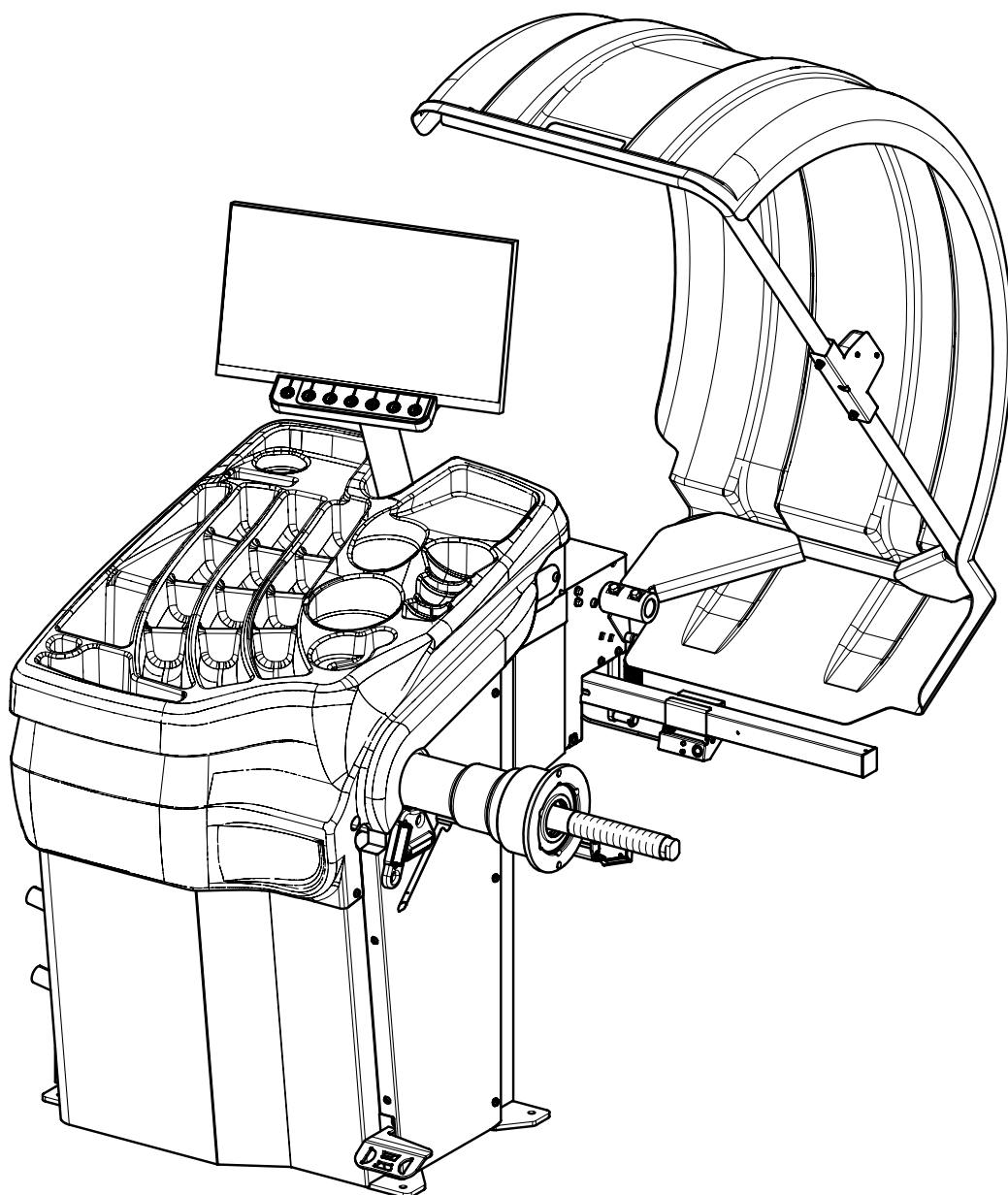




R190 Wheel Balancer



ROT.BR190P0.200303

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

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HAZARD LEVELS

Throughout this manual hazard levels are identified by the following signal words:

 DANGER	INDICATES AN IMMEDIATE HAZARD THAT WILL LEAD TO SERIOUS INJURY OR DEATH IF NOT AVOIDED.
 WARNING	INDICATES A SERIOUS HAZARD THAT MAY LEAD TO SERIOUS INJURY OR DEATH.
 CAUTION	INDICATES AN HAZARD THAT MAY LEAD TO MINOR OR MODERATE INJURY.
NOTICE	INDICATES RELEVANT INFORMATION ARE CONVEYED, BUT NO HAZARD.

NOTICE

READ THIS INSTRUCTION MANUAL COMPLETELY BEFORE ASSEMBLING, INSTALLING, OPERATING OR SERVICING THIS PRODUCT. KEEP THIS MANUAL IN A KNOWN, EASILY ACCESSIBLE LOCATION FOR ALL OPERATORS AND SERVICE TECHNICIANS TO CONSULT IT IN CASE OF DOUBTS.

DANGER

RISK OF FIRE, ELECTRIC SHOCK, ENTANGLEMENT, IMPACT, OR EYE INJURY.

DEFECT OF COMPLYING WITH THE DIRECTIONS PROVIDED IN THIS MANUAL MAY LEAD TO INJURIES, EVEN SERIOUS ONES, OR DEATH.

DANGER

RISK OF FIRE OR ELECTROCUTION.

THIS PRODUCT IS INTENDED FOR INDOOR INSTALLATION AND USE.

OUTDOOR INSTALLATION OR USE MAY LEAD TO SHORT CIRCUITS, ELECTROCUTION OR FIRE, AND RESULT IN MATERIAL DAMAGES, SERIOUS INJURIES OR DEATH.

NOTICE

THE MANUFACTURER DECLINES ALL RESPONSIBILITIES FOR ANY INJURY OR DAMAGE OCCURRING IN CASE DIRECTIONS PROVIDED WITHIN THIS MANUAL ARE NOT COMPLIED WITH.

 DANGER

RISK OF EXPLOSION.

THIS PRODUCT HAS INTERNAL ARCING OR SPARKING PARTS WHICH SHOULD NOT BE EXPOSED TO FLAMMABLE VAPORS.

THIS PRODUCT IS INTENDED FOR INSTALLATION AND USE ONLY WITHIN UNCLASSIFIED LOCATIONS OR MINOR REPAIR GARAGES AS DEFINED BY NFPA 70:2020, TABLE 511.3 (C).

INSTALLATION AND USE OF THIS EQUIPMENT ARE PROHIBITED WITHIN:

- MAJOR REPAIR GARAGES AS DEFINED BY NFPA 70:2020, TABLES 511.3 (C) AND 511.3 (D);
- CLASSIFIED LOCATIONS OF MINOR REPAIR GARAGES AS DEFINED BY NFPA 70:2020, TABLE 511.3 (C), AND ANY PIT, BELOWGRADE WORK AREA, OR SUBFLOOR WORK AREA.

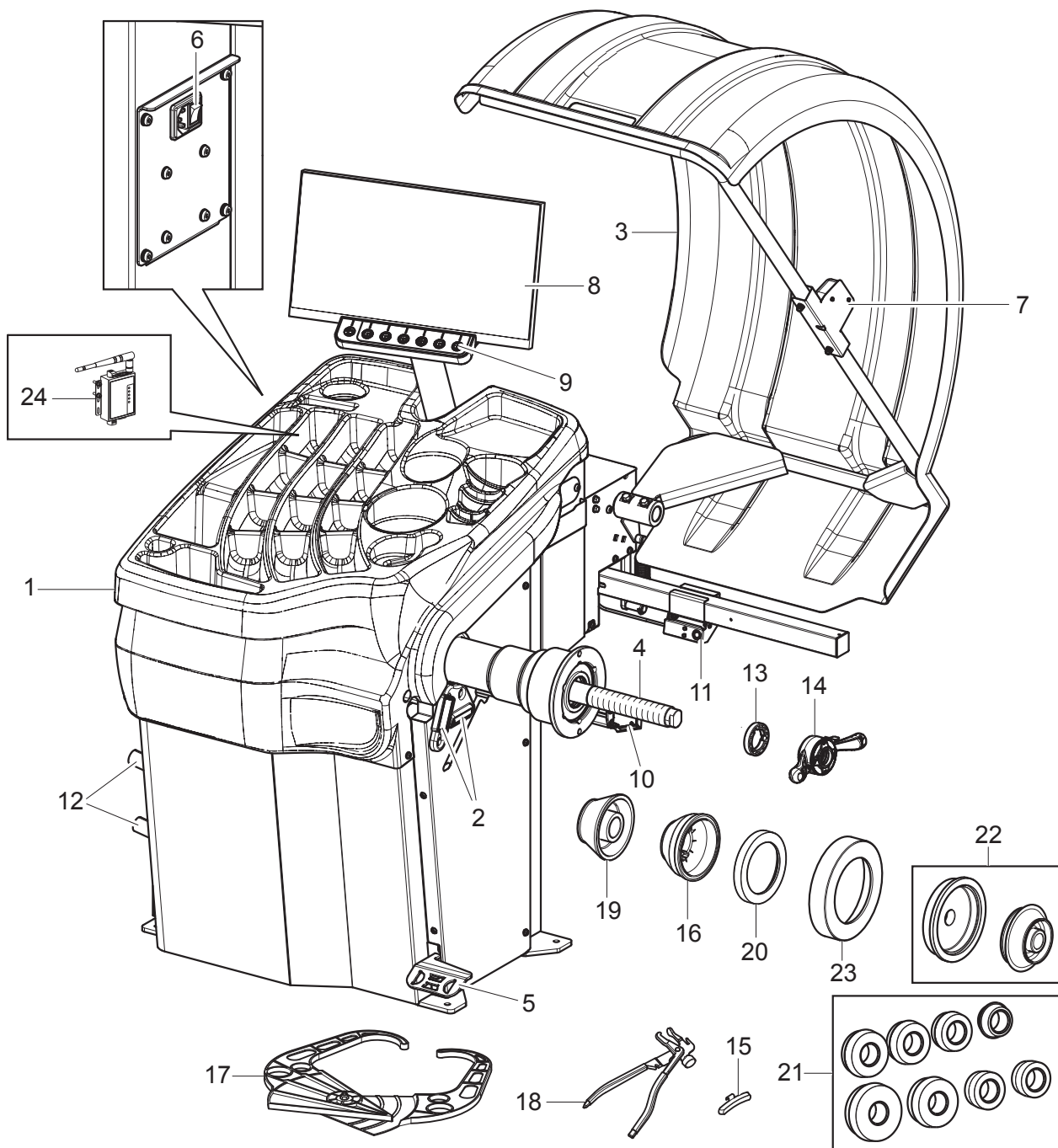
 WARNING

RISK OF EXPLOSION.

THIS DEVICE HAS INTERNAL ARCING OR SPARKING PARTS.

TO MINIMIZE THE RISK OF EXPLOSION, DO NOT EXPOSE TO FLAMMABLE VAPORS.

DEVICE SHOULD NOT BE LOCATED IN A RECESSED AREA OR BELOW FLOOR LEVEL.

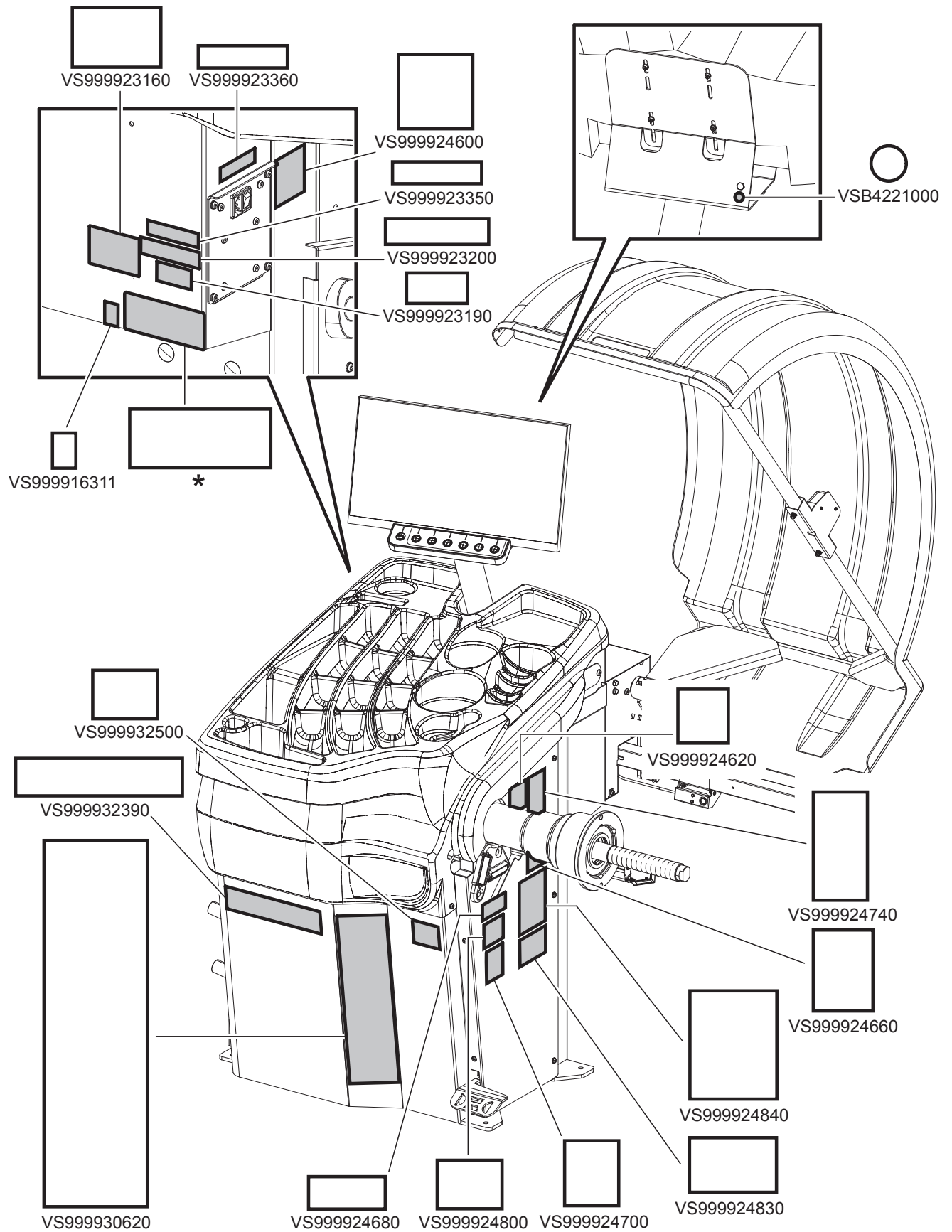


KEY

- | | |
|---|---------------------------------------|
| 1 – Weight top cover | 13 – Pressure ring |
| 2 – LED light assembly | 14 – Car ring nut |
| 3 – Protection guard | 15 – Carriages counterweight |
| 4 – Threaded spindle | 16 – Protection cap |
| 5 – Foot brake | 17 – Manual caliper |
| 6 – Main switch | 18 – Weight pliers |
| 7 – Automatic width measuring device assembly | 19 – Off-road vehicle cone D.88 - 132 |
| 8 – Monitor | 20 – Casing for cup protection |
| 9 – 7-keys-keyboard | 21 – Wheels adapter Kit |
| 10 – Laser scan assembly | 22 – Cone D.118-174 + vans adapter |
| 11 – Run-out with support | 23 – Bearing flange spacer |
| 12 – Cones support panel | 24 – Wi-Fi converter assembly |

NAMEPLATES LOCATION DRAWING

FIG. 2



Code numbers of plates	
VSΒ4221000	Grounding nameplate
VS999916311	Rubbish skip nameplate
VS999923160	Prop 65 Attention nameplate
VS999923190	Laser classification class 1 nameplate
VS999923200	Laser certification nameplate
VS999923350	For indoor use only nameplate
VS999923360	Disconnect power supply nameplate
VS999924600	Electrical shock nameplate
VS999924620	Open machinery nameplate
VS999924660	Personal protection equipment nameplate
VS999924680	Laser classification class 1 nameplate
VS999924700	Only one operator nameplate
VS999924740	"Do not use the spindle" nameplate
VS999924800	"Notice wheel size" nameplate
VS999924830	"Don't use below garage" nameplate
VS999924840	Explosion risk warning nameplate
VS999930620	Rotary logo nameplate
VS999932390	Equipment nameplate
VS999932500	QR code nameplate
*	Serial number nameplate

NOTICE

REPLACE ANY INFORMATION NAMEPLATE WHENEVER IT IS MISSING OR DIFFICULT TO READ.
QUOTE NAMEPLATE PART NUMBERS WHEN ORDERING.

NOTICE

SOME OF THE PICTURES IN THIS MANUAL HAVE BEEN OBTAINED FROM PICTURES OF PROTOTYPES, THEREFORE THE STANDARD PRODUCTION EQUIPMENT AND ACCESSORIES CAN BE DIFFERENT THAN PICTURED.

1.0 GENERAL INTRODUCTION

This manual is an integral part of the product and must be retained for the whole operating life of the equipment. Carefully study the warnings and instructions contained in this manual. It contains important instructions regarding FUNCTIONING, SAFE USE and MAINTENANCE.

1.1 Introduction

Thank you for purchasing this wheel balancer. We feel sure you will not regret your decision.

This equipment has been designed for use in professional workshops and stands out for its reliability and easy, safe and rapid operation. With just a small degree of maintenance and care, this wheel balancer will give you many years of trouble-free service and lots of satisfaction.

2.0 INTENDED USE

The equipment described in this manual and its different versions are wheels balancing machines for car and light transport, projected to be used exclusively to cancel out, or at least reduce to acceptable limits, the vibrations of the wheels by fitting on them counterweights of suitable size in specific positions to the same wheels that are not correctly balanced.

NOTICE

THE MANUFACTURER DECLINES ANY LIABILITY FOR ANY INJURY OR DAMAGE OCCURRING CAUSED BY:

- IMPROPER OR ERRONEOUS USE OF THIS EQUIPMENT;
- ANY USE OF THIS EQUIPMENT NOT EXPLICITLY APPROVED WITHIN THIS MANUAL;
- REPAIRING OR MAINTENANCE OF THIS EQUIPMENT BY UNQUALIFIED PERSONNEL IF NOT EXPLICITLY AUTHORIZED WITHIN THIS MANUAL;
- USE OF ACCESSORIES NOT APPROVED BY THE MANUFACTURER WITH THIS EQUIPMENT;
- USE OF SPARE PARTS NOT APPROVED BY THE MANUFACTURER TO REPAIR THIS EQUIPMENT.

⚠ CAUTION

RISK OF LIMBS CRUSHING, PINCHING OR ENTANGLEMENT.
RISK OF BUMPING.
RISK OF EYE INJURIES.

THIS EQUIPMENT IS INTENDED FOR USE BY ONLY ONE OPERATOR AT A TIME.

USE OF THIS EQUIPMENT BY MORE THAN ONE OPERATOR CONCURRENTLY OR THE PRESENCE OF BYSTANDERS IN THE SERVICE AREA WHEN THIS EQUIPMENT IS USED OR SERVICED MAY LEAD TO INADVERTENT MOVING OF PARTS OF THIS EQUIPMENT AND CAUSE UPPER OR LOWER LIMBS BEING CRUSHED, PINCH OR ENTANGLED, OR BUMPING BODING, RESULTING IN INJURIES.

USE OF THIS EQUIPMENT BY MORE THAN ONE OPERATOR CONCURRENTLY OR THE PRESENCE OF BYSTANDERS IN THE SERVICE AREA WHEN THIS EQUIPMENT IS USED OR SERVICED MAY LEAD TO INADVERTENT ACTIVATION OF THE TIRE INFLATION SYSTEM AND CAUSE FLY DEBRIS RESULTING IN EYE INJURIES.

DO NOT HAVE THIS EQUIPMENT OPERATED OR OTHERWISE SERVED FOR BY MORE THAN ONE OPERATOR AT ANY GIVEN TIME.

KEEP BYSTANDERS OUT OF THE SERVICE AREA WHENEVER THIS EQUIPMENT IS USED OR SERVICED.

2.1 ***Training of personnel***

The equipment to be operated only by suitably trained and authorized personnel.

Given the complexity of the operations necessary to manage the equipment and carry out the operations safely and efficiently, the personnel must be trained in such a way that they learn all the information necessary to operate the equipment as intended by the manufacturer.

NOTICE

CAREFULLY READING THIS INSTRUCTION MANUAL AND A SHORT PERIOD OF TRAINING BY SKILLED PERSONNEL REPRESENT A SATISFACTORY FORM OF TRAINING.

3.0 SAFETY DEVICES

This equipment is equipped with:

- a number of fixed guards intended to prevent potential cutting, entanglement, and electrical shock hazards.

DANGER

RISK OF ELECTROCUTION.

OPERATING OR SERVICING THIS EQUIPMENT WITHOUT PROPERLY INSTALLED FIXED GUARDS MAY EXPOSE TO ELECTRICAL SHOCK HAZARD AND MAY RESULT IN SERIOUS INJURIES OR DEATH.

NO USER-SERVICEABLE PARTS ARE FOUND BEHIND FIXED GUARDS.

DO NOT TAMPER WITH OR OTHERWISE MODIFY FIXED GUARDS.

DO NOT OPERATE THIS EQUIPMENT WITHOUT PROPERLY INSTALLED FIXED GUARDS.

DISCONNECT THIS EQUIPMENT FROM ALL POWER SOURCES BEFORE SERVICING.

IN CASE FIXED GUARDS ARE DAMAGED OR OTHERWISE DEFECTIVE:

- DO NOT USE THIS EQUIPMENT;
- DISCONNECT THIS EQUIPMENT FROM ALL POWER SOURCES IMMEDIATELY;
- HAVE DEFECTIVE GUARDS REPLACED BY A QUALIFIED TECHNICIAN.

CAUTION

RISK OF CRUSHING OR ENTANGLEMENT.

OPERATING OR SERVICING THIS EQUIPMENT WITHOUT PROPERLY INSTALLED FIXED GUARDS MAY EXPOSE TO OPEN MACHINERY HAZARD AND MAY RESULT IN INJURIES.

NO USER-SERVICEABLE PARTS ARE FOUND BEHIND FIXED GUARDS.

DO NOT TAMPER WITH OR OTHERWISE MODIFY FIXED GUARDS.

DO NOT OPERATE THIS EQUIPMENT WITHOUT PROPERLY INSTALLED FIXED GUARDS.

DISCONNECT THIS EQUIPMENT FROM ALL POWER SOURCES BEFORE SERVICING.

IN CASE FIXED GUARDS ARE DAMAGED OR OTHERWISE DEFECTIVE:

- DO NOT USE THIS EQUIPMENT;
- DISCONNECT THIS EQUIPMENT FROM ALL POWER SOURCES IMMEDIATELY;
- HAVE DEFECTIVE GUARDS REPLACED BY A QUALIFIED TECHNICIAN.

- Wheel protection guard + interlock device whose function is to protect the operator from possible projections of materials on the wheel during its spin.

Wheel spinning is normally prevented if the wheel protection guard is raised (open). When the protection guard is open, this interrupts the circuit that triggers the motor and automatic start is prevented, including in the case of an error. The interlock device keeps a protection guard in the closed position during wheel spin.



Press  stop key to stop wheel rotation in emergency conditions.

⚠ DANGER

RISK OF EYE INJURY OR ENTANGLEMENT.

DO NOT TAMPER WITH OR OTHERWISE MODIFY THE PROTECTION GUARD + INTERLOCK DEVICE.

IN CASE THE PROTECTION GUARD AND/OR INTERLOCK DEVICE ARE DAMAGED OR OTHERWISE DEFECTIVE:

- DO NOT USE THIS EQUIPMENT;
- HAVE THE PROTECTION GUARD AND/OR INTERLOCK DEVICE REPLACED BY A QUALIFIED TECHNICIAN.

- Laser safety

This is a Class I/1 laser product (with Class II/2 embedded). During normal operation it does not permit human access to laser radiation in excess of Class I/1. This product complies with 21CFR1040.10/.11 and IEC EN60825. The system is fully interlocked to prevent accidental access to laser radiation. Any attempt to defeat the safety interlock elements of this product is a violation of Safety Standards which this product complies with, and the protection provided by the product may be impaired.

3.1 Residual risks

The equipment was subjected to a complete analysis of risks according to reference standard EN ISO 12100.

Risks are as reduced as possible in relation with technology and product functionality.

Possible residual risks have been emphasized through pictorial representations and warnings whose location is indicated in "NAME-PLATES LOCATION DRAWING".



This device is equipped with software-controlled laser emitters.

Warning and information nameplates have been applied outside the device, to indicate the presence and employment of laser measuring instruments.

Do not stare the laser beam directly at close range while the equipment is operating.

4.0 IMPORTANT SAFETY INSTRUCTIONS

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

1. read all instructions;
2. care must be taken as burns can occur from touching hot parts;
3. do not operate equipment with a damaged cord or in case the equipment has been dropped or damaged, until it has been examined by a qualified service person;
4. 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;
5. 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;
6. 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;
7. let equipment cool completely before putting away. Loop cord loosely around equipment when storing;
8. to reduce the risk of fire, do not operate equipment in the vicinity of open containers of flammable liquids (gasoline);
9. adequate ventilation should be provided when working on operating internal combustion engines;
10. keep hair, loose clothing, fingers, and all parts of body away from moving parts;
11. to reduce the risk of electric shock, do not use on wet surfaces or expose to rain;
12. use only as described in this manual. Use only manufacturer's recommended attachments.
13. ALWAYS WEAR SAFETY GLASSES. Everyday eyeglasses only have impact resistant lenses, they are not safety glasses.

