



**1294-M017-1\_P**

**ERL280RC  
ERPL280RC**

**INSTRUCTION MANUAL**

**GB**

TRANSLATION FROM THE  
ORIGINAL INSTRUCTIONS

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*For spare parts drawings refer to the section "LIST OF COMPONENTS" enclosed to this manual.*

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- For any further information please contact your local dealer or call:

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**1294-M017-1\_P - Rev. n. 1 (07/2016)**

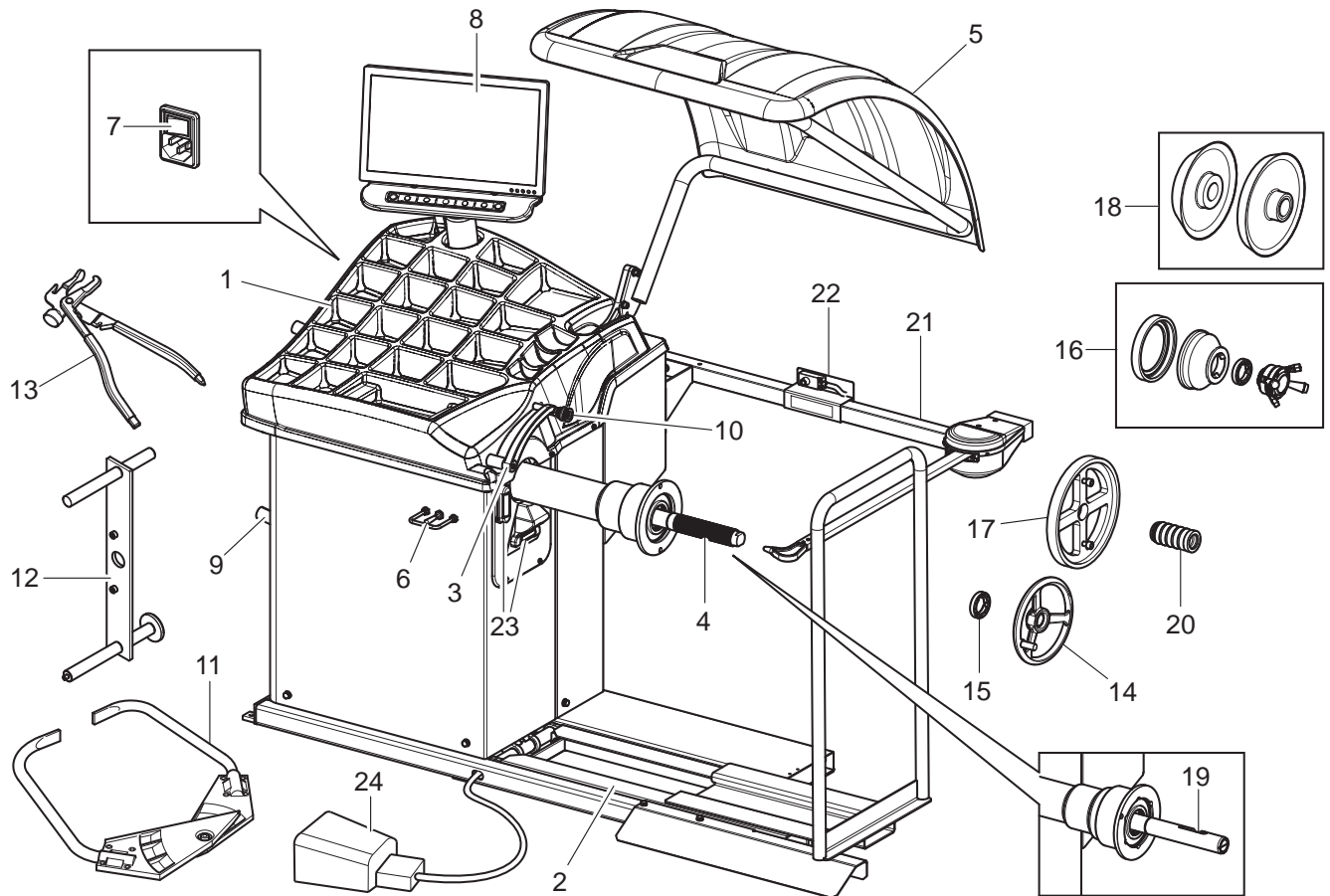
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**Fig. 1 - ERL280RC - ERPL280RC**









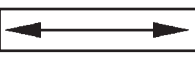


**KEY**

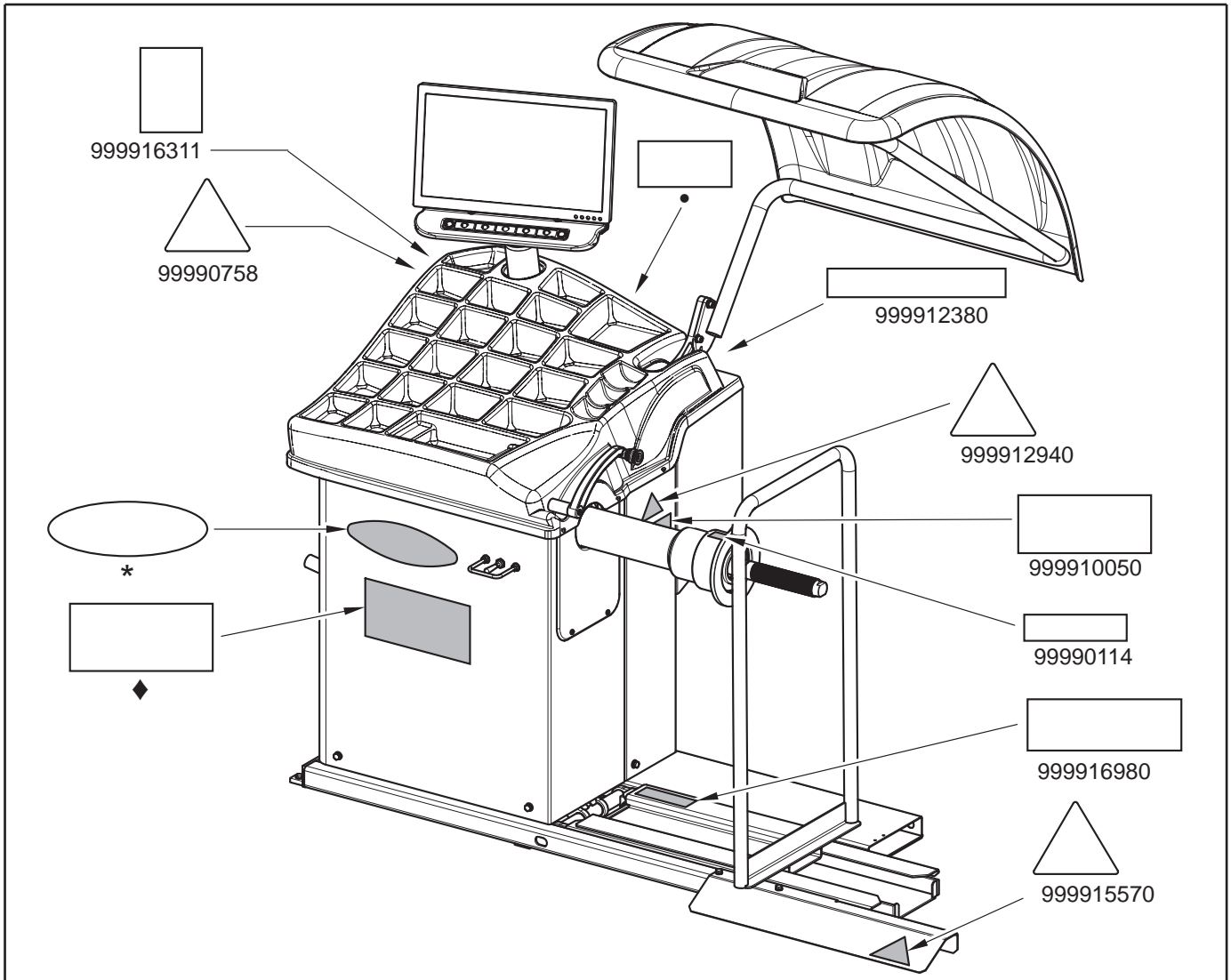
- 1 - Weight holding bridge
- 2 - Wheel lifting device
- 3 - Distance-diameter caliper
- 4 - Threaded mandrel (only for ERL280RC model)
- 5 - Protection guard
- 6 - Wheel lifting device control
- 7 - Main switch
- 8 - Monitor
- 9 - Flange holding stake
- 10 - Grippers for weight fitting
- 11 - Gauge for measuring truck rim width
- 12 - Truck calibration tool
- 13 - Grippers for weights
- 14 - Handwheel ring nut (only for ERL280RC model)
- 15 - Pusher ring
- 16 - Handwheel ring nut for truck wheels (Optional) (only for ERL280RC models)
- 17 - Adapter flange
- 18 - Cone  $\varnothing 202 \div 221$  + cone  $\varnothing 281$  for trucks
- 19 - Pneumatic mandrel (only for ERPL280RC model)
- 20 - Locking sleeve (only for ERPL280RC model)
- 21 - Wheels width external data gauge (Optional)
- 22 - Electronic RUN-OUT measuring device (Optional)
- 23 - Fixed laser + led light (Optional)
- 24 - Pedalboard for pneumatic mandrel opening/closing (only for ERPL280RC model)

## SYMBOLS USED IN THE MANUAL AND ON THE MACHINE

Symbols	Description
	Read instruction manual.
	FORBIDDEN!
 B2167000	Wear work gloves.
	Wear work shoes.
 B2167000	Wear safety goggles.
	Wear safety earcaps.
 99990758	Shock hazard.
	Caution: hanging loads.
	Warning. Be particularly careful (possible material damages).

Symbols	Description
	Mandatory. Operations or jobs to be performed compulsorily.
	Danger! Be particularly careful.
	Move with fork lift truck or pallet truck.
	Lift from above.
 B1541000	General danger.
	Technical assistance necessary. Do not perform any intervention.
	Note. Indication and/or useful information.
 999912940	Attention: never lift the machine by means of the mandrel.
 99990114	Arrow plate.

**INFORMATION PLATE LOCATION TABLE**



**Code numbers of plates**

<b>99990114</b>	<i>Arrow plate</i>
<b>99990758</b>	<i>Electricity danger plate</i>
<b>999910050</b>	<i>Protection device use plate</i>
<b>999912380</b>	<i>Plate of voltage values and frequencies of operation</i>
<b>999912940</b>	<i>Lifting plate</i>
<b>999915570</b>	<i>Crushing danger plate</i>
<b>999916311</b>	<i>Rubbish skip label</i>
<b>999916980</b>	<i>Capacity load 200 Kg plate</i>
◆	<i>Machine nameplate</i>
*	<i>Manufacturer nameplate</i>
•	<i>Serial number plate</i>



**IF ONE OR MORE PLATES DISAPPEAR FROM THE MACHINE OR BECOMES DIFFICULT TO READ, REPLACE IT AND QUOTE ITS/THEIR CODE NUMBER/S WHEN REORDERING.**



**SOME OF THE PICTURES AND/OR DISPLAY SCREEN PAGES PRESENT IN THIS MANUAL HAVE BEEN OBTAINED FROM PICTURES OF PROTOTYPES, THEREFORE THE STANDARD PRODUCTION MACHINES AND ACCESSORIES CAN BE DIFFERENT IN SOME COMPONENTS/DISPLAY SCREEN PAGES.**

## 1.0 GENERAL INTRODUCTION

**This manual is an integral part of the product and must be retained for the whole operating life of the machine.**

Carefully study the warnings and instructions contained in this manual. It contains important instructions regarding **FUNCTIONING, SAFE USE and MAINTENANCE.**



**KEEP THE MANUAL IN A KNOWN, EASILY ACCESSIBLE PLACE FOR ALL ACCESSORY OPERATORS TO CONSULT IT WHENEVER IN DOUBT.**



**THE MANUFACTURER DISCLAIMS ALL RESPONSIBILITY FOR ANY DAMAGE OCCURRED WHEN THE INDICATIONS GIVEN IN THIS MANUAL ARE NOT RESPECTED: AS A MATTER OF FACT, THE NON-COMPLIANCE WITH SUCH INDICATIONS MIGHT LEAD TO EVEN SERIOUS DANGERS.**

### 1.1 Introduction

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

This machine 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 models **ERL280RC - ERPL280RC** machines, and relative versions, are wheels balancing machines for cars, light transport and truck wheels, projected to be used exclusively to cancel out, or at least reduce to acceptable limits the vibrations of the wheels, by fitting counterweights of suitable size and in specific positions to the same wheels that are not correctly balanced.



**DANGER: EMPLOYING THESE MACHINES OUTSIDE THE USE DESTINATION THEY HAVE BEEN DESIGNED FOR (AS INDICATED IN THIS MANUAL) IS INAPPROPRIATE AND DANGEROUS.**



**THE MANUFACTURER CANNOT BE HELD RESPONSIBLE FOR ANY DAMAGE CAUSED BY IMPROPER, ERRONEOUS, OR UNACCEPTABLE USE.**



**AN INTENSIVE USE OF THE EQUIPMENT IN INDUSTRIAL ENVIRONMENT IS NOT RECOMMENDED.**

### 2.1 Training of personnel

**The machine may be operated only by suitably trained and authorized personnel.**

Given the complexity of the operations necessary to manage the machine and to 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 machine as intended by the manufacturer.



**A CAREFUL READING OF THIS INSTRUCTION MANUAL FOR USE AND MAINTENANCE AND A SHORT PERIOD OF TRAINING WITH SKILLED PERSONNEL CAN BE AN ENOUGH PREVENTIVE PREPARATION.**

### 3.0 SAFETY DEVICES



**PERIODICALLY, AT LEAST MONTHLY, CHECK THE INTEGRITY AND THE FUNCTIONALITY OF THE SAFETY AND PROTECTION DEVICES ON THE MACHINE.**


- **Master switch positioned on the rear of the machine**

Its function is to disconnect machine electric supply.

- **Protection guard**

Its 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.



Press  stop key to stop wheel rotation in emergency conditions.

#### **3.1 Residual risks**

The machine 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 which placing is indicated in " PLATE POSITIONING TABLE" at page 6.

### 4.0 GENERAL SAFETY RULES



- Any tampering with or modification to the machine not previously authorized by the manufacturer exempts the latter from all responsibility for damage caused by or derived from said actions.
- Removing of or tampering with the safety devices or with the warning signals placed on the machine leads to serious dangers and represents a transgression of European safety rules.
- Use of the machine is only permitted in places free from **explosion** or **fire** hazard and in **dry places under cover**.
- Original spare parts and accessories should be used.



**THE MANUFACTURER DENIES ANY RESPONSIBILITY IN CASE OF DAMAGES CAUSED BY UNAUTHORIZED MODIFICATIONS OR BY THE USE OF NON ORIGINAL COMPONENTS OR EQUIPMENT.**

- Installation must be conducted only by qualified personnel exactly according to the instructions that are given below.
- Ensure that there are no dangerous situations during the machine operating manoeuvres. Immediately stop the machine if it miss-functions and contact the assistance service of an authorized dealer.
- In emergency situations and before carrying out any maintenance or repairs, disconnect all supplies to the machine by using the main switch, placed on the machine itself, and unplugging the power supply.
- The machine electrical supply system must be equipped with an appropriate earthing, to which the yellow-green machine protection wire must be connected.
- Ensure that the work area around the machine is free of potentially dangerous objects and that there is no oil since this could damage the tyre. Oil on the floor is also a potential danger for the operator.
- **UNDER NO CIRCUMSTANCES** must the machine be used to spin anything but vehicle wheels. Bad locking can cause rotating parts to come loose, with potential damage to the machine and anything in the vicinity and injury to the operator.





**OPERATORS MUST WEAR SUITABLE WORK CLOTHES, PROTECTIVE GLASSES AND GLOVES, AGAINST THE DANGER FROM THE SPRAYING OF DANGEROUS DUST, AND POSSIBLY LOWER BACK SUPPORTS FOR THE LIFTING OF HEAVY PARTS. DANGLING OBJECTS LIKE BRACELETS MUST NOT BE WORN, AND LONG HAIR MUST BE TIED UP. FOOTWEAR SHOULD BE ADEQUATE FOR THE TYPE OF OPERATIONS TO BE CARRIED OUT.**



- The machine 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 machine can be operated by a single operator. Unauthorized personnel must remain outside the working area, as shown in **Fig. 3**. Avoid any hazardous situations. Do not use air-operated or electrical equipment when the shop is damp or the floor slippery and do not expose such tools to atmospheric agents.
- When operating and servicing this machine, carefully follow all applicable safety and accident-prevention precautions. The machine must not be operated by professionally unskilled persons.



**WHEN USING THE MODELS WITH WHEEL PNEUMATIC CLAMPING, DURING MANDREL OPENING/CLOSING OPERATIONS, BE EXTREMELY CAREFUL AND KEEP YOUR HANDS OR OTHER PARTS OF YOUR BODY AWAY FROM THE MOVING MANDREL.**

## 5.0 PACKING AND MOBILIZATION FOR TRANSPORT

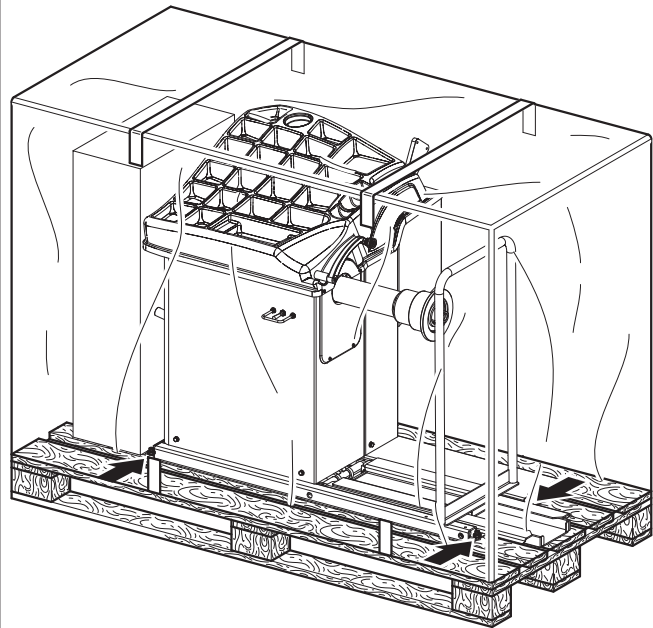


**HAVE THE MACHINE HANDLED BY SKILLED PERSONNEL ONLY. THE LIFTING EQUIPMENT MUST WITHSTAND A MINIMUM RATED LOAD EQUAL TO THE WEIGHT OF THE PACKED MACHINE (SEE PARAGRAPH "TECHNICAL SPECIFICATIONS").**



The machine is packed completely assembled. The machine is inside a carton box which size is mm 1700x1200x1300.

Movement must be by pallet-lift or fork-lift trolley. The fork lifting points are indicated on the packing.

**Fig. 2**



## 6.0 UNPACKING


**DURING UNPACKING, ALWAYS WEAR GLOVES TO PREVENT ANY INJURY CAUSED BY CONTACT WITH PACKAGING MATERIAL (NAILS, ETC.).**

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 unnailed the cardboard box from the pallet it is fixed to. After removing the packing, and in the case of the machine packed fully assembled, check that the machine is complete and that there is no visible damage.





If in doubt **do not use the machine** and refer to professionally qualified personnel (to the seller).

The packing (plastic bags, expanded polystyrene, nails, screws, 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 FIXTURES IS CONTAINED IN THE WRAPPING. DO NOT THROW IT AWAY WITH THE PACKING.**

## 7.0 MOBILIZATION

**THE LIFTING EQUIPMENT MUST WITHSTAND A MINIMUM RATED LOAD EQUAL TO THE WEIGHT OF THE MACHINE (SEE PARAGRAPH TECHNICAL SPECIFICATIONS). DO NOT ALLOW THE LIFTED MACHINE TO SWING.**




**NEVER LIFT THE MACHINE BY MEANS OF THE MANDREL.**

If the machine has to be moved from its normal work post, the movement must be conducted following the instructions listed below.

- Protect the exposed corners with suitable material (Pluribol/cardboard).
- Do not use metallic cables for lifting.
- Make sure the electrical and pneumatic supply of the machine is not connected.
- Place again the machine onto the original pallet with whom it was delivered.
- Use transpallet or fork-lift for handling.

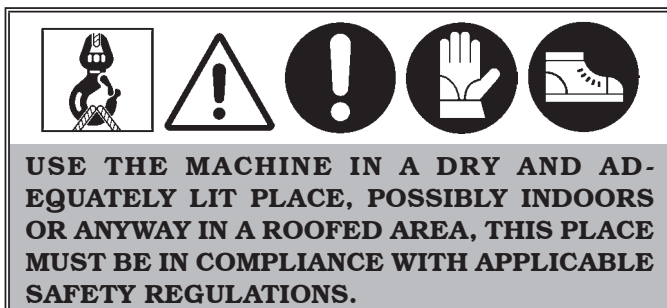
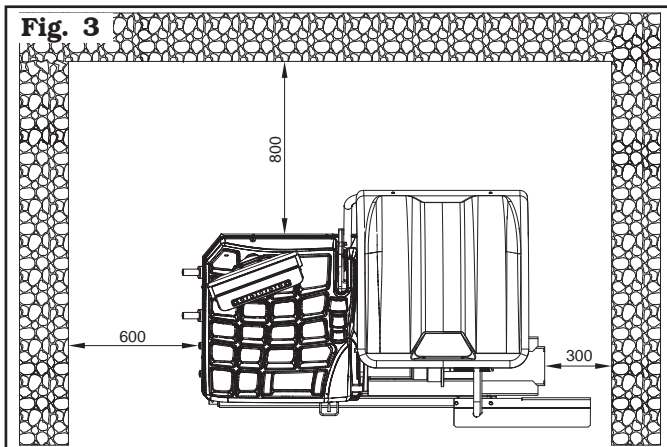
## 8.0 WORKING ENVIRONMENT CONDITIONS

The machine must be operated under proper conditions as follows:

- temperature: 0° + 45° C
  - relative humidity 30 - 90% (dew-free)
- atmospheric pressure: 860 - 1060 hPa (mbar).

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

## 8.1 Working area



The location of the machine requires a usable space as indicated in **Fig. 3**. The positioning of the machine must be according to the distances shown. From the control position the operator is able to observe all the machine and surrounding area. He must prevent unauthorized personnel or objects that could be dangerous from entering the area.

The machine must be fixed 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.

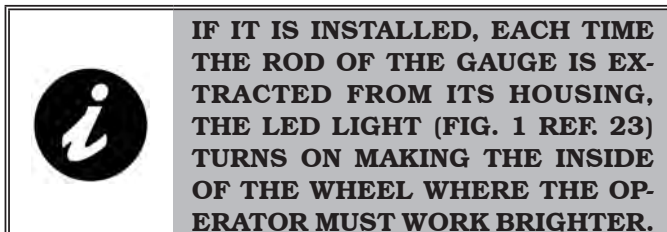
This surface must have a capacity load of at least 500 kg/m<sup>2</sup>.

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

## 8.2 Lighting

The machine does not require its own lighting for normal working operations. However, it must be used in an adequately lit environment.

In case of poor lighting use lamps having total power 800/1200 Watt.

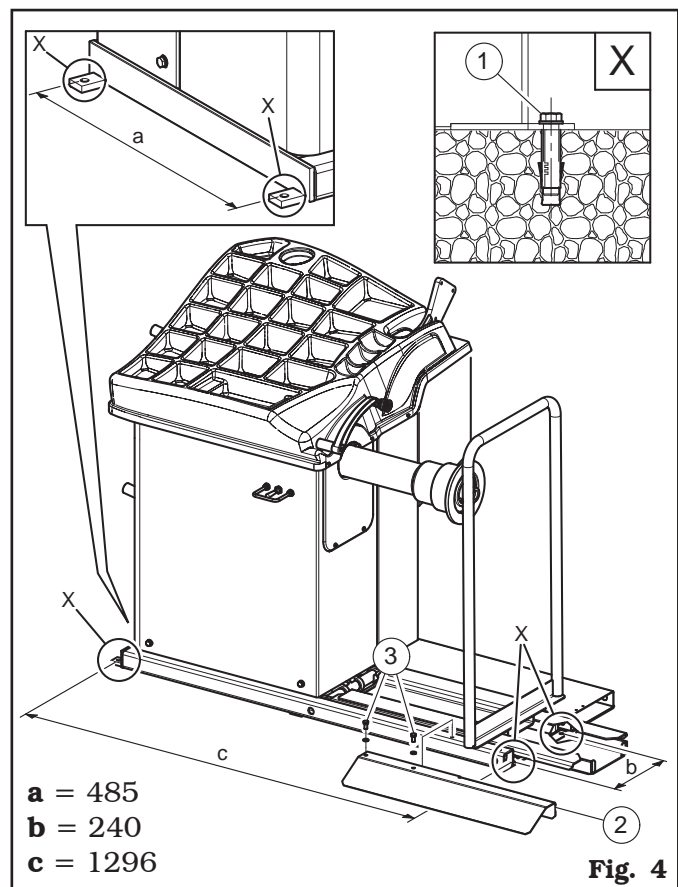
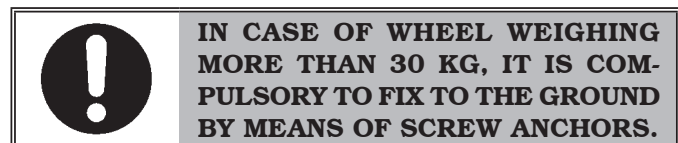


## 9.0 MACHINE ASSEMBLY

After having freed the various components from the packing check that they are complete, and that there are no anomalies, then comply with the following instructions for the assembly of the components making use of the attached series of illustrations.

### 9.1 Anchoring system

The packed machine is fixed to the support pallet through the holes prearranged on the frame. Such holes can be used also to fix the machine to the ground, through floor anchor small blocks (excluded from supply). Before carrying out the definitive fixing, check that all the anchor points are laid down flat and correctly in contact with the fixing surface itself. If not so, insert shimming profiles between the machine and the fixing lower surface, as indicated in **Fig. 4**.



- Fix the foot guard protection (**Fig. 4 ref. 2**) in using the 2 issued screws (**Fig. 4 ref. 3**).
- Execute 4 holes with 10 mm diameter on the floor by the holes on the bottom floor;
- insert the small blocks (excluded from supply) into the holes;

- fix the machine to the ground with 4 M8x80 mm screws (excluded from supply) (**Fig. 4 ref. 1**) (or with 4 8x80 mm stud bolts (excluded from supply)). Tighten the screws with an approximate tightening torque of 70 Nm.

**9.2 Fixtures contained in the packing**

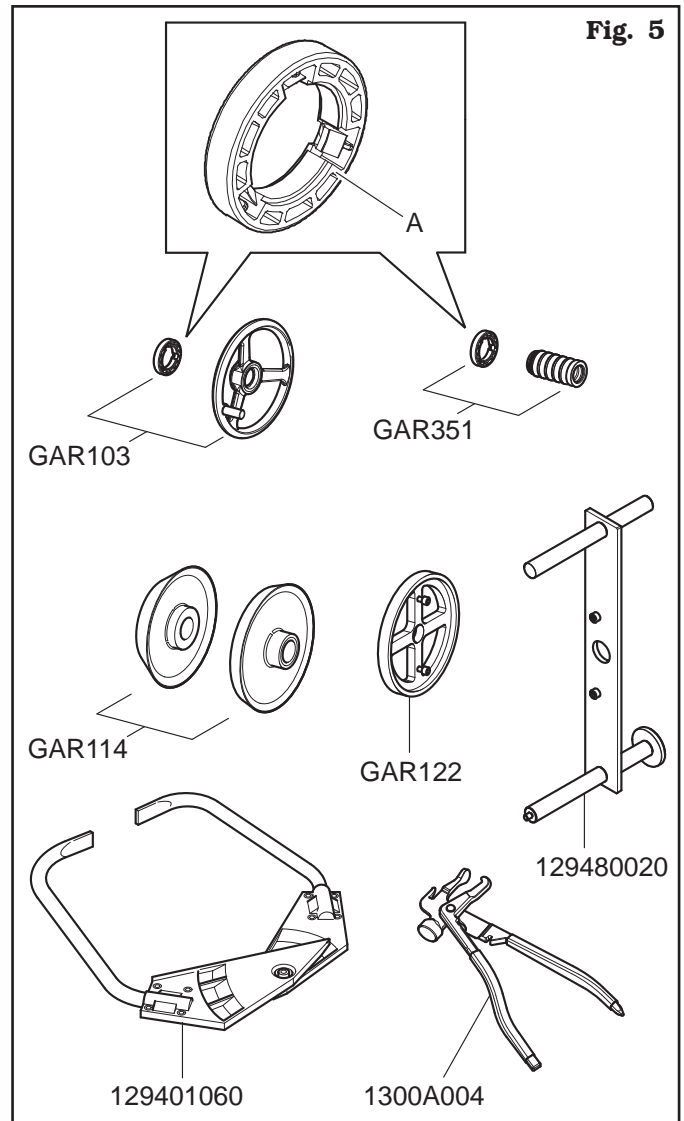
The packing case contains also the fixtures box. Check that all the parts listed below are there (see **Fig. 5**).

For **ERL280RC** model

Code	Description	N.
<b>GAR103</b>	Trucks ring nut with hand-wheel + pusher ring	<b>1</b>
<b>GAR114</b>	2 cones D. 202-221;281 trucks	<b>1</b>
<b>129401060</b>	Trucks width gauge	<b>1</b>
<b>1300A004</b>	Weight pliers	<b>1</b>
<b>129480020</b>	Trucks calibrator	<b>1</b>
<b>GAR122</b>	Flange for trucks wheels bearing	<b>1</b>

For **ERPL280RC** model

Code	Description	N.
<b>GAR351</b>	Locking sleeve + pusher ring	<b>1</b>
<b>GAR114</b>	2 cones D. 202-221;281 trucks	<b>1</b>
<b>129401060</b>	Trucks width gauge	<b>1</b>
<b>1300A004</b>	Weight pliers	<b>1</b>
<b>129480020</b>	Trucks calibrator	<b>1</b>
<b>GAR122</b>	Flange for trucks wheels bearing	<b>1</b>



**THE GRIP-RING (FIG. 5 REF. A) MUST BE MOUNTED WITH THE TEETH OR DISCHARGE SIDE TOWARDS THE RING-NUT (SEE FIG. 5).**

### 9.3 Assembly procedures

#### 9.3.1 Fitting the mandrel on the flange

##### Only for ERL280RC model

Screw the mandrel with an Allen wrench (Fig. 6 ref. 1) on the flange (Fig. 6 ref. 2).

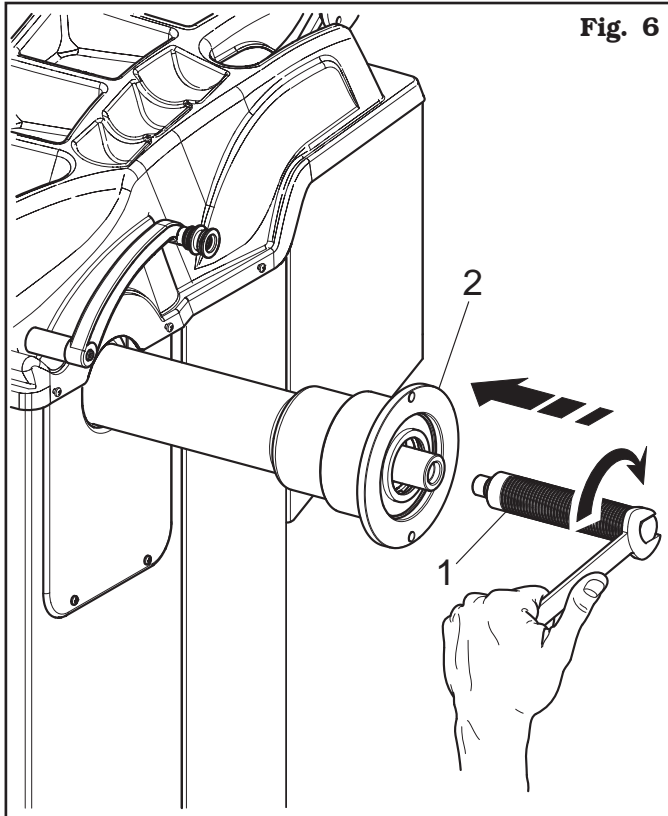


Fig. 6

#### 9.3.2 Fitting and removal of the pneumatic mandrel on the flange

##### Only for ERPL280RC model

##### FITTING

1. After making power and air connections switch on the machine (the pneumatic mandrel always opens when the machine is switched on). Switch the machine off. Fit the internal mandrel on the flange and tighten it with the wrench provided (Fig. 7 and Fig. 8).

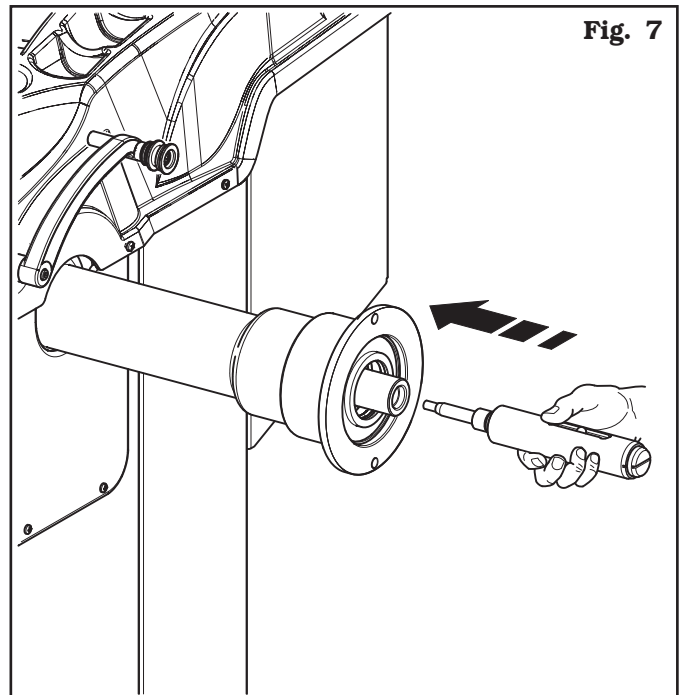


Fig. 7

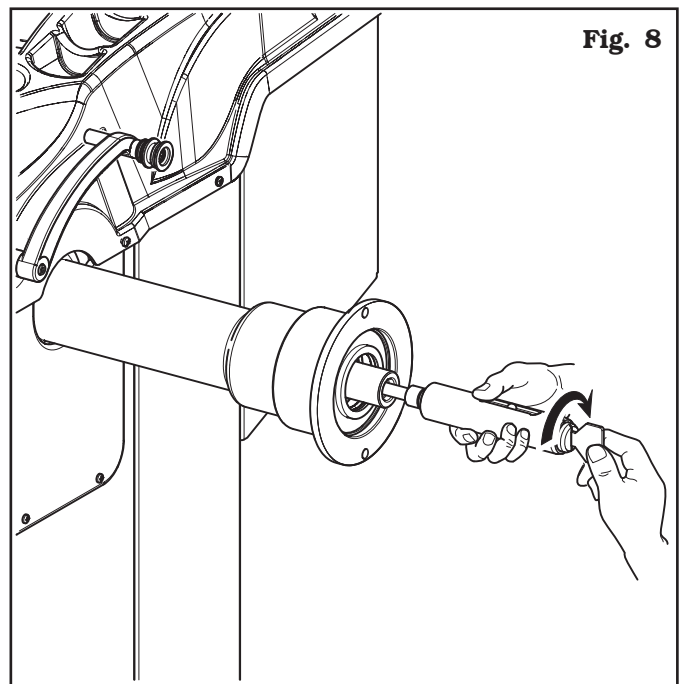
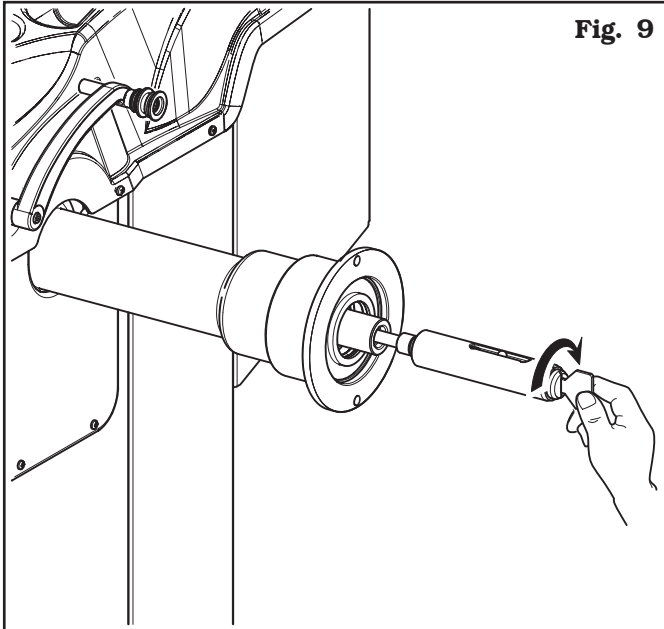
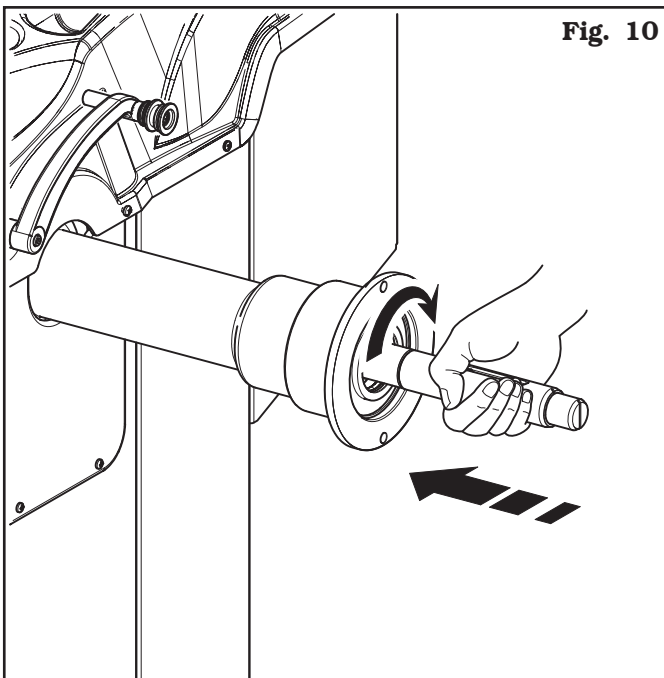


Fig. 8

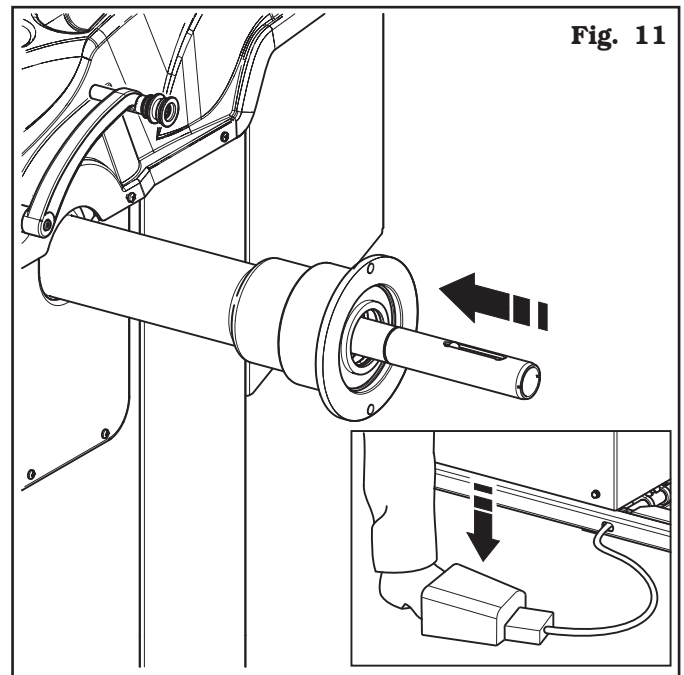
2. Tighten the internal mandrel as far as it will go using the wrench provided, blocking the outer mandrel in order to avoid its rotation during this operation (**Fig. 9**).



