

## ALLEGATO 1 AL MANUALE DI ISTRUZIONI INFORMAZIONI SUL FABBRICANTE

In tutte le parti del presente manuale nelle quali si fa riferimento, quale fabbricante, a una delle seguenti società:

- Ravaglioli S.p.A., P.IVA e C.F.: 01759471202, con sede legale in Sasso Marconi (BO), Via 1° Maggio, 3, Italia
- Butler Engineering and Marketing S.p.A., P.IVA: 01741580359, C.F.: 01824810368, con sede legale in Rolo (RE), Via dell'Ecologia, 6, Italia
- Space S.r.l., P.IVA e C.F.: 07380730015, con sede legale in Trana (TO), Via Sangano, 48, Italia

tale società deve essere intesa come:

### **Vehicle Service Group Italy S.r.l.**

P.IVA: 01426630388

C.F.: 01633631203

con sede legale in Ostellato (FE), Via Brunelleschi, 9, Italia

per effetto della intervenuta fusione per incorporazione delle citate Ravaglioli S.p.A., Butler Engineering and Marketing S.p.A. e Space S.r.l. in Officine Meccaniche Sirio S.r.l., ridenominata, a seguito della fusione, Vehicle Service Group Italy S.r.l., avente efficacia giuridica a far data dal 1° luglio 2023.

Il presente Allegato 1 al Manuale di istruzioni costituisce parte integrante del Manuale di istruzioni stesso.

Simone Ferrari

Direttore Generale



**Vehicle Service Group Italy S.r.l.**

Via Filippo Brunelleschi 9  
44020 Ostellato (FE) Italy

VAT no.: 01426630388 | Tax no.: 01633631203

## ANNEX 1 TO THE INSTRUCTION MANUAL MANUFACTURER INFORMATION

In all parts of the present manual in which reference is made to one of the following companies as the manufacturer:

- Ravaglioli S.p.A., VAT Number and Tax Code: 01759471202, with registered office in Sasso Marconi (BO), Via 1° Maggio, 3, Italy
- Butler Engineering and Marketing S.p.A., VAT Number: 01741580359, Tax Code: 01824810368, with registered office in Rolo (RE), Via dell'Ecologia, 6, Italy
- Space S.r.l., VAT Number and Tax Code: 07380730015, with registered office in Trana (TO), Via Sangano, 48, Italy

this company is to be understood as:

### **Vehicle Service Group Italy S.r.l.**

VAT Number: 01426630388

Tax Code: 01633631203

with registered office in Ostellato (FE), Via Brunelleschi, 9, Italy

as a result of the intervened merger by incorporation of the aforementioned Ravaglioli S.p.A., Butler Engineering and Marketing S.p.A. and Space S.r.l. into Officine Meccaniche Sirio S.r.l., renamed, following the merger, as Vehicle Service Group Italy S.r.l., having legal effect as of July 1<sup>st</sup>, 2023.

This Annex 1 to the Instruction Manual is an integral part of the Instruction Manual itself.

Simone Ferrari

Managing Director



**Vehicle Service Group Italy S.r.l.**

Via Filippo Brunelleschi 9  
44020 Ostellato (FE) Italy

VAT no.: 01426630388 | Tax no.: 01633631203

## ANLAGE 1 ZUR BEDIENUNGSANLEITUNG HERSTELLERANGABEN

In allen Teilen der vorliegenden Bedienungsanleitung, in denen auf eine der folgenden Gesellschaften:

- Ravaglioli S.p.A., Umsatzsteuer-Identifikationsnummer und Italienische Steuernummer: 01759471202, mit Rechtssitz in Sasso Marconi (BO), Via 1° Maggio, 3, Italien
- Butler Engineering and Marketing S.p.A., Umsatzsteuer-Identifikationsnummer 01741580359, und Italienische Steuernummer: 01824810368, mit Rechtssitz in Rolo (RE), Via dell'Ecologia, 6, Italien
- Space S.r.l., Umsatzsteuer-Identifikationsnummer und Italienische Steuernummer: 07380730015, mit Rechtssitz in Trana (TO), Via Sangano, 48, Italien

als Hersteller Bezug genommen wird, ist diese Gesellschaft zu verstehen als:

### **Vehicle Service Group Italy S.r.l.**

UMSATZSTEUER-IDENTIFIKATIONSNUMMER: 01426630388

ITALIENISCHE STEUERNUMMER: 01633631203

mit eingetragenem Rechtssitz in Ostellato (FE), Via Brunelleschi, 9, Italien

als Folge der verschmelzenden Übernahme der vorgenannten Ravaglioli S.p.A., Butler Engineering and Marketing S.p.A. und Space S.r.l. in die Officine Meccaniche Sirio S.r.l., die nach der Verschmelzung mit rechtlicher Wirkung zum 1. Juli 2023 in Vehicle Service Group Italy S.r.l. umbenannt wurde.

Die vorliegende Anlage 1 zur Bedienungsanleitung ist integrierender Bestandteil der Betriebsanleitung selbst.

Simone Ferrari

Geschäftsführer



**Vehicle Service Group Italy S.r.l.**

Via Filippo Brunelleschi 9  
44020 Ostellato (FE) Italy  
VAT no.: 01426630388 | Tax no.: 01633631203

## ANNEXE 1 DU MANUEL D'INSTRUCTIONS INFORMATIONS SUR LE FABRICANT

Dans toutes les parties de ce manuel où il est fait référence à l'une des sociétés suivantes en tant que fabricant:

- Ravaglioli S.p.A., numéro de TVA et code fiscal: 01759471202, dont le siège social est situé à Sasso Marconi (BO), Via 1° Maggio, 3, Italie
- Butler Engineering and Marketing S.p.A., numéro de TVA: 01741580359, code fiscal: 01824810368, dont le siège est à Rolo (RE), Via dell'Ecologia, 6, Italie
- Space S.r.l., numéro de TVA et code fiscal: 07380730015, dont le siège est à Trana (TO), Via Sangano, 48, Italie

cette société doit être sous-entendue comme:

### **Vehicle Service Group Italy S.r.l.**

numéro de TVA: 01426630388

code fiscal: 01633631203

dont le siège social est situé à Ostellato (FE), Via Brunelleschi, 9, Italie

à la suite de la fusion par incorporation des sociétés Ravaglioli S.p.A., Butler Engineering and Marketing S.p.A. et Space S.r.l. dans Officine Meccaniche Sirio S.r.l., renommée, à la suite de la fusion, Vehicle Service Group Italy S.r.l., avec effet juridique à compter du 1er juillet 2023.

La présente Annexe 1 au Manuel d'instructions fait partie intégrante du Manuel d'instructions lui-même.

Simone Ferrari

Directeur Général



**Vehicle Service Group Italy S.r.l.**

Via Filippo Brunelleschi 9  
44020 Ostellato (FE) Italy

VAT no.: 01426630388 | Tax no.: 01633631203

## ANEXO 1 AL MANUAL DE INSTRUCCIONES INFORMACIÓN DEL FABRICANTE

En todas las partes de este manual en las que se haga referencia a una de las siguientes empresas como fabricante:

- Ravaglioli S.p.A., número de IVA y código fiscal: 01759471202, con domicilio social en Sasso Marconi (BO), vía 1° Maggio, 3, Italia
- Butler Engineering and Marketing S.p.A., número de IVA: 01741580359, código fiscal: 01824810368, con domicilio social en Rolo (RE), vía dell'Ecologia, 6, Italia
- Space S.r.l., número de IVA y código fiscal: 07380730015, con domicilio social en Trana (TO), vía Sangano, 48, Italia

que debe entenderse por sociedad:

### **Vehicle Service Group Italy S.r.l.**

Número de IVA: 01426630388

código fiscal: 01633631203

con domicilio social en Ostellato (FE), vía Brunelleschi, 9, Italia

como resultado de la fusión por incorporación de las mencionadas Ravaglioli S.p.A., Butler Engineering and Marketing S.p.A. y Space S.r.l. en Officine Meccaniche Sirio S.r.l., rebautizada, tras la fusión, Vehicle Service Group Italy S.r.l., con efectos jurídicos a partir del 1 de julio de 2023.

El presente Anexo 1 del Manual de Instrucciones forma parte integrante del mismo.

Simone Ferrari

Director Gerente



**Vehicle Service Group Italy S.r.l.**

Via Filippo Brunelleschi 9  
44020 Ostellato (FE) Italy

VAT no.: 01426630388 | Tax no.: 01633631203

**1296-M016-1\_B**

**LIBRAK328  
LIBRAK328BIKE**

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:

**BUTLER ENGINEERING and MARKETING S.p.A. a s. u.**  
Via dell'Ecologia, 6 - 42047 Rolo - (RE) Italy  
Phone (+39) 0522 647911 - Fax (+39) 0522 649760 - e-mail: [Info@butler.it](mailto:Info@butler.it)

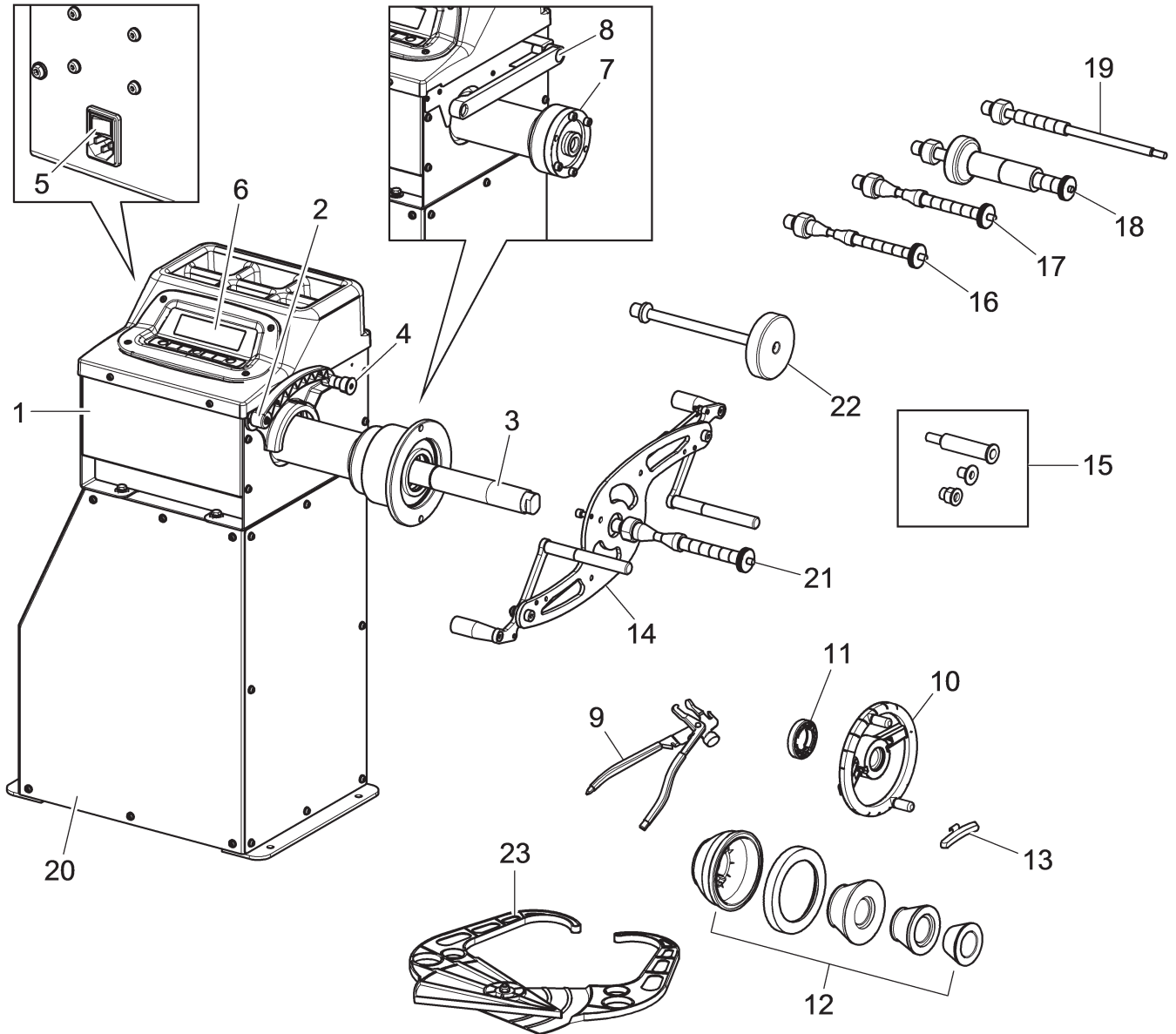
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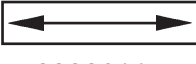