SAVE THESE INSTRUCTIONS

4.1 **General safety rules**

- The manufacturer declines any responsibility for damages or injuries caused by this equipment in case this equipment is tampered with or otherwise modified without authorization by the manufacturer.
- Removing or tampering with the safety devices, the fixed repair or the warning signals placed on this equipment may lead to serious hazards and represents a transgression of safety regulations.
- This equipment is intended for indoor use only. Do not install or use this equipment outdoors.
- The equipment shall be used only in areas free from the danger of explosion or fire.
- The use of original accessories and spare parts only is advised. This equipment is designed to operate with original accessories only.
- The installation must be performed by qualified personnel in full compliance with the instructions given below.
- Ensure that there are no dangerous situations during the equipment operating maneuvers. Immediately stop the equipment if it malfunctions and contact the customer service of the authorized dealer.
- In emergency situations and before carrying out any maintenance or repairs, disconnect all supplies to the equipment by using the main switch, placed on the equipment itself, and unplugging the power supply.
- Ensure that the area around the equipment is free of potentially dangerous objects and that the area is oil free since this could damage the tire. . Oil on the floor is also a slipping hazard for the operator.

NOTICE

THE MANUFACTURER DECLINES ALL RESPONSIBILITIES FOR ANY INJURY OR DAMAGE OCCURRING IN CASE OF UNAUTHORIZED MODIFICATIONS TO THIS EQUIPMENT OR USE OF SPARE PARTS OR ACCESSORIES NOT PROVIDED BY THE MANUFACTURER OR ITS AUTHORIZED DISTRIBUTORS.

⚠ WARNING

RISK OF ENTANGLEMENT, CRUSHING, EYE INJURIES.

OPERATORS MUST WEAR SUITABLE WORK CLOTHES, PROTECTIVE GOGGLES, PROTECTIVE GLOVES, PROTECTIVE SHOES, AND POSSIBLY LOWER BACK SUPPORTS FOR THE LIFTING OF HEAVY PARTS WHENEVER THIS EQUIPMENT IS USED, SERVICED, MOBILIZED OR SERVICED.

DANGLING OBJECTS LIKE BRACELETS MUST NOT BE WORN, AND LONG HAIR MUST BE TIED UP.

FAILURE TO COMPLY WITH THE PRESCRIPTIONS ABOVE MAY LEAD TO INJURIES, EVEN SERIOUS ONES, TO THE OPERATOR'S SIGHT, OR UPPER AND LOWER LIMBS.

WHEN USING THIS EQUIPMENT SUDDEN NOISE LEVEL PEAKS MAY BE EXPERIENCED BY THE OPERATOR, LEADING TO HEARING DAMAGE.

- UNDER NO CIRCUMSTANCES must the equipment be used to spin anything but vehicle wheels. Bad locking can cause rotating parts to come loose, potentially causing injury to the operator and damage to the machine and anything in the vicinity.
- The equipment handles and operating grips must be kept clean and free from oil.
- The workshop must be kept clean and dry. Make sure that the working premises are properly lit.
The equipment can be operated by a single operator at a time. Unauthorized personnel must remain outside the working area, as shown in Fig. 4.
Avoid any hazardous situations. Do not use this equipment when the shop is damp or the floor slippery and do not use this equipment out of doors.
- When operating and servicing this equipment, carefully follow all applicable safety and accident-prevention precautions. The equipment must not be operated by untrained personnel.

5.0 PACKING AND MOBILIZATION FOR TRANSPORT

NOTICE

HAVE THIS EQUIPMENT HANDLED BY QUALIFIED PERSONNEL ONLY.

THE LIFTING EQUIPMENT RATED LOAD MUST BE EQUAL TO OR HIGHER THAN THE GROSS WEIGHT OF THIS EQUIPMENT (SEE "TECHNICAL SPECIFICATIONS" PARAGRAPH).

CAUTION

RISK OF UPPER AND LOWER LIMBS CRUSHING.

HANDS AND FEET MAY GET CRUSHED BELOW THIS EQUIPMENT PACKAGING.

STAND CLEAR OF THIS EQUIPMENT PACKAGING WHENEVER IT IS MOBILIZED.

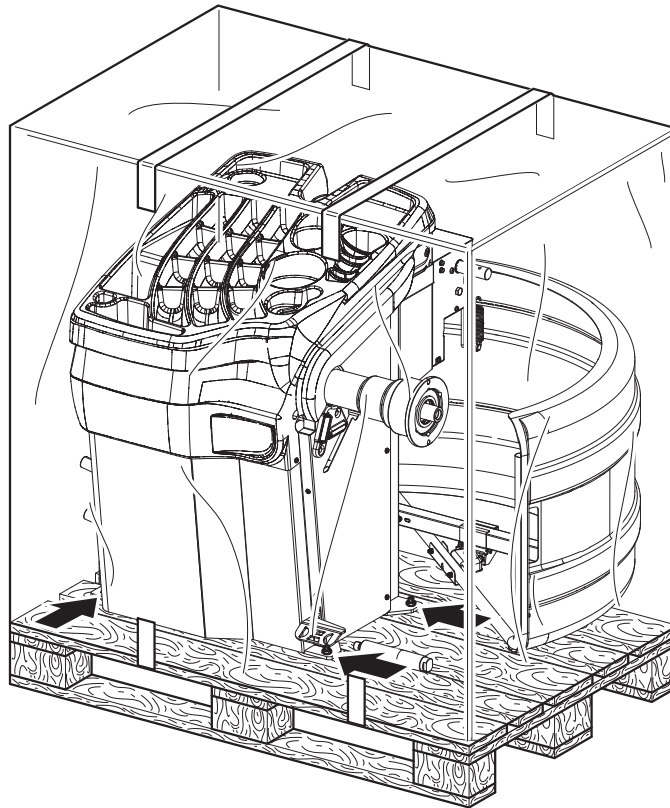
WEAR SAFETY GLOVES AND SHOES WHEN MOBILIZING THIS EQUIPMENT PACKAGING.

The equipment is supplied packed in a cardboard box.

Movement must be by pallet-lift or fork-lift trolley.

The fork lifting points are indicated on the packing, Fig. 3.

Fig. 3



6.0 UNPACKING



RISK OF LIMBS PUNCTURE, CUT OR CRUSHING.

WHILE UNPACKING THIS EQUIPMENT, REMOVED PACKAGING MATERIAL MAY PUNCTURE OR CUT THE OPERATOR HANDS AND FEET AND MAY CRUSH THE OPERATOR'S FEET.
ALWAYS WEAR PROTECTIVE GLOVES AND SHOES WHEN UNPACKING THIS EQUIPMENT.

The cardboard box is supported with plastic strapping. Cut the strapping with suitable scissors. Use a small knife to cut along the lateral axis of the box and open it like a fan. It is also possible to unmail the cardboard box from the pallet it is fixed to. After removing the packing, and in the case of the equipment packed fully assembled, check that the equipment is complete and that there is no visible damage. If in doubt do not use the equipment and refer to professionally qualified personnel (to the seller).
The packing (plastic bags, expanded polystyrene, nails, bolts, timber, etc.) should not be left within reach of children since it is potentially dangerous. These materials should be deposited in the relevant collection points if they are pollutants or non biodegradable.



THE BOX CONTAINING THE ACCESSORIES IS CONTAINED IN THE WRAPPING. DO NOT THROW IT AWAY WITH THE PACKING.

7.0 MOBILIZATION

NOTICE

HAVE THIS EQUIPMENT HANDLED BY QUALIFIED PERSONNEL ONLY.

THE LIFTING EQUIPMENT RATED LOAD MUST BE EQUAL TO OR HIGHER THAN THE NET WEIGHT OF PRODUCT (SEE "TECHNICAL SPECIFICATIONS" PARAGRAPH).

NOTICE

NEVER LIFT THE EQUIPMENT BY GRIPPING THE SPINDLE.



During the equipment handling from the unpacking position to the installation one, follow the instructions listed below:

- protect the exposed corners with suitable material (bubble wrap/cardboard);
- do not use metallic cables for lifting;
- make sure that the power supply of the equipment is not connected;
- place again the equipment onto the original pallet with whom it was delivered;
- use transpallet or fork-lift for handling.

8.0 WORKING ENVIRONMENT CONDITIONS

NOTICE

INSTALL THIS EQUIPMENT INDOORS.

PLACE OF INSTALLATION MUST BE DRY, ADEQUATELY LIT AND IN COMPLIANCE WITH APPLICABLE SAFETY REGULATIONS.

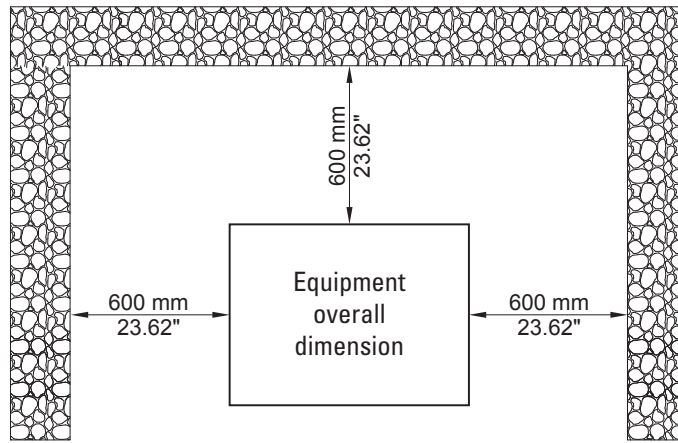
The equipment must be operated under proper conditions as follows:

- temperature: +5 °C - +40 °C (+41 °F - +104 °F);
- relative humidity: 30 - 95% (dew-free);
- atmospheric pressure: 860 - 1060 hPa (mbar) (12.5 - 15.4 psi).

The use of the equipment in ambient conditions other than those specified above is only allowed after prior agreement with and approval of the manufacturer.

8.1 *Work position*

Fig. 4



The location of the equipment requires a usable space as indicated in Fig. 4. The positioning of the equipment must be executed according to the distances shown. From the control position the operator is able to observe all the equipment and surrounding area. Operator must prevent unauthorized personnel or objects that could be dangerous from entering the area.

The equipment must be secured on a flat floor surface, preferably of cement or tiled. Avoid yielding or irregular surfaces.

The base floor must be able to support the loads transmitted during operation. This surface must have a capacity load of at least 500 kg/m² (100 lb/ft²).

The depth of the solid floor must be sufficient to guarantee that the anchors hold.

8.2 *Lighting*

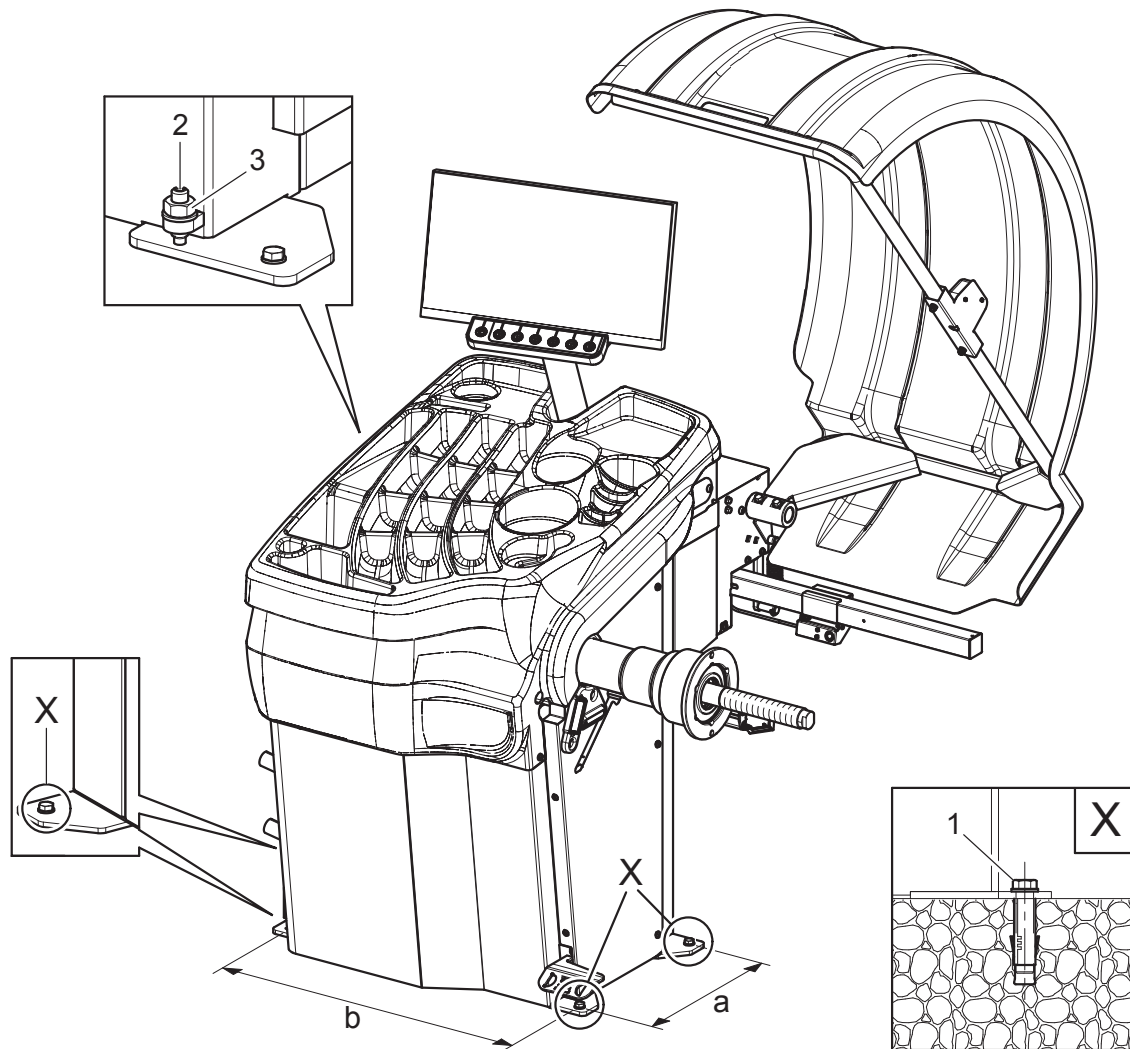
The environment the equipment is installed in must be provided with lighting meeting applicable regulations for working environments.

9.0 ANCHORING SYSTEM

The packed equipment is secured to the support pallet through the holes on the frame and indicated in the figure below. These holes can be used to secure the equipment to the floor, using suitable concrete anchors (not included).

Before carrying out the final fixing, check that all anchor points are correct in contact with the fixing surface itself, using the appropriate levelling bolt (Fig. 5 ref. 2), as indicated in Fig. 5. Once you are sure the balancer is flat, hold the bolt (Fig. 5 ref. 2) with the appropriate wrench and tighten the nut (Fig. 5 ref. 3)

Fig. 5



a= 374 mm / 14.82"

b= 680 mm / 26.77"

NOTICE

REQUIRED TOOLS.

BOLT POS. 2: 5 mm ALLEN WRENCH. NUT POS. 3: 17 mm OPEN WRENCH.

- To secure the equipment to the floor, use anchoring bolts/studs (Fig. 5 ref. 1) with a threaded shank M8 (UNC 5/16) suitable for the floor on which the wheel balancer will be secured and in a number equal to the number of holes on the bottom frame;
- drill holes in the floor, suitable for inserting the chosen anchors, in correspondence with the holes on the bottom frame;
- insert the anchors into the holes drilled in the floor through the holes on the bottom frame and tighten the anchors;
- tighten the anchors on the base frame and torque as indicated by the manufacturer of the anchors.

10.0 ASSEMBLY AND PREPARATION FOR USE

DANGER

RISK OF ELECTROCUTION, FIRE, BUMPING, CRUSHING, ENTANGLEMENT, SHEARING OR EYE INJURIES.

DO NOT CONNECT THIS EQUIPMENT TO EITHER ELECTRICAL OR PNEUMATIC POWER SUPPLY BEFORE COMPLETING ASSEMBLING. ASSEMBLING THIS EQUIPMENT WHILE IT IS CONNECTED TO ELECTRICAL POWER SUPPLY MAY LEAD TO INADVERTENT MOVEMENTS OR ELECTROCUTION, RESULTING IN MATERIAL DAMAGES, SERIOUS INJURIES OR DEATH.

ASSEMBLING AND PREPARATION FOR USE OF THIS EQUIPMENT MUST BE CARRIED OUT BY PROFESSIONALLY QUALIFIED TECHNICIANS.

ASSEMBLING AND PREPARATION FOR USE OF THIS EQUIPMENT BY UNQUALIFIED PERSONNEL MAY RESULT IN MATERIAL DAMAGES OR SERIOUS INJURIES, OR DEATH.

CAUTION

RISK OF UPPER LIMBS CRUSHING.

HANDS MAY GET CRUSHED WHEN ASSEMBLING PARTS TO PREPARE THIS EQUIPMENT FOR USE.

KEEP HANDS OFF MATING SURFACES AT ALL TIMES.

CAUTION

RISK OF LOWER LIMBS CRUSHING.

FEET MAY GET CRUSHED WHEN ASSEMBLING PARTS TO PREPARE THIS EQUIPMENT FOR USE, IN CASE PARTS FALL TO THE GROUND.

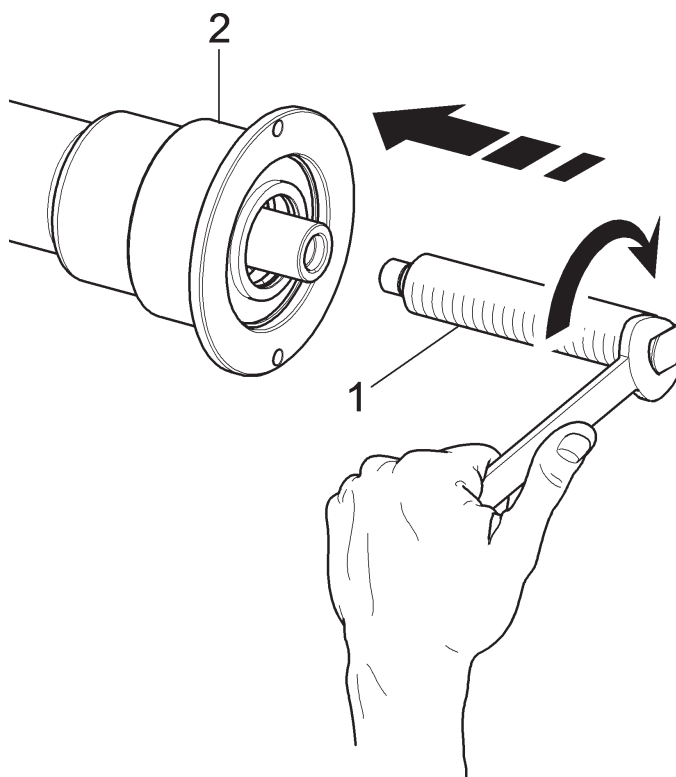
ENSURE PARTS ARE PROPERLY SECURED.

After removing all the components from the packing, check that they are complete, there is no damage to anything, then refer to the following instructions and attached illustrations for the assembly of the components.

10.1 Fitting the spindle on the flange

1. Thread the spindle (Fig. 6 ref. 1), using a 27mm open end wrench, on to the flange (Fig. 6 ref. 2).

Fig. 6



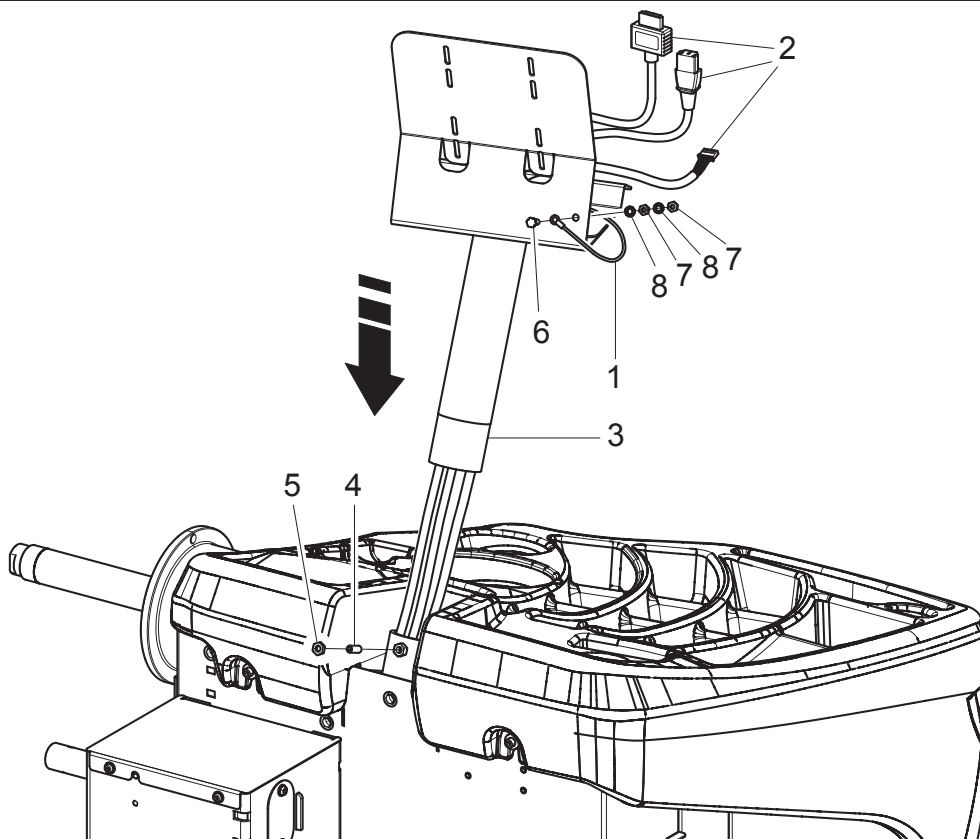
10.2 Monitor fitting

1. Place the monitor with its stand in the immediate vicinity of the mounting location. Insert the monitor, keyboard (Fig. 7 ref. 2) and grounding cables (Fig. 7 ref. 1), through the support hose (Fig. 7 ref. 3);
2. Fit the support tube (Fig. 7 ref. 3) in the provided seat. Block the support with the grub screw (Fig. 7 ref. 4) and the nut (Fig. 7 ref. 5), supplied;
3. connect the grounding cable (Fig. 7 ref. 1) to the grounding connecting bolt (Fig. 7 ref. 6) and lock it with the washers (Fig. 7 ref. 8) and the nuts (Fig. 7 ref. 7);

NOTICE

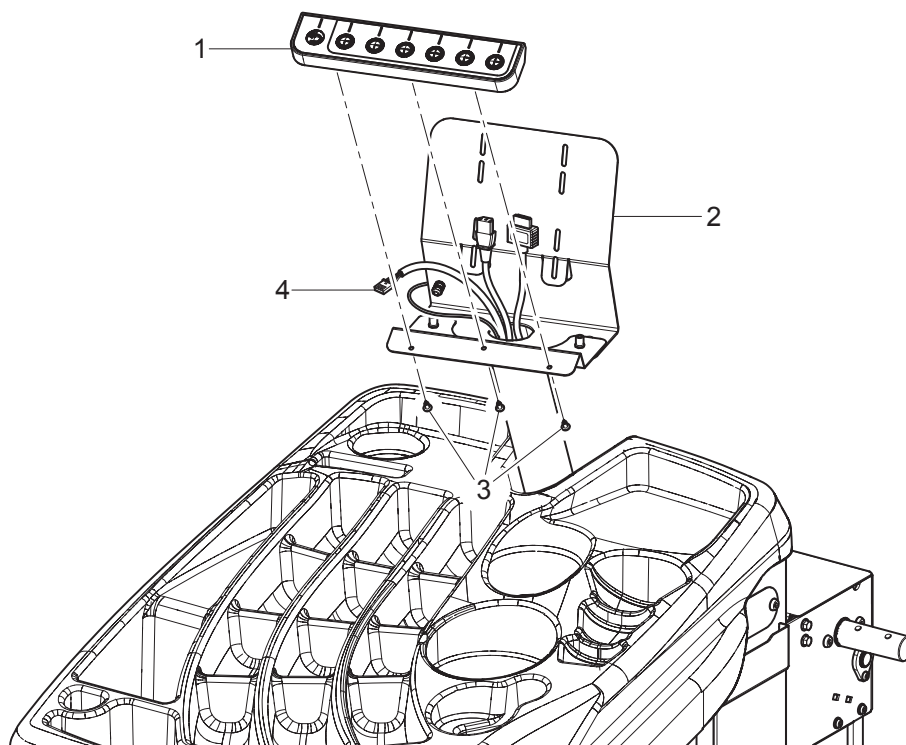
DURING THIS OPERATION, PAY PARTICULAR ATTENTION TO THE GROUNDING CABLE (FIG. 7 REF. 1), TO THE POWER SUPPLY CABLE, TO THE HDMI CABLE AND TO THE KEYBOARD CABLES (FIG. 7 REF. 2) IN ORDER NOT TO DAMAGE THEM. MAKE SURE THEY HAVE BEEN INTRODUCED IN THE SUPPORT HOSE, AS SHOWN IN FIG. 7.