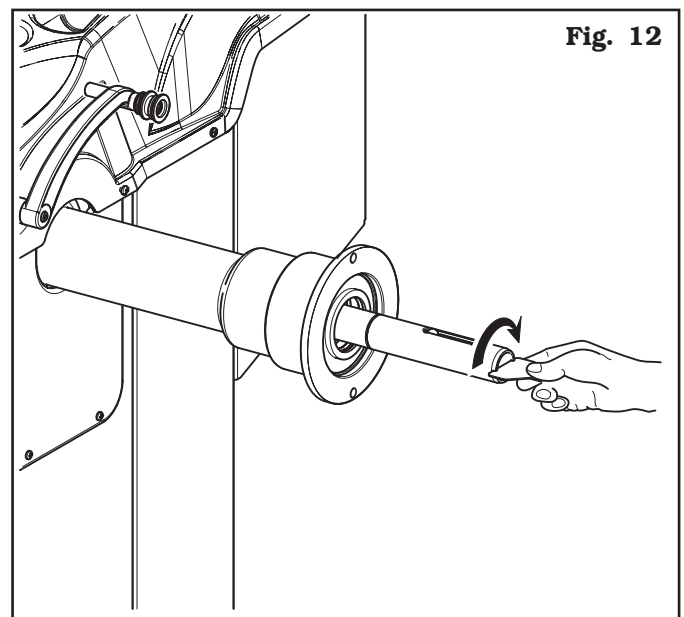
3. Fit the external mandrel and tighten it manually (**Fig. 10**).



4. Close the pneumatic mandrel by means of the pedal to access the key socket (**Fig. 11**).



5. Lock the outer mandrel using the wrench provided (**Fig. 12**).



**REMOVAL**

- Close the pneumatic mandrel by means of the pedal to access the key socket (**Fig. 11**).
- Unlock the outer mandrel using the wrench provided (**Fig. 12**).
- Remove the external mandrel, open the pneumatic mandrel by means of the pedal provided and loosen the internal mandrel using the special wrench (**Fig. 9**).

### 9.3.3 Monitor fitting

1. Cut the two clamps (**Fig. 13 ref. 1**) and release the support (**Fig. 13 ref. 2**) from the frame (**Fig. 13 ref. 3**).

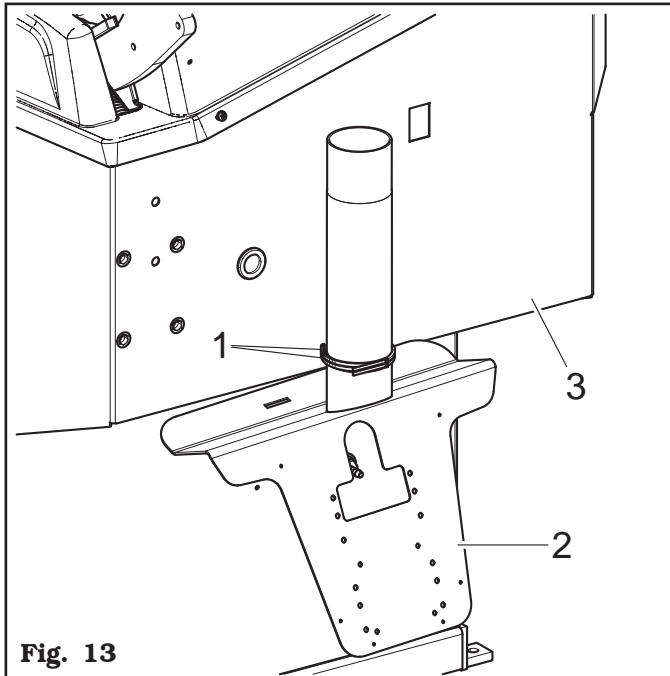


Fig. 13

2. Introduce the monitor support tube (**Fig. 14 ref. 1**) into the prearranged hole on the bridge (**Fig. 14 ref. 2**), interposing the guard (**Fig. 14 ref. 3**) and making the cables (**Fig. 14 ref. 4**) pass through its interior.
3. Remove the provided cap (**Fig. 14 ref. 5**) from the bridge (**Fig. 14 ref. 2**) and block the monitor support tube (**Fig. 14 ref. 1**) tightening the prearranged grub screw (**Fig. 14 ref. 6**) on the rear side. Remount the cap (**Fig. 14 ref. 5**).

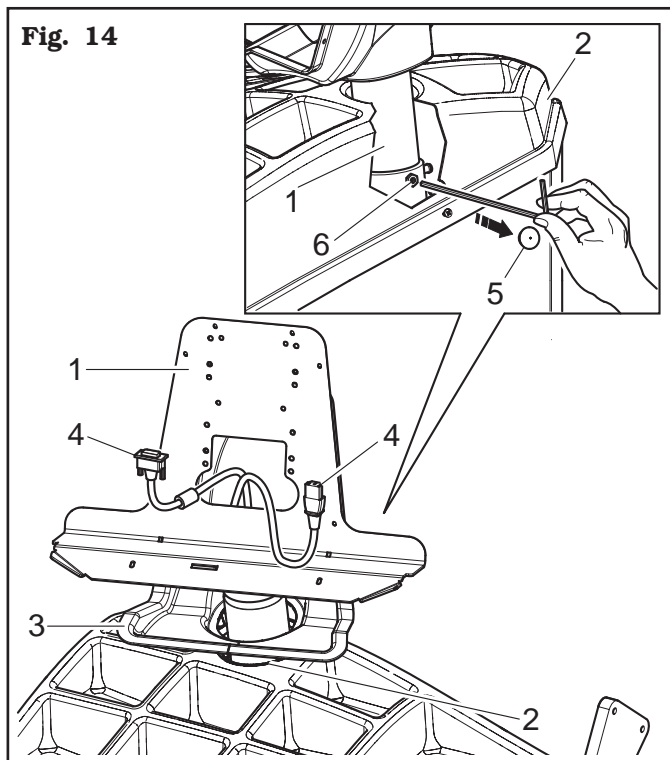


Fig. 14

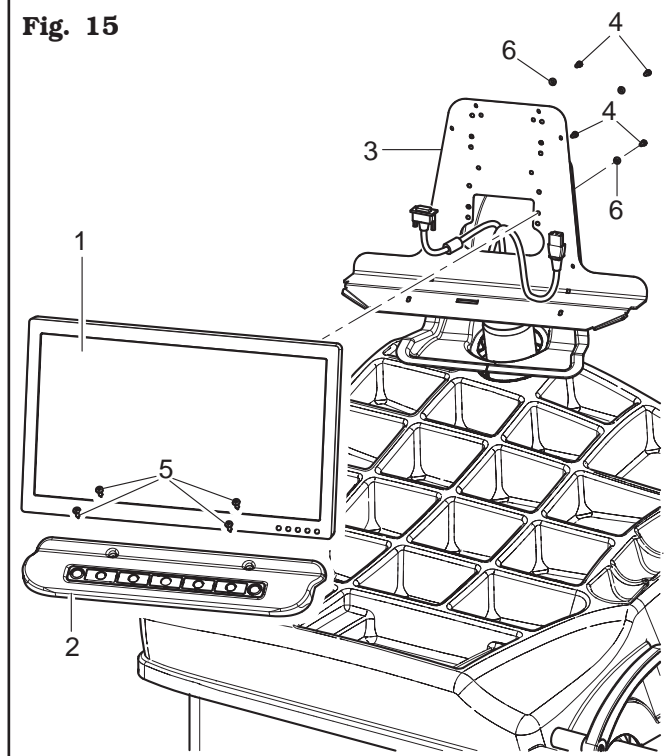
4. Connect the wiring of the keyboard.



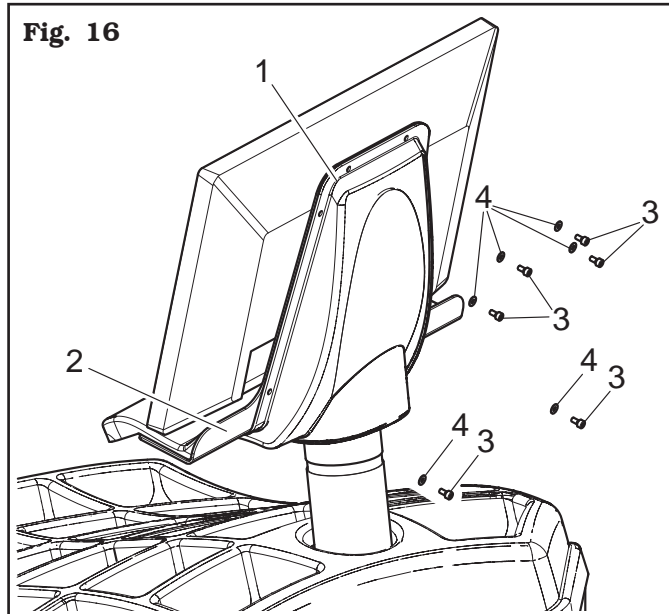
**WIRE 1 (RED OR BLUE COLOURED) MUST CORRESPOND TO CONTACT 1 OF THE KEYBOARD'S CONNECTOR (MARKED WITH A SMALL ARROW). KEYBOARD'S OPERATION CAN BE TESTED. IN CASE OF POLARITY REVERSAL, THE KEYBOARD DOESN'T WORK CORRECTLY, BUT THERE ARE NO DAMAGES.**

5. Connect the plugs on the power supply sockets and monitor signal. Make the cables pass through the support hole.
6. Mount the monitor (**Fig. 15 ref. 1**) and the keyboard (**Fig. 15 ref. 2**) to the support (**Fig. 15 ref. 3**) by means of the supplied screws (**Fig. 15 ref. 4** and **5**) and the washers (**Fig. 15 ref. 6**).

Fig. 15

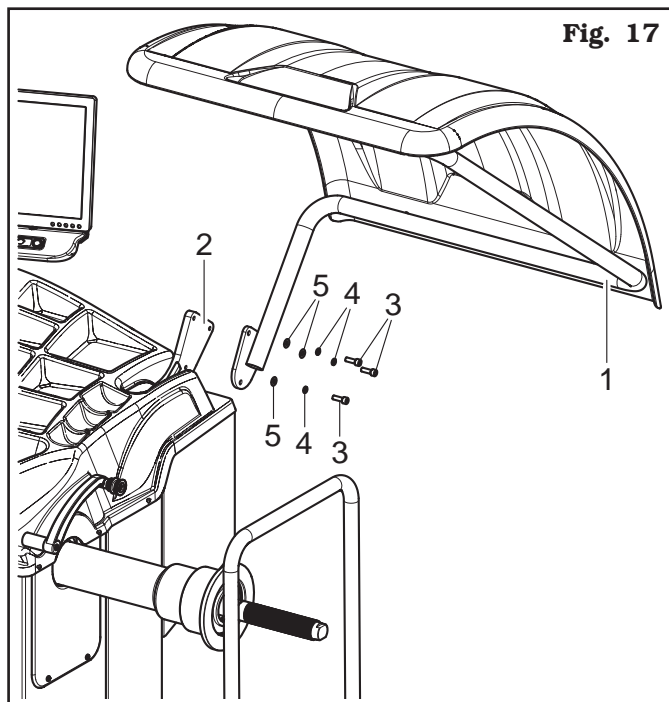


7. Fix the guard (**Fig. 16 ref. 1**) to the support (**Fig. 16 ref. 2**) with the screws (**Fig. 16 ref. 3**) and the washers (**Fig. 16 ref. 4**) supplied.



### 9.3.4 Fitting the protection guard

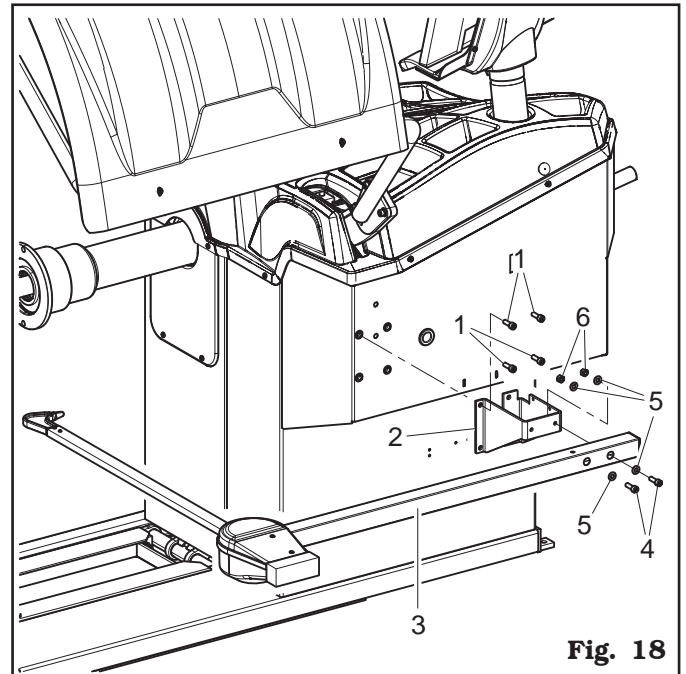
1. Mount the protection guard (**Fig. 17 ref. 1**) to the support (**Fig. 17 ref. 2**) with the screws (**Fig. 17 ref. 3**) and interposing the supplied washers (**Fig. 17 ref. 4-5**).



### 9.3.5 Fitting of external data gauge (optional)

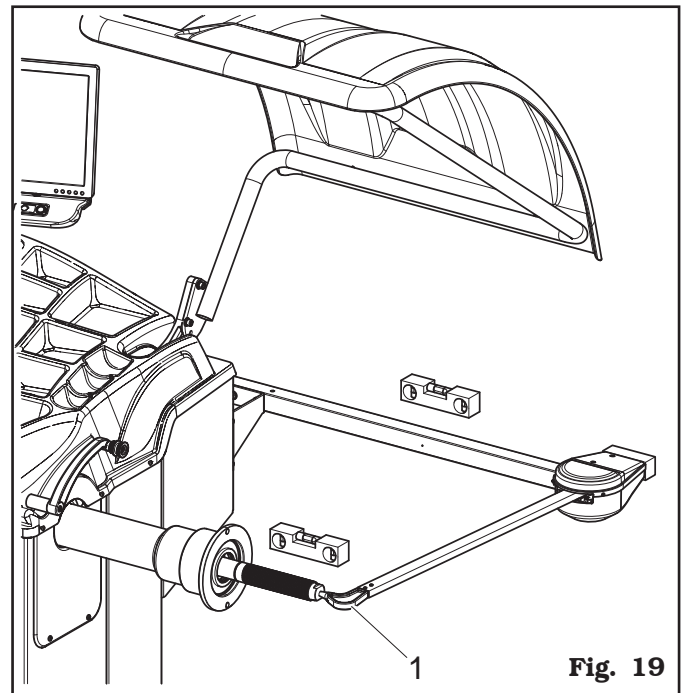
1. Introduce the 4 screws (**Fig. 18 ref. 1**) to the gauge bracket (**Fig. 18 ref. 2**) and screw them on the special threaded rivets placed on the rear side of the frame. Lock the gauge arm (**Fig. 18 ref. 3**) to the

bracket (**Fig. 18 ref. 2**) using the 2 screws (**Fig. 18 ref. 4**) and the washers (**Fig. 18 ref. 5**). Lock the screws (**Fig. 18 ref. 4**) with the washers (**Fig. 18 ref. 5**) and the nuts (**Fig. 18 ref. 6**) so that the shaft and the gauge arm are levelled out (see **Fig. 19**).



**Fig. 18**

2. Also make sure the gauge tip (**Fig. 19 ref. 1**) is positioned at the centre of the mandrel.

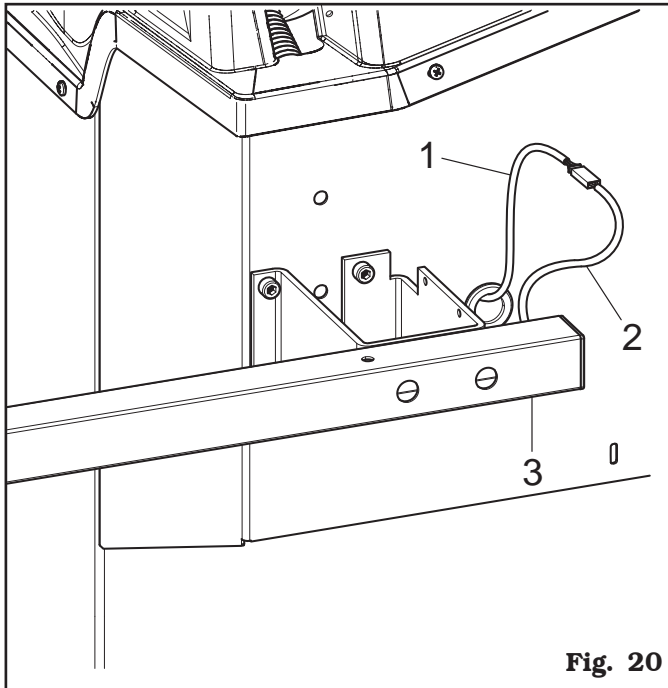


**Fig. 19**

3. Connect connector (**Fig. 20 ref. 1**) of the cable coming from inside the machine to connector (**Fig. 20 ref. 2**) of the cable coming from the gauge arm. Fit the section of the cable with the connectors inside the arm (**Fig. 20 ref. 3**).
4. Fasten the cable with clamps.

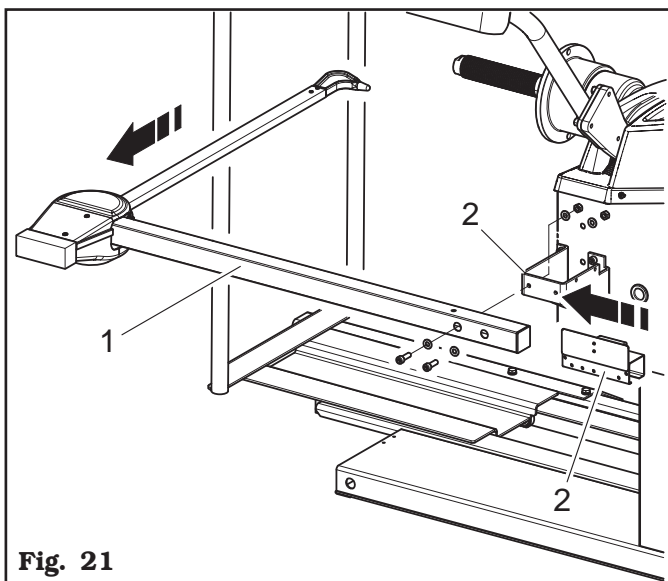


5. Enable the external data gauge and carry out the device's calibration.

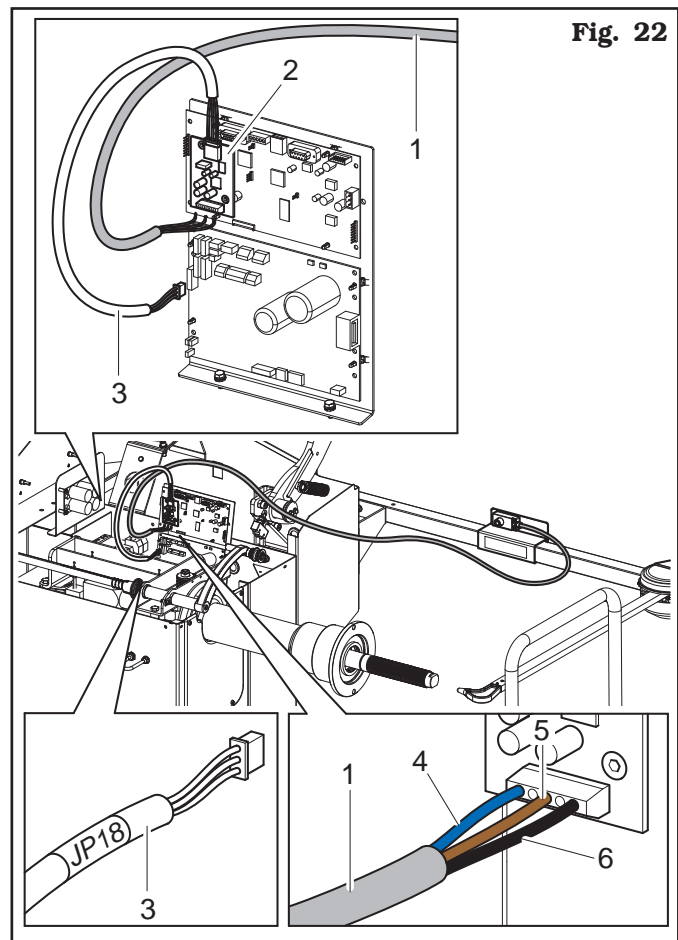


### 9.3.6 Fitting the electronic Run-out measuring device (optional)

1. Remove the external data gauge (Fig. 21 ref. 1) from the bracket (Fig. 21 ref. 2) unscrewing the corresponding screws and nuts.
2. Fit the electronic measuring device (Fig. 21 ref. 3) to the external data gauge, as shown in Fig. 21.
3. Fit the external data gauge to the bracket again using the previously unscrewed screws and nuts



4. Remove the wheel cover unit, the wheel balancer monitor and board.
5. Mount the card (Fig. 22 ref. 2)(# 18363), as shown in Fig. 22.
6. Connect connector of GAR214TK cable (Fig. 22 ref. 1) to the electronic card (Fig. 22 ref. 2)(# 18363), as shown in Fig. 22 (blue ref. 4 cable, brown ref. 5 cable and black ref. 6 cable). Connect GAR214TK card (Fig. 22 ref. 2)(# 18363) to the wheel balancer main card, using the supplied cable JP18 (Fig. 22 ref. 3). Carry out the connection as shown in Fig. 22.



7. Fix the cables with clamps not to let them hinder the ordinary operation of the machine.
8. Mount again the wheel cover unit, the wheel balancer monitor and board.

## 10.0 ELECTRICAL CONNECTION



**EVEN THE TINIEST PROCEDURE OF AN ELECTRICAL NATURE MUST BE CARRIED OUT BY PROFESSIONALLY QUALIFIED STAFF.**



**BEFORE CONNECTING THE MACHINE MAKE SURE THAT:**

- **THE MAIN POWER RATING CORRESPONDS TO THE MACHINE RATING AS SHOWN ON THE MACHINE PLATE;**
- **ALL MAIN POWER COMPONENTS ARE IN GOOD CONDITION;**
- **THE ELECTRICAL SYSTEM IS PROPERLY GROUNDED (GROUND WIRE MUST BE THE SAME CROSS-SECTION AREA AS THE LARGEST POWER SUPPLY CABLES OR GREATER);**
- **MAKE SURE THAT THE ELECTRICAL SYSTEM FEATURES A CUTOUT WITH DIFFERENTIAL PROTECTION SET AT 30 mA.**

Connect the machine up to the mains by means of the 3-pole plug provided (230 V single-phase).

If the plug provided is not suitable for the wall socket, fit a plug that complies with local and applicable regulations. This operation must be performed by expert and professional personnel.



**FIT A TYPE-APPROVED (AS REPORTED BEFORE) PLUG TO THE MACHINE CABLE (THE GROUND WIRE IS YELLOW/GREEN AND MUST NEVER BE CONNECTED TO THE PHASE LEADS). MAKE SURE THAT THE ELECTRICAL SYSTEM IS COMPATIBLE WITH THE RATED POWER ABSORPTION SPECIFIED IN THIS MANUAL AND APT TO ENSURE THAT VOLTAGE DROP UNDER FULL LOAD WILL NOT EXCEED 4% OF RATED VOLTAGE (10% UPON START-UP).**



**FAILURE TO OBSERVE THE ABOVE INSTRUCTIONS WILL IMMEDIATELY INVALIDATE THE WARRANTY.**

## 10.1 Electrical checks

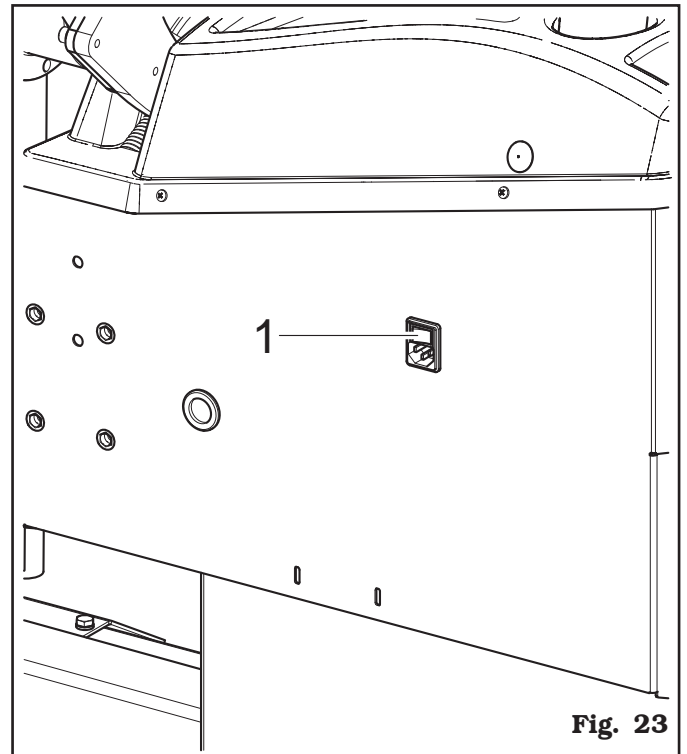


**BEFORE STARTING UP THE WHEEL-BALANCER, BE SURE TO BECOME FAMILIAR WITH THE LOCATION AND OPERATION OF ALL CONTROLS AND CHECK THEIR PROPER OPERATION (SEE PAR. "CONTROLS").**



**CARRY OUT A DAILY CHECK OF MAINTAINED-TYPE CONTROLS CORRECT FUNCTIONING, BEFORE STARTING MACHINE OPERATION.**

Once the plug/socket connection has been made, turn on the machine using the master switch (**Fig. 23** ref. 1).



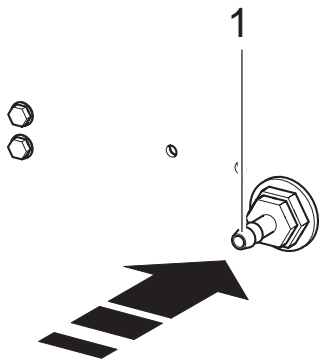
**Fig. 23**

## 11.0 AIR CONNECTION

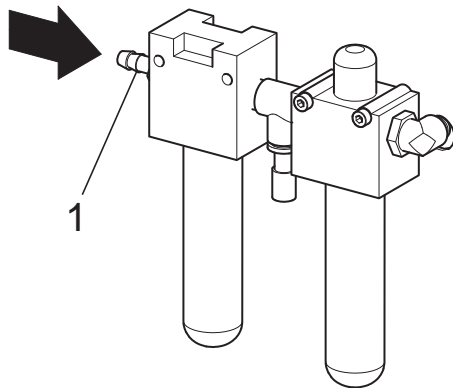
Connect the wheel balancer to the centralised compressed-air system by means of the connection on the back of the machine (see **Fig. 24 ref. 1**).

The air system supplying the machine must be able to supply filtered and de-humidified air at a pressure between 8 and 10 bar. It must feature an on-off valve upstream of the machine.

**Only for ERL280RC model**



**Only for ERPL280RC model**



**Fig. 24**

## 12.0 FITTING THE WHEEL ON THE MANDREL



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



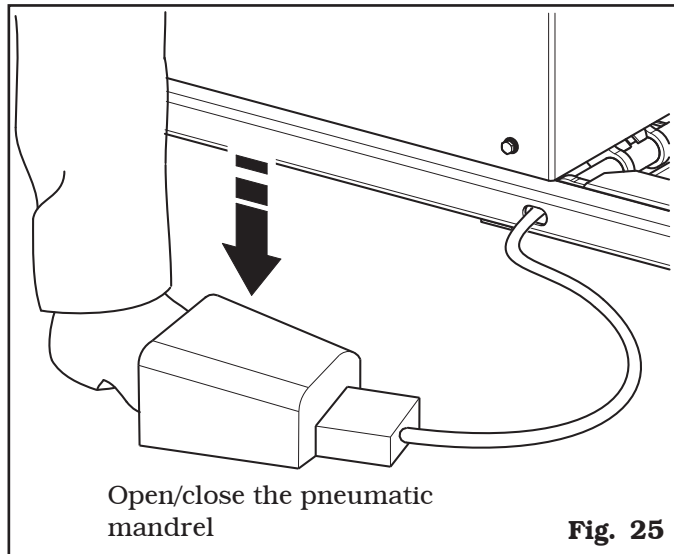
**MOST IMPORTANT IS THAT ORIGINAL CONES AND ACCESSORIES ARE USED MADE SPECIFICALLY FOR USE ON THE WHEEL BALANCER.**

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

### 12.1 Wheel assembly

**Only for ERPL280RC model**

1. Open the pneumatic mandrel by pressing the special pedal, see **Fig. 25**).



**Fig. 25**

**For all the models**

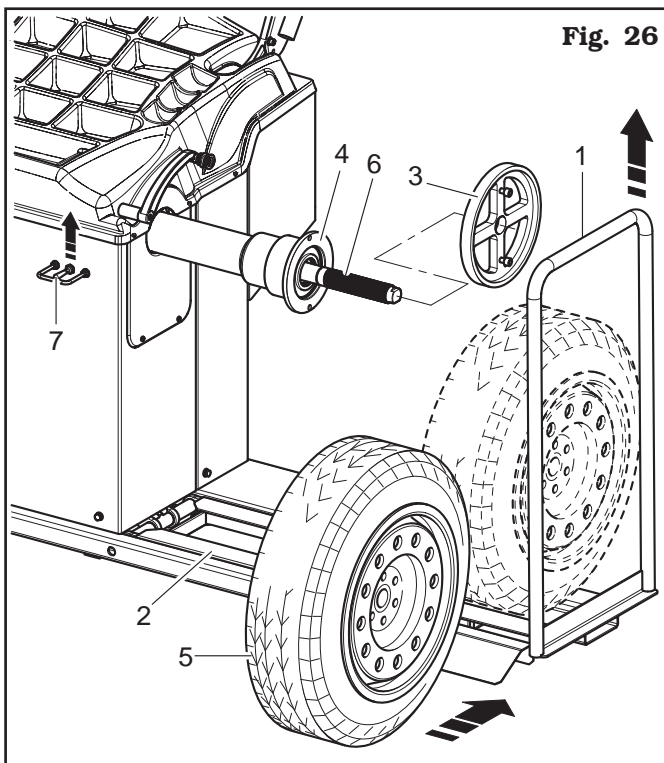
2. Move rightwards excluded from supply (**Fig. 26 ref. 1**).  
Fit the adapter flange (**Fig. 26 ref. 3**) on the mandrel flange (**Fig. 26 ref. 4**).
3. Remove any type of foreign body from the wheel (**Fig. 26 ref. 5**): pre-existing weights, stones and mud, and make sure the mandrel (**Fig. 26 ref. 6**) and the rim centring area are clean before fitting the wheel on the mandrel.

4. Place the wheel (**Fig. 26 ref. 5**) on the wheel support (**Fig. 26 ref. 1**) with the rim inner side towards the wheel balancer. Operate the lifting device control (**Fig. 26 ref. 7**) and, keeping it lifted, lift the footboard (**Fig. 26 ref. 2**) and centre manually the wheel on the mandrel, with a minimum strain independently from its weight.



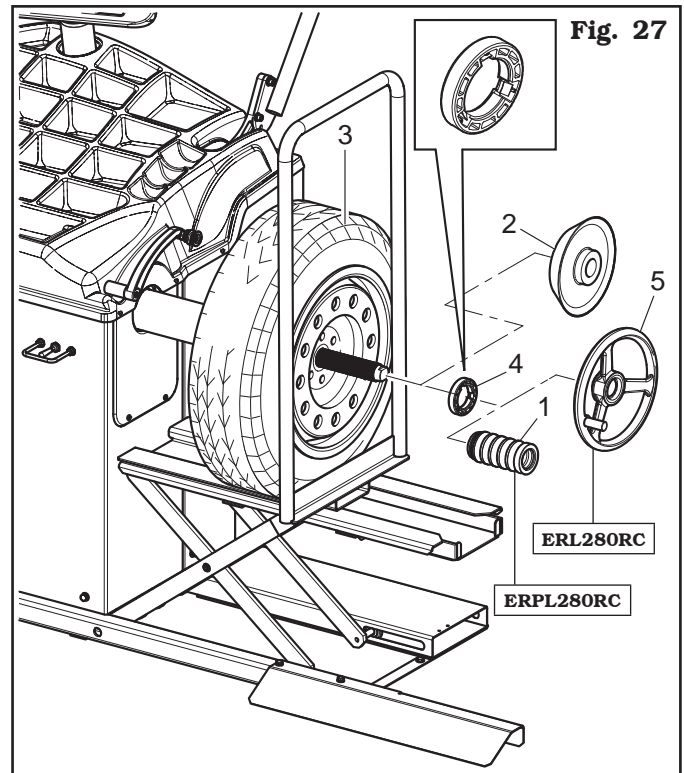
**ONCE THE WISHED HEIGHT HAS BEEN REACHED, RELEASE THE LIFTING DEVICE CONTROL.**

5. Move leftwards excluded from supply (**Fig. 26 ref. 1**).



**Fig. 26**

6. Fit the cone (**Fig. 27 ref. 2**) against the wheel (**Fig. 27 ref. 3**) to be balanced with the narrowest part against the wheel. The accessories should be selected according to the shape of the rim.
7. Fit the grip-ring (**Fig. 27 ref. 4**) in the hand-wheel nut (**Fig. 27 ref. 5**) (ERL280RC) or in the sleeve (**Fig. 27 ref. 1**) (ERPL280RC) and screw everything against the cone (**Fig. 27 ref. 2**).

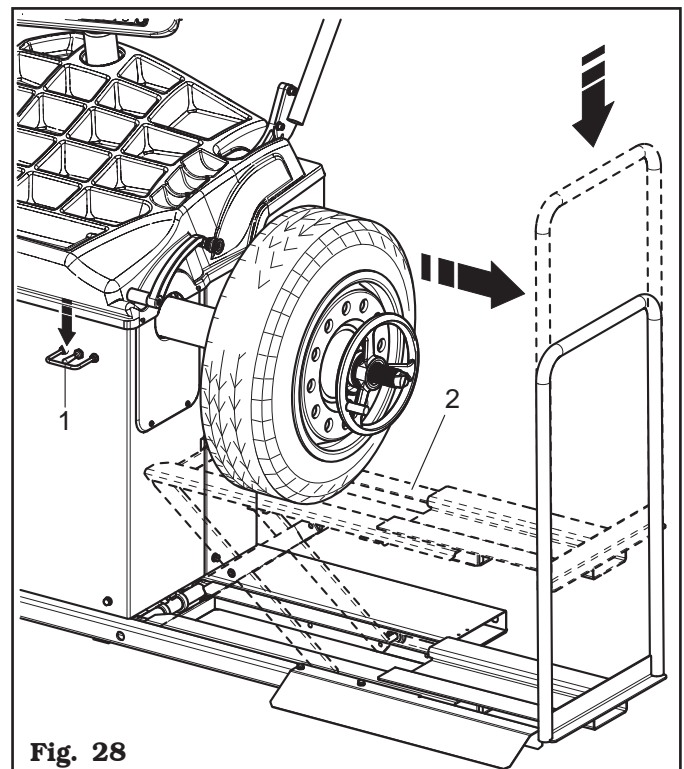


**Fig. 27**



**THE GRIP-RING (FIG. 27 REF. 4) MUST BE MOUNTED WITH THE TEETH SIDE TOWARDS THE RING-NUT (FIG. 27 REF. 5) OR THE SLEEVE (FIG. 27 REF. 1).**

8. Lower the lifting device control (**Fig. 28 ref. 1**) and then lower the footboard (**Fig. 28 ref. 2**).



**Fig. 28**

**Only for ERPL280RC model**

9. Close the pneumatic mandrel by pressing the special pedal, see **Fig. 25**).



**DURING MANDREL OPENING/CLOSING OPERATIONS, BE CAREFUL TO KEEP YOUR HANDS AND OTHER PARTS OF THE BODY AWAY FROM THE MANDREL.**

**Only for ERL280RC model**

10. As an alternative, use GAR344 (optional) and proceed as described below: mount the casing (**Fig. 29 ref. 1**) onto the protection cup (**Fig. 29 ref. 2**). Fit the grip-ring (**Fig. 29 ref. 3**) into locking ring nut (**Fig. 29 ref. 4**). Through the internal little levers (**Fig. 29 ref. 5**), loose the ring nut (**Fig. 29 ref. 4**) and approach it together with the casing (**Fig. 29 ref. 1**) and the cup (**Fig. 29 ref. 2**) to the cone (**Fig. 29 ref. 6**). Then, through the external levers (**Fig. 29 ref. 7**), turn the ring-nut (**Fig. 29 ref. 4**) until the complete clamping of GAR344 accessory onto the wheel (**Fig. 29 ref. 8**).