**Fig. 1 - LIBRAK328 - LIBRAK328BIKE****KEY**

- |  |   |
|--|---|
| 1 - Frame  | 13 - Carriages counterweight (only for LIBRAK328)                                     |
| 2 - Manual distance-wheel caliper (only for LIBRAK328) | 14 - Motorbike universal flange (standard for LIBRAK328BIKE - optional for LIBRAK328) |
| 3 - Threaded mandrel (only for LIBRAK328)              | 15 - Distance caliper extension (optional for LIBRAK328)                              |
| 4 - Weight fitting stopper (only for LIBRAK328)        | 16 - Motor shaft D=10 (optional)  |
| 5 - Main switch  | 17 - Motor shaft D=12 (optional)  |
| 6 - LCD display/control panel                          | 18 - Motor shaft D=19 (optional)  |
| 7 - Mandrel (only for LIBRAK328BIKE)                   | 19 - Motor shaft D=14 extended (optional)   |
| 8 - Reference gauge arm (only for LIBRAK328BIKE)       | 20 - Support base (optional)  |
| 9 - Grippers for weights                               | 21 - Motor shaft D=14 complete (standard for LIBRAK328BIKE - optional for LIBRAK328)  |
| 10 - Ring nut with handwheel (only for LIBRAK328)      | 22 - Calibrator (only for LIBRAK328BIKE)  |
| 11 - Pressure ring (only for LIBRAK328)                | 23 - Gauge for rim width and diameter measuring                                       |
| 12 - Cones + protection cap (only for LIBRAK328)       |   |

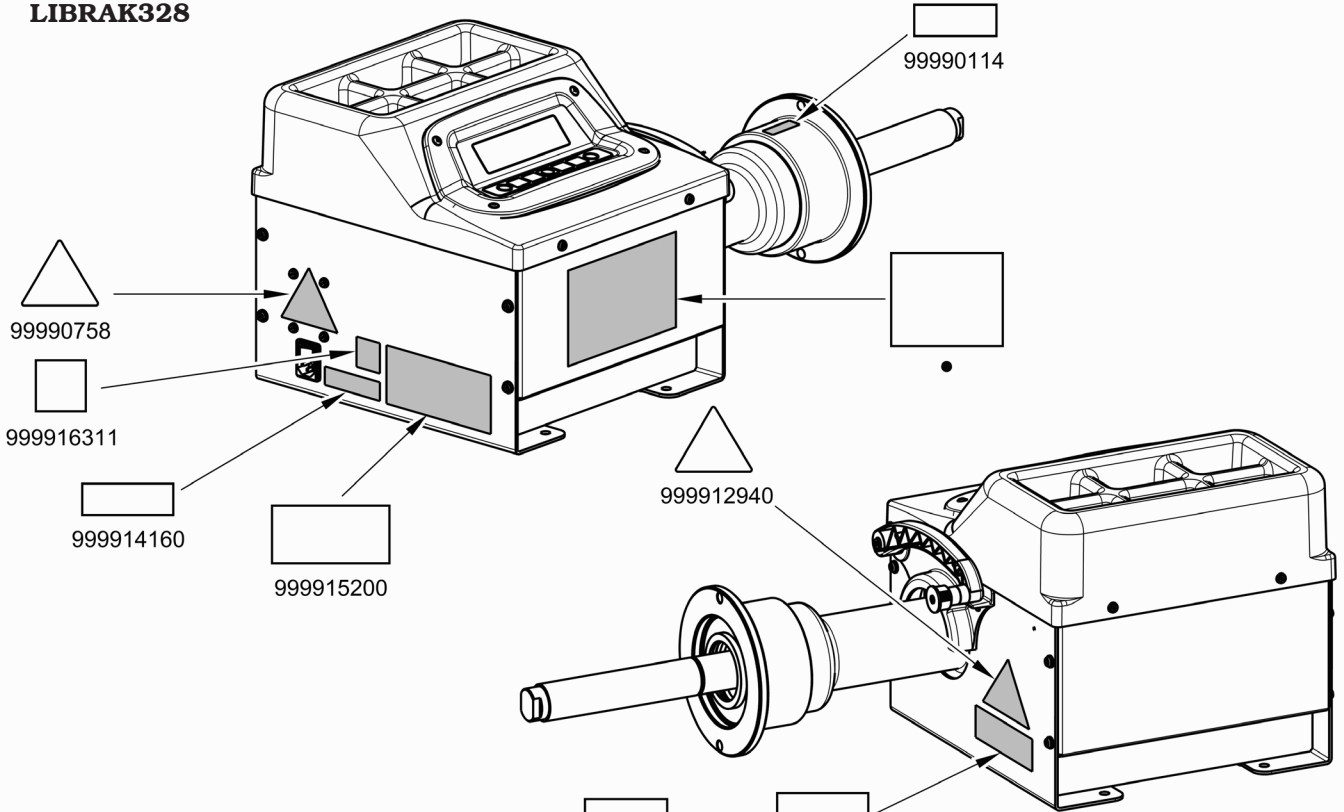
## SYMBOLS USED IN THE MANUAL AND ON THE MACHINE

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).

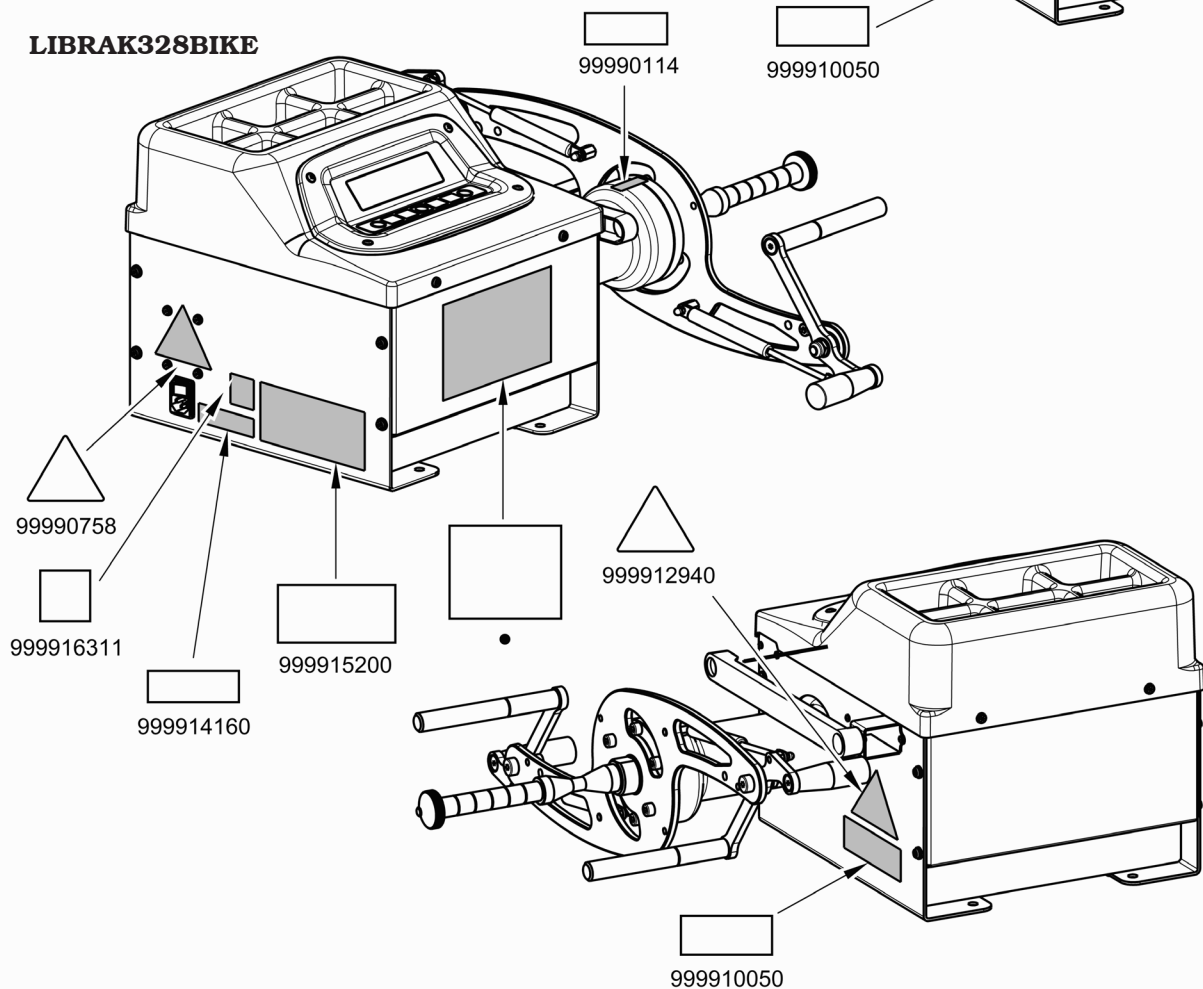
Symbols	Description
	Mandatory. Operations or jobs to be performed compulsorily.
	Danger! Be particularly careful.
	Move with fork lift truck or pallet truck.
	Lift from above.
 B1541000	General danger.
	Technical assistance necessary. Do not perform any intervention.
	Note. Indication and/or useful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

### INFORMATION PLATE LOCATION TABLE

#### LIBRAK328



#### LIBRAK328BIKE



LIBRAK328 - LIBRAK328BIKE

## 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>999912940</b>	<i>Lifting plate</i>
<b>999914160</b>	<i>Voltage 230V 50/60 Hz 1 Ph plate</i>
<b>999915200</b>	<i>Serial number plate</i>
<b>999916311</b>	<i>Rubbish skip label</i>
•	<i>Logo 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 machines of model , and relative versions, are wheels balancing machines for trucks, 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.

Such wheel balancers can be employed in mobile service: they can be used on vans and/or trucks and thus used for direct assistance in the field.



**THIS MACHINE MUST BE USED STRICTLY FOR THE INTENDED PURPOSE IT WAS DESIGNED FOR (AS INDICATED IN THIS MANUAL).**



**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.**

- **Controls logic disposition**

Its function is to prevent the operator from dangerous mistakes.

- **Main switch placed on the machine side**

Its function is to disconnect machine electric supply.

#### **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.**

- Such equipment must be used by qualified and authorized personnel, according exactly 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 equipment can be used by a single operator at a time, except when loading/unloading balancer's wheel. Unauthorized personnel must remain outside the working area, as shown in **Fig. 4**. 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.

## 5.0 PACKING AND MOBILIZATION FOR TRANSPORT



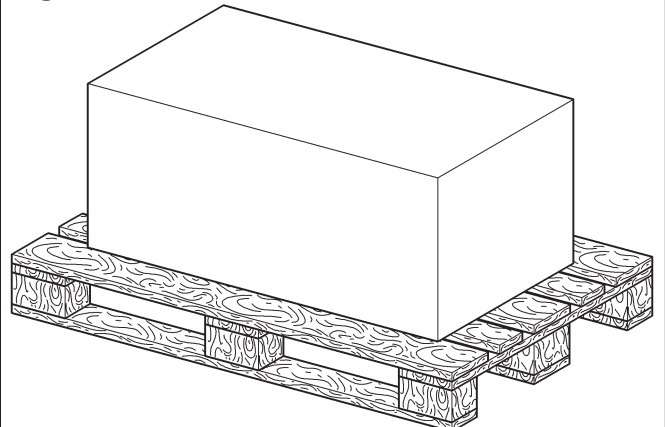
HAVE THE MACHINE HANDLED BY SKILLED PERSONNEL ONLY.

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 950x540x400.

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 the different components have been unpacked, make sure they are undamaged and verify if any fault is present.

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.**

### 6.1 Fixtures contained in the packing

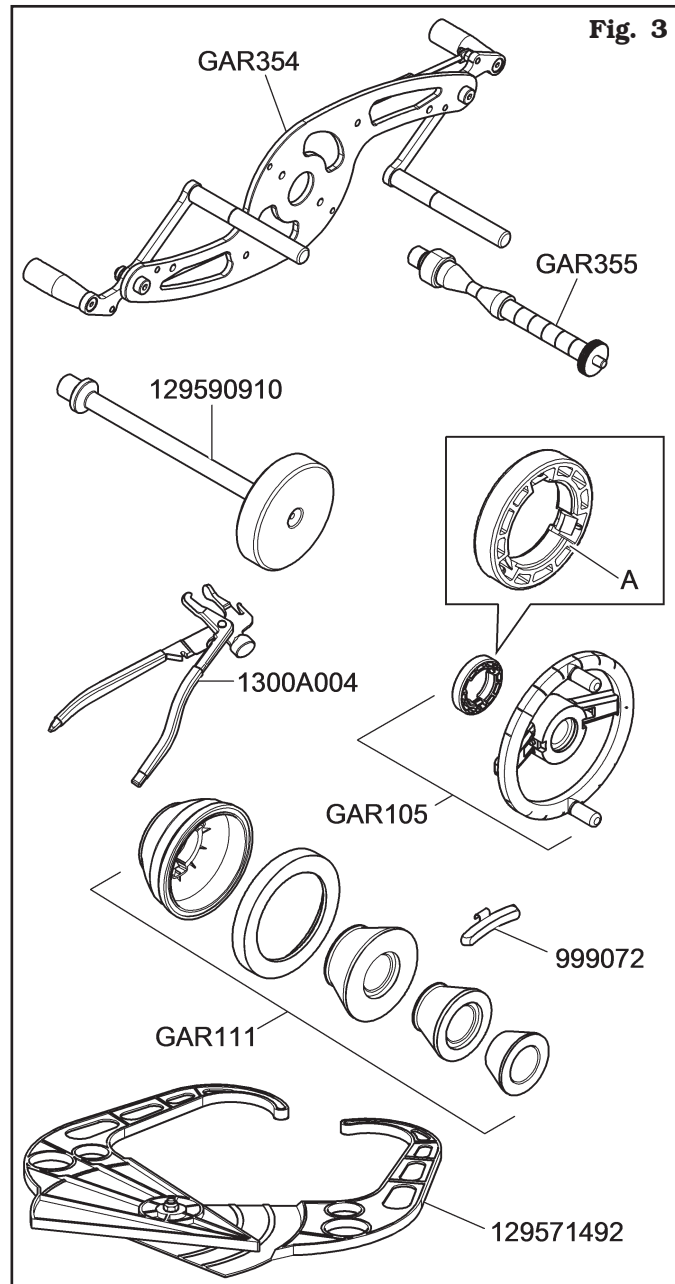
The packing case contains also the fixtures box. Check that all the parts listed below are there (see Fig. 3).