Fig. 7



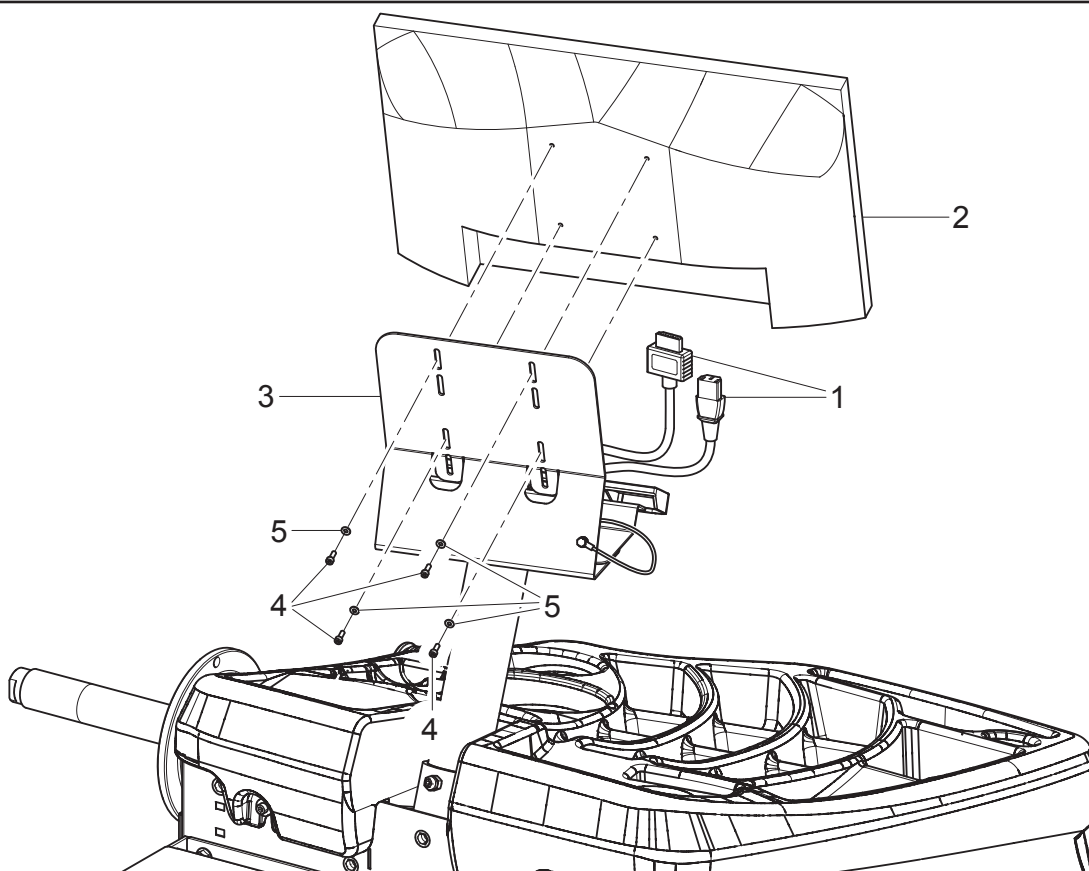
4. secure the keyboard (Fig. 8 ref. 1) to the support (Fig. 8 ref. 2) using the bolts supplied (Fig. 8 ref. 3). Connect the wiring of the keyboard (Fig. 8 ref. 4);

Fig. 8



5. connect the plugs (Fig. 9 ref. 1) on the power supply sockets and monitor signal (Fig. 9 ref. 2);
6. secure the monitor (Fig. 9 ref. 2) to the support (Fig. 9 ref. 3) with the bolts (Fig. 9 ref. 4) and the washers (Fig. 9 ref. 5) supplied.

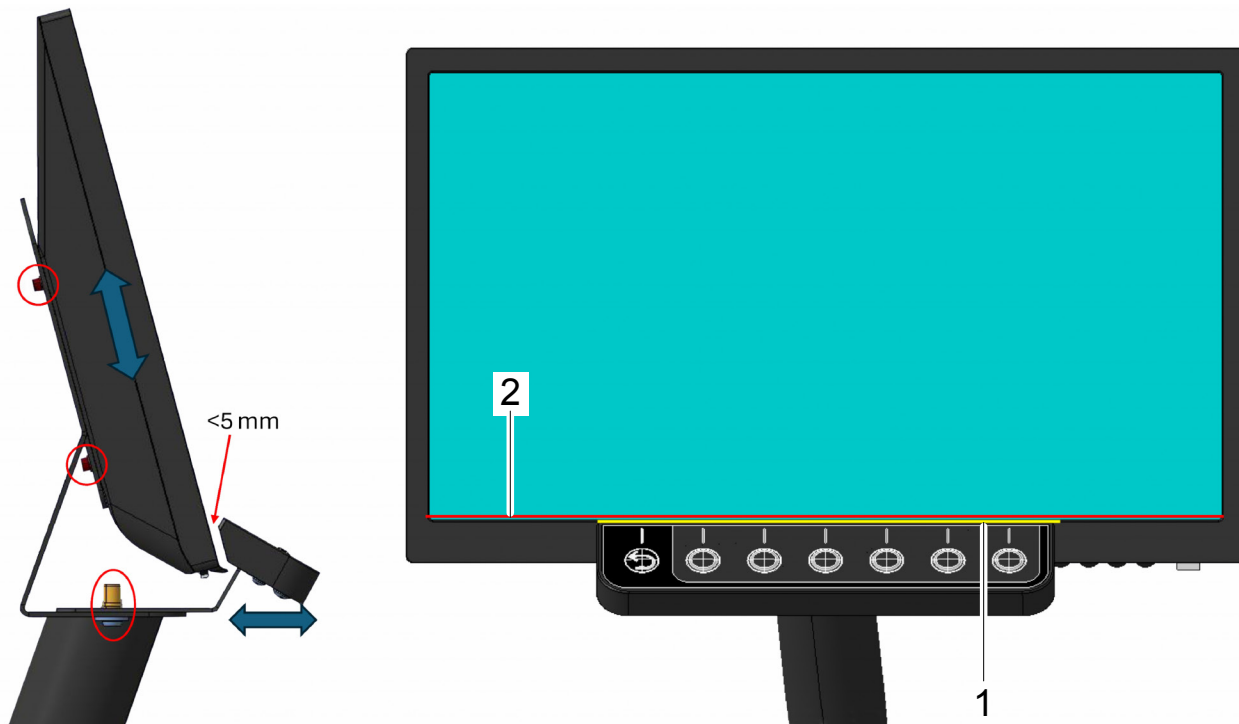
Fig. 9



NOTICE

FOR BEST USE OF THE NEW GRAPHICAL INTERFACE, ADJUST THE MONITOR AND KEYBOARD SO THAT THE UPPER SIDE OF THE KEYBOARD SUPPORT (YELLOW) (FIG. 10 REF. 1) IS ALIGNED (+ OR -) WITH THE INTERNAL EDGE OF THE MONITOR (RED) (FIG. 10 REF. 2) AND THAT THERE IS LITTLE SPACE BETWEEN THEM (<5 mm).

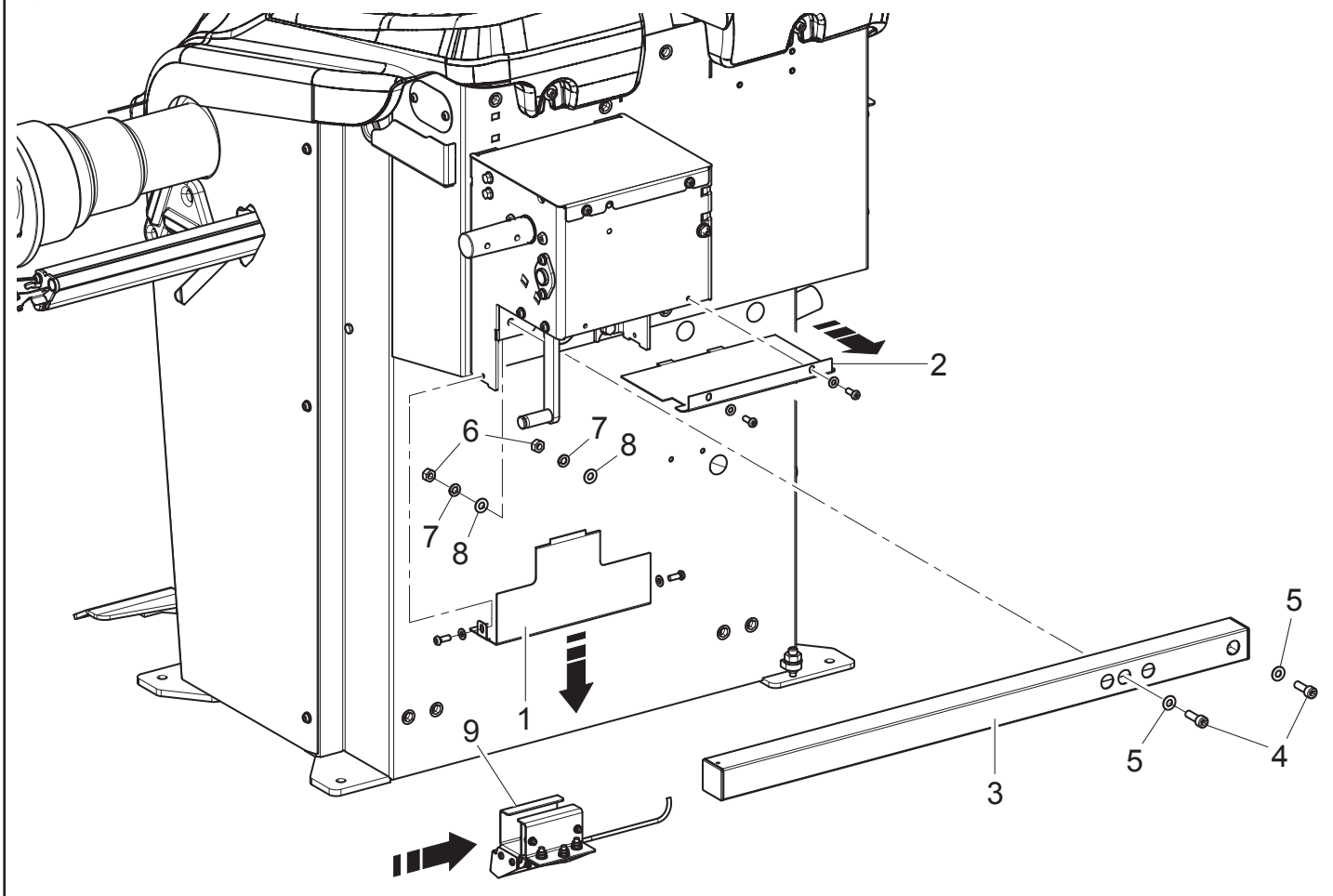
Fig. 10



10.3 *Run-out assembly with support*

1. Remove the casings (Fig. 11 ref. 1 and 2), lock the Run-out arm (Fig. 11 ref. 3) to the prepared support using the 2 screws (Fig. 11 ref. 4) and the washers (Fig. 11 ref. 5). Lock the bolts (Fig. 11 ref. 4) screwing the provided nuts (Fig. 11 ref. 6) and washers (Fig. 11 ref. 7 and 8);
2. mount the Run-out (Fig. 11 ref. 9), as shown in Fig. 11, passing the sonar cable through the appropriate passages until it reaches the relevant board;
3. reassemble the casings (Fig. 11 ref. 1 and 2) previously removed;

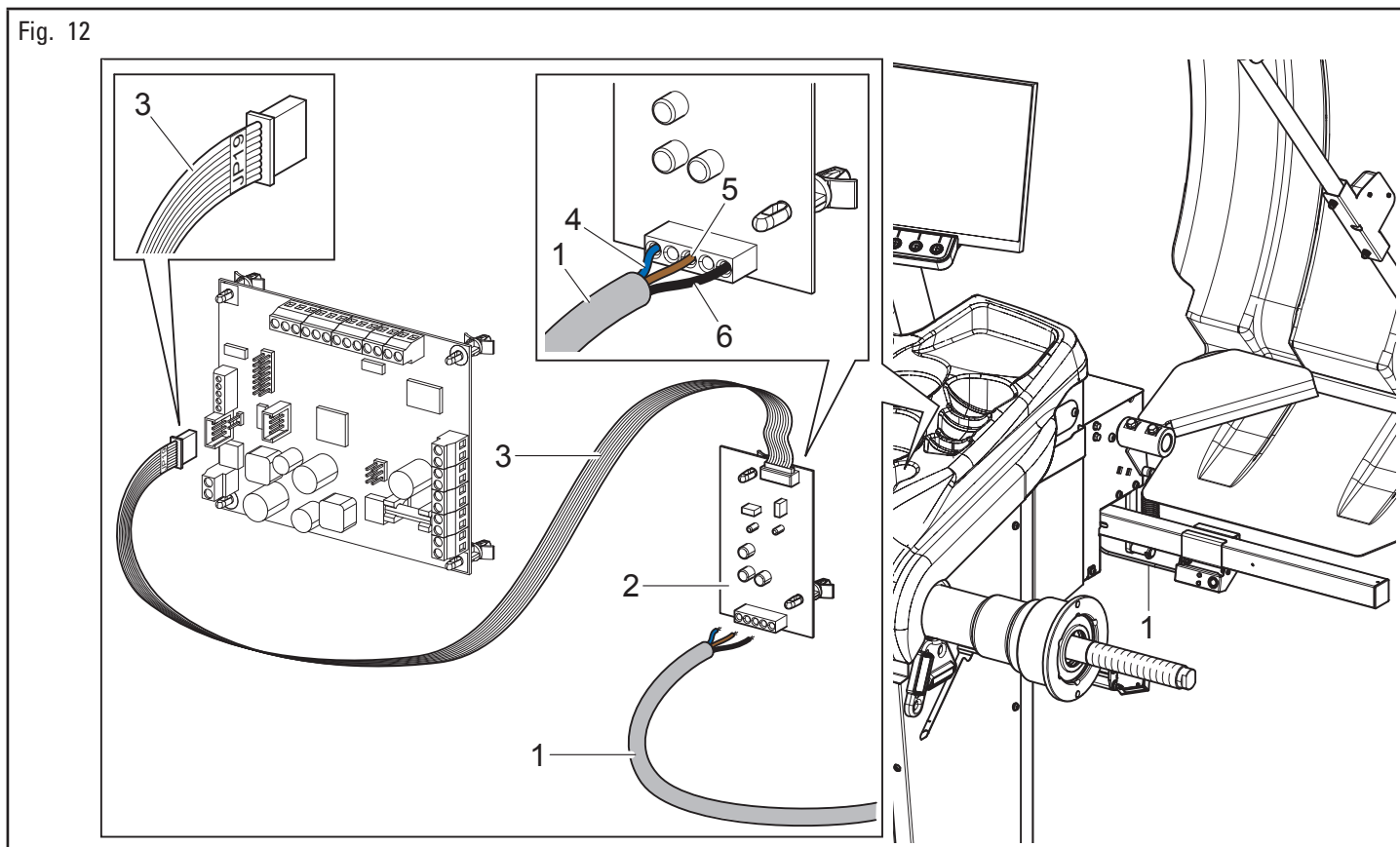
Fig. 11



4. remove the balancer top cover;

5. connect Run-out cable plug (Fig. 12 ref. 1) to the electronic board (Fig. 12 ref. 2), as shown in Fig. 12 (blue ref. 4 cable, brown ref. 5 cable and black ref. 6 cable). Connect the carriages Run-out board (Fig. 12 ref. 2) to the wheel balancer main board, using the provided cable JP19 (Fig. 12 ref. 3). Carry out the connection as shown in Fig. 12;

Fig. 12



6. connect the cables with clamps not to let them hinder the ordinary operation of the wheel balancer.
7. mount wheel balancer top cover again.

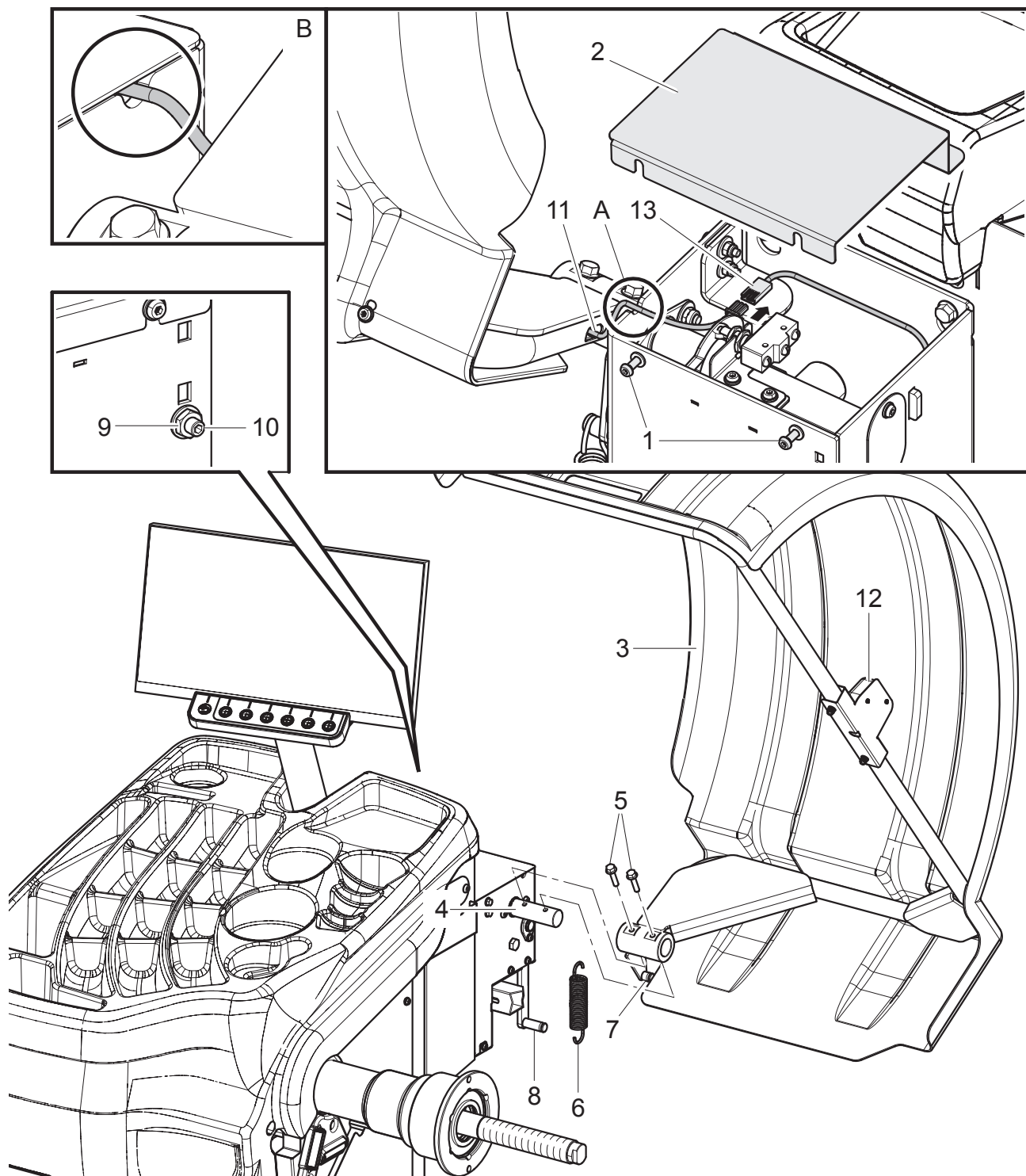
NOTICE

FOR THE CONNECTIONS, REFER TO WIRING DIAGRAMS.

10.4 Fitting the protection guard

1. Unscrew without removing the bolts (Fig. 13 ref. 1) and remove the cover (Fig. 13 ref. 2);
2. mount the protection guard (Fig. 13 ref. 3) to the support (Fig. 13 ref. 4) using the bolts (Fig. 13 ref. 5);
3. install the spring (Fig. 13 ref. 6) between the pin on the protection guard (Fig. 13 ref. 7) and the pin on the interlock (Fig. 13 ref. 8);
4. adjust the guard movement by loosening the nut (Fig. 13 ref. 9) and screwing (rotation braking increase) or unscrewing (rotation braking decrease) the grub screw (Fig. 13 ref. 10);
5. connect the ultrasound sensor cable (Fig. 13 ref. 11) of the automatic width measuring device (Fig. 13 ref. 12) to the connector (Fig. 13 ref. 13) passing it through the designated seat (Fig. 13 ref. A);
6. once the connection is complete, reassemble the cover (Fig. 13 ref. 2) by tightening the bolts (Fig. 13 ref. 1) that were previously loosened. Ensure the wiring is correctly positioned within its designated seat (see detail "B").

Fig. 13



11.0 ELECTRICAL CONNECTIONS

11.1 Electrical checks



RISK OF FIRE OR ELECTROCUTION.

CONNECTION OF THIS EQUIPMENT TO THE ELECTRICAL POWER SUPPLY MUST BE CARRIED OUT BY PROFESSIONALLY QUALIFIED TECHNICIANS.

CONNECTION OF THIS EQUIPMENT TO THE ELECTRICAL POWER SUPPLY BY UNQUALIFIED PERSONNEL MAY RESULT IN MATERIAL DAMAGES, SERIOUS INJURIES OR DEATH.

BEFORE CONNECTING THIS EQUIPMENT MAKE SURE THAT:

- ELECTRICAL POWER SUPPLY POWERLINE SPECIFICATIONS MATCH PRODUCT ELECTRICAL RATINGS AS INIDICATED ON THE NAME-PLATE;
- ALL COMPONENTES OF THIS EQUIPMENT ELECTRICAL EQUIPMENT ARE IN GOOD CONDITION;
- ELECTRICAL POWER SUPPLY IS PROPERLY GROUNDED AS PER APPLICABLE REGULATIONS;
- RECEPTACLE THE POWER CORD IS CONNECTED TO IS SERVED BY A BRANCH CIRCUIT SERVING ONLY THIS RECEPTACLE.
- ELECTRICAL POWER SUPPLY VOLTAGE DOES NOT DROP BY MORE THAN 4% UNDER FULL-LOAD CONDITIONS AND BY NO MORE THAN 10% AT MOTOR START-UP.



RISK OF BUMPING OR CRUSHING.

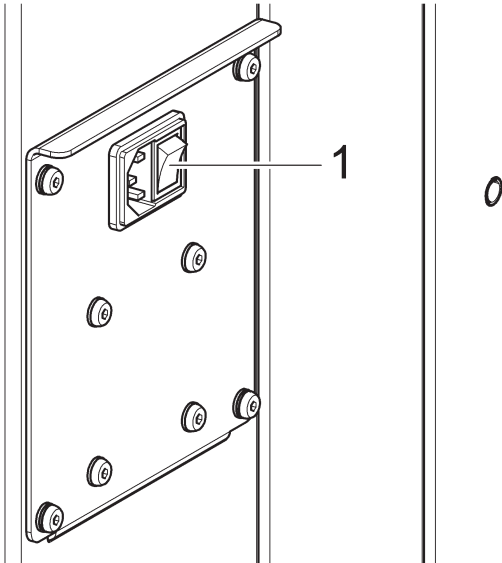
AS THE LID IS REMOVED, OPERATORS AND TECHNICIAN MAY BE EXPOSED TO ELECTROCUTION HAZARD, IF THE EQUIPMENT IS CONNECTED TO THE ELECTRICAL POWER SUPPLY AND THE MAIN SWITCH IS SET TO ITS ON POSITION, LEADING TO SEVERE INJURIES OR DEATH.

BEFORE OPENING/REMOVING THE LID:

- ASSURE THE MAIN SWITCH IS SET TO ITS OFF POSITION;
- DISCONNECT THE EQUIPMENT FROM THE ELECTRICAL POWER SUPPLY.

This equipment is intended for connection to the electrical power supply through the provided 3-pole plug (110 V - 1-phase). If the plug supplied is not suitable for the wall socket, provide the equipment with a plug complying with the local laws and with the applicable rules and regulations. This operation must be performed by expert and professional personnel.

Fig. 14



12.0 FITTING THE WHEEL ON THE SPINDLE

To achieve perfect balancing, the wheel must be carefully and properly fitted on the spindle. Imperfect centering will inevitably cause unbalances.

NOTICE

TO ACHIEVE BEST WHEEL CENTERING WITH YOUR WHEEL BALANCER, ALWAYS USE ORIGINAL CENTERING CONES AND ACCESSORIES.

Wheel fitting using the cones provided is illustrated below. For alternative fittings, using optional accessories, refer to the special instructions provided separately.

⚠ DANGER

RISK OF FIRE OR ELECTROCUTION.

DO NOT USE WATER OR OTHER LIQUIDS TO CLEAN WHEELS ON THIS EQUIPMENT.

CLEANING WHEELS WITH WATER OR OTHER LIQUIDS ON THIS EQUIPMENT MAY LEAD TO SHORT CIRCUITS AND ELECTRICAL SHOCK, AND RESULT IN MATERIAL DAMAGES, SERIOUS INJURIES OR DEATH.

