RWA1085

INSTRUCTION MANUAL

OPERATION & MAINTENANCE MANUAL

COMPOSITION
54 pages (including cover pages)
50 numbered pages

• For any further information please contact your local dealer. Contact info are on the last page:

IMPORTANT Any damage caused by failure to follow the instructions in this manual or improper machine use shall relieve the manufacturer of all liability.

 2025-M355 rev. 02

SYMBOLS USED IN THE MANUAL

	This symbol instructs the user to refer to this manual before using the equipment or any parts of it.
	This symbol indicates to the user that there are important operations to read about and instructions that demand attention in the documentation that accompanies the product.
	This symbol indicates hazardous operations or conditions. Carefully consult the text shown together with this symbol and follow the instructions to avoid hazards.
 **WARNING**	This symbol indicates that failure to follow the instructions could result in death or serious injury.
 **ATTENTION**	This symbol indicates that failure to follow the instructions could cause minor personal injury or damage to the equipment.
	This symbol indicates an operation that requires special attention because there are sharp edges.
	This symbol indicates an operation that requires special attention because chemicals are present. Protect hands. Appropriate protective gloves must be used to protect against corrosive substances.

TABLE OF CONTENTS

0 WARNINGS

Any damage deriving from failure to observe the instructions contained in this manual and from improper use of the machine releases the manufacturer from any liability.

IMPORTANT SAFETY INSTRUCTIONS, READ AND SAVE THESE INSTRUCTIONS

When using your garage equipment, basic safety precautions should always be followed, including the following:

- Read all instructions.
- Care must be taken as burns can occur from touching hot parts.
- Do not operate equipment with a damaged cord or if the equipment has been dropped or damaged – until it has been examined by a qualified service person.
- Do not let a cord hang over the edge of the table, bench, or counter or come in contact with hot manifolds or moving fan blades.
- If an extension cord is necessary, a cord with a current rating equal to or more than that of the equipment should be used. Cords rated for less current than the equipment may overheat. Care should be taken to arrange the cord so that it will not be tripped over or pulled.
- Always unplug equipment from electrical outlet when not in use. Never use the cord to pull the plug from the outlet. Grasp plug and pull to disconnect.
- Let equipment cool completely before putting away. Loop cord loosely around equipment when storing.
- To reduce the risk of fire, do not operate equipment in the vicinity of open containers of flammable liquids (gasoline).
- Adequate ventilation should be provided when working on operating internal combustion engines.
- Keep hair, loose clothing, fingers, and all parts of body away from moving parts.
- To reduce the risk of electric shock, do not use on wet surfaces or expose to rain.
- Use only as described in this manual. Use only manufacturer's recommended attachments.
- ALWAYS WEAR SAFETY GLASSES. Everyday eyeglasses only have impact resistant lenses, they are not safety glasses.

To reduce the risk of injury, close supervision is necessary when this product will be used around children. (Pertains to cabinets only.)

0.1 Preliminary safety information

Before turning on the equipment:

- Read the instructions and the entire manual before using or working on the wheel aligner. This manual is an integral part of the product and is intended to provide the user with instructions on the use of the RWA3D1085 wheel aligner. Therefore, keep it, for the entire operating life of the machine, in a known and easily accessible place and consult it whenever uncertainties arise. All product operators must be able to read the manual.
- Check that the power supply complies with the specifications shown on the plate. The plate with the voltage and frequency data is located on the back of the equipment. Please note the information on the plate. NEVER connect the appliance to a voltage or frequency other than those indicated.
- Properly arrange the power cable of the wheel aligner. This product has a built-in 3-wire earthing plug. It only fits into a socket that is also earthed. If it is not possible to insert the plug into a socket of this type, please consult an electrician. Do not modify or misuse the plug

In emergency conditions and before any maintenance work:

- Isolate the machine from the energy sources, with the appropriate main switch of the machine and remove the plug from the power socket.
- Do not try to perform maintenance this unit arbitrarily, as removing the panels could expose you to dangerous voltages; all maintenance to this machine must be carried out by authorized service personnel.

Work environment and cleaning of equipment:

Work environment must be kept clean, dry, not exposed to outside elements and sufficiently lit. Do not locate the equipment in places where there are oils or corrosive substances.

- Avoid cleaning the equipment with jets of water and compressed air.
  To clean plastic panels or shelves, use a damp cloth (avoid liquids containing solvents).

Rotary *may at any time make changes to the vehicles described in this manual for technical or commercial reasons.*

The trademark TEq-Link *is owned by Rotary. All the remaining trademarks mentioned, the reproduced logos and the images belong to the legitimate owners who fully hold the relevant rights.*

1 INTENDED USE

The RWA3D1085 system is equipment intended for total detection of the characteristic angles of vehicles. Two-axle cars and light commercial vehicles can be tested with wheelbase between min 71" (1800mm) and max 185" (4700mm).
Detection of the angles is carried out by two sensors positioned between the front and rear wheels, each with two Megapixel cameras that identify the position in space of 4 three-dimensional targets positioned on the wheels.
Data transmission from the measuring heads takes place VIA RADIO via Bluetooth-compatible modules.
Use the equipment (CAT II) in the following operating range:

- Internal use
- Temperature from 32°F (0°C) to 104°F (40°C)
- Relative humidity from 30% to 70%
- Maximum altitude 9842Ft (3000M) above sea level (asl)

2 TRAINING OF DESIGNATED PERSONNEL

Only specially trained and authorized personnel may use the equipment. In order to ensure machine management are optimal and for measurements to be carried out efficiently, the designated personnel must be properly trained to learn the necessary information in order to achieve an operating mode that is in line with the instructions provided by the manufacturer. For any uncertainty relating to the use and maintenance of the machine, consult the instruction manual; if unsure, do not interpret but instead consult the authorized service centres or the technical assistance directly.

2.1 General prevention measures

⚠ **ATTENTION**

- During the operation and maintenance of this machine it is absolutely essential to comply with all the safety and accident-prevention regulations in force and with the European Directives 89/686/ EEC, UNI EN ISO 20345, UNI EN ISO 13688: 2013, EN 388 and EN 420.
- The equipment must only be used by authorized and adequately trained personnel.
- It is not permitted to attach very heavy objects (weighing more than 33lb (15kg) on the console (e.g.: rotary plates).
- Do not use the equipment in places where a lot of dust is present (pollution degree equal to or greater than 3).
- Do not install or store the device in outdoor areas or in areas exposed to climatic conditions such as direct sunlight, wind, rain or temperatures below freezing.
- When operating the device outside the specified conditions, there is a risk that its safety and operation could be compromised.
- Always insure that the equipment is positioned in such a way that the electrical outlet is accessible.
- The equipment must always be on a flat and horizontal surface.
- If the power cord is damaged, it must be replaced by the manufacturer, an authorized dealer or qualified personnel to avoid danger.
- It is important to keep this manual for future use. It is an integral part of the equipment. For this reason, it should always be with the equipment.

⚠ WARNING

- For safety reasons, plug the cord into a grounded AC outlet.
- The machine must only operate in places where there is no danger of explosion or fire. This product shall only be installed and used within the ordinary location of a minor repair garage as defined by the National Electrical Code.
- For continued protection against electric shock the cabinet must be connected to a reliable ground connection. Do not remove the ground connection. If the receptacle in the building installation does not contain a ground pin connection, do not modify the attachment plug.
- This equipment must only be used for the purpose for which it is expressly designed. ROTARY declines all responsibility for damage to persons, animals and property caused by improper use of the machine.
- The installation of accessories and spare parts must be performed by authorized ROTARY personnel and original accessories and spare parts must be used. It is also not permitted, in any way, to replace batteries using non-original batteries. It is necessary to use only the manufacturer's original batteries on the measuring heads.
- The removal or modification of safety devices or of warning signs placed on the machine can cause serious danger and constitutes a violation of the OSHA safety standards.
- Before carrying out any maintenance on the system, it is necessary to disconnect the power supply. If in doubt, do not guess, contact the ROTARY technical assistance in advance in order to receive information to be able to perform operations in conditions of maximum safety.
- The operator must wear safety footwear to avoid damage to their feet, caused by the accidental falling of clamps or measuring heads. Use footwear with certified protection according to the EN ISO 20345 standard.
- The operator must wear protective gloves when handling the clamps. Use gloves according to the EN 388 standard.
- Prevent unauthorized personnel from approaching the wheel aligner during use.
- Use only the supplied cables. In the event of breakage or a fault, consult qualified service personnel.
- Never try to use the equipment if it is damaged, if it works incorrectly, if it has been partially disassembled and if any components, including cable and plug, are missing or damaged.

3 EQUIPMENT COMPONENTS

3.1 RWA3D1085

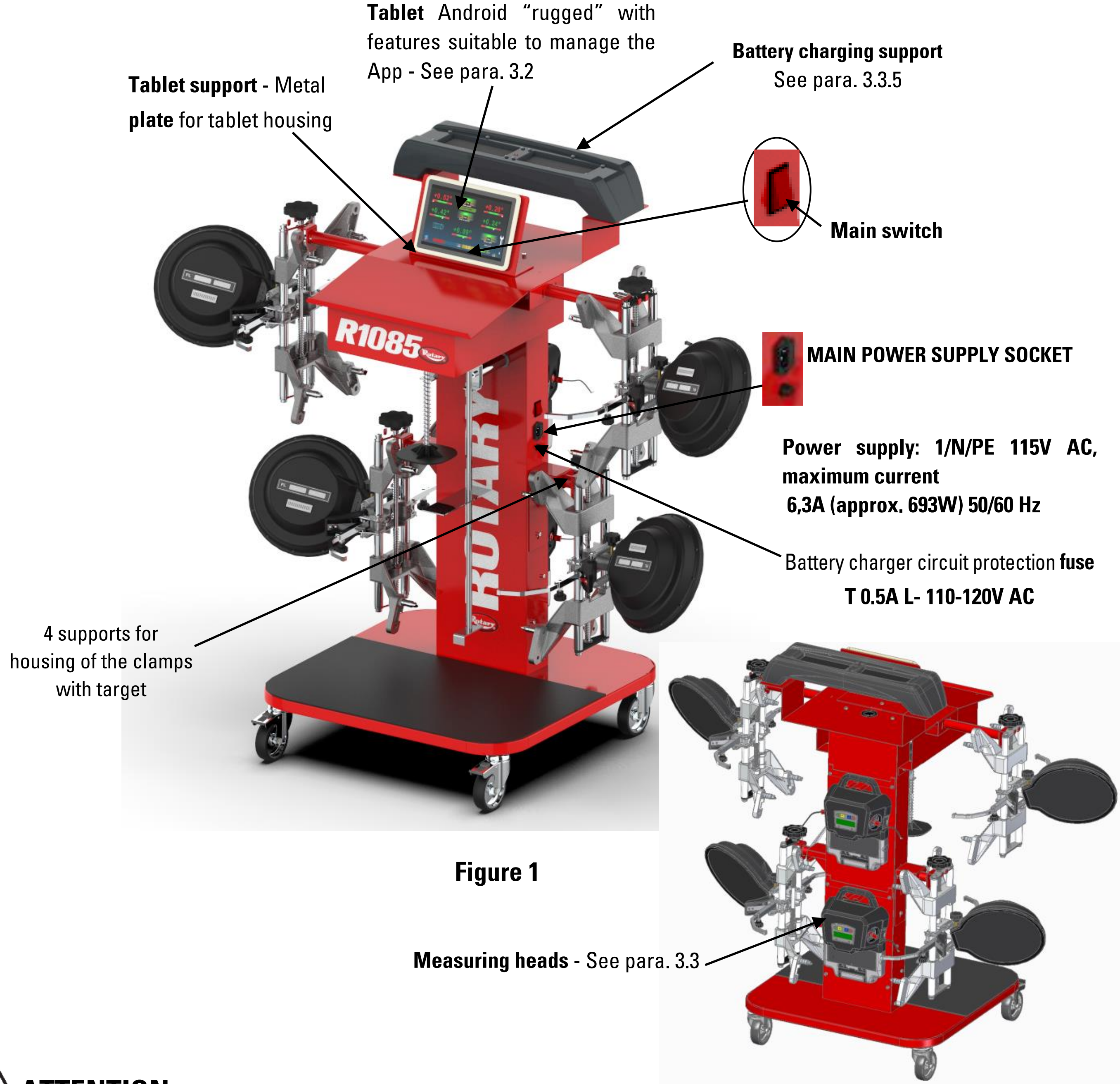


Figure 1

⚠ ATTENTION

The equipment is equipped with two protection fuses, one on the neutral. The fuses are inside the side-mounted power socket.

Use only **T 6,3A L - 115V AC.**

THE PUSH PEDAL is a tool used to lock the brake pedal during the preparation operations for measurements. It is to be used as shown in the instructions that appear during the program.

THE STEERING LOCK is a tool used to hold the steering at a fixed position. It is used before the adjustment procedure as shown in the instructions that appear during the program.

3.2 Tablet

The equipment includes a "Rugged" tablet android The Device is supplied with adequate requirements (see minimum characteristics below) to manage the APP Aligner **3D2.0WiFi**.
The table shows the minimum characteristics for operation of the APP:

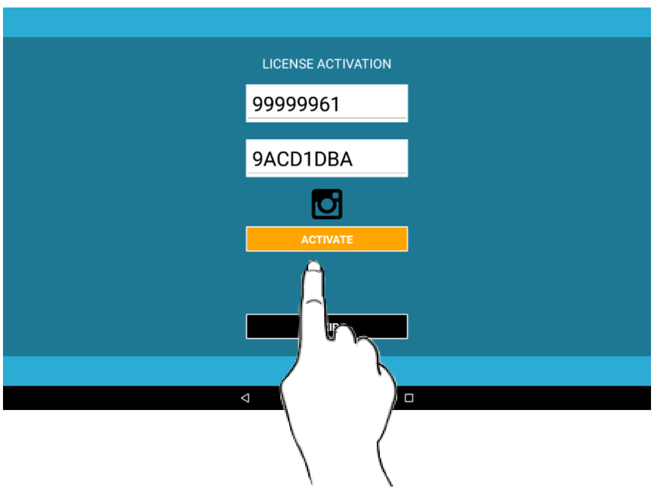
Operating System	Android ver. 10
Video Resolution	1280 x 800
Processor	2 GHz quad core
Internal storage / RAM	32GB/ 3GB

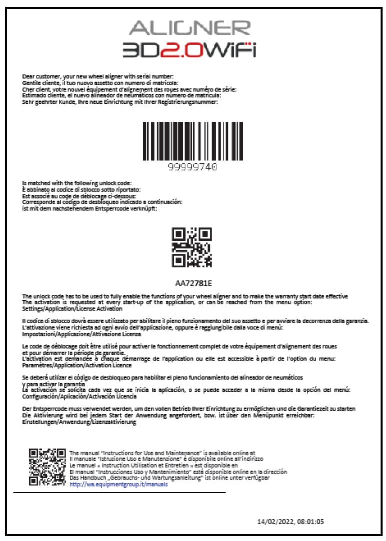
The device is equipped with two magnets glued on the back, to be able to fix it on the vehicle lift or on the vehicle chassis, for example during adjustment operations.

Figure 2

It is necessary to install the 3D2.0WIFI application by downloading it from the "Google Play" store .
The first time the app is used, it will be necessary to enter the codes to activate the licence, which are shown in the accompanying document. Subsequently, it will be necessary to enter certain data relating to the user, to start the manufacturer's warranty period. Keep the document with the codes because if the app is uninstalled and reinstalled, they will be requested again.

i a maximum of 3 activations are possible after which it will not be permitted to use these codes. Contact the manufacturer if necessary.





3.3 MEASURING HEADS

The measuring heads of the 3D equipment do not require the connection of any cables or cords for measuring angles or for data transmission.

The detection groups consist of 2 megapixel cameras for each measuring head. Each camera has a group of high efficiency infra-red emitting LEDs, which act as illuminators for the 3D targets positioned on the vehicle's wheels.

The measuring heads communicate directly with the enclosure. Data transmission takes place VIA RADIO via Bluetooth-compatible modules contained inside the heads and enclosure.

The characteristic angles of both vehicle axes are controlled and compensated by 2 side cameras and 2 electronic inclinometers positioned inside the two measuring heads.

Power is supplied by long-lasting 12V rechargeable batteries. The batteries are recharged when they are inserted in the recharging support located on the console (see para. 3.3.5)

When the battery is removed and/or inserted, always turn off the measuring head; it can be turned off manually by simultaneously pressing the outermost red and green keys (see para. 3.3.1).

ATTENTION

- The rechargeable batteries are contained in a plastic housing. If there are any signs of corrosion, swelling of the container or damage to the container, the battery must be removed immediately and replaced with a new, undamaged, original one.
- The batteries must be handled with care. The user must wear protective gloves.
- Do not open or tamper with the battery pack and its shell.
- Use only the supplied battery pack
- A label with notes and warning symbols is affixed to each battery

WARNING

- Do not cause short circuits and do not disassemble the battery pack.
- Do not expose the battery pack to excessive heat sources.

The power and consumption data of the measuring heads with rechargeable battery are as follows:

Power supply	**NiMH battery (Nickel-Metal Hydride) 12V- 4Ah**
Average operation with battery in full efficiency and charged	Approximately 8 hours
Average charging time	Approximately 12 hours

Figure 3

3.3.1 Measuring head keypads

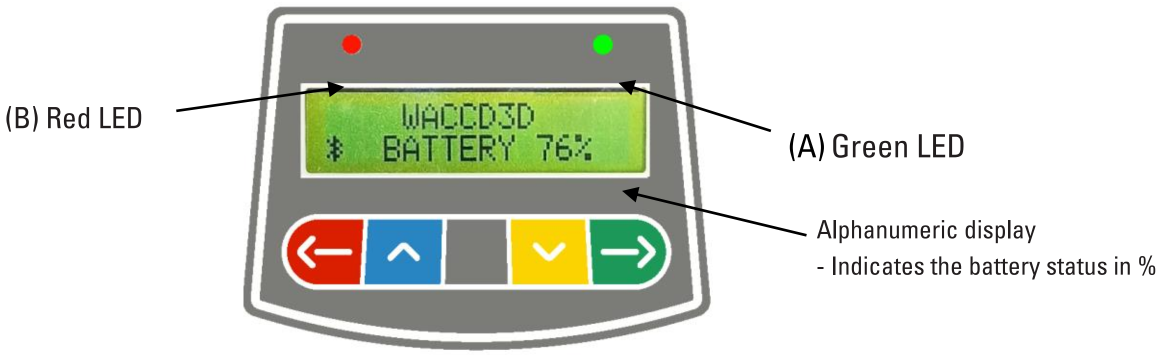


Figure 4

KEYS		DESCRIPTION
		Head ignition key.
		Pressed simultaneously they manually switch the head off.

Legend of Figure 4:

A -	• Green Led :	It is not used.
B -	• Red Led on steady:	The measuring head is on
	• Red Led flashing (fast):	The measuring head is turning on
	• Red Led flashing (slow):	The measuring head battery is low (when the remaining battery charge is lower than or equal to 30%); it will turn off after a few minutes

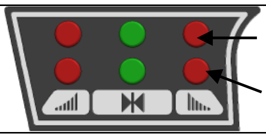
3.3.2 LED for indication of tollerance in adjustment

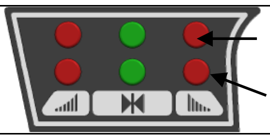
The measuring heads are equipped with side-mounted red/green LED indicators (see para. 3.3).
During the detection phases of the angles, these are simply switched on intermittently, to indicate the operation of the measuring devices.
during adjustment, they report the values in tolerance.

