rim diameter and distance display: choose mm or inch.

F7: Toe value unit: Choose degrees, inches, or millimeters.
If millimeters or inches is selected as the toe unit, you must enter the tire diameter before taking measurements.

F8: Value precision: Choose 0.01, 0.05 or 0.1, rounding of measurement result.

F9: ROC, Press Ctrl+F9, and the item F9 turns blue.

Diagram: Smart-LED-Board is turned on.

F11: Lift Height Checking: Measurement Mode, Spacial Dynamics feature should be enabled. (Not available in the USA and Canada.)

- Click

or F4 to use customer management.

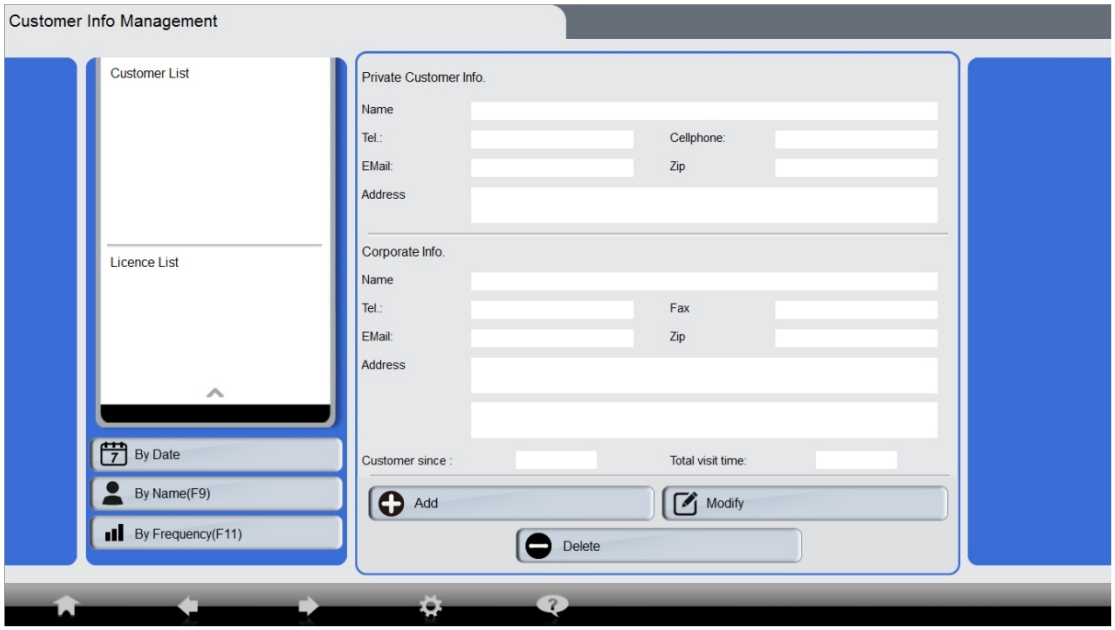


Diagram: Customer Info Management

Customer names are listed on the left side of screen. Select customer name by Up or Down arrow direction key.

Press F8 or F9 or F11 to sort customer names by specified filter.

Press F1 to add a new customer. Operators can input new customer data under the new customer screen.

Press F2 to edit customer information.

Press F3 to delete selected customer. Press PgDn to confirm.

Press Page Down to exit customer information manager screen.

Press HOME to go back to main menu screen.

- Click

or F5 to set workshop info.

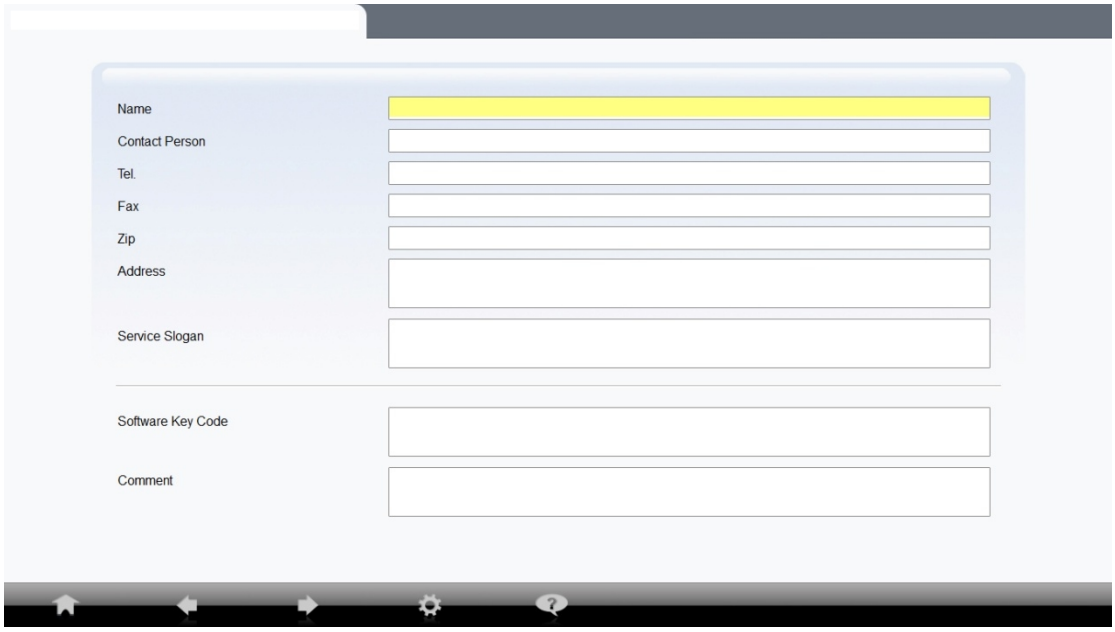


Diagram: Workshop Information

In this screen, you can customize shop info. Enter shop name, telephone number, fax or slogan. This info will show on the printed reports.