⚠ WARNING

RISK OF EYE INJURIES.

DO NOT USE COMPRESSED AIR TO CLEAN WHEELS ON THIS EQUIPMENT.

CLEANING WHEELS WITH COMPRESSED AIR ON THIS EQUIPMENT MAY LEAD TO FLYING DEBRIS, AND RESULT IN EYE INJURIES. ALWAYS WEAR PROTECTIVE GOGGLES WHEN BLOWING WITH COMPRESSED AIR NEAR THIS EQUIPMENT.

⚠ WARNING

RISK OF MUSKOSKELETAL DISORDER.

FREQUENT MANUAL HANDLING OF WHEELS OR MANUAL HANDLING OF HEAVY WHEELS MAY LEAD TO MUSKOSKELETAL INJURIES.

WHEN HANDLING WHEELS WEIGHING MORE THAN 10 kg (22 lbs) AND/OR WITH A FREQUENCY OF MORE THAN 20/30 WHEELS PER HOUR, A LIFTING DEVICE SHALL BE USED.

12.1 Fitting the wheel

1. Remove any type of foreign body from the wheel (Fig. 15 ref. 3): pre-existing weights, stones and mud, and make sure the spindle (Fig. 15 ref. 1) and the rim centering area are clean before fitting the wheel on the spindle;
2. carefully choose the cone (Fig. 15 ref. 2) most suitable for the wheel to be balanced. These accessories must be selected according to the shape/dimension of the rim. Fit the cone (Fig. 15 ref. 2) on the equipment shaft (Fig. 15 ref. 1). The centering cone must be in contact with the support flange (Fig. 15 ref. 4). Be careful: improper insertion could lead to seizure;
3. fit the wheel (Fig. 15 ref. 3) with the inside of the rim towards the wheel balancer;
4. fit the protection cap (Fig. 16 ref. 1) in the locknut (Fig. 16 ref. 2) and fasten against the wheel.

Fig. 15

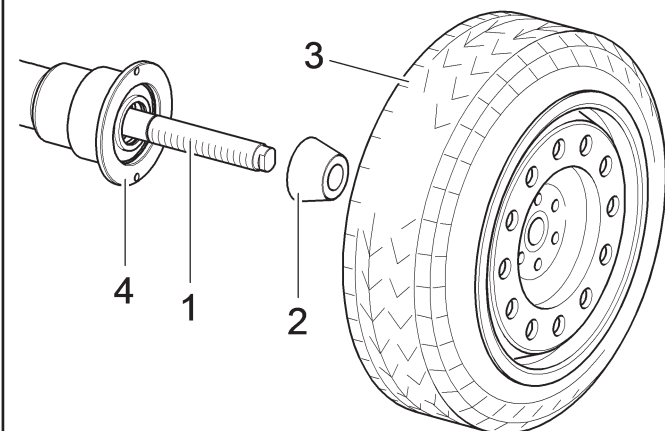
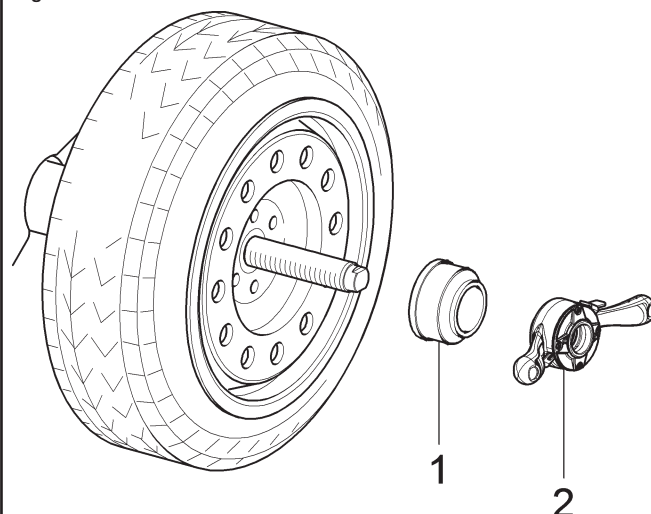


Fig. 16



Some aluminium wheels, with very high centering, must be fitted with the cone outside the wheel.

5. Clean the spindle (Fig. 17 ref. 1) before fitting the wheel;
6. fit the wheel (Fig. 17 ref. 3) with the inside of the rim towards the wheel balancer, until the wheel is up against the support flange (Fig. 17 ref. 2);
7. fit the cone (Fig. 18 ref. 3) with the narrowest part turned towards the wheel;
8. fit the pressure ring (Fig. 18 ref. 1) in the nut (Fig. 18 ref. 2) and fasten the cone (Fig. 18 ref. 3).

Fig. 17

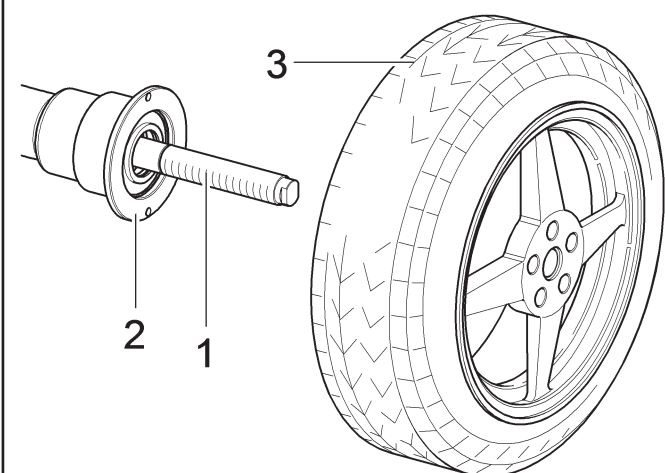
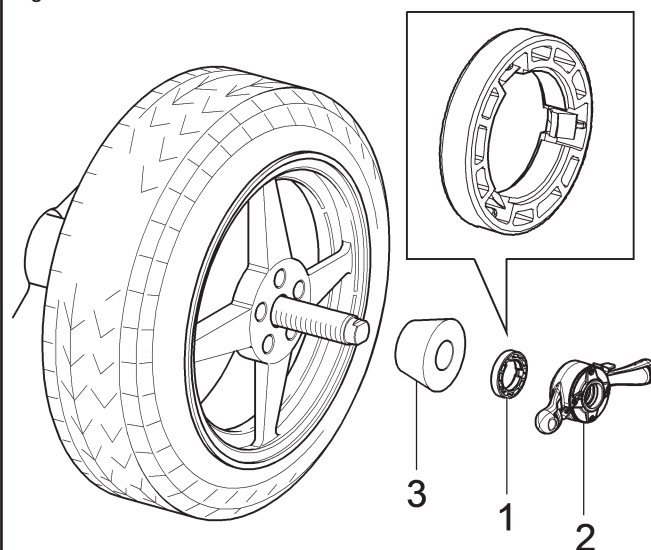


Fig. 18



NOTICE

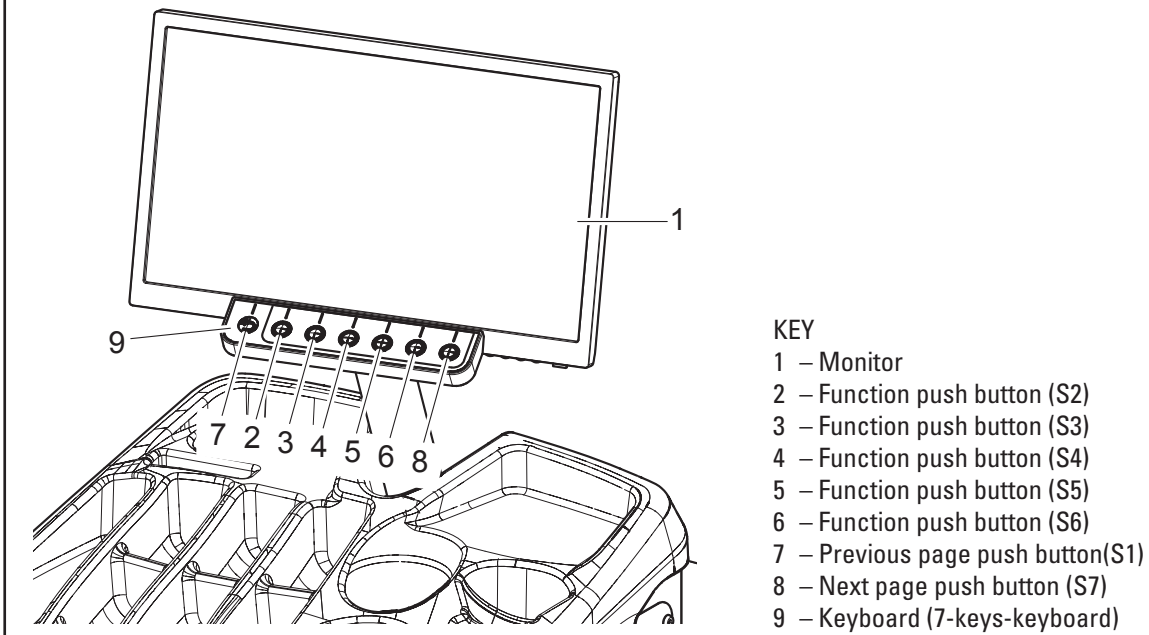
ORIENTATION OF THE PRESSURE RING: SIDE WITH GROOVES TOWARD THE RING NUT (Fig. 18 REF. 2).

13.0 DISPLAY WITH KEYBOARD

The wheel balancers are equipped with a control panel equipped with a keyboard to interact/operate the controls presented in graphical form on the monitor.

On the monitor are displayed all the instructions for the correct wheel balancing, for example indicating where the operator shall fit adhesive or clip weights and the balancing mode and/or option used, as well as correct wheel rotation for inner/outer weights positioning.

Fig. 19

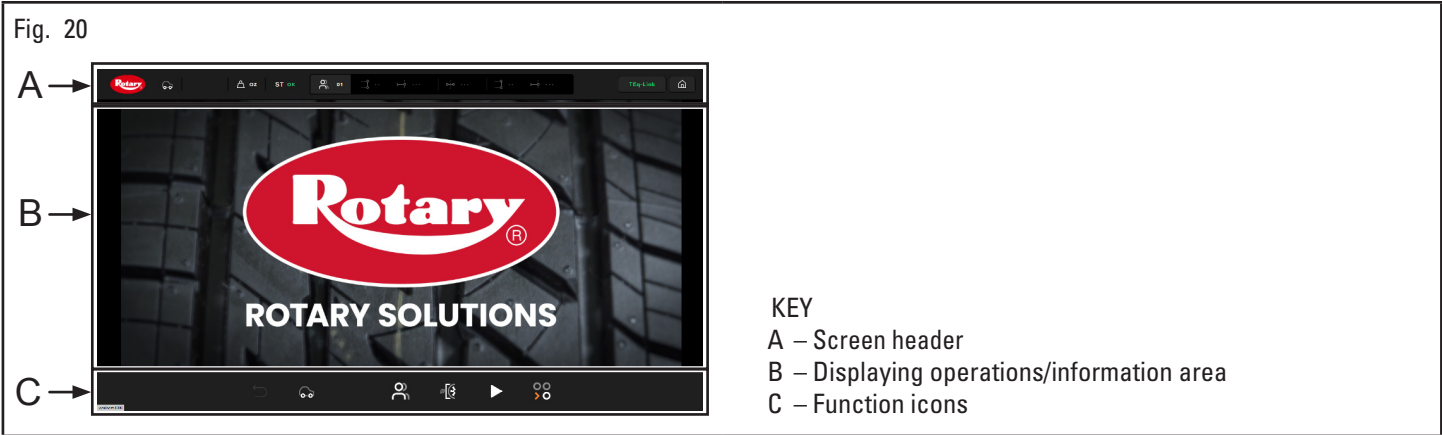


14.0 WHEEL BALANCING

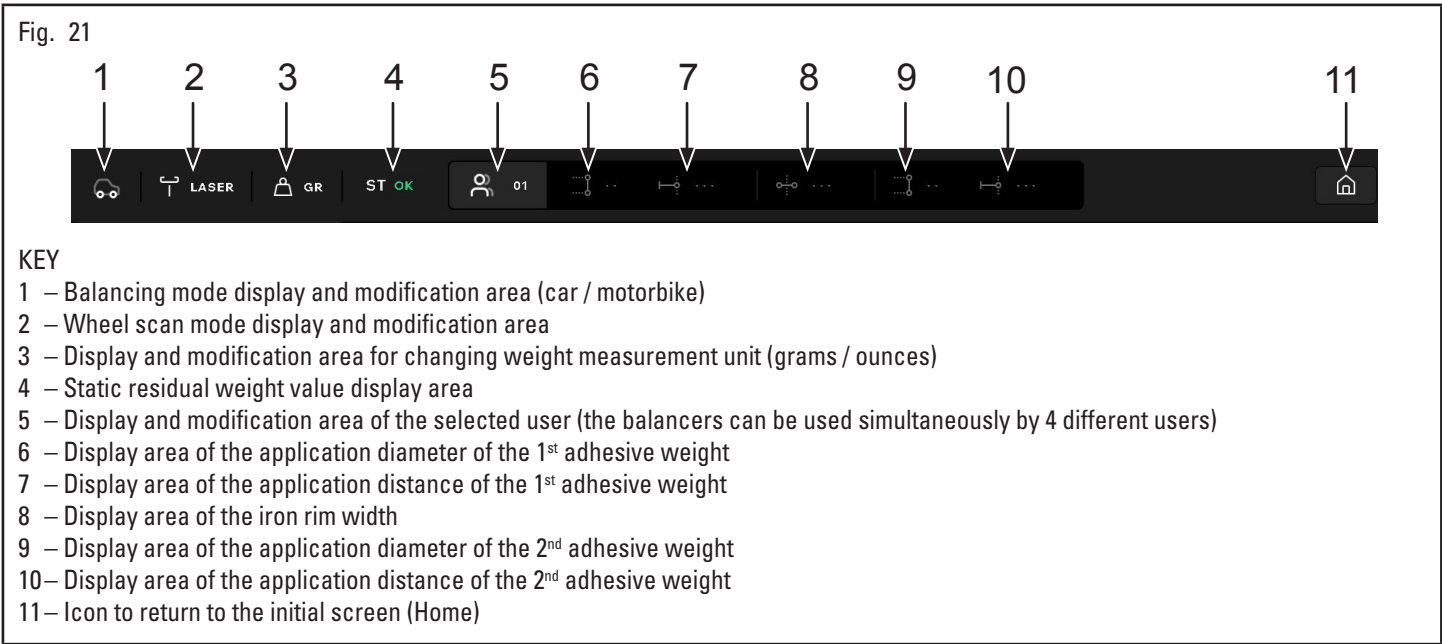
14.1 Switching the machine on and off

Turn the main switch, on the side of the equipment, to "ON" (Fig. 14 ref. 1).
Wait a few seconds until the complete loading of the operational program.
The equipment is ready to operate when the main screen "HOME" appears on the monitor.

14.2 "Home" screen page description



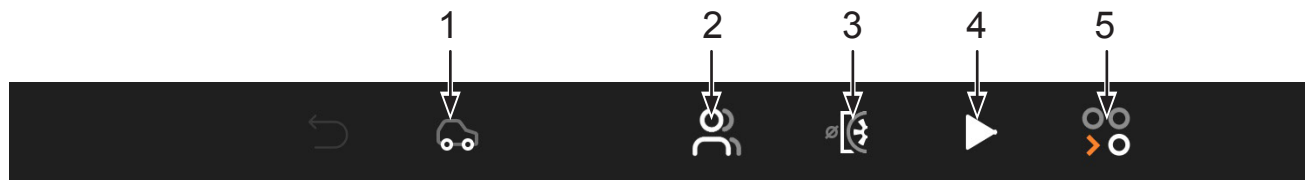
At the top of the main screen (Fig. 20 ref. A) and of each screen described below, there will be icons that will allow you to view the following functions:



In the lower part of the main screen (Fig. 20 ref. C) and of each screen described below, there will be function identification icons which will be activated by pressing the corresponding button on the keypad (Fig. 19 ref. 9).

The functions are as follows:

Fig. 22

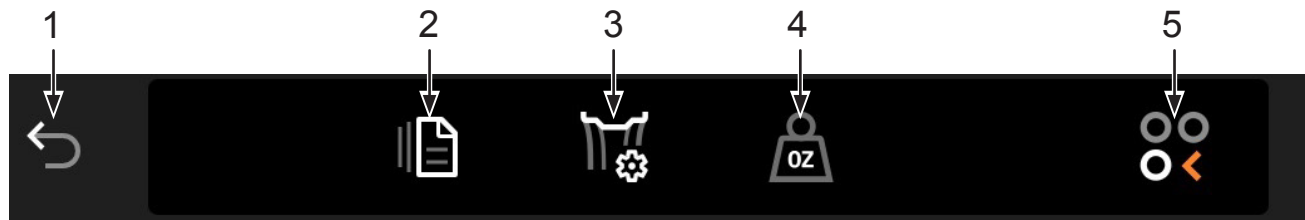


KEY

- 1 – Icon to cyclically switch to the desired balancing mode (car / motorbike)
- 2 – User selection icon (the balancers can be used simultaneously by 4 different users)
- 3 – Programs and measurements acquisition icon
- 4 – Wheel spin icon (press with the guard closed)
- 5 – Go to next page

Press the icon (Fig. 22 ref. 5) to view a second page whose lower part is shown below:

Fig. 23



KEY

- 1 – Return to previous page
- 2 – QR code to access manufacturer's website
- 3 – Command to access the user menu (options and settings)
- 4 – Display and modification area for changing weight measurement unit (grams/ounces)
- 5 – Icon to return to the initial screen (Home)

In order to turn off the equipment, simply press the "OFF" main switch (Fig. 14 ref. 1).

NOTICE

WHEN THE EQUIPMENT IS TURNED OFF LOSES ALL THE MEASUREMENTS AND THE STORED DATA (SIZE, SPINS, USERS, ETC ...).
TURNING ON THE UNIT, IN CASE NEW MEASURES HAVE NOT YET BEEN STORED, THE WHEEL BALANCER DOES NOT PERFORM ANY
OPERATION PRESSING THE  BUTTON.

14.3 Setting of balancing modes

The CAR/MOTORBIKE balancing type setting is performed as described below: from the “Home” page press the icon  (Fig. 22 ref. 1) to cyclically switch to the car / motorbike mode.

14.4 Balancing programs setting

The setting of the balancing programs can be performed in two ways:

1. through the equipment automatic detection system (rapid setting);
 2. through “Measurements acquisition” screen, appearing when the  icon is pressed (Fig. 22 ref. 3).
- The setting modes are completely different even if they allow to reach the same result (but with different times).

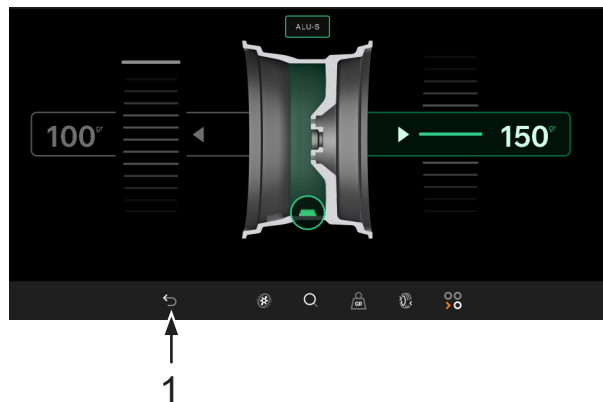
14.4.1 Use of the automatic equipment detection system

The use of the equipment automatic system allows the detection of all the wheel measurements and allows to choose the balancing program in a few seconds.

From the “HOME” page (with wheel correctly mounted on the spindle):

1. close the protection guard;
2. the wheel starts rotating. At the end of the cycle, the wheel stops in place to apply the first weight.

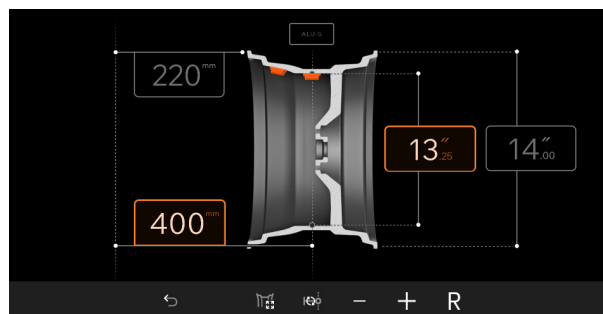
Fig. 24



NOTICE

THE EQUIPMENT HAS DETERMINED AUTOMATICALLY ALL THE WHEEL MEASUREMENTS AND THE BALANCING PROGRAM THAT SUITS THE BEST THE SCANNED WHEEL.

Fig. 25



If the operator thinks that the program and the weights fitting points are correct, just proceed as described in Par. 14.7 “Wheel balancing screen page description”.

NOTICE

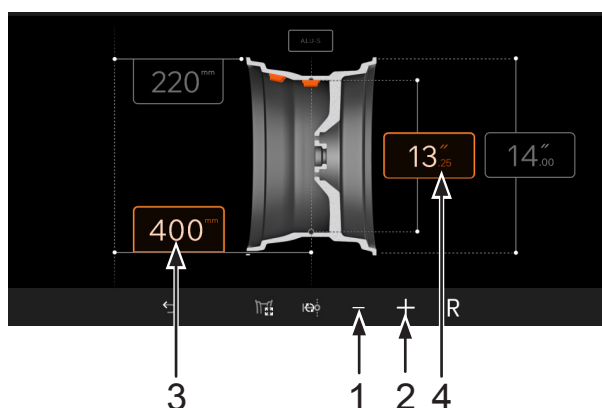
ON THE MARKET THERE CAN BE PARTICULARLY COMPLEX TYPES OF RIMS SHAPES AND/OR PROFILES SO THE EQUIPMENT COULD SUGGEST BALANCING PROGRAMS OR POINTS FOR POSITIONING THE WEIGHTS BEHIND THE SPOKES THAT DO NOT SUIT THE ACTUAL SHAPE OF THE RIM ITSELF. IN THIS CASE PLACE MANUALLY THE LASER TO REASSIGN CORRECTLY THE BALANCING LEVELS AND THE WEIGHTS FITTING POINTS.

In case the operator wants to modify the weight fitting point “wheel outer side”, proceed as described hereafter:

1. from the wheel outer side weights application page (see Fig. 24), press the icon (Fig. 24 ref. 1).

The following screen page is displayed:

Fig. 26



KEY

- 1 – Decrease of the weight positioning distance from the equipment
- 2 – Increase of the weight positioning distance from the equipment
- 3 – Distance of the point where fitting the adhesive weight on the outside of the wheel (modifiable field colored in orange)
- 4 – Rim diameter of the point where fitting the adhesive weight on the outside of the wheel (modifiable field colored in orange)

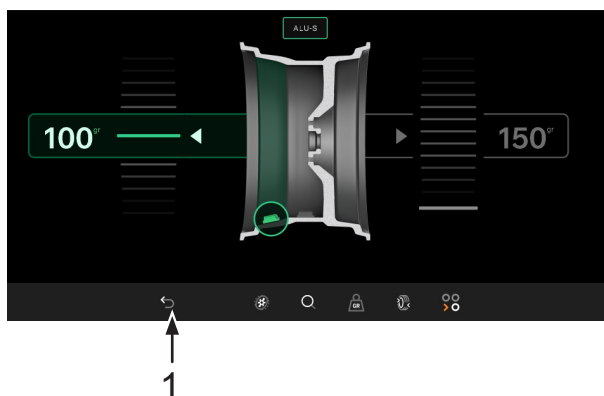
NOTICE

THE PUSH BUTTONS (REF. 1-2) ARE ENABLED ONLY FOR THE FITTING OF THE ADHESIVE WEIGHTS.
NOT ENABLED IN CASE OF CLIP WEIGHTS.