Tolerance indicator during adjustment

- Green Led flashing → the measurement is in tolerance exactly in the centre
- Red Led flashing together with the steady green → the measurement is in tolerance
- Red Led on → the measurement is NOT in tolerance

i NOTE: The toe tolerance is always indicated on the lower LED row.
During rear adjustment, the camber is always indicated on the upper row of LEDs
During the previous adjustment, both the camber and the incidence can be indicated on the upper row of LEDs. Select the desired value. The dedicated symbol  appears above the relative angle (see 7.11 on page 38).

LED on FRONT SIDE		CAMBER/CASTER tolerance (bring the "R" selection symbol to the desired angle) TOE Tolerance

LED on REAR SIDE		CAMBER tolerance TOE Tolerance

3.3.3 Automatic shutdown of detectors

The detectors turn off automatically after approximately 5 min. if they do not receive data, that is when the program is in a phase where data for the measurement are not transmitted/received (e.g. on the home page) or if the tablet is switched off. In any case, the detectors can always be switched off manually (see the table in para.3.4.1) when they are not being used.

3.3.4 Low battery warning

When the residual charge of one or more detectors is LOWER than or EQUAL to 30%, the program displays an "Attention" symbol "⚠" to signal an error condition (see chap. 8 on page 47).
Click on the "Attention" symbol to view the "low battery" error page with the details of the charge percentage (Figure 6). This signal is also given on the detector itself with flashing of the red power LED (see para. 3.4.1 on page 10).
It is necessary to place the detector back on charge as soon as possible.

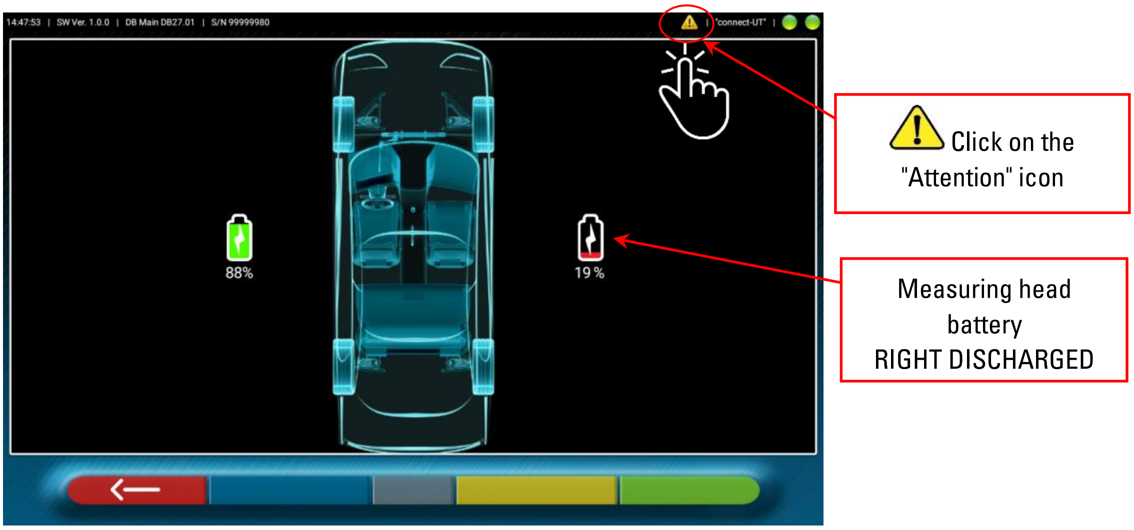


Figure 5

To exit the report page, press the key ⟵.

3.3.5 Battery charging compartment

In the upper part of the console there is the support dedicated to recharging the batteries.
When these are placed in their seat, the relevant red LED lights up.

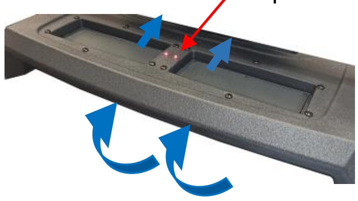


Figure 6

3.4 Clamps with target

The clamps are 4 self-centring type, including removable claws, where the target fits.

Clamps with 4 self-centring gripping points, complete with target (for rims from 10'' to 24'')

NOTE: on each clamp there is a label with warnings for hands and to refer to this manual before use

Figure 7

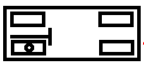
They are marked Front Left/Right and Rear Left/Right, according to the following table (See Figure 8):

FL = FRONT LEFT	FR = FRONT RIGHT
RL = REAR LEFT	RR = REAR RIGHT

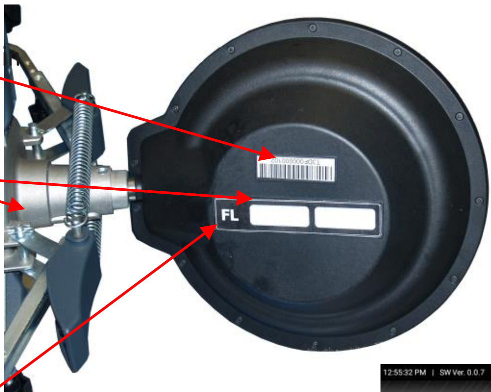
ATTENTION: the inclination of the targets is determined at the time of installation, as described in paragraph 5.3.1. Once the target has been mounted, during the procedure, it is only advisable to fix the clamps taking care to position them approximately vertically (see figures above).

Each target also has a barcode that describes the characterisation of the 3D object in space.
The clamp + target calibration and the progressive production code for traceability are also contained in the afore-mentioned code

3D object characterisation space



Adhesive graphic symbol illustrating the position (see para. 5.3.1). It must be applied both on the target and on the clamp.



position abbreviation (FL = FRONT LEFT)

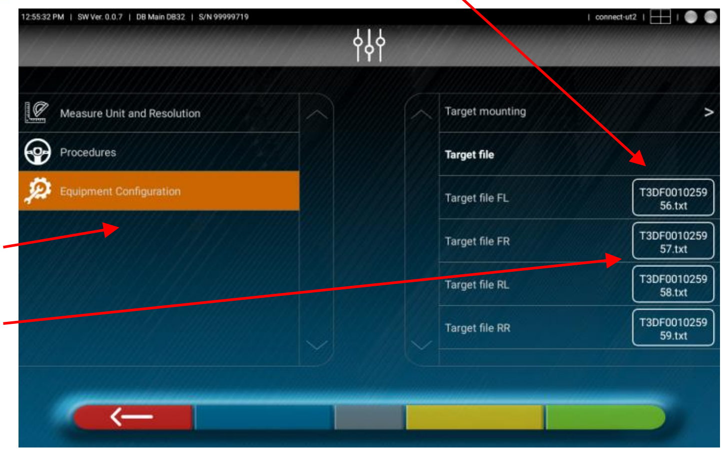
Figure 8

Upon installation of the 3D2.0WIFI APP, the files relating to the characterisation of the targets that are linked to the serial no. of the equipment are downloaded automatically.

It is advisable to check on first use that the target files, named just like the barcodes applied behind the same targets, have correct system configuration (the barcode label behind the target and file name must match), through the menu:

Equipment Setting/Configuration

It is also possible to insert these files manually, for example in case of replacement of the original targets, by clicking on the symbol on the right, and selecting them from a local path on the tablet or from a virtual drive.



3.5 Push-pedal

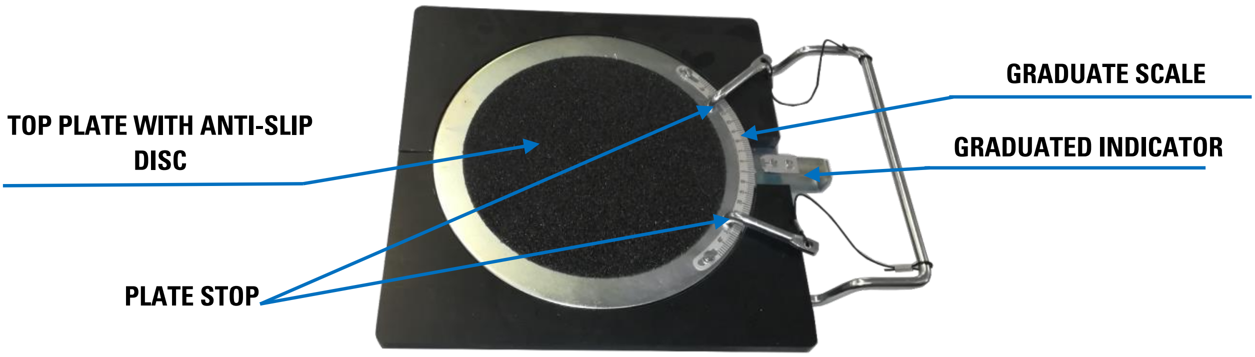
It is a tool used to lock the brake pedal during measurement preparation operations. It is to be used as shown in the instructions that appear during the program.

3.6 Steering lock

It is a tool used to hold the steering in a fixed position. It is used before the adjustment procedure as shown in the instructions that appear during the program.

3.7 Turn plates S110A7/P (available in option)

S110A7/P turntables have a plate diameter of 250 mm and a load capacity of 1,000 kg.



4 EQUIPMENT CHARACTERISTICS

4.1 Safety devices

The wheel aligner is equipped with a safety device (main switch) located laterally on the central panel of the machine, see Figure 1 on page 7. The main switch deactivates the power supply of the machine when placed in the "0" position.

⚠ WARNING

- In case of emergency or danger, unplug the power cord.

4.2 Measuring ranges and precision

Axle	Measurement	Precision	Measuring range	Total Measuring range
Front	Toe	± 2′	± 2°	± 20° x 2
	Partial toe	± 1′	± 1°	± 20°
	Set-back	± 2	± 2°	± 5°
	Camber	± 2′	± 3°	± 10°
	Caster	± 5′	± 10°	± 18°
	King-pin	± 5′	± 10°	± 18°
Rear	Toe	± 2′	± 2°	± 20° x 2
	Partial toe	± 1′	± 1°	± 20°
	Set-back	± 2′	± 2°	± 5°
	Camber	± 2′	± 3°	± 10°
	Thrust angle	± 2′	± 2°	± 5°

4.3 Overall dimensions/weights

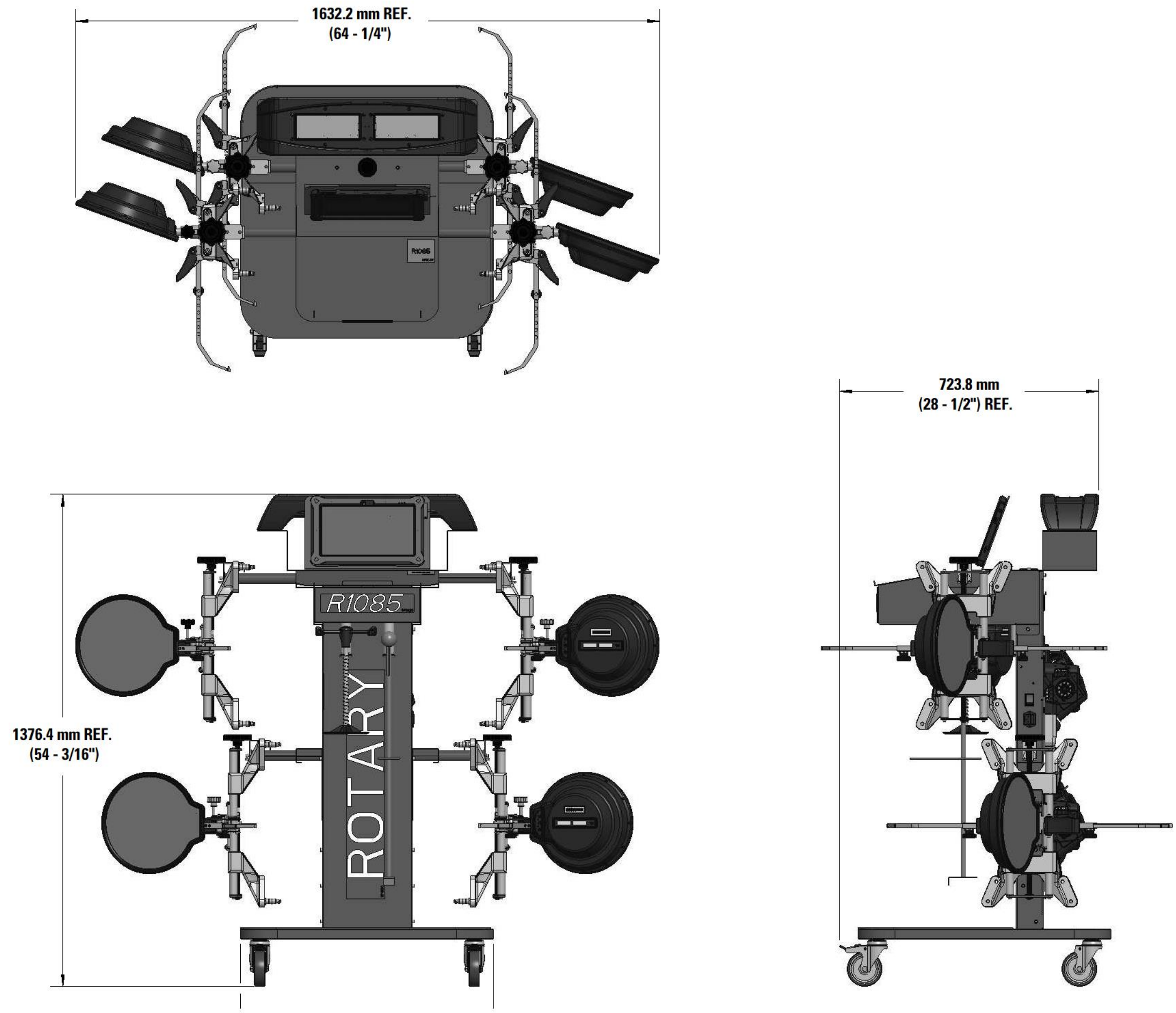


Figure 9

RWA3D1085 Weights

Only console:	about 103lb (47kg)
Including clamps/target + measuring head + tablet:	about 178lb (81kg)
Complete with couple of turntables S110A7/P:	about 238lb (108 kg)

ATTENTION

Turntables S110A7/P (See chap. 3.7) accessories must be placed on the lower base.

5 TRANSPORTATION AND INSTALLATION

5.1 Transportation and unpacking

The equipment is supplied packed in a box secured onto a pallet to facilitate transportation.

⚠ ATTENTION

• To transport the machine to the point where it will be installed, use lifting and transport means such as forklifts or lifters equipped with forks.
• The equipment must be stored and packaged in areas protected from the element's, not exposed to rain or temperatures below freezing and preferably dry and well ventilated.
• The packaging must never be overturned or arranged horizontally, the pallet must always rest on a flat and solid surface, do not stack other packages on top, the arrangement must allow easy reading of the indications.

⚠ WARNING

- Always wear gloves and safety shoes during unpacking.

Make sure all parts listed in Figure 1, page 7, are present and undamaged.
The packaging material (plastic bags, polystyrene, nails, screws, wood, etc.) must be kept collected and disposed of according to the regulations in force, with the exception of the pallet, which could be reused for subsequent handling of the machine.

5.2 Installation

⚠ ATTENTION

- Do not install the equipment in places where an over abundance of dust is present (pollution degree equal to or greater than 3).

Install the equipment in indoor areas, sufficiently lit and protected from outside elements. The minimum dimensions of the area where the cabinet can be located are 2500x2500 mm (98-7/16” x98-7/16”), the dimensions of the cabinet are indicated in chapter 4.3

⚠ WARNING

- Before positioning the equipment, make sure that the chosen location is suitable for the local regulations in force on workplace safety and check the minimum distances from walls or other obstacles.
- The enclosure's electrical socket must be free from obstacles and accessible in an emergency

5.3 Electrical connection

⚠ ATTENTION

Before connecting the machine, carefully check that:

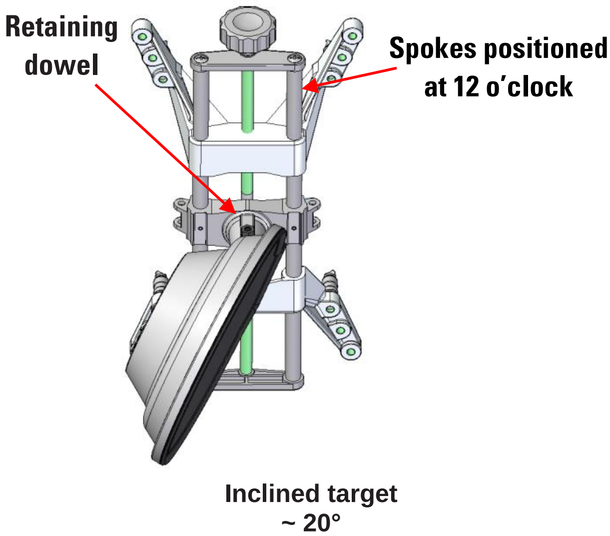
- the characteristics of the power line correspond to the requirements of the machine indicated on the relative plate;
- the earthing line is present and that it is adequately sized (section greater than or equal to the maximum section of the power cables);
- all the components of the power line are in a good condition;

⚠ WARNING

• Connect the machine to the mains using the supplied 3-pin plug (110V AC) via the wall socket. If the plug supplied is not suitable for the one on the wall, equip the machine with the plug in accordance with the local laws and current standards and regulations. This operation must be performed by experienced and qualified personnel.

5.3.1 Clamp/Target Assembly

The targets should be mounted on the clamps and oriented at approximately 20°. To perform this with precision, the procedure described below is used.



Mount the targets on the clamps oriented approximately 20°, as shown above, and place them all on a vehicle.

ℹ Be sure to mount the clamps with the spokes strictly vertical (12 o'clock), as in the figure above.

Select the "*target assembly*" option through the "*Settings/Equipment configuration*" menu.

As soon as the targets are attached and optimized, the screen shown in the figure below appears.

Carefully orient the 4 targets by aligning the arrow with the target positioned above. If one or more targets are not correctly oriented, the symbol "X" appears (see example in the rear left clamp).

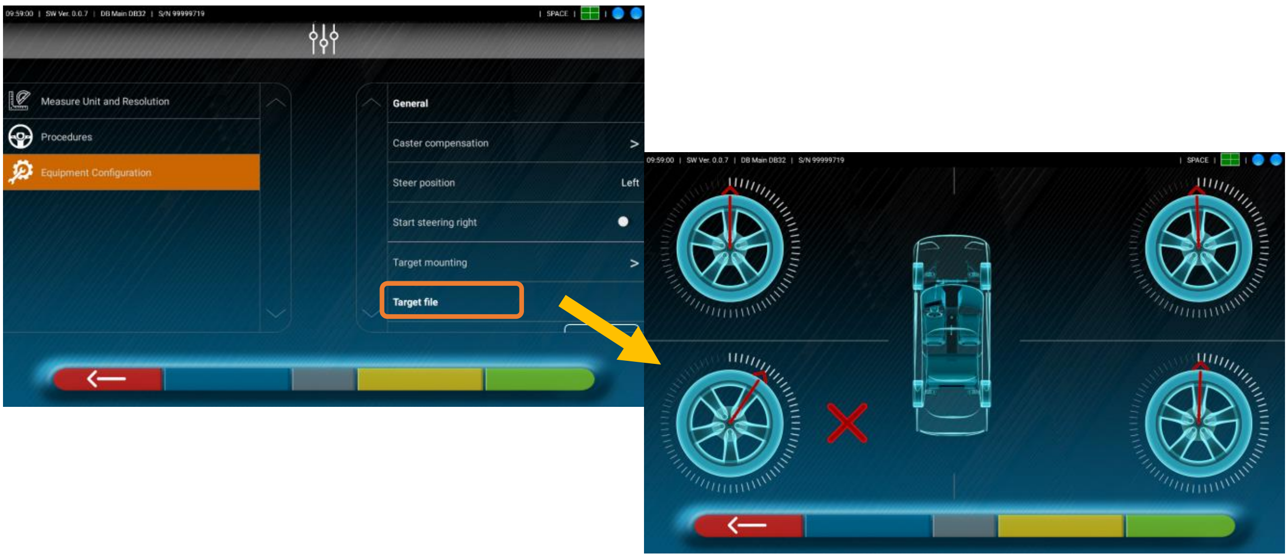
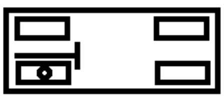


Figure 10



Apply two stickers provided for each clamp/target group, identifying the front left (FL), front right (FR), rear left (RL) and rear right (RR) positions.