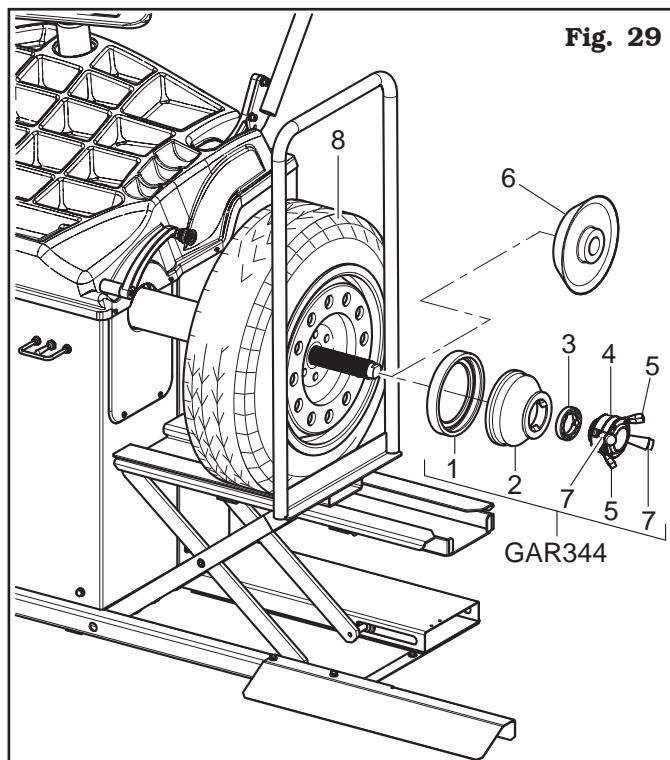


Fig. 29



**THE GRIP-RING (FIG. 29 REF. 3) MUST BE MOUNTED WITH THE TEETH OR DISCHARGE SIDE TOWARDS THE RING-NUT (FIG. 29 REF. 4).**

- 11 - Once these operations are over, (only if using GAR344), release the ring-nut (**Fig. 29 ref. 4**) through the external levers (**Fig. 29 ref. 7**) and then move it away from the cup (**Fig. 29 ref. 2**) by means of the small levers (**Fig. 29 ref. 5**).

**12.2 Demounting of the wheel**

1. Move leftwards the wheel support (**Fig. 30 ref. 1**) and bring the wheel support plane (**Fig. 30 ref. 5**) under the tyre (**Fig. 30 ref. 2**).
2. Lift the lifting device control (**Fig. 30 ref. 3**) and lift the footboard (**Fig. 30 ref. 4**) until the wheel bearing (**Fig. 30 ref. 5**) comes in contact with the tyre (**Fig. 30 ref. 2**).



**ONCE THE WISHED HEIGHT HAS BEEN REACHED, RELEASE THE LIFTING DEVICE CONTROL.**

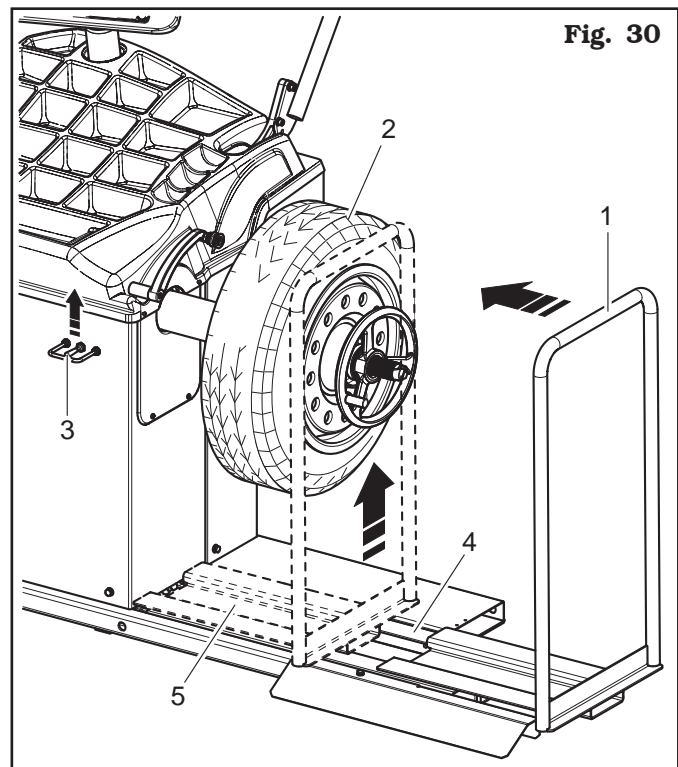
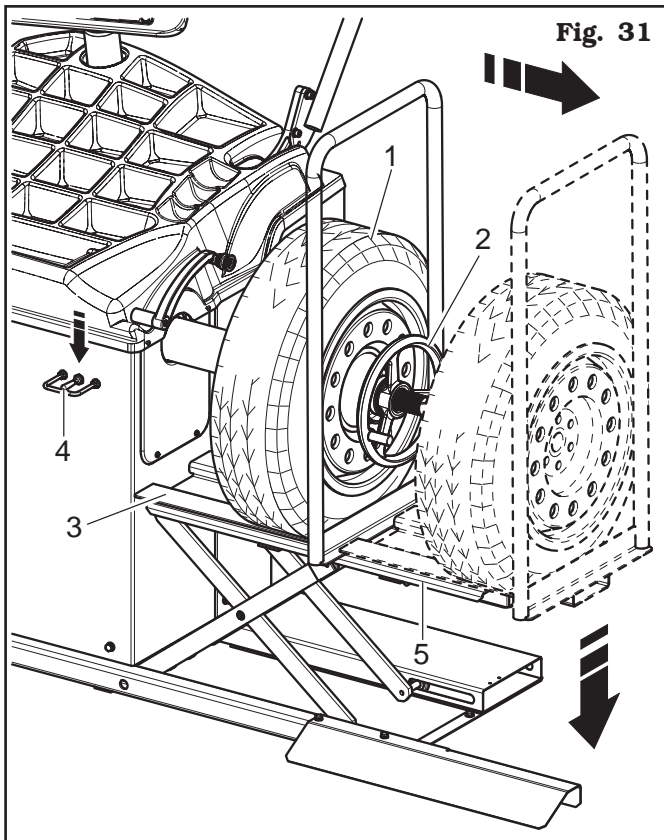


Fig. 30

3. Unlock the wheel (**Fig. 31 ref. 1**) engaged to the mandrel, removing the locking devices (**Fig. 31 ref. 2**).
4. Move rightwards the wheel support (**Fig. 31 ref. 3**) together with the tyre that is leaning against it.
5. Lower the lowering device control (**Fig. 31 ref. 4**) and then lower the footboard (**Fig. 31 ref. 5**).



**Fig. 31**

**Only for ERPL280RC model**

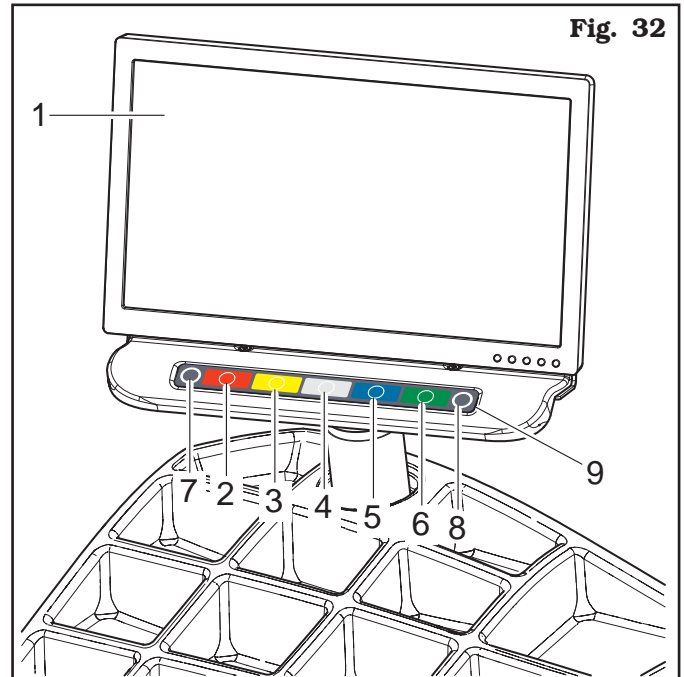
6. Open the pneumatic mandrel by pressing the special pedal, see **Fig. 25**.

**For all the models**

7. Remove the wheel from the lifting device.

**13.0 CONTROL PANEL**

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. 32**

**KEY**

- 1 - Monitor
- 2 - Function push button (red)
- 3 - Function push button (yellow)
- 4 - Function push button (grey)
- 5 - Function push button (blue)
- 6 - Function push button (green)
- 7 - Previous page push button
- 8 - Next page/print push button
- 9 - Push-button panel (push-button panel with 7 keys)

## 14.0 WHEEL BALANCING

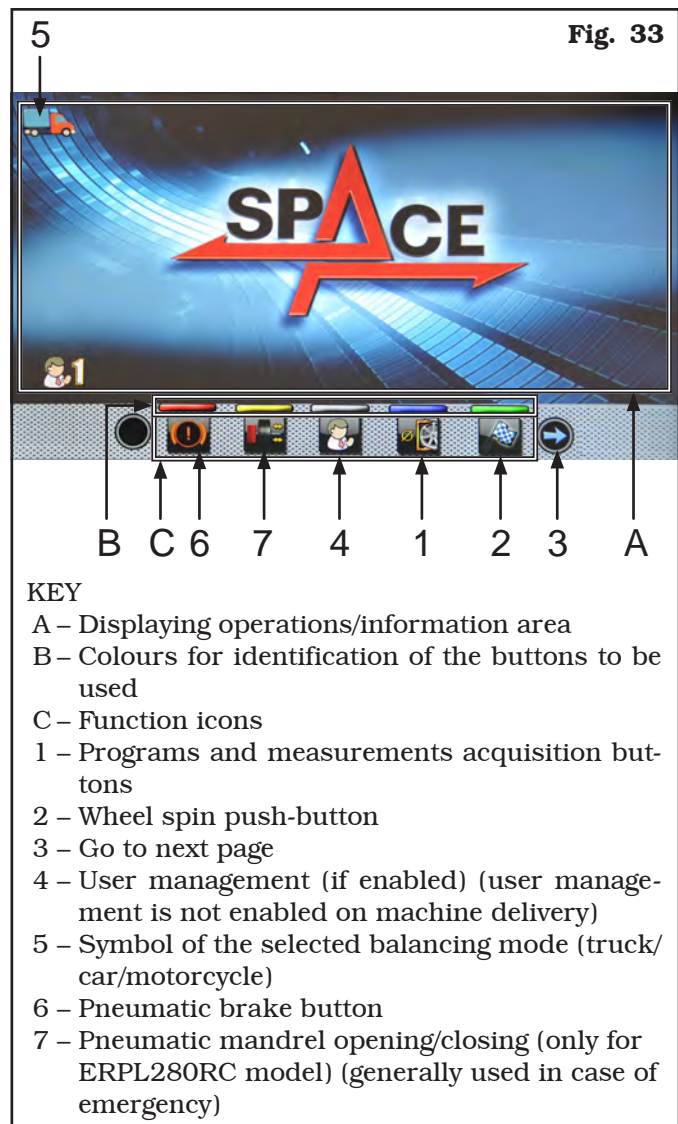
### 14.1 Switching the machine on and off

Press the "ON" switch (**Fig. 23 ref. 1**), located in the rear part of the equipment.




**IN THE CASE OF PNEUMATIC MODELS, ON STARTING, THE PNEUMATIC MANDREL IS ALWAYS OPENED. ALWAYS KEEP YOUR HANDS AND OTHER PARTS OF THE BODY AWAY FROM THE MOVING MANDREL. ALSO TAKE CARE IF A WHEEL IS ALREADY FITTED ON THE MANDREL, AS THIS COULD BE FORCED OFF THE SHAFT DURING THE OPENING OF THE MANDREL ITSELF.**


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.






At the bottom of the main screen and each screen described below, there will be coloured rectangles (**Fig. 33 ref. B**) located above the icons of identification function (**Fig. 33 ref. C**). These functions are activated by pressing the appropriate coloured button on the keypad (**Fig. 32 ref. 9**).



The symbol “” which appears on the screen on the first page indicates that the machine is in TRUCK

mode; the symbol “” on the other hand indicates



CAR mode and the symbol “” indicates MOTORCYCLE mode (**Fig. 33 ref. 5**).


Using the “TRUCK” mode  wheels can be balanced with a max static or dynamic unbalance of 1990 g (there is an automatic scale change from 990 g to 1990 g).




The indicated resolution is 50 g, however by pressing  the key  the unbalance can be displayed with a max resolution of 10 g.


 **FOR UNBALANCES FROM 40 G TO 100 G THE RESOLUTION IS ALWAYS 10 G; FOR UNBALANCES BELOW 40 G THIS IS NORMALLY INDICATED AS 0 G, HOWEVER BY PRESSING THE KEY  THE UNBALANCE IS DISPLAYED WITH MAX RESOLUTION OF 10 G.**

In "TRUCK" mode , the "MATCHING" procedure cannot be performed (Rim-tyre optimization) nor can All AUXILIARY functions be selected.

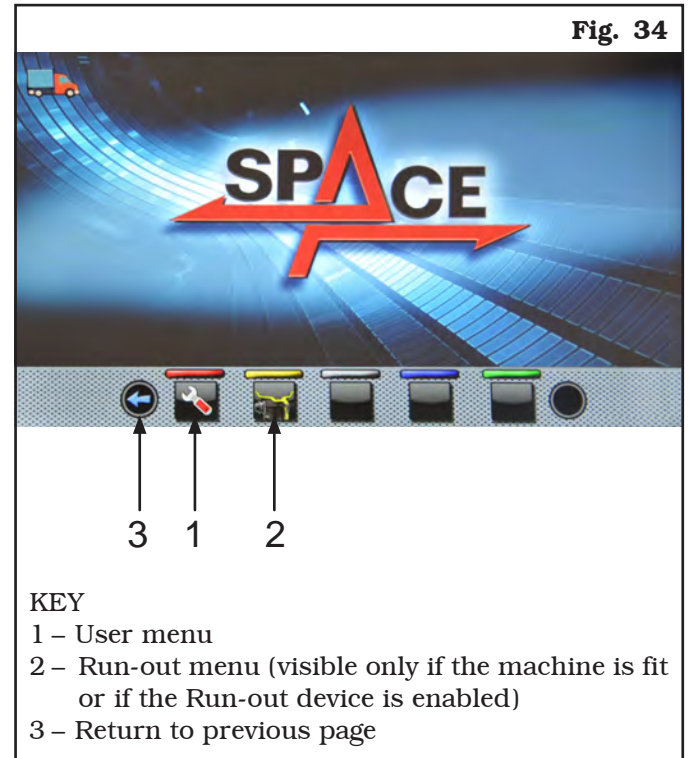
By using "CAR" mode  and "MOTORCYCLE" mode  wheels can be balanced with a max static or dynamic unbalance of 300 g.

The indicated resolution is 5 g, however by pressing the key  the unbalance can be displayed with a max resolution of 1 g.



In "CAR" mode  and "MOTO" mode  the "MATCHING" procedure (Rim-tyre optimization), "SPLIT" procedure and WEIGHTS HIDDEN BEHIND SPOKES mode. ALL AUXILIARY functions and ECO-WEIGHT mode can also be selected in "CAR" mode  only.

 **IN ORDER TO FIT CAR WHEELS ON THE BALANCER SHAFT, THE SPECIFIC CONES AND RING NUTS WILL BE REQUIRED SUPPLIED SEPARATELY AS ACCESSORIES.**

Press the button (**Fig. 33 ref. 3**) to display a second page where you can access the "Technical assistance" menu and the "Run-out" menu (see **Fig. 34**).





In order to turn off the machine, simply press the "OFF" switch (**Fig. 23 ref. 1**).

 **WHEN THE EQUIPMENT IS TURNED OFF LOSES ALL THE MEASUREMENTS AND THE STORED DATA (SIZE, SPINS, USERS, ETC ...). AT RESTARTING, PRESSING THE BUTTON  (IN THE CASE HAVE NOT YET BEEN STORED ON THE NEW MEASURES AFTER THE SWITCHING ON), THE MACHINE DOES NOT PERFORM ANY OPERATION.**




### 14.1.1 Setting of balancing modes

To set the type of balancing TRUCK/CAR/MOTORCYCLE proceed as follows:

- From the "Home" page press push button  (Fig. 33 ref. 1). On the screen that appears, press the button  to switch to measuring mode selection screen below.



- Press the button  to switch to programs and car measurements acquisition selection screen below.

Press  to confirm.




- Press the button  to switch to programs and motorcycle measurements acquisition selection screen below.

Press  to confirm.




Press key  to return to truck mode.

Press  to confirm.

### 14.2 Balancing programs setting

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

- through the gauge arm (rapid setting);
- through "Measurement being acquired" screen, ap-

pearing when the  button is pressed (Fig. 33 ref. 1).

The setting modes are completely different even if they allow to reach the same result (but with different times).

#### 14.2.1 Programs rapid setting and measurements through distance-diameter caliper arm

The use of the distance-diameter caliper arm allows the rapid automatic wheel balancing program and the measures entry. From page "Home":

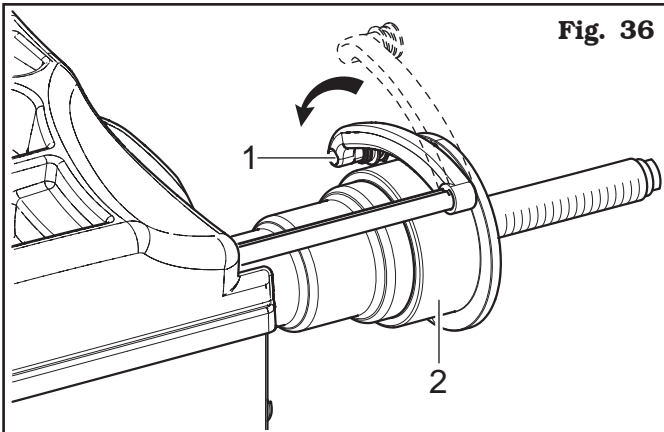
- bring into contact the weights fitting gripper with the inner part of the rim (1 contact only) to select the program "STATIC" (see Fig. 35).



Fig. 35



REPEATEDLY BRINGING THE GAUGE'S ARM (FIG. 36 REF. 1) IN CONTACT WITH THE MANDREL (FIG. 36 REF. 2), THE PROGRAM WILL CYCLE FROM "STATIC" TO "STATIC 1" TO "2 STATIC" THEN RETURNING TO THE BEGINNING.



**Fig. 36**

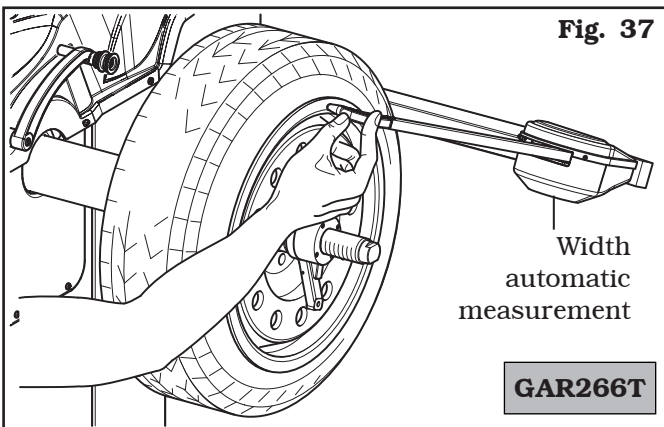
- bring into contact the weights fitting gripper with the inner part of the rim (2 contact points) (see Fig. Fig. 35) to select "ALU-S" program.



**REPEATEDLY BRINGING THE GAUGE'S ARM (FIG. 36 REF. 1) IN CONTACT WITH THE MANDREL (FIG. 36 REF. 2), THE PROGRAM WILL CYCLE FROM "ALU-S" TO "ALU-S1" TO "ALU-S2" THEN RETURNING TO THE BEGINNING.**



**WHENEVER THE DISTANCE-DIAMETER CALIPER AND/OR THE EXTERNAL DATA GAUGE (GAR266T, SEE FIG. 37, IF ANY) IS KEPT IN POSITION FOR A FEW SECONDS AGAINST THE RIM (UNTIL THE MACHINE MAKES AN APPROPRIATE SOUND NOTIFICATION), THE POSITION IS STORED AND THE VALUES MEASURED IN THE PRE-ARRANGED FIELDS IN THE SELECTED WHEEL BALANCING PROGRAM ARE LOADED.**



**Fig. 37**

**GAR266T**


- After entering all the required measures, you can spin

the wheel by pressing the button  and closing the protective guard.

### **14.2.2 Run-out measuring procedure of (lateral inner side) with the distance-diameter caliper arm**

The RUN-OUT device is useful to check if the rim has some imperfections. To access the screen to choose the rim control mode, proceed as follows:

- from the "Home" page, press the button 

(Fig. 38 re. 1) and then the button  (see Fig. 39 ref. 1).

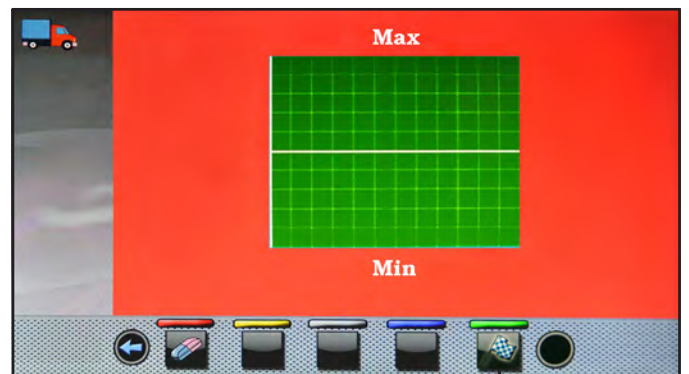


**Fig. 38**



**Fig. 39**

- On the display the next screen page will be displayed:



**Fig. 40**

Place the distance-diameter caliper grippers (**Fig. 41 ref. 1**) on the inner side of the rim, as shown in **Fig. 41**.



Press the green button (**Fig. 40 ref. 1**) to start the rim analysis procedure.

The circle starts to spin at low speed (30 rpm) and at the end of the measurement the eccentricity graph appears, as shown in the **Fig. 42**.

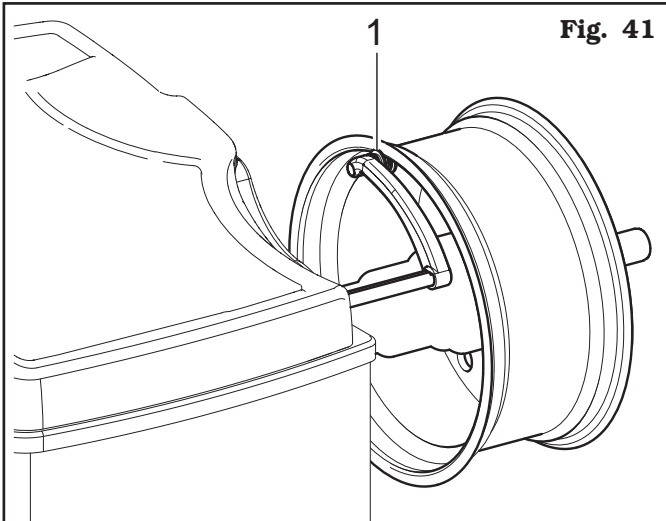


Fig. 41

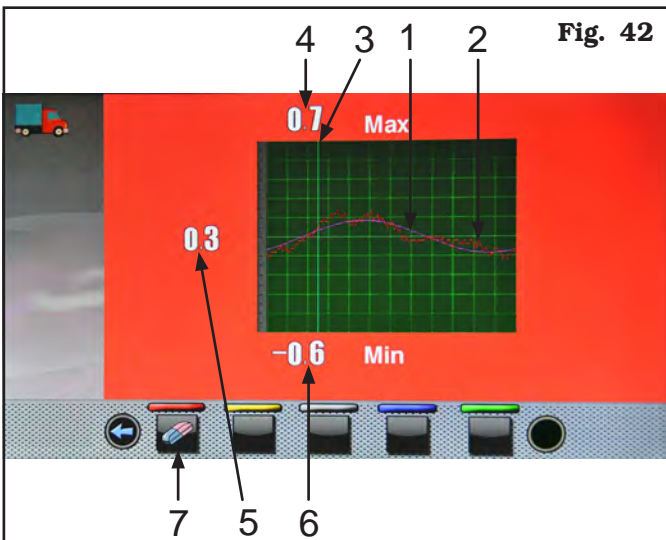


Fig. 42

## KEY

- 1 – Fundamental sine wave (fuchsia-coloured-graph)
- 2 – Graph of detected eccentricity (red)
- 3 – Slider that indicates the current position of the rim ("12 o'clock") (green)
- 4 – Value in mm of the highest peak of imperfection detected on the rim
- 5 – Value in mm of imperfection of the rim at the current position
- 6 – Value in mm of the lowest peak of imperfection detected on the rim
- 7 – Graph deleting button

The red graph (**Fig. 42 ref. 2**) represents exactly the geometric shape of the rim. The more the circle is round and linear, the more the graph is flat, unlike the more the circle has deficiencies, the more the graph is large.

You can follow the eccentricity in the graph by manually turning the rim, the green-coloured-slider (**Fig. 42 ref. 3**), indicates the position of the rim in "12 o'clock" position.

### 14.2.3 Correct positioning of the device during Run-out detection (Optional)

To make sure that the rim/tyre "Run-out" detection is correct, place the device as shown in **Fig. 43**: place the measurement sensor so that it is turned to the tyre centre line.

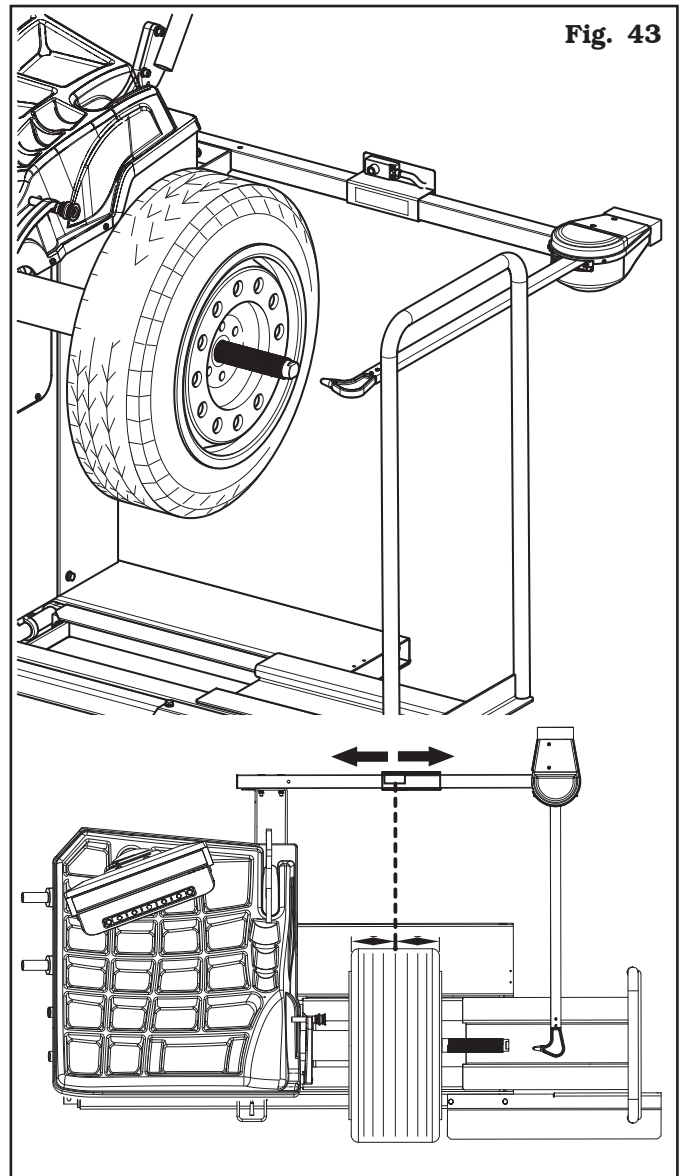






Fig. 43

**14.2.4 Programs setting through "Measurement being acquired" screen page**



From the "Home" page, press the  (Fig. 23 ref. 1) button to display the "Measurement being acquired" screen below:





**PRESS THE BUTTON  (Fig. 23 ref. 1) TO DISABLE AUTOMATIC FUNCTION OF THE DISTANCE-DIAMETER CALIPER ARM WHEEL BALANCING SELECTION, DESCRIBED IN PAR. 14.2.1. TO BE ABLE TO REUSE THE AUTOMATIC FUNCTION TO SELECT THE WHEEL BALANCING PROGRAM WITH GAUGE ARM, IT IS NECESSARY TO RETURN TO "HOME" PAGE, BY PRESSING THE  BUTTON.**

The selection of the wheel balancing program is possible in 2 ways:



- with highlighted program (blue colour) by pressing the  or  until you see the desired program. With this mode the 7 standard programs can be selected (DYN, ALU-S, ALU-S1, ALU-S2, STAT, STAT-1, STAT-2). After selecting the wished program, take the measurements.





**IF THE PROGRAM NAME IS NOT HIGHLIGHTED (BLUE), PRESS THE BUTTON  REPEATEDLY UNTIL THE ABOVE CONDITION IS REACHED.**

- Press the button  to display the following programs selection screen page:




Use the arrows  and/or  to select the wished mode (blue). With this mode you can select the 7 standard programs (listed before).

After selecting the wished program press  to confirm the choice.



**AFTER YOU HAVE SELECTED THE DESIRED PROGRAM, USE THE DISTANCE-DIAMETER CALIPER TO DETECT THE MEASURES REQUIRED BY THE PROGRAM.**

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

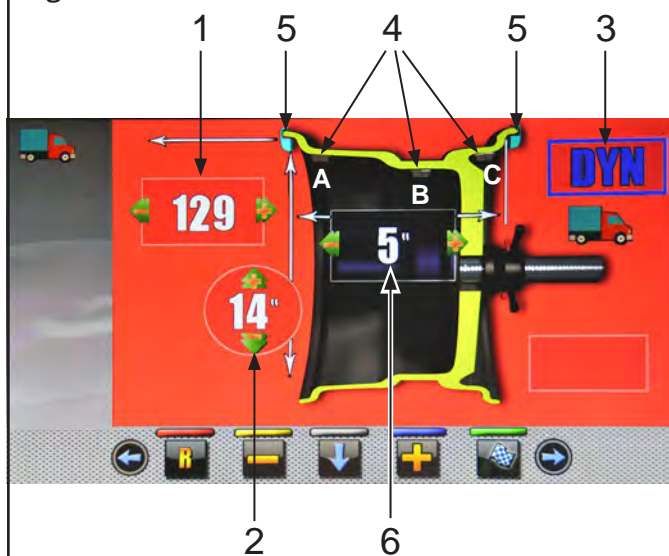
### 14.3 Indicative display of points where to detect measures/to fit weight



IT IS VERY IMPORTANT TO REMEMBER THE POINTS SELECTED FOR MEASUREMENT INSIDE THE RIM SINCE DURING THE WEIGHTS FITTING WITH FIXED LASER YOU WILL NOT HAVE ANY OTHER REFERENCE EXCEPT FOR THE CROSS LINE ON THE RIM, GENERATED BY THE LASER ITSELF. THE POSITIONING IN DEPTH WILL BE AT THE DISCRETION OF THE OPERATOR.

Depending on the type of program selected, the machine shows on the monitor the guideline points where to take measures and, consequently, where you must apply weights (**Fig. 44 ref. 4-5**).

Fig. 44



#### KEY

- 1 - 1<sup>st</sup> weight fitting point distance
- 2 - Rim diameter
- 3 - Balancing mode
- 4A-B - Point at which to take the measure/adhesive weight fitting
- 4C - Point where fitting the adhesive weight
- 5 - Point at which to take the measure/clip weight fitting
- 6 - Rim width



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

### 14.3.1 Weights positioning

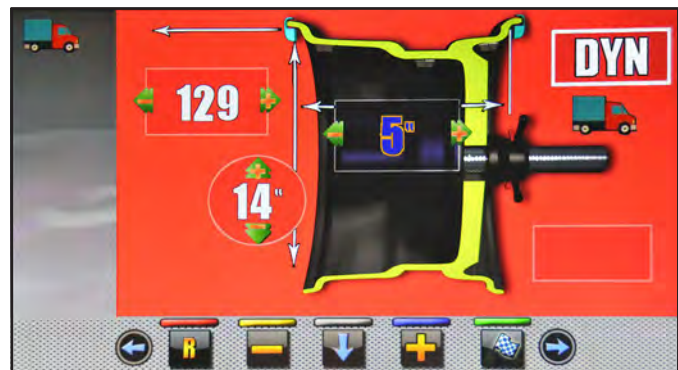
The monitor displays when it is absolutely necessary that the weight is applied at "12 o'clock" position. Pay particular attention to the content of the weights identification icons since if the following words **H 12** are displayed, then the icon corresponding weight has to be applied at "12 o'clock" position (typical of ALU-S1, ALU-S2 programs).





IF ALL MEASURES REQUIRED BY THE PROGRAM HAVE NOT BEEN TAKEN/INSERTED, THE MACHINE DOES NOT ALLOW THE WHEEL SPIN TO DETECT THE UNBALANCE.

### 14.4 Displaying the active/modifiable field

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



Pressing the buttons  or  you can change the value and/or program inside the active field. To change the selected active field, simply press the button

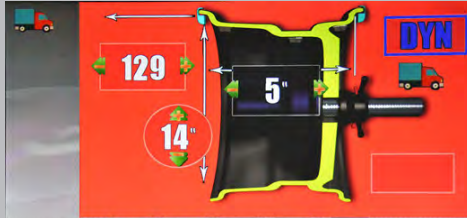


until the desired field is coloured blue.

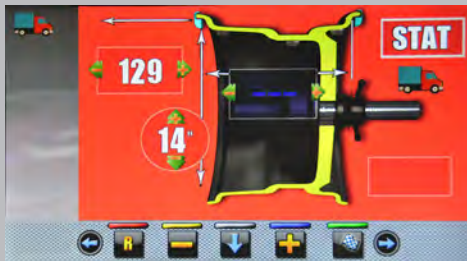


THE SELECTION OF THE ACTIVE FIELD IS DONE BY HIGHLIGHTING THE FIELDS IN A CLOCKWISE DIRECTION.

**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.**



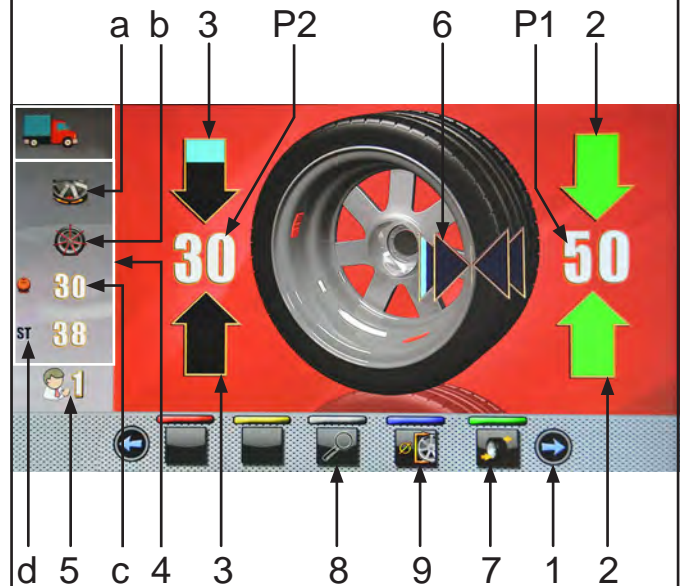
**THIS CASE WILL OCCUR ONLY IF FROM "HOME" PAGE IS DETECTED ONLY ONE MEASUREMENT INSIDE THE RIM. THE PROGRAM WILL AUTOMATICALLY SET TO "STATIC" BUT IT WILL MAKE IT POSSIBLE (IN CASE OF ABSENCE OF EXTERNAL DATA GAUGE) TO MANUALLY ENTER RIM WIDTH AND TO QUICKLY SWITCH TO THE PROGRAM "DYNAMIC".**




### **14.5 Wheel balancing screen 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. 45**



**KEY**

- 1 - By pressing the button  you will see the following page where you can select one of the programs suggested by the machine.
- 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 (arrows both green)
- 3 - Wheel not placed to fit the weight on wheel inner side (blue/black arrows)
- 4 - Wheel balancing suggestions
- 4a - SPLIT Program (clip weights program) or MATCHING Program (only in CAR and MOTORCYCLE mode).
- 4b - SPOKES Program (program with adhesive weights)
- 4c - ECO-WEIGHT Program with weight value to be fitted (if the value is of blue, the machine advises not to use it) (only in CAR and MOTORCYCLE mode).
- 4d - STATIC Program (\*)
- 5 - N° user (if selected)
- 6 - Arrows indicating the weight fitting point with distance-diameter caliper arm
- 7 - Wheel repositioning button for weights fitting
- 8 - Display the actual weight
- 9 - Programs and measurements acquisition buttons


(\*) To enter STATIC program press key **ref. 9**,

select "STATIC" and press key  (recalculation)



**IF THE GUARD AND REPOSITIONING FUNCTION ARE DISABLED, ON (FIG. 45 REF. 7) BUTTON YOU**



**WILL SEE THE ICON  THAT WILL ALLOW THE WHEEL SPIN WITHOUT RETURNING TO THE PREVIOUS PAGE. THE POSITIONING OF THE WHEEL FOR THE APPLICATION OF THE WEIGHTS MUST BE DONE MANUALLY." data-bbox="151 496 450 595"/>**

### 14.5.1 Balancing mode

The machine has the ability to perform the wheel balancing (weights fitting) in 3 different ways:

- using the distance-diameter caliper arm with weights fitting grippers;
- using the laser at "6 o'clock" (Optional);
- weights fitting at "6 o'clock" (without the use of lasers).

- **Weights fitting with distance-diameter caliper arm.**

1. Place the adhesive weight on the arm grippers.

Fit the adhesive weight in the pliers of the gauge rod




2. Pull out the gauge until the arrows (**Fig. 45 ref. 6**) both turn green.
3. Rotate the gauge arm until the weight touches the rim.

Fit weight on the position where pliers touches the wheel






4. Bring the distance-diameter caliper arm into resting position.




5. Press the  button to change the weight fitting side.
6. Proceed in the same way as described in points 1-2-3.

• **Weights fitting with laser (at "6 o'clock") (Optional).**



 ON DELIVERY THE MACHINE (IF PRE-SET WITH FIXED LASER) IS SET WITH THE CORRESPONDING OPTION DESELECTED. TO USE THIS MODE, IT IS NECESSARY THAT THE RELEVANT FUNCTION IS ENABLED  ON THE MENU "OPTIONS" DESCRIBED IN PAR. 15.1.


 TO USE THIS WEIGHT APPLICATION MODE THE OPERATOR MUST REMEMBER THE PRECISE POINT WHERE THE MEASUREMENT WAS TAKEN WITH THE DISTANCE-DIAMETER CALIPER ARM.


At the end of the spin, on the rim at "6 hours" is displayed a laser beam (blade) indicating the axis on which to apply the weight. The positioning of the weight (s) in depth shall be at the discretion of the operator, depending on where remembers taking the measure.