2. press the buttons  or  to modify the fitting of the adhesive weight on the wheel outer side (movement of the laser pointer) (orange-highlighted-values).
3. press the icon  to recalculate the weight value to be applied in the new set position. The screen page in (Fig. 25) is displayed again with the updated values;

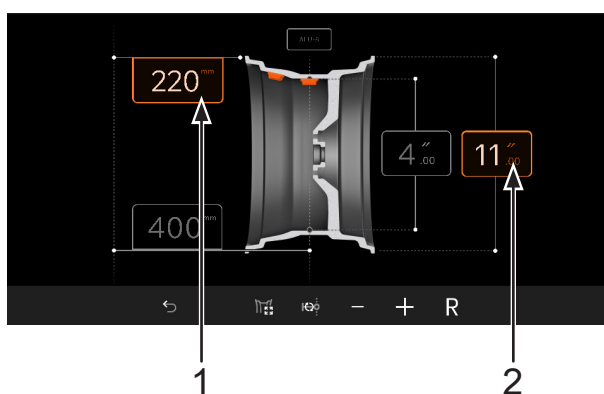
4. in case the operator wants to modify the weight fitting point “wheel outer side”, simply press the icon (Fig. 24 ref. 2). The wheel, the laser and the screen page are prepared for the application of this weight.
The following screen page is displayed:

Fig. 27



5. press the icon (Fig. 27 ref. 1). The following screen page is displayed:

Fig. 28



KEY

- 1 – Distance of the point where fitting the adhesive weight on the inside of the wheel (modifiable field colored in orange)
- 2 – Rim diameter of the point where fitting the adhesive weight on the inside of the wheel (modifiable field colored in orange)

6. proceed as described before for the modification of the weight fitting point “wheel outer side”;

7. at the end press the icon **R**;

NOTICE

IN CASE OF BALANCING OF WHEELS HAVING THE SAME CHARACTERISTICS AND DIMENSION SIMPLY:

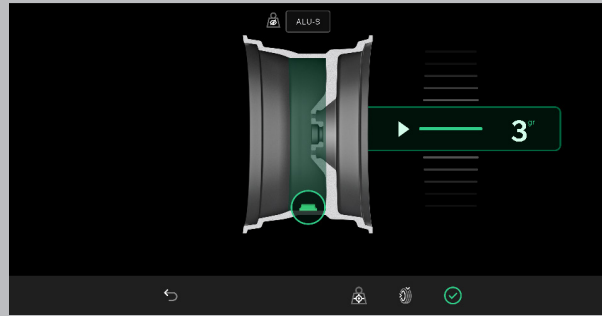
- GO TO SCREEN PAGE (FIG. 26 OR FIG. 28) (SCREEN PAGE DISPLAYING THE MEASUREMENTS ACQUIRED BY THE EQUIPMENT/ MODIFIED BY THE OPERATOR),
- FIT THE WHEELS TO BALANCE ON THE EQUIPMENT,
- START THE DETECTION OF THE UNBALANCE BY CLOSING THE GUARD.

IN THIS WAY THE EQUIPMENT WILL USE THE WEIGHT FITTING MEASUREMENTS IN FIG. 26 OR FIG. 28 FOR ALL THE WHEELS TO BE BALANCED.

IF THE MEASUREMENT NEED TO BE RESET, GO TO “HOME” PAGE AND PERFORM THE AUTOMATIC SPIN AS DESCRIBED IN PAR. 14.4.1 “USE OF THE AUTOMATIC EQUIPMENT DETECTION SYSTEM”.

NOTICE

IN CASE THE “WEIGHTS HIDDEN BEHIND SPOKES” OPTION IS ENABLED (AUTOMATIC), THE WHEEL STOPS WITH THE LASER INDICATING THE POSITION OF THE 1ST WEIGHT TO FIT AND ON MONITOR IS DISPLAYED THE NEXT SCREEN PAGE:

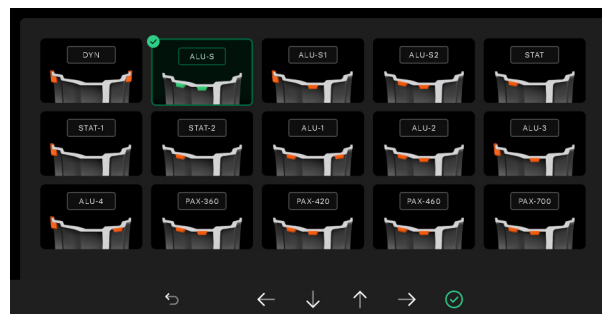


AFTER THE FITTING OF THE 1ST WEIGHT BEHIND THE SPOKE, SIMPLY PRESS THE ICON  TO POSITION THE WHEEL AND THE LASER FOR THE FITTING OF THE 2ND WEIGHT, THEN PRESS THE ICON .

AT THE END JUST PRESS THE ICON  TO RETURN TO THE PREVIOUS SCREEN PAGE AND FOR BEING ABLE TO FIT THE FOLLOWING WEIGHT ON THE WHEEL INNER SIDE (POSITION INDICATED BY THE LASER AGAIN). AT THE END PERFORM A TESTING SPIN BY CLOSING THE PROTECTION GUARD.

8. should the operator wish to change the balancing program, it is possible to proceed as follows: by pressing the programs icon (Fig. 32 ref. 1), the following program selection screen will be displayed:

Fig. 29



Select the desired program by pressing the program icon directly (green color) or by moving with the icons    .

9. after the balancing program modification, simply press  icon to carry out the recalculation of the weights and the new fitting points;
10. proceed as described in paragraph 14.7 “Description of balancing screen”.

- Procedure for electronic automatic RUN-OUT (rim inner side).

The electronic RUN-OUT measuring device is useful to check if the rim has some imperfections.

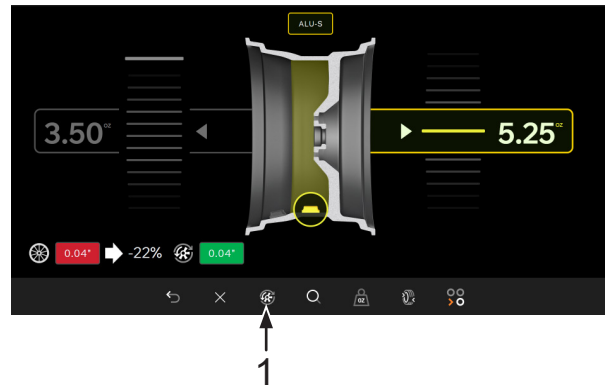
In order to display the eccentricity graph/wheel imperfection screen page, proceed as described hereafter:

1. perform the wheel spin by closing the guard.

After executing the spin of the tire with any kind of program, the weights fitting page is displayed.

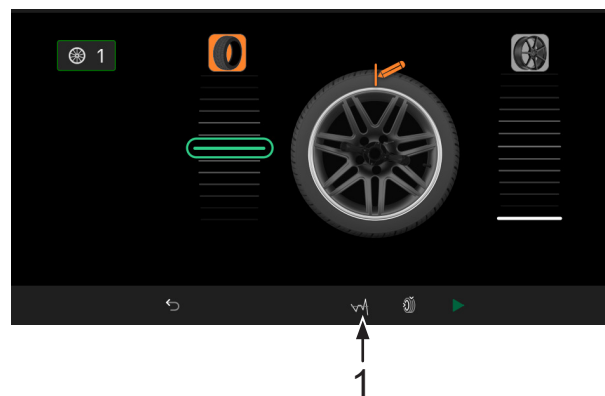
Here follows an example of the mentioned page:

Fig. 30



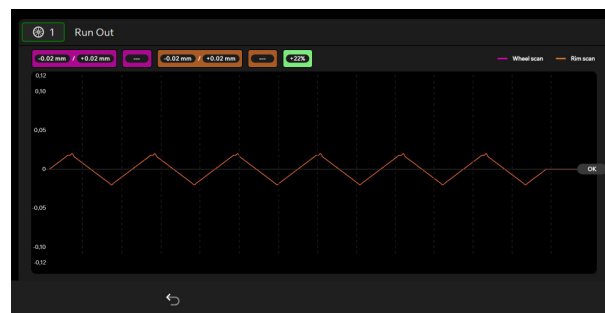
2. press the icon (Fig. 30 ref. 1) to display the following screen page;

Fig. 30A



3. by pressing the icon  (Fig. 30A ref. 1) (if on this screen page), it is possible to display the roundness graph reported here as follows.

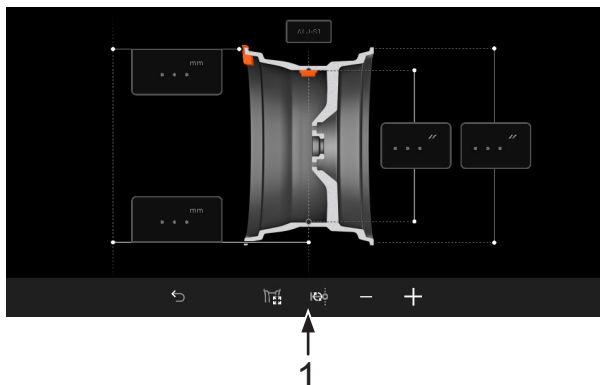
Fig. 31



14.4.2 Programs setting through "Measurements acquisition" screen page

From the "HOME" page, press the  (Fig. 22 ref. 3) button to display "Measurements acquisition" screen page below:

Fig. 32

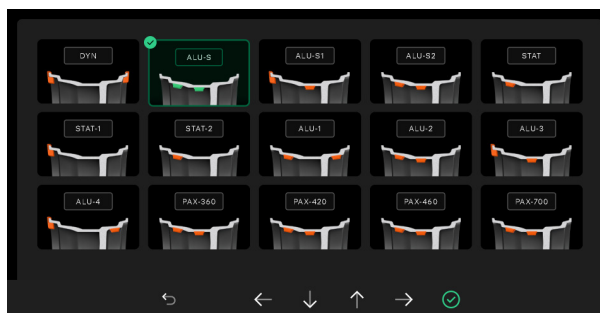


NOTICE

PRESS PUSH BUTTON  (FIG. 22 REF. 3) TO DISABLE WHEEL BALANCING SELECTION AUTOMATIC FUNCTIONS, DESCRIBED IN PARAGRAPH 14.4.1. TO BE ABLE TO REUSE THE AUTOMATIC FUNCTION TO SELECT THE WHEEL BALANCING PROGRAM, IT IS NECESSARY TO RETURN TO "HOME" PAGE, BY PRESSING THE ICON .

To select the balancing program, proceed as described below: press the icon (Fig. 32 ref. 1) to display the screen (see Fig. 33), from which you can select the desired program by moving by pressing on the icons    .

Fig. 33



NOTICE

AFTER YOU HAVE SELECTED THE DESIRED PROGRAM, USE THE AUTOMATIC WIDTH MEASURING DEVICE (IF ANY) TO DETECT THE MEASURES REQUIRED BY THE PROGRAM.

NOTICE

WHENEVER THE AUTOMATIC WIDTH MEASURING DEVICE IS KEPT IN POSITION FOR A FEW SECONDS AGAINST THE RIM (UNTIL THE EQUIPMENT MAKES AN APPROPRIATE SOUND NOTIFICATION), THE POSITION IS STORED AND THE VALUES MEASURED IN THE PRE-SET FIELDS IN THE SELECTED WHEEL BALANCING PROGRAM ARE LOADED.

NOTICE

VALID FOR IRON RIM ONLY.

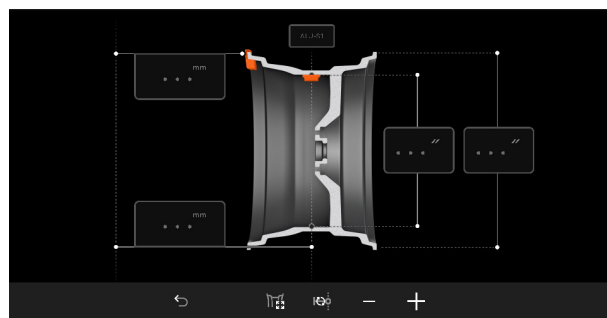
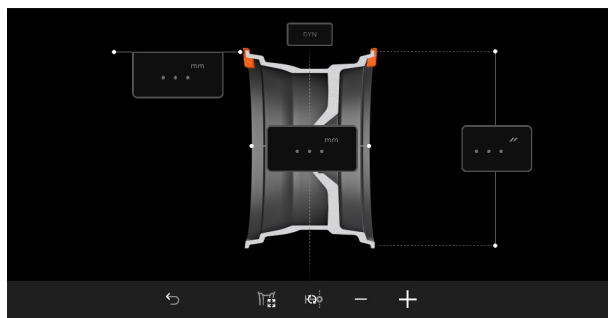
EACH TIME THAT THE WHEEL PROTECTION GUARD (FIG. 1 REF. 3) IS CLOSED, THE AUTOMATIC WIDTH MEASURING DEVICE (FIG. 1 REF. 7) (IF PRESENT) MEASURES THE WIDTH OF THE WHEEL THAT IS MOUNTED ON THE SPINDLE. THE RELEVANT VALUE IS AUTOMATICALLY STORED IN THE DESIGNATED FIELD OF THE SELECTED BALANCING PROGRAM (IF THE RIM IS MADE OF ALUMINIUM (ALU) THE WIDTH VALUE DOES NOT APPEAR).

After entering all the required measures, you can spin the wheel by pressing the icon  and closing the protective guard.

14.5 ***Indicative display of points where to detect measures/to fit weight***

Depending on the type of program selected (see examples in Fig. 34), the equipment shows on the monitor the guideline points where to take measures and, consequently, where you must apply weights.

Fig. 34



NOTICE

THE MORE THE POINTS CHOSEN FOR THE PROBING ARE DISTANT FROM EACH OTHER THE MORE THE BALANCING WILL BE EFFECTIVE.

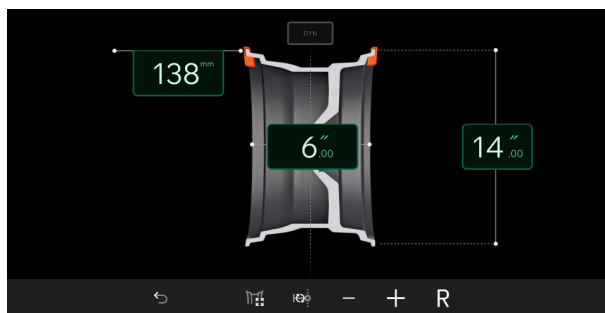
14.5.1 ***Weights positioning***

The monitor displays when it is absolutely necessary that the weight is applied at "12 o'clock" position. Pay particular attention to the content of the weights identification icons since if the following words  are displayed, then the icon corresponding weight has to be applied at "12 o'clock" position (typical of STAT-2, ALU-S2 programs).

14.6 *Displaying the active/modifiable field*

During the various phases of measures detection, the active field turns orange.

Fig. 35



Press the button  to view the next page.

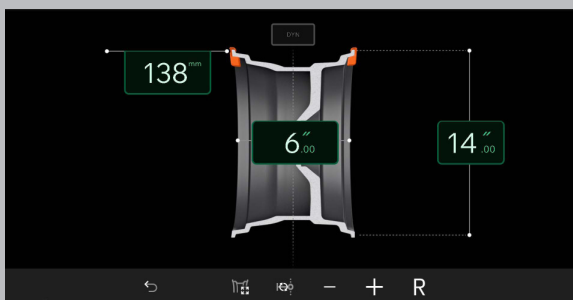
Fig. 36



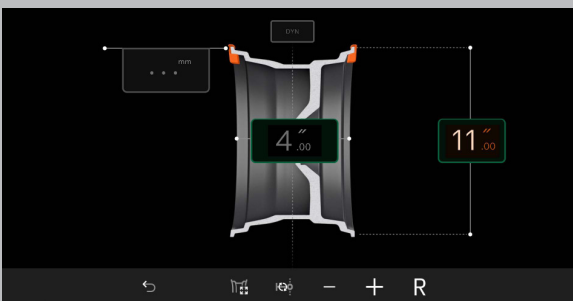
Pressing the buttons  or  you can change the value inside the active field. To modify the selected active field, simply press on the value to be modified until the desired field turns orange.

NOTICE

NORMALLY DURING THE DETECTION OF MEASUREMENTS, THE 1ST ACTIVE FIELD WILL BE THE ONE FOR THE SELECTION OF THE PROGRAM.



THERE IS A CASE, HOWEVER, IN WHICH THE 1ST ACTIVE FIELD WILL BE THE RIM WIDTH.

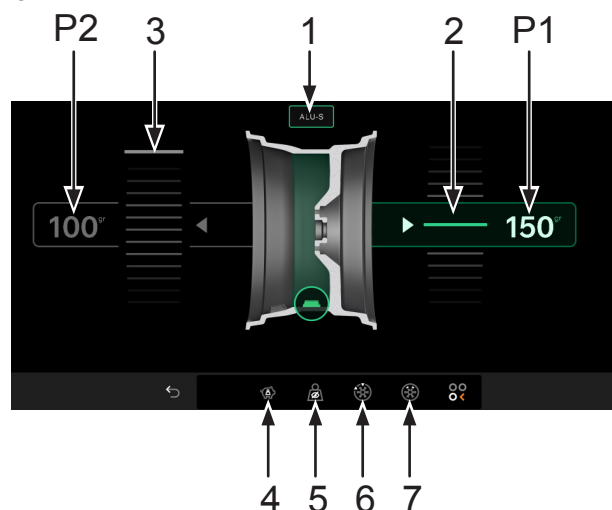


THIS CASE WILL OCCUR ONLY IF FROM "HOME" PAGE IS DETECTED ONLY ONE MEASUREMENT INSIDE THE RIM. THE PROGRAM WILL AUTOMATICALLY SET TO "STATIC" BUT IT WILL MAKE IT POSSIBLE TO MANUALLY ENTER RIM WIDTH AND TO QUICKLY SWITCH TO THE PROGRAM "DYNAMIC".

14.7 *Wheel balancing screen page description*

After executing the spin of the wheel, the monitor displays a series of important information that helps the operator in his operations and subsequent choices.

Fig. 37



KEY

- 1 – Balancing program used
- P1 – Weight to be fitted on rim outer side
- P2 – Weight to be fitted on rim inner side
- 2 – Wheel placed to fit the weight on wheel outer side
- 3 – Wheel not placed to fit the weight on wheel inner side
- 4 – ECO-WEIGHT mode icon
- 5 – WEIGHTS HIDDEN BEHIND THE SPOKES mode icon (program with adhesive weights)
- 6 – MATCHING mode icon
- 7 – SPLIT mode icon (clip weights program)

NOTICE

IF THE GUARD AND REPOSITIONING FUNCTION ARE DISABLED, ON THE ICON IN POS. 6 FIG. 37, YOU WILL SEE THE  ICON THAT WILL ALLOW WHEEL SPIN WITHOUT RETURNING TO THE PREVIOUS PAGE. THE POSITIONING OF THE WHEEL FOR THE APPLICATION OF THE WEIGHTS MUST BE DONE MANUALLY.

14.7.1 *Balancing mode*

The equipment allow to perform the balancing (adhesive weights fitting) using the laser pointer.

NOTICE

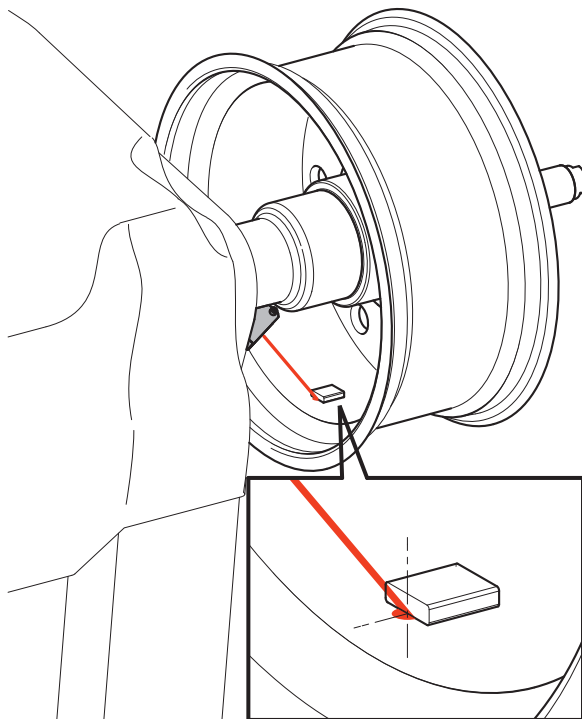
ON DELIVERY, THE EQUIPMENT IS CONFIGURED WITH THE CORRESPONDING OPTION SELECTED.

At the end of the spin, on the rim is displayed a laser pointer indicating the exact point where the adhesive weight has to be applied.

NOTICE

THE ADHESIVE WEIGHT HAS TO BE APPLIED FROM THE POINT HIGHLIGHTED BY THE POINTER TOWARDS THE INSIDE OF THE RIM, AND ITS CENTER LINE MUST BE RIGHT BY THE SAME POINTER (SEE FIG. 38)

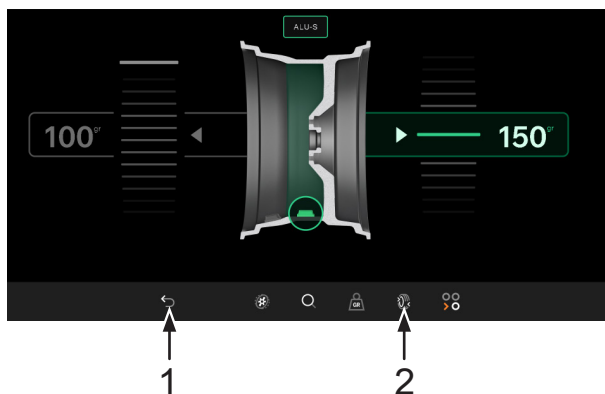
Fig. 38



In case the operator thinks that the point marked by the laser is not correct, you can modify it by proceeding as described hereafter:

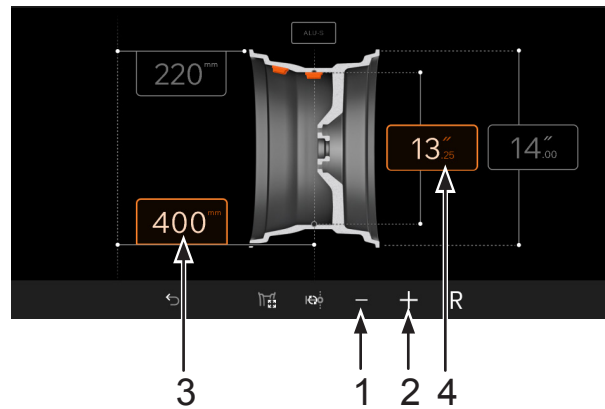
1. from the wheel outer side weights application page (Fig. 39), press the icon (Fig. 39 ref. 1).

Fig. 39



The following screen page is displayed:

Fig. 40



KEY

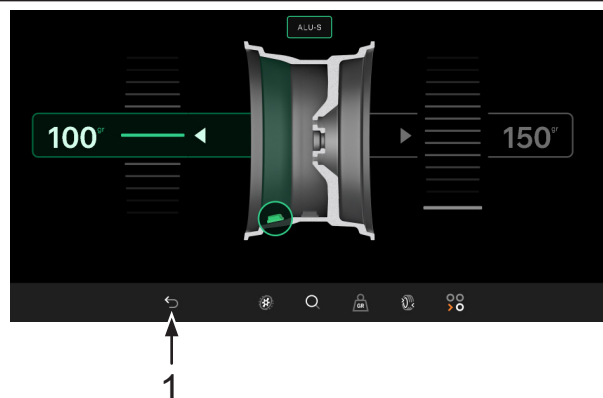
- 1 – Decrease of the weight positioning distance from the equipment
- 2 – Increase of the weight positioning distance from the equipment
- 3 – Distance of the point where fitting the adhesive weight on the outside of the wheel (modifiable field colored in orange)
- 4 – Rim diameter of the point where fitting the adhesive weight on the outside of the wheel (modifiable field colored in orange)

NOTICE

THE PUSH BUTTONS (REF. 1-2) ARE ENABLED ONLY FOR THE FITTING OF THE ADHESIVE WEIGHTS.
NOT ENABLED IN CASE OF CLIP WEIGHTS.

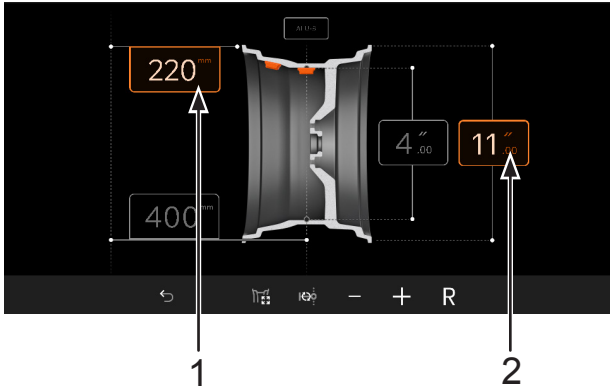
2. press the buttons  or  to modify the fitting of the adhesive weight on the wheel outer side (movement of the laser pointer) (orange-highlighted-values);
3. press the icon  to recalculate the weight value to be applied in the new set position. The screen page in (Fig. 40) is displayed again with the updated values;
4. in case the operator wants to modify the weight fitting point “wheel outer side”, simply press the icon (Fig. 39 ref. 2). The wheel, the laser and the screen page are prepared for the application of this weight.
The following screen page is displayed:

Fig. 41



5. press the icon (Fig. 41 ref. 1). The following screen page is displayed:

Fig. 42



KEY

1 – Distance of the point where fitting the adhesive weight on the inside of the wheel (modifiable field colored in orange)

2 – Rim diameter of the point where fitting the adhesive weight on the inside of the wheel (modifiable field colored in orange)

6. proceed as described before for the modification of the weight fitting point “wheel outer side”;

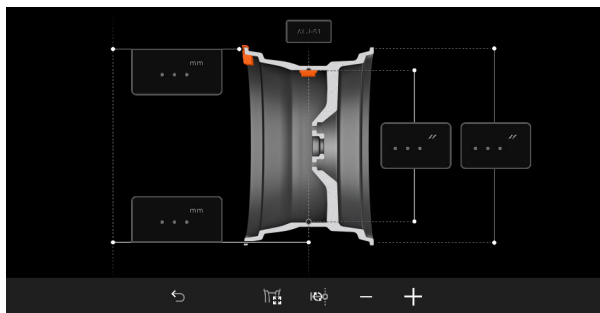
7. at the end press the icon **R**.