See Figure 8 on page 12

5.3.2 Attaching measuring head supports

It is necessary to drill 3 holes for M8 screws on outside surface of each runway, in order to fix the supports of the measuring heads, making sure that the distance from the centre of the heads to the centre of the rotary plates is 45-9/32" (1150mm). If it is necessary to measure vehicles with a very long wheelbase, it is possible to move the plates forward by a further 15-3/4" (400mm).

The maximum distance from the rear wheels to the centre of the heads is 124" (3150mm).

NOTE: Be sure to drill the holes at a distance of 45-9/32" (1150mm) on both sides of the lift.

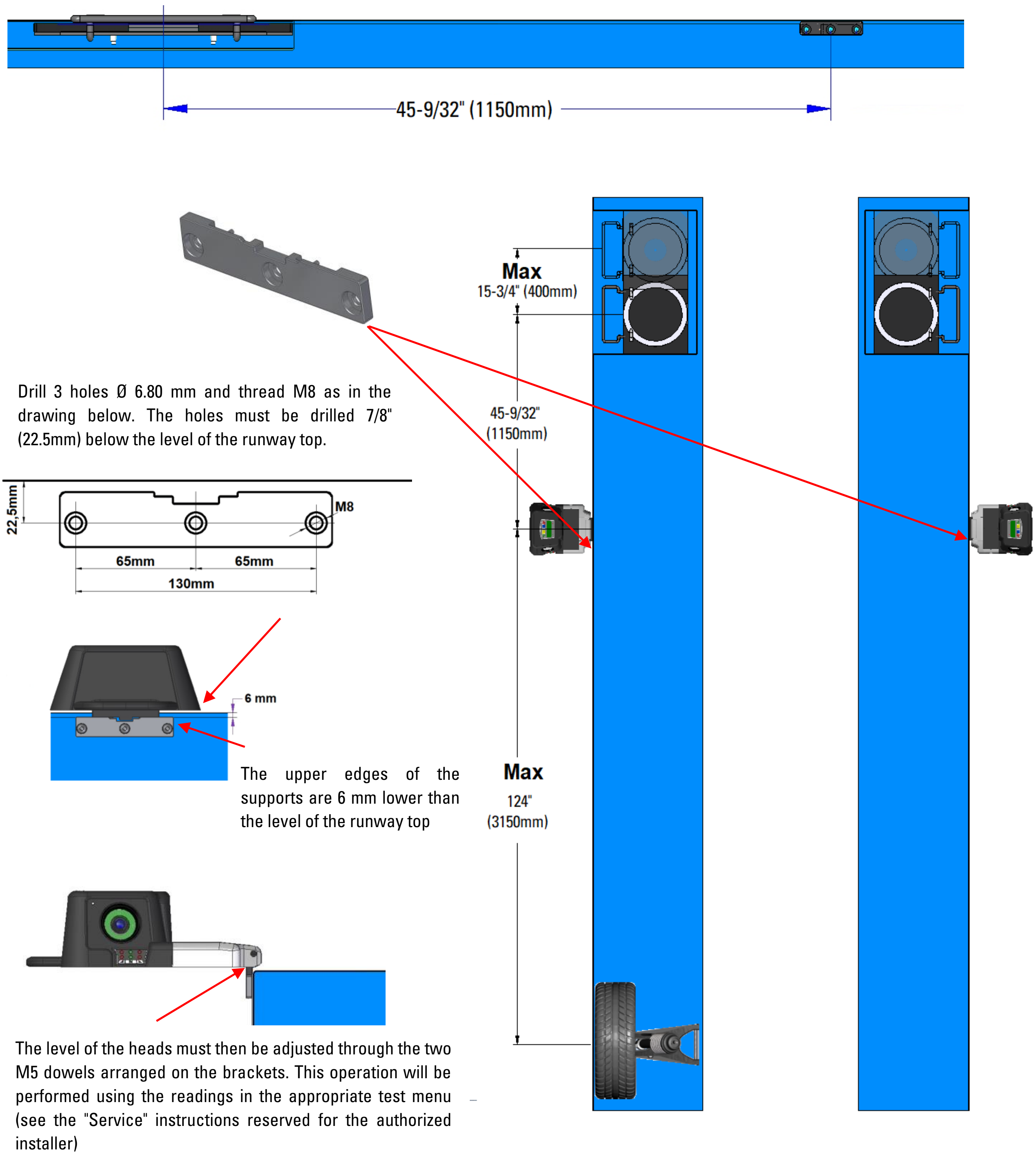
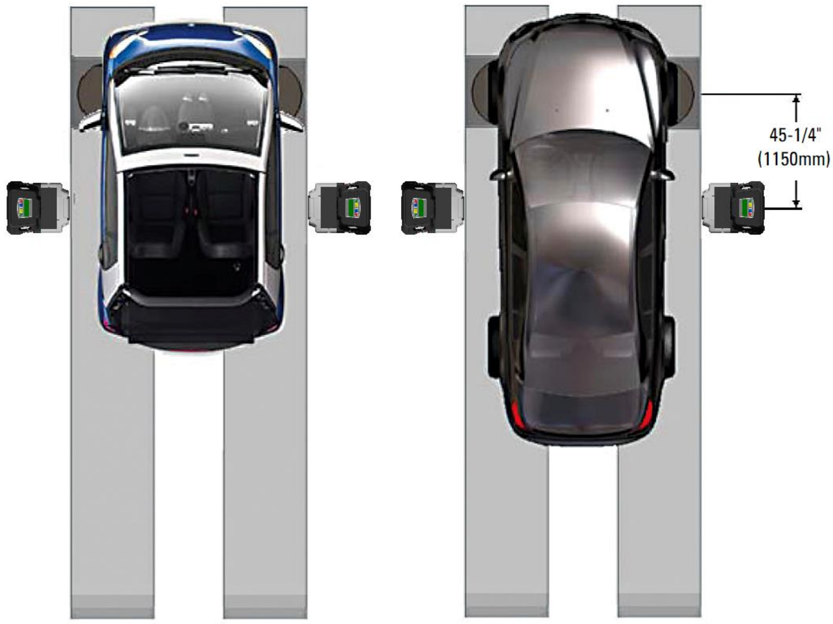
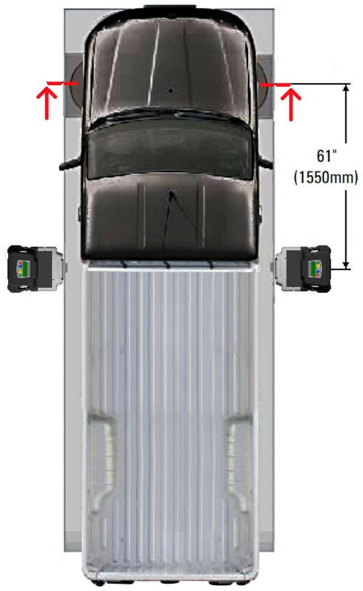


Figure 11

The 3D system can measure cars and vans with two axles and with wheelbase from 70-7/8" (1800mm) to 185" (4700mm); and with track between 47-1/4" (1200mm) and 78-3/4" (2000mm).



For vehicles with small and medium wheelbase, place the rotary plates at normal distance from the head (distance between heads / front target 45-1/4" (1150mm)



For very long wheelbase vehicles: Position the rotary plates away from the head (distance between heads / front target 61" (1550mm)

6 SETTING UP THE APPLICATION

6.1 Program system configuration

To start the 3D2.0WiFi program click on the icon ; the program starts and the presentation page is displayed on the Tablet, from where it is possible to access all the main functions of the equipment.

the functions actually available may depend on the type of device and the version of the operating system being used.

Figure 12

Select the key to continue and start the vehicle diagnosis and adjustment procedure (see para. 7 on page 25).

Select the key to be able to configure the program. Access is provided to a system configuration menu that can be used to change the characteristics of the application as required - See Figure 13.

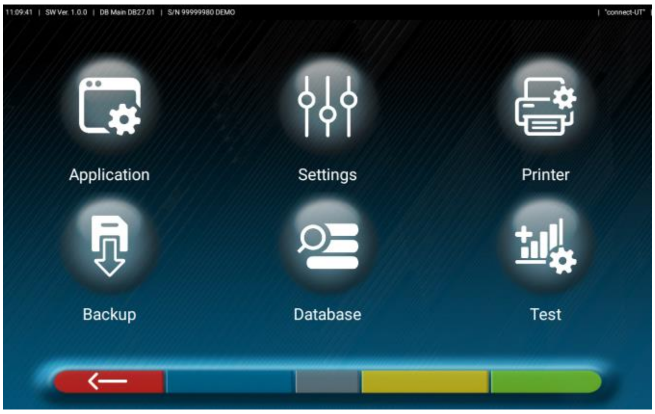


Figure 13

The various possible options relating to each of the menus indicated in Figure 13 are illustrated below:

Application: Figure 14 - It is possible to activate and set up any functionalities available in your system configuration such as TEq-Link (para. 7.15 on page 46).

It is possible to perform a Bluetooth-compatible search to connect the detectors to the Tablet (para. 6.2 on page 22). It is possible to perform system configuration of the sounds associated with events during adjustment or out of focus.

In addition, it is possible to set the "Demo" mode and access the licence activation (see info on the quick guide, code M0335) and the info on the 3D2.0WiFi App.

Figure 14

Settings: Figure 15 - It is possible to modify the parameters concerning the measurement units and the resolution of the angles, set the toe calc. method as “STANDARD" or "USA" or display separate tolerances between the left and right side.
It is also possible to customize particular set-up procedures such as displaying of the graphics with the driver's side on the right or left, and insert search filters on the display of vehicles from historical sources.
The "Test Drive" toe adjustment check procedure can be enabled/disabled (see chap. 7.12.2).
It is possible to check/insert the target characterization files (see chap. 3.4).

Figure 15

Printer: Figure 16 - In the "Printer" menu, it is possible to customize the print report by entering the data to the workshop; it is possible to select the type of printing desired (graphic or tabular) and choose the fields to be entered which will then be displayed in the report (operator, mi. or km. travelled, chassis number, etc.).

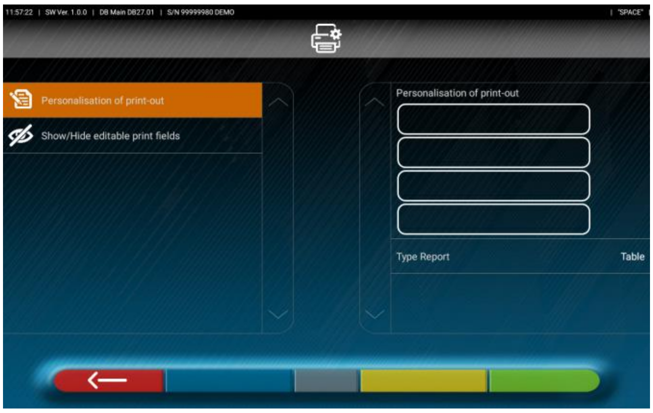


Figure 16

**Database:** Figure 17 - In the “Database” menu it is possible to perform the system configuration of groups with different brands as required, update the database and read the disclaimers of the data suppliers. See para. 6.3

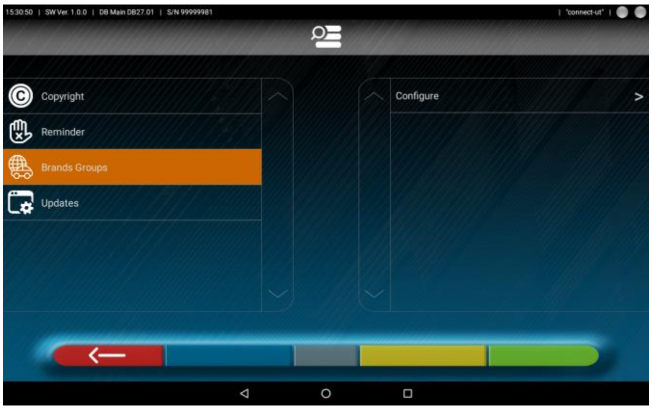


Figure 17

**Test:** Figure 18 - In the “Test” menu various options are available to analyse the functionality of the various detectors measuring devices. The instructions for these operations are provided separately and reserved for specialist personnel authorized by the manufacturer.

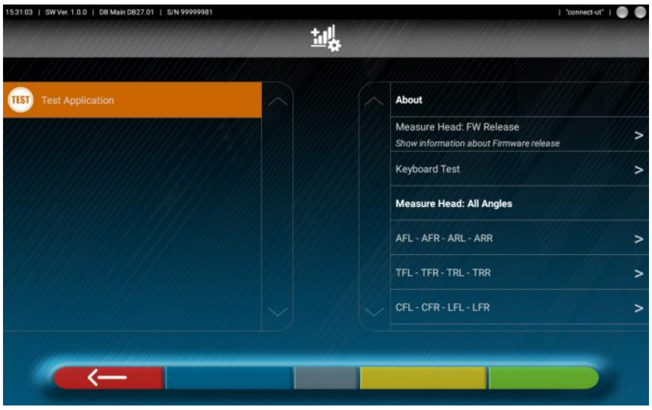


Figure 18

 **Backup:** Figure 19 - In the “Test” menu, options are available to save and restore the set system configuration or to restore the factory App settings.

Figure 19

To return to the system configuration menu (Figure 13) press the key 

6.2 Bluetooth detectors connection

Before starting to use the alignment SW, if not performed previously, it is necessary to connect the measuring heads with the Tablet, through the procedure of the system configuration menu (see Figure 13) Application\ BT connection, described below.

Press the key in the initial page of the program and then use the key to access the "Application" menu.

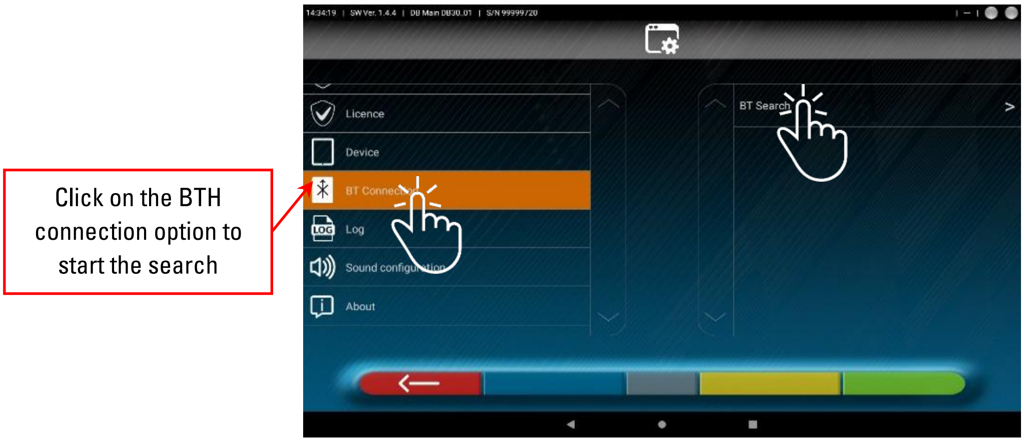


Figure 20

The page appears where it is necessary to press the key to start the sensor search.
When the sensors are found, select the two items (they will be highlighted in orange) and press the key to confirm.

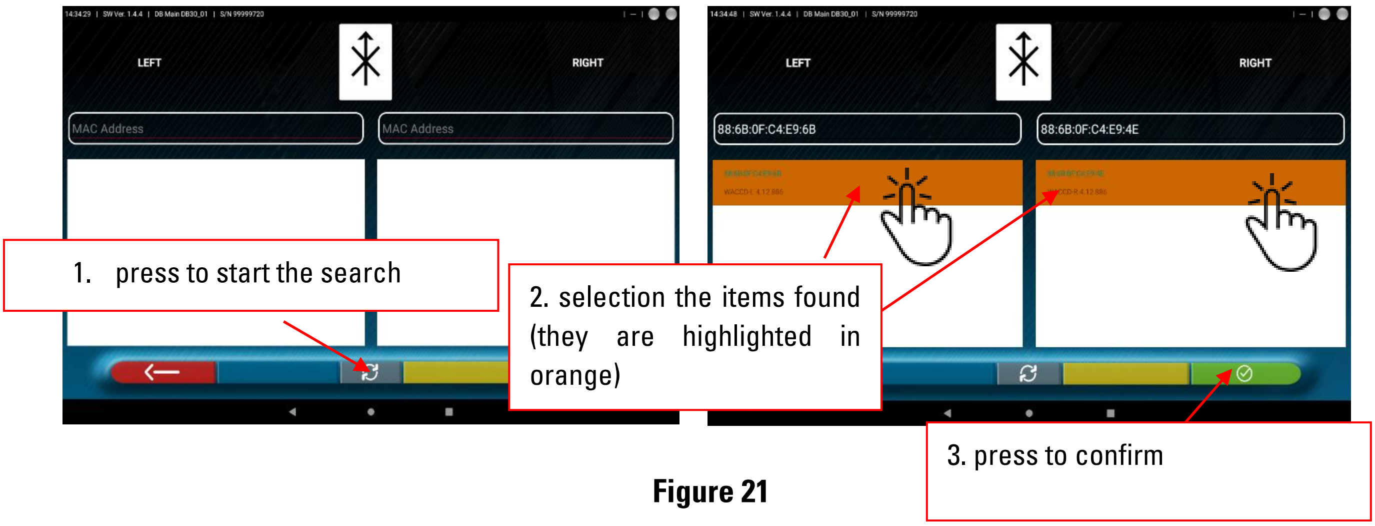


Figure 21

The connection status of the 2 sensors is shown at the top in the right part.
The left and right sensors are connected and ready for communication with the tablet →
The left and right sensors are not connected (they are for example turned off) →

6.3 DATABASE System Configuration

It is possible to customize the vehicle database, choosing which "groups" to show, or it is possible to create new groups or modify those present, adding or removing makes.

It is possible to view information on existing databases or check for new updates.

Select the "DATABASE" option on the program system configuration page - See para. 6.1 Figure 13 – then select Make Groups > System Configuration

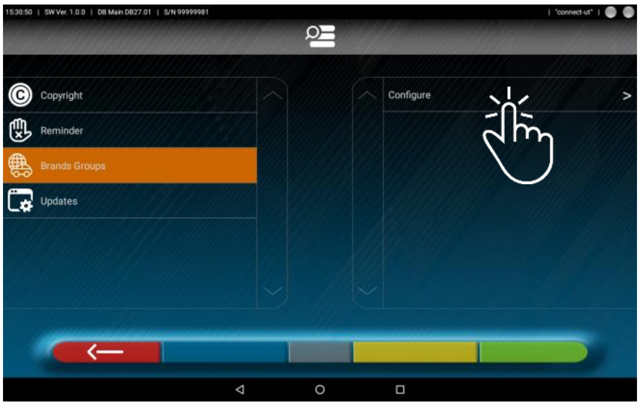


Figure 22

6.3.1 Modifying Groups

The page of Figure 23 displays a list, with the various "profiles (groups) of the DATABASE, containing the MAKES of vehicles in circulation in different countries or regions of the world.

Through the On/ Off switch selectors, it is possible to hide and/or display any group in order to manage the database as required.