 **BE SURE TO APPLY THE (INTERNAL OR EXTERNAL) WEIGHT AS INDICATED BY THE 2 GREEN ARROWS (Fig. 45 ref. 2 or 3) ON THE CORRESPONDING MONITOR SCREEN.**


• **Weights fitting at "6 o'clock" (without the use of lasers).**

 TO USE THIS MODE, IT IS NECESSARY THAT THE RELEVANT FUNCTION IS ENABLED  ON THE MENU "OPTIONS" DESCRIBED IN PAR. 15.1.

 TO USE THIS WEIGHT APPLICATION MODE THE OPERATOR MUST REMEMBER THE PRECISE POINT WHERE THE MEASUREMENT WAS TAKEN WITH THE DISTANCE-DIAMETER CALIPER ARM.

 USING THIS MODE, THE MACHINE ALLOWS YOU TO APPLY ANY ADHESIVE WEIGHTS THAT WOULD BE APPLIED TO "12 HOURS" TO "6 O'CLOCK". IF, AFTER YOU ENABLE THIS MODE, ON BALANCING PROGRAM APPEARED AGAIN THE **H12** ICON (ONLY IN THIS CASE) THE ADHESIVE WEIGHT WILL BE APPLIED TO "12 HOURS".

At the end of the spin, the wheel stops in place to apply the weight at "6 o'clock". The positioning of the weight (s) in depth shall be at the discretion of the operator, depending on where remembers taking the measure.

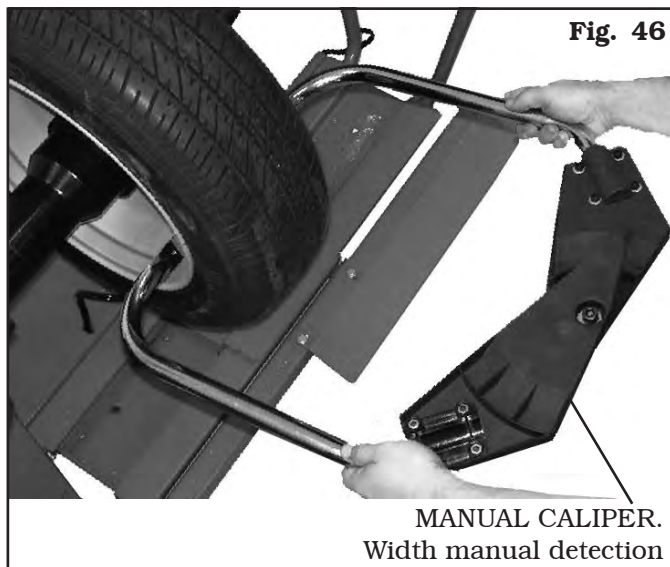
 **BE SURE TO APPLY THE WEIGHT (INTERNAL OR EXTERNAL) AS INDICATED BY THE 2 GREEN ARROWS (Fig. 45 ref. 2 or 3) ON THE CORRESPONDING MONITOR SCREEN.**



### 14.6 Use of machines with disabled automatic gauge

The entry of diameter, width and distance measures of the machine rim must be performed manually. The reading of these measures can be made as follows:

- visual readout on caliper graduated scale (distance);
- values readout on rim (diameter and width);
- width value detection with manual caliper (width) (see Fig. 46).



#### 14.6.1 Manual setting of wheel dimensions

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

- from the desired measurement mode screen, press



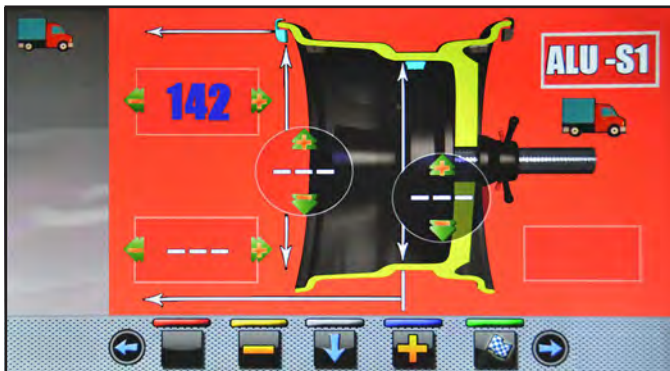
the button until highlighting with blue the field to modify/edit;



- press the buttons until reaching the desired value;



- press button to shift to the next value.

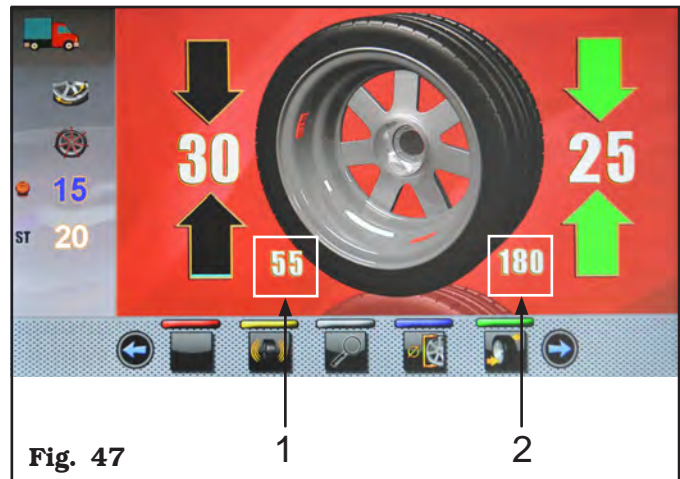


After entering all the required measures, you can spin



the wheel by pressing the button and closing the protective guard.

**NOTE:** if the distance-diameter caliper is disabled, the displayed page for detected unbalance is as follows:



In this screen page, in addition to the information of the detected unbalance, there are measurements in mm where you must remove the gauge arm (Fig. 47 ref. 1-2) to apply the weights inside the rim.

### 14.7 Standard balancing programs

#### 14.7.1 Static

##### Valid for truck/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 Par. 14.2.1 or 14.6.1) and proceed as described in Par. 14.5.

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



The procedure has now been completed.

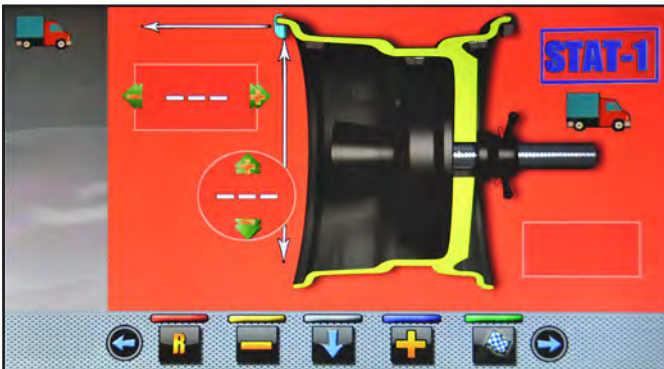
### 14.7.2 Static-1

**Valid for truck/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 Par. 14.2.1 or 14.6.1) and proceed as described in Par. 14.5 "Dynamic balancing" (only for wheel inner side).

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



The procedure has now been completed.

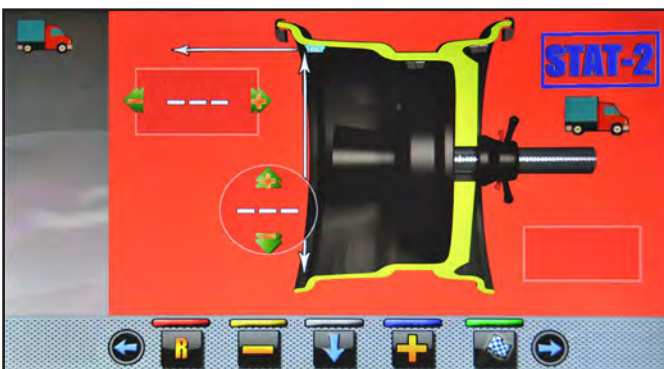
### 14.7.3 Static-2

**Valid for truck/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 Par. 14.2.1 or 14.6.1) and proceed as described in Par. 14.5 "Dynamic balancing" (only for wheel inner side).

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



The procedure has now been completed.

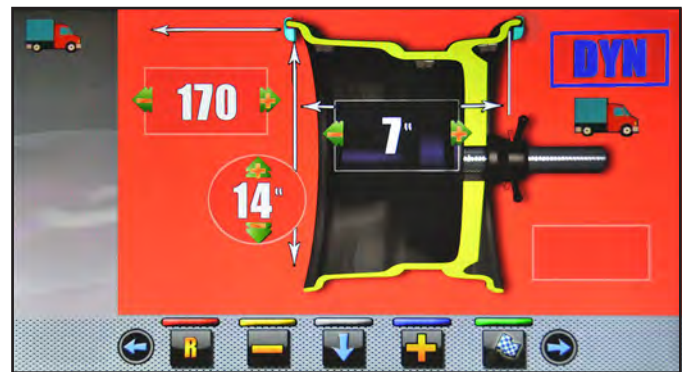
### 14.7.4 Dynamic

**Valid for truck/car/motorcycle**

The DYNAMIC program allows the wheels balancing by fitting two clip weights in "12 o'clock" position: one on the outside and one on the inside rim. It is possible to enter the measurements in two ways:

- with distance and diameter caliper and outer width feeler pin. If the feeler pin is missing, enter the measurement manually (see **Fig. 46**);
- follow the procedure in Par. 14.6.1 and proceed as described in Par. 14.5.

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



The procedure has now been completed.

### 14.7.5 ALU-S

**Valid for truck/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 Par. 14.2.1 or 14.6.1) and proceed as described in Par. 14.5.

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



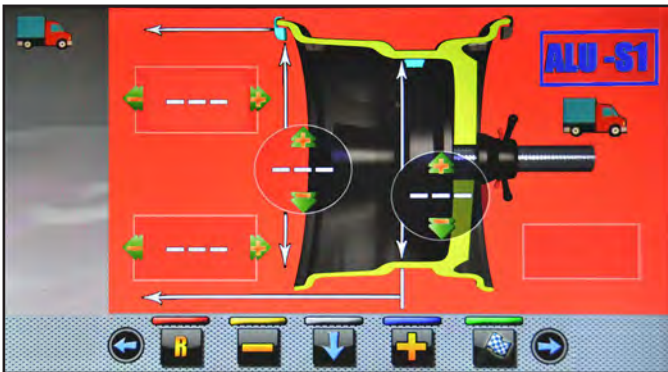
The procedure has now been completed.

**14.7.6 ALU-S1****Valid for truck/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 Par. 14.2.1 or 14.6.1) and proceed as described in Par. 14.5 (the inner weight is with clip).

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



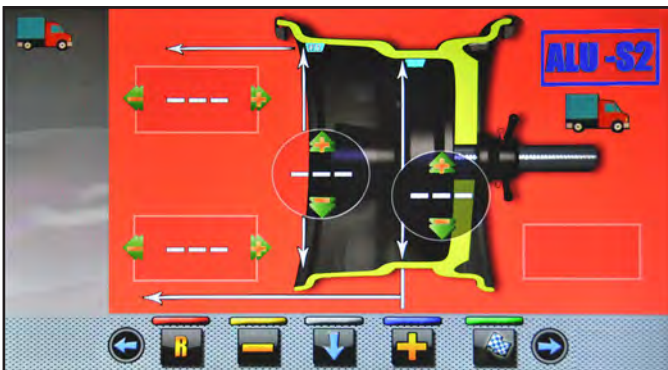
The procedure has now been completed.

**14.7.7 ALU-S2****Valid for truck/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 Par. 14.2.1 or 14.6.1) and proceed as described in Par. 14.5.

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



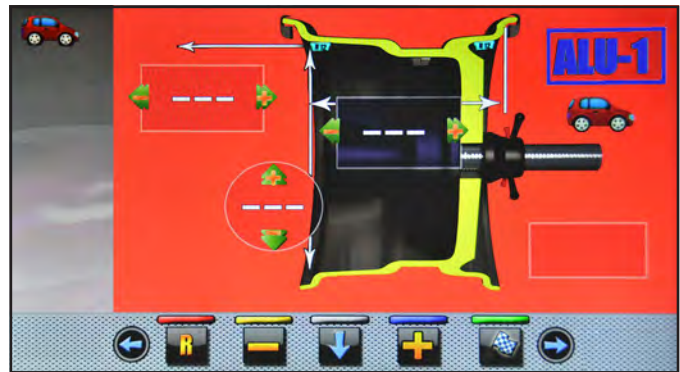
The procedure has now been completed.

**14.7.8 ALU-1****Valid for 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 Par. 14.2.1 or 14.6.1) and proceed as described in Par. 14.5.

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

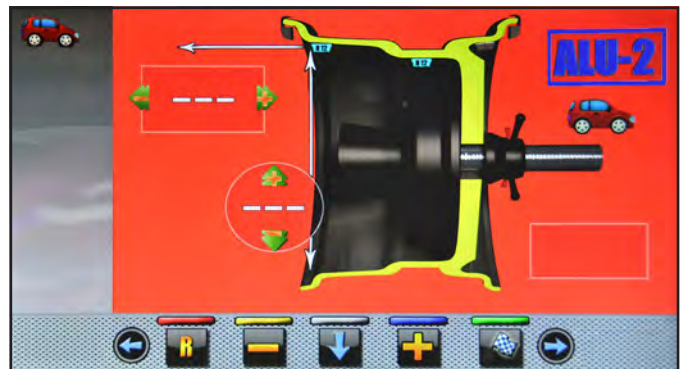


The procedure has now been completed.

**14.7.9 ALU-2****Valid for 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 Par. 14.2.1 or 14.6.1) and proceed as for dynamic unbalance.

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



The procedure has now been completed.

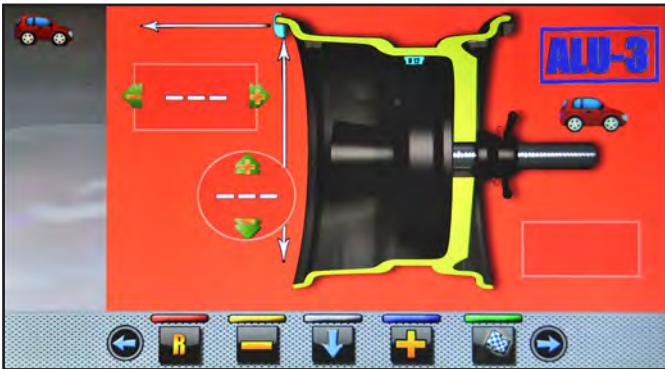
### 14.7.10 ALU-3

**Valid for 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 Par. 14.2.1 or 14.6.1) and proceed as for dynamic unbalance.

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



The procedure has now been completed.

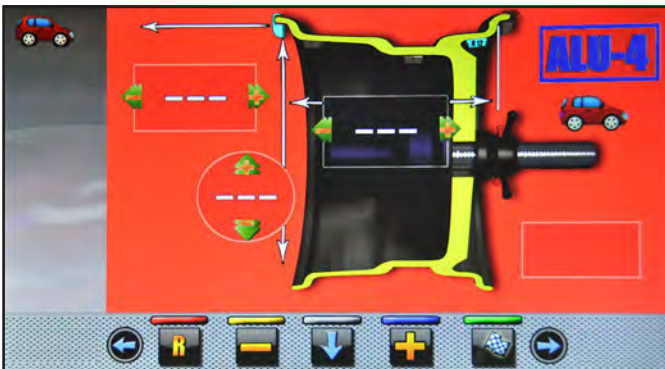
### 14.7.11 ALU-4

**Valid for 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 Par. 14.2.1 or 14.6.1) and proceed as for dynamic unbalance.

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



The procedure has now been completed.

## 14.8 Optional balancing programs

### 14.8.1 ECO-WEIGHT mode

**Valid for car/motorcycle**



**TO USE THE ECO-WEIGHT PROCEDURE IT IS NECESSARY THAT THE DISTANCE-DIAMETER CALIPER ARM IS ENABLED IN THE "OPTIONS" MENU DESCRIBED IN PAR. 15.1.**



**THE ECO-WEIGHT PROCEDURE CAN ONLY BE USED WITH THE PROGRAM ALU-S.**

This procedure represents a modern system for the reset of the unbalance in order to reduce weights consumption. This procedure ensures a fastest execution of the operations, thanks to a lesser number of spins and repositioning.

After making the wheel spin in ALU-S mode, the monitor shows the total of 2 adhesive weights to precisely correct STATIC and DYNAMIC unbalance.




It is possible to fit a single weight at a predetermined distance from the machine, so as to optimize the weight consumption and reduce both the DYNAMIC and any remaining STATIC unbalance as much as possible. Unlike the standard STATIC procedure, the ECO-WEIGHT procedure, though only using one weight, also considerably reduces the DYNAMIC unbalance, because the fitting distance of the weight on the rim is also calculated.

From ALU-S unbalance results page, if there is con-

siderable static unbalance, press the button  to display on the following monitor screen:



Press button  to select such procedure and bring automatically the wheel into weight fitting position.

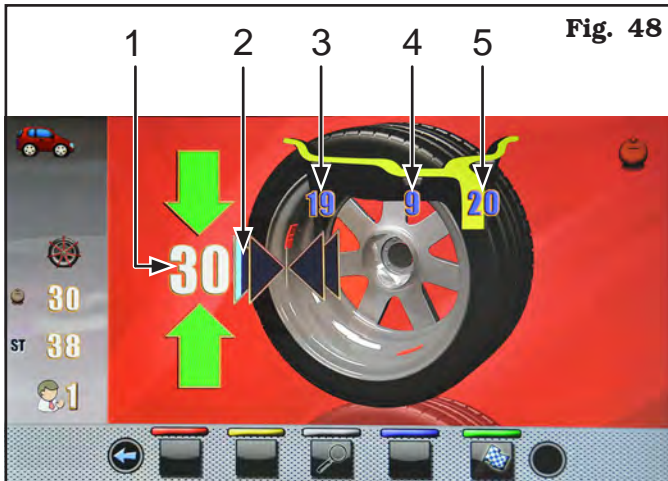


Fig. 48

## KEY

- 1 – Only weight to be fitted
- 2 – Arrows indicating the weight fitting point with distance-diameter caliper arm
- 3 – Residual dynamic unbalance value (if the value is blue it is not to carry out ECO-WEIGHT procedure)
- 4 – Static unbalance value (if the value is blue it is not to carry out ECO-WEIGHT procedure)
- 5 – Residual dynamic unbalance value (if the value is blue it is not to carry out ECO-WEIGHT procedure)

Insert the adhesive weight inside pliers as shown in Fig. 49.

Fig. 49 Fit the adhesive weight in the pliers of the gauge rod



Pull out the gauge rod until the arrows (Fig. 48 ref. 2) turn green.

Fit weight on the position where pliers touches the wheel

Fig. 50



At the end of the procedure, the wheel balancing conditions can be checked by performing a trial spin. The ECO-WEIGHT procedure has now been completed.



**IMMEDIATELY AFTER HAVING SELECTED THE ECO-WEIGHT PROCEDURE, YOU CAN KNOW IN ADVANCE THE TWO DYNAMIC UNBALANCES AND THE STATIC RESIDUE IN ORDER TO DECIDE WHETHER IT IS CONVENIENT TO CONTINUE (SEE FIG. 48).**

**IF BOTH DYNAMIC UNBALANCES AND STATIC RESIDUE ARE SHOWN AS WHITE VALUES ON THE MONITOR, THIS MEANS THAT THE PROGRAM HAS DECIDED THAT IT IS BETTER TO CONTINUE. WHILE IF, ON THE OTHER HAND, ONE OR MORE VALUES ARE BLUE, THE PROGRAM SUGGESTS USING THE STANDARD ALU-S PROCEDURE.**



**PRESS BUTTON . THE TWO RESIDUAL DYNAMIC UNBALANCES WILL BE DISPLAYED ON MONITOR.**

**PRESS THE BUTTON ONCE TO DISPLAY FIG. 48.**

**PLACE THE WEIGHT WHERE REQUIRED AND AND SPIN AGAIN.**

### **14.8.2 SPLIT mode**

#### **Valid for trucks/car/motorcycle**

The SPLIT procedure proves useful when the dynamic unbalance of a wheel is fairly high, for instance a 100 g weight. It's possible then to correct the unbalance dividing the amount of weight into two weights of smaller size.

Split procedure eliminates errors by using "DYNAMIC" program, for example by manually fitting two 50 g weights close to one another, instead of only a 100 gr one.

#### **For example:**

100 g WEIGHT TO BE FITTED TO CORRECT UNBALANCE



TWO SMALLER WEIGHTS (50g) FITTED MANUALLY




TWO SMALLER WEIGHTS (55g)  
BY SPLIT PROCEDURE




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



Once detected the unbalance values, verify that the machine displays the ability to use the "SPLIT" option



(Fig. 45 ref. 4a). Press button  to shift to the next screen page.



Press button  to enter "SPLIT" function. On the monitor screen will be displayed where you must enter the value of the weights to be fitted.



Press button  to select the outer weight to edit.

Press buttons  or  to increase or decrease the total weight to be fitted.



**THE BLUE VALUE INDICATES WHICH VALUE IS ACTIVE AND YOU ARE EDITING.**



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


After choosing the value of the weights to be fitted,

press button  to position the wheel for the application of the 1st clip weight.




**THE TWO GREEN ARROWS INDICATE THAT THE WHEEL IS PROPERLY POSITIONED FOR THE APPLICATION OF THE 1ST WEIGHT.**

Fit the clip weight of the chosen value at 12 o'clock on

the outside of the wheel. Press again button  to position the wheel for the fitting of the 2<sup>nd</sup> clip weight.



Fit the clip weight of the chosen value at 12 o'clock

on the outside of the wheel. Press button  to highlight the value of the weights to be fitted on the inside of the wheel.



Repeat the above steps for the weights to be fitted inside the wheel.

At the end perform again a checking spin to see that you have applied the weights correctly.

### 14.8.3 Weights hidden behind spokes mode

**Valid for trucks/car/motorcycle**

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 Static mode.


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



Once detected the unbalance values, verify that the machine displays the ability to use the "SPOKES" op-

tions (**Fig. 45 ref. 4b**). Press button  to shift to the next screen page.



Press button  to enter the relevant function. On the monitor the next screen page will be displayed:





Bring any spoke upwards at "12 o'clock" position and



press the button to confirm and continue.



Lead to "12 hours" the 2nd spoke. The machine will automatically calculate the total number of spokes. If the value shown on the screen (A) is correct, press the



button

The machine automatically calculates weight position in two positions hidden behind the spokes. The monitor shows the amount of weight to be applied behind the FIRST spoke and the rim will reach the position to apply the FIRST weight.



Extract the gauge rod, and fit the FIRST weight in the position shown by the machine, as explained in



Par. 14.5.1. Press the button to confirm that they have applied the FIRST weight and to automatically position the wheel for the fitting of the 2nd weight. The monitor shows the amount of weight to be applied behind the SECOND spoke.

Pull out the gauge rod and fit the SECOND weight in the position shown by the machine, as done for the first weight.



Press the button to confirm that you have applied the SECOND weight and get back to the initial situation of unbalance, before performing the "weights hidden behind the spokes" procedure

Perform another test spin. The "weights hidden behind spokes" procedure is completed.

Complete the operation by adding an additional weight inside the rim as required by the selected mode (ALU-S or STATIC).

#### 14.8.4 Matching mode

##### Valid for car/motorcycle

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 tyre unbalance with that of the rim in any used program.

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



**THE MATCHING PROCEDURE CAN BE CARRIED OUT ONLY IF THE STATIC UNBALANCE IS > 30 G.**



Once detected the unbalance values, verify that the machine displays the ability to use the "MATCHING" options (Fig. 45 ref. 4a).



Press button to shift to the next screen page.

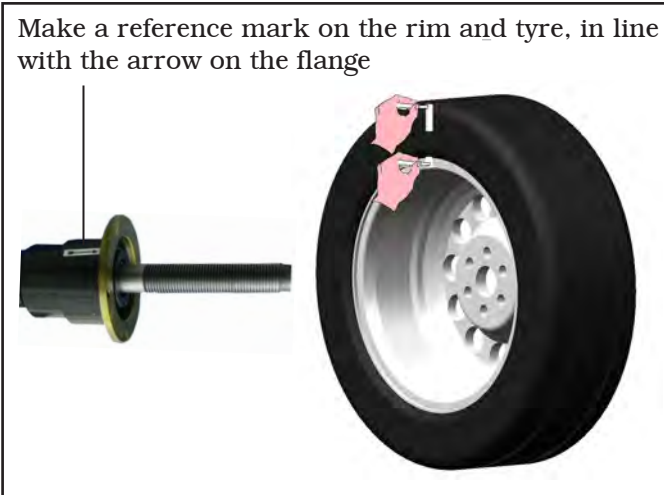



Press button to enter the relevant function.

On the monitor the next screen page will be displayed:



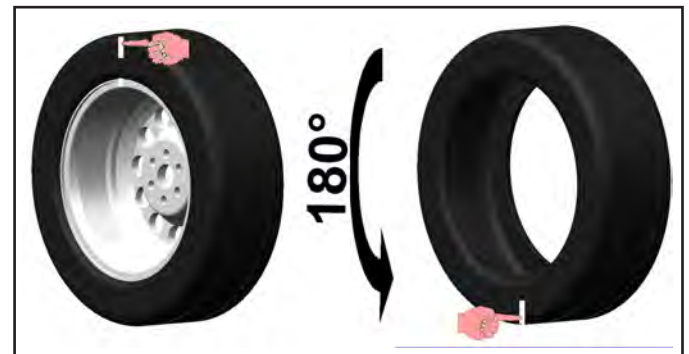
**STEP 1.** Move the slider on the flange to the "12 o'clock" position. Make a reference mark, using chalk for instance, on the rim and tyre, in line with the arrow on the flange, so as to be able to fit the rim back on in the same position on the machine.



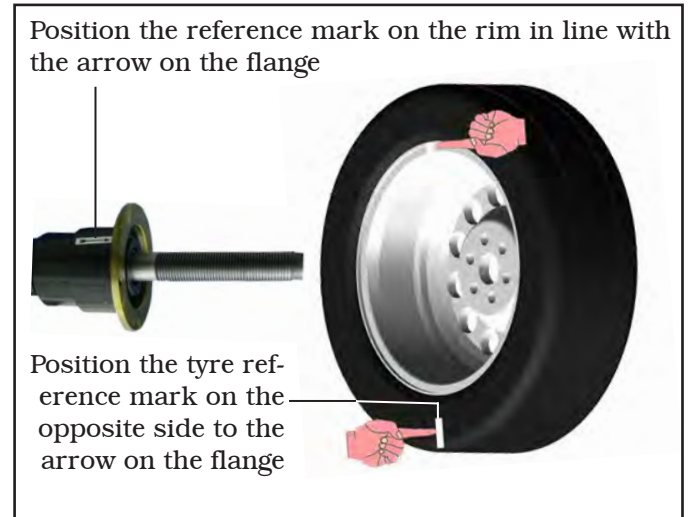
Press button  to confirm that step 1 has been completed. On the display the next screen page will be displayed:




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



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

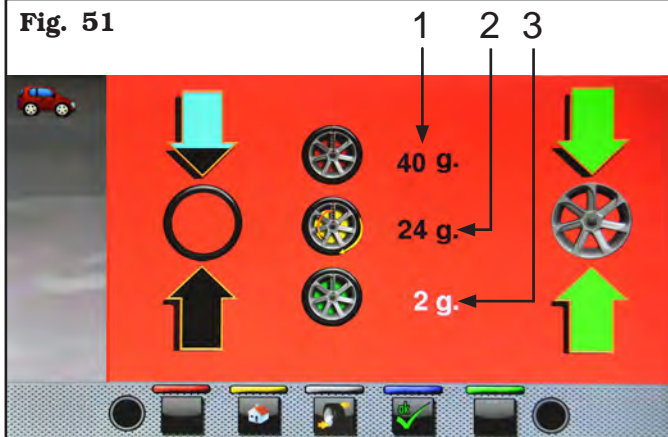


Press button  to confirm that step 2 has been completed. On the display the next screen page will be displayed suggesting to perform a spin of the wheel.



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 following screen:

Fig. 51




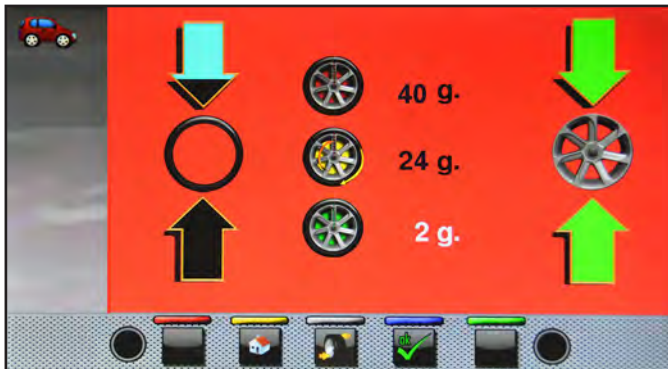
In this screen you will see the dynamic unbalance that the wheel had before performing the operation (**Fig. 51 ref. 1**), the dynamic unbalance after having rotated the tyre of 180° compared to the rim (**Fig. 51 ref. 2**) and the unbalance which can be obtained following the directions of the machine (**Fig. 51 ref. 3**).

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

- Cancel the previously made reference marks. Put new signs, as described below.



- Press the button  to bring the wheel into position.




Make the reference mark on RIM at 12 o'clock (see **Fig. 52**).

Reference mark on  
RIM



Fig. 52



- Press the button  to bring the wheel into position.



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



Press button  to confirm that step 3 has been completed.

**STEP 4.** Remove the wheel from the wheel balancer. Dismount and remount the tyre on the rim so as to bring the two reference marks (rim and tyre) to coincide. Refit the wheel on the balancer (see **Fig. 53**) with the two reference marks next to the arrow on the flange.

Fig. 53

Reference mark on  
TYRE and reference  
mark on RIM shall  
coincide



Press button  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 Chap. 14.5.1.

## 14.9 Special balancing programs

### 14.9.1 Pax


#### **Valid for 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:


- 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).

- Press  button from "Home" page. On the screen

that appears, press the button  to switch to measuring mode selection screen below.



Use the arrows  or  to select PAX mode.

At the end press push button . The machine 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.

- 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. 14.7.5).


## 14.10 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 machine (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:

- press key  to select a new balancing program though the arrows;

- take with the gauge arm the measures required by the selected program (if key  is missing);

- press button  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 machine, 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.


### 14.11 Motorbike Mode wheel balancing

By enabling "motorbike wheel balancing" function, the wheel balancers can also balance motorbike wheels. Before detecting the wheel sizes (see Par. 14.2.3), select motorcycle wheel balancing mode proceeding as described in paragraph 14.1.1.

The measurements acquisition selection screen will be displayed.



Use the arrows  or  to select the wished

mode. At the end press push button . The machine 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 this by the length of the optional extension GAR181 A1.

To fit the extension (**Fig. 54 ref. 2**), first press the threaded ring nut (**Fig. 54 ref. 1**) in the hole provided and then screw the plastic terminal (see **Fig. 54**).



**THE EXTENSION WILL ONLY HAVE TO BE SCREWED UP WHEN BALANCING IS PERFORMED IN "MOTORBIKE" MODE.**

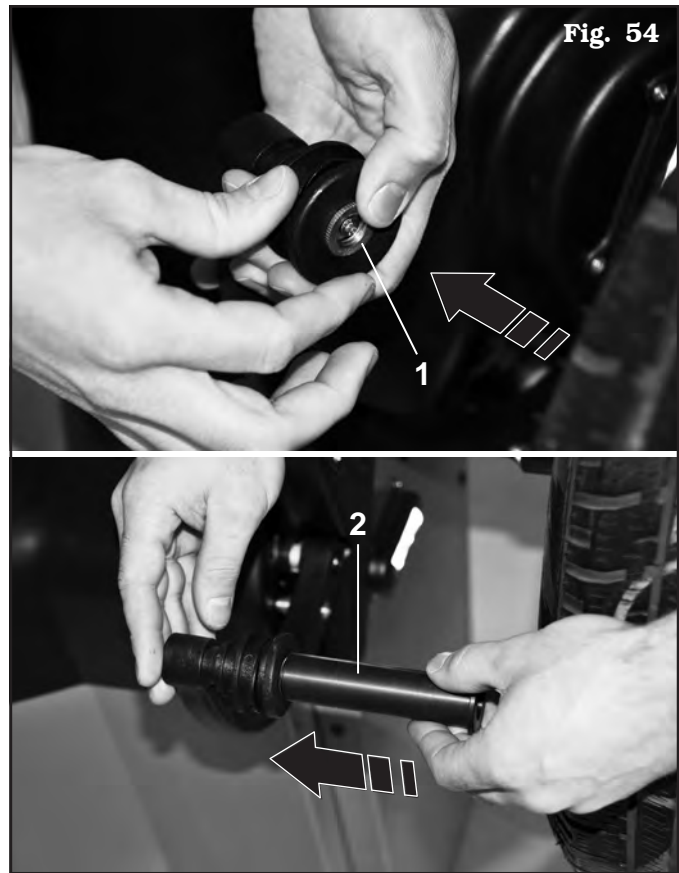


Fig. 54

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

By selecting motorbike mode, besides DYNAMIC balancing (see Par. 14.7.4) STATIC balancing and/or ALU-S (Par. 14.7.1 and/or 14.7.5) can also be performed.

## 15.0 USER MENU (OPTIONS AND CALIBRATION)

From the main page "Home" press the button



to move to the next screen page and the button



The user login password is: **1234**.  
After entering the correct password you will see the following screen:



### 15.1 Options menu



Press the button (Fig. 55 ref. 1), to display the monitor screen to enable/disable options as shown below:



To enable / disable individual functions simply highlight the icon using the buttons



and/or



and press the button



Pressing the button may involve, besides, the change in the unit of measure from "mm" to "inch" and vice versa (where applicable) or access to a sub-screen for values settings values (see Par. 15.1.1 or 15.1.2). After you select/deselect the desired options, exit the

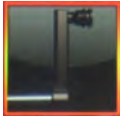


menu by pressing push-button .  
These options will be automatically stored.

## List of available options



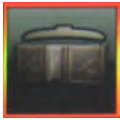
Enable/disable the protection guard/spin (enabled on machine delivery).



Enable/disable the distance/diameter detection caliper (enabled on machine delivery).



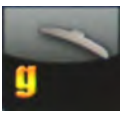
Enable/disable the display of static threshold after each spin (enabled on machine delivery).



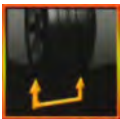
It allows you to set the thresholds for each of the balancing mode weights (see Par. 14.1.1).



Enable/disable the lock function for caliper arm in position (disabled on machine delivery).



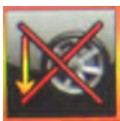
It allows you to change the unit of measurement of the weights from grams to ounces and vice versa.



It allows you to enable/disable the width function detected by GAR (enabled when fitted as standard on the machine).



Enable/disable the ECO-WEIGHT function (enabled on machine delivery).



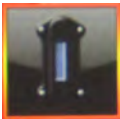
Enable/disable the positioning of weights at "6 o'clock" (disabled on machine delivery).



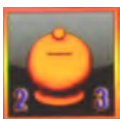
Enable/disable the pneumatic brake after the spin (enabled on machine delivery).



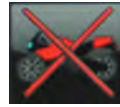
It allows you to change the unit of measure of the distance of the weights fitting point from mm to inches and vice versa.



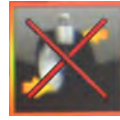
Enable/disable the led light (enabled if mounted on the machine).



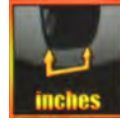
Enable/disable the dynamic residues in the ECO-WEIGHT function (enabled on machine delivery).



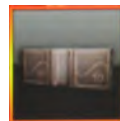
Enable/disable the functions of motor-bike balancing (disabled on machine delivery).



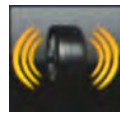
Enable/disable the encoder mounted on the spin motor (disabled on machine delivery).



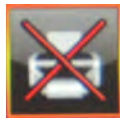
It allows you to change the unit of measurement of the rims width from mm to inches and vice versa.



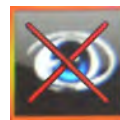
It allows you to set the size values of weights (see Par. 15.1.2).



Enable/disable the RUN-OUT functions (enabled on machine delivery).

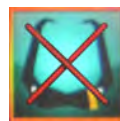


Enable/disable machine print functions (disabled on machine delivery).



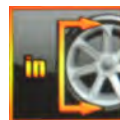
It allows the setting of the retrieval of the measures by eye: readout of measures printed on the rim and the graduated scale of the distance-diameter caliper (disabled on machine delivery).

NOTE: it is activated only if distance-diameter caliper is disabled.

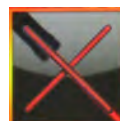


Enable/disable the use of the manual caliper to measure rim width (disabled on machine delivery).

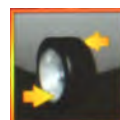
NOTE: it is activated only if distance-diameter caliper is disabled.



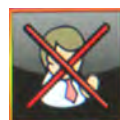
It allows you to change the unit of measurement of the rim diameter from mm to inches and vice versa.



Enable/disable the functions of weights positioning laser (GAR328) (disabled on machine delivery).



Enable/disable the repositioning of the wheel at the end of the spin (enabled on machine delivery).



Enable/disable user function (disabled on machine delivery).

**15.1.1 Lower weight limit**

Correction weight below a certain limit is normally shown equal to zero. This limit can be set from 50 g to 10 g (truck) or from 10 g to 1 g (car/motorcycle).

At the end of the spin however, by pressing the button



, the weight can be displayed with gram resolution (truck/car/motorcycle).



**BOTH THE RESOLUTION AND THE LOWER LIMIT FOR DYNAMIC WHEEL BALANCING MODE ARE SET AT 50 G (TRUCK) OR AT 5 G (CAR/MOTORCYCLE). THE LOWER LIMIT FOR ALL THE OTHER MODES IS SET AT 70 G (TRUCK) OR AT 7 G (CAR/MOTORCYCLE).**



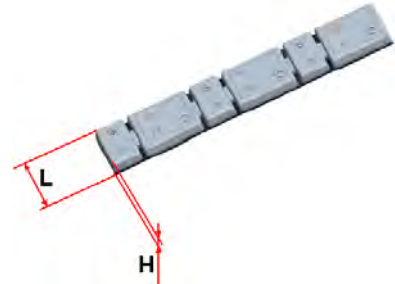
**KEY**

- 1 – Lower weight limit in the DYNAMIC program to display "OK" (50 g default value (truck) or default value 5 g (car/motorcycle))
- 2 – Lower weight limit in the ALU-STATIC program to display "OK" (70 g default value (truck) or default value 7 g (car/motorcycle))
- 3 – Weights display resolution (50 g default value (truck) or 5 g default value (car/motorcycle))
- 4 – Weight % reduction in ECO-WEIGHT function (0 ÷ 200) (default value 100)

**15.1.2 Setting adhesive weight dimensions and static threshold percentage**

To ensure the balancing machine precisely calculates the dimensions and total adhesive weights, set the height (thickness) and width of the adhesive weights at your disposal (see **Fig. 56**).