14.8 Manual setting of wheel dimensions

In case the operator wants to edit and/or manually enter the wheel dimensions, proceed as follows:

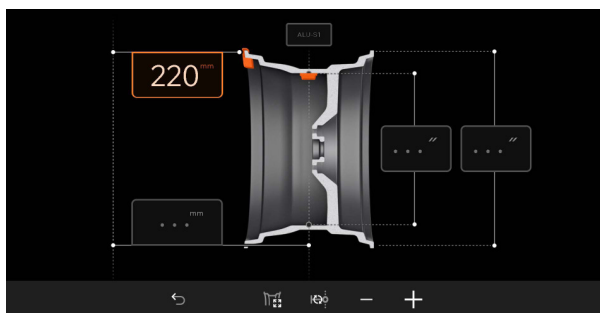
1. from the screen relating to the units of measurement to be modified;

Fig. 43



2. press the icon  to enter the following screen page:

Fig. 44



3. select the field to edit/insert until it is highlighted in orange;
4. press the buttons  or  until reaching the desired value;

After entering all the required measurements, confirm and launch the wheel by pressing the icon , closing the protective cover. Open the protection guard.

NOTICE

THIS PROCEDURE IS USED WHEN THE LASER SCAN ASSEMBLY IS DISABLED.

14.9 Standard balancing programs

14.9.1 Static

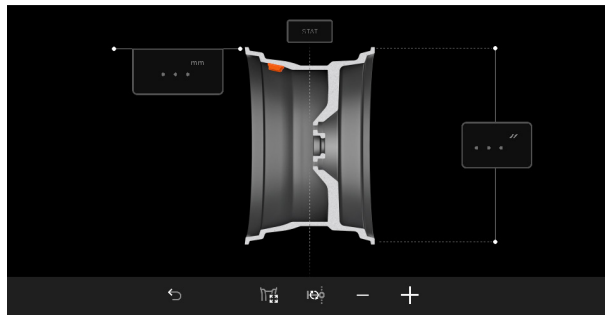
- Applies to car/motorcycle

The STATIC program permits balancing wheels by fitting adhesive weights on the outer and inner sides of the rim.

Enter the measurements (see 14.4.1 or 14.8.1) and proceed with balancing operations.

At the end of the procedure, the wheel balancing conditions can be checked by performing a trial spin.

Fig. 45



The procedure has now been completed.

14.9.2 Static-1

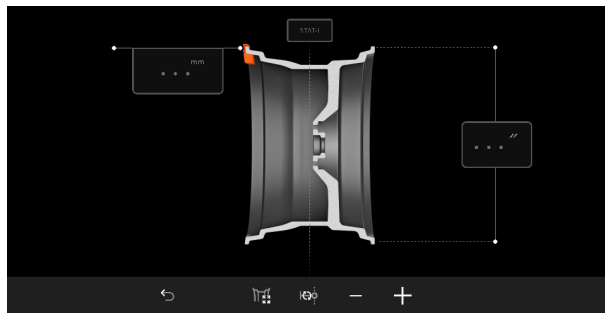
- Applies to car/motorcycle

STATIC 1 function is a procedure that offsets wheel vibrations using a single weight with clip on a single plane positioned exactly at “12 o'clock”.

Enter the measurements (see 14.4.1 or 14.8.1) and proceed with balancing operations.

At the end of the procedure, the wheel balancing conditions can be checked by performing a trial spin.

Fig. 46



The procedure has now been completed.

14.9.3 Static-2

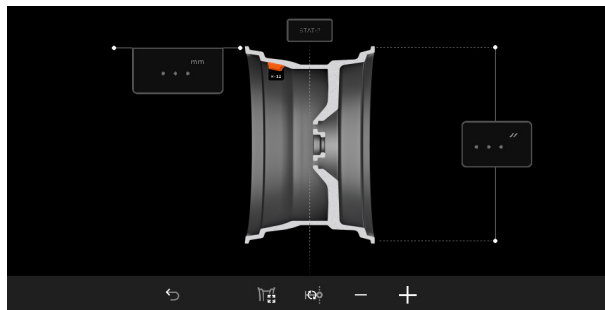
- Applies to car

STATIC 2 function is a procedure that offsets wheel vibrations using a single adhesive weight on a single plane positioned exactly at “12 o'clock”.

Enter the measurements (see 14.4.1 or 14.8.1) and proceed with balancing operations.

At the end of the procedure, the wheel balancing conditions can be checked by performing a trial spin.

Fig. 47



The procedure has now been completed.

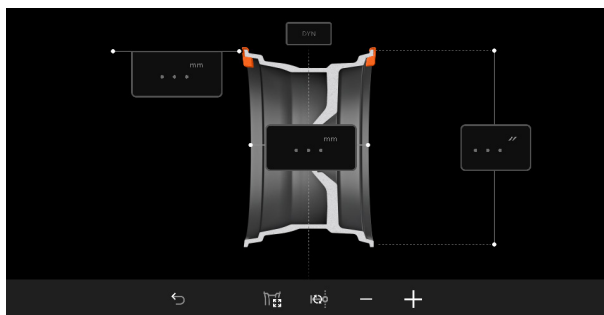
14.9.4 Dynamic

- Applies to car/motorcycle

The DYNAMIC program allows the wheels balancing by fitting two clip adhesive weights: one on the outside and one on the inside rim. Enter the measurements (see 14.4.1 or 14.8.1) and proceed with balancing operations.

At the end of the procedure, the wheel balancing conditions can be checked by performing a trial spin.

Fig. 48



The procedure has now been completed.

14.9.5 ALU-S

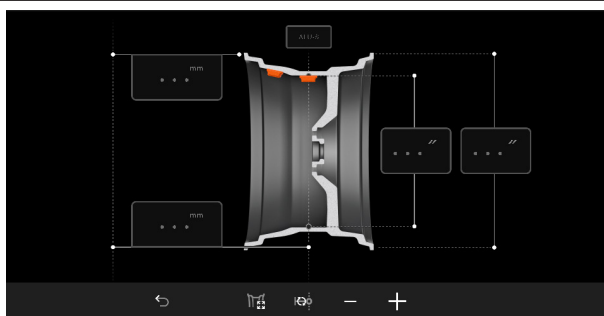
- Applies to car/motorcycle

ALU-S program permits balancing wheels by two fitting adhesive weights on the outer and inner sides of the rim.

Enter the measurements (see 14.4.1 or 14.8.1) and proceed with balancing operations.

At the end of the procedure, the wheel balancing conditions can be checked by performing a trial spin.

Fig. 49



The procedure has now been completed.

14.9.6 ALU-S1

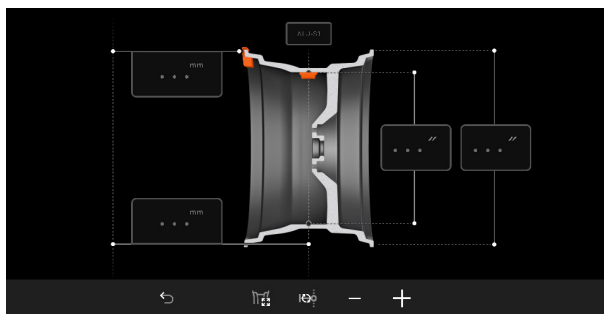
- Applies to car

ALU-S1 function permits balancing wheels with light alloy rims by fitting adhesive weights on the outer side and weight with clip on inner side of wheel (at "12 o'clock").

Enter the measurements (see 14.4.1 or 14.8.1) and proceed with balancing operations.

At the end of the procedure, the wheel balancing conditions can be checked by performing a trial spin.

Fig. 50



The procedure has now been completed.

14.9.7 ALU-S2

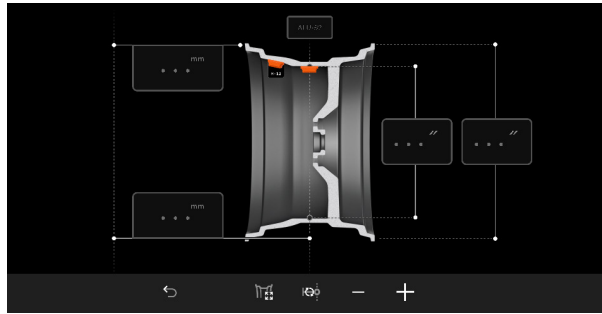
- Applies to car

ALU-S2 function permits balancing wheels with light alloy rims by fitting two adhesive weights: one on the outer and one on inner sides of the rim (the inner weight is at “12 o’ clock”).

Enter the measurements (see 14.4.1 or 14.8.1) and proceed with balancing operations.

At the end of the procedure, the wheel balancing conditions can be checked by performing a trial spin.

Fig. 51



The procedure has now been completed.

14.9.8 ALU-1

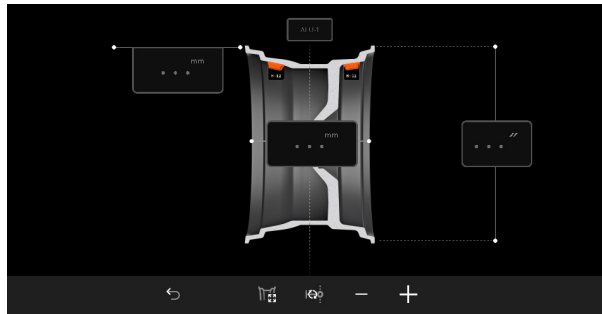
- Applies to car

ALU-1 function permits balancing wheels with light alloy rims by fitting adhesive weights on the outer and inner sides of the rim at “12 o'clock”.

Enter the measurements (see 14.4.1 or 14.8.1) and proceed with balancing operations.

At the end of the procedure, the wheel balancing conditions can be checked by performing a trial spin.

Fig. 52



The procedure has now been completed.

14.9.9 ALU-2

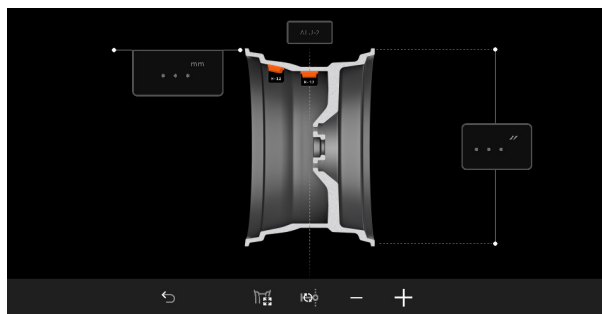
- Applies to car

ALU-2 function balances wheels with light alloy rims by fitting adhesive weights on the outside and inside of the rim. The position of the outer weight is not visible but hidden inside.

Enter the measurements (see 14.4.1 or 14.8.1) and proceed with balancing operations.

At the end of the procedure, the wheel balancing conditions can be checked by performing a trial spin.

Fig. 53



The procedure has now been completed.

14.9.10 ALU-3

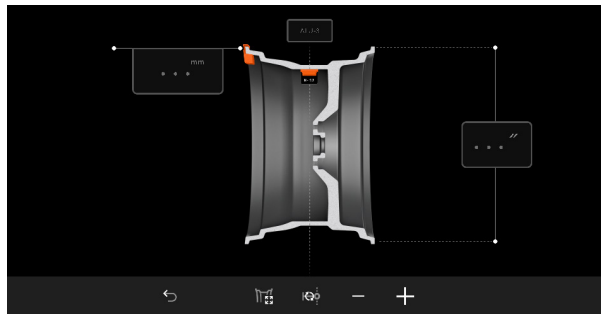
- Applies to car

ALU-3 function is a procedure that uses mixed weights to offset wheel unbalance: weight with clip on inner side of wheel, adhesive weight on outer side, not visible because inside the rim.

Enter the measurements (see 14.4.1 or 14.8.1) and proceed with balancing operations.

At the end of the procedure, the wheel balancing conditions can be checked by performing a trial spin.

Fig. 54



The procedure has now been completed.

14.9.11 ALU-4

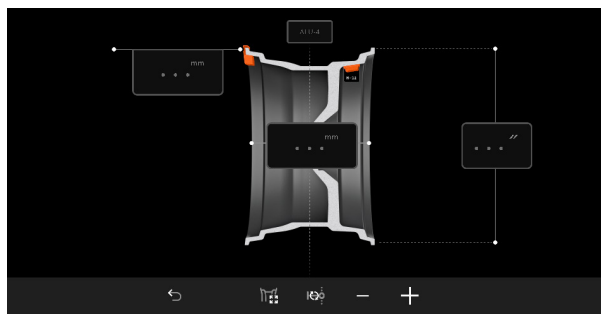
- Applies to car

ALU-4 function is a procedure that uses mixed weights to offset wheel unbalance: weight with clip on inner side of wheel, adhesive weight on outer side.

Enter the measurements (see 14.4.1 or 14.8.1) and proceed with balancing operations.

At the end of the procedure, the wheel balancing conditions can be checked by performing a trial spin.

Fig. 55



The procedure has now been completed.

14.10 Optional balancing programs

14.10.1 SPLIT mode

The “SPLIT” procedure proves useful when the dynamic unbalance of a wheel is fairly high and the weight to be fitted is not available, for instance a 100 g (3.52 oz). The unbalance can be corrected by splitting the total weight into two smaller weights.

Split procedure eliminates errors by using “DYNAMIC” program, for example by manually fitting two 50 g (1.76 oz) weights close to one another, instead of only a 100 gr (3.52 oz) one.

For example:

Fig. 56



100 g (3.52 oz) WEIGHT TO BE FITTED TO
CORRECT UNBALANCE

Fig. 57



TWO SMALLER WEIGHTS (50 g) (1.76 oz)
FITTED MANUALLY

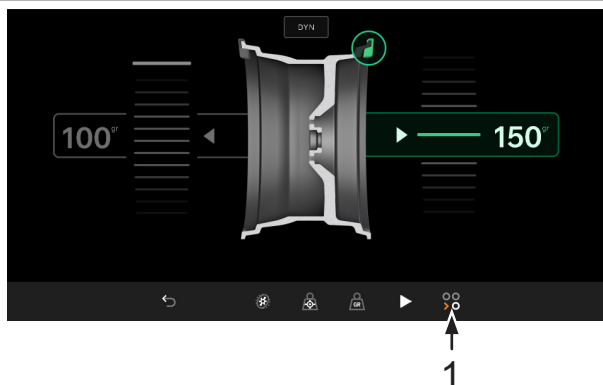
Fig. 58



TWO SMALLER WEIGHTS (55 g) (1.94 oz)
USING SPLIT PROCEDURE

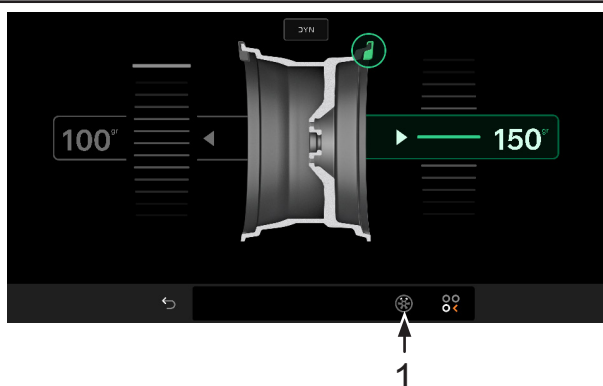
Proceed to “DYNAMIC” unbalance measurement displaying by performing a standard wheel spin.

Fig. 59



Once detected the unbalance values, press the icon  (Fig. 59 ref. 1) to display the following page:

Fig. 60



Press icon  (Fig. 60 ref. 1) to use the “SPLIT” option and shift to the next screen page. On the monitor screen will be displayed where you must enter the value of the weights to be fitted.

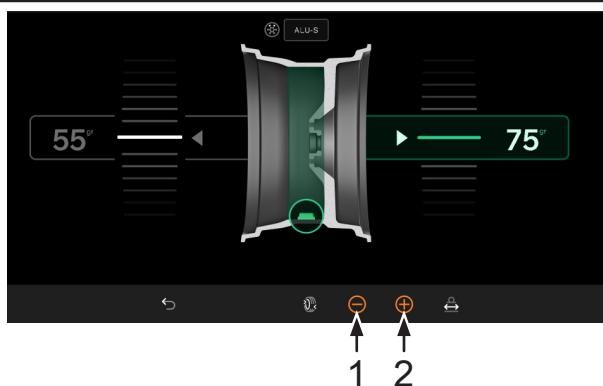
NOTICE

THE HIGHER THE CHOSEN WEIGHTS VALUE IS, THE MORE THEY WILL BE SPACED.

Press the icon  or  (Fig. 61 ref. 1-2) to enter the value of the weights to be applied.

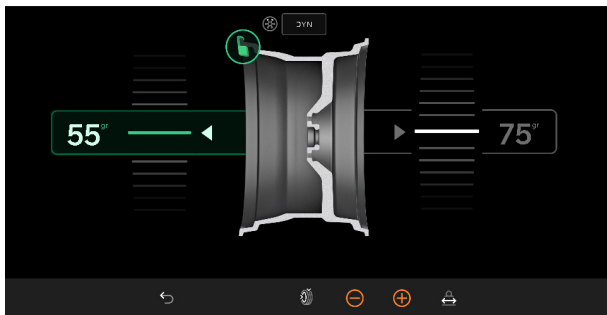
After entering the value of the weights to be applied, press the icon  to position the wheel for applying the 1st clip weight. The green line and white number indicate that the wheel is correctly positioned for the application of the 1st weight.

Fig. 61



Fit the clip weight of the chosen value at “12 o'clock” on the outside of the wheel. Press again icon  to position the wheel for the fitting of the 2nd clip weight.

Fig. 62

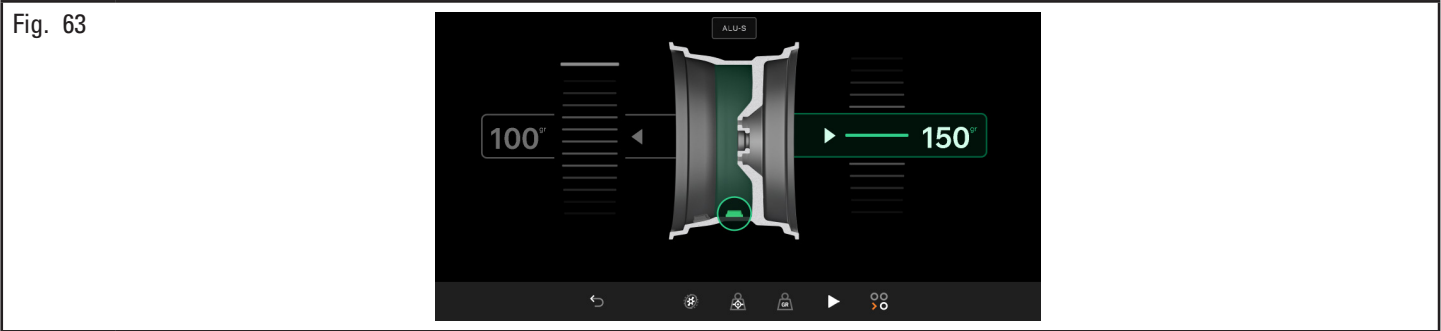


Fit the clip weight of the chosen value at “12 o'clock” on the outside of the wheel.
At the end perform again a checking spin to see that you have applied the weights correctly.

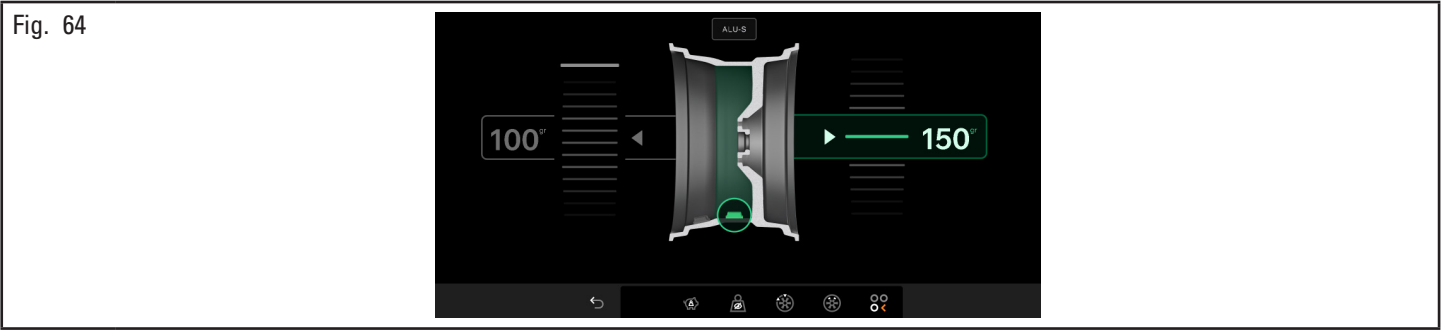
14.10.2 *Weights hidden behind spokes mode*

Adhesive correction weight positioning may not look attractive on some types of rims. In this case, “WEIGHTS HIDDEN BEHIND SPOKES” mode can be used: it splits any correction weight on the outer side into two parts to be hidden behind rim spokes. It can be used in ALU-S mode.

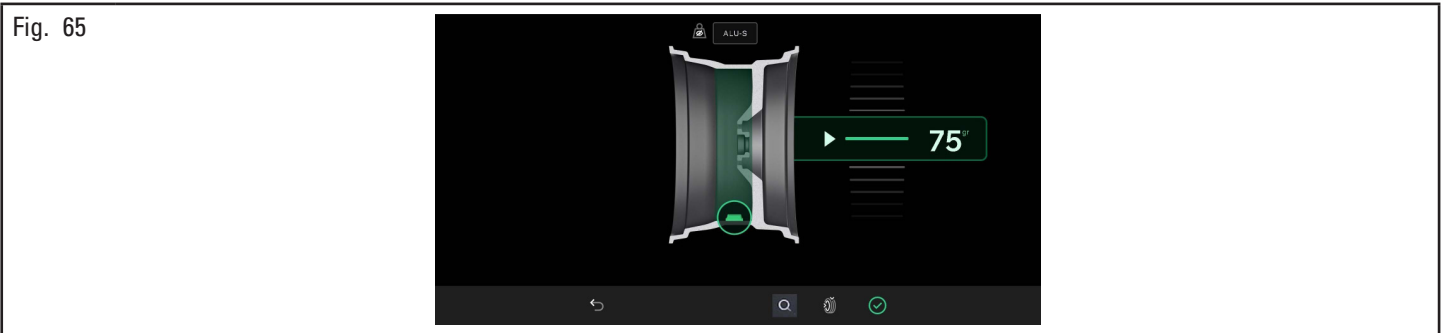
Proceed to ALU-S unbalance measurement displaying by performing a standard wheel spin.



Press icon  to display the following screen page.



Then press icon  to access the corresponding function. On the monitor the next screen page will be displayed:



Once detected the unbalance values, verify that the equipment displays the ability to use the “WEIGHTS HIDDEN BEHIND SPOKES” option (Fig. 37 ref. 5). Fit the first weight behind the first spoke.

Press the reposition icon  and apply the second weight behind the second spoke. Press the icon  to display the next screen page:



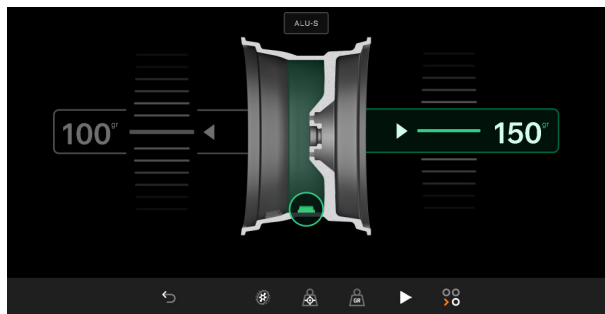
14.10.3 Matching mode

The “MATCHING” procedure offsets strong unbalance, reducing the weight quantity to be fitted on the wheel to achieve balancing. This procedure permits reducing unbalance as much as possible by offsetting the tire unbalance with that of the rim in any used program. Proceed to unbalance measurement displaying by performing a standard wheel spin.

NOTICE

THE MATCHING PROCEDURE CAN BE CARRIED OUT ONLY IF THE STATIC UNBALANCE IS > 30 G (1.05 OZ).

Fig. 67



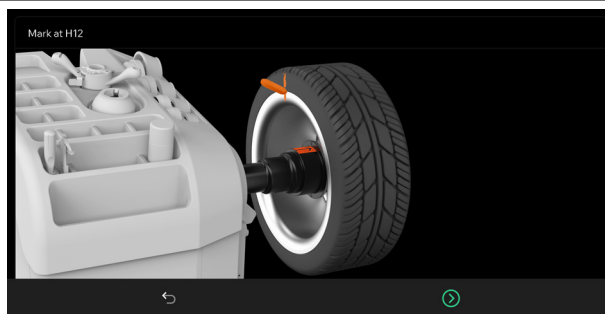
Once detected the unbalance values, verify that the equipment displays the ability to use the “MATCHING” option (Fig. 37 ref. 6).



Then press icon  to access the corresponding function.