For **LIBRAK328** model

Code	Description	N.
<b>GAR105</b>	Ring nut handwheel + pressure ring	1
<b>GAR111</b>	Cones + protection cup	1
<b>129571492</b>	Manual external data gauge	1
<b>999072</b>	Carriages counterweight	1
<b>1300A004</b>	Weight pliers	1

For **LIBRAK328BIKE** model

Code	Description	N.
<b>GAR354</b>	Motorbike universal flange	1
<b>GAR355</b>	Motor shaft D=14 complete	1
<b>1300A004</b>	Weight pliers	1
<b>129590910</b>	Bike sizing body assembly	1
<b>129571492</b>	Manual external data gauge	1



**THE PRESSURE RING (FIG. 3 REF. A) MUST BE MOUNTED WITH THE TEETH OR DISCHARGE SIDE TOWARDS THE RING-NUT (SEE FIG. 3).**



## 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 transport must be conducted by following the instructions listed below.

- Make sure the electrical and pneumatic supply of the machine is not connected.

## 8.0 WORKING ENVIRONMENT CONDITIONS

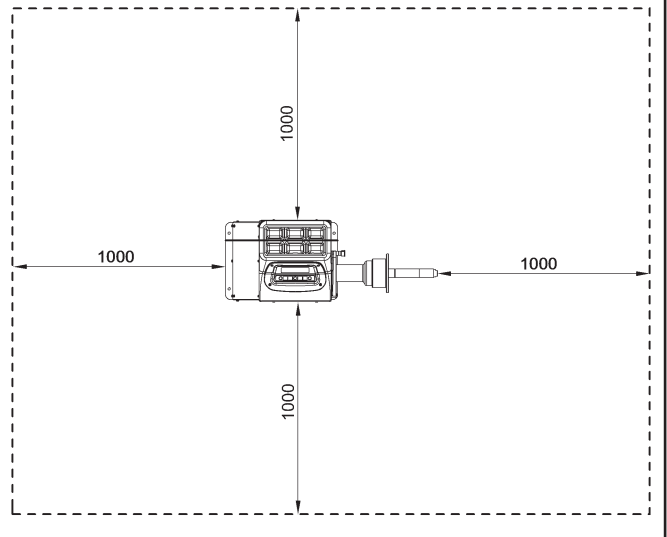
The machine must be operated under proper conditions as follows:

- temperature:  $0^{\circ} + 45^{\circ} \text{C}$
- 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

**Fig. 4**



**USE THE MACHINE IN A DRY AND ADEQUATELY LIT PLACE, POSSIBLY INDOORS OR ANYWAY IN A ROOFED AREA, THIS PLACE MUST BE IN COMPLIANCE WITH APPLICABLE SAFETY REGULATIONS.**

Machine utilization requires a usable space as indicated in **Fig. 4**. 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 used on a preferably cement or tiled flat floor. 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  $500 \text{ kg/m}^2$ . The working area must be cordoned off, as indicated in **Fig. 4**, in order to avoid the presence of unauthorised personnel in the immediate vicinity of machine during working phases.

## 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 of 800/1200 Watt.

## 9.0 ASSEMBLY PROCEDURES

Only for LIBRAK328

### 9.1 Fitting the mandrel on the flange

Screw the mandrel with an Allen wrench (Fig. 5 ref. 1) on the flange (Fig. 5 ref. 2).

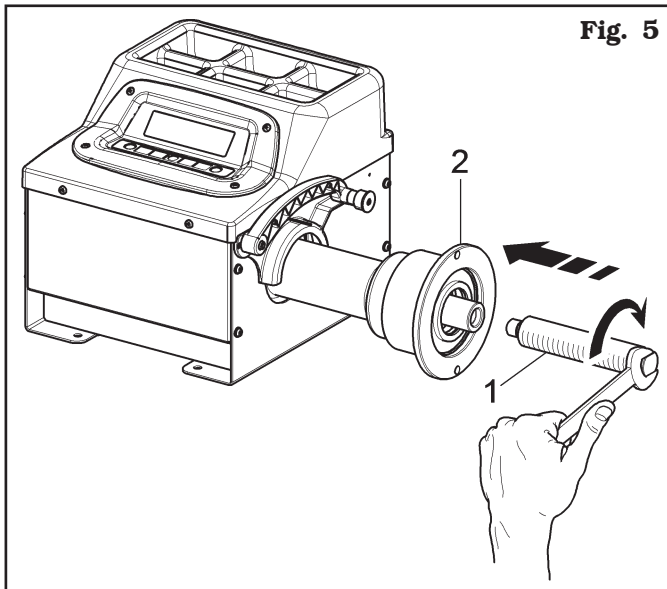


Fig. 5

Only for LIBRAK328BIKE

### 9.2 Assembly of the adapter and the complete shaft on the flange

Mount Bike adapter (Fig. 6 ref. 1) onto the flange (Fig. 6 ref. 2) using the screws (Fig. 6 ref. 3). Screw the complete shaft (Fig. 6 ref. 4) in the prearranged hole on the flange (Fig. 6 ref. 2).

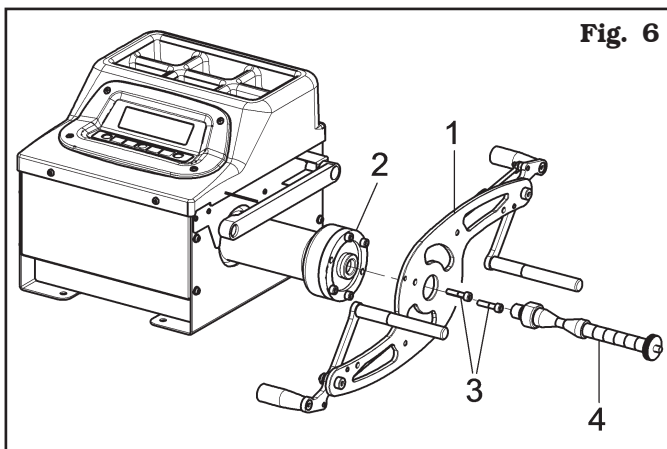


Fig. 6



AFTER THE FIXING OF THE ADAPTER THE TOOL MUST NEVER BEEN DEMOUNTED.



FOR SAFETY REASONS, DURING THE USE OF THIS MACHINERY, THE OPERATOR MUST NEVER TAKE PLACE IN FRONT OF THE BIKE WHEELS TOOL.

For all the models

### 9.3 Assembly of the wheel balancer on the support base (optional)



FOR THE ASSEMBLY OF THE SUPPORT BASE (OPTIONAL) (FIG. 7 REF. 2), REFER TO THE INSTRUCTION SHEET ENCLOSED WITH THE SAME ACCESSORY.

Screw the bracket (Fig. 7 ref. 1) to the support base (optional) (Fig. 7 ref. 2) using the screws (Fig. 7 ref. 3) and the washers (Fig. 7 ref. 4-5).

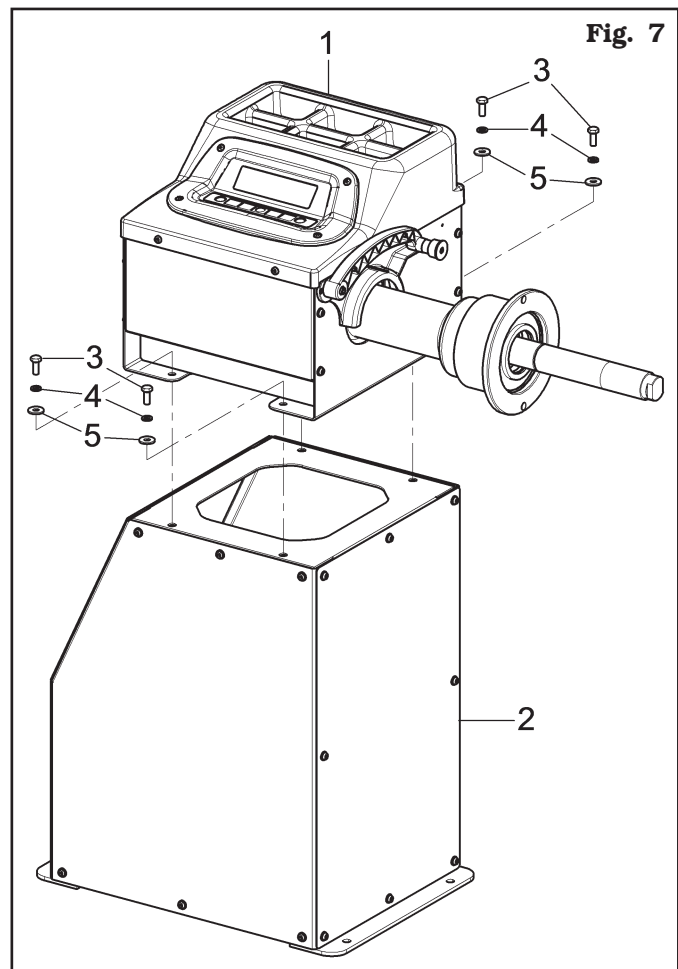


Fig. 7

## 10.0 ELECTRICAL CONNECTIONS



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 ONE OF THE TWO PHASE LEADS).



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



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).

### 10.1 230V power supply connection

In order to execute machine 230V 50/60 Hz electrical connection, fulfil the following operations:

- turn the switch (**Fig. 8 ref. 1**) to OFF (0);
- connect to the 230V electric network the supply cable (**Fig. 8 ref. 2**) (supplied with the machine).
- Now power the machine through the switch (**Fig. 8 ref. 1**) by turning it on ON (I).

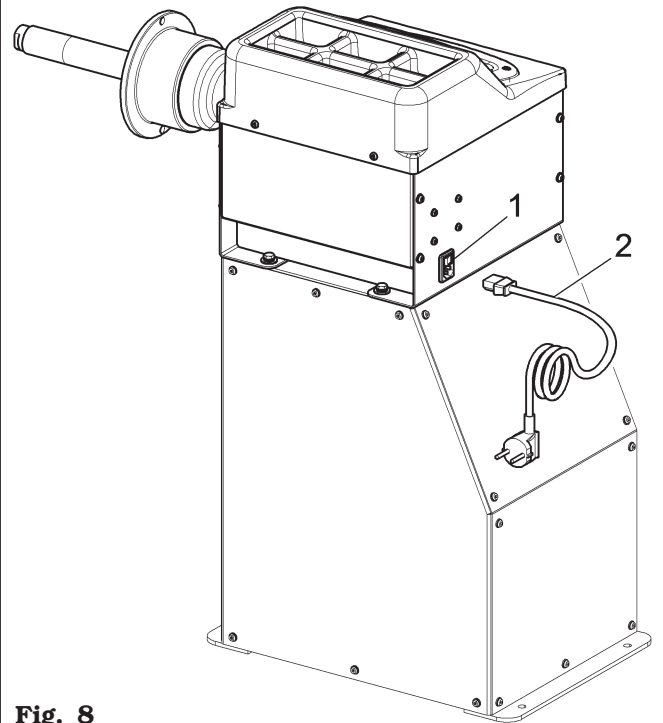


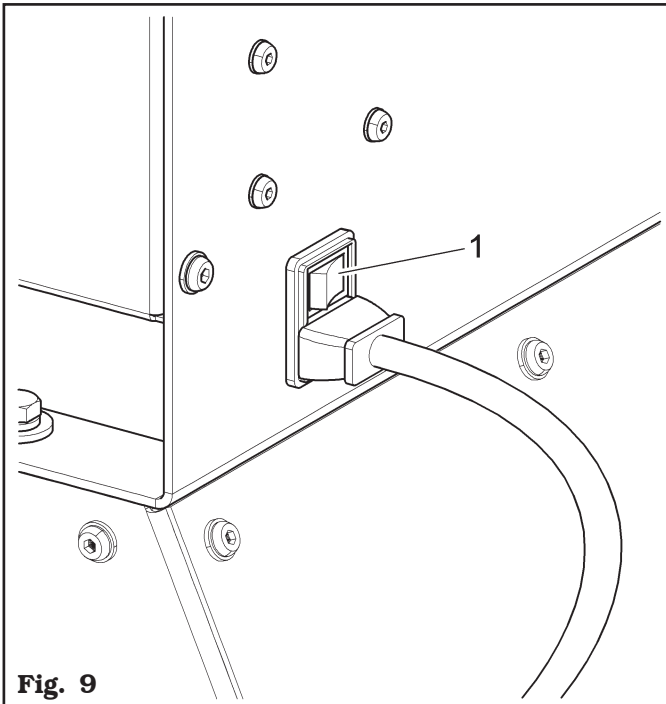
Fig. 8

## 10.2 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").**

Once the connection has been made, power the machine using the master switch (**Fig. 9 ref. 1**).