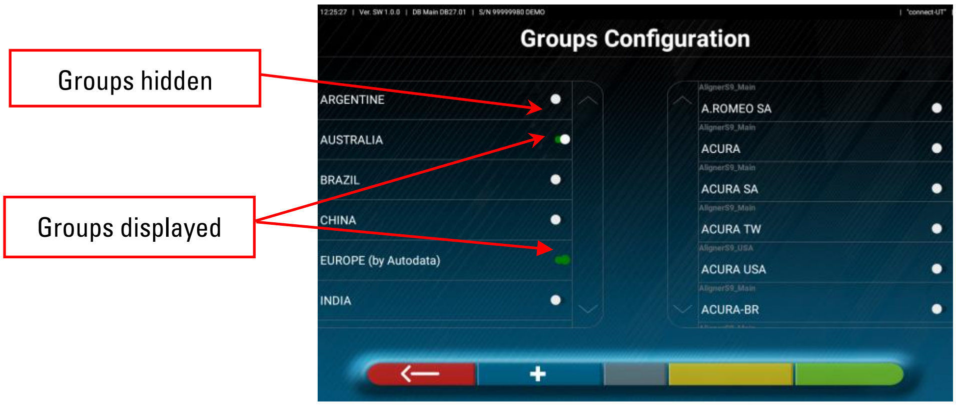


Figure 23

By selecting a group it is also possible to customize it by hiding and/or displaying the makes present, again using the On/ Off switch selectors.

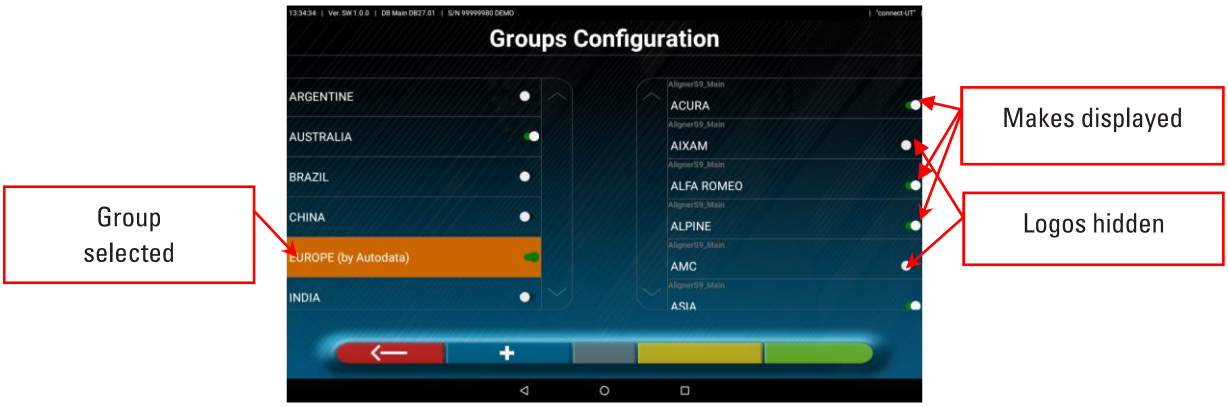


Figure 24

6.3.2 Adding new Groups

It is also possible to create a new custom group and insert the required makes within it.
Click on the key [+]. A new item is generated at the top of the group list.
Edit the field highlighted in orange with the name of the desired group.
Then, using the On/ Off switch selectors, set the makes to be displayed within the new Group.
Note: to remove a custom Group click on the key [X]

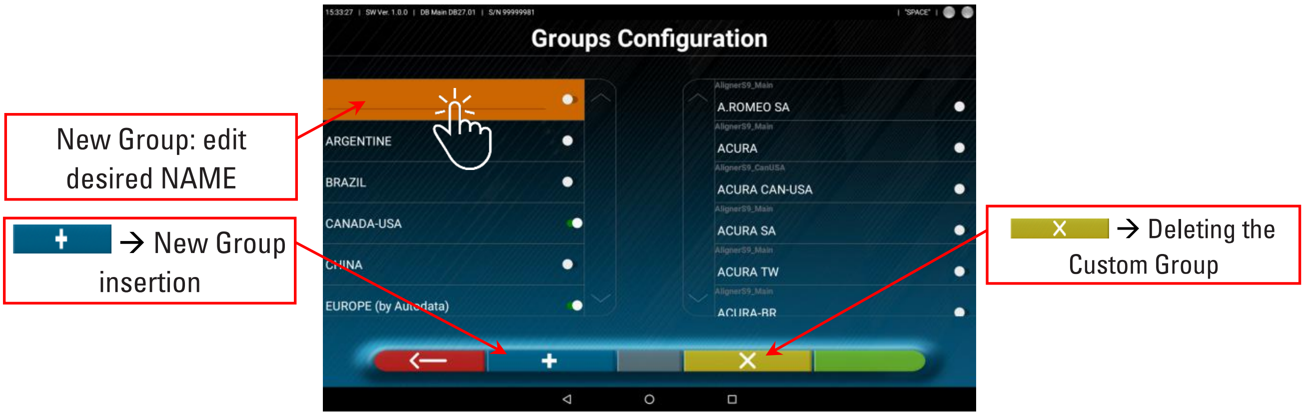


Figure 25

6.3.3 Info and Database Update

Clicking on the "updates" icon it is possible to view information on the system configuration and version of the databases present. It is also possible to check the availability of new updates and possibly download them (for this it is necessary to have an Internet connection, simply activate the WI-FI connection on the tablet and connect to an available network).

Figure 26

7 DIAGNOSIS AND ADJUSTMENT OF A VEHICLE

To start the 3D2.0WiFi program click on the icon ; the program starts and the home page is displayed (Figure 27) from where it is possible to access the main functions of the equipment.

Figure 27

Select the key to continue with the vehicle selection in the database (see para. 7.1)

7.1 Selecting the vehicle make and model

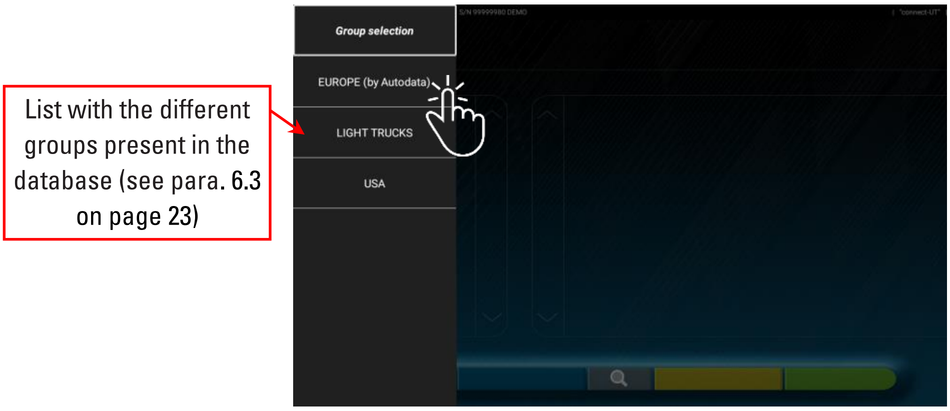


Figure 28

Select the group from those available, the program shows the list of makes of the chosen group (see Figure 29). By scrolling up and down the lists, select the vehicle make and model.

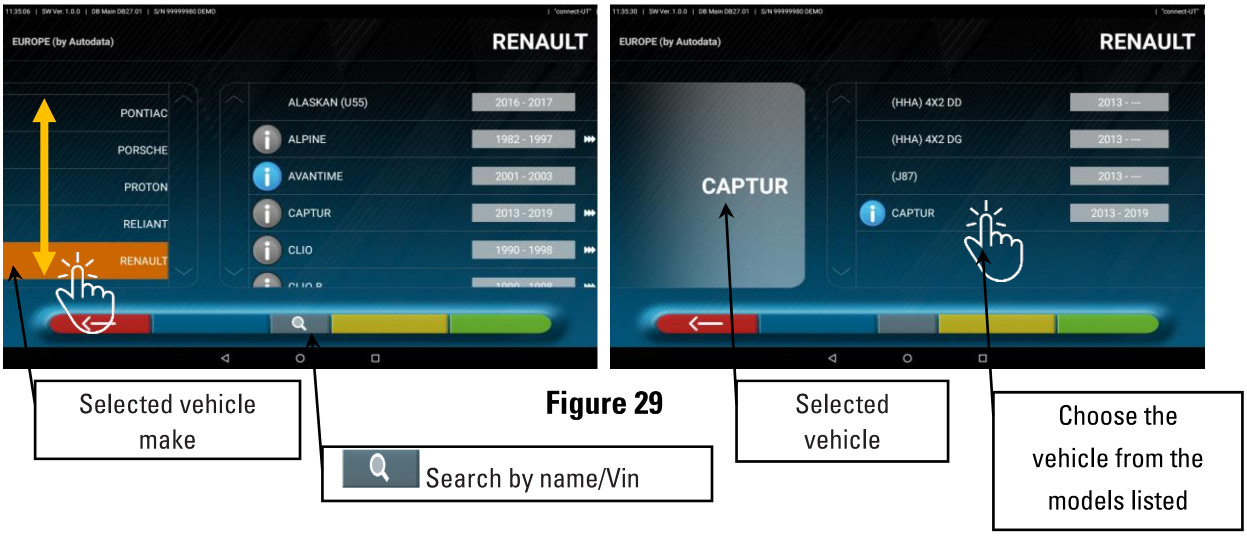


Figure 29

By pressing the key  from Figure 29, it is possible to select the search method by name.

Type the model name in the box and tap the icon , The vehicle or group of vehicles identified in the database is shown.

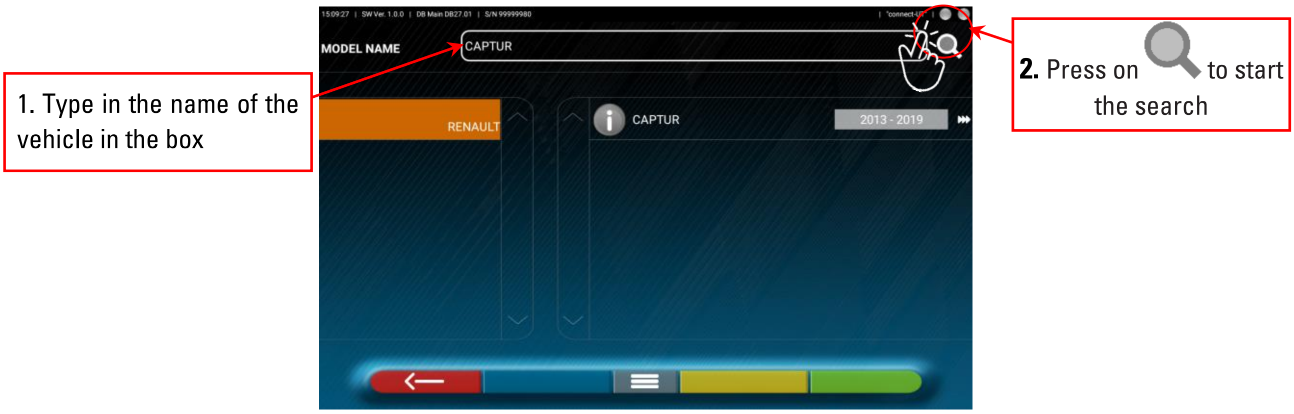


Figure 30

NOTE: if the USA-MOTOR database is present in the device, the search method can be set by "Name" or by V.I.N (*) - See Figure 31.

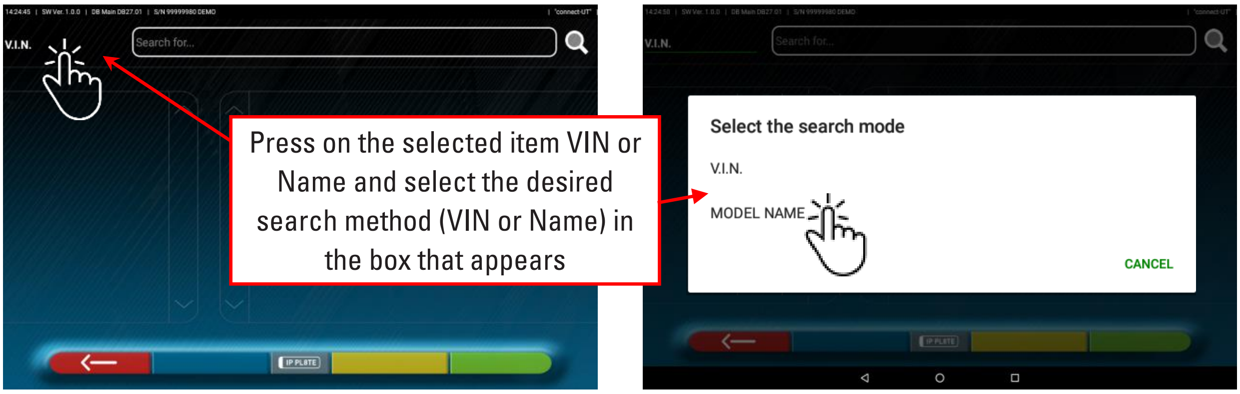


Figure 31

(*) *The V.I.N. (Vehicle Identification Number) is a unique serial number used by the automotive industry to identify motor vehicles. It consists of a plate with 17 alphanumeric characters usually located inside the* drivers door jamb and/or L/H corner of dash.

To set the vehicle make selection method "group/make/vehicle" again (Figure 29), press the central key again  in the screen of Figure 30.

7.2 Displaying of pre-selected vehicle technical data

After selecting the vehicle (see para. 7.1), a screen is shown with the measurements and tolerances of the angles (minimum, central and maximum values) and other additional data, such as rim diameter, wheelbase, track and any load and tank conditions **(*)** (Figure 32).

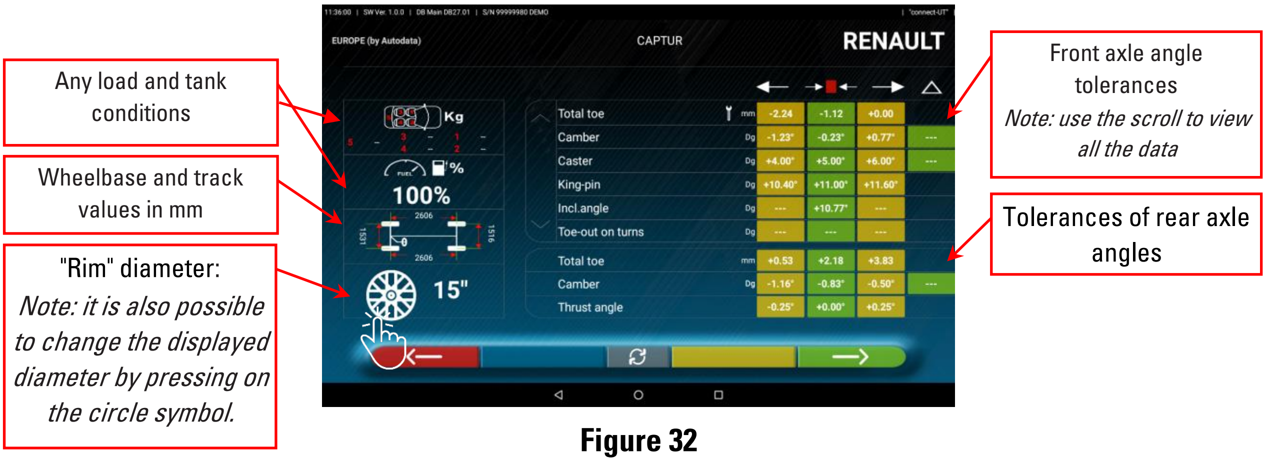


Figure 32

The screen with the measurements and tolerances can be represented as in Figure 37: with a single column of homogeneous values for the left side and the right side.

In the "Settings" menu (see Figure 15 on page 20) it is also possible to set the display of the data separated between the left and right side (some vehicles may have slightly different tolerance values for the left and right side).

By pressing the key it is also possible to view the measurements with the central value and the overall tolerance "±" (see Figure 33).

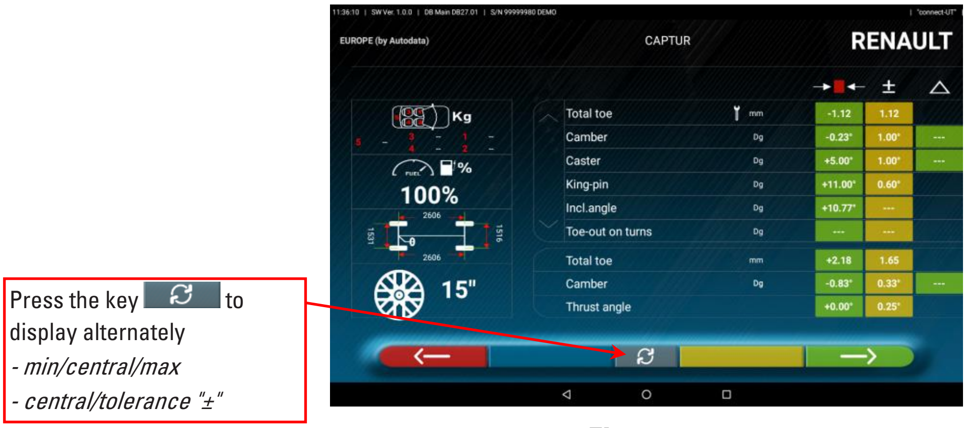


Figure 33

Press the key to continue with the preliminary operations on the vehicle (para. 7.3 on page 31).

i The device with the 3D2.0WiFi APP contains technical information relating to vehicles, provided through official databases. Access to the system and information is subject to the reading and acceptance of a Disclaimer, which is shown on the device after the first use of the APP.

7.2.1 Display of ADDITIONAL MEASUREMENTS on RIDE HEIGHTS

Some manufacturers (e.g. Mercedes, Renault) provide angle tolerance values according to particular measurements on the vehicle chassis.

When the selected vehicle has angle tolerance values linked to additional measurements on the chassis, the key  is present on the technical data page (Figure 34). Press the key to view the page with the details of the measurements on the chassis.

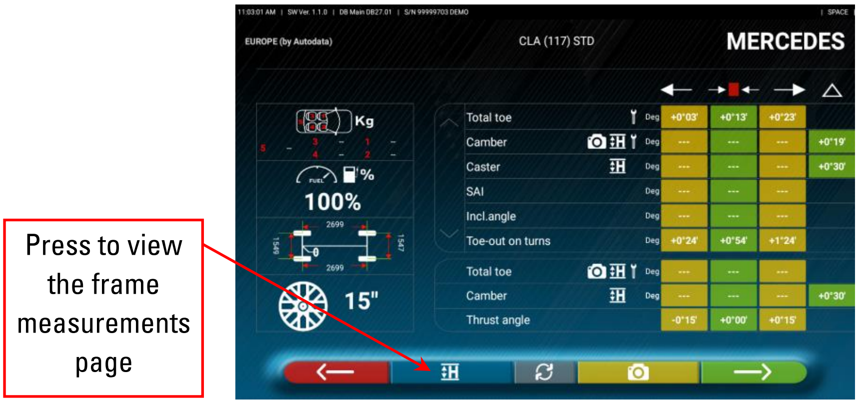


Figure 34

The program displays a page as in the example of Figure 35, Use the scroll to view the different images. Click on the image to enlarge it.

Scroll through the different heights/angles in the tables and select the correct values.