**Fig. 56**



To carry out this setting, press the icon . You will see the following screen:



**KEY**

- 1 – Weights thickness (height) (default value 4 mm)
- 2 – Weights width (default value 19 mm)

From this screen page, change the size values of weights



using the buttons and .



**THE BLUE-COLOURED-VALUE IS THE ACTIVE FIELD AND THE MODIFIABLE ONE.**



### 15.1.3 User management

The "User Management" function is disabled on machine delivery. To enable it, proceed as described in Para 15.1. After enabling, the icon will be displayed on every page (Fig. 57 ref. 1).

The wheel balancers can be used simultaneously by 4 different users.

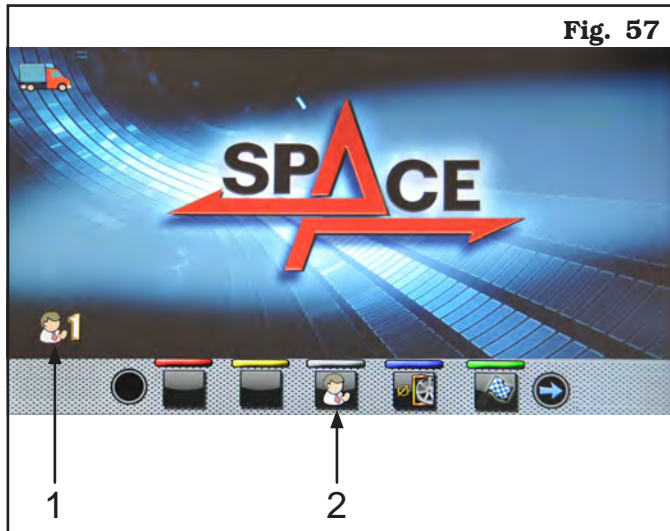


Fig. 57

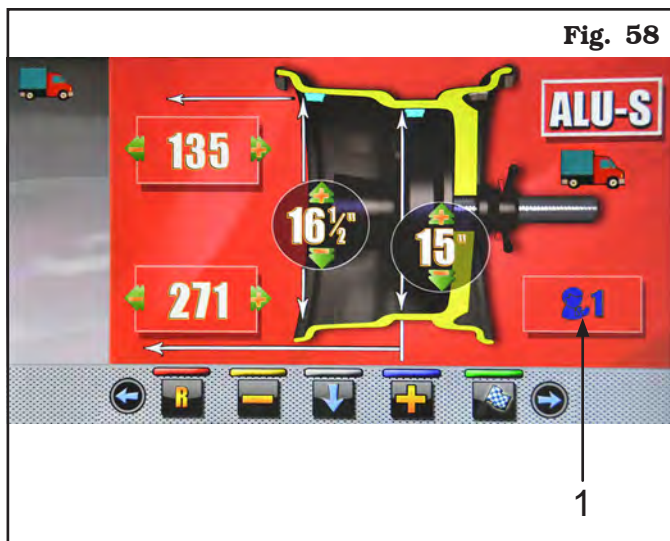



Fig. 58

Press button  shown on the monitor (Fig. 57 ref. 2) or select the field (Fig. 58 ref. 1) and subsequently press the button  to display the screen below:



#### KEY

A – Program used in the last carried out spin

B – Acquired measurements for the last carried out spin

Press any of the available numbers on the buttons at the bottom of the page to select the corresponding user. The system stores the data relating to the last performed spin according to the different operators. You can recall the desired user each time the program displays the specific button (Fig. 57 ref. 2 and Fig. 58 ref. 1). The measurements stored for each user are lost when the machine is switched off.

User management is valid for any wheel balancer function.




TO ENABLE OR DISABLE "USER MANAGEMENT" FUNCTION, SEE PARAGRAPH 15.1. IF THE FUNCTION IS DEACTIVATED, THE BUT-

TON  IS DISPLAYED.

**15.2 Enabling of electronic Run-out measuring device (Optional)**

From the main page "Home" press the button

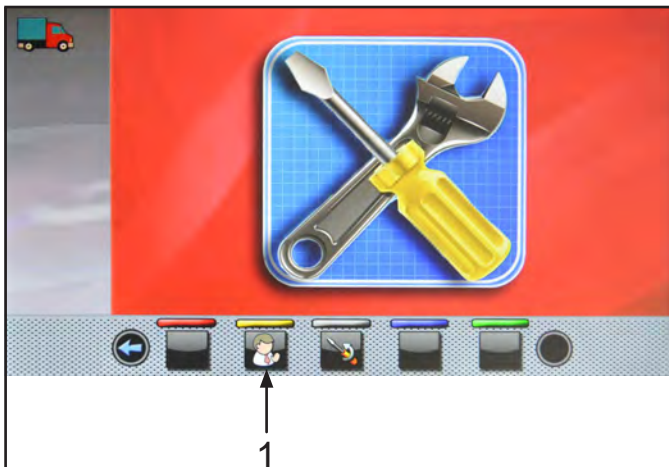


to move to the next screen page and the button  to access the user menu. On the monitor, the following screen appears where you can enter the password.



The user login password is: **1234**.

After entering the correct password you will see the following screen:



KEY

1 - Options menu push-button

Press button  to display the monitor screen to enable/disable the options as shown below:



**Fig. 59**

To enable / disable individual functions simply high-

light the icon using the buttons



and/or



and press the button



After you select/deselect the desired options, exit the

menu by pressing push-button . Remove symbol "X" on the icon (**Fig. 59 ref. 1**).

### 15.3 Machine calibration




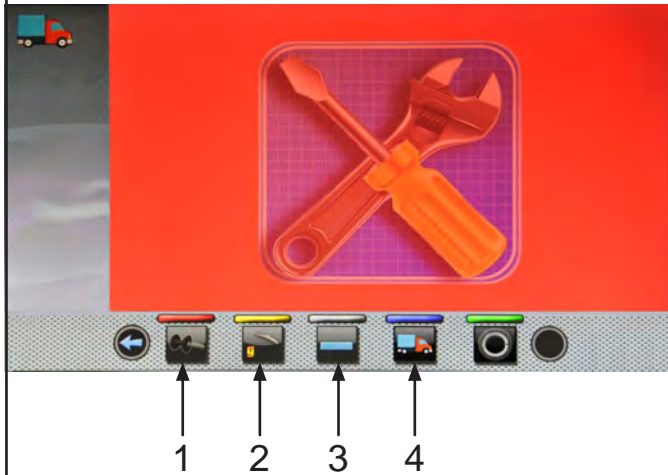


Press the button  (Fig. 55 ref. 2) to display the following screen page on monitor:

Fig. 60




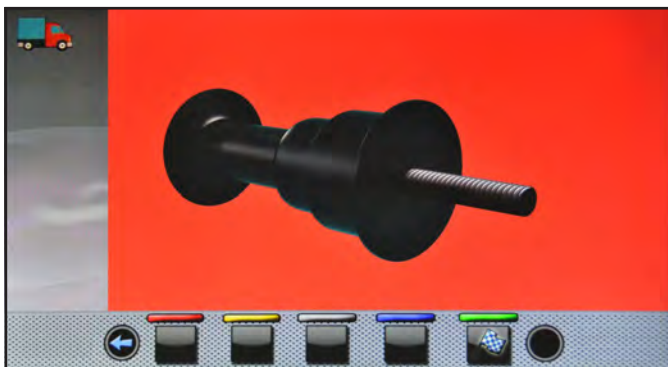
#### KEY

- 1 – Mandrel zero calibration
- 2 – Weight measurement sensors calibration
- 3 – Gauges calibration
- 4a – Car calibration 
- 4b – Truck calibration 


#### 15.3.1 Mandrel zero calibration



Press the button  (Fig. 60 ref. 1) to display the following screen page on the monitor:




After making sure that the mandrel is unloaded (no wheel or mounted accessories) and in the case of closed

pneumatic mandrel, press the button  and close the guard. The spindle will rotate for a few minutes until you see the screen below:





At this point the machine has all its measuring fields.



Press button  to return to calibrations screen page.

#### 15.3.2 Weight measurement sensors calibration for car




MAKE SURE THAT THE BUTTON (FIG. 60 REF. 4) DISPLAYS THE "CAR" CALIBRATION . IN CASE THE "TRUCK" ICON  APPEARS, PRESS TO PASS TO THE "CAR" CALIBRATION.



ASSEMBLE A BALANCED WHEEL ON THE SPINDLE AND PERFORM THE SPINDLE "ZERO" CALIBRATION PROCEDURE DESCRIBED IN PAR. 15.3.1 (WITH WHEEL MOUNTED).




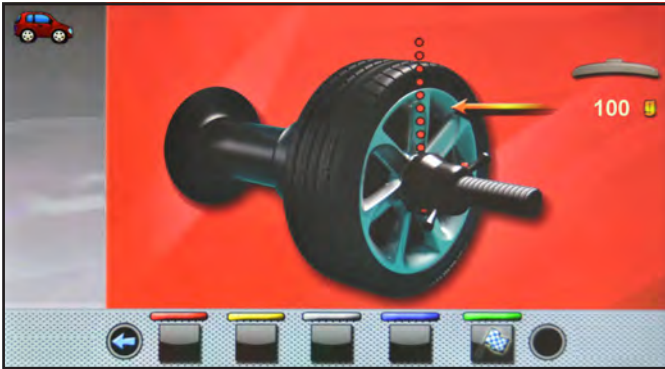
- Press the button  (Fig. 60 ref. 2) to display the following screen page on the monitor:



- Set the size of the rim on the mandrel using the distance-diameter caliper arm and the external data gauge (if present) or manual caliper.




- Press the button  and close the guard to the perform the 1st spin of the wheel without weights.
- At the end, on the monitor will appear the following screen, saying that you should apply a weight of 100 g to the "12 o'clock" outer rim.

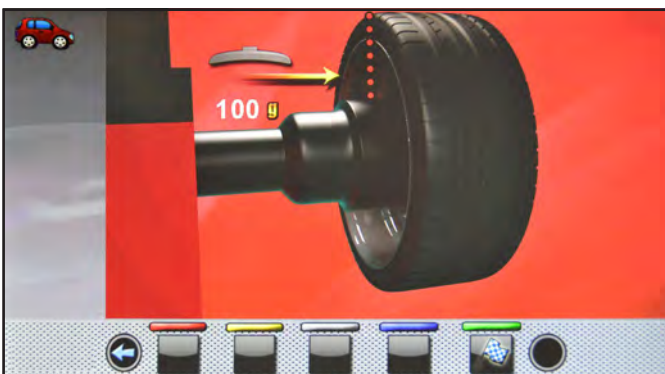


**APPLY THE WEIGHT AT A POINT IN WHICH BOTH SIDES OF THE RIM THERE IS THE POSSIBILITY OF APPLYING A CLIP WEIGHT OF 100 g.**

- Apply the weight and position it perfectly to the "12 o'clock".



- Press the button  and close the guard to perform the 2nd spin of the wheel (100 g weight placed on the outside of the wheel).
- At the end the following screen will appear on the monitor, suggesting to remove the weight of 100 g previously applied on the outer side and apply it on the inside of the rim.



- Turn manually the wheel until you have the weight of 100 g on the outer side at "12 o'clock".
- Press the brake pedal and hold it down during the whole the following operation to avoid unexpected rotation of the spindle.
- Remove the weight from 100 g from the outside of the wheel and apply it on the inner side at "12 o'clock".
- Close the guard to perform the 3rd spin of the wheel (100 g weight placed on the inside wheel).



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



**WHEN THE OPERATION IS CONCLUDED, REMOVE THE WHEEL FROM THE MANDREL AND PERFORM A COMPLETE CALIBRATION PROCEDURE "ZERO" MANDREL AS DESCRIBED IN PAR. 15.3.1.**

### ***15.3.3 Weight measurement sensors calibration for truck***



**MAKE SURE THAT THE BUTTON (FIG. 60 REF. 4) DISPLAYS THE "TRUCK" CALIBRATION . IN CASE THE "CAR" ICON  APPEARS, PRESS TO PASS TO THE "TRUCK" CALIBRATION.**

- The following screen page will be displayed:

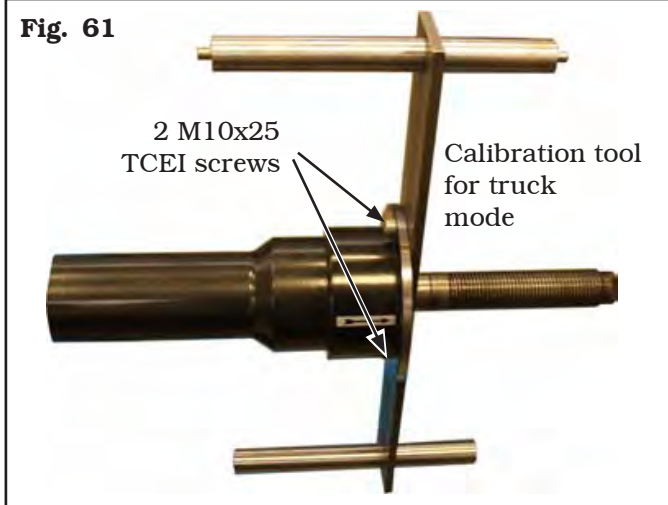



- Fit the calibration tool in as indicated in **Fig. 61**, using the two M10 screws provided.

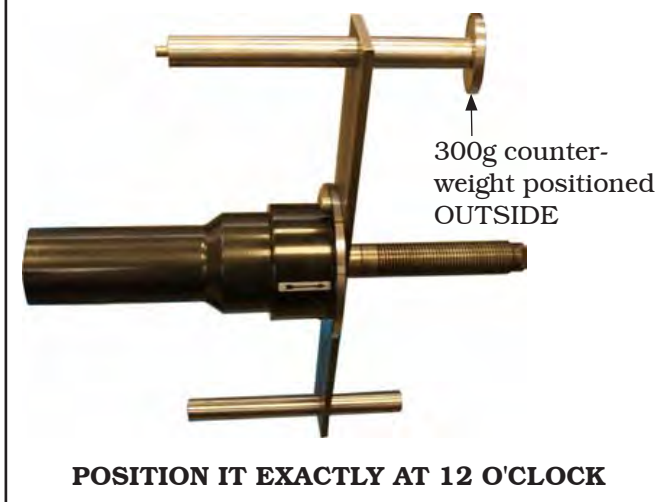
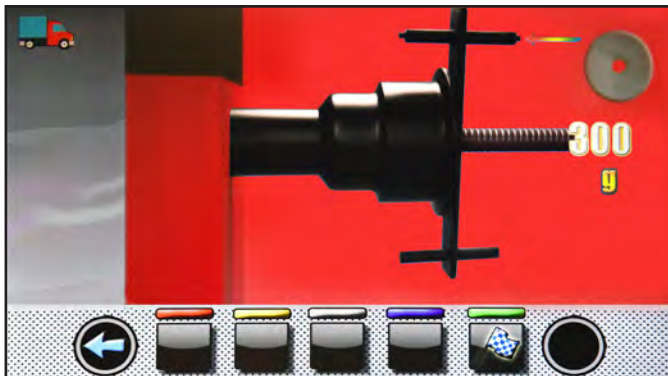


**THE CALIBRATION TOOL MUST BE POSITIONED WITH THE LONGER CYLINDERS IN THE SHAFT INNER SIDE.**

Fig. 61




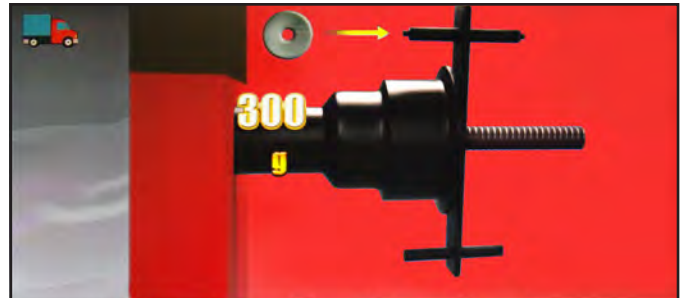
- Press the button  and close the guard to the perform the 1st spin of the calibration tool without weights.
- At the end, on the monitor will appear the following screen, saying that you should apply a weight of 300 g to the "12 o'clock" outer rim.
- After executing the spin, the program displays the following figure:




- Put the counterweight of 300 gr on the external side and place it exactly at 12 hours.

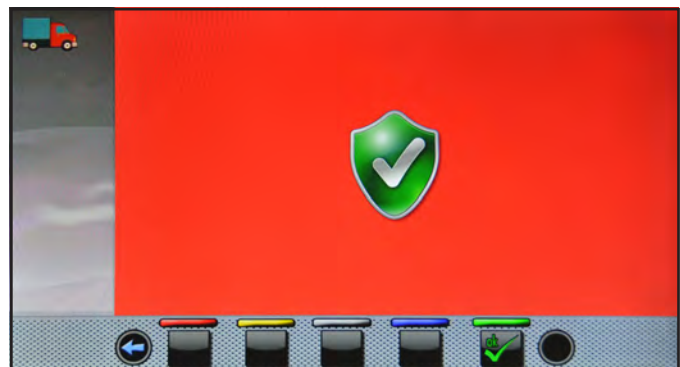


- Press the key  to perform a spin.
- At the end of the spin, remove the 300 gr. counterweight and place it on the internal side of the calibration tool, as indicated in the following figure.



- Press the button  to execute the spin, with the counterweight on the internal side.

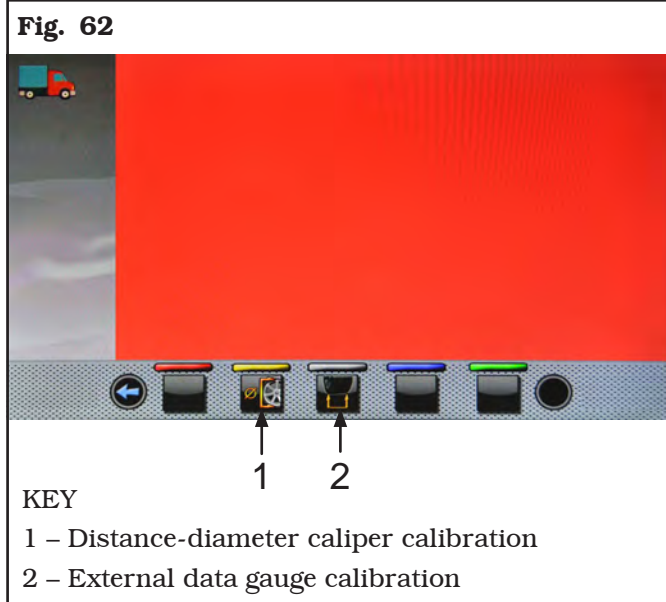
At the end of the rotation, the video screen below will be displayed to indicate that the operation is finished.




**WHEN THE OPERATION IS CONCLUDED, REMOVE THE CALIBRATION TOOL FROM THE MANDREL AND PERFORM A COMPLETE CALIBRATION PROCEDURE "ZERO" MANDREL AS DESCRIBED IN PAR. 15.3.1.**

**15.3.4 Gauge calibration**

Press the button  (Fig. 60 ref. 3) to display the following screen page on the monitor:

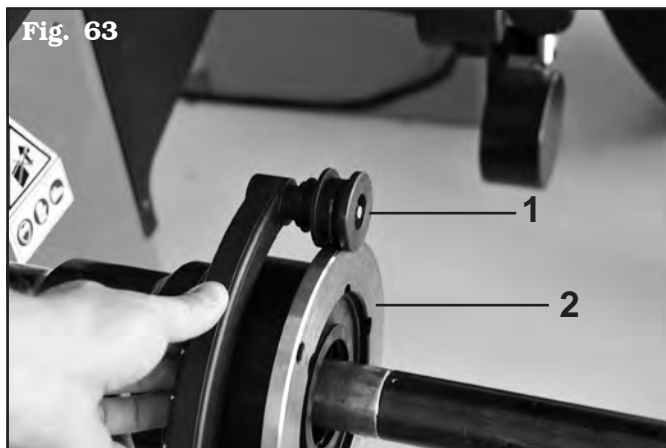


**Distance-diameter caliper calibration**

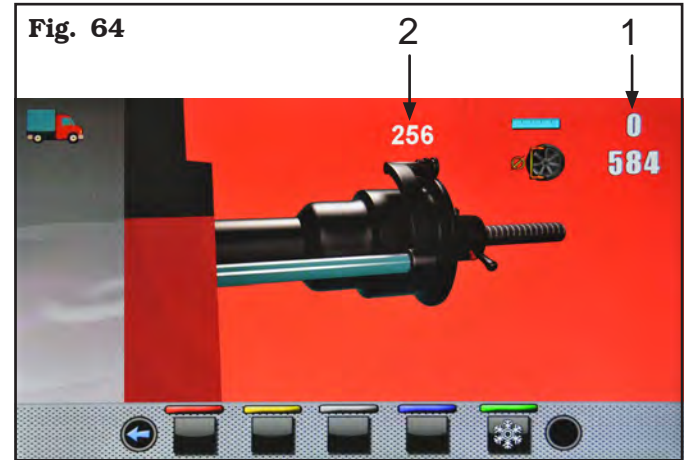
Press the button  (Fig. 62 ref. 1) to display the following screen page on the monitor:




Place the gauge (Fig. 63 ref. 1) on the mandrel flange (Fig. 63 ref. 2).



The following screen will appear on the monitor to indicate the measured values:



- The value next to the symbol "scale" (Fig. 64 ref. 1) must be equal to the value positioned above the gauge (Fig. 64 ref. 2)  $\pm 1$  mm.

- Press push button .


The following screen will appear on the monitor:

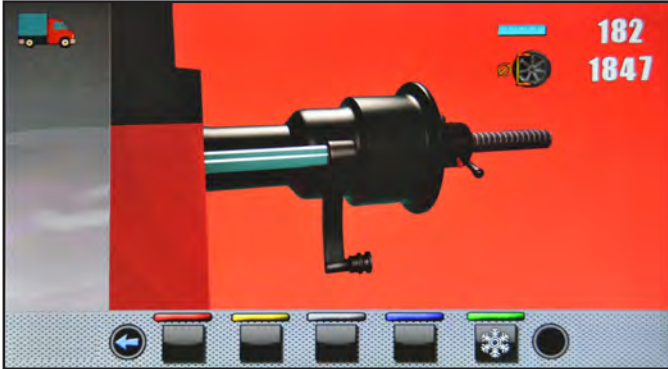


- Place the gauge as shown in the following figure:






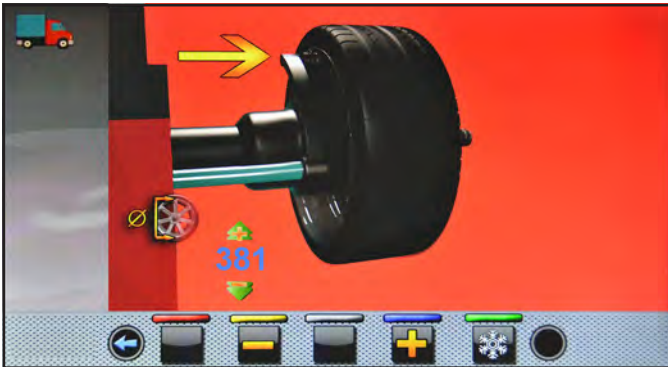
- Press push button . Wait a few seconds until you see the following screen:



- Place the gauge against the mandrel in the lower part of it but on a smaller diameter than before as indicated on the image on the monitor.



- Press push button . On the monitor the next screen page will be displayed:



- Measure the exact diameter of a rim (see **Fig. 65**) and place it on the screen on the monitor by pressing the



or buttons.




**Fig. 65**

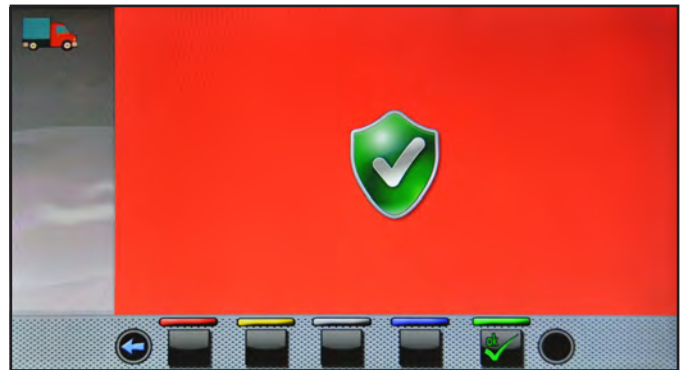
- Fit the measured wheel on the balancer and lock it on the mandrel.
- Turn the gauge ferrule (**Fig. 66 ref. 1**) on the inner edge of the wheel upwards (see **Fig. 66**).



**Fig. 66**



- Press button  to end the operation. On the monitor the next screen page will be displayed:

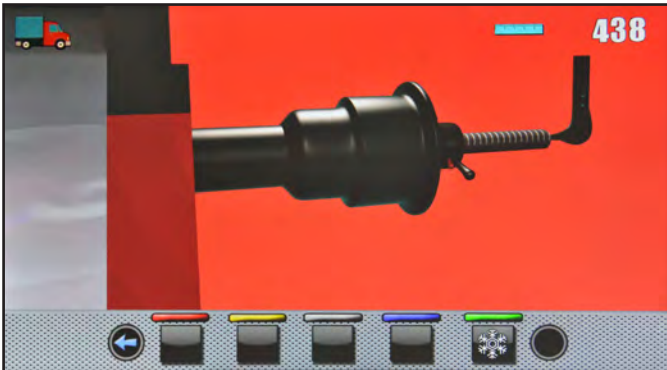


- The calibration of the distance-diameter caliper is finished.

**Calibration of external data gauge (Optional)**

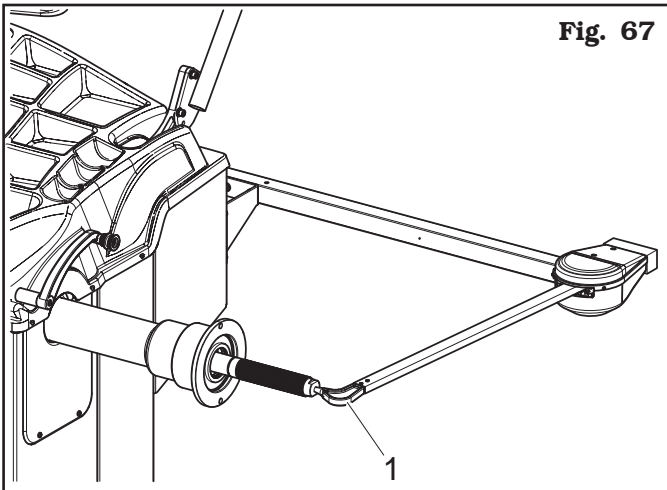


Press the button (Fig. 62 ref. 2) to display the following screen page on the monitor:



**TO PERFORM THIS CALIBRATION, THE SPINDLE MUST BE UNLOADED (NO WHEEL OR ACCESSORIES MOUNTED ON IT) AND WITH CLOSED PNEUMATIC MANDREL.**

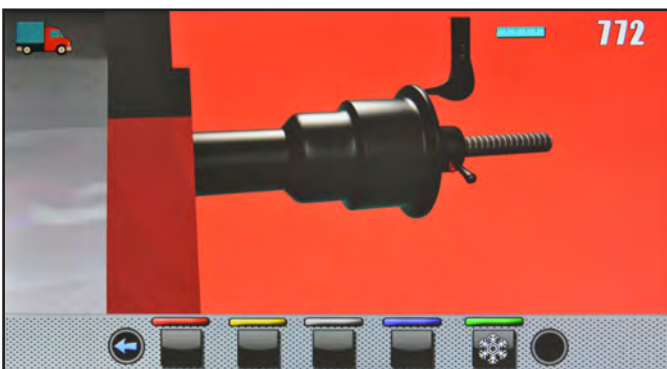
Move the tip (Fig. 67 ref. 1) just next the mandrel's edge (with the pneumatic mandrel, move it just next the upper edge of the closed mandrel), as illustrated in Fig. 67.



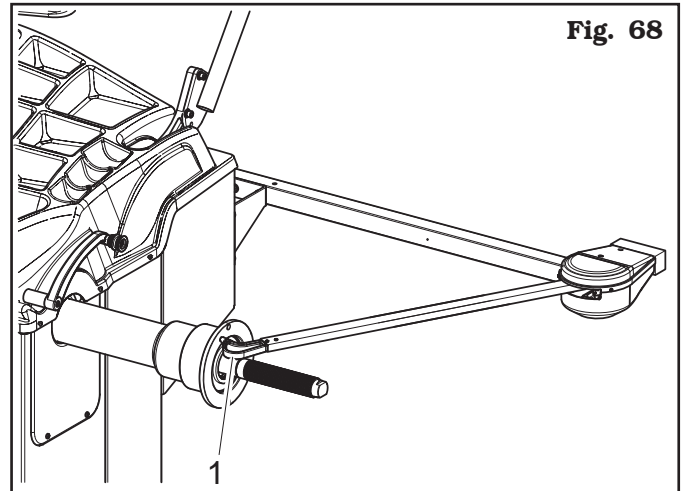
**Fig. 67**



Press button  
On the monitor the next screen page will be displayed:



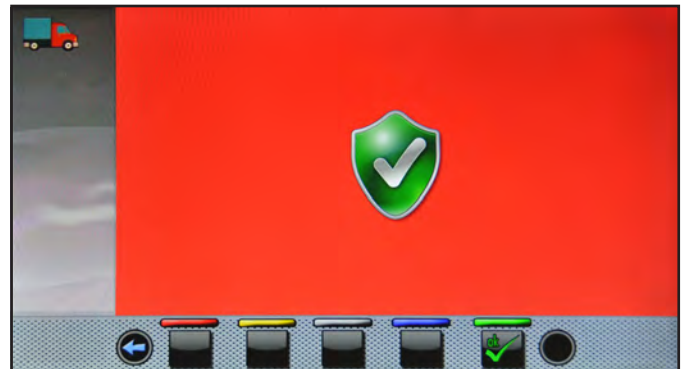
Place the tip (Fig. 68 ref. 1) just next the flange's outer plane, as illustrated in Fig. 68.



**Fig. 68**



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



The calibration of the automatic width measuring device is finished.



## 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.

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	Mandrel calibration error
8	Piezo calibration values out of tolerance
9	Wheel rotations not completed
10	Pneumatic mandrel open
11	Incorrect gain calibration
12	Distance-diameter caliper value not released
13	Distance-diameter caliper value not released
14	Firmware error
15	Runout samples not sufficient
17	External data gauge enabled
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

## 17.0 ROUTINE MAINTENANCE



**BEFORE CARRYING OUT ANY ROUTINE MAINTENANCE OR ADJUSTMENT PROCEDURE, POSITION THE MAIN SWITCH "0", DISCONNECT THE MACHINE FROM THE ELECTRICITY SUPPLY USING THE SOCKET/PLUG COMBINATION AND CHECK THAT ALL MOBILE PARTS ARE AT A STANDSTILL.**



**BEFORE EXECUTING ANY MAINTENANCE OPERATION, MAKE SURE THERE ARE NO WHEELS LOCKED ONTO THE MANDREL.**



**PNEUMATICALLY UNPLUG THE MACHINE (ONLY FOR ERPL280RC MODEL).**

To guarantee the efficiency and correct functioning of the machine, 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 tyre powder and other waste materials with a vacuum cleaner.

**DO NOT BLOW IT WITH COMPRESSED AIR.**

- Do not use solvents to clean the pressure regulator.



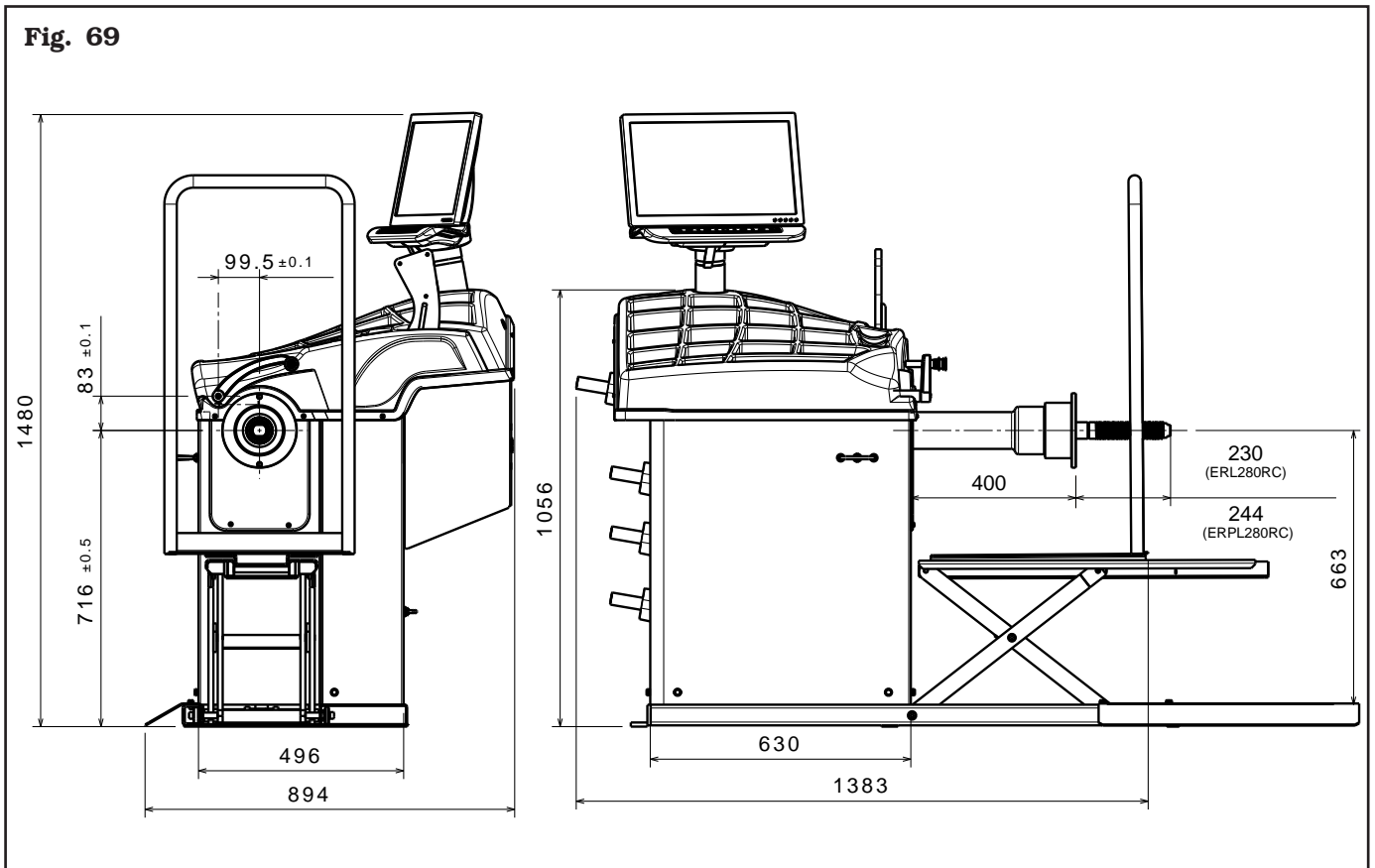
**ANY DAMAGE TO THE MACHINE DEVICES RESULTING FROM THE USE OF LUBRICANTS OTHER THAN THOSE RECOMMENDED IN THIS MANUAL WILL RELEASE THE MANUFACTURER FROM ANY LIABILITY!!**

**18.0 TECHNICAL DATA**

	<b>ERL280RC - ERPL280RC</b>
Wheel max. weight (Kg)	200
Max. absorbed voltage (W)	250
Power supply	230V 50/60 Hz 1 ph
Balancing precision (g)	± 1 (car) ± 10 (truck)
Balancing speed (rpm)	100 (car) 80 (truck)
Rim width setting (inches)	1.5" ÷ 22"
Rim diameter setting (inches)	10" ÷ 26" (manually up to 30")
Max wheel diameter inside protection (mm)	1300
Max wheel width inside protection (mm)	700
Sound emission level (dBA)	<70
Cycle time (sec)	6
Weight (Kg)	215
Air supply (Pneumatic lifting) (bar)	4 ÷ 10
Unbalanced value range (g)	0 ÷ 1100
Max rim - machine distance (mm)	400

**18.1 Dimensions**

**Fig. 69**



## 19.0 STORING

If storing for long periods disconnect the main power supply and take measures to protect the machine from dust build-up. Lubricate parts that could be damaged from drying out.

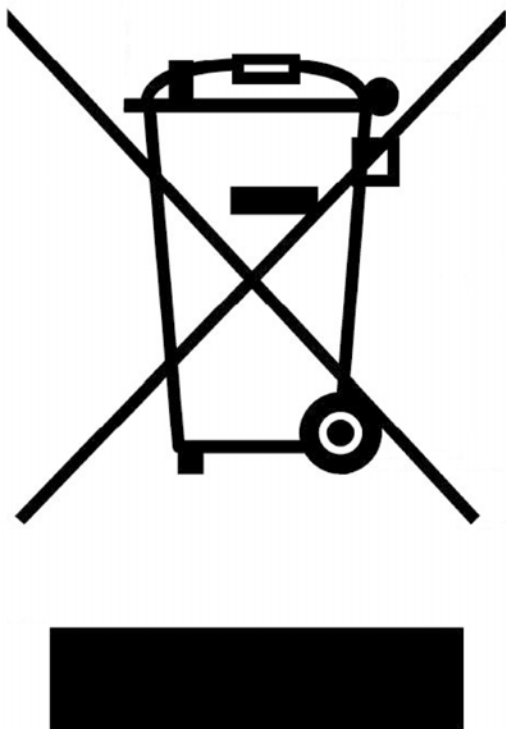
## 20.0 SCRAPPING

When the decision is taken not to make further use of the machine, it is advisable to make it inoperative by removing the connection pressure hoses. The machine is to be considered as special waste and should be dismantled into homogeneous parts. Dispose of it in accordance with current legislation.

### Instructions for the correct management of waste from electric and electronic equipment (WEEE) according to the Italian legislative decree 49/14 and subsequent amendments.

In order to inform the users on the correct way to dispose the product (as required by the article 26, paragraph 1 of the Italian legislative decree 49/14 and subsequent amendments), we communicate what follows: the meaning of the crossed dustbin symbol reported on the equipment indicates that the product must not be thrown among the undifferentiated rubbish (that is to say together with the "mixed urban waste"), but it has to be managed separately, to let the WEEE go through special operations for their reuse or treatment, in order to remove and dispose safely the waste that could be dangerous for the environment and to extract and recycle the raw materials to be reused.