**Fig. 9**

## 11.0 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.



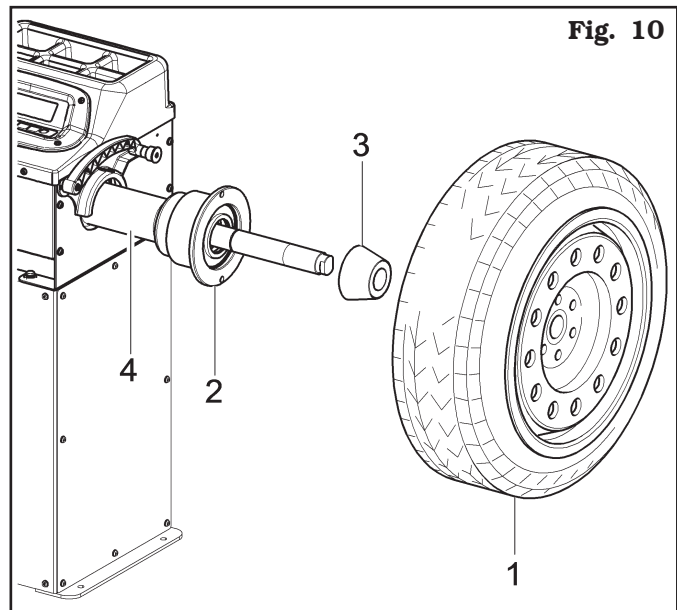
**MOST IMPORTANT IS THAT ORIGINAL CONES AND ACCESSORIES ARE USED MADE SPECIFICALLY FOR USE ON THE WHEEL BALANCER.**

Wheel fitting using the accessories provided is illustrated below.

### 11.1 Wheel assembly

#### Only for LIBRAK328

1. Remove any type of foreign body from the wheel (**Fig. 10 ref. 1**): pre-existing weights, stones and mud, and make sure the mandrel (**Fig. 10 ref. 2**) and the rim centring area are clean before fitting the wheel on the mandrel.
2. Carefully choose the cone (**Fig. 10 ref. 3**) most suitable for the wheel to be balanced. These accessories must be selected according to the shape of the rim. Carefully position the wheel (**Fig. 10 ref. 1**), fitting the cone (**Fig. 10 ref. 3**) on the shaft (**Fig. 10 ref. 4**) (otherwise this could seize) until this rests against the support flange (**Fig. 10 ref. 2**).
3. Fit the wheel with the inner side of the rim towards the wheel balancer and against the cone.



**Fig. 10**

4. Fit the protection cap (**Fig. 11 ref. 1**) in the locknut (**Fig. 11 ref. 2**) and fasten against the wheel.

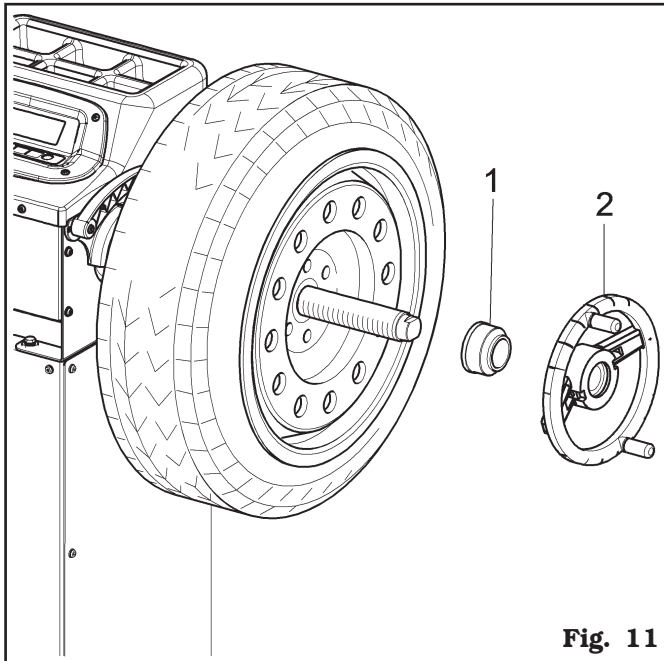


Fig. 11

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

5. Clean the shaft (**Fig. 12 ref. 1**) before fitting the wheel.
6. Fit the wheel (**Fig. 12 ref. 3**) with the inside of the rim towards the wheel balancer, until the wheel is up against the support flange (**Fig. 12 ref. 2**).

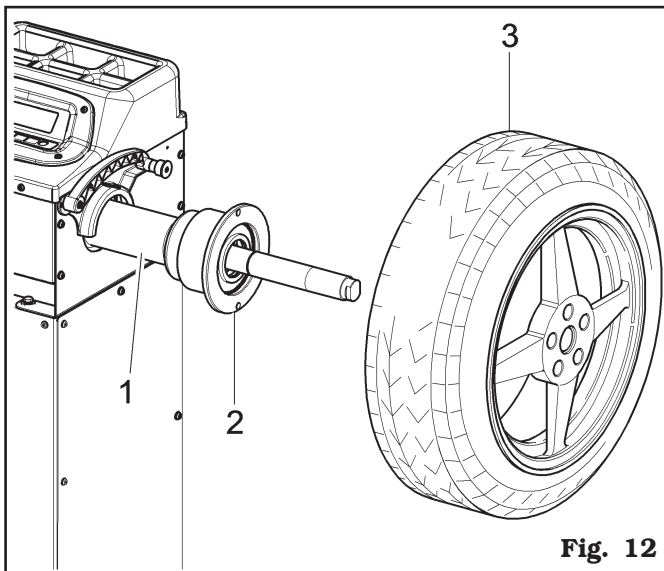


Fig. 12

7. Fit the cone (**Fig. 13 ref. 3**) with the narrowest part turned towards the wheel.
8. Fit the pressure ring (**Fig. 13 ref. 1**) in the nut (**Fig. 13 ref. 2**) and fasten the cone (**Fig. 13 ref. 3**).

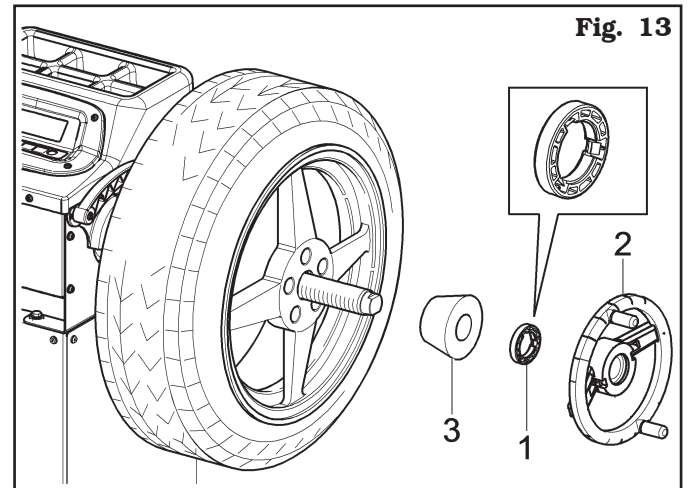


Fig. 13



**THE PRESSURE RING (FIG. 13 REF. 1) MUST BE MOUNTED WITH THE TEETH SIDE TOWARDS THE RING-NUT (FIG. 13 REF. 2).**

**Only for LIBRAK328BIKE**

1. Remove any type of foreign body from the wheel (**Fig. 14 ref. 1**): pre-existing weights, stones and mud, and make sure the mandrel (**Fig. 14 ref. 2**) and the rim centring area are clean before fitting the wheel on the mandrel.
2. Open completely the check arms (**Fig. 14 ref. 3**). Carefully choose the most suitable shaft (**Fig. 14 ref. 4**) for the wheel to be balanced. These accessories must be selected according to the shape and the dimension of the rim.
3. Fit the wheel with the inner side of the rim towards the wheel balancer and against the cone (**Fig. 14 ref. 5**).

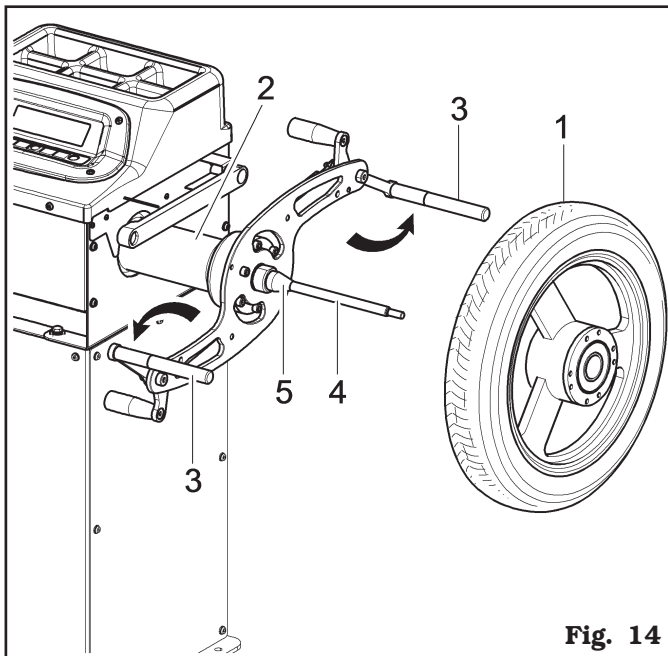


Fig. 14

4. Tighten the wheel on the shaft (**Fig. 15 ref. 1**) by turning the knurled hand-wheel (**Fig. 15 ref. 2**) after interposing in order, cone (**Fig. 15 ref. 3**) and spacers (**Fig. 15 ref. 4**). Approach manually the check arms (**Fig. 15 ref. 5**) to the tyre, as shown in **Fig. 15**.

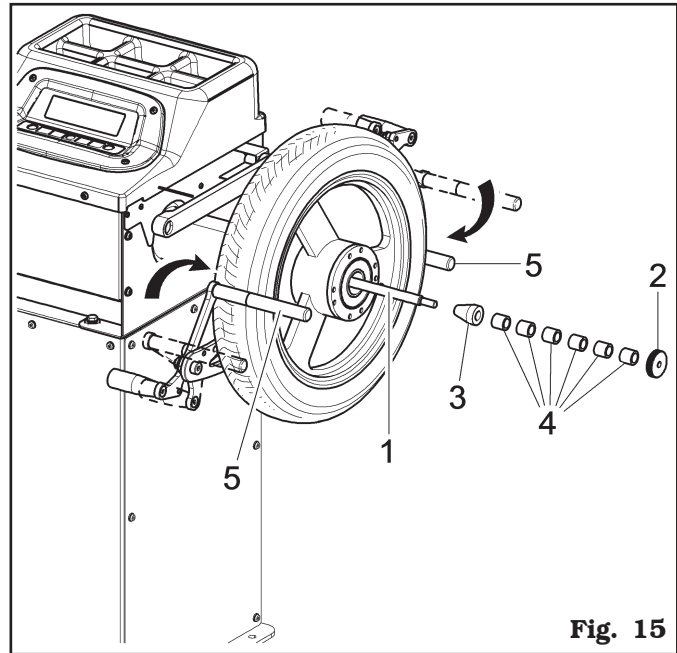
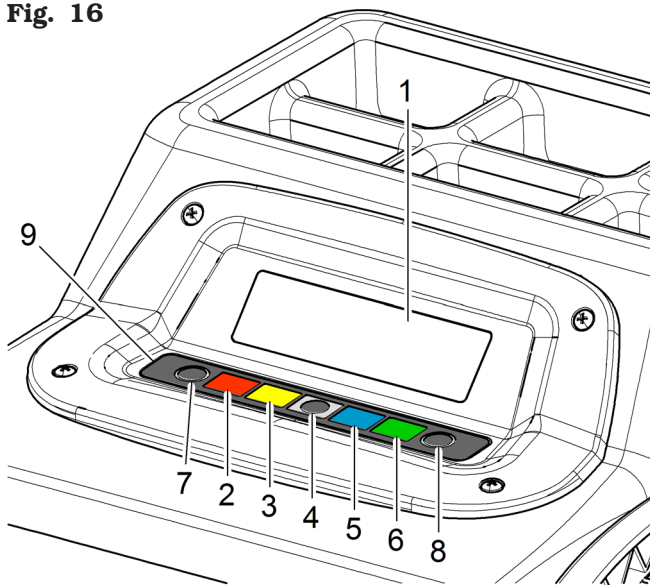


Fig. 15

## 12.0 DISPLAY WITH KEYBOARD

The wheel balancers are equipped with a multifunction LCD display, equipped with a keyboard to interact/operate the controls present in graphical form on the same display.