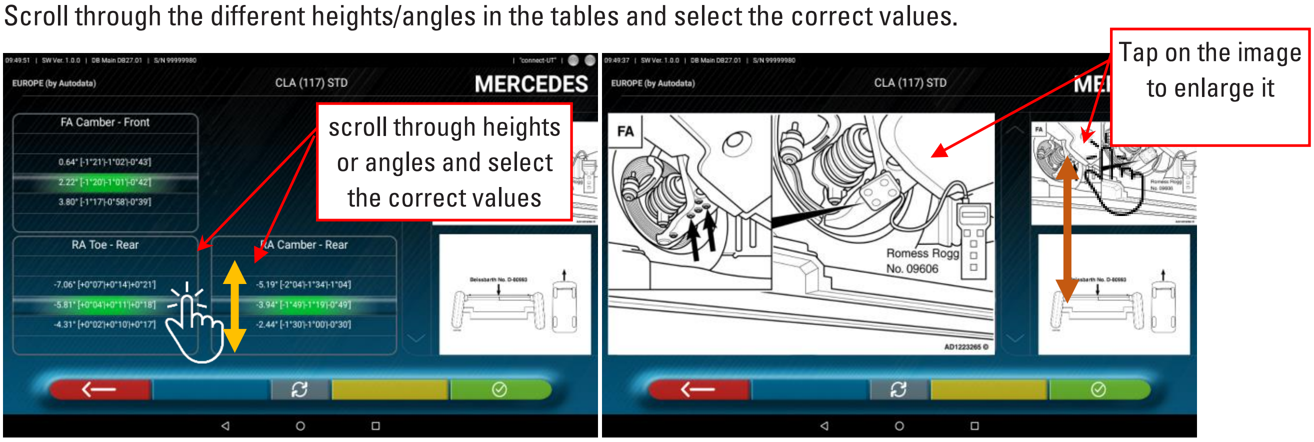


Figure 35

The measurements can be inserted by selecting them from the tables, as in the example above in Figure 35, or, by tapping the key  a page is displayed as in the example in Figure 36, where the values can be entered directly.

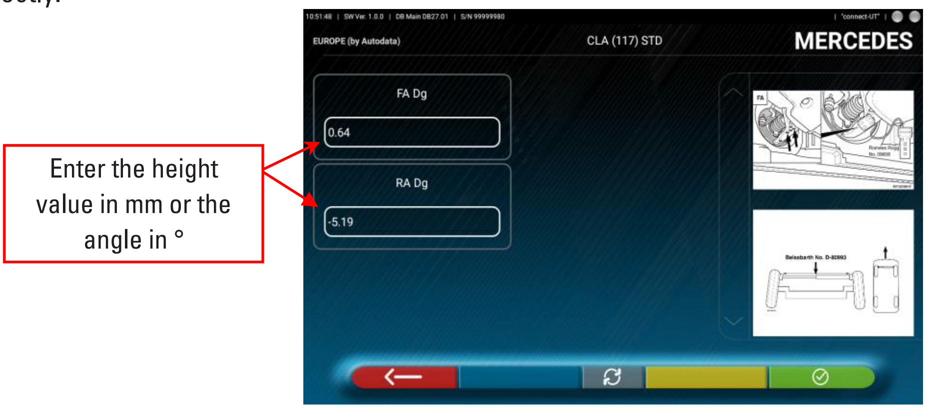


Figure 36

Tap on the key  to confirm the values inserted.

7.2.2 Display of CHECK MEASUREMENTS on RIDE HEIGHTS

Some manufacturers (e.g. Citroen, Peugeot) provide tolerance values referring to particular measurements on the vehicle chassis (control values).

When the selected vehicle has tolerance values with control values, the technical data page (Figure 37) includes the key . Press the key to display the page with the details of the control values.

Figure 37

The program displays a page as in the example of Figure 38, use the scroll to view the different images, click on the image to enlarge it.

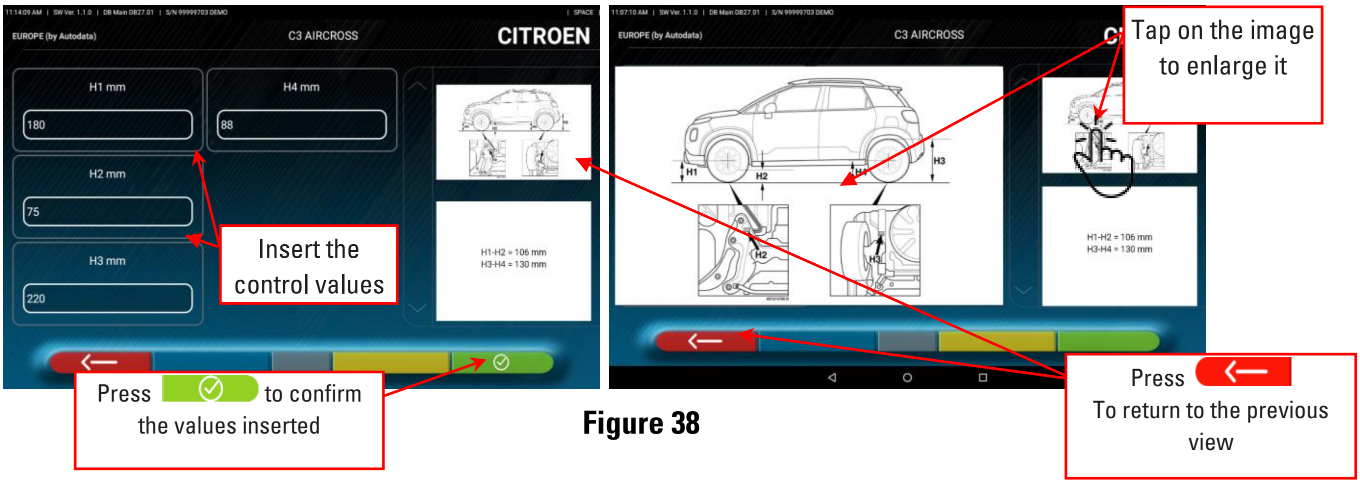


Figure 38

Enter the control values directly, and press the key to confirm the values entered.

7.2.3 Display of images for AID in ADJUSTMENT

For various vehicles of some manufacturers, images are available to assist in adjustment, which indicate the adjustment modes on the various angles of the vehicle, such as the camber and incidence of the front axle or the inclination and toe of the rear axle.

When the selected vehicle has adjustment assist images, the key is present on the technical data page (Figure 39). Press the key to view the adjustment aid images.

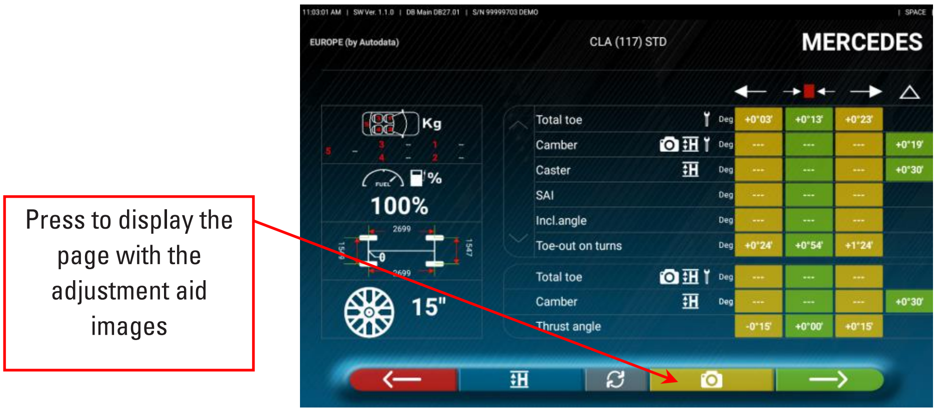


Figure 39

The program displays a page as in the example of Figure 40. Use the scroll to view the different images. Click on the image to enlarge it.

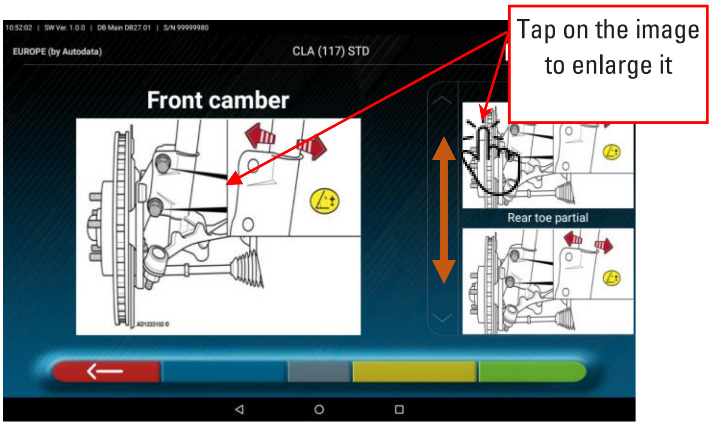


Figure 40

Press the key to return to the vehicle technical data page.

Note: even during the rear or front adjustment phase (para. 7.10 p. 37 and para. 7.11 p. 38), if there are images for help with adjustment, the , is available, to be able to view them if necessary.

7.3 Preliminary operations

7.3.1 Preliminary vehicle inspection operations

Before carrying out the vehicle alignment check, it is necessary to perform a number of preliminary checks:

- *Check and if necessary eliminate the play on the suspension and on the steering linkage.*
- *Check and if necessary eliminate possible hardening or yielding of the elastic parts of the suspensions.*
- *Adjust the tire pressure to the values prescribed by the manufacturer.*
- *Position and distribute any loads envisaged by the manufacturer .*

7.3.2 Run-out preparation

After viewing the vehicle technical data page (see para. 7.2 on page 27) press the key to continue. The page in Figure 41 appears, illustrating preparation of the vehicle for the run-out procedure:

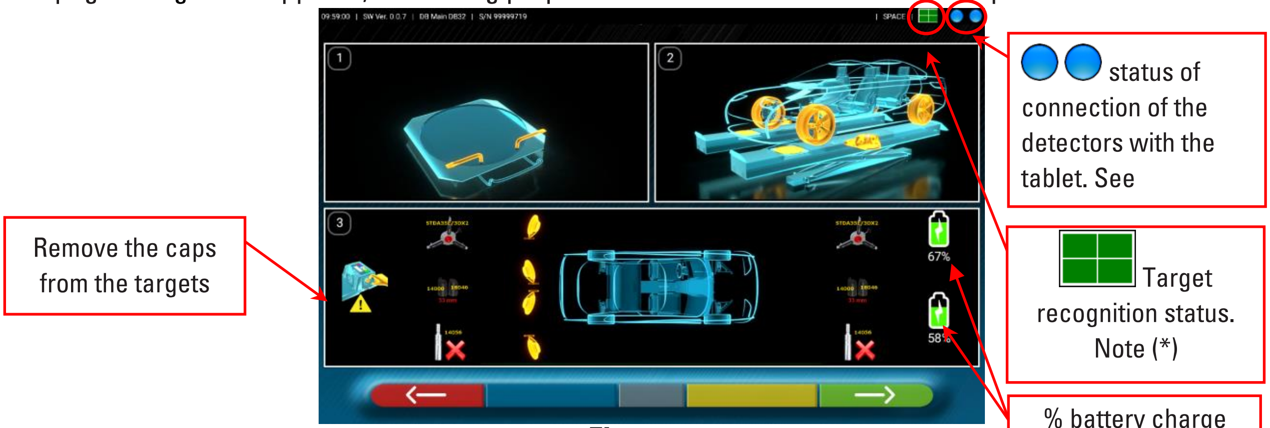
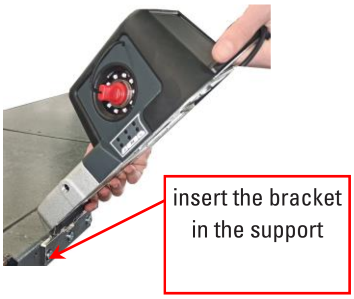


Figure 41

- Prepare for measurements. Lock the radius gauges and all the rear steers plates.
- Drive the vehicle in position on the vehicle lift correctly, with the front wheels on the radius gauges.
- Attach and switch on (*) the 2 measuring heads on the edges of the runway (see Figure 3) Mount the clamps with the four targets on the wheels, positioning the upper arm at 12 o'clock



i The system takes a few seconds to complete correct recognition of the targets; during this phase, and in the subsequent ones in which measurements are carried out, symbols appear in the lower right part of the screen that represent the progress of the recognition of the 4 targets. See legend below.

= Target NOT recognised (GREY symbol)
= Target recognised and being optimised (GREY symbol)
= Target recognised and optimised / invalid measurements (YELLOW symbol)
= Target recognised and optimised / valid measurements (GREEN symbol)
= Target not required at this stage (BLACK symbol)

7.4 Run-Out

The **run-out** procedure is carried out to compensate for any decentring that exists between the plane passing through the wheel and the one that is actually measured.

However, this procedure can be skipped, when required, with the key .

7.4.1 Push Run-out with automatic acquisition

The run-out procedure is useful to compensate for any inaccuracy of the rims and clamps.

It is possible to activate this procedure even after having carried out the vehicle diagnosis by selecting the appropriate key  during the DIAGNOSIS and ADJUSTMENT data summary phase (see chap. 7.12).

In order to carry out the run-out procedure, it is necessary to have performed the preparation as explained in para. 7.3.2.

It is necessary to mount the clamps by positioning the vertical spoke at approximately 12 o'clock, so that by performing the run-out the targets always remain correctly visible to the cameras. If one or more positions are not acceptable, the error screen shown below appears, showing for example an incorrectly positioned rear left clamp. Simply position the "12 o'clock" clamp, the program proceeds automatically.

By pressing F1 instead, the error is not considered. In the case of run-out, it may not be possible to complete the procedure.

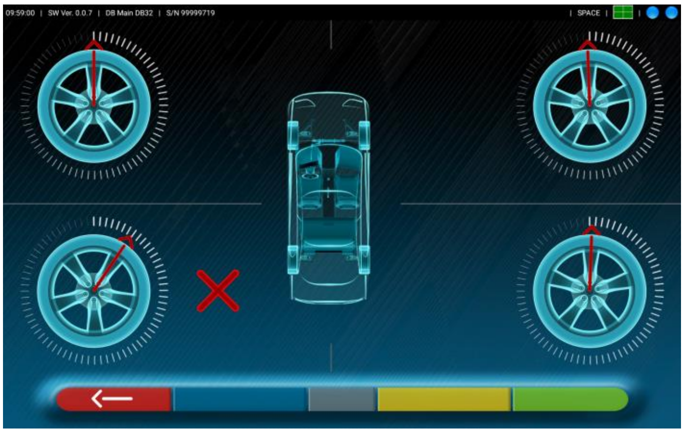


Figure 42

Press the key  from the preparation phase to the run-out (see para. 7.3.2). The following screen appears:

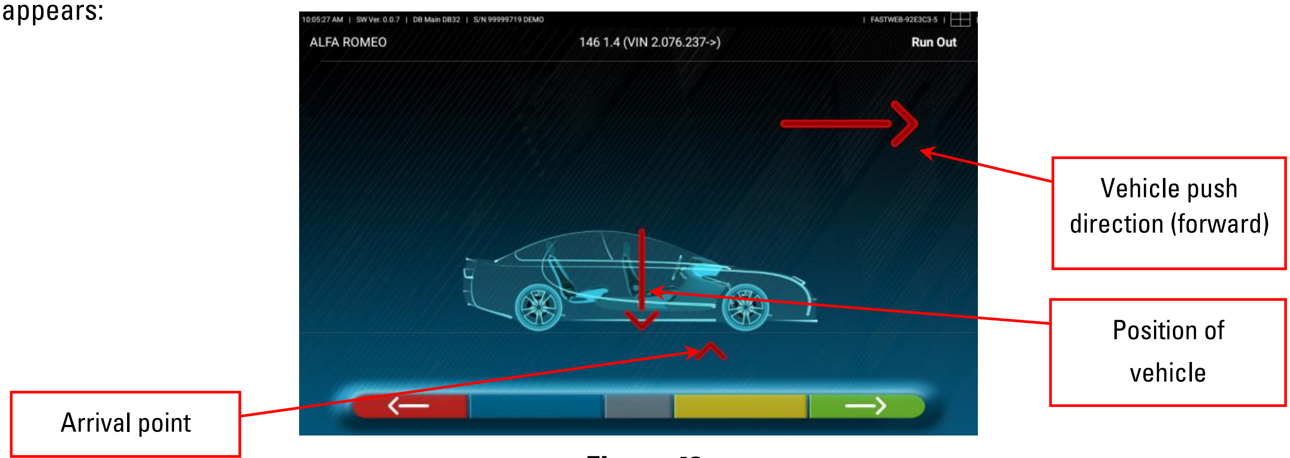


Figure 43

To perform the push run-out operation, it is advisable to carefully follow the visual instructions that appear on the screen. When ready, move the vehicle forward very slowly until the arrow of the vehicle matches the point of arrival.

i always move the vehicle pushing it from a rear wheel, never push from the bodywork.

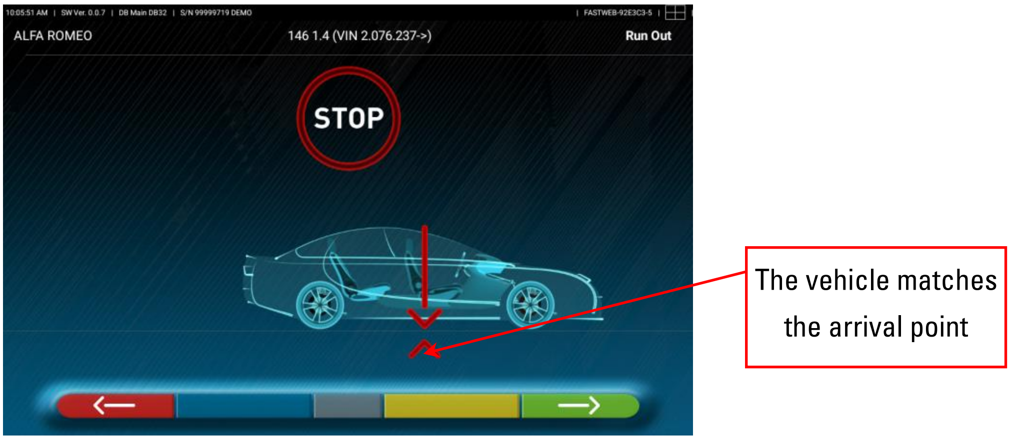


Figure 44

"STOP" is displayed for a few seconds, that is the time necessary for the program to acquire the measurements, after which the program displays the screen indicated below: Start moving the vehicle backwards, very slowly, until the arrow of the vehicle matches the point of arrival.

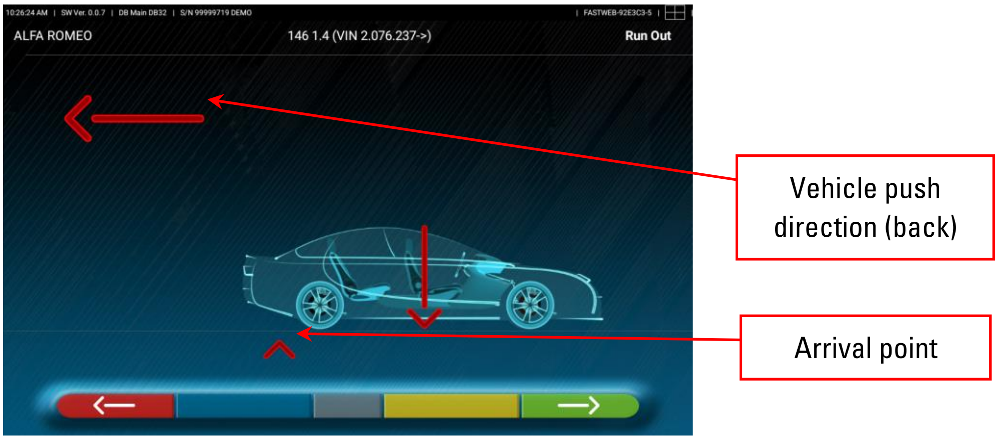


Figure 45

As soon as the vehicle matches the arrival point, "STOP" is displayed for a few seconds, that is the time necessary for the program to acquire the measurements, after which the program displays the following screen:

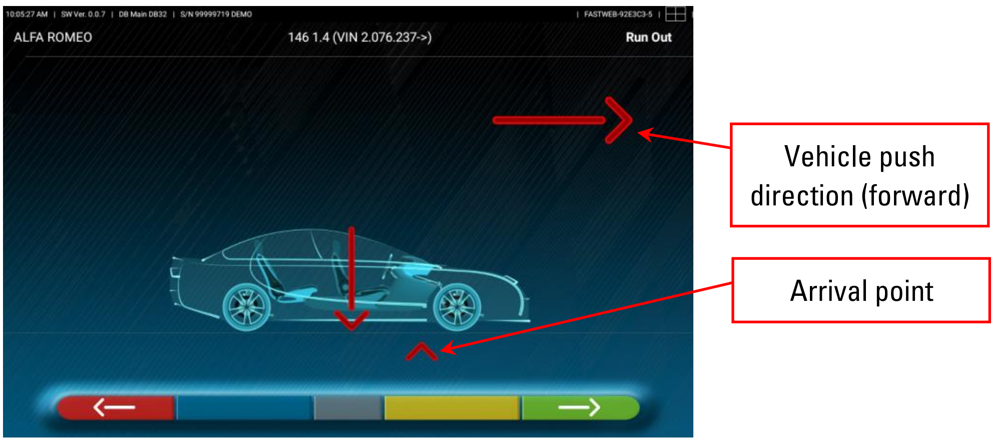


Figure 46

Move the vehicle forward again, until the arrow of the vehicle matches the arrival point (return to the starting position in the centre of the plates), "STOP" is displayed for a few seconds, the measurements are acquired. The push run-out procedure has been performed.