Fig. 70



## 21.0 REGISTRATION PLATE DATA



**The validity of the Conformity Declaration enclosed to this manual is also extended to products and/or devices the machine model object of the Conformity Declaration can be equipped with.**



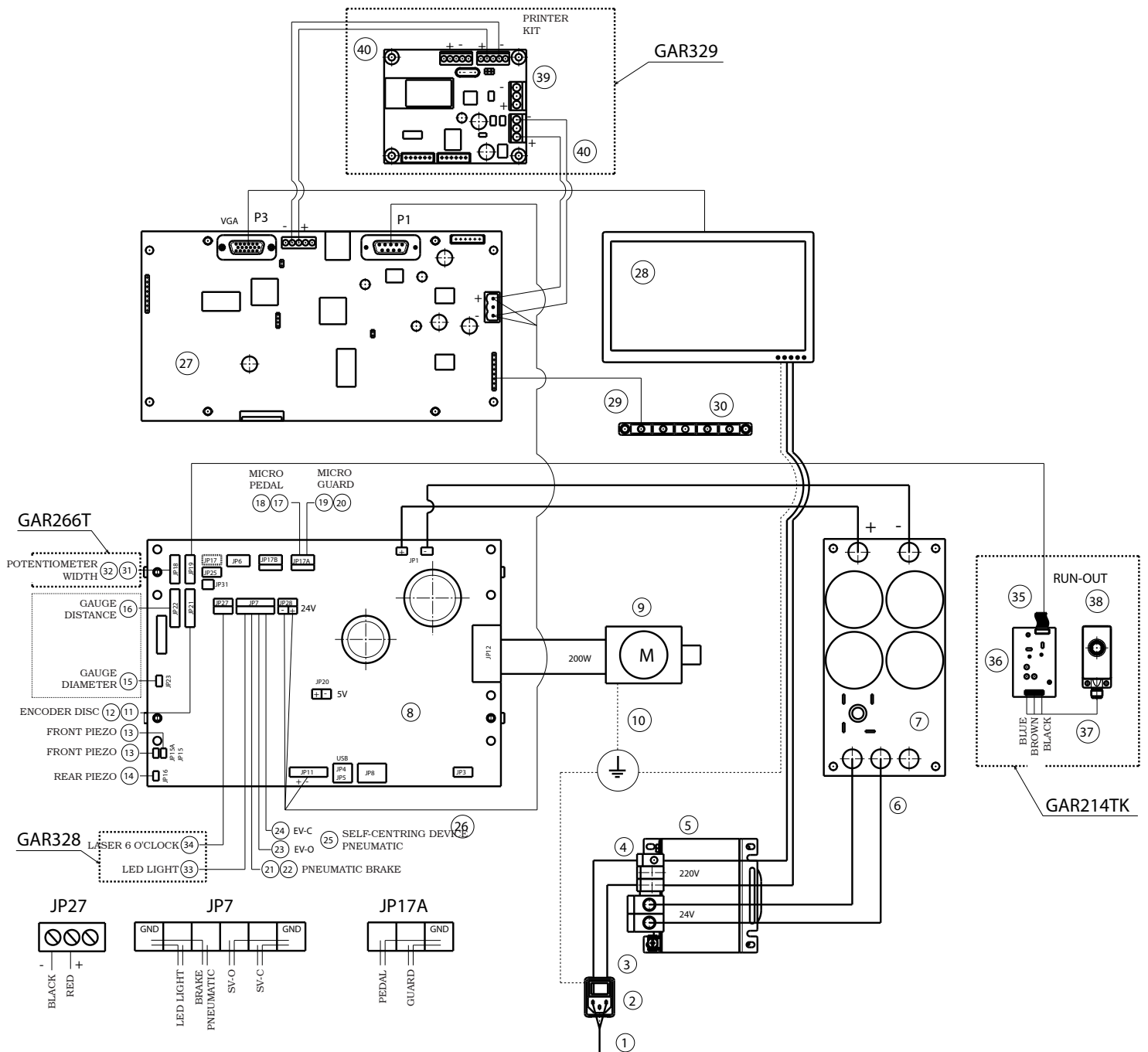
**ATTENTION: TAMPERING WITH, CARVING, CHANGING ANYHOW OR EVEN REMOVING MACHINE IDENTIFICATION PLATE IS ABSOLUTELY FORBIDDEN; DO NOT COVER IT WITH TEMPORARY PANELS, ETC., SINCE IT MUST ALWAYS BE VISIBLE.**

**Said plate must always be kept clean from grease residues or filth generally.**

*WARNING: Should the plate be accidentally damaged (removed from the machine, damaged or even partially illegible) inform immediately the manufacturer.*

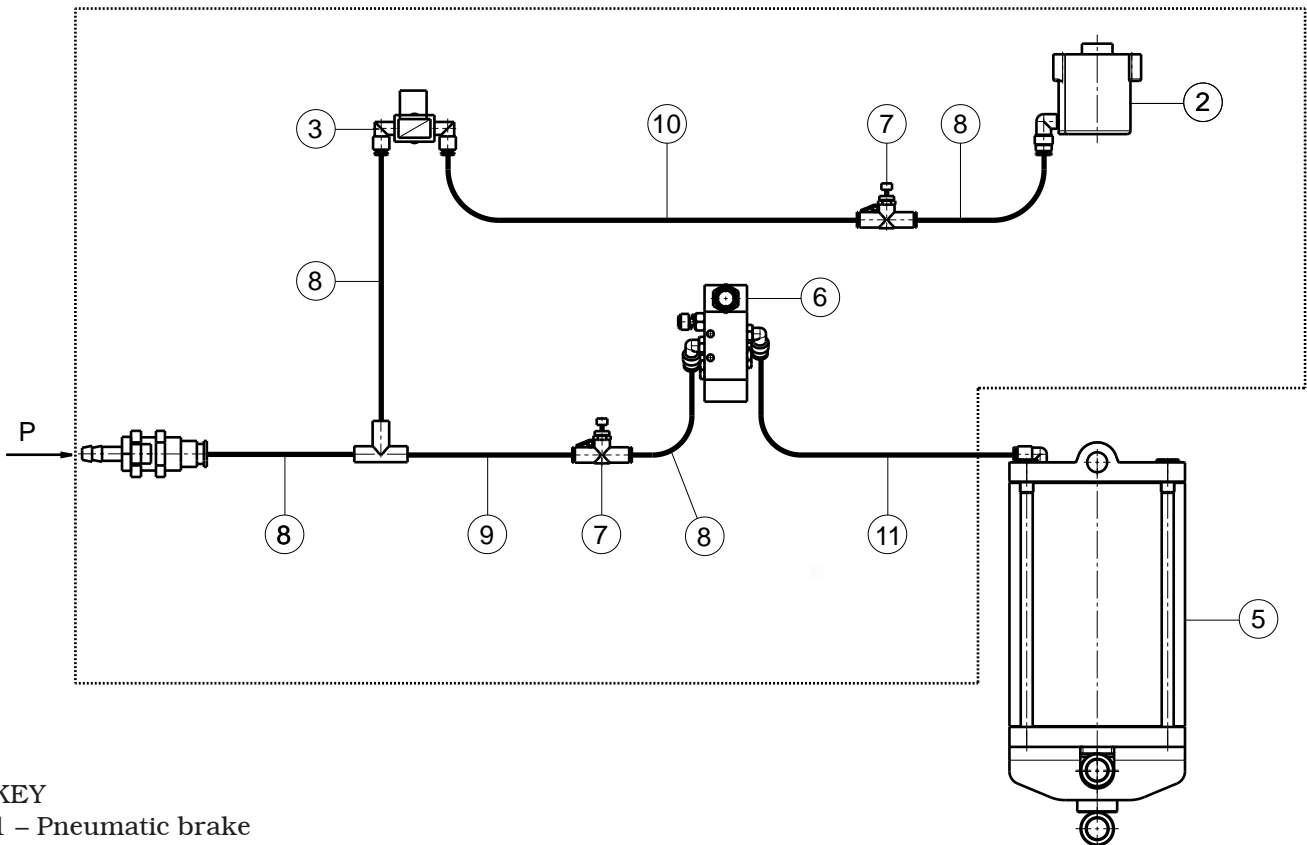
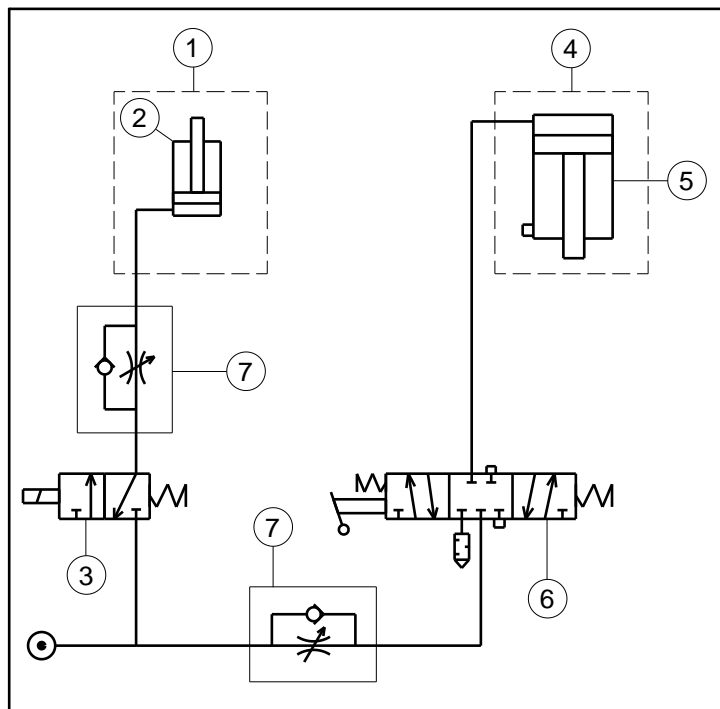
## 22.0 FUNCTIONAL DIAGRAMS

Here follows a list of the machine functional diagrams.



**KEY**

- |                                      |  |  |
|--------------------------------------|--|--|
| 1 - Power supply cable               | 16 - Optical line card   | 27 - Monitor card kit                    |
| 2 - Wired switch with plug           | 17 - Cable for pedal micro (only for pneumatic mandrel models)         | 28 - Monitor 20"                         |
| 3 - Cable from switch to transformer | 18 - Pedal switch (only for pneumatic mandrel models)                  | 29 - 7-keys keyboard extension cable     |
| 4 - Fuse                             | 19 - Cable for wheel micro protection                                  | 30 - 7-keys keyboard                     |
| 5 - Transformer                      | 20 - Limit switch  | 31 - Width potentiometer extension cable |
| 6 - Power card transformer cable     | 21 - Cable for solenoid valve SV-B                                     | 32 - Potentiometer with shielded cable   |
| 7 - Power card                       | 22 - Solenoid valve mounting SV3                                       | 33 - Led light                           |
| 8 - Power card kit                   | 23 - Cable for solenoid valve SV-O (only for pneumatic mandrel models) | 34 - Line laser (with cable)             |
| 9 - Motor                            | 24 - Cable for solenoid valve SV-C (only for pneumatic mandrel models) | 35 - Ultrasound sensor extension cable   |
| 10 - Motor support ground cable      | 25 - Solenoid valve mounting SV5                                       | 36 - Run-out card                        |
| 11 - Wheel position sensor cable     | 26 - 24V power supply cable (optional) + serial                        | 37 - Cable for ultrasound                |
| 12 - Encoder card                    |  | 38 - Ultrasound sensor                   |
| 13 - Front piezo cables              |  | 39 - CAN to BTH                          |
| 14 - Rear piezo cables               |  | 40 - 2-wires cable                       |
| 15 - Potentiometer with cable        |  |  |



**KEY**

- 1 - Pneumatic brake
- 2 - Brake operating cylinder
- 3 - Pneumatic brake solenoid valve EV-B 3/2 NC
- 4 - Lifting device
- 5 - Lift operating cylinder
- 6 - Lever distributor 5/3 CC
- 7 - Unidirectional pneumatic reducer
- 8 - Rilsan Pipe 6x4 bl L=200
- 9 - Rilsan Pipe 6x4 bl L=350
- 10 - Rilsan Pipe 6x4 bl L=500
- 11 - Rilsan Pipe 6x4 bl L=700

ERL280RC

**PNEUMATIC CONNECTION  
DIAGRAM**

1294-M017-1\_P

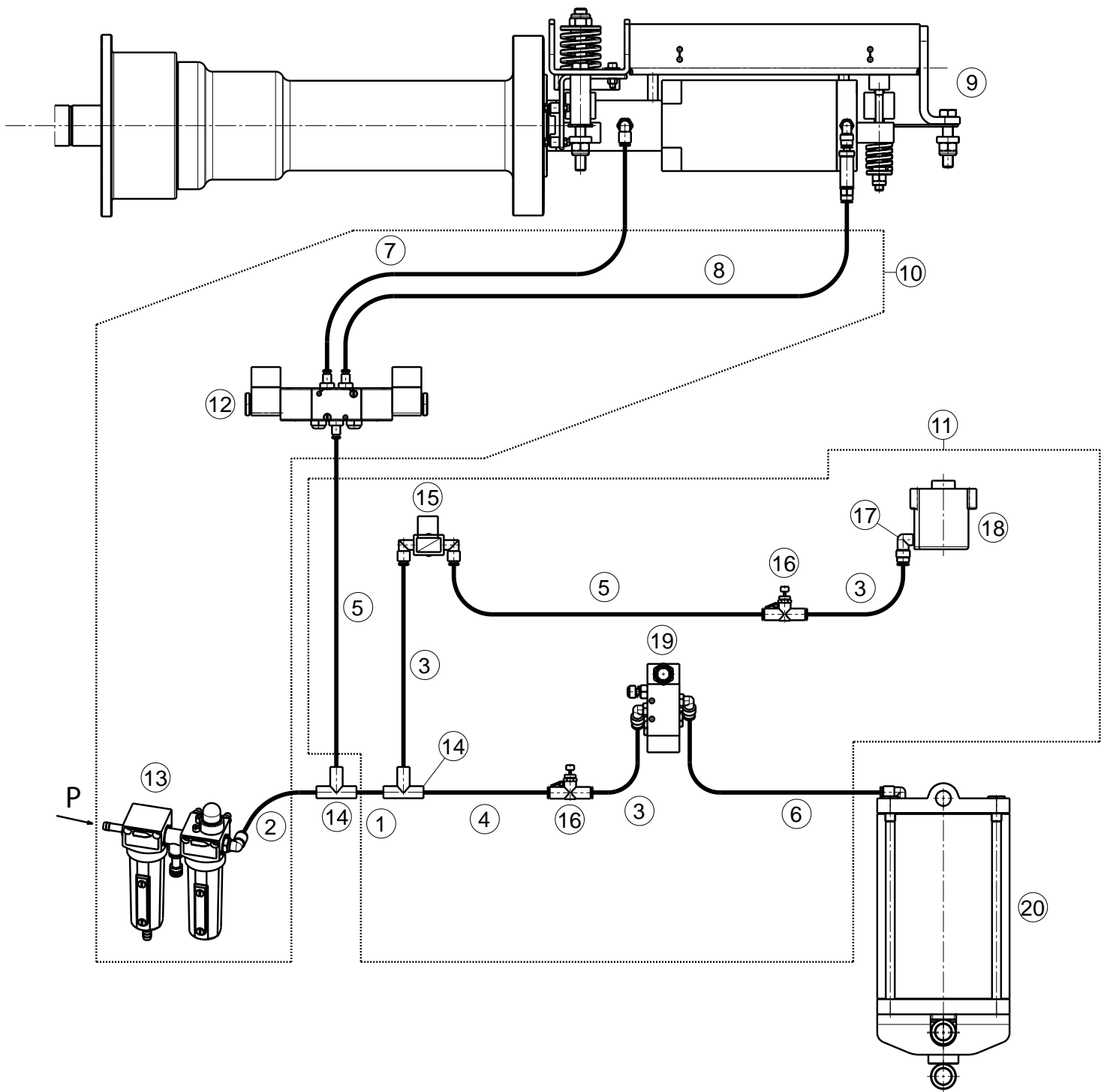


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**GB**



**KEY**

- |                                  |                                    |
|----------------------------------|------------------------------------|
| 1 - Rilsan Pipe 6x4 bl L=50      | 12 - Solenoid valve unit           |
| 2 - Rilsan Pipe 6x4 bl L=150     | 13 - Air filter mounting           |
| 3 - Rilsan Pipe 6x4 bl L=200     | 14 - Union                         |
| 4 - Rilsan Pipe 6x4 bl L=350     | 15 - Solenoid valve mounting       |
| 5 - Rilsan Pipe 6x4 bl L=500     | 16 - Flow regulator                |
| 6 - Rilsan Pipe 6x4 bl L=700     | 17 - L-union 6 1/8"                |
| 7 - Rilsan Pipe 6x4 bl L=800     | 18 - Cylinder                      |
| 8 - Rilsan Pipe 6x4 bl L=900     | 19 - Distributor                   |
| 9 - Pneumatic rotating unit      | 20 - Pneumatic cylinder 125x30x137 |
| 10 - Pneumatic tightening system |                                    |
| 11 - Pneumatic system            |                                    |



1294-R017-0\_P

**ERL280RC**  
**ERPL280RC**

- I** 23.0 LISTA DEI COMPONENTI
- GB** 23.0 LIST OF COMPONENTS
- D** 23.0 TEILELISTE
- F** 23.0 LISTE DES PIECES DETACHEES
- E** 23.0 LISTA DE PIEZAS



**GLI ESPLOSI SERVONO SOLO PER L'IDENTIFICAZIONE DELLE PARTI DA SOSTITUIRE. LA SOSTITUZIONE DEVE ESSERE EFFETTUATA DA PERSONALE PROFESSIONALMENTE QUALIFICATO.**



**THE DIAGRAMS SERVE ONLY FOR THE IDENTIFICATION OF PARTS TO BE REPLACED. THE REPLACEMENT MUST BE CARRIED OUT PROFESSIONALLY QUALIFIED PERSONNEL.**



**DIE ZEICHNUNGEN DIENEN NUR ZUR IDENTIFIZIERUNG DER ERSATZTEILE. DIE ERSETZUNG MUSS DURCH QUALIFIZIERTES PERSONAL ERFOLGEN.**



**LES DESSINS NE SERVENT QU'À L'IDENTIFICATION DES PIÈCES À REMPLACER. LE REMPLACEMENT DOIT ÊTRE EFFECTUÉ PAR UN PERSONNE PROFESSIONNELLEMENT QUALIFIÉ.**



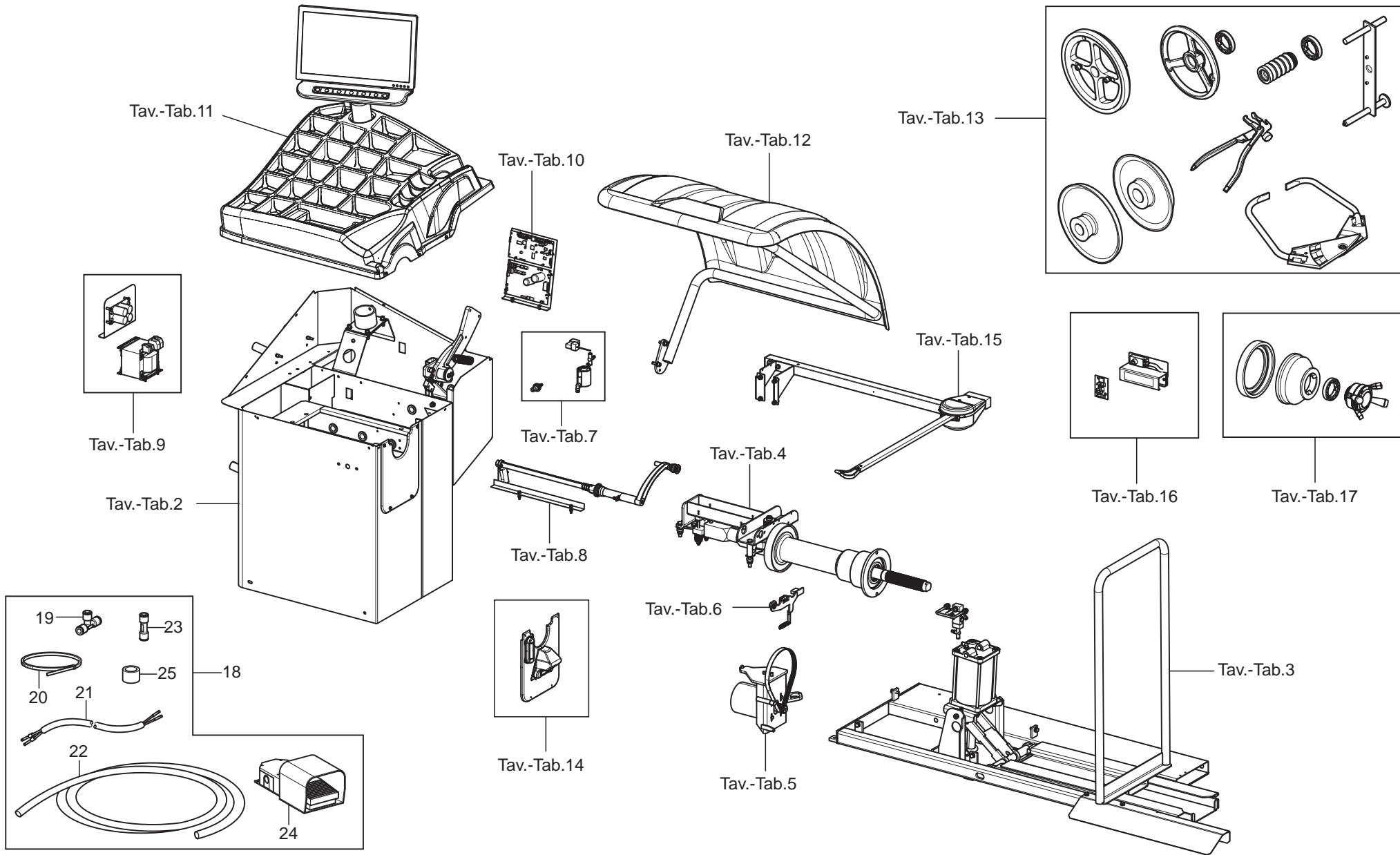
**LOS DIBUJOS EN DESPIECE SIRVEN ÚNICAMENTE PARA IDENTIFICAR LAS PIEZAS QUE DEBEN SUSTITUIRSE. LA SUSTITUCIÓN DE PIEZAS DEBE EFECTUARLA EXCLUSIVAMENTE PERSONAL PROFESIONALMENTE CUALIFICADO.**

- Per eventuali chiarimenti interpellare il più vicino rivenditore oppure rivolgersi direttamente a:
- For any further information please contact your local dealer or call:
- Im Zweifelsfall ober bei Rückfragen wenden Sie sich bitte an den nächsten Wiederverkäufer oder direkt an:
- Pour tout renseignement complémentaire s'adresser au revendeur le Plus proche ou directement à:
- En caso de dudas, para eventuales aclaraciones, póngase en contacto con el distribudor más próximo ó diríjasie directamente a:

Technical services: **SPACE s.r.l. a s.u.** - Via Sangano, 48 - 10090 Trana - Torino Italy  
Phone (+39) 011 93440300 - Fax (+39) 011 9338864 - e-mail: spacesrl@tin.it

## SOMMARIO - SUMMARY - INHALT SOMMAIRE - SUMARIO

<b>Tavola N°1 - Rev. 0</b> _____ <b>3</b> ASSIEME GENERALE MAIN ASSEMBLY GENERALSATZ ASSEMBLAGE GENERAL JUNTO GENERAL	<b>Tavola N°9 - Rev. 0</b> ___ <b>129491310</b> ..... <b>15</b> GRUPPO IMPIANTO POTENZA EQUILIBRATRICE BALANCING MACHINE POWER SYSTEM UNIT SATZ VON LEISTUNGSANLAGE DER AUSWUCHTMASCHINEN GROUPE INSTALLATION PUISSANCE ÉQUILIBREUSE GRUPO INSTALACIÓN POTENCIA EQUILIBRADORA
<b>Tavola N°2 - Rev. 0</b> ___ <b>129491590</b> ..... <b>5</b> GRUPPO TELAIO FRAME UNIT RAHMENSATZ GROUPE CHASSIS GRUPO ESTRUCTURA	<b>Tavola N°10 - Rev. 0</b> ___ <b>129491300</b> ..... <b>16</b> GRUPPO ELETTRONICA ELECTRONICS UNIT ELEKTRONIKSATZ GROUPE ÉLECTRONIQUE GRUPO ELECTRÓNICA
<b>Tavola N°3 - Rev. 0</b> ___ <b>129490081</b> ..... <b>6</b> GRUPPO SOLLEVATORE TELAIO FRAME LIFTING DEVICE UNIT SATZ FÜR RAHMENSHEBUNG GROUPE SOULÈVATEUR CHÂSSIS GRUPO LEVANTADOR ESTRUCTURA	<b>Tavola N°11 - Rev. 0</b> ___ <b>129491620</b> ..... <b>17</b> GRUPPO PLANCIA BOARD UNIT BRETTSATZ GROUPE PLANCHE GRUPO TABLERO
<b>Tavola N°4A - Rev. 0</b> ___ <b>129490072</b> ..... <b>7</b> GRUPPO ROTANTE ROTARY UNIT ROTIERENDER SATZ GROUPE ROTATIF GRUPO GIRATORIO	<b>Tavola N°12 - Rev. 0</b> ___ <b>129491640</b> ..... <b>18</b> GRUPPO COPRIRUOTA WHEEL COVER UNIT RADABDECKUNGSSATZ GROUPE COUVERTURE ROUE GRUPO COBERTURA RUEDA
<b>Tavola N°4B - Rev. 0</b> ___ <b>129491790</b> ..... <b>8</b> GRUPPO ROTANTE PNEUMATICO PNEUMATIC ROTARY UNIT PNEUMATISCHER ROTIERENDER SATZ GROUPE ROTATIF PNEUMATIQUE GRUPO GIRATORIO NEUMÁTICO	<b>Tavola N°13A - Rev. 0</b> _ ..... <b>19</b> GRUPPO DOTAZIONE C C EQUIPMENT UNIT AUSRÜSTUNGSATZ C GROUPE DOTATION C GRUPO DOTACIÓN C
<b>Tavola N°5A - Rev. 0</b> ___ <b>129490103</b> ..... <b>9</b> GRUPPO MOTORE MOTOR UNIT MOTORSATZ GROUPE MOTEUR GRUPO MOTOR	<b>Tavola N°13B - Rev. 0</b> _ ..... <b>20</b> GRUPPO DOTAZIONE D D EQUIPMENT UNIT AUSRÜSTUNGSATZ D GROUPE DOTATION D GRUPO DOTACIÓN D
<b>Tavola N°5B - Rev. 0</b> ___ <b>129491770</b> ..... <b>10</b> GRUPPO MOTORE CARRI TRUCKS MOTOR UNIT MOTORSATZ LKW GROUPE MOTEUR CAMIONS GRUPO MOTOR CAMIONES	<b>Tavola N°14 - Rev. 0</b> ___ <b>GAR328</b> ..... <b>21</b> LASE FISSO + ILLUMINATORE FIXED LASER + LIGHTING DEVICE FESTLASER + BELEUCHTUNG LASER FIXE + DISPOSITIF D'ÉCLAIRAGE LASER FIJO + ILLUMINADOR
<b>Tavola N°6 - Rev. 0</b> ___ <b>129390291</b> ..... <b>11</b> GRUPPO FRENO BRAKE UNIT BREMSATZ GROUPE FREIN GRUPO FRENO	<b>Tavola N°15 - Rev. 0</b> ___ <b>GAR266T</b> ..... <b>22</b> CALIBRO MISURA LARGHEZZA RUOTA CARRI EXTERNAL DATA GAUGE FOR TRUCK WHEEL MEASURING BREITENTASTER FÜR LKWS MESSUNG TIGE EXTERNE MESURE ROUES CAMIONS PALPADOR DE ANCHURA MEDIDA RUEDAS CAMIONES
<b>Tavola N°7A - Rev. 0</b> ___ <b>129391752</b> ..... <b>12</b> IMPIANTO PNEUMATICO PNEUMATIC SYSTEM PNEUMATISCHE ANLAGE SYSTÈME PNEUMATIQUE SISTEMA NEUMÁTICO	<b>Tavola N°16 - Rev. 0</b> ___ <b>GAR214TK</b> ..... <b>23</b> RUN-OUT CARRI TRUCK RUN-OUT LKW RUN-OUT RUN-OUT CAMIONS RUN-OUT CAMIONES
<b>Tavola N°7B - Rev. 0</b> ___ <b>29391752 + 129390311</b> ... <b>13</b> IMPIANTO PNEUMATICO PNEUMATIC SYSTEM PNEUMATISCHE ANLAGE SYSTÈME PNEUMATIQUE SISTEMA NEUMÁTICO	<b>Tavola N°17 - Rev. 0</b> ___ <b>GAR344</b> ..... <b>24</b> GHIERA BLOCCAGGIO RUOTE CARRI CARRIAGES WHEELS LOCKING RING-NUT SPERRNUTMUTTER FÜR LKW-RÄDER COLLIER DE BLOCAGE ROUES CAMIONS VIROLA DE BLOQUEO RUEDAS CAMIONES
<b>Tavola N°8 - Rev. 0</b> ___ <b>129490152</b> ..... <b>14</b> GRUPPO MISURA DISTANZA DISTANCE MEASURIN UNIT SATZ FÜR ABSTANDSMESSUNG GROUPE MESURE DISTANCE GRUPO MEDICIÓN DISTANCIA	





**LISTA DEI COMPONENTI - LIST OF COMPONENTS - TEILELISTE  
LISTE DES PIÈCES DÉTACHÉES - LISTA DE PIEZAS**

ASSIEME GENERALE  
MAIN ASSEMBLY  
GENERALSATZ  
ASSEMBLAGE GENERAL  
JUNTO GENERAL

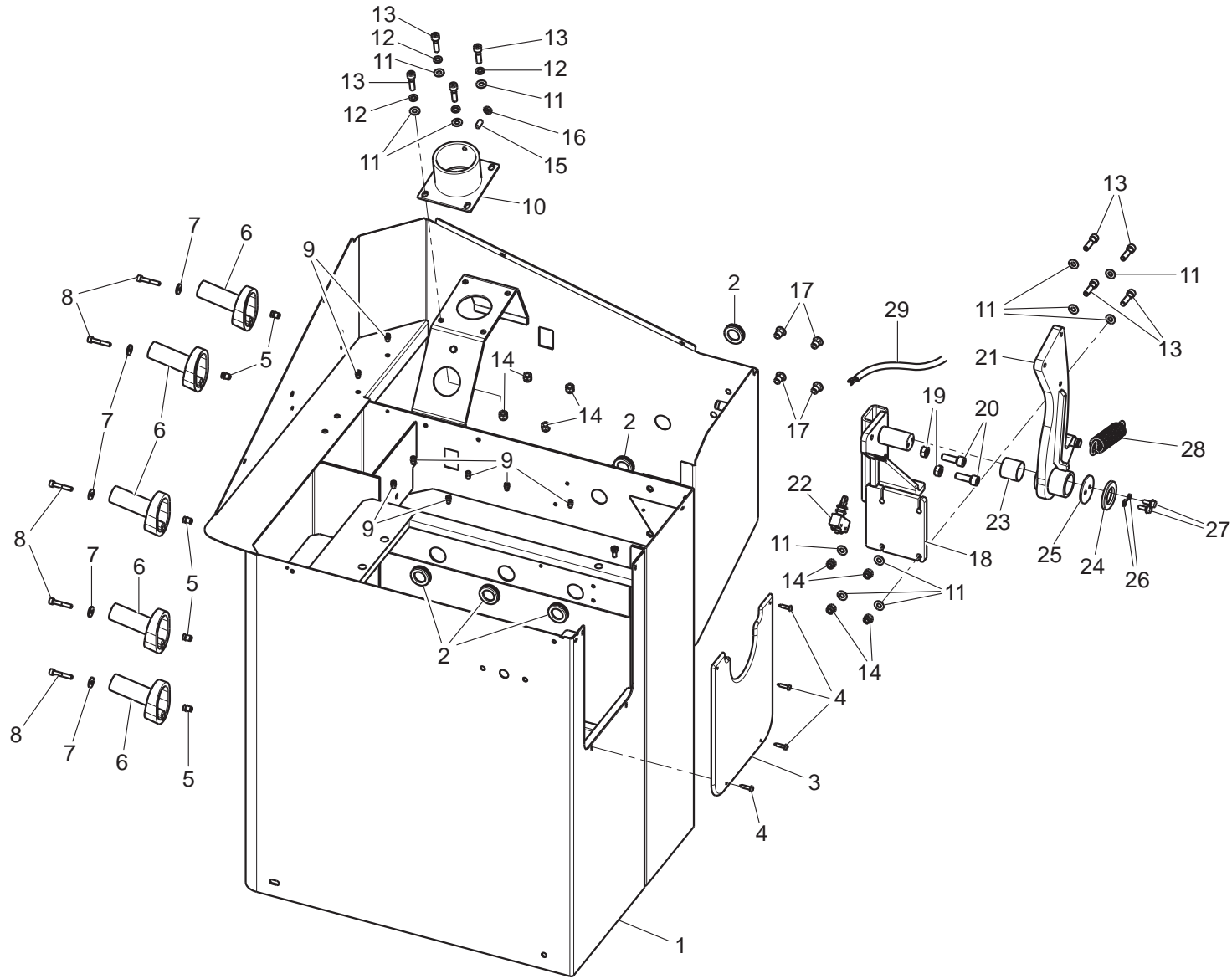
1294-R017-0\_P

**Tavola N°1 - Rev. 0**

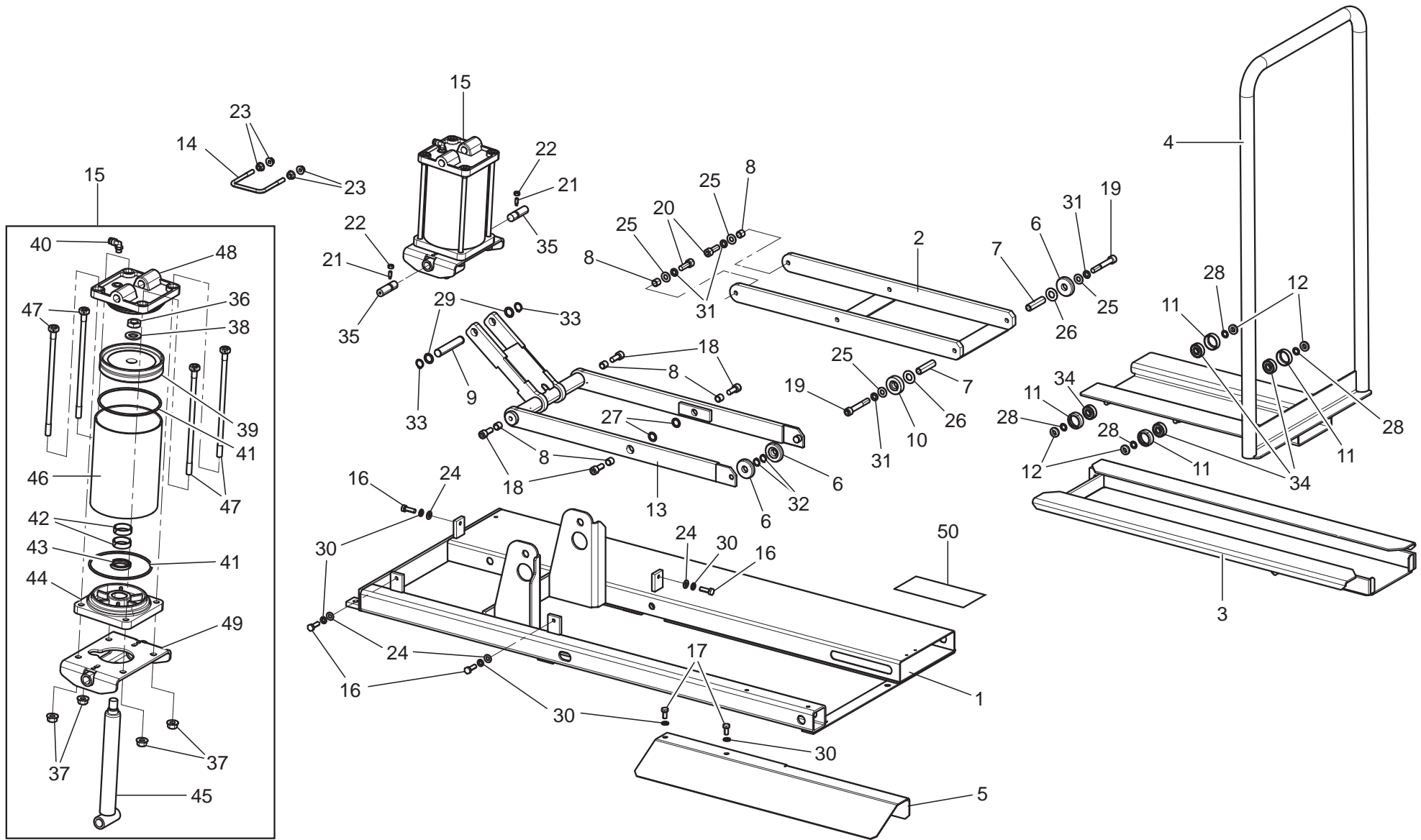
**Pag. 4 di 24**

Tav.	Cod.	Pos.	ERL280RC	ERPL280RC		
2	129491590		•	•		
3	129490081		•	•		
4A	129490072		•			
4B	129491790			•		
5A	129490103		•			
5B	129491770			•		
6	129390291		•	•		
7A	129391752		•			
7B	129391752+129390311			•		
8	129490152		•	•		
9	129491310		•	•		
10	129491300		•	•		
11	129491620		•	•		
12	129491640		•	•		
13A	-		•			
13B	-			•		
14	GAR328		OPT	OPT		
15	GAR266T		OPT	OPT		
16	GAR214TK		OPT	OPT		
17	GAR344		OPT			
	129491970	18		•		
	325036	19		•		
	319004	20		•		
	20099	21		•		
	511027	22		•		
	533051	23		•		
	518192	24		•		
	533054	25		•		