On such display 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. 16****KEY**

- 1 - Display
- 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 push button
- 9 - Push-button panel (push-button panel with 7 keys)

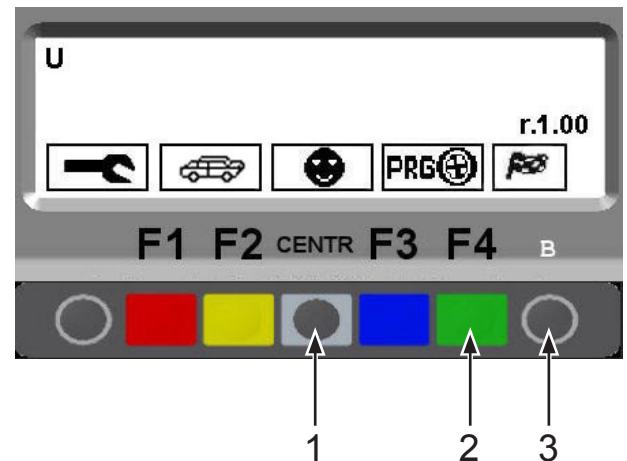
## 12.1 Brightness and contrast adjustment

From the first page of the program, by keeping the push button (**B**) (**Fig. 17 ref. 3**) pressed, push push button (**F4**) (**Fig. 17 ref. 2**) repeatedly in order to raise brightness/contrast or push push button (**CENTR**) (**Fig. 17 ref. 1**) repeatedly in order to lower brightness/contrast.

Try to find the best settings, going across the all steps, because the settings can pass through clear, dark and again clear.



**THE ADJUSTMENT REMAINS ALSO AFTER MACHINE SHUT-DOWN.**

**Fig. 17**

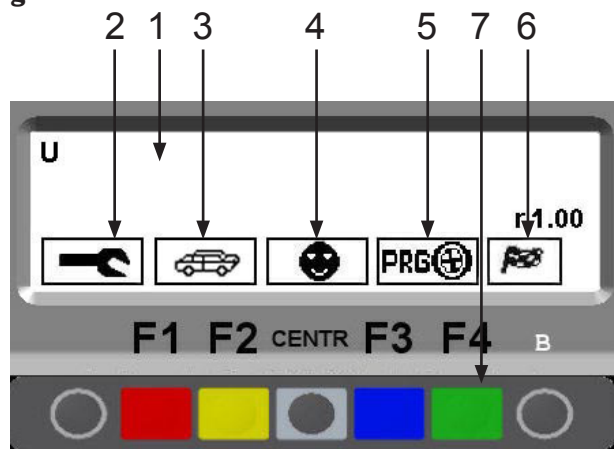
### 13.0 SWITCHING THE MACHINE ON AND OFF

The ON/OFF master switch is located on the lateral side of the machine. To start the machine and access the program, switch on the system by turning the master switch.



Wait a few seconds for the operating program to load and for the first program page to appear on the display screen (see **Fig. 18**).

The monitor shows various types of information and presents the user with numerous operation options.

**Fig. 18**




#### KEY

- 1 – Start page
- 2 – Display of program configuration screen play (RED) (F1)
- 3 – Display of car  or motorcycle  mode (YELLOW) (F2)
- 4 – Display of the tests of the different users (4 different users are managed) (Par. 14.2) (CENTRAL)
- 5 – Display of auxiliary programs modes (Par. 14.4) (BLUE) (F3)
- 6 – The balancing test starts (GREEN) (F4)
- 7 – Program operation key

By means of the keys of the operating keyboard (F1-F2-CENTR-F3-F4-B) all the machine functions can be used.


During program running, the various display pages show the different keys by means of which the corresponding function can be immediately selected.

Many display pages contain several rows of keys. In this case, the next row of keys can be displayed by

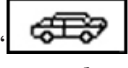

means of the key corresponding to the icon .



To go back and display the previous row of keys, press

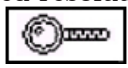
the key corresponding to the icon  or in some

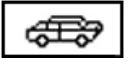

cases .

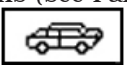
By pressing the “F2” key, the measurement mode can be changed from car to motorcycle and vice versa.

The symbol “” which appears on the screen on the first page indicates that the machine is in CAR mode and the symbol  indicates MOTORCYCLE mode.

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

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

In “CAR” mode  and “MOTORCYCLE” mode  “MATCHING” procedure (Rim-tyre optimization; see Chapt. 18), SPLIT (see Chap. 16) and WEIGHTS HIDDEN BEHIND SPOKES MODE (see Chapt. 17) procedure can be performed.

ALL AUXILIARY functions (see Par. 14.4) can also be selected in “CAR” mode  only.



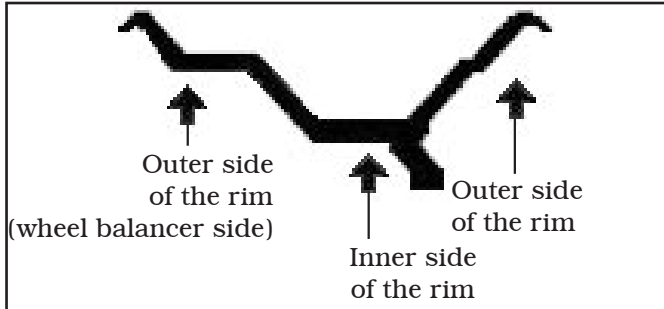
**IN ORDER TO FIT CAR WHEELS ON THE BALANCER SHAFT, THE SPECIFIC CONES AND RING NUTS WILL BE REQUIRED SUPPLIED SEPARATELY AS ACCESSORIES.**



### 14.0 WHEEL BALANCING



Symbols on display



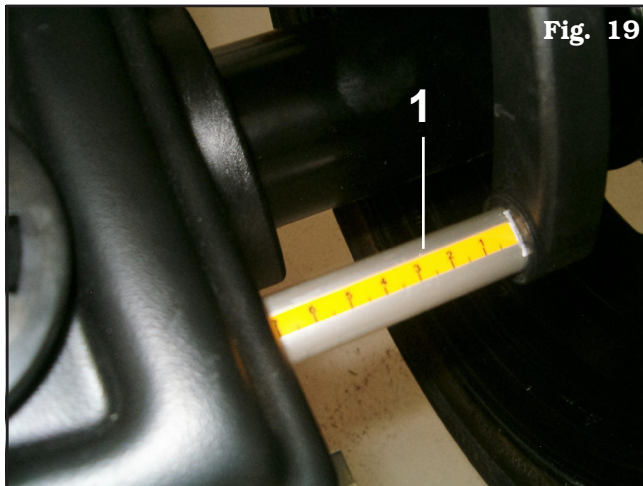
#### 14.1 Manual setting of wheel dimensions for dynamic and static balancing functions

- To make a measurement in **STATIC** mode:

**Valid for LIBRAK328**

For the detection of the wheel dimension, the wheel balancers for car are equipped with a manual distance caliper.

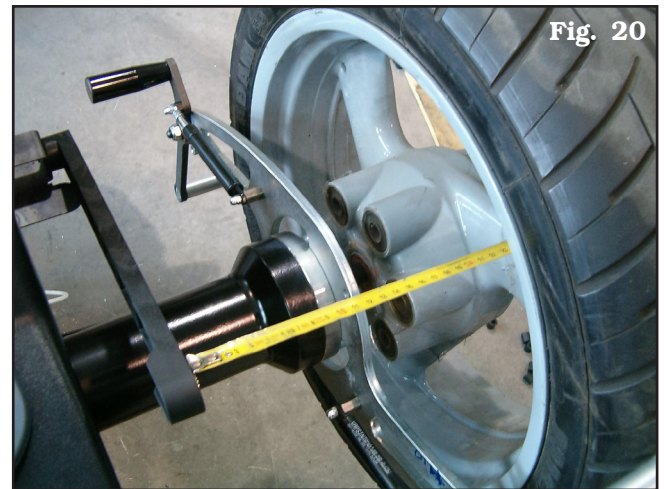
For the detection extract the caliper rod (Fig. 19 ref. 1) and read the distance indicated on the rod (see Fig. 19).



**Valid for LIBRAK328BIKE**

For the detection of the wheel dimension the wheel balancers for motorbike are equipped with reference gauge arm.


For the detection it is necessary the use of a tape measure placed in contact with the arm (see Fig. 20).



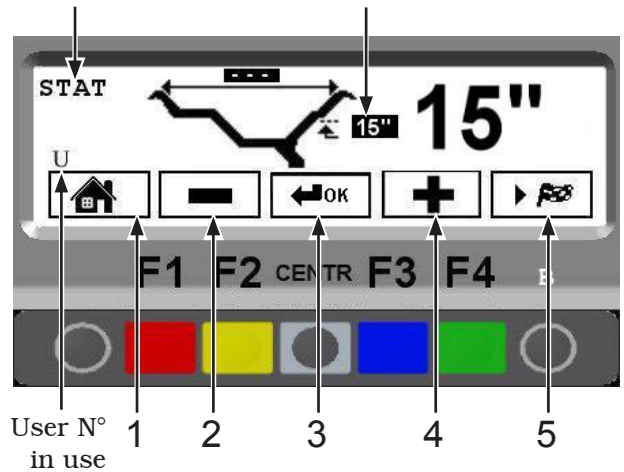
**Valid for all the models**

The dimension of the rim distance is always set with measurement unit "mm".

The width and diameter values on the other hand can be set in "inches" or "mm"; in the examples in this manual "inches" are used. To change the unit of measurement from "inches" to "mm", see Chap. 19.


Press "F3" , the program goes directly from the start screen page (Fig. 18) to the screen page illustrated below (STATIC mode, Fig. 21).



Selected program STAT Rim diameter Fig. 21  
STATIC mode


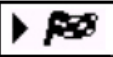



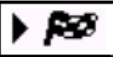
**KEY**

- 1 - Return to previous screen page (RED) (F1)
- 2 - Decrease wheel dimension values (YELLOW) (F2)
- 3 - Select and confirm the value to be set (CENTRAL) (F3)
- 4 - increase wheel dimension values (BLUE) (F4)
- 5 - Performs spin (GREEN) (F4)


Press the central key twice (  ) to select the value to be set (diameter only) (Fig. 21).

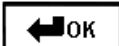
The display screen will show the selected value on white bright background and on the right the same value in large characters (Fig. 21). Increase or decrease the measurements through the keys  or .



Press the central key (  ) and execute the spin by pressing "F4" key  (Fig. 21).

Press the central key (  ) and execute the spin by pressing "F4" key  (Fig. 21).

• **To make a measurement in DYNAMIC mode:**

Press "F3" , the program goes directly from the start screen page (Fig. 18) to the screen page illustrated in Fig. 23 with no measurements (DYNAMIC mode).

Press the central key (  ) to set manually the width.

The operator must press "LESS"  or "MORE"  keys until the desired value is reached (Fig. 23).

Input the nominal width shown on the rim, or manually check by using the graduated width gauge, positioning it on the outer and inner side of the wheel as shown in Fig. 22.



MANUAL EXTERNAL  
DATA GAUGE  
Rim width  
manual detection

Fig. 22

Once wheel width has been input, the program prepares for dynamic mode measuring (Fig. 23).

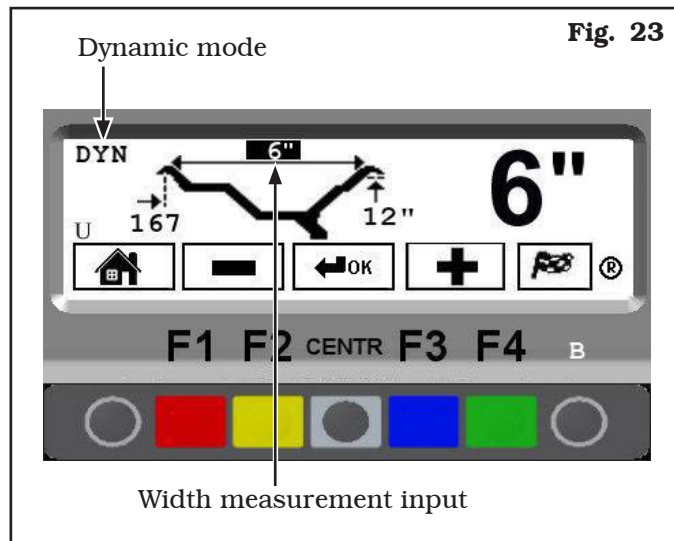



Fig. 23

Press the centre key (  ) to select the rim diameter dimension.


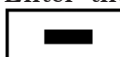




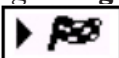
Enter the rim diameter by selecting the "PLUS"  or "MINUS"  key until the desired value is achieved. Press the central key (  ). The width is stored by selecting the "MINUS"  or "PLUS"  key until the desired value is achieved.

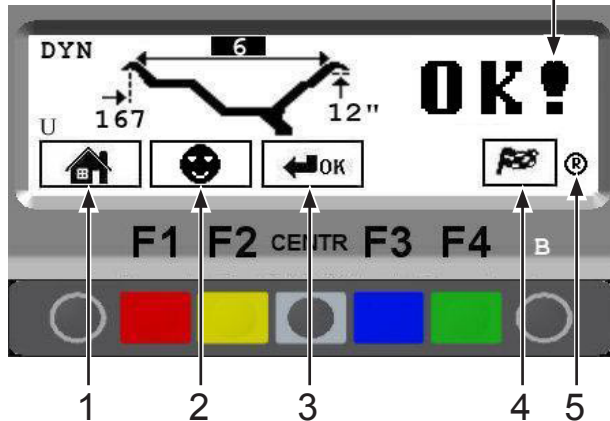


Fig. 24

After setting all the wheel dimensions, press the centre key () again to confirm. The program will show the screen page in **Fig. 25**. Execute the spin by pressing "F4" key () (**Fig. 25**).