To repeat the operation, having already advanced in the program, it is possible to return to this page by pressing the key  and then repeat the operations mentioned above. When the run-out has been performed, the program automatically proceeds to the next step.

7.5 Preparing for measurements

After carrying out the run-out procedure, as explained in para. 7.4 on page 32, it is necessary to prepare the vehicle for the measurements. The following screen will appear:

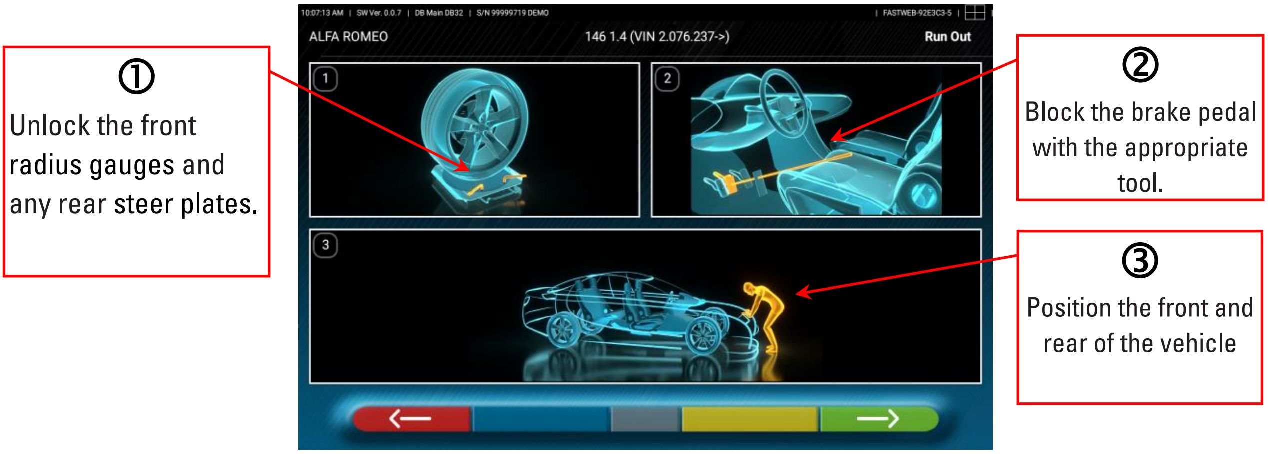


Figure 47

1) Unlock the front radius gauges and any rear steer plates.
2) Brake the wheels with the handbrake and lock the brake pedal with the appropriate tool (it is necessary if steering, to correctly calculate the camber angles and caster).
3) Settle the vehicle front and rear. This operation is necessary if the vehicle was previously raised with the suspension released (e.g. run-out execution with wheels raised).

Press the key ⟵ to return to the run-out procedure (para. 7.4 on page 32)

Press the key ⟶ to continue with the alignment procedure (para. 7.6 on page 34).

7.6 Vehicle alignment / direct measurements

After carrying out the measurement preparation operation, as explained in para. 7.5 on page 34, the screen of Figure 48; appears; it is necessary to carry out the alignment procedure and the consequent detection of the direct angles:

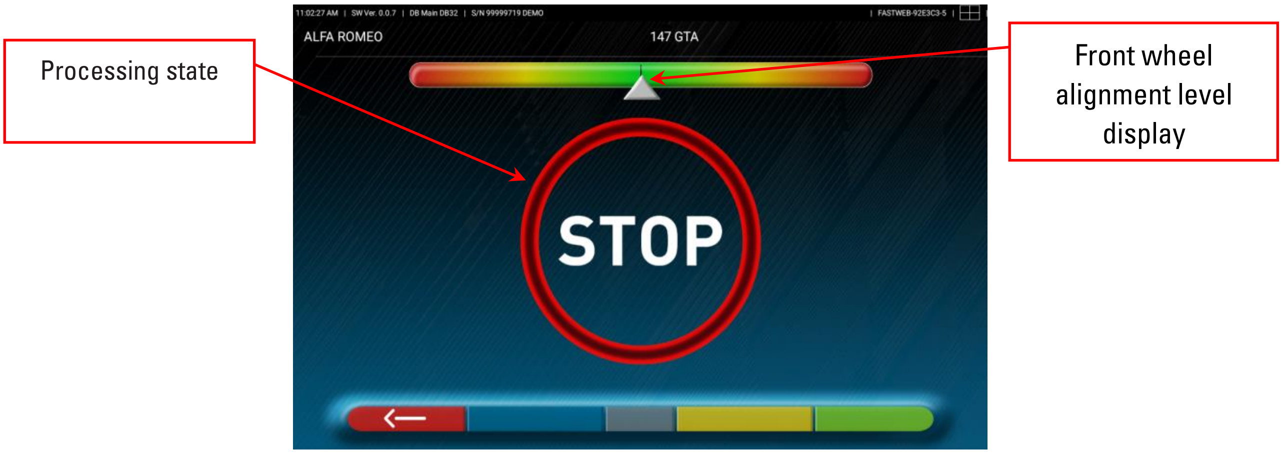


Figure 48

Turn the steering wheel from left to right, or vice-versa, until the wheels are aligned, that is, until the display level appears in the center.
When alignment is achieved, the "STOP" signe image appears, indicating that the program is acquiring vehicle data measurements. The program then proceeds automatically.

7.7 Steering procedure

After carrying out the alignment procedure (see para. 7.6 on page 34), the screen of Figure 49; here it is possible to carry out the steering procedure, which is used to determine the measurements of the angles of:

- Caster – King-Pin – Included Angle

Following the instructions on the screen, turn the steering wheel such as to bring the level of the viewer to the point of arrival highlighted in green, first to the left, then to the right and finally to the center.
After the wheels have been returned to the center, the program proceeds automatically and will show the diagnosis page (para. 7.8 on page 36).

Note: The steering procedure can also be skipped by selecting the key  *: the values of the measurements indicated above will not be obtained and the diagnosis page will be displayed directly (para. 7.8 on page 36).*

Figure 49

(*) Steering mode for acquisition of caster/king-pin

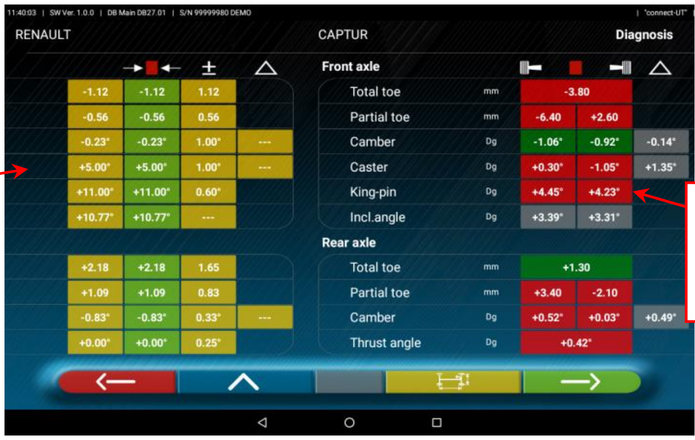
10° → Steering to 10°
20° → Steering to 20°
ACK → ACKERMANN steering (to 20° with steering geometry)
MAX → MAXIMUM steering. (This steering is not suitable for determining the measurements of the angles mentioned above: Caster - King-pin – Included angle, but only for an evaluation of the centring of the steering box)

7.8 Vehicle diagnosis

After carrying out the steering procedure (see para. 7.7 on page 35), a page is presented showing the summary of the measurements performed (Figure 50).

The part on the left shows the factory reference values, on the right the diagnosis measurements are shown; the values are highlighted in green if in tolerance, in red if outside the tolerance, in grey if the tolerances are not present.

Factory reference values



diagnosis measurements

Figure 50

Press the key to return to the steering procedure (para. para. 7.7 on page 35).

Press the key to access the vehicle data and customer data entry phase (see Figure 61 a pag. 42) from where it is possible to print (see para. 7.13 on page 42), share the measurements taken (see para. 7.14 on page 45) or possibly save the tests (if TEq-Link is present - see para. 7.15 on page 46).

Press the key to display the chassis diagnosis page (para. 7.12.1on page 40).

Press the key to continue with the preparation for adjustment (see para. 7.9 on page 36).

7.9 Preparation for adjustment

Selecting the key from the diagnosis measurements summary page (para. 7.8 on page 36), a page showing the preparation for adjustment is presented. Follow the directions that appear on the device to complete the adjustment preparation steps:

1. Center the steering wheel.
2. Mount the steering holder with the appropriate tool and proceed

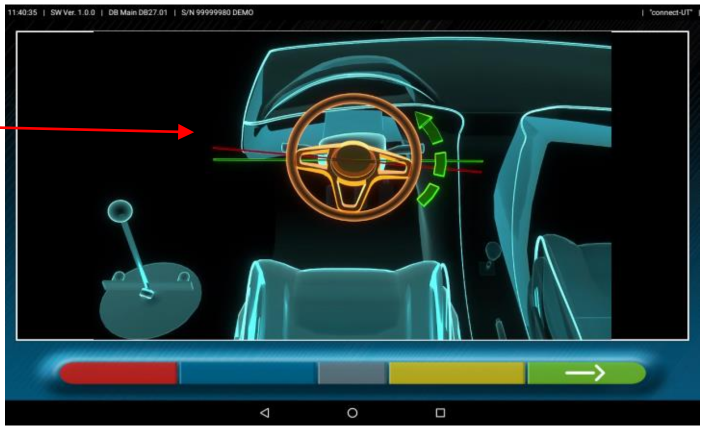


Figure 51

Press the key to continue with adjustment of the rear axle (para. 7.10 on page 37)

7.10 Rear axle adjustment

The rear axle adjustment procedure can be reached by pressing the key [green arrow key] in Figure 51, after having carried out the adjustment preparation operations (para. 7.9).
Adjustment, where permitted, in the following order:
Rear camber - Rear partial toe (this also determines the thrust angle).

Figure 52

Press the key [Jack-Hold key] to carry out the "Jack-Hold" procedure, adjustment with the wheels raised (7.11.1 on page 39).
If there are images for help with adjustment (par. 7.2.3 on page 30), press the key [camera key] to display them.

Press the key [green arrow key] to continue adjustment the front axle (para. 7.11 on page 38).

NOTE: If the "adjustment by sound" function has undergone system configuration in the [Application icon] "**Application**" menu (see chap. 6.1 on page 19 - Figure 14), by clicking on the desired angle, an indication " [sound icon] " appears underneath and a "Beep" will be emitted with a variable frequency in relation to the value itself.

Beep with very slow frequency → value out of tolerance
Beep with slow frequency → value near the tolerance
Beep with fast frequency → value in tolerance
Continuous beep → value exactly in the centre of the tolerance

Click again on the angle to remove the indication [sound icon] and disable the "Beep".

7.11 Front axle adjustment

The front axle adjustment procedure can be reached by pressing the key on the rear axle adjustment page (Figure 52) and after carrying out the adjustment preparation operations (see para. 7.9 on page 36).
The recommended order of the angles to be recorded is as follows: CASTER - CAMBER - TOE.

NOTE: *The incidence values, entering this phase, are "FROZEN" and displayed in grey.*
To "UNFREEZE" the above values it is necessary to: press at the tolerance values "Incidence"; the symbols ">" "<" appear and the key , appears at the bottom. Pressing this key the values become Red or Green (according to the tolerance) and the cursor " " appears under the value.
Once the incidence values have been recorded, or in any case even if they are not recorded and it is assessed that they are correct, it is advisable to "REFREEZE" the afore-mentioned values by always pressing the key .

Then perform adjustment of the front axle

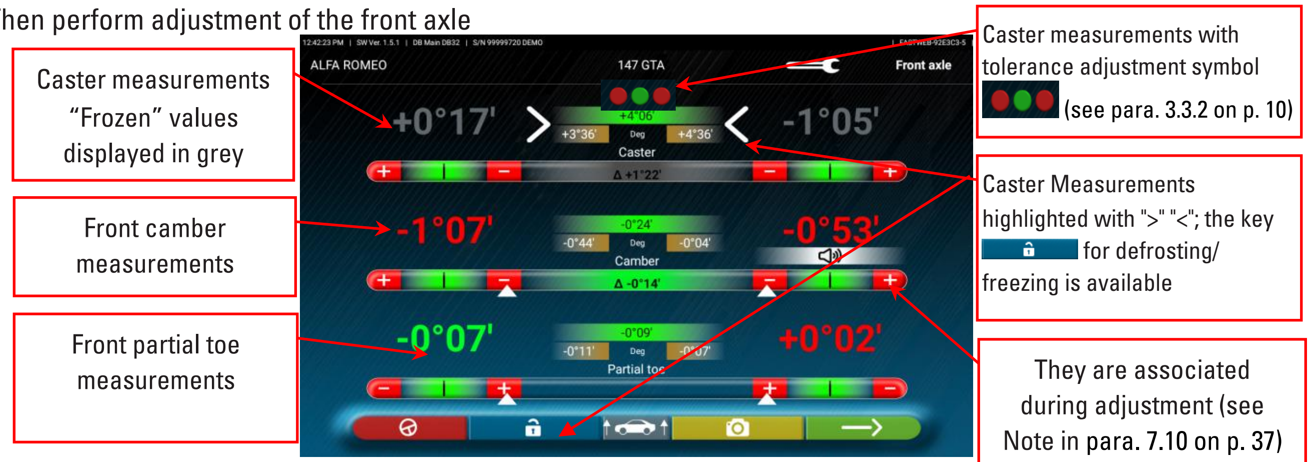


Figure 53

Press the key to carry out the "Jack-Hold" procedure, adjustment with wheels raised (para. 7.11.1 on page 39)

Press the key to repeat the steering procedure (para. 7.7 on page 35)

If there are images for help with adjustment (para. 7.2.3 on page 30), press the key to display them.
Press the key to continue with the DIAGNOSIS and ADJUSTMENT data summary (para. 7.12 on page 40).

NOTE: *The PARTIAL TOE values can be displayed added together in order to obtain the TOTAL TOE..*
it is necessary to: press at the "partial toe" tolerance values; the ">" "<" symbols appear and the key , appears at the bottom. Pressing this key alternates between displaying the partial toes and the total toe display.

7.11.1 "Jack-Hold" procedure

From the measurement adjustment page (see para. 7.10 and 7.11) press the key to perform the JACK-HOLD procedure (adjustment with wheels raised).
Follow the visual instructions that appear on the screen.
Raise the vehicle

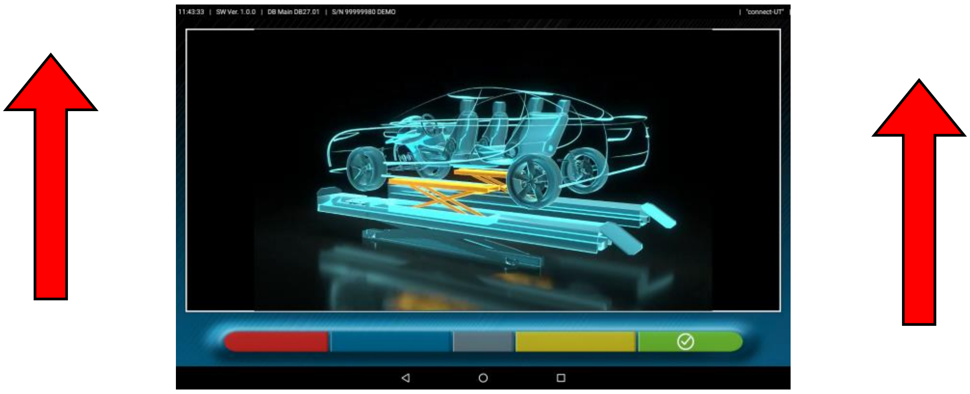


Figure 54

When the vehicle is raised, press the key to confirm raising of the vehicle;
With the vehicle raised it is now possible to perform adjustment.
By pressing the key it is possible to pass from the rear to the front adjustment and vice-versa;

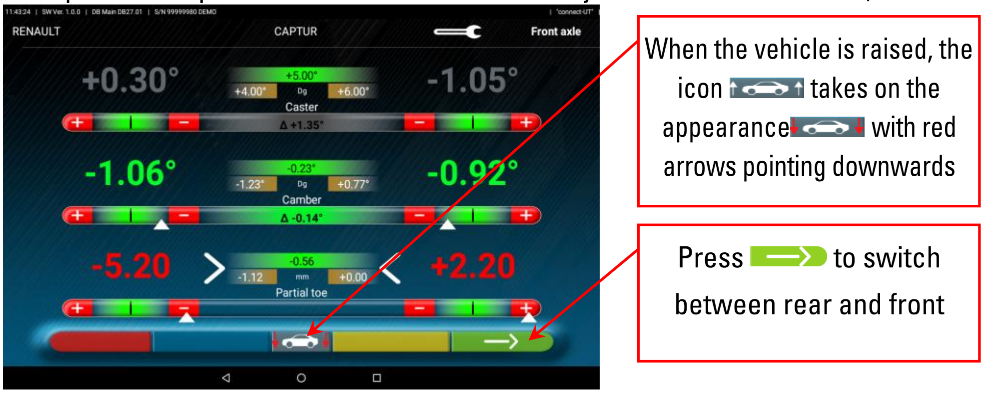


Figure 55

At the end of the adjustment, press the key to lower the vehicle and confirm with the key when it is correctly placed on the radius gauges/rear steer plates.

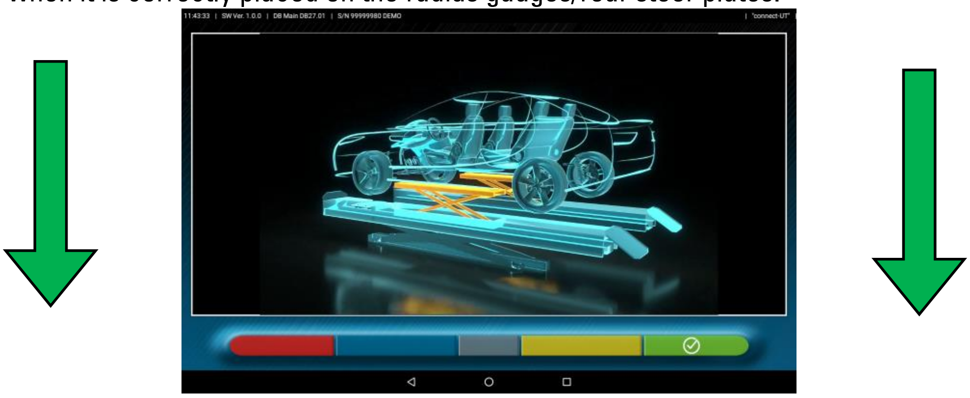


Figure 56

At this point, regarding the adjustment, the program displays Figure 53 (see para 7.11 on page 38) press the key to view the final summary (para. 7.12 on page 40).