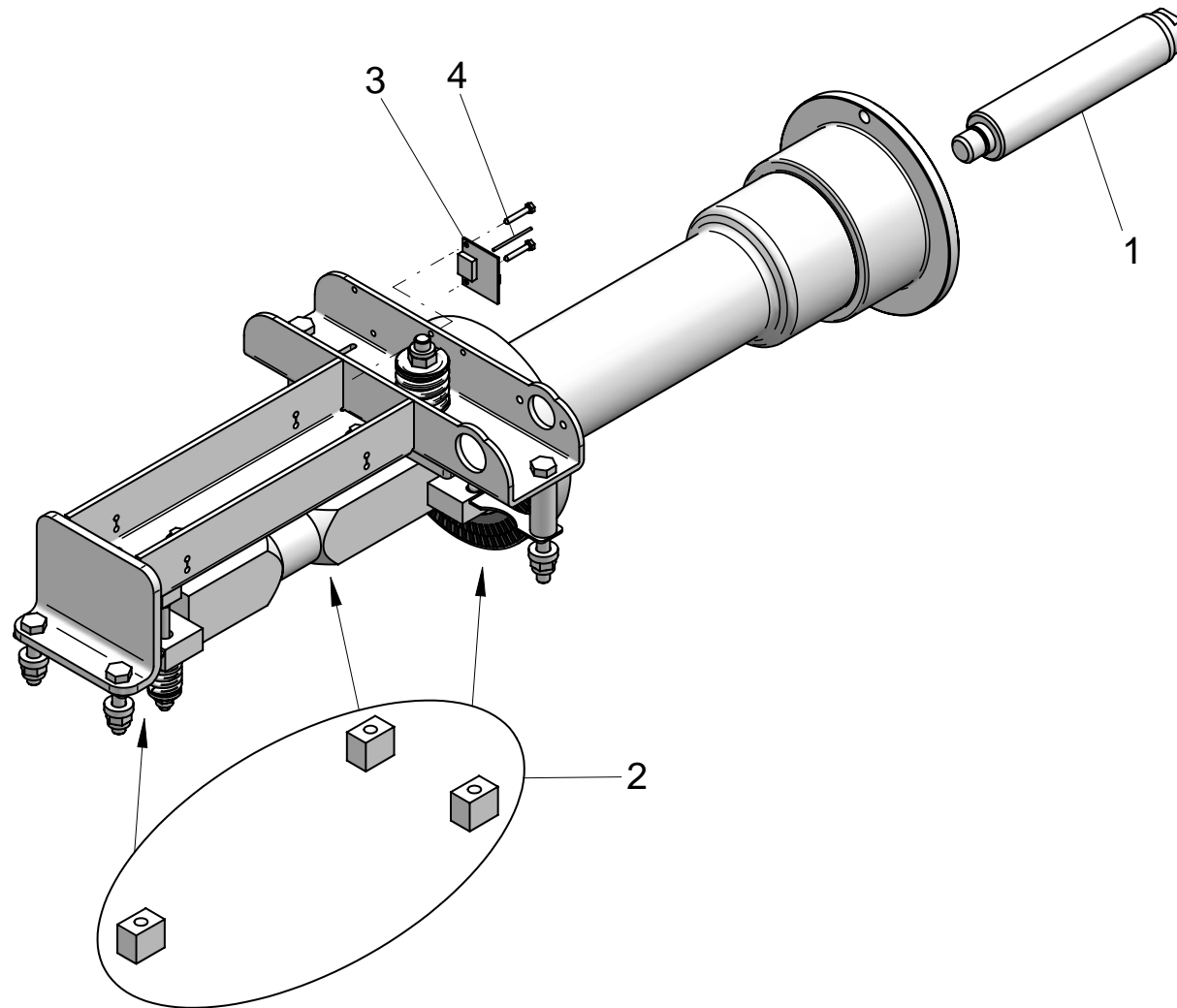
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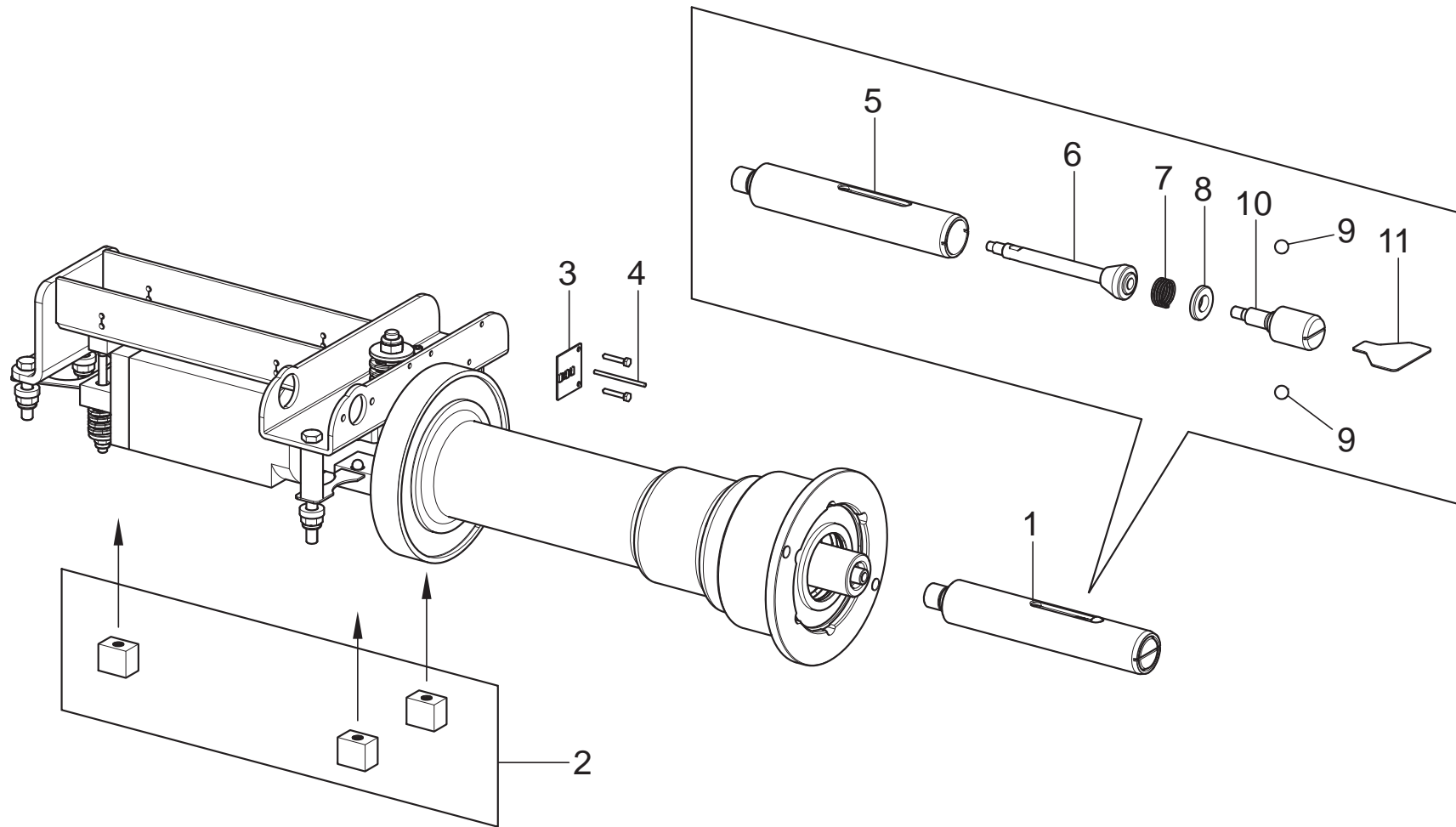
ERL280RC	ERPL280RC		
•	•		
	<b>LISTA DEI COMPONENTI - LIST OF COMPONENTS - TEILELISTE</b> <b>LISTE DES PIÈCES DÉTACHÉES - LISTA DE PIEZAS</b>		GRUPPO TELAIO FRAME UNIT RAHMENSATZ GROUPE CHASSIS GRUPO ESTRUCTURA
	Tavola N°2 - Rev. 0	129491590	Pag. 5 di 24
			1294-R017-0_P



ERL280RC	ERPL280RC		
•	•		
 <b>LISTA DEI COMPONENTI - LIST OF COMPONENTS - TEILELISTE</b> <b>LISTE DES PIÈCES DÉTACHÉES - LISTA DE PIEZAS</b>		GRUPPO SOLLEVATORE TELAIO FRAME LIFTING DEVICE UNIT SATZ FÜR RAHMENSHEBUNG GROUPE SOULÈVATEUR CHÂSSIS GRUPO LEVANTADOR ESTRUCTURA	<b>Pag. 6 di 24</b>
<b>Tavola N°3 - Rev. 0</b>		<b>129490081</b>	1294-R017-0_P

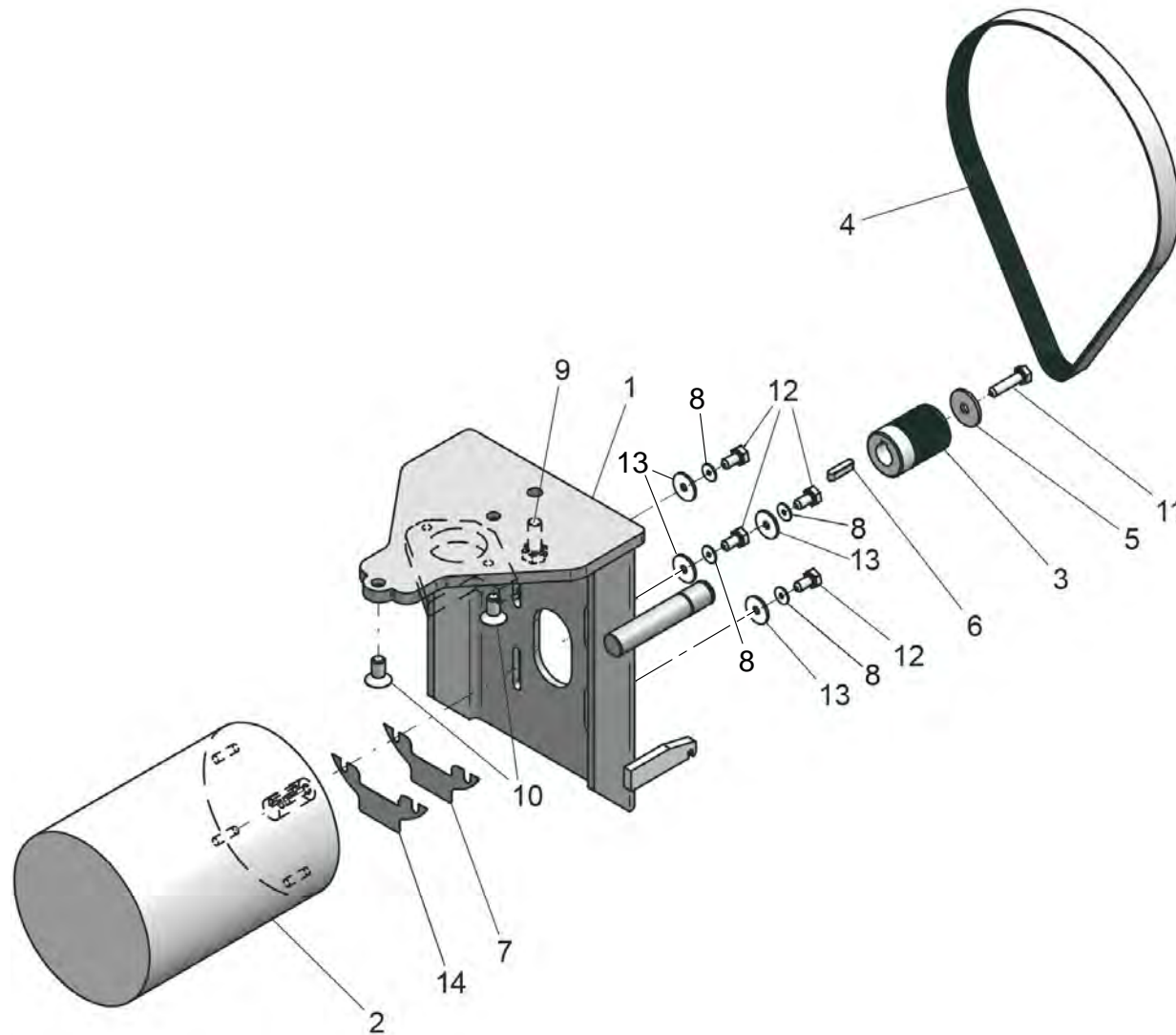


ERL280RC	ERPL280RC		
•			
	<b>LISTA DEI COMPONENTI - LIST OF COMPONENTS - TEILELISTE</b> <b>LISTE DES PIÈCES DÉTACHÉES - LISTA DE PIEZAS</b>		<b>GRUPPO ROTANTE</b> <b>ROTARY UNIT</b> <b>ROTIERENDER SATZ</b> <b>GROUPE ROTATIF</b> <b>GRUPO GIRATORIO</b>
	<b>Tavola N°4A - Rev. 0</b>	<b>129490072</b>	
			1294-R017-0_P



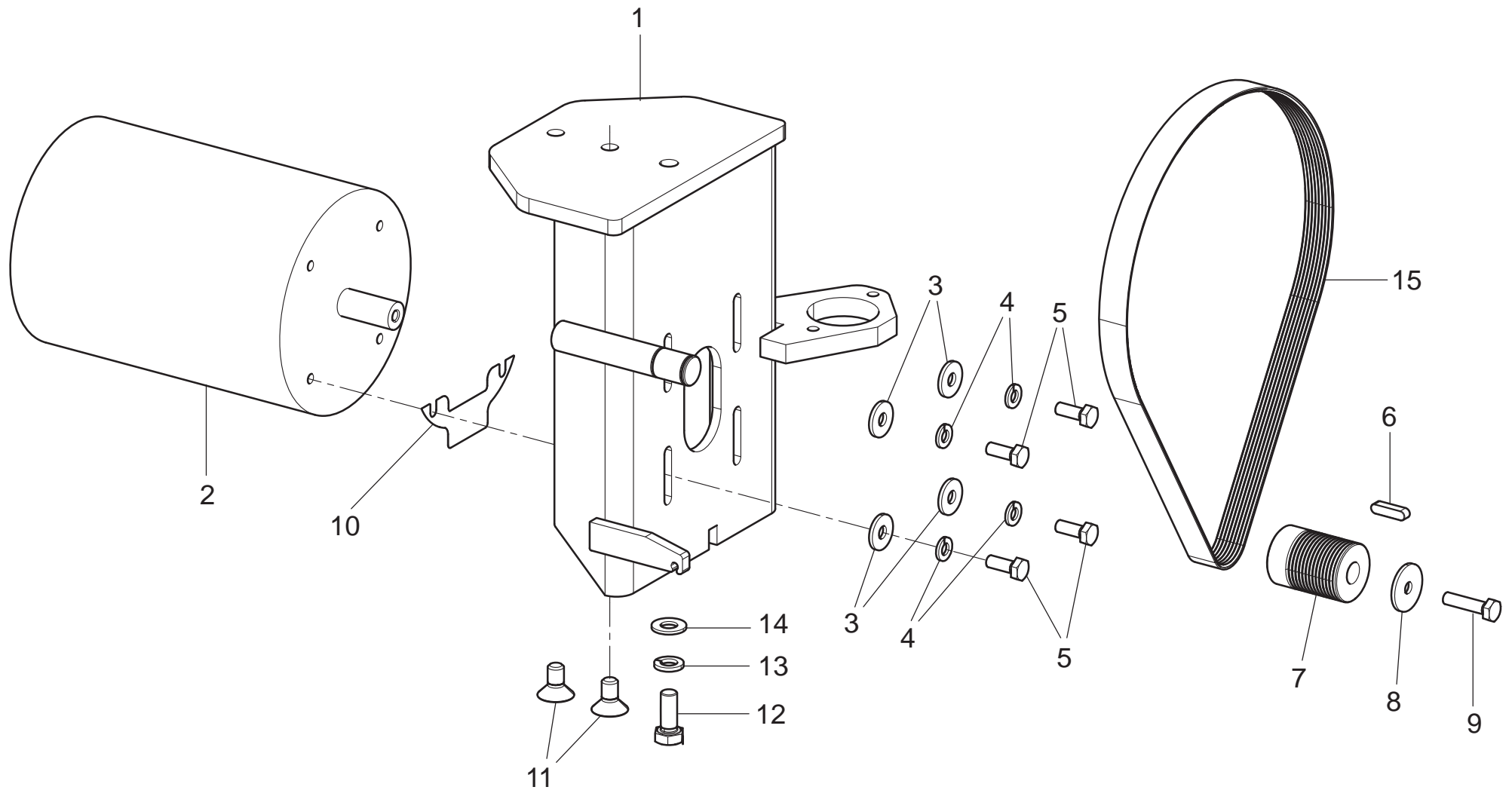
ERL280RC	ERPL280RC		
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	<b>LISTA DEI COMPONENTI - LIST OF COMPONENTS - TEILELISTE</b> <b>LISTE DES PIÈCES DÉTACHÉES - LISTA DE PIEZAS</b>		GRUPPO ROTANTE PNEUMATICO PNEUMATIC ROTARY UNIT PNEUMATISCHER ROTIERENDER SATZ GROUPE ROTATIF PNEUMATIQUE GRUPO GIRATORIO NEUMÁTICO
	<b>Tavola N°4B - Rev. 0</b>	<b>129491790</b>	<b>Pag. 8 di 24</b> 1294-R017-0_P



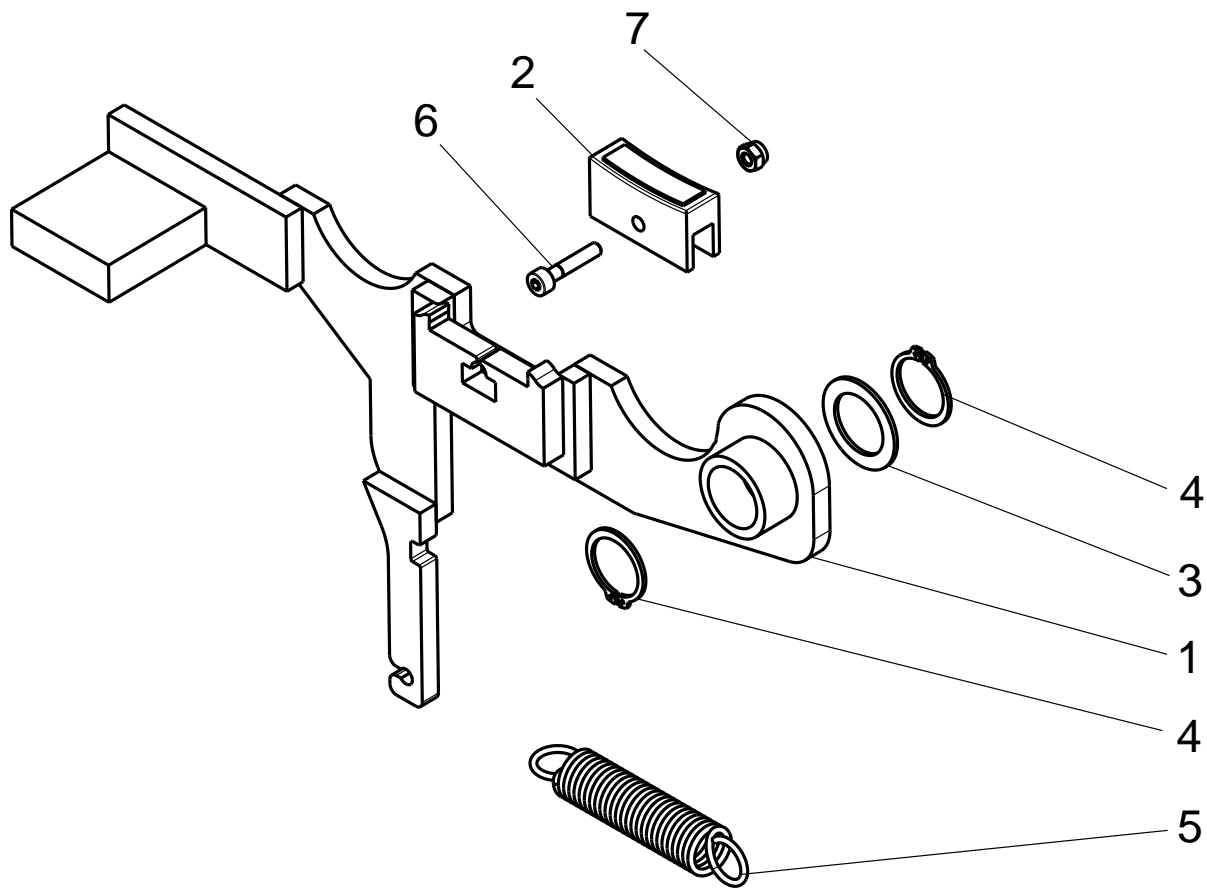


ERL280RC		ERPL280RC		
•				
	<b>LISTA DEI COMPONENTI - LIST OF COMPONENTS - TEILELISTE</b> <b>LISTE DES PIÈCES DÉTACHÉES - LISTA DE PIEZAS</b>			<b>Pag. 9 di 24</b>
	<b>Tavola N°5A - Rev. 0</b>	<b>129490103</b>		

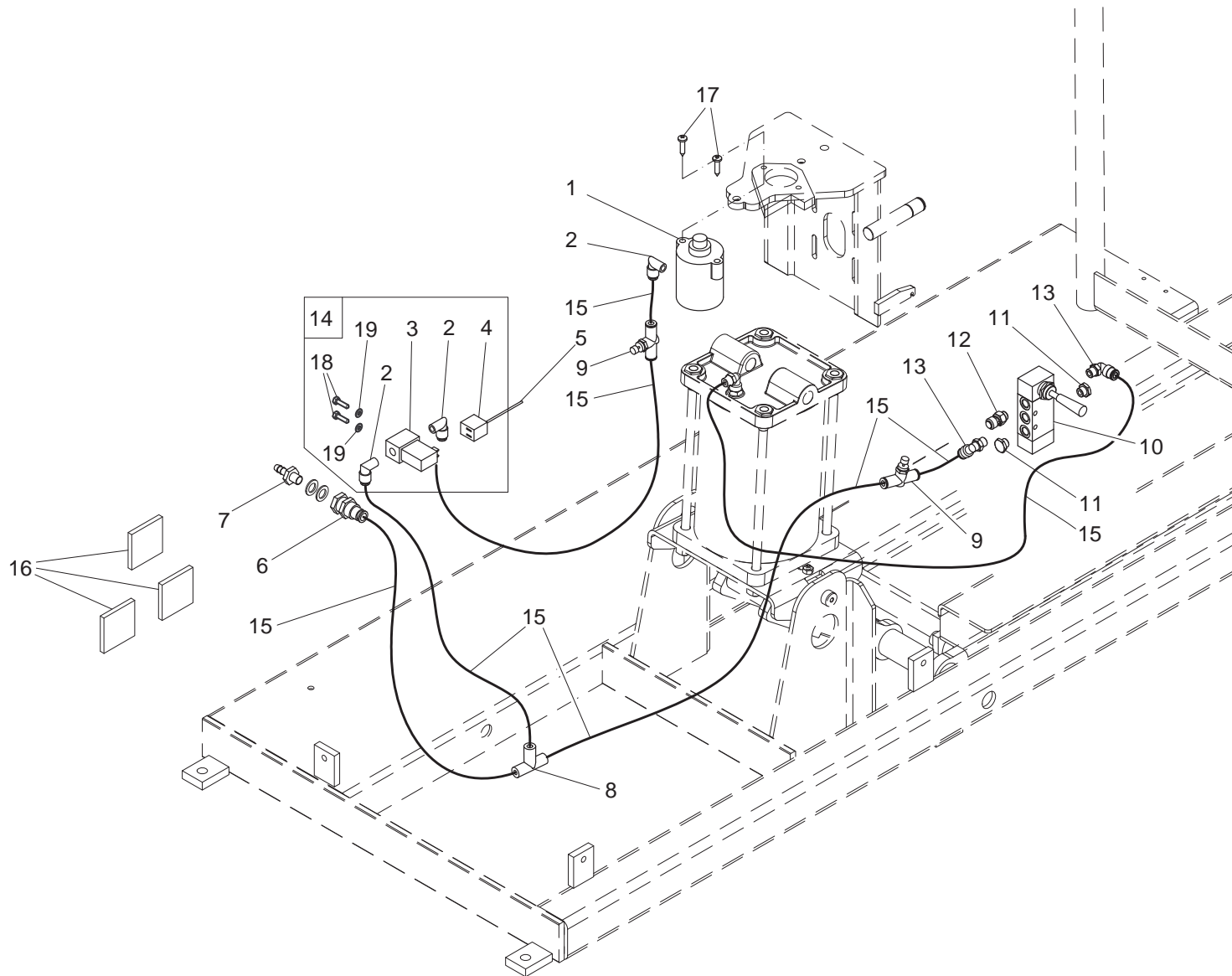
GRUPPO MOTORE  
 MOTOR UNIT  
 MOTORSATZ  
 GROUPE MOTEUR  
 GRUPO MOTOR



ERL280RC	ERPL280RC		
•			
	<b>LISTA DEI COMPONENTI - LIST OF COMPONENTS - TEILELISTE</b> <b>LISTE DES PIÈCES DÉTACHÉES - LISTA DE PIEZAS</b>		GRUPPO MOTORE CARRI TRUCKS MOTOR UNIT MOTORSATZ LKW GROUPE MOTEUR CAMIONS GRUPO MOTOR CAMIONES
	<b>Tavola N°5B - Rev. 0</b>	<b>129491770</b>	

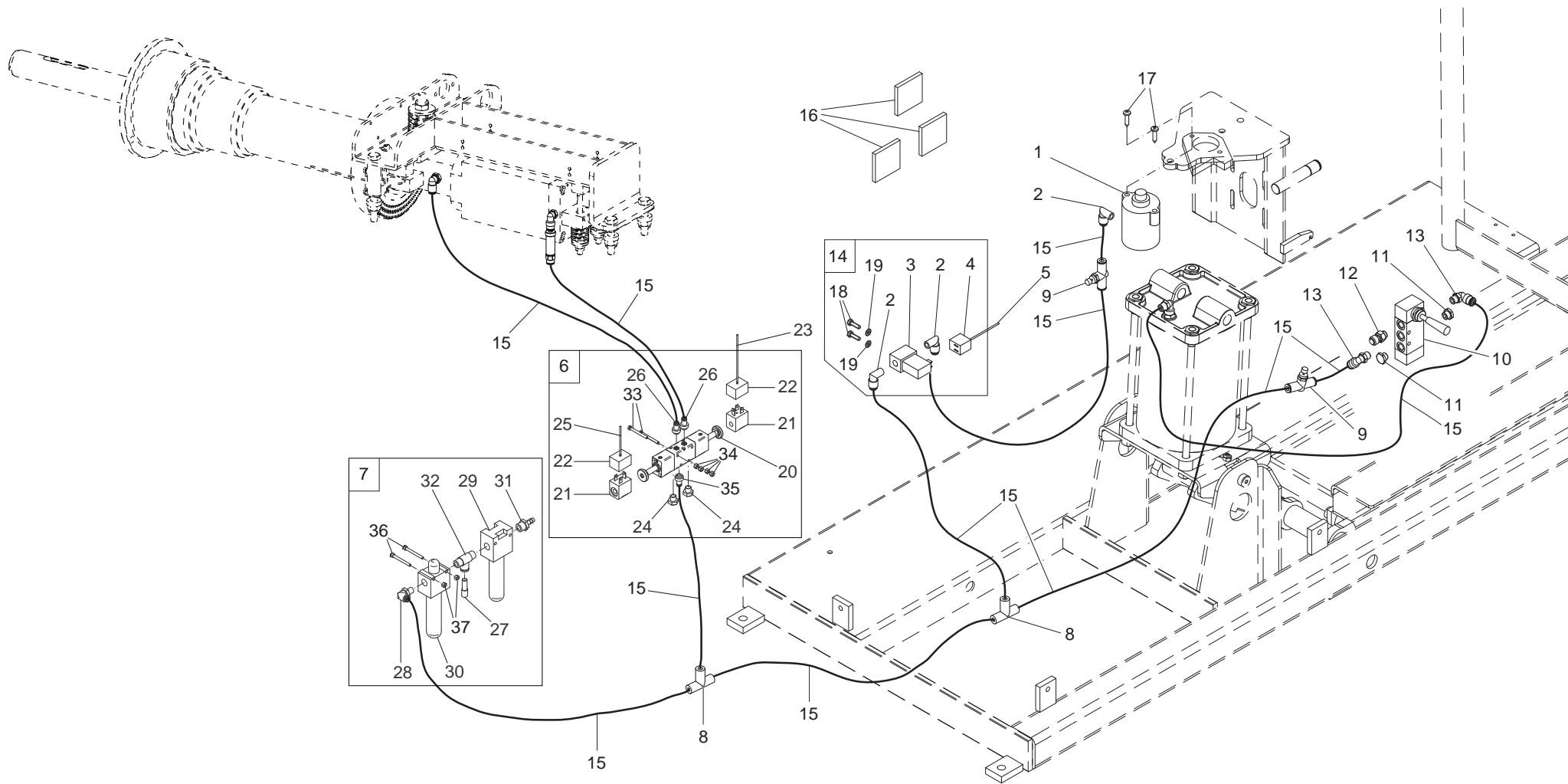


ERL280RC	ERPL280RC		
•	•		
	<b>LISTA DEI COMPONENTI - LIST OF COMPONENTS - TEILELISTE</b> <b>LISTE DES PIÈCES DÉTACHÉES - LISTA DE PIEZAS</b>		GRUPPO FRENO BRAKE UNIT BREMSATZ GROUPE FREIN GRUPO FRENO
Tavola N°6 - Rev. 0	129390291		Pag. 11 di 24
			1294-R017-0_P

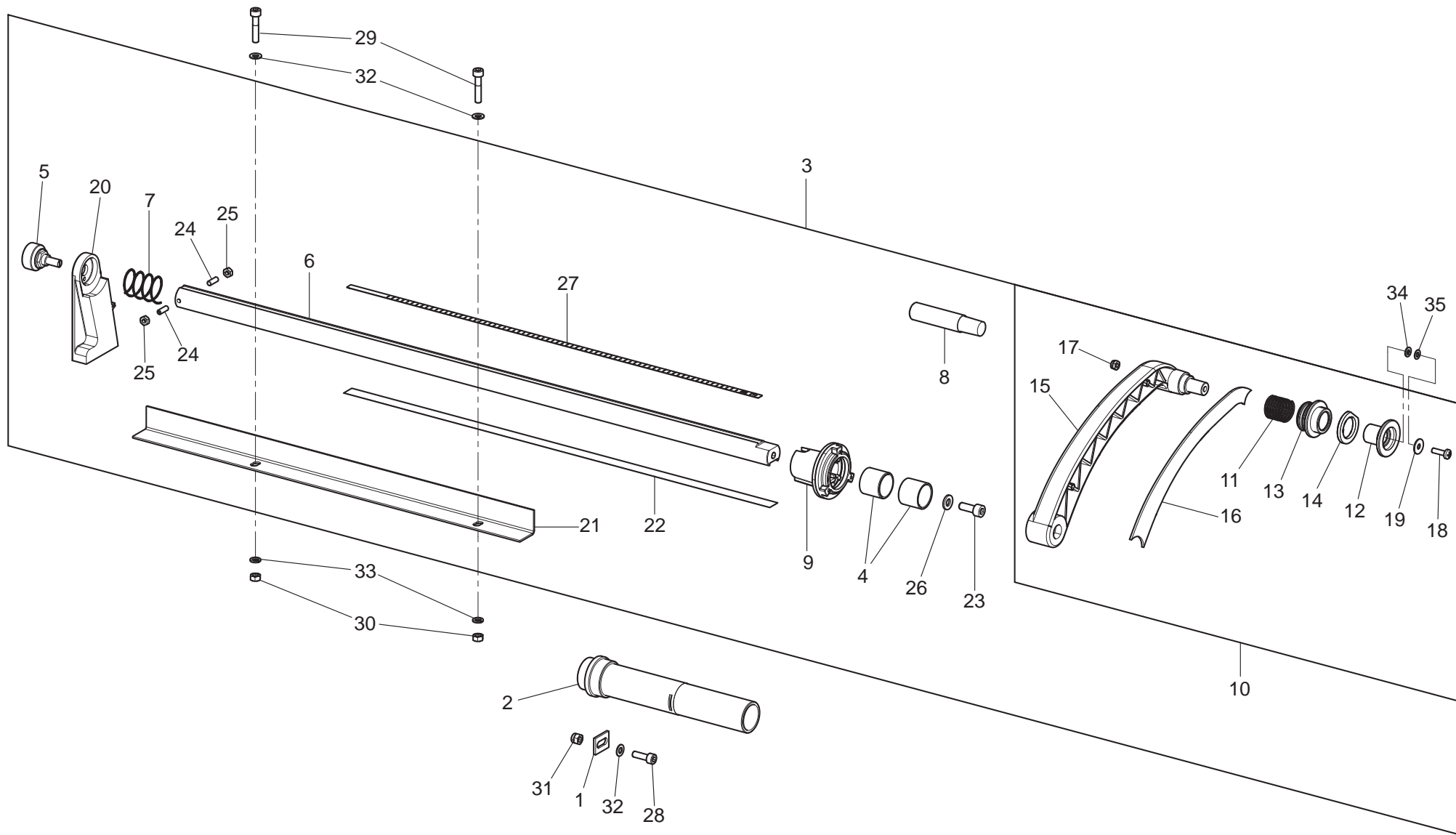


ERL280RC		ERPL280RC		
•				
	<b>LISTA DEI COMPONENTI - LIST OF COMPONENTS - TEILELISTE</b> <b>LISTE DES PIÈCES DÉTACHÉES - LISTA DE PIEZAS</b>			<b>Pag. 12 di 24</b>
	<b>Tavola N°7A - Rev. 0</b>	<b>129391752</b>		

IMPIANTO PNEUMATICO  
 PNEUMATIC SYSTEM  
 PNEUMATISCHE ANLAGE  
 SYSTÈME PNEUMATIQUE  
 SISTEMA NEUMÁTICO

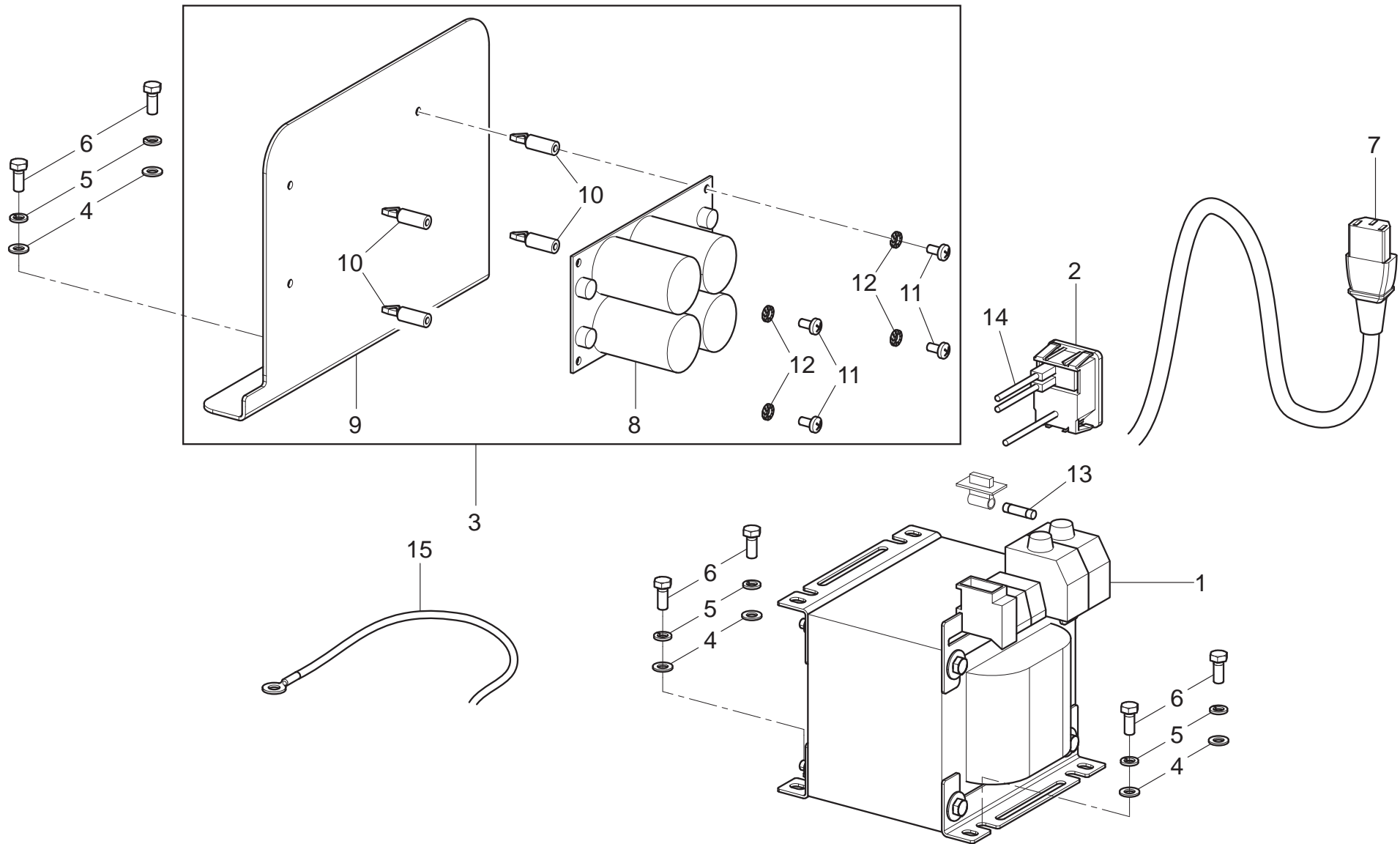


ERL280RC	ERPL280RC		
•			
	<b>LISTA DEI COMPONENTI - LIST OF COMPONENTS - TEILELISTE</b> <b>LISTE DES PIÈCES DÉTACHÉES - LISTA DE PIEZAS</b>		IMPIANTO PNEUMATICO PNEUMATIC SYSTEM PNEUMATISCHE ANLAGE SYSTÈME PNEUMATIQUE SISTEMA NEUMÁTICO
	<b>Tavola N°7B - Rev. 0</b>	<b>129391752 + 129390311</b>	
			1294-R017-0_P