**Fig. 25**

Dimensions entered and confirmed

**KEY**

- 1 – Return to previous screen page (RED) (F1)
- 2 – User Control (Par. 14.2) (YELLOW) (F2)
- 3 – Select and confirm the value to be set (CENTRAL)
- 4 – Performs spin (GREEN) (F4)
- 5 – Function key used for recalculation program (Par. 14.5) (B)

**14.2 User control function**

To select "User management", select the following key () on the presentation page (Par. 13).

Wheel balancers can be used by 4 different users at the same time, by selecting the above indicated key several times, until the desired user is reached.

When the user key is pressed, the current user number appears on the display screen (U1, U2, U3 and U4 in car mode or M1, M2, M3 and M4 in motorcycle mode). The system stores the data relating to the last performed spin according to the different operators. The desired user can be called every time the program displays the specific key. 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 CONTROL" FUNCTION, SEE CHAP. 19. ONCE THIS FUNCTION HAS BEEN DISENGAGED ON THE PRESENTATION PAGE (CHAP. 13) ON THE TOP LEFT OF THE MONITOR, THE ONLY USED USER APPEARS "U" IN CAR MODE; OR "M" IN MOTORCYCLE MODE.**

### 14.3 Unbalance measurement


#### 14.3.1 Dynamic balancing

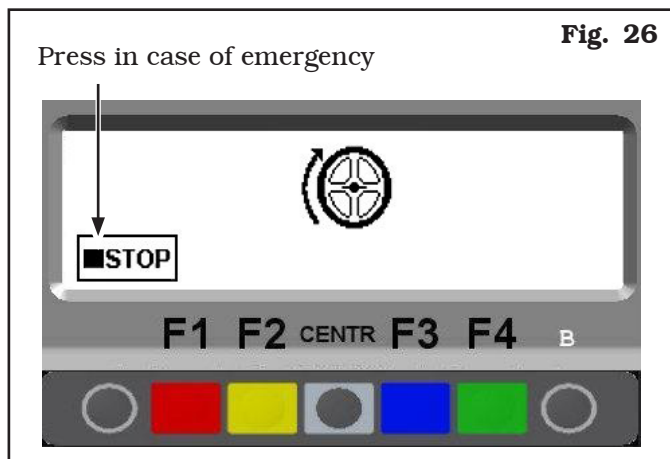
DYNAMIC balancing is a procedure that offsets the wheel vibrations using 2 weights on different planes. To perform a dynamic measurement spin:

- Make sure there are no stones and/or mud on the wheel.
- Remove any counterweights.
- Fit the wheel and make sure it is fastened properly.

Press the "F3 key"  from the initial program page (see Chap. 13).

Enter the wheel measurements (Par. 14.1) and press

"F4"  key to perform the spin; in a few seconds, the wheel runs at normal speed and the wheel balancer display shows wheel rotation (**Fig. 26**). After the spin, the wheel stops automatically, also taking into account the measured unbalance so that the fitting position of the outer weight is **exactly at "12 o'clock"**.



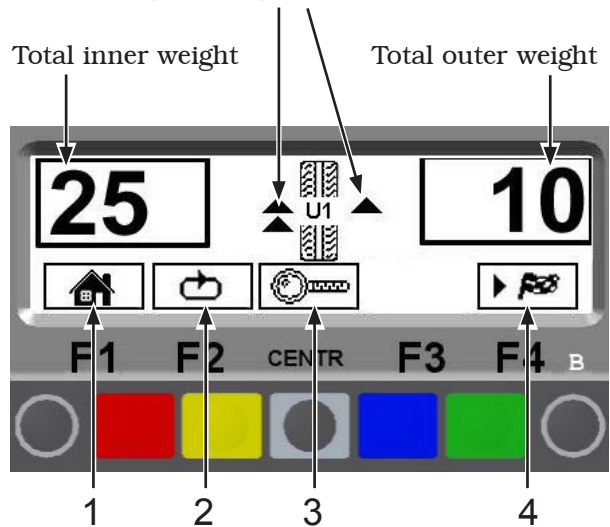
The display unit indicates the direction in which to move the wheel to fit the weights and how much weight is needed to correct the unbalance (**Fig. 26**).

Weight can be determined in "grams" or "ounces"; in this manual examples are shown in grams. To change the unit of measurement from "grams" to "ounces", see Chap. 19.

Once the unbalance of the inside and outside of the wheel is known, it is possible to proceed with positioning for correction of unbalance (Par. 14.3.2).

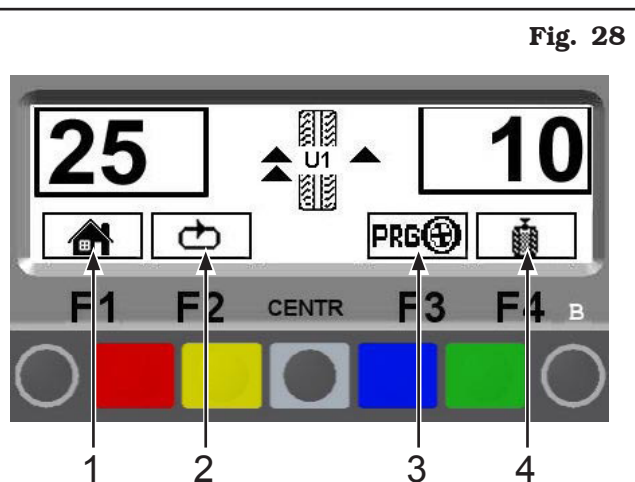
Arrows to help positioning in correction weight fitting point

**Fig. 27**



#### KEY

- 1 – Return to initial program phase (RED) (F1)
- 2 – Selected **once**: display of next row of keys (MATCHING function Chap. 18 - SPLIT Chap. 16)
- Selected **twice**: display of next row of keys (STATIC unbalance **Fig. 28**) (YELLOW) (F2)
- 3 – Displays exact unbalance (pitch 1 g instead of 5 g) (CENTRAL)
- 4 – Performs spin (GREEN) (F4)





#### KEY



- 1 – Return to DYNAMIC unbalance (**Fig. 27**) (RED) (F1)
- 2 – Display next row of keys (YELLOW) (F2)
- 3 – Display of programs modes
- 4 – Displays the STATIC unbalance (see Par. 14.3.3) (GREEN) (F4)

### 14.3.2 Wheel positioning

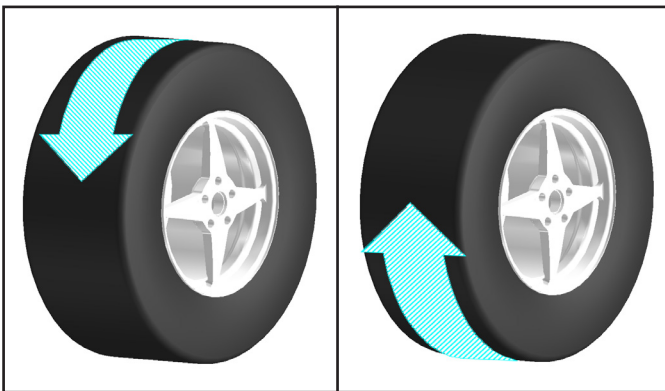
The weights must be positioned at the top of the wheel, at "12 o' clock", so that the unbalance will be at the bottom and weight fitting point will be at the top.



When the wheel balancer display screen shows  or  this means you are **very far** from the point where the counterweight is to be positioned.

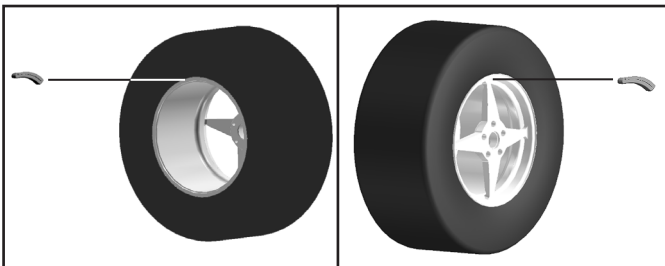
Wheel position is over 30° from the exact fitting point.

When the wheel balancer display screen shows  or  this means you are **not far** from the point where the counterweight is to be positioned.

Wheel position is within 30° from the exact fitting point.



When the wheel balancer display screen shows  (inner side) and  (outer side) the **exact position** has been reached for one side and for the other. The fitting point has been found. Now the unbalance can be corrected by fitting the necessary weight.



Once the wheel has been correctly positioned, fit the weight indicated by the machine on both sides of the wheel.

After the weights have been fitted, the wheel balancing conditions can be checked by performing a trial wheel spin.

The STANDARD unbalance calculation procedure is now completed.

### 14.3.3 Static balancing (STAT)


Make sure there are no stones and/or mud on the wheel.

Remove any counterweights.

Fit the wheel and make sure it is fastened properly.

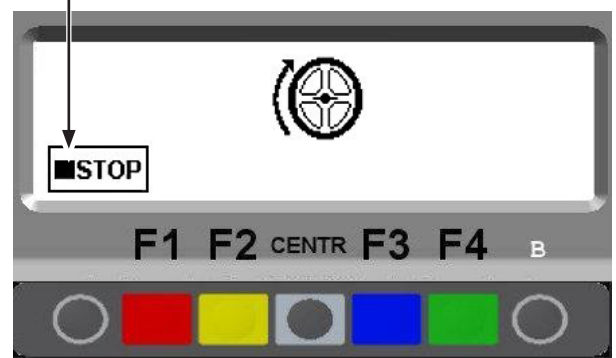
Press the "F3 key"  from the initial program page (see Chap. 13).

Enter the wheel measurements (Par. 14.1) and press

"F4"  key to perform the spin; in a few seconds, the wheel runs at normal speed and the wheel balancer display shows wheel rotation (**Fig. 29**). Do not touch the wheel when reading measurements, after the spin, the wheel stops automatically, also taking into account the unbalance measured.

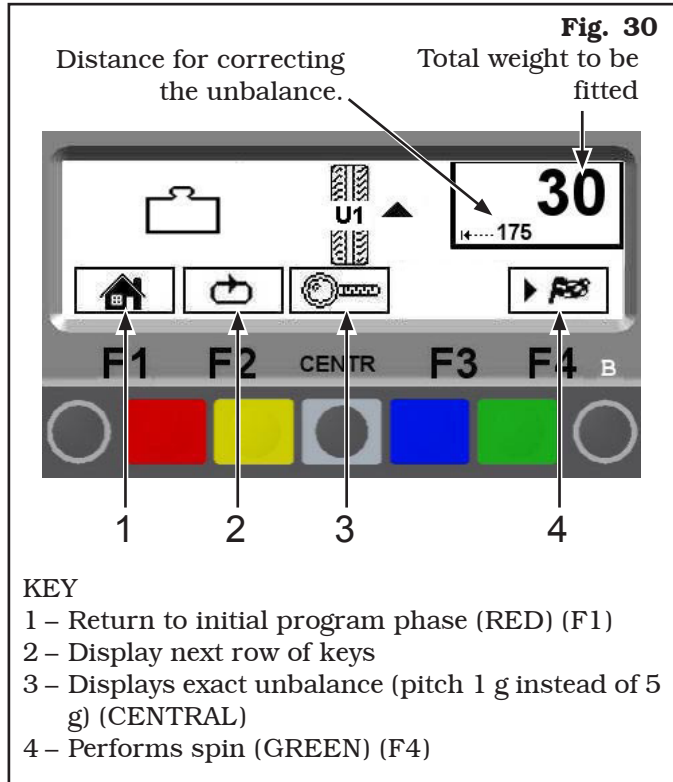
Press in case of emergency

**Fig. 29**



The display unit indicates the direction in which to move the wheel to fit the weight and how much weight is needed to correct the unbalance.

The display screen shows the distance for correcting unbalance on small numbers. and the total weight to be fitted (**Fig. 30**) on big numbers. Once the unbalance value of the wheel side is known, the wheel can be positioned properly.