7.12 Summary of DIAGNOSIS and ADJUSTMENT data

When the front adjustment phase on the vehicle has been completed (see Figure 58 on page 40), after pressing the key , the page of Figure 57 appears with a summary of the Diagnosis and Adjustment data.

Figure 57

By pressing the key the program accesses the vehicle data and customer data entry phase (see Figure 61 on page 42) from where it is possible to print or share the measurements taken (see para. 7.13 on page 42) and if necessary to save the tests (if TEq-Link is present - see para. 7.14 on page 45).

By pressing the key the program returns to the preliminary operations phase (para. 7.3 on page 31).

Note: if considerable adjustments have been made, it is advisable to repeat the diagnosis phase starting from the preliminary operations phase to correctly recalculate the angular measurements.

By pressing the key the program displays the chassis diagnosis page (para. 7.12.1 on page 40)

By pressing the key the program accesses the "Test Drive" procedure (para. 7.12.2 on page 41)

Press the key to return to the rear adjustment phase (para. 7.10 on page 37).

7.12.1 Chassis diagnosis

On the Diagnosis data summary page (para 7.8) and in the Diagnosis and Adjustment summary page (para. 7.12) by pressing the key , a graphic-geometric representation of the axles of the vehicle being worked on is displayed, see the example below.

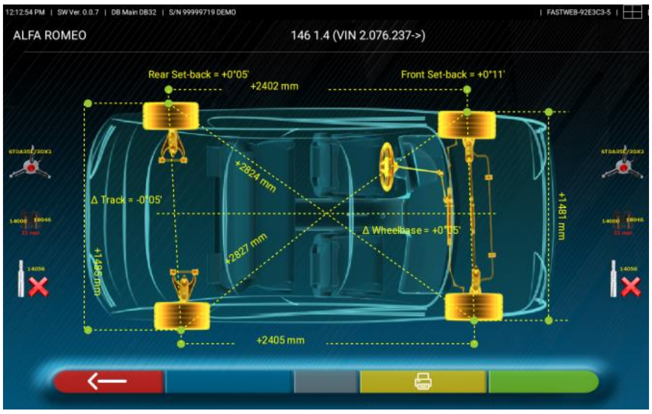


Figure 58

This measurement is performed during the vehicle alignment phase (see para. 7.6 on page 34).

This page displays the distance in mm of the wheelbase and of the track. There are also the diagonals between the four angles of the vehicle's quadrilateral. The measurement of the wheelbase takes into account the clamps used and the pins/spacers, which are also represented graphically.

By pressing the key on this page, the program will allow printing of the measurements of the "Chassis Diagnosis". Press the key to exit and return to the previous step.

7.12.2 "Test Drive" procedure

On the Diagnosis and Adjustment summary page (para. 7.12), by pressing the key , the "Test Drive" procedure (*) is started to check the correct adjustment of the partial toe, to ensure precise adjustment by observing the spokes of the steering wheel.

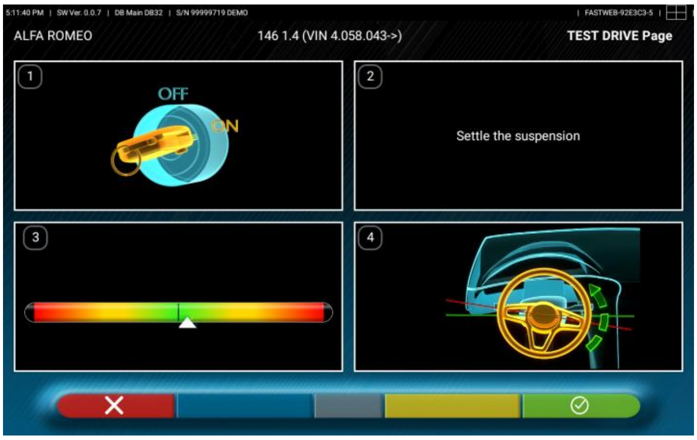


Figure 59

NOTE the possibility of selecting the "Test Drive" procedure must be set in the *"Settings/Procedures"* menu - see chap. 6.1

1 - start the vehicle engine

2 - proceed to settle the suspension clearances, turning the steering wheel a little to the left and right

3 - turn the steering wheel very slowly until the cursor is exactly in the centre of the alignment level bar

4 - Visually check that the spokes of the steering wheel are positioned correctly in a symmetrical, horizontal or consistent manner with the straight line of the vehicle.

If the steering wheel spokes are positioned correctly, press the key  and the program displays the page in Figure 60. In case of negative result, instead press the key  The program will ask again to proceed with the adjustment of the partial toes, returning to the Alignment phase (see chap. 7.6).

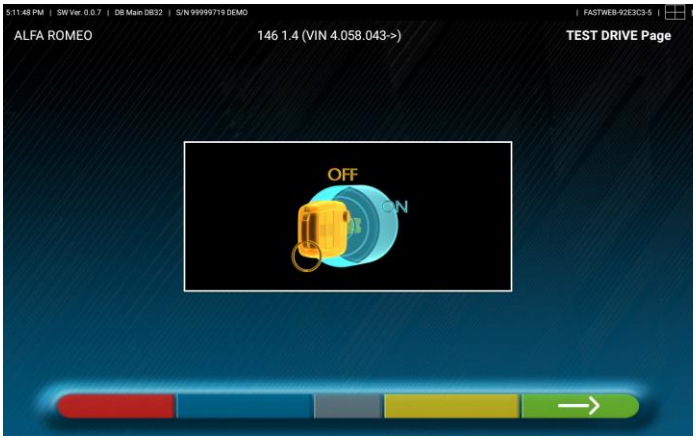


Figure 60

Turn off the vehicle engine and press the key  to return to the summary phase of Diagnosis and Adjustment (para. 7.12).

7.13 Printing of measurements taken

By selecting the key [^] in the summary page of the tests carried out (see para. 7.12 on page 40), the following screen appears, where it is possible to enter the vehicle data and customer data:

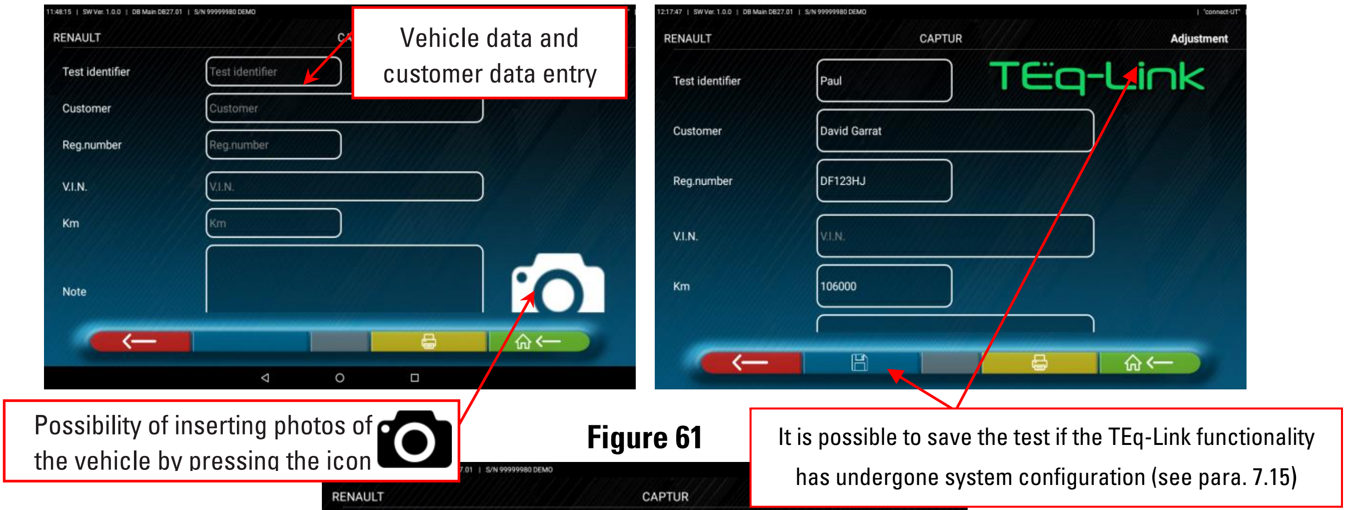


Figure 61

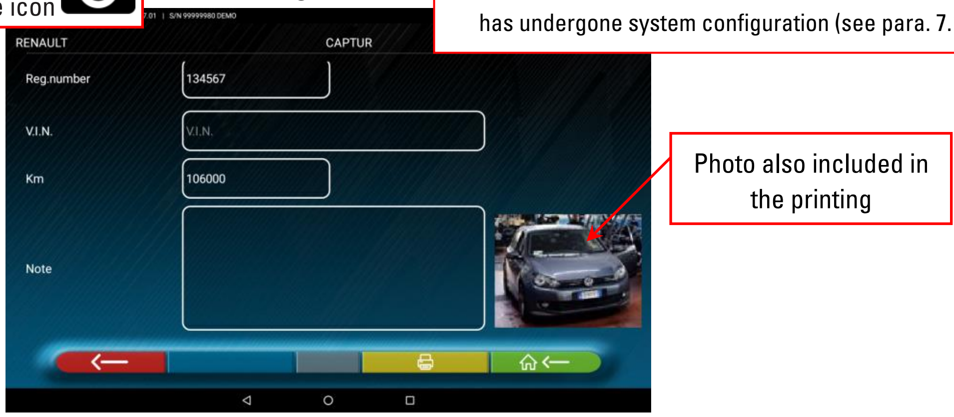


Figure 62

Press the key [red back-arrow key] to go back to the front axle adjustment phase (para. 7.11 on page 38).

Press the key [printer key] to view the print preview of the test performed (see Figure 63); the report is available in two formats (graphic or table - see examples on the following pages) which can undergo system configuration in the "PRINT" menu (see Figure 16 on page 20); press the key [printer key] again to produce the report (*).

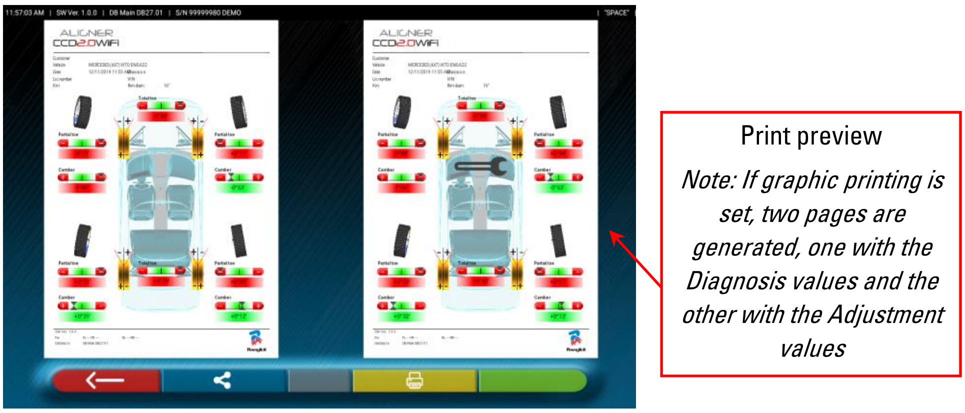


Figure 63

Press the key [home/back-arrow key] from the page of Figure 62, to end the test and to return to the initial page.

ℹ *The printer is not included with the 3D2.0WIFI system. However, compatible generic Wi-Fi printers can be used. If there is no printer, it is possible to locally save the .pdf file of the test and export it later.*

7.13.1 Example of tabular printing

Vehicle data and customer data

Space reserved for workshop personalisation of print-out

ALIGNER 3D2.0WiFi

		Date	4/15/2022 2:18 PM		
Customer	David Drummond	VIN		Km	150000
Lic.number	ER343DA	Chassis n.		Rim diam.	15"
Vehicle make	VOLKSWAGEN	Vehicle	GOLF PLUS (PR=2UA) STD		

SW Ver. 0.0.7
Fw Lh: ---
Database DB Main DB32

		Target values				Diagnosis				Adjustment			
		←	■	→	△		■		△		■		△
Total toe	Deg	+0°00'	+0°10'	+0°20'			-0°04'				-0°03'		
Partial toe	Deg	+0°00'	+0°05'	+0°10'		+0°01'		-0°05'		+0°02'		-0°05'	
Camber	Deg	-1°00'	-0°30'	+0°00'	+0°30'	+1°46'		+1°41'	+0°05'	+1°48'		+1°45'	+0°03'
Caster	Deg	+7°04'	+7°34'	+8°04'	+0°30'	+1°37'		+1°09'	+0°28'	+1°37'		+1°09'	+0°28'
SAI	Deg	---	---	---		+5°44'		+5°23'		+5°44'		+5°23'	
Incl.angle	Deg	---	---	---		+7°30'		+7°04'		+7°30'		+7°04'	
Toe-out on turns	Deg	+1°18'	+1°38'	+1°58'		---		---		---		---	
Steering in	Deg	---	---	---		---		---		---		---	
Steering out	Deg	---	---	---		---		---		---		---	
Total toe	Deg	+0°00'	+0°10'	+0°20'			+0°15'				+0°15'		
Partial toe	Deg	+0°00'	+0°05'	+0°10'		+0°08'		+0°07'		+0°07'		+0°08'	
Camber	Deg	-1°50'	-1°20'	-0°50'	+0°30'	+0°24'		+0°29'	-0°05'	+0°24'		+0°30'	-0°06'
Thrust angle	Deg	-0°15'	+0°00'	+0°15'			+0°00'				-0°01'		
Track - (Front / Rear / Δ)	mm	---	---	---		+1483.00	+1486.00		3	---	---		---
Wheelbase - (Lh / Rh / Δ)	mm	2578	2578			+2401.00	+2406.00		5	---	---		---

Show diagnosis summary

Factory nominal values of the vehicle being tested

Values measured during the diagnosis

Values measured after adjustment phase

vehicle identification photo (if taken)

Figure 64

7.13.2 Graphic print example

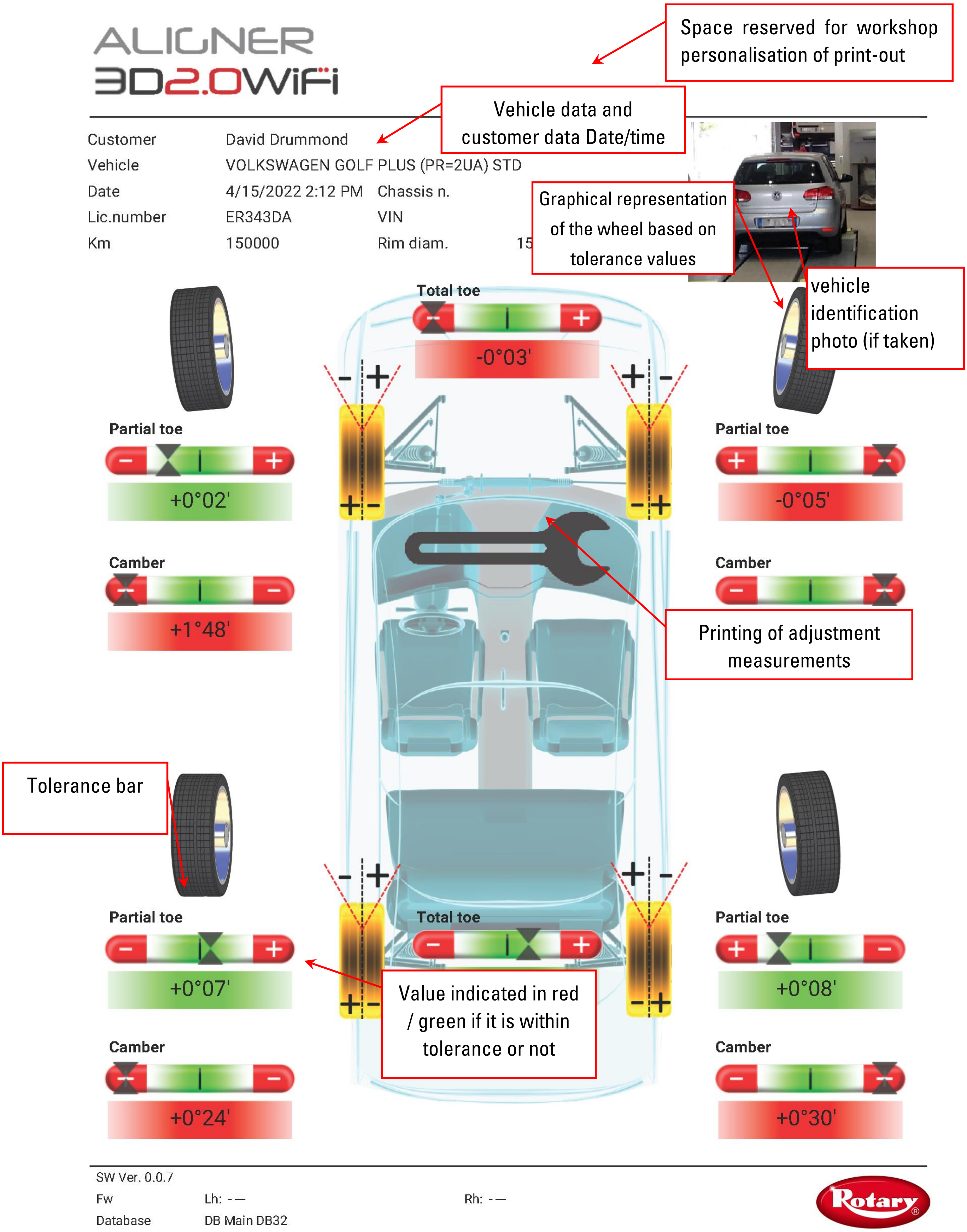


Figure 65

7.14 Sharing of the test carried out

At the end of the test it is possible to share, for example via E-mail, the report with the results and all the vehicle data.

NOTE: *To share via E-mail, the Tablet must have Internet access; simply activate the WI-FI connection on the tablet and connect to an available network.*

After viewing the preview of the print page (see Figure 63), press the key , A window appears with the possible sharing options (see Figure 66).