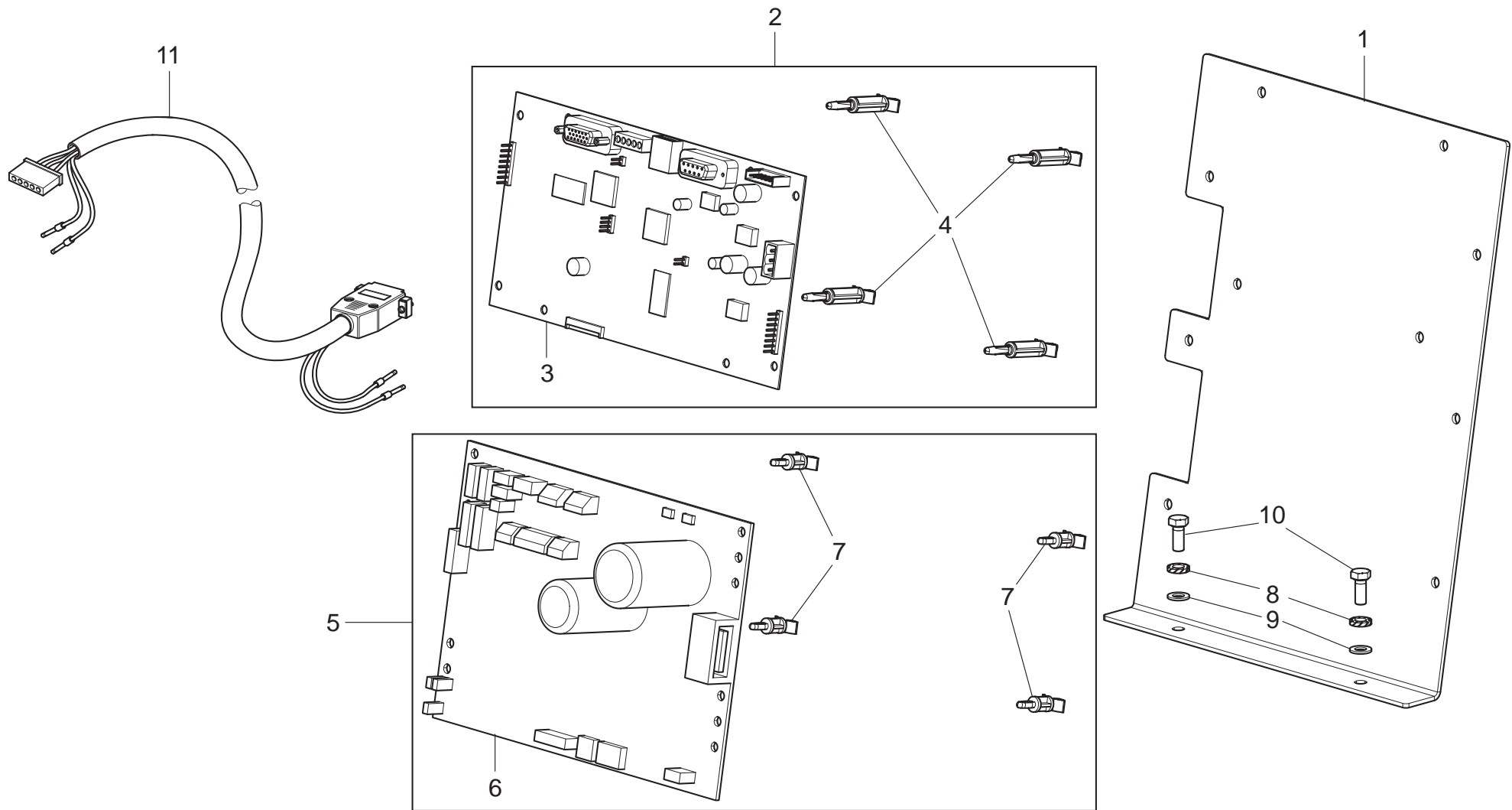
ERL280RC	ERPL280RC		
•	•		
	<b>LISTA DEI COMPONENTI - LIST OF COMPONENTS - TEILELISTE</b> <b>LISTE DES PIÈCES DÉTACHÉES - LISTA DE PIEZAS</b>		<b>Pag. 14 di 24</b>
	<b>Tavola N°8 - Rev. 0</b>	<b>129490152</b>	

GRUPPO MISURA DISTANZA  
DISTANCE MEASURING UNIT  
SATZ FÜR ABSTANDSMESSUNG  
GRUPE MESURE DISTANCE  
GRUPO MEDICIÓN DISTANCIA



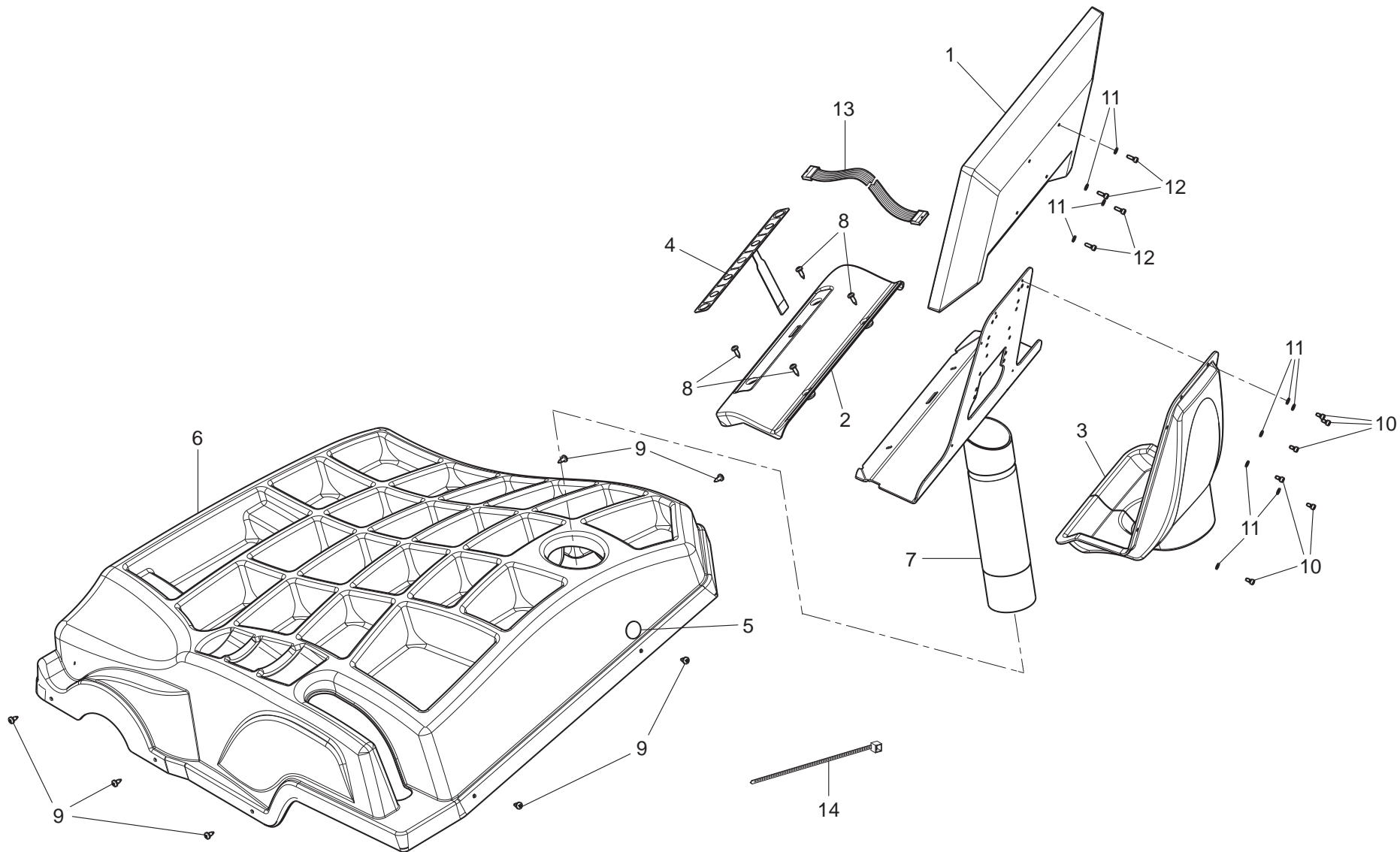
ERL280RC	ERPL280RC		
•	•		
	<b>LISTA DEI COMPONENTI - LIST OF COMPONENTS - TEILELISTE</b> <b>LISTE DES PIÈCES DÉTACHÉES - LISTA DE PIEZAS</b>		<b>Pag. 15 di 24</b>
	<b>Tavola N°9 - Rev. 0</b>	<b>129491310</b>	

GRUPPO IMPIANTO POTENZA EQUILIBRATRICE  
 BALANCING MACHINE POWER SYSTEM UNIT  
 SATZ VON LEISTUNGSANLAGE DER AUSWUCHTMASCHINEN  
 GROUPE INSTALLATION PUISSANCE ÉQUILIBREUSE  
 GRUPO INSTALACIÓN POTENCIA EQUILIBRADORA

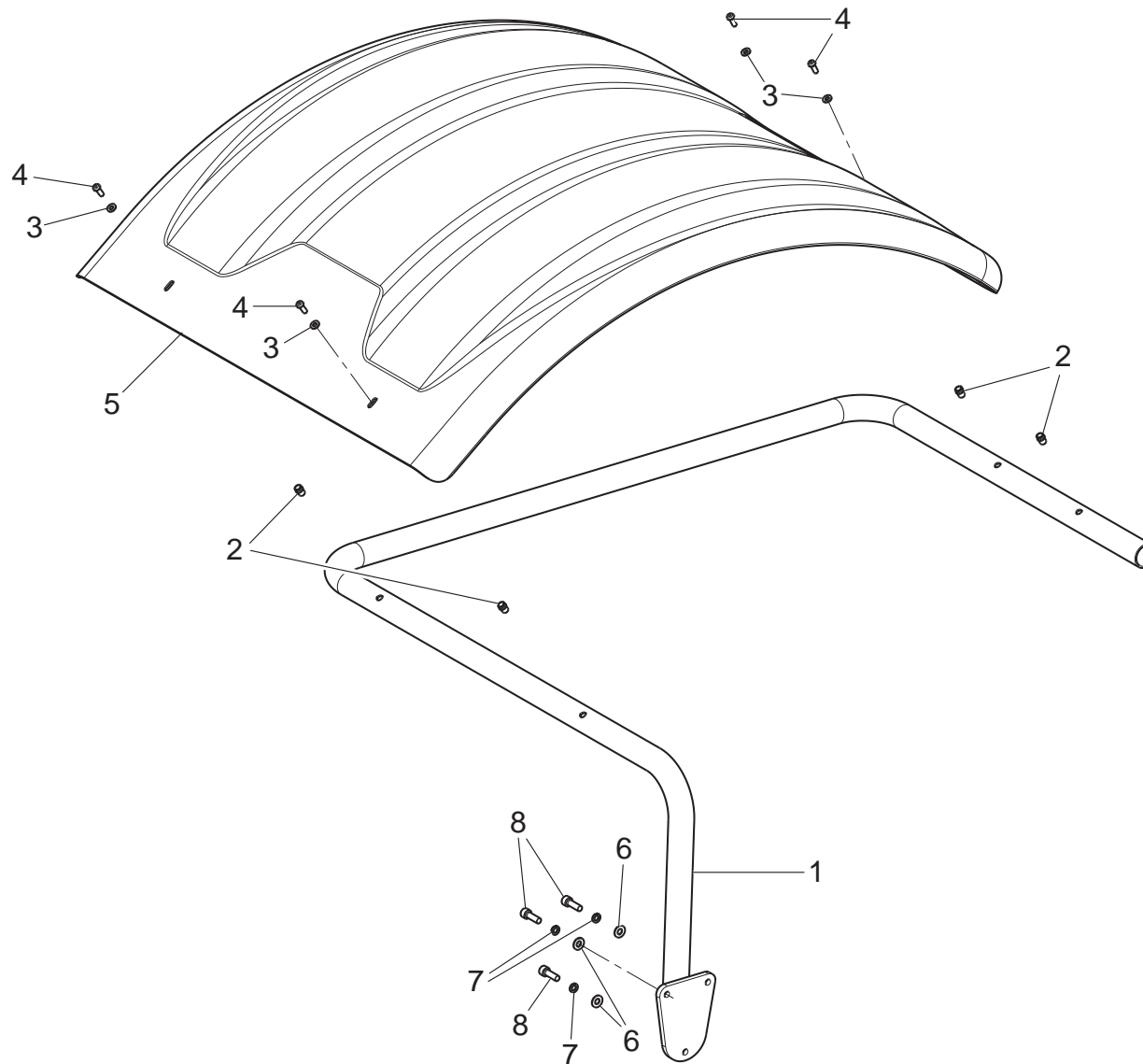


ERL280RC	ERPL280RC		
•	•		
	<b>LISTA DEI COMPONENTI - LIST OF COMPONENTS - TEILELISTE</b> <b>LISTE DES PIÈCES DÉTACHÉES - LISTA DE PIEZAS</b>		GRUPPO ELETTRONICA ELECTRONICS UNIT ELEKTRONIKSATZ GROUPE ÉLECTRONIQUE GRUPO ELECTRÓNICA
	<b>Tavola N°10 - Rev. 0</b>	<b>129491300</b>	
			1294-R017-0_P

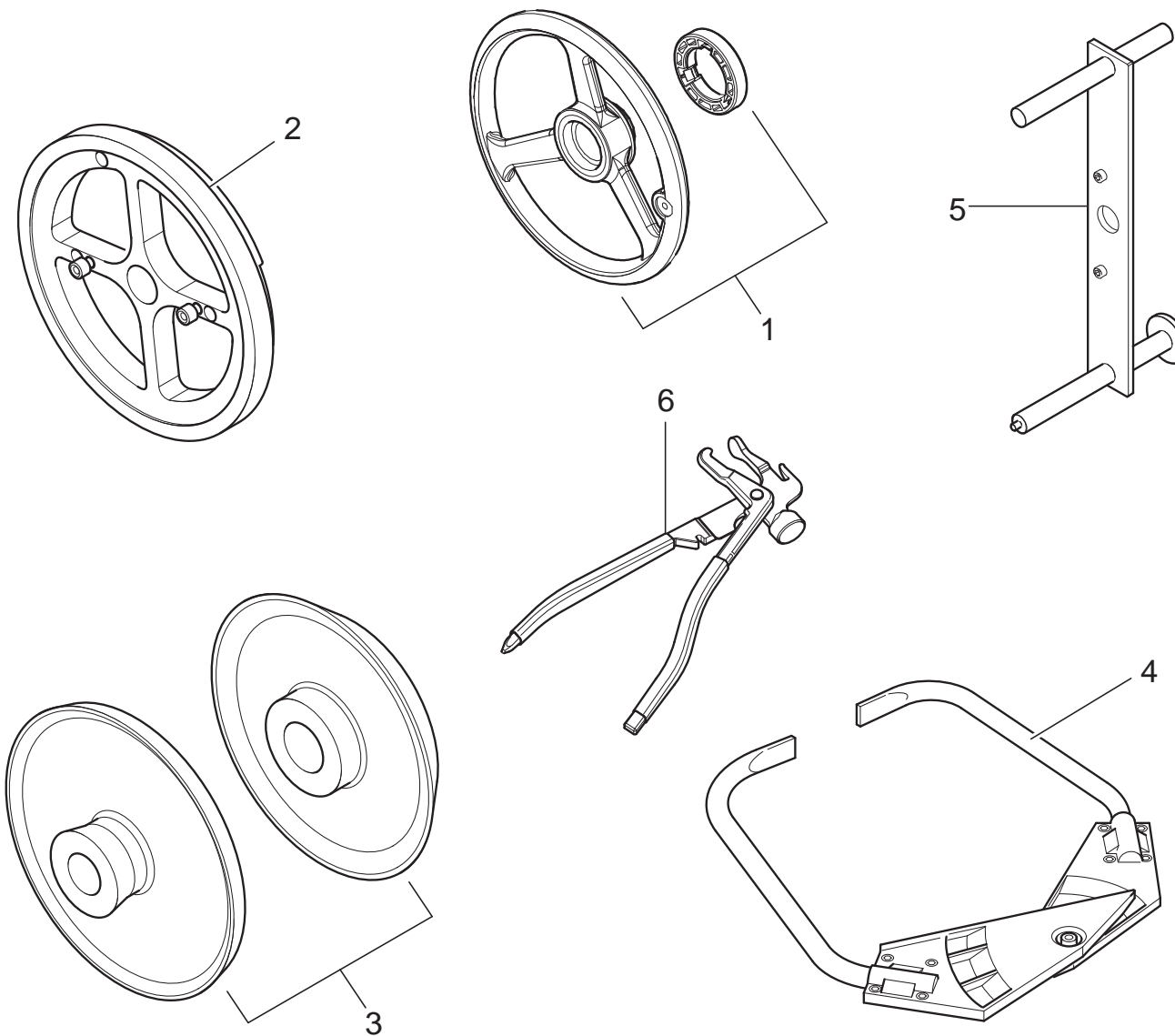





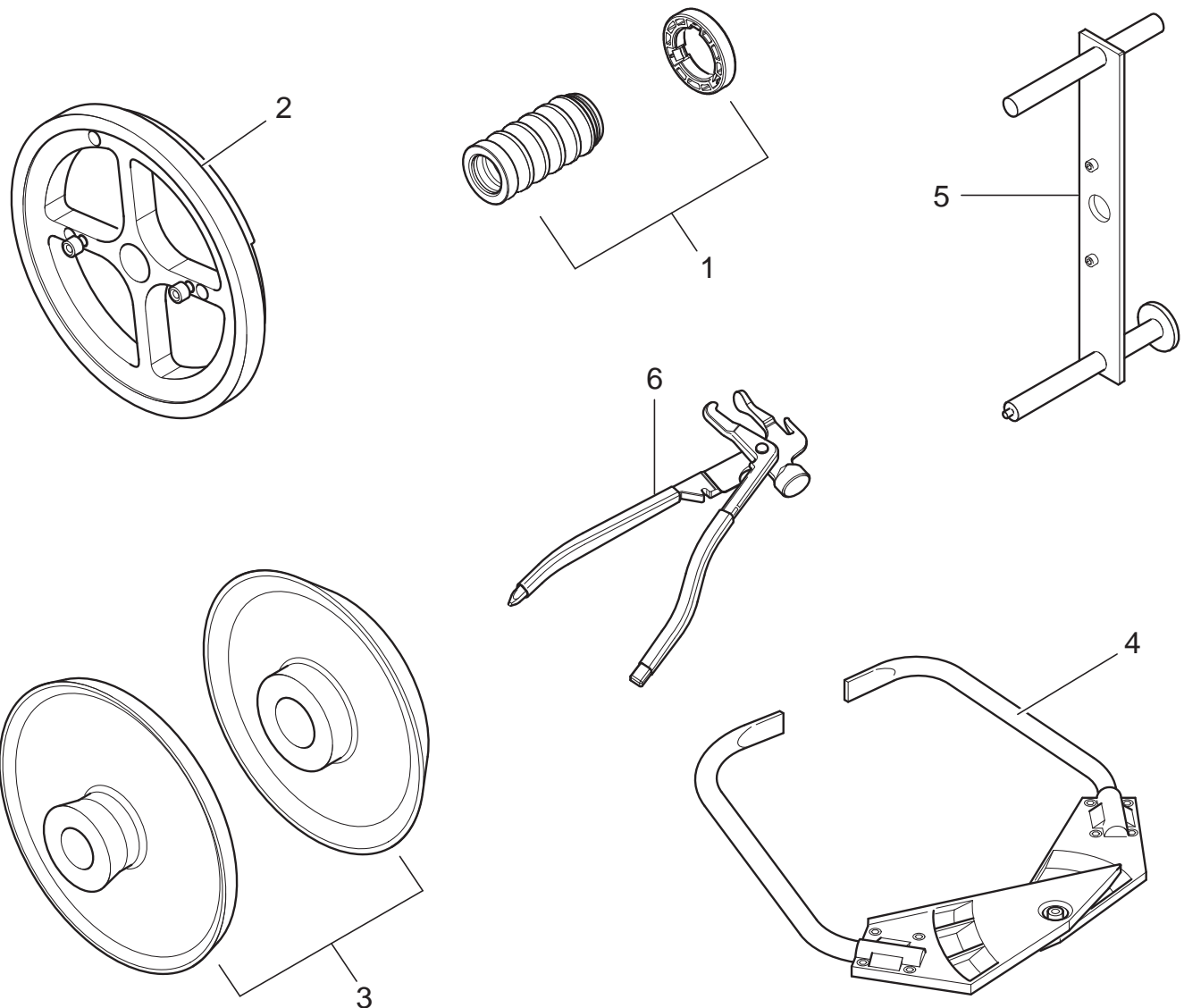
ERL280RC	ERPL280RC		
•	•		
	<b>LISTA DEI COMPONENTI - LIST OF COMPONENTS - TEILELISTE</b> <b>LISTE DES PIÈCES DÉTACHÉES - LISTA DE PIEZAS</b>		GRUPPO PLANCIA BOARD UNIT BRETTSATZ GROUPE PLANCHE GRUPO TABLERO
	<b>Tavola N°11 - Rev. 0</b>	<b>129491620</b>	<b>Pag. 17 di 24</b> 1294-R017-0_P




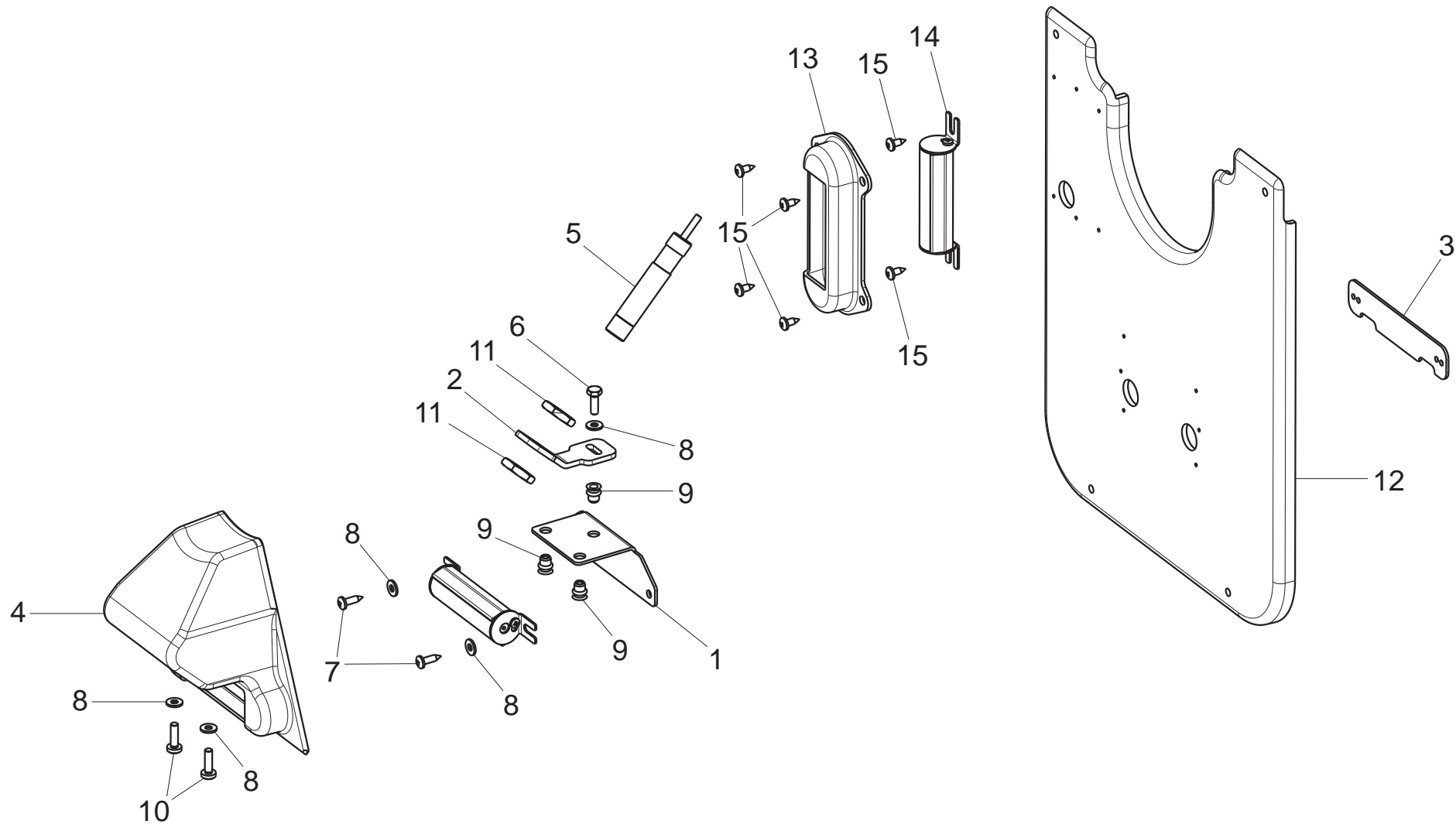
ERL280RC	ERPL280RC		
•	•		
	<b>LISTA DEI COMPONENTI - LIST OF COMPONENTS - TEILELISTE</b> <b>LISTE DES PIÈCES DÉTACHÉES - LISTA DE PIEZAS</b>		GRUPPO COPRIRUOTA WHEEL COVER UNIT RADABDECKUNGSATZ GROUPE COUVERTURE ROUE GRUPO COBERTURA RUEDA
	Tavola N°12 - Rev. 0	129491640	
			Pag. 18 di 24
			1294-R017-0_P




ERL280RC	ERPL280RC		
•			
	<b>LISTA DEI COMPONENTI - LIST OF COMPONENTS - TEILELISTE          LISTE DES PIÈCES DÉTACHÉES - LISTA DE PIEZAS</b>		GRUPPO DOTAZIONE C C EQUIPMENT UNIT AUSRÜSTUNGSATZ C GROUPE DOTATION C GRUPO DOTACIÓN C
	<b>Tavola N°13A - Rev. 0</b>		
			<b>Pag. 19 di 24</b> 1294-R017-0_P

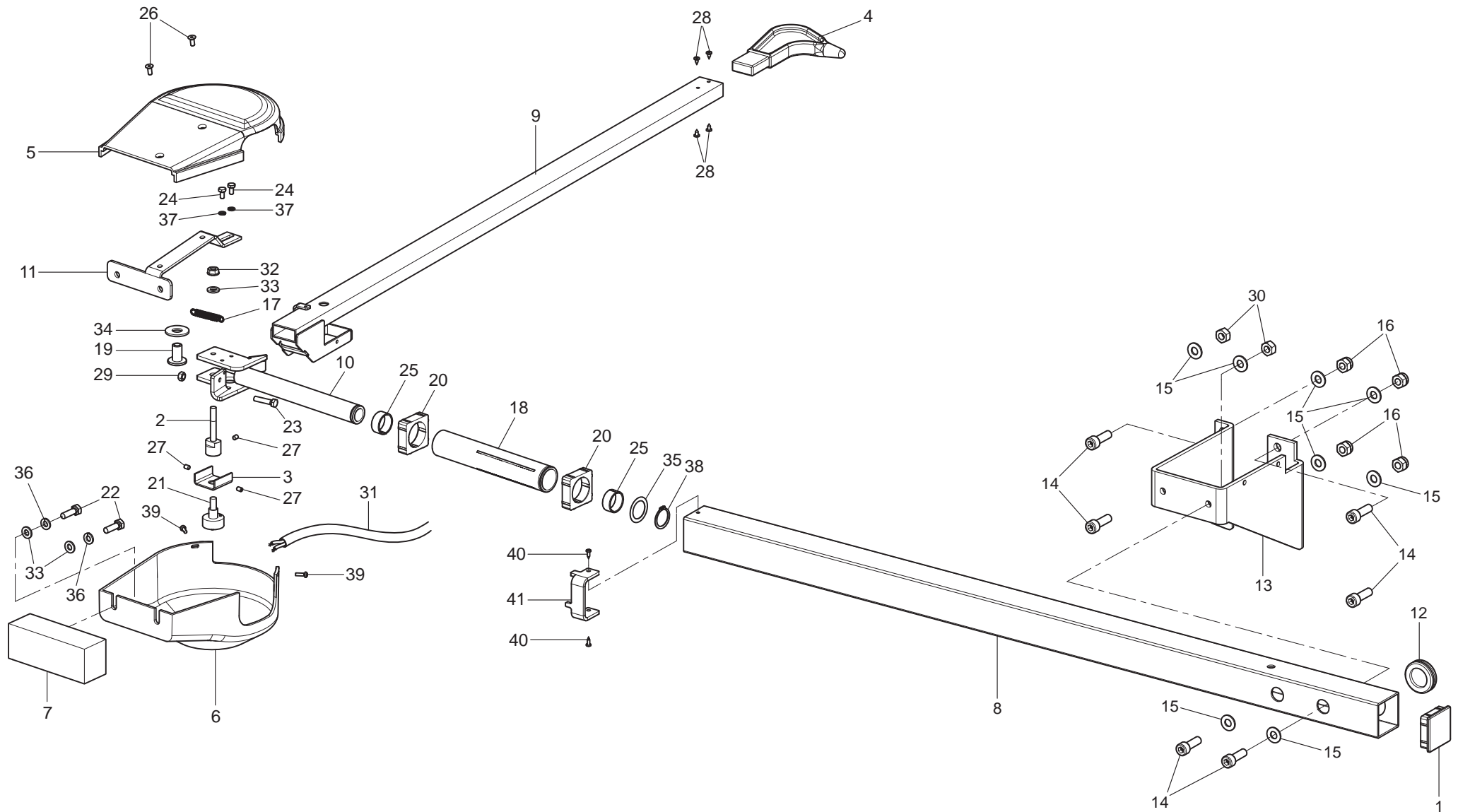


ERL280RC	ERPL280RC		
•			
	<b>LISTA DEI COMPONENTI - LIST OF COMPONENTS - TEILELISTE</b> <b>LISTE DES PIÈCES DÉTACHÉES - LISTA DE PIEZAS</b>		GRUPPO DOTAZIONE D D EQUIPMENT UNIT AUSRÜSTUNGSATZ D GROUPE DOTATION D GRUPO DOTACIÓN D
	<b>Tavola N°13B - Rev. 0</b>		

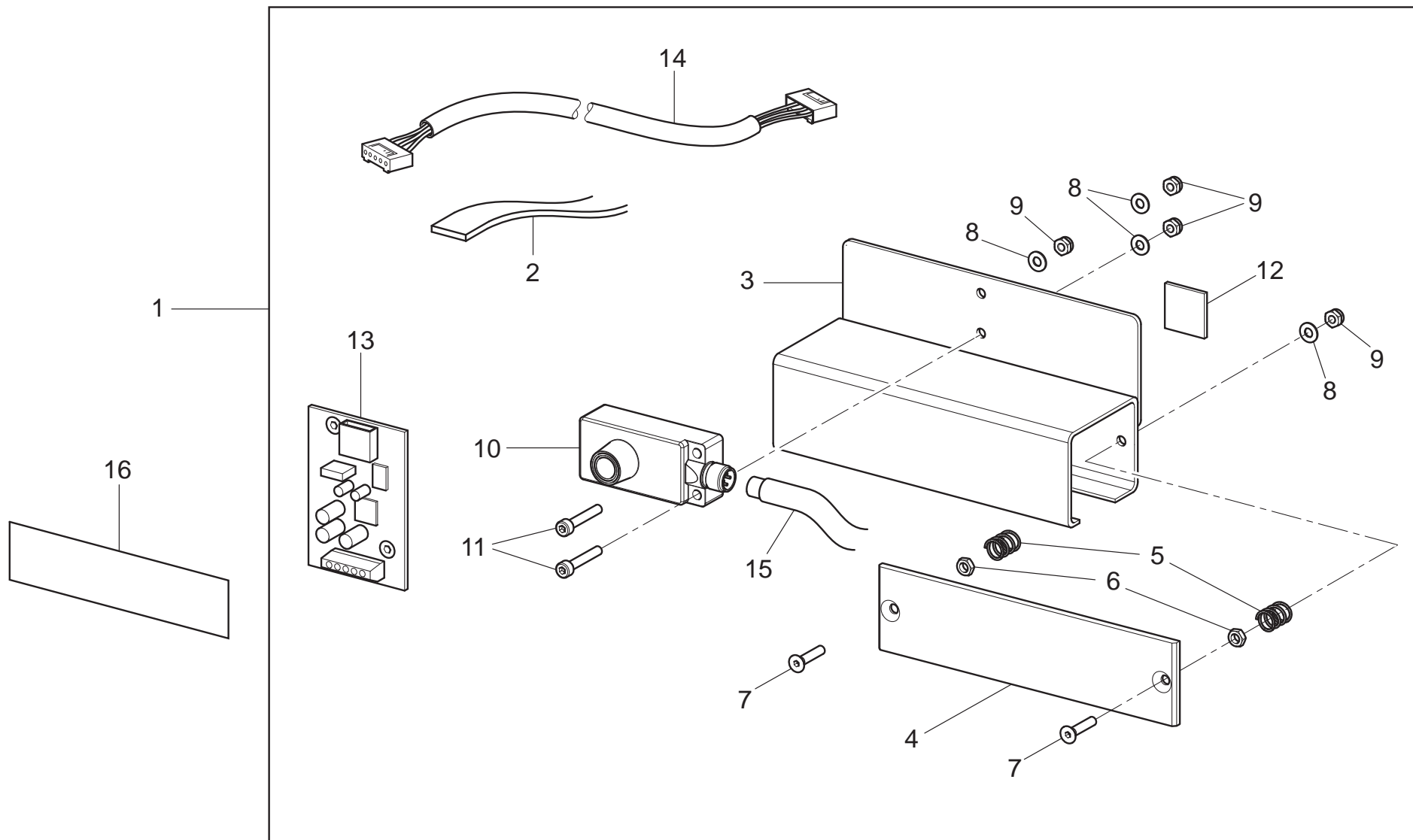


<i>ERL280RC</i>	<i>ERPL280RC</i>		
OPT	OPT		
	<b>LISTA DEI COMPONENTI - LIST OF COMPONENTS - TEILELISTE</b> <b>LISTE DES PIÈCES DÉTACHÉES - LISTA DE PIEZAS</b>		<b>Pag. 21 di 24</b>
	<b>Tavola N°14 - Rev. 0</b>	<b>GAR328</b>	

LASE FISSO + ILLUMINATORE  
 FIXED LASER + LIGHTING DEVICE  
 FESTLASER + BELEUCHTUNG  
 LASER FIXE + DISPOSITIF D'ÉCLAIRAGE  
 LASER FIJO + ILUMINADOR

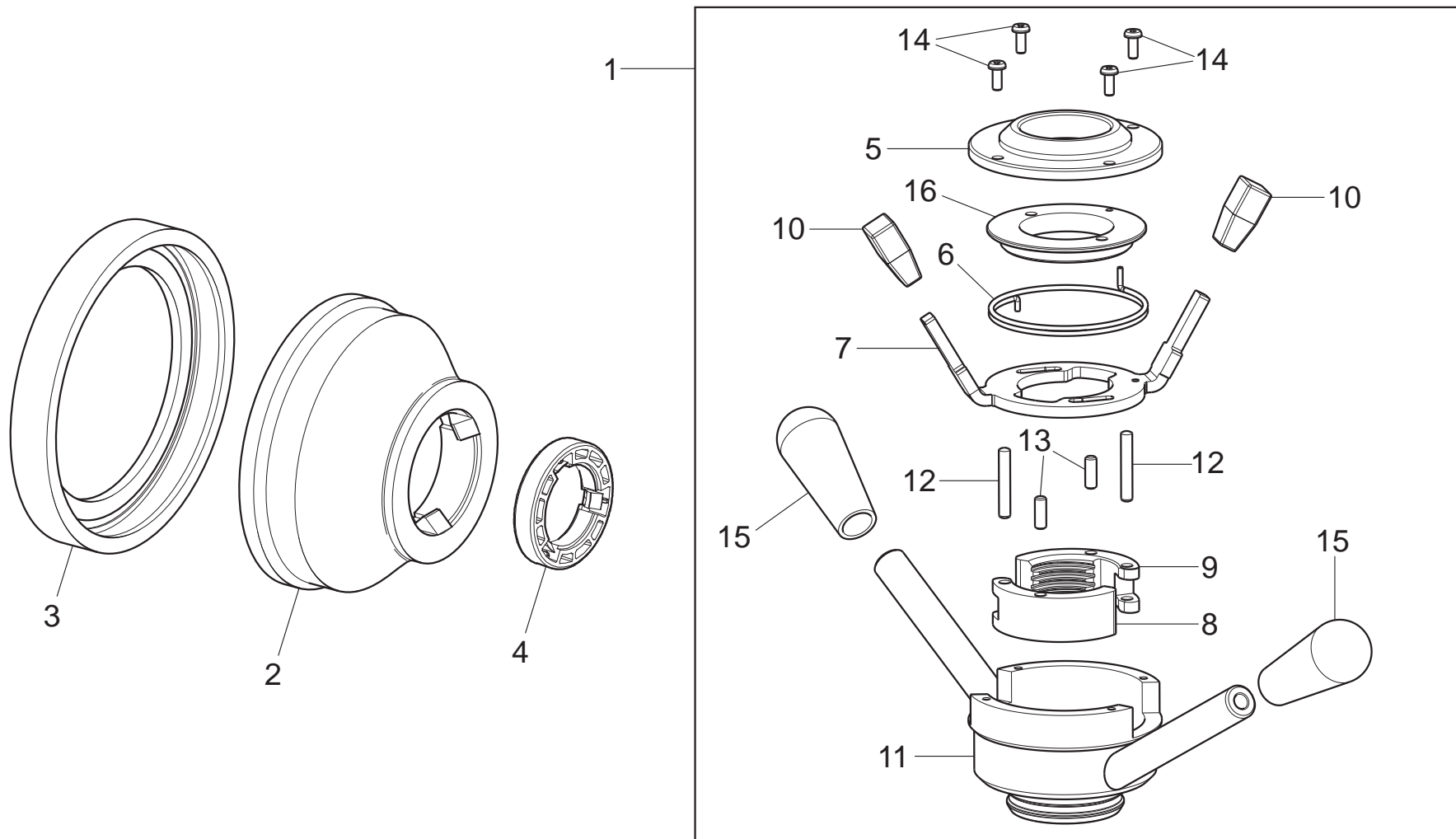



<i>ERL280RC</i>	<i>ERPL280RC</i>		
OPT	OPT		
	<b>LISTA DEI COMPONENTI - LIST OF COMPONENTS - TEILELISTE</b> <b>LISTE DES PIÈCES DÉTACHÉES - LISTA DE PIEZAS</b>		<b>Pag. 22 di 24</b>  1294-R017-0_P
	<b>Tavola N°15 - Rev. 0</b>	<b>GAR266T</b>	



ERL280RC	ERPL280RC		
OPT	OPT		
	<b>LISTA DEI COMPONENTI - LIST OF COMPONENTS - TEILELISTE</b> <b>LISTE DES PIECES DETACHEES - LISTA DE PIEZAS</b>		<b>Pag. 23 di 24</b>
	<b>Tavola N°16 - Rev. 0</b>	<b>GAR214TK</b>	

RUN-OUT CARRI  
TRUCK RUN-OUT  
LKW RUN-OUT  
RUN-OUT CAMIONS  
RUN-OUT CAMIONES



ERL280RC	ERPL280RC		
OPT			
	<b>LISTA DEI COMPONENTI - LIST OF COMPONENTS - TEILELISTE</b> <b>LISTE DES PIÈCES DÉTACHÉES - LISTA DE PIEZAS</b>		<b>Pag. 24 di 24</b>
	<b>Tavola N°17 - Rev. 0</b>	<b>GAR344</b>	

GHIERA BLOCCAGGIO RUOTE CARRI  
 CARRIAGES WHEELS LOCKING RING-NUT  
 SPERRNUTMUTTER FÜR LKW-RÄDER  
 COLLIER DE BLOCAGE ROUES CAMIONS  
 VIROLA DE BLOQUEO RUEDAS CAMIONES