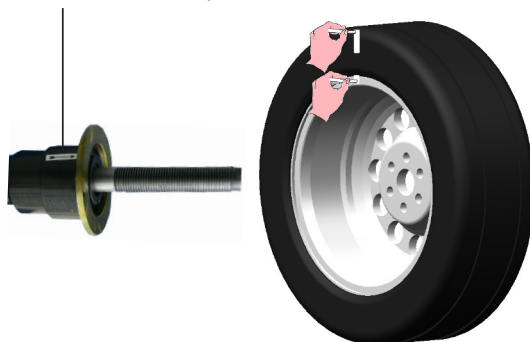
On the monitor the next screen page will be displayed:

Fig. 68



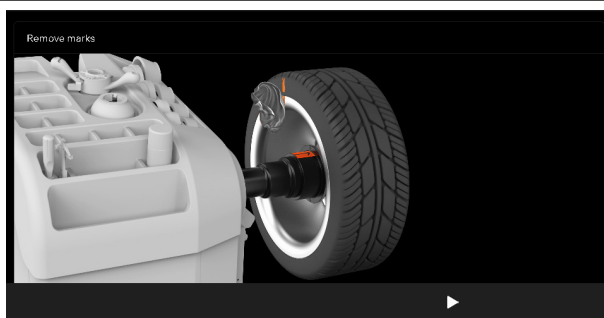
STEP 1. Move the slider on the flange to the “12 o'clock” position. Make a reference mark, using chalk for instance, on the rim and tire, in line with the arrow on the flange, so as to be able to fit the rim back on in the same position on the equipment.

Fig. 69 Make a reference mark on the rim and tire, in line with the arrow on the flange



Press icon  to confirm that step 1 has been completed.
On the display the next screen page will be displayed:

Fig. 70



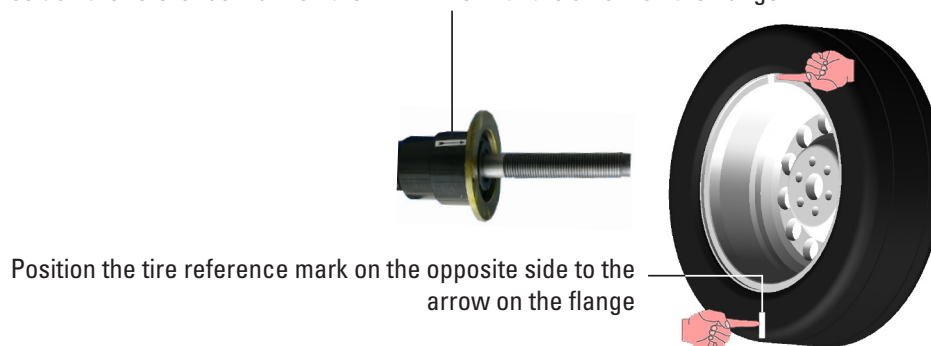
STEP 2. Remove the wheel from the wheel balancer. Remove the tire and turn it on the rim through 180°.

Fig. 71



Fit the wheel back on the wheel balancer, positioning the reference mark on the rim in line with the arrow on the flange.

Fig. 72 Position the reference mark on the rim in line with the arrow on the flange



Press icon  to confirm that step 2 has been completed.
On the display the next screen page will be displayed suggesting to perform a spin of the wheel.

Fig. 73



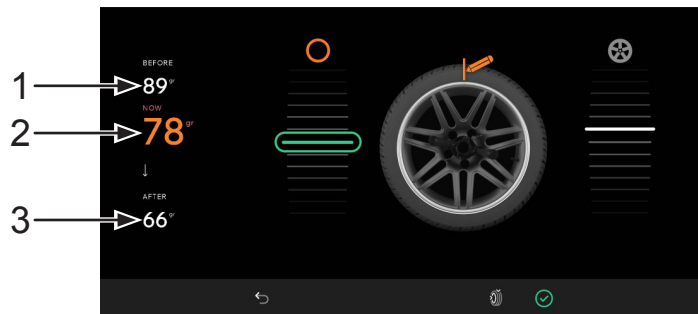
After having fitted wheel back in position, close the protection guard to make an automatic wheel spin.
At the end of the spin the monitor will display the screen illustrated afterwards.

Fig. 74



Press the icon  to display the following screen page.

Fig. 75



Open the protection guard.

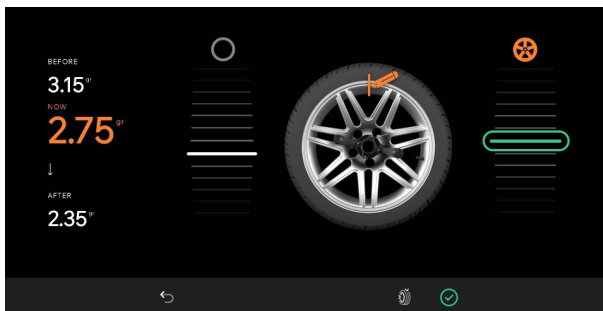
In this screen you will see the static unbalance that the wheel had before performing the operation (Fig. 75 ref. 1), the static unbalance after having rotated the tire through 180° compared to the rim (Fig. 75 ref. 2 and the unbalance which can be obtained following the directions of the equipment (Fig. 75 ref. 3).

STEP 3. If the value of possible unbalance reduction is high, you can proceed as follows:

1. cancel the previously made reference marks. Put new signs, as described below;

2. press the icon  to bring the wheel into position.

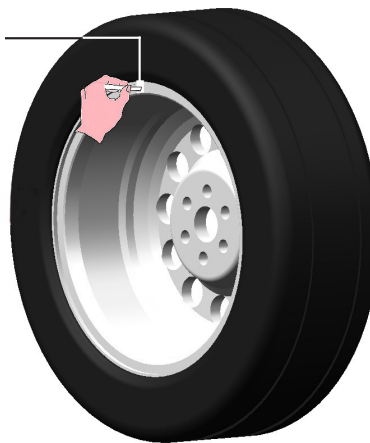
Fig. 76



Make the reference mark on RIM at "12 o'clock" (see Fig. 77);

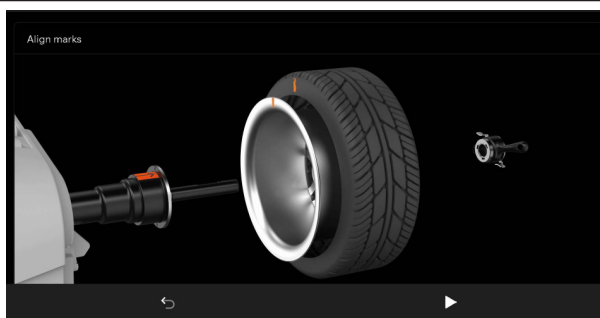
Fig. 77

reference mark on RIM



3. press the icon  to bring the wheel into position.

Fig. 78



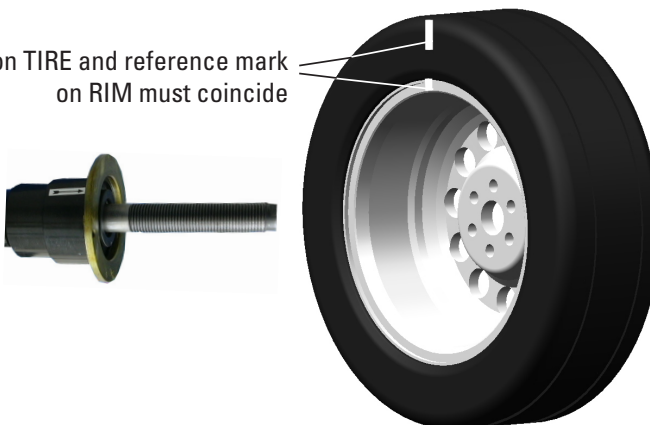
Mark the reference mark on the TIRE at "12 o'clock" position.

Press icon  to confirm that step 3 has been completed.

STEP 4. Remove the wheel from the wheel balancer. Dismount and remount the tire on the rim so as to bring the two reference marks (rim and tire) to coincide. Refit the wheel on the balancer (see Fig. 79) with the two reference marks next to the arrow on the flange.

Fig. 79

Reference mark on TIRE and reference mark on RIM must coincide



Press icon  to confirm that step 4 has been completed.

Perform another spin closing the protection guard, to check the expected unbalance reduction and correct any residual unbalance, as described in Par. 14.7.1.

Open the protection guard.

14.11 *Special balancing programs*

14.11.1 *Pax*

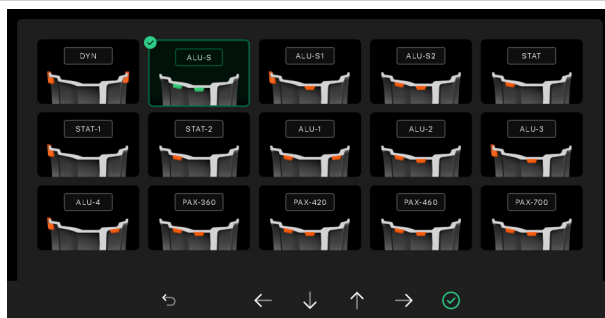
- Applies to car

PAX mode is a special procedure specially devised to balance wheels using the “PAX System ®”. 2 adhesive weights on different planes are used on rim inner side.

To launch a PAX measurement, proceed as follows:

1. Make sure there are no stones and/or mud on the wheel. Remove any counterweights. Fit the wheel and make sure it is properly fastened (see Chapt. 12);
2. from the “HOME” page press the icon . On the screen that appears, press the icon  to switch to measuring mode selection screen below.

Fig. 80



Press icons     to select the desired PAX mode. At the end press the icon . The equipment will be configured as follows to perform the measurement and on the video screen will appear the indication of the specific measures of the selected wheel type;

3. close the protection guard to perform the automatic wheel spin.

In just a few seconds, the wheel runs at normal speed and the monitor shows wheel rotation.

After the spin, the wheel stops automatically, taking into account the measured unbalance so that the fitting position of the weight will be at “12 o'clock”.

The monitor show the weight required to correct the unbalance.

Open the protection guard and proceed to fit the adhesive weight as shown for the ALU-S mode (see Par. 14.9.5).

14.12 *Recalculation function*

After making a spin, the wheel automatically stops, indicating the weight/s to be fitted and its/their position.

In case the operator does not want the type of wheel balance proposed by the equipment (program type, weights size, etc ...), proceed with the re-calculation of the wheel balancing without rerunning the spin of the wheel.

To do this, proceed as described below:

1. press the icon  to return to the measures detection/program selection page;
2. select a new balancing program as indicated in Par. 14.4.2;
3. use the distance-diameter caliper arm to detect the measurements required by the selected program;
4. press the icon  to perform the re-calculation. The monitor will display the weights and the positions in which they will be applied.

If also in this case the operator should decide to further modify the balancing program, it is sufficient to proceed as described above without having to spin the wheel.

When the result of the recalculation does not satisfy the operator, it is recommended to do a spin of the wheel to confirm the findings from the operation of recalculation itself.

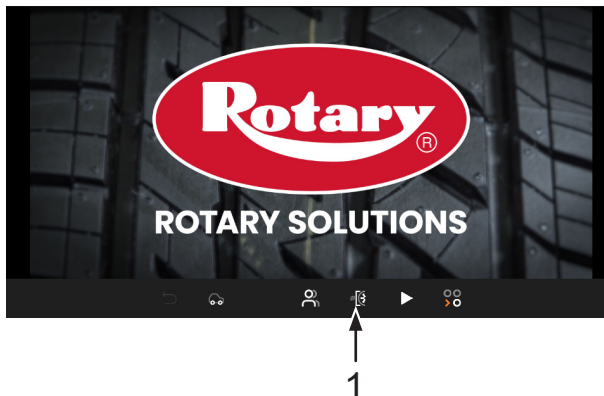
After the launch of the wheel, the equipment, in addition to displaying the unbalance value, draw up automatically all the programs measurement fields that are consistent with those measures that were taken previously and at the same time erases all measures which are not consistent.

14.13 Wheel balancing in Motorcycle mode (with distance caliper extension Kit)

By enabling "MOTORBIKE WHEEL BALANCING" function, the wheel balancers can also balance motorbike wheels. Before detecting the wheel sizes (see Par. 14.4.2), select motorcycle wheel balancing mode proceeding as described below:

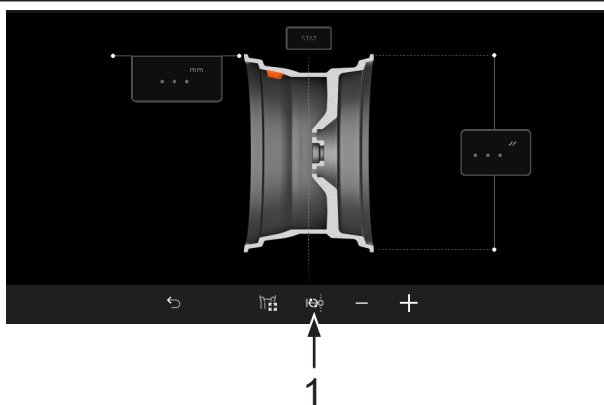
1. press the icon  (Fig. 22 ref. 1) to go to the "Motorcycle mode" screen;

Fig. 81



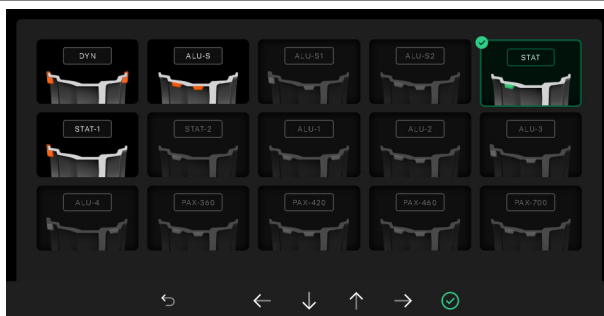
2. press the icon  (Fig. 81 ref. 1) to display the following screen:

Fig. 82



3. press the icon  (Fig. 82 ref. 1) to enter the following screen page;

Fig. 83



4. press icons     to select the desired mode.

At the end press the icon .

The equipment will be configured as follows to perform the measurement in the desired mode and on the screen will appear an indication showing the measures that will be acquired.

The "motorcycle" mode automatically recalculates the wheel distance measurement, increasing it by the length of the extension supplied with distance caliper extension kit (kit available on demand).

NOTICE

THE EXTENSION MUST BE FITTED ONLY WHEN BALANCING IS PERFORMED IN "MOTORCYCLE" MODE.

NOTICE

TO MOUNT THE EXTENSION AND THE COMPONENTS OF CALIPER EXTENSION KIT, PLEASE REFER TO THE SPECIFIC INSTRUCTIONS INCLUDED IN THE KIT.

Balancing procedures are identical for both modes (car/motorbike).

By choosing the motorbike, in addition to DYNAMIC balancing (see Par. 14.9.4 "Dynamic"), STATIC balancing (see Par. 14.9.1 "Static") and/or ALU-S balancing (see Par. 14.9.5 "ALU-S") can be performed.

14.14 Procedures for Run-OUT measuring (tire outer side)

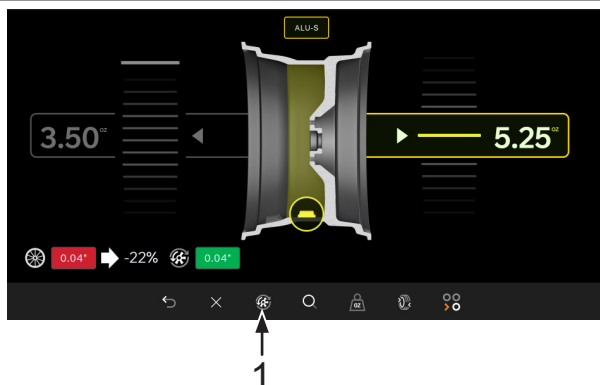
The RUN-OUT electronic measuring device (wheel roundness) is useful to check any roundness defects in the wheel-tire (ex: ovality and/or off-center as to the rim).

To display the tire run-out graph screen, proceed as follows: perform a wheel spin by closing the protection guard.

After executing the spin of the tire with any kind of program, the weights fitting page is displayed.

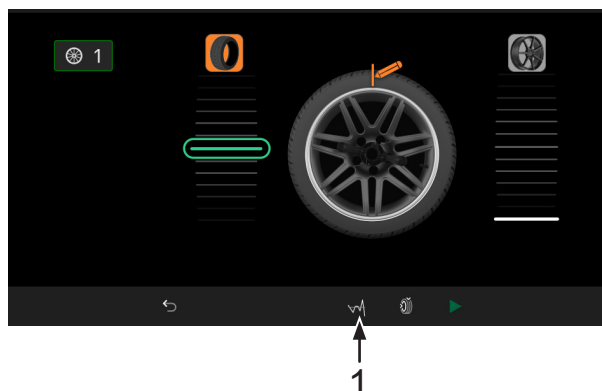
Here follows an example of the mentioned page:

Fig. 84



Press the icon (Fig. 84 ref. 1) to display the following screen page:

Fig. 84A



If the icon  (Fig. 84A ref. 1) is present on this screen, by pressing it you can view the ovalization graph shown below.

Fig. 85



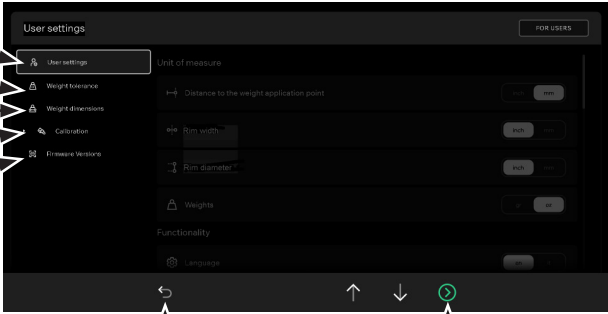
NOTICE

THE EQUIPMENT CAN PERFORM INTERNAL AND EXTERNAL TIRE RUN-OUT MEASUREMENTS ONLY AFTER A SPIN HAS BEEN CARRIED OUT.

15.0 USER MENU (OPTIONS AND CALIBRATION)

From the main “HOME” page, press the icon (Fig. 23 ref. 3) to access the user menu. A screen will appear on the monitor from which you can enter the access password.
The user login password is: 1234.
After entering the correct password you will see the following screen:

Fig. 86

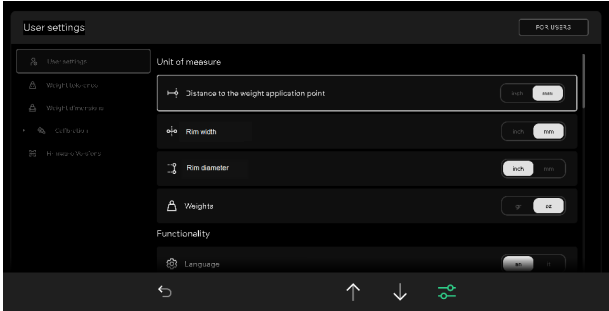


1 - User settings menu icon
2 - Weight tolerance menu icon
3 - Weight dimensions menu icon
4 - Calibrations menu icon
5 - Firmware versions icon
6 - Icon to access the user settings menus
7 - Icon to return to the Home page from the user menu

15.1 User settings menu

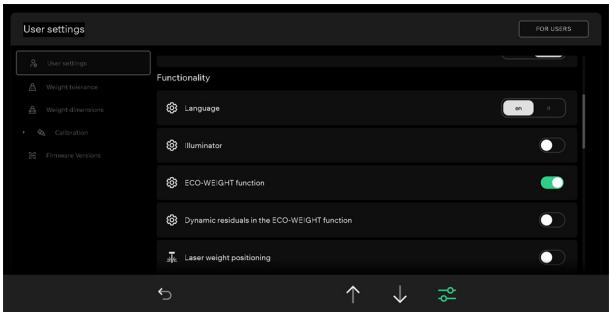
By pressing the icon (Fig. 86 ref. 1), the measurement unit selection screen (inch - mm) appears on the monitor, which will display the wheel measurements.

Fig. 87



Scroll down the sidebar to view the settings through which you can enable/disable the functions of the balancer.

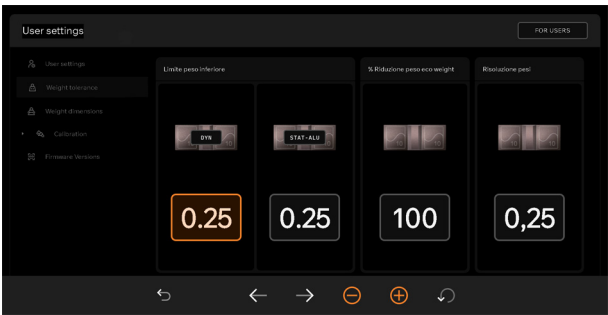
Fig. 88



15.2 *Weight tolerance menu*

By pressing the icon (Fig. 86 ref. 2), the screen for setting the tolerance for clip-on weights and adhesive weights appears on the monitor. It is also possible to give a resolution to the weights.

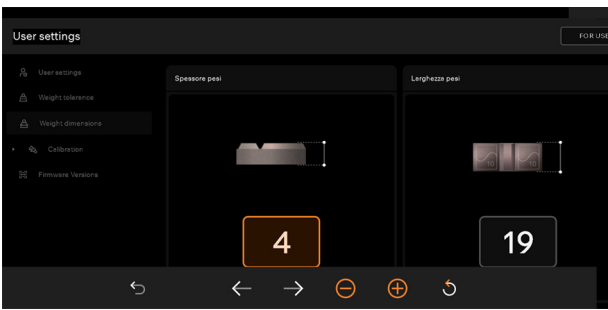
Fig. 89



15.3 *Weight dimensions menu*

Press the icon (Fig. 86 ref. 3), to display the screen with which it is possible to modify the height and thickness of the adhesive weight.

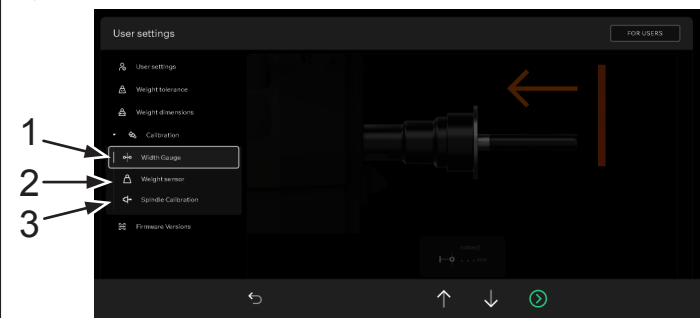
Fig. 90



15.4 *Calibrations menu*

Press the icon (Fig. 86 ref. 4) to display the calibration screen page on monitor.

Fig. 91

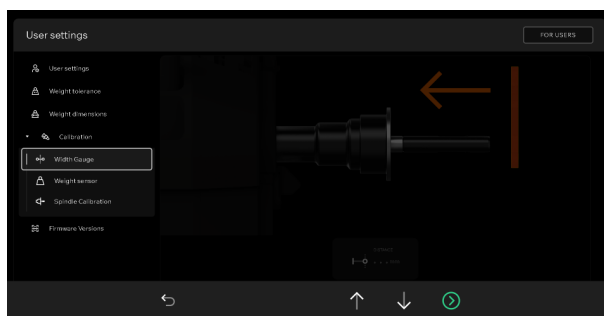


- KEY
- 1 – Automatic width sensor calibration
 - 2 – Weight sensor calibration
 - 3 – Spindle “0” (zero) calibration

15.4.1 Automatic width sensor calibration

Mount the calibrator body onto the spindle and secure it through the special locking devices.
Press the icon (Fig. 91 ref. 1) to display the following screen page on the monitor:

Fig. 92



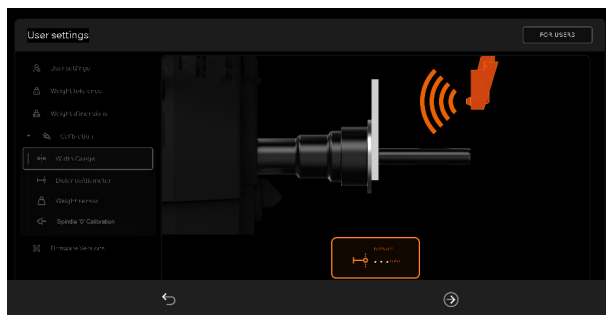
Close the wheel protection guard until bringing the automatic width sensor next to the calibrator body previously installed.



Press the icon

At the end of the operation, the following screen will appear on the monitor:

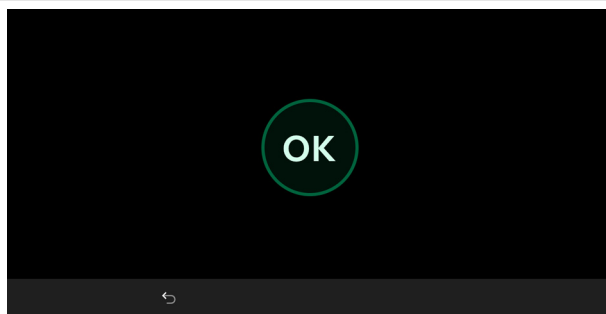
Fig. 93



Press the icon

to display the next screen page:

Fig. 94



The automatic width caliper calibration is complete.