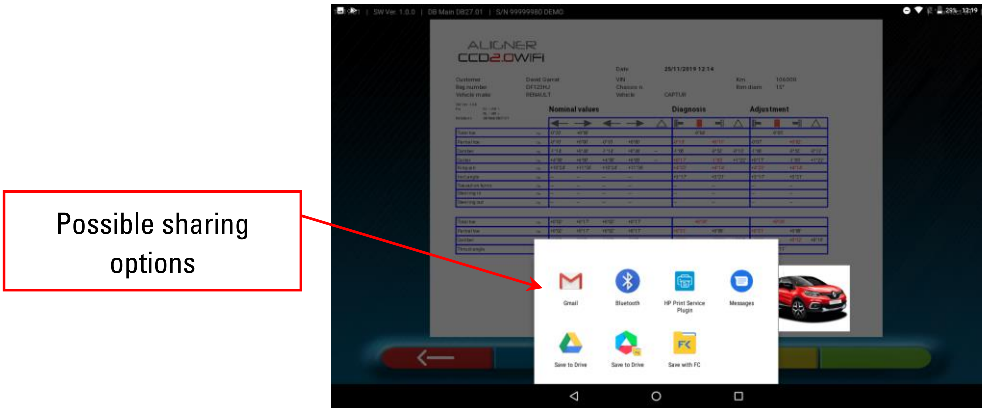


Figure 66

Select the sharing method; in this example “E-MAIL”

Write the recipient's e-mail address and press the "Send" button

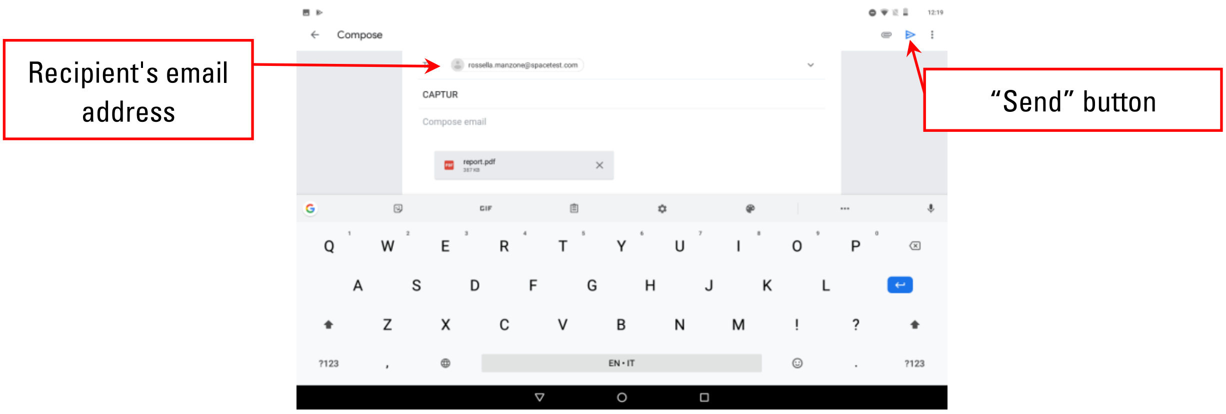


Figure 67

The print report is sent in a pdf file.

After sending the e-mail, the print preview page is displayed again (Figure 63)

7.15 Saving the tests carried out with TEq-Link

At the end of the test it is possible to save the report with the results and all the vehicle data, through the function TEq-Link.

It is necessary to install the "TEq-Link Web Manager" software on a Personal Computer connected to the workshop computer network and to connect the Tablet to the same data structure.

NOTE: *It is necessary in advance to ask the manufacturer to enable the functionality, communicating the serial no. of your device and to perform system configuration of the App with the references of the PC where the "TEq-Link Web Manager" software is installed (See para. 7.15.1).*

After completing the test, in the customer data entry phase (see Figure 61 on page 42), it is possible to store the test results using the key .

When the tests carried out are stored, their results are immediately accessible from any PC or mobile device in the network shared with the Tablet.

7.15.1 TEq-Link functionality system configuration

Before saving the test with the TEq-Link functionality, it is necessary to insert the references of the PC where the "TEq-Link Web Manager" software is installed.

Access from the system configuration menu (see para. 6.1) to the "Application" settings and select the option TEq-Link.

Then enter the IP address of the PC where the "TEq-Link Web Manager" software is installed, or enter the name of the PC itself - see Figure 68.

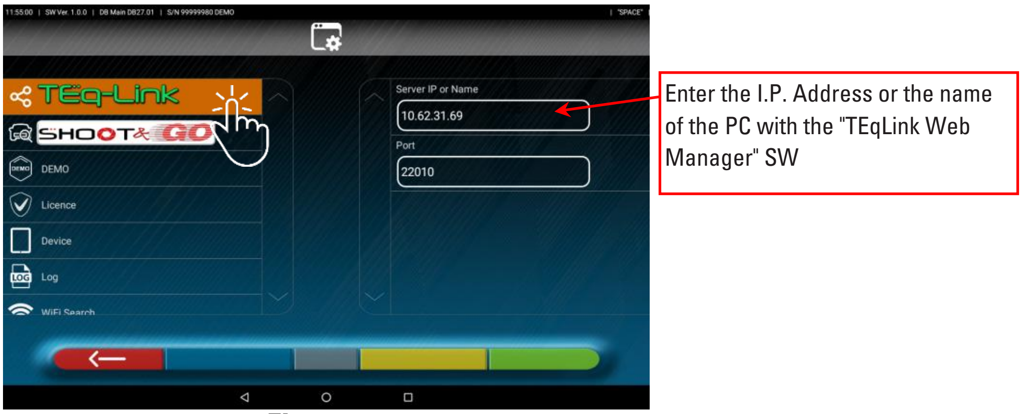


Figure 68

From any PC or mobile device on the same network, simply by entering the I.P the name of the PC with the "TEqLink Web Manager" SW, to access the main page for managing the saved tests; see example in Figure 69

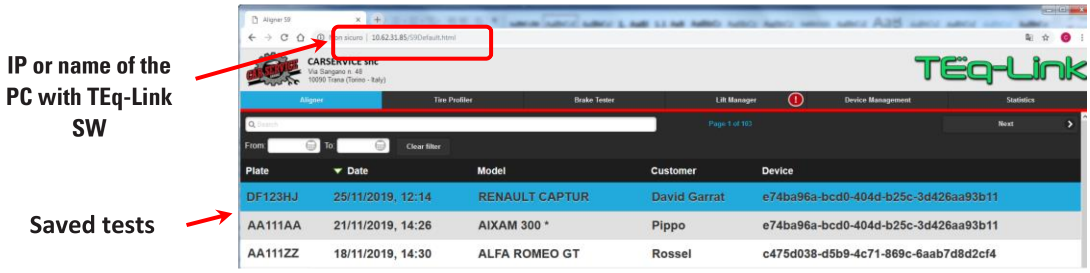


Figure 69

Note: the same page also opens on the Tablet by clicking on the key on the home page of the application (see Figure 27).

8 REPORTING OF ERRORS

During the transmission/receipt of data between the detectors and the Tablet, or during measurement of the angles (for example during the adjustment phase) it is possible that an "Attention"” symbol may appear to signal an error condition; see Figure 70.

Click on the "Attention" icon to view the details of the detected error.

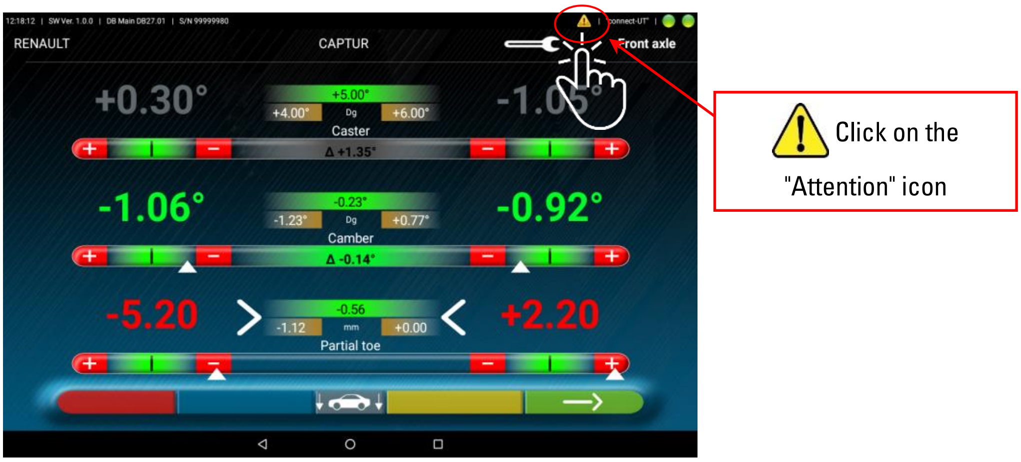


Figure 70

Different types of errors can be highlighted as illustrated below

It is also possible that the condition of “low battery” is signalled – See chap. 3.3.4

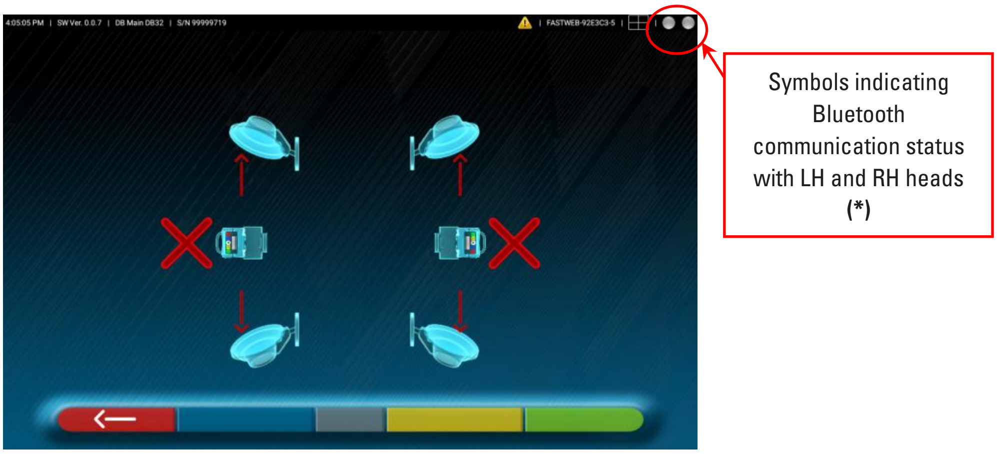


Figure 71

The screen shown above may indicate that there is an anomaly due to one or more of the following problems:

- The connection of the Bluetooth module on the Tablet is disabled
- There is a fault or radio interference in the Bluetooth transmission between the tablet and measuring heads.
- The measuring head(s) are faulty or switched off

(*) as indicated in chap. 6.2, the connection status of the 2 sensors is always shown at the top on the right:

The sensors are connected → The sensors are not connected →

If the sensors are connected (connection symbols coloured blue ( ) the anomaly may be due to:

- The camera is hidden (cap inserted).
- There is an obstacle between the target and the camera.
- The target is not mounted or is not mounted in the correct position (see para. 7.3.2)
- The camera is faulty

One of the following screens may also appear:

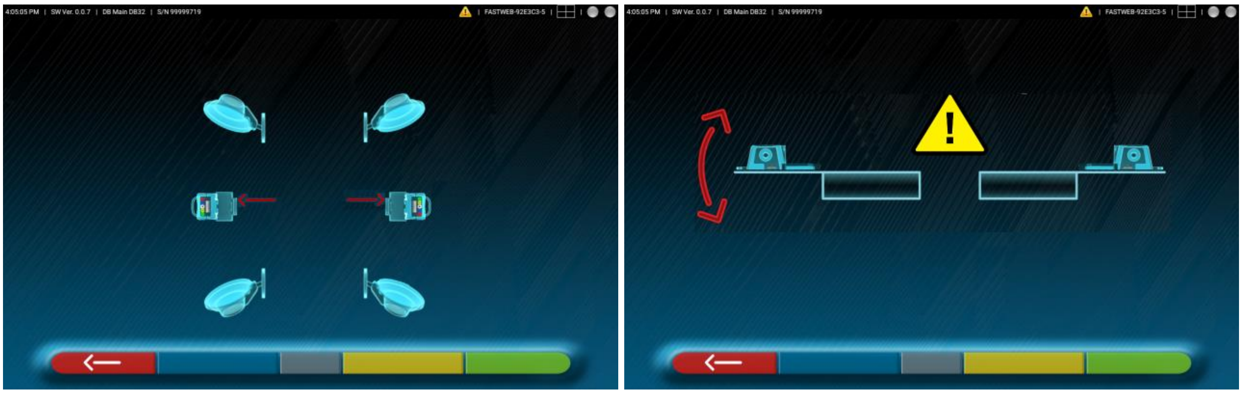


Figure 72

This may indicate that there is an anomaly due to one or more of the following problems:

- A measuring head is excessively inclined (the level of the heads must undergo adjustment, as indicated in chap. 5.3.2).
- A side camera is hidden
- There is an obstacle between the side cameras
- The side camera is faulty

If the cause of the malfunction is removed (e.g. The obstacle is removed) the error page disappears immediately and the measurement page reappears on the tablet. If the problem persists, it is necessary to have the system hardware checked by contacting the technical assistance service.

9 PROBLEMS

Listed below are some possible problems of the wheel alignment equipment.
Rotary disclaims any liability for damage caused to persons, animals and property due to the intervention of unauthorized personnel and to the use of non-original spare parts.

⚠ WARNING

- Before carrying out any work on the system, it is necessary to disconnect the power supply.
- If in doubt, do not interpret, contact the Ravaglioli S.p.A. technical assistance in advance in order to receive information to be able to perform operations in conditions of maximum safety.

PROBLEM	CAUSE	SOLUTION
No operation on the central panel (the luminous sign does not come on, the LEDs that signal the need for battery recharge do not come on)	- No voltage in the network - Protection fuses interrupted	- Check the mains voltage - Check the protection fuses
The detectors do not turn on	- Battery completely discharged	- Recharge battery
The detectors are not reloaded on the supports	- No voltage in the network - Protection fuses interrupted	- Check the mains voltage - Check the protection fuses
The detectors are not communicating with the Tablet	- The detectors are off - Bluetooth connection not activated on the Tablet	- Turn on the detectors - Activate the Bluetooth connection on the Tablet

10 MAINTENANCE

WARNING

- Before carrying out any maintenance work, it is necessary to turn off the main switch and disconnect the equipment from the mains.
- Before connecting the power cable and turning on the equipment, make sure that the enclosure is dry and that there are no wet, damaged or dirty parts.

ATTENTION

- Do not use products that contain substances such as acetone, methyl chloride, ethyl alcohol, ammonia or ethyl acid.
- To clean plastic panels or shelves, use non-aggressive, neutral products. Do not use solvents such as synthetic thinners, benzene, alcohol or abrasive products as they may damage the surface.
- Do not clean the equipment using water jets.
- Keep the filters of the optical units clean using a slightly damp cloth, do not use solvents;
- Cleaning and other operations relating to maintenance of the Tablet are described in the manual supplied with it. Always refer to the latter before carrying out any maintenance on the Tablet.

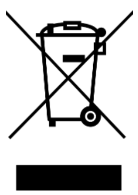
11 STORAGE AND SCRAPPING

ATTENTION

Storage - In the event of long-term storage, it is necessary to disconnect the power sources and to provide protection for the display which could be damaged due to excessive dust deposits.
Grease the parts that could be damaged in case of drying.

ATTENTION

When it is decided to scrap this equipment, it must be made inoperative
by eliminating connection cables and susceptible parts that could become sources of danger.
All electrical and electronic equipment, marked with the symbol on the left ("rubbish bin crossed through symbol"), must be collected and disposed of separately from other mixed municipal waste through specific

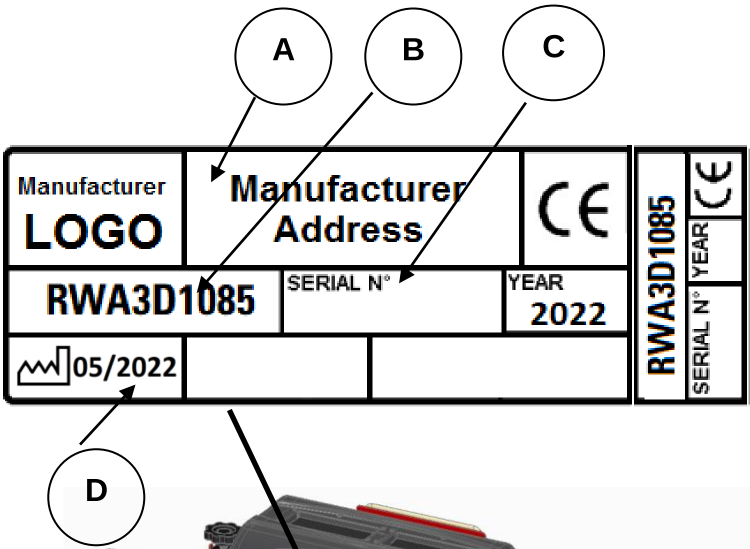


collection facilities set up by public bodies or local authorities. Consider the equipment as special waste and dismantle it, dividing it into homogeneous parts.
The product meets the requirements of the directives introduced to protect the environment (2002/96/EC, 2003/108/EC, 2002/95/EC).
Correct disposal of the obsolete unit helps prevent possible negative consequences on the health of individuals and on the environment. Responsible end-of-life management of electrical and electronic equipment by users contributes to the reuse, recycling and sustainable recovery of obsolete products and related materials.
For further more detailed information on the disposal of obsolete equipment, contact the office of the municipality of residence, the waste disposal service or the Rotary after-sales service.

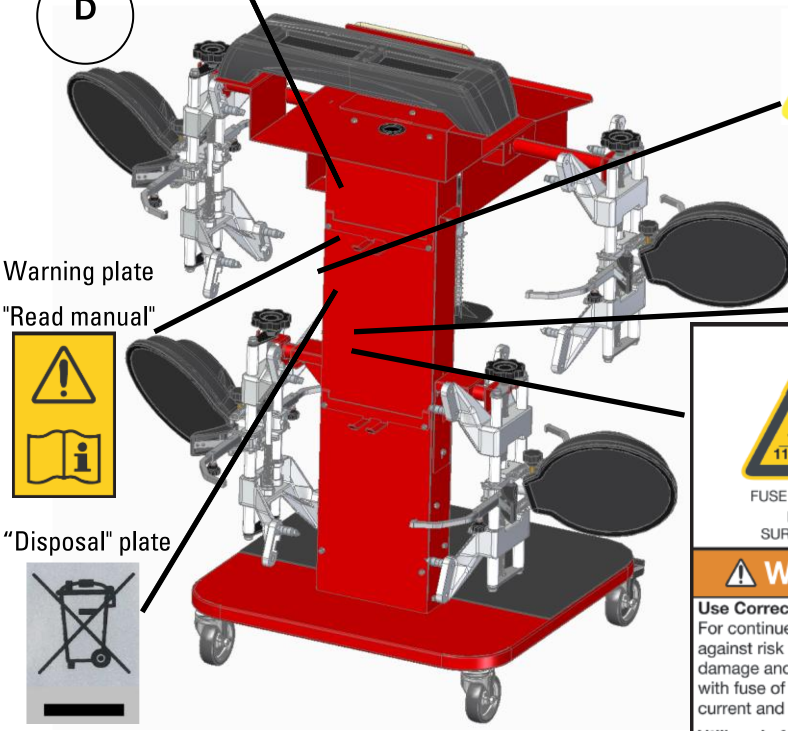
WARNING

- Do not dispose of the batteries in fire.

12 MACHINE IDENTIFICATION DATA/WARNING LABELS



Serial Plate
A) Manufacturer
B) Vehicle
C) Serial number
D) month/year of manufacture



⚠ **ATTENTION**

- It is absolutely forbidden to tamper with, engrave, alter in any way or even remove the machine reg. number; do not cover this plate with temporary panels, etc. as it must always be clearly visible.
- Always keep this reg.number clean from grease or dirt in general.

⚠ **ATTENTION**

- In the event that for accidental reasons the reg.number is damaged (detached from the machine, damaged or even partially illegible) immediately notify the manufacturer of this fact.

Installer: Please return this booklet to literature package, and give to wheel aligner owner/operator.

Thank You

Trained Operators and Regular Maintenance Ensures Satisfactory Performance of Your Wheel Service Equipment.

Contact Your Nearest Authorized Rotary Wheel Service Equipment Parts Distributor for Genuine Replacement Parts. See Literature Package for Parts Breakdown.

Rotary World Headquarters
2700 Lanier Drive
Madison, IN 47250, USA
www.rotarylift.com

North America Contact Information
Tech. Support:
p 800.445.5438
f 800.578.5438
e userlink@rotarylift.com
Sales: p 800.640.5438
f 800.578.5438
e userlink@rotarylift.com

World Wide Contact Information
World Headquarters/USA: 1.812.273.1622
Canada: 1.905.812.9920
European Headquarters/Germany: +49.771.9233.0
United Kingdom: +44.178.747.7711
Australasia: +60.3.7660.0285
Latin America / Caribbean: +54.3488.431.608
Middle East / Northern Africa: +49.771.9233.0