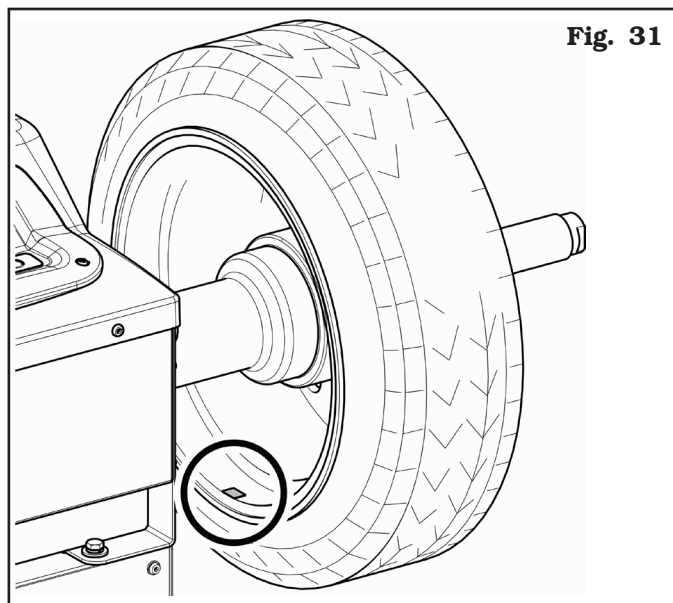


Follow these instructions, according to the version:

**(A) - Only for LIBRAK328 - car version**



**THE MACHINE HAS BEEN CONFIGURED WITH WEIGHTS POSITIONING AT "6 O'CLOCK" SEE Fig. 31).**



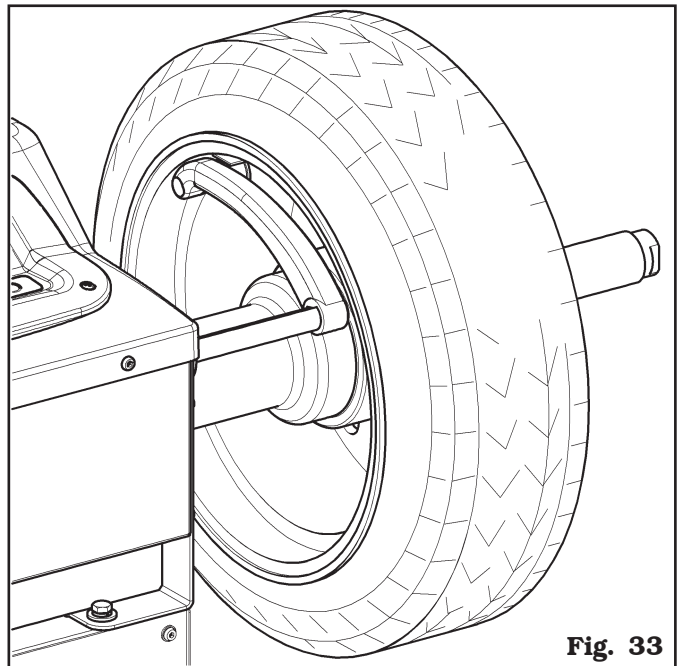
**DISABLE "ADHESIVE WEIGHTS" FITTING AT "6 O'CLOCK" FUNCTION BEFORE PROCEEDING.**

Fit the adhesive weight in the manual distance caliper as shown in **Fig. 32**.

**Fig. 32**



Read the distance measurement on the manual distance caliper. Fit the adhesive weight on the outside of the wheel (**Fig. 33**) at the indicated distance (in the example at 175 mm) using a known weight (the example shows 30 g). The position of the outer weight is not visible but hidden inside.



Check wheel balancing conditions by making a trial spin. The display screen will show an unbalance reset. The STATIC procedure is completed.

(B) - Only for LIBRAK328BIKE - bike versions



**THE MACHINE MUST BE CONFIGURED WITH ADHESIVE WEIGHTS' POSITIONING AT "6 O' CLOCK".**

Fit the adhesive weight at "6 o'clock", as shown in Fig. 34.

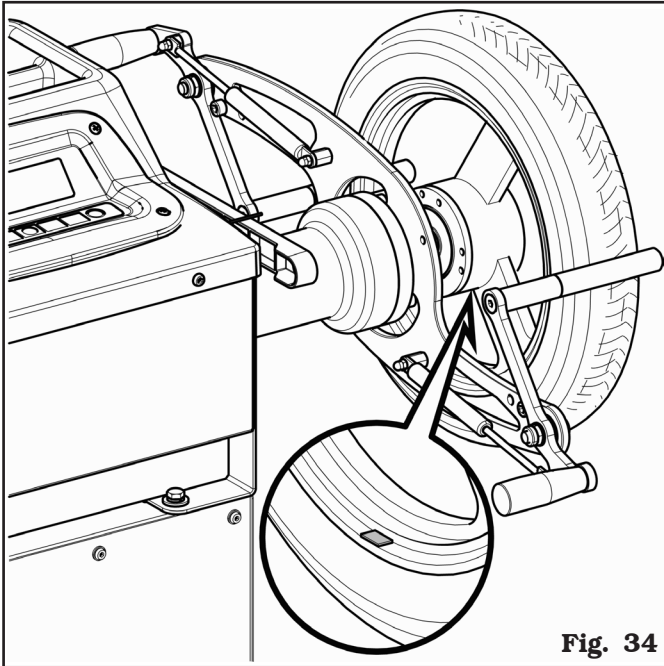


Fig. 34

Perform a test spin. The display screen will show an unbalance reset.

The STATIC procedure is completed.

### 14.4 Measuring the unbalance with auxiliary programs

The available functions allow to select the appropriate weight positions to be placed in different positions compared to the standard ones (DYNAMIC unbalance). The ALU programs measure rims by means of pre-set data in the wheel balancer.

The measurements entered by the operator will therefore be automatically corrected by the machine according to the selected program.

From the program start page (see Chap. 13), press

"key F3"

The monitor shows a window with possible selection modes. Select the desired function by means of keys

"F2" and/or "F3" . Confirm the

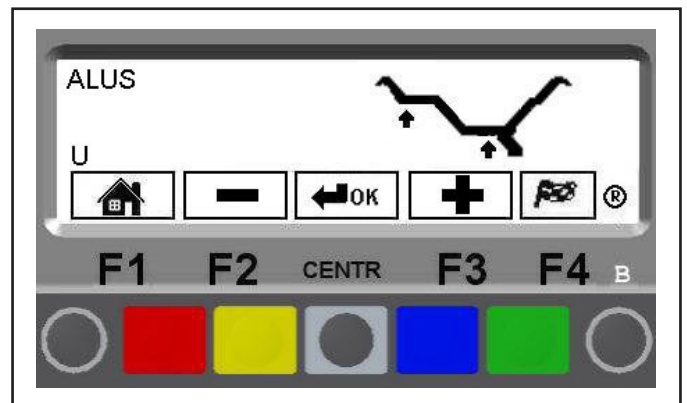
selection by pressing "CENTR" key and enter the measures required.

#### 14.4.1 ALU-S

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

The ALU-S function enables the user to enter 2 different positions for fitting the adhesive weights on the outer and inner side of the rim, so as to select the position of the weights according to specific need. The position of the outer weight is not visible but hidden inside.

Press the "CENTRE key" to confirm. Enter the measurements (par. 14.1.2) and proceed as described in par. 14.4.12.

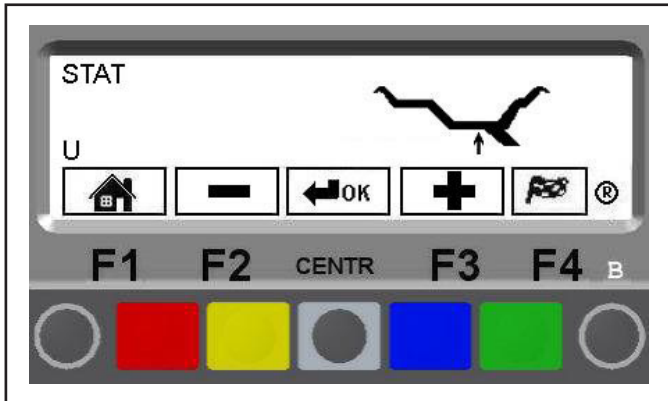


### 14.4.2 STATIC

#### Valid for car/motorcycle

STATIC balancing is a procedure that offsets wheel vibrations using a single adhesive weight on a single plane.

Press the "CENTRE key" to confirm. Enter the measurements (par. 14.1.2) and proceed as described in par. 14.3.3.

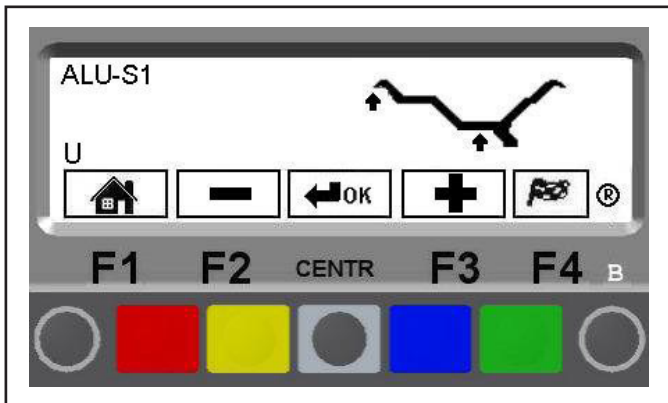


### 14.4.3 ALU-S1

#### Valid for car

ALU-S1 function permits balancing wheels with light alloy rims by fitting adhesive weights on the inner side and weight with clip on outer side of wheel.

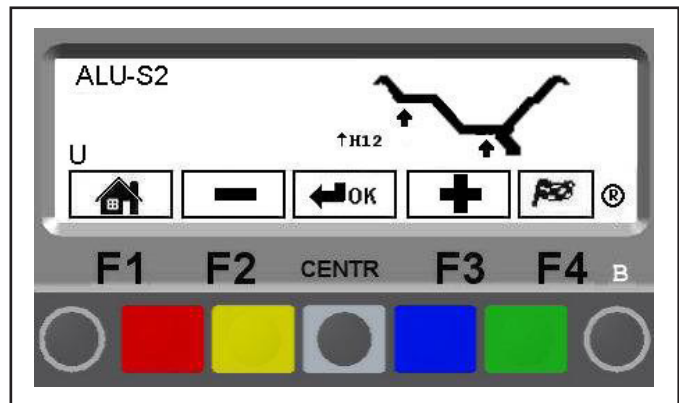
Enter the measurements (par. 14.1.2) and proceed as described in par. 14.4.1 (take into account the inner clip weight, positioned at "12 o' clock").



### 14.4.4 ALU-S2

#### Valid for car

ALU-S2 function allows the balancing of wheels with light alloy rims by fitting two adhesive weights on the outer and inner sides of the rim (the outer weight is at "12 o' clock"). Enter the measurements (par. 14.1.2) and proceed as described in par. 14.4.12 (take into account the inner adhesive weight, positioned at "12 o' clock").

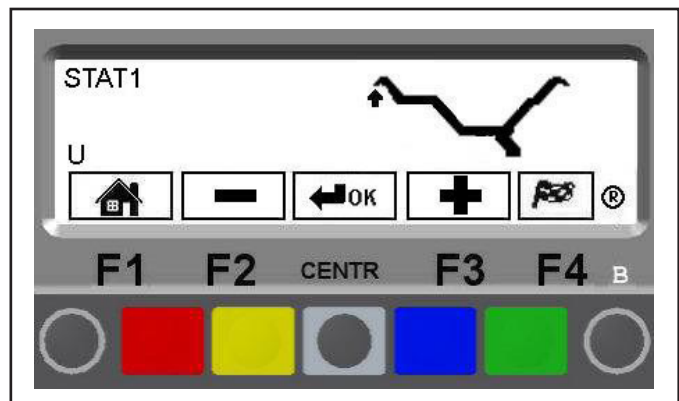


### 14.4.5 STATIC 1

#### Valid for car

The 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 (par. 14.1) and proceed as described in par. 14.3.1 (only for wheel inner side).



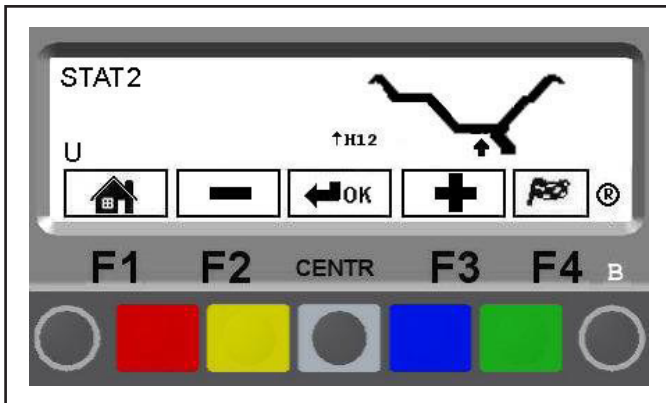
### 14.4.6 STATIC 2

#### Valid for car/motorcycle

The 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".

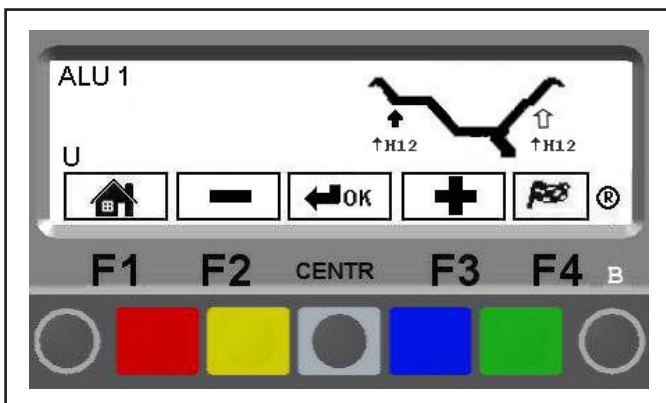
Enter the measurements (par. 14.1) and proceed as described in par. 14.3.1 (only for wheel inner side)



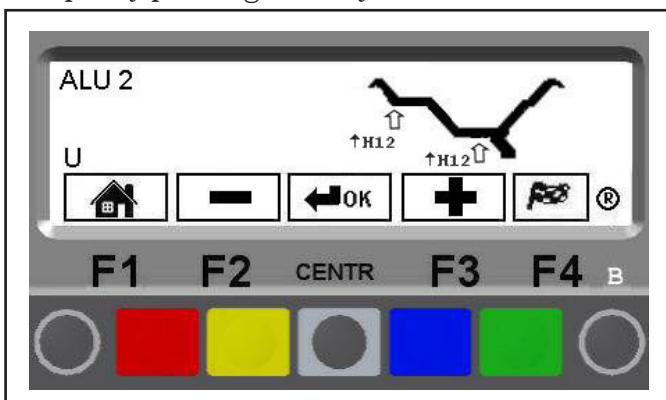
**14.4.7 ALU 1****Valid for car**

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

Press the "CENTRE key" to confirm. Enter the measurements and proceed as described in par. 14.4.13.