V. Technical data

5.1 Measuring Range

Options	Range
Total Toe（Front and Rear Axle）	±50°
Individual toe（Front Axle）	±25°
Camber（Front and Rear Axle）	±15°
Setback	±9°
Thrust Angle	±9°
Caster	±22°
King Pin	±22°
Wheelbase	1.6-2.1m (63”-82.5”)
Track Width	1.8-4.5m (71”-177”)
Tire Diameter	250-800mm (9.8”-31.5”)

5.2 Power Supply Unit

Function	Specification
Power Supply(Voltage)	220 – 240 V
Frequency	50/60Hz
Power	1Kw

Appendix I . Troubleshooting

Description	Remedy
Computer does not start.	Check if power cable is firmly connected, and if the computer switch light is on. Check the power strip is working properly. Check fuses in cabinet. Check power cable. Check if power cable has output voltage. Contact local authorized service center.
No display on monitor.	Check if monitor is switched on. Check power cable. Check if VGA or DVI cable is connected. Contact local authorized service center.
Computer shuts off due to power surge. After restart, alignment software does not start.	After a power surge, computer software may become corrupted. Use backup software if available, to restore to a previous working point. If reloading the OS is needed, contact a local authorized service center.
Screen shows a black screen in alignment software and does not close.	1. Check on screen if the target has color lines, or if the target is in the measuring range. Adjust the target position if needed. 2. If the target does not have color lines, but both targets are in range, both targets maybe overlapping, or blocked. 3. If the target does not have color lines, but both targets are in range, with no blocking, targets may be dirty. Clean targets with care. (See Pages 9-10) 4. Cannot see target clearly, but red LEDs beside the camera are flashing. Use a cellphone camera to check if the LEDs are lighting up. Use the front camera, as the rear camera of some phones have a special filter. Check the power adapter for the correct output voltage.

	5. No target seen on the screen, exit software and rerun alignment software. Contact local authorized service center if needed.
After runout compensation, camber or toe value is too high.	If measurement is interrupted during the measurement, redo the run out compensation and check value. Contact local authorized service center if needed
Windows starts, but alignment software does not start	1. HASP key not found： ● No software key is found on the computer ● Software key is plugged in but no red light on it. Check that the driver is properly installed. ● If the driver is not installed properly, download software key driver from HASP.com。 Contact local authorized service center if needed.
Camera screen shows white?	Reconnect USB cable from camera to computer first. If this does not solve the problem, check the connection from computer to camera. Change cable if necessary. Contact local authorized service center if needed.

For support, contact:

Northwest Equipment

877-349-2327

406-755-0805

LIMITED WARRANTY

Structural Warranty:

The following parts and structural components carry a five year warranty:

Columns	Arms	Uprights	Swivel Pins
Legs	Carriages	Overhead Beam	
Tracks	Cross Rails	Top Rail Beam	

Limited One-Year Warranty:

Tuxedo Distributors, LLC (iDEAL) offers a limited one-year warranty to the original purchaser of Lifts and Wheel Service equipment in the United States and Canada. Tuxedo will replace, without charge, any part found defective in materials or workmanship under normal use, for a period of one year after purchase. The purchaser is responsible for all shipping charges. This warranty does not apply to equipment that has been improperly installed or altered or that has not been operated or maintained according to specifications.

Other Limitations:

This warranty does not cover:

1. Parts needed for normal maintenance
2. Wear parts, including but not limited to cables, slider blocks, chains, rubber pads and pulleys
3. Replacement of lift and tire changer cylinders after the first 30 days. A seal kit and installation instructions will be sent for repairs thereafter.
4. On-site labor

Upon receipt, the customer must visually inspect the equipment for any potential freight damage before signing clear on the shipping receipt. Freight damage is not considered a warranty issue and therefore must be noted for any potential recovery with the shipping company.

The customer is required to notify Tuxedo of any missing parts within 72 hours. Timely notification must be received to be covered under warranty.

Tuxedo will replace any defective part under warranty at no charge as soon as such parts become available from the manufacturer. No guarantee is given as to the immediate availability of replacement parts.

Tuxedo reserves the right to make improvements and/or design changes to its lifts without any obligation to previously sold, assembled or fabricated equipment.

There is no other express warranty on the Tuxedo lifts and this warranty is exclusive of and in lieu of all other warranties, expressed or implied, including all warranties of merchantability and fitness for a particular purpose.

To the fullest extent allowed by law, Tuxedo shall not be liable for loss of use, cost of cover, lost profits, inconvenience, lost time, commercial loss or other incidental or consequential damages.

This Limited Warranty is granted to the original purchaser only and is not transferable or assignable.

Some states do not allow exclusion or limitation of consequential damages or how long an implied warranty lasts, so the above limitations and exclusions may not apply. This warranty gives you specific legal rights and you may have other rights, which may vary from state to state.

8320 E Hwy 67, Alvarado, TX 76009
Ph. 817-558-9337 / Fax 817-558-9740