15.4.2 *Weight sensor calibration*

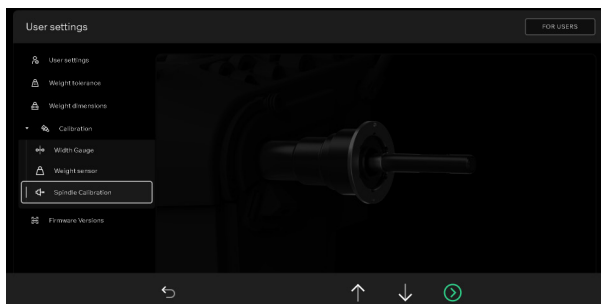
To calibrate the weight measurement sensors, follow these two steps:

1. perform zero shaft calibration **WITHOUT** wheel (and adapter);
2. perform weight measurement calibration **WITH** wheel (and adapter);

STEP 1

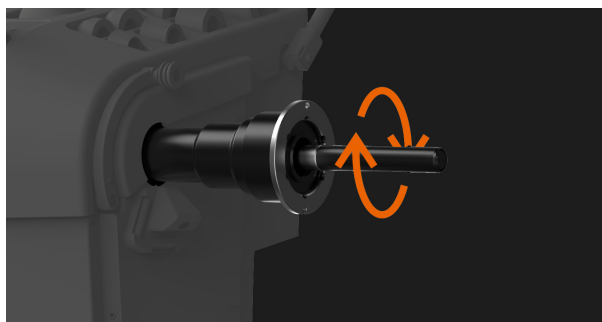
1. press the icon (Fig. 91 ref. 4) to display the following screen page on the monitor:

Fig. 95



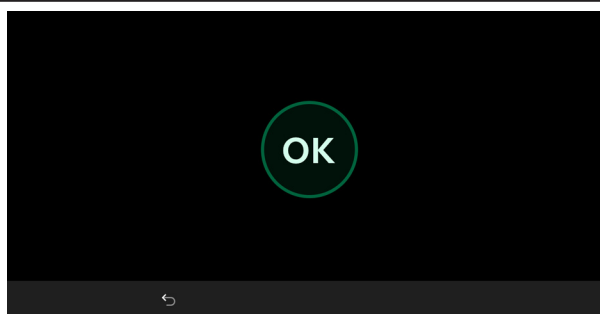
2. press the icon  and close the guard. The spindle will rotate for a few minutes displaying the screen below:

Fig. 96



3. at this point the equipment has all its measuring fields;
4. at the end of the spindle rotation the following screen will appear;

Fig. 97

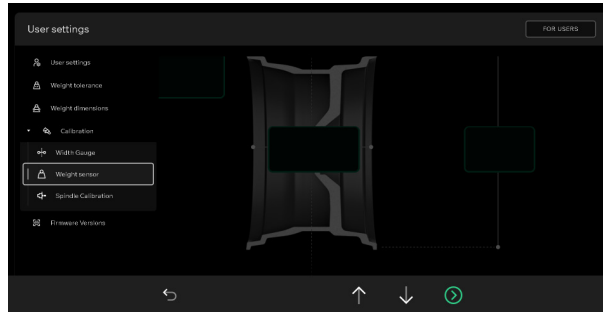


5. open the protection guard;
6. press the icon  to return to the calibration screen.

STEP 2

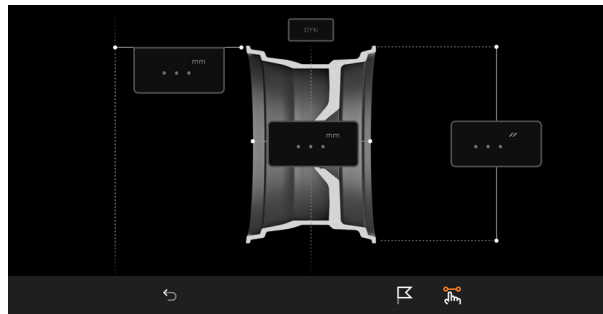
1. Press the icon (Fig. 91 ref. 3) to display the following screen page on the monitor:

Fig. 98



2. Press the icon  to enter the following screen page:

Fig. 99



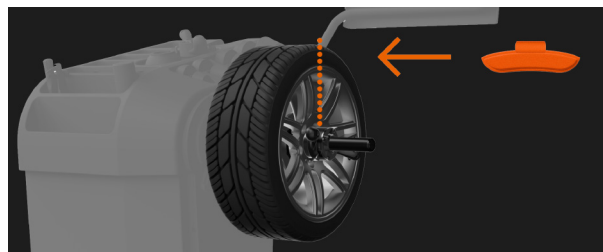
3. press the icon  and set the distance, width and size of the rim mounted on the spindle;
4. press the icon  and close the guard to the perform the 1st spin of the wheel without weights;

NOTICE

WHEN THE COVER IS LOWERED, THE AUTOMATIC WIDTH MEASURING DEVICE AUTOMATICALLY DETECTS THE RIM WIDTH AND THE CALIBRATION IS LAUNCHED.

5. at the end, on the monitor will appear the following screen, saying that you should apply a weight of 100 g (3.52 oz 5. to the "12 o'clock" outer rim;
6. open the protection guard;

Fig. 100



NOTICE

APPLY THE WEIGHT AT A POINT IN WHICH BOTH SIDES OF THE RIM THERE IS THE POSSIBILITY OF APPLYING A CLIP WEIGHT OF 100 G (3.52 OZ).

7. apply the weight and position it perfectly to the "12 o'clock";
8. press the icon  and close the guard to perform the 2nd spin of the wheel (100 g (3.52 oz) weight placed on the outside of the wheel);
9. at the end the following screen will appear on the monitor, suggesting to remove the weight of 100 g (3.52 oz) previously applied on the outer side and apply it on the inside of the rim;
10. open the protection guard;

Fig. 101

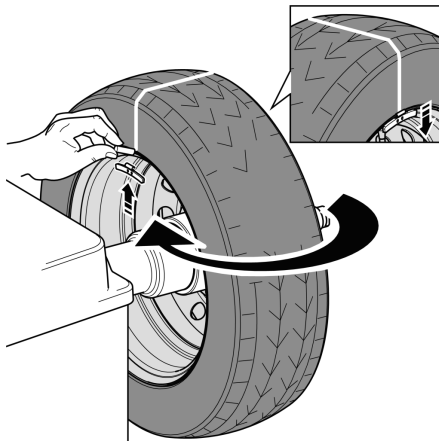


11. turn manually the wheel until You have the weight of 100 g (3.52 oz) on the outer side at "12 o'clock";
12. press the brake pedal and hold it down during the whole the following operation to avoid unexpected rotation of the spindle;
13. remove the weight from 100 g (3.52 oz) from the outside of the wheel and apply it on the inner side at "12 o'clock";

NOTICE

AT THIS POINT TAKE THE WEIGHT POSITIONED ON THE EXTERNAL SIDE AND PLACE IT EXACTLY IN THE SAME POSITION BUT ON THE INTERNAL SIDE, HELPING BY DRAWING A LINE ON THE TIRE AS A REFERENCE (SEE FIG. 102).

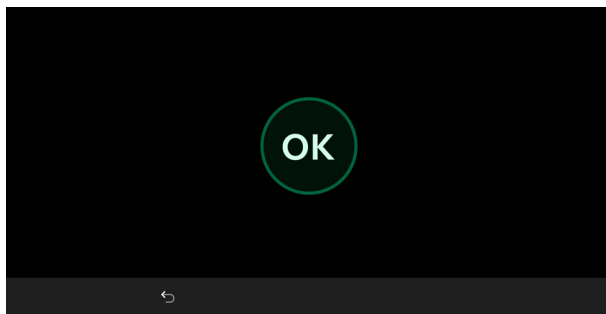
Fig. 102



14. close the guard to perform the 3rd spin of the wheel (100 g (3.52 oz) weight placed on the inside wheel);

15. at the end of the rotation, the video screen below will be displayed to indicate that the operation is finished;

Fig. 103



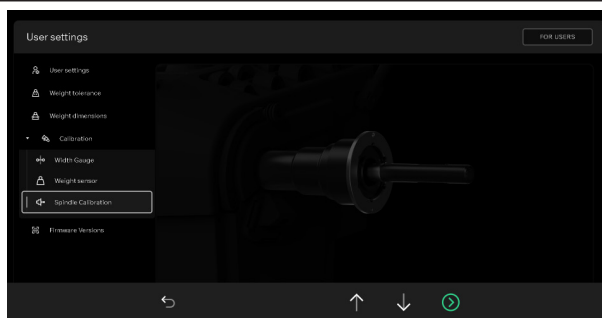
16. open the protection guard;

17. press the icon  to return to the calibration screen.

15.4.3 Spindle "0" (zero) calibration

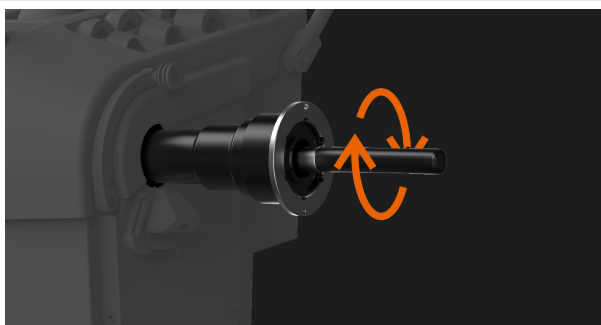
Press the icon (Fig. 91 ref. 4) to display the following screen page on the monitor:

Fig. 104



After making sure that the spindle is unloaded (no wheel or mounted accessories), press the icon and close the guard. The spindle will rotate for a few minutes until you see the screen below:

Fig. 105

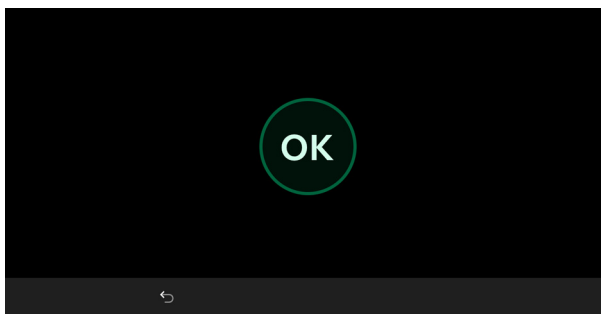


At this point the equipment has all its measuring fields.



Press the icon to display the next screen page:

Fig. 106



Open the protection guard.

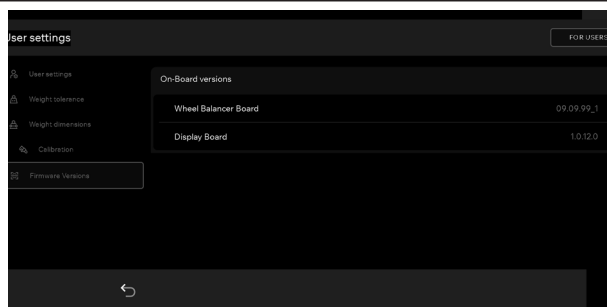


Press the icon to return to the calibration screen.

15.5 Firmware versions

Press the icon (Fig. 86 ref. 5) to display the firmware versions screen page on monitor.

Fig. 107



16.0 ERROR SIGNALS

During wheel balancer operation, if wrong commands are given by the operator or device faults occur, an error code may appear on the monitor screen.

Below is a troubleshooting chart.

Error code	Description
2	Planned wheel speed not reached
3	Calibration overcoming
4	Wheel speed stability out of tolerance
5	Encoder calibration error
6	Encoder samples not sufficient
7	Spindle calibration error
8	Piezo calibration values out of tolerance
9	Wheel rotations not completed
11	Incorrect gain calibration
14	Firmware error
15	Runout samples not sufficient
27	Rotate the wheel to make a complete rotation
28	Piezo calibration error
29	Distance out of tolerance level
31	Distance-diameter caliper released
32	Parameters format incompatible

Press  key to return to the previous program phase after remedying the fault.

The manufacturer disclaims all responsibility for damages to people, animals or objects due to improper operation by non-authorized personnel. In case of trouble, call Technical Service Department for instructions on how to service and/or adjust the equipment in full safety to avoid any risk of damage to people, animals or objects.

In an emergency and before maintenance on the equipment, set the main switch to "0" and disconnect the equipment from electrical power supply.



CONTACT AUTHORIZED TECHNICAL SERVICE
do not try and service alone

17.0 ROUTINE MAINTENANCE

DANGER

RISK OF FIRE OR ELECTROCUTION.

DO NOT USE RUNNING WATER OR OTHER LIQUIDS TO CLEAN THIS EQUIPMENT.

CLEANING THIS EQUIPMENT WITH WATER OR OTHER LIQUIDS LEAD TO SHORT CIRCUITS AND ELECTRICAL SHOCK ONCE ELECTRICAL POWER SUPPLY IS RESTORED TO THIS EQUIPMENT, AND RESULT IN MATERIAL DAMAGES, SERIOUS INJURIES OR DEATH.

WARNING

RISK OF EYE INJURIES.

THIS EQUIPMENT IS OFTEN COVERED WITH DUST AND DEBRIS RESULTING FROM BALANCING WHEELS.

CLEANING THIS EQUIPMENT WITH COMPRESSED AIR MAY LEAD TO FLYING DEBRIS, AND RESULT IN EYE INJURIES.

DO NOT USE COMPRESSED AIR TO CLEAN THIS EQUIPMENT.

CAUTION

RISK OF UPPER AND LOWER LIMBS CRUSHING, OR ENTANGLEMENT.

UPPER AND LOWER LIMBS MAY GET CRUSHED OR ENTAGLED IN CASE OF INDAVERTENT MOVEMENTS OF PARTS OF THIS EQUIPMENT OR A WHEEL PLACED ON THE SPINDLE DURING MAINTENANCE OPERATIONS.

BEFORE PERFORMING ANY MAINTENANCE ON THE EQUIPMENT, MAKE SURE THERE ARE NO WHEELS LOCKED ONTO THE SPINDLE.

To guarantee the efficiency and correct functioning of the equipment, it is essential to carry out daily or weekly cleaning and weekly routine maintenance, as described below.

Cleaning and routine maintenance must be conducted by authorized personnel and according to the instructions given below.

- Remove deposits of tire powder and other waste materials with a vacuum cleaner.
- Do not use solvents to clean the equipment.

18.0 TECHNICAL DATA

18.1 *Technical electrical data*

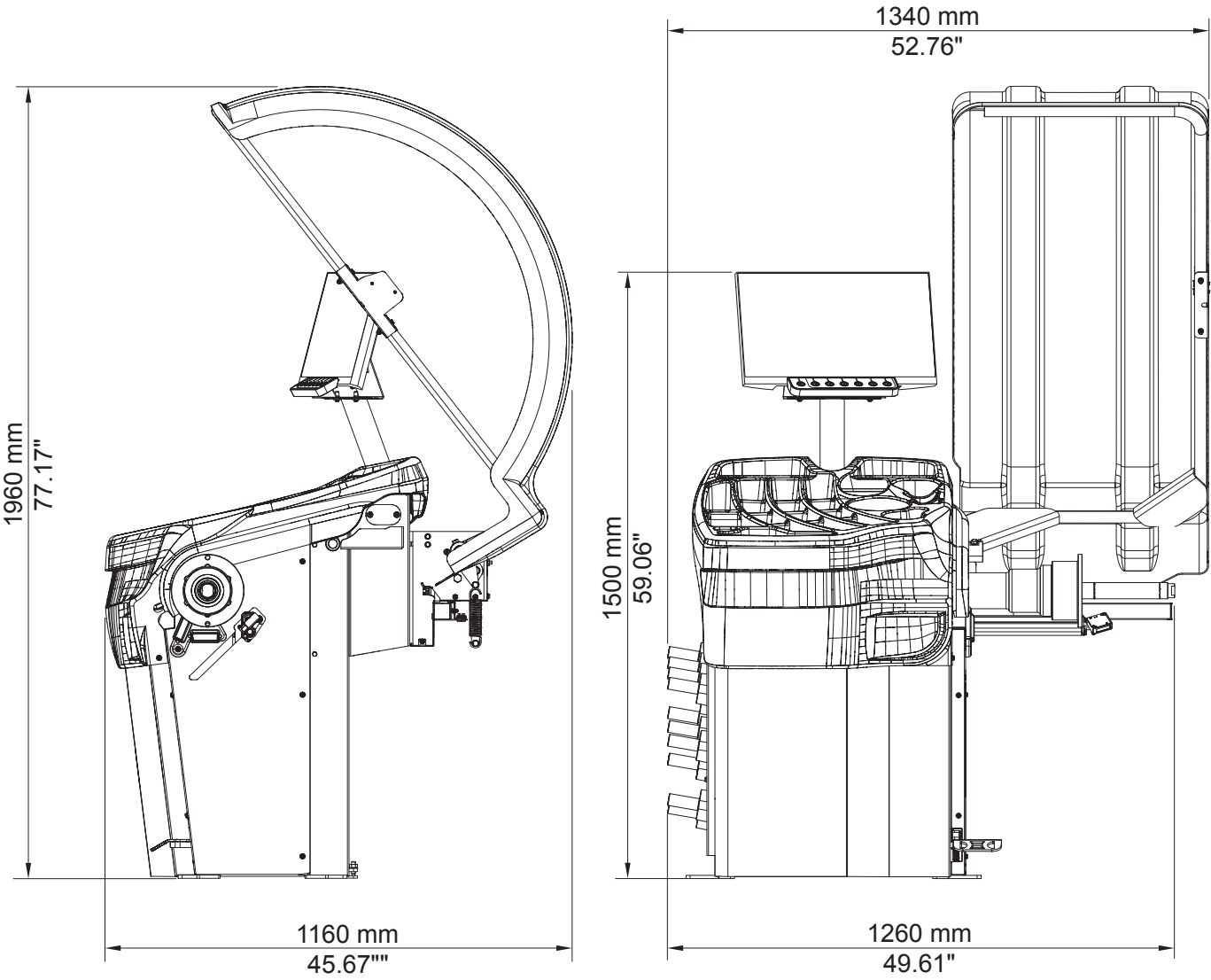
Max. absorbed voltage (Hp)		0.15 (100 W)
Power supply	Voltage (V)	110
	Phases	1
	Frequency (Hz)	60
Typical current draw (A)		0.3
Rotating speed (revolutions/min)		< 100

18.2 *Mechanical technical data*

Balancing precision (g)	± 1 (0.03 oz)
Rim width (inches)	1.5 - 22
Rim diameter (inches)	10 - 30 (manually up to 33)
Wheel max. diameter (inches)	43
Wheel max. width (mm)	500 (19.69")
Cycle time (sec)	6
Sound emission level (dBA)	< 70
Max. wheel weight (kg)	80 (176 lbs)

Weight (kg)	190 (419 lbs)
-------------	---------------

Fig. 108



19.0 SETTING OUT OF SERVICE

If the equipment is temporarily out of service, disconnect the main power supply, and take measures to protect the equipment from dust build-up. Lubricate parts that could be damaged from drying out.

DANGER

RISK OF FIRE OR ELECTROCUTION.

DECOMMISSIONED EQUIPMENT MAY BE EXPOSED TO MOISTURE; LEADING TO ELECTROCUTION OR FIRE IN CASE IT IS CONNECTED TO THE ELECTRICAL POWER SUPPLY.

IN CASE THE EQUIPMENT IS TEMPORARILY OR INDEFINTELY SET OUT OF SERVICE, SET THE MAIN SWITCH TO “0” AND DISCONNECT THE EQUIPMENT FROM ELECTRICAL POWER SUPPLY.

20.0 SCRAPPING

This equipment is to be disposed of in accordance with applicable regulations.

21.0 EQUIPMENT NAMEPLATE

This equipment nameplate shall be kept clean and easily accessible.

Do not cover this equipment nameplate from view.

NOTICE

DO NOT TAMPER WITH OR OTHERWISE MODIFY THIS EQUIPMENT NAMEPLATE.

SHOULD THIS EQUIPMENT NAMEPLATE BE ACCIDENTALLY DAMAGED, REMOVED FROM THIS EQUIPMENT, OR BECOME PARTLY OR COMPLETELY UNREADABLE, CONSULT WITH THE MANUFACTURER OR ITS AUTHORIZED DISTRIBUTORS IMMEDIATELY.

THE MANUFACTURER DECLINES ANY LIABILITY IN CASE THE PROVISION ABOVE IS NOT COMPLIED WITH.

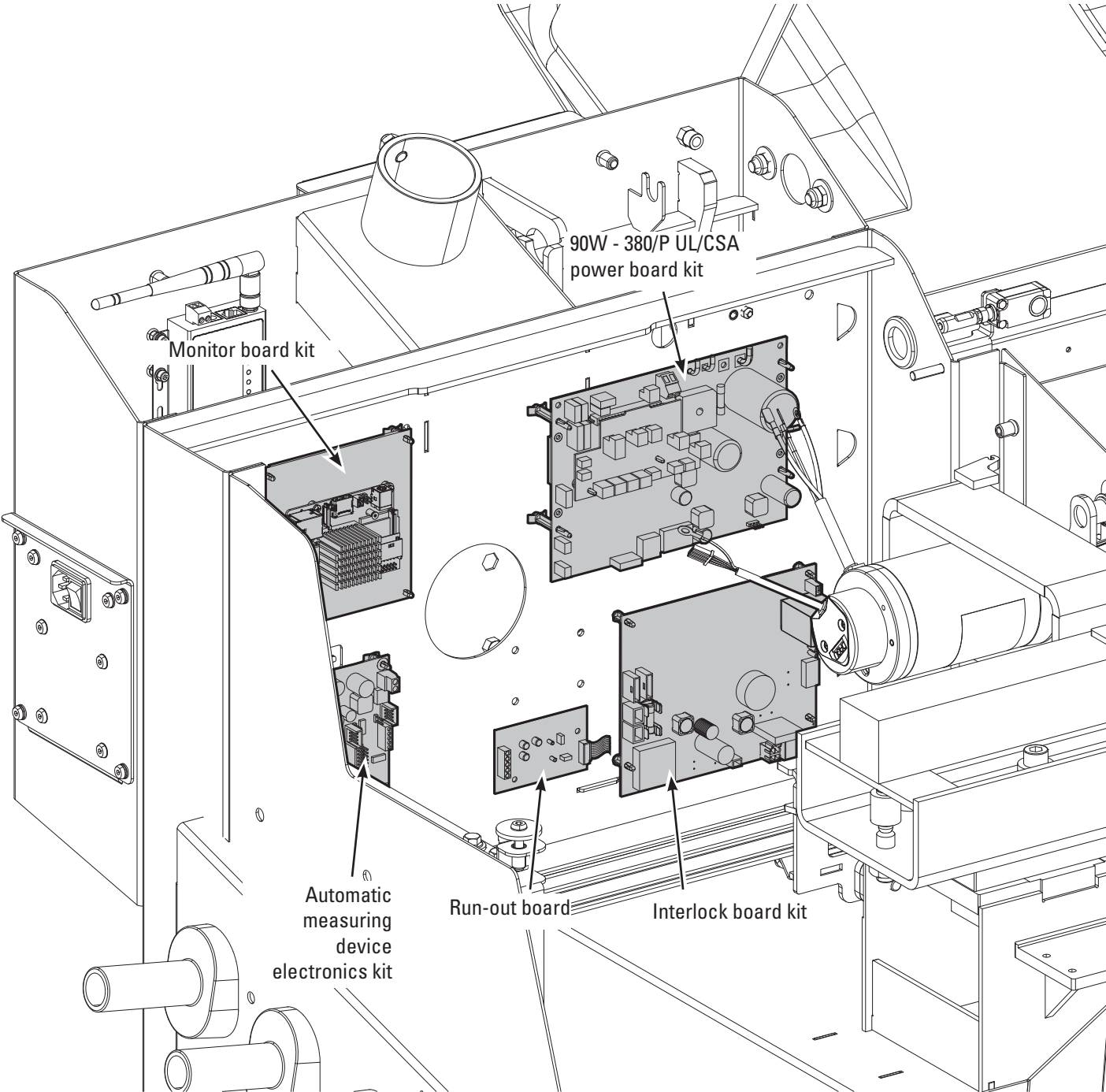
22.0 FUNCTIONAL DIAGRAMS

Here follows a list of the equipment functional diagrams.



KEY

- 1 – US power cord
- 2 – Wired switch with plug UL/CSA
- 3 – Transformer
- 4 – Interlock power supply cable
- 5 – 90W-380/P power board kit for UL/CSA
- 6 – Motor 90W UL/CSA
- 7 – Wheel position sensor cable
- 8 – Interlock encoder cable
- 9 – Encoder board
- 10 – Piezo with front cable
- 11 – Piezo with cable
- 12 – Cable with con wheel protection micro switch connector
- 13 – Limit switch
- 14 – Interlock guard cable
- 15 – Power supply cable with connector
- 16 – Board kit
- 17 – Monitor 22"
- 18 – LED light
- 19 – Interlock board
- 20 – Solenoid cable
- 21 – Tubular solenoid
- 22 – Microswitch
- 23 – 1 m extension for USB cable
- 24 – UL/CSA transformer ground connection cable
- 25 – 7-keys-keyboard
- 26 – 7-keys-keyboard cables
- 27 – HDMI-HDMI cable
- 28 – Ultrasound sensor board
- 29 – Serial width board cable
- 30 – Serial extension cable assembly
- 31 – Run-out extension cable
- 32 – Run-out board
- 33 – Sensor
- 34 – Electronic kit
- 35 – Power supply cable assembly
- 36 – CAN-bus extension cable with connector
- 37 – Laser assembly actuator
- 38 – DSE Laser



Installer: please return this booklet to literature package, and give it to the 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.rotarylif.com

North America Contact Information

Tech. Support:

p 800.445.5438
f 800.578.5438
e userlink@rotarylif.com

Sales:

p 800.640.5438
f 800.578.5438
e userlink@rotarylif.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

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