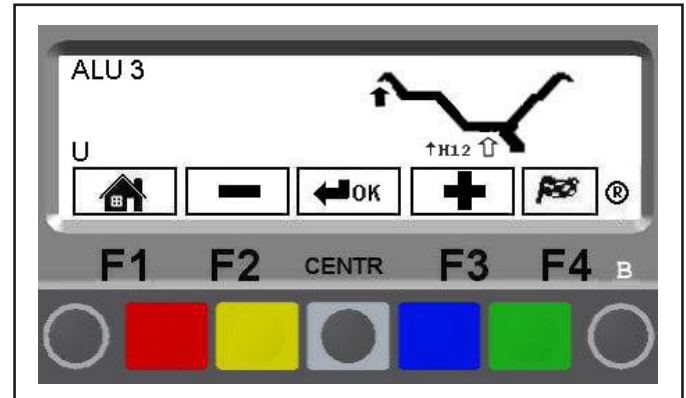
**14.4.8 ALU 2****Valid for car**

ALU 2 function balances wheels with light alloy rims by fitting adhesive weights on the outside and inside of the rim at "12 o' clock". The position of the inner weight is not visible but hidden inside. Press the "CENTRE key" to confirm. Enter the measurements and execute the spin by pressing "F4" key.

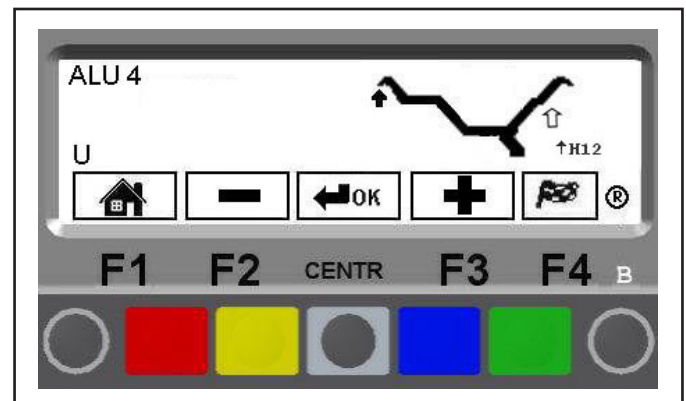
**14.4.9 ALU 3****Valid for car**

ALU 3 function is a procedure that uses mixed weights to offset wheel unbalance: weight with clip on outer side of wheel, adhesive weight at "12 o'clock" on inner side, not visible because inside the rim.

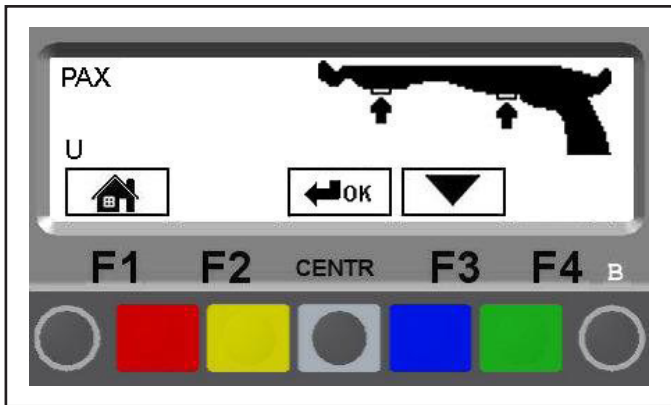
Press the "CENTRE key" to confirm. Enter the measurements and proceed as for DYNAMIC unbalance.

**14.4.10 ALU 4****Valid for car**

ALU 4 function is a procedure that uses mixed weights to offset wheel unbalance: weight with clip on outer side of wheel, adhesive weight at "12 o'clock" on inner side. Press the "CENTRE key" to confirm. Enter the measurements and proceed as for DYNAMIC unbalance.

**14.4.11 PAX****Valid for car**

PAX function is a procedure that permits balancing PAX wheels using adhesive weights at pre-set distances to offset wheel unbalance. Press the "CENTRE key" to confirm. Select the wheel type model and proceed as described in par. 14.4.14.



For ALU-S, STATIC and PAX functions, see relevant paragraphs. For all the other previously-indicated functions, wheel balancing will be done as indicated for dynamic balancing par. 14.3.1.


The wheel balancer will automatically correct the measurements entered by the operator according to the selected function.



**14.4.12 ALU-S procedure**

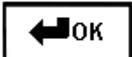
**Valid for car/motorcycle**

Make sure there are no stones and/or mud on the wheel. Remove any counterweights.


Fit the wheel and make sure it is fastened properly.

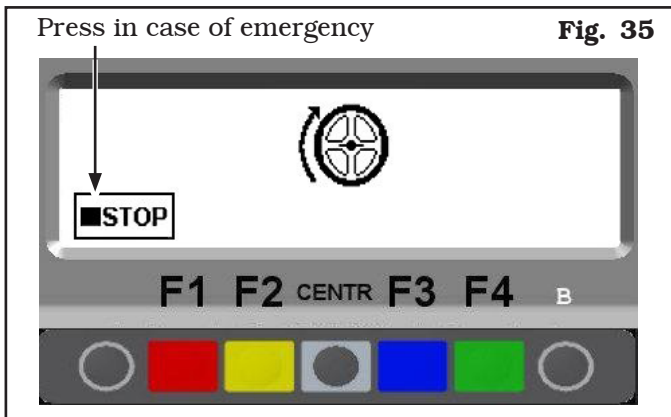
From the initial display page press the "F3 key"  to select the type of desired correction.

Using the  and  key, display the ALU-S function and confirm with the "CENTRE key"

.

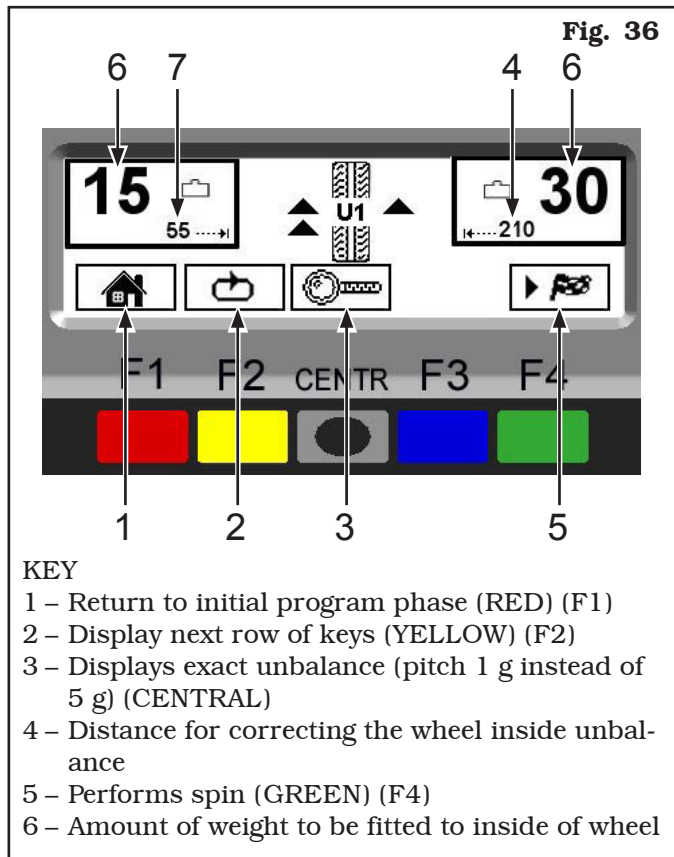
Enter the measurements as indicated in para. 14.1.2.

After entering the measurements press "F4"  to perform wheel spin; in a few seconds, the wheel runs at normal speed and the wheel balancer display shows wheel rotation (Fig. 35). Do not touch the wheel when reading measurements, after the spin, the wheel stops automatically, also taking into account the unbalance measured.



The display unit indicates the direction in which to move the wheel to fit the weights and how much weight and distance are needed to correct the unbalance (Fig. 36).

Once the unbalance value of the inner and outer wheel side is known, the wheel can be positioned properly. Turn the wheel in the direction indicated by the arrows (on the outer side, approximately at "12 o'clock") until the correct position is reached (par. 14.3.2).



**KEY**

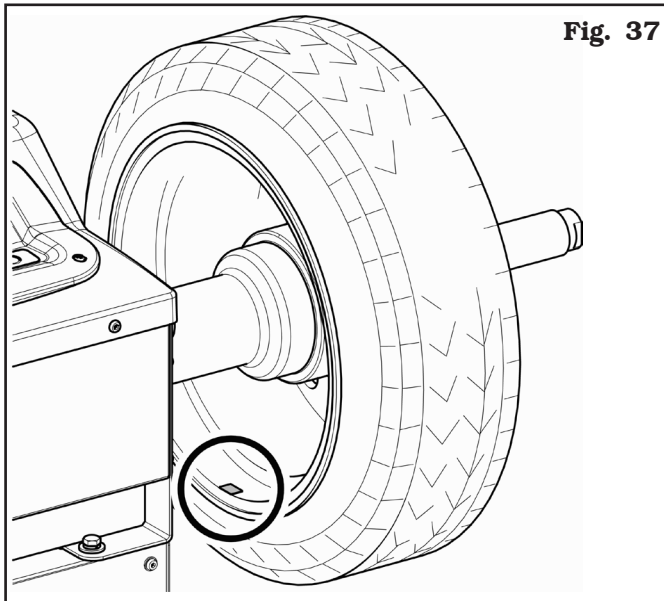
- 1 – Return to initial program phase (RED) (F1)
- 2 – Display next row of keys (YELLOW) (F2)
- 3 – Displays exact unbalance (pitch 1 g instead of 5 g) (CENTRAL)
- 4 – Distance for correcting the wheel inside unbalance
- 5 – Performs spin (GREEN) (F4)
- 6 – Amount of weight to be fitted to inside of wheel

Follow these instructions, according to the version:

**(A) - Only for LIBRAK328 - car version**



**THE MACHINE HAS BEEN CONFIGURED WITH ADHESIVE WEIGHTS POSITIONING AT "6 O' CLOCK" SEE Fig. 37).**



**Fig. 37**



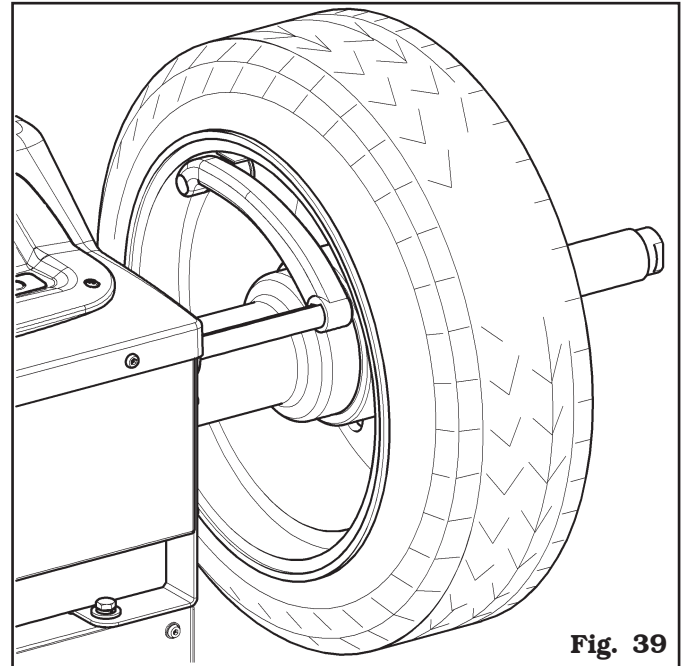
**DISABLE "ADHESIVE WEIGHTS" FITTING AT "6 O'CLOCK" FUNCTION BEFORE PROCEEDING.**

Fit the adhesive weight in the manual distance caliper as shown in **Fig. 38**.



**Fig. 38**

Read the outer distance measurement on the manual distance caliper. Fit the adhesive weight on the outside of the wheel (**Fig. 39**) at the indicated distance (in the example at 210 mm) using a known weight (the example 30 g). The position of the outer weight is not visible but hidden inside. Turn the wheel until the correct point is reached (par. 14.3.2).



**Fig. 39**

Read the inner distance measurement on the manual distance caliper. Fit the adhesive weight on the inside of the wheel (**Fig. 39**) at the indicated distance (in the example at 55 mm) using a known weight (the example 15 g). Turn the wheel until the correct point is reached (par. 14.3.2). Check wheel balancing conditions by making a trial spin. The display screen will show an unbalance reset.

If the adhesive weight has to be hidden behind spokes, refer to "weights hidden behind spokes mode" in Chapt. 17.

The ALU-S procedure is completed.

**(B) - Only for LIBRAK328BIKE - bike versions**

Fit the adhesive weight on the outside of the wheel (**Fig. 40**) at the indicated distance (in the example at 210 mm) using a known weight (the example 30 g). The position of the outer weight is not visible but hidden inside. Turn the wheel until the correct point is reached (par. 14.3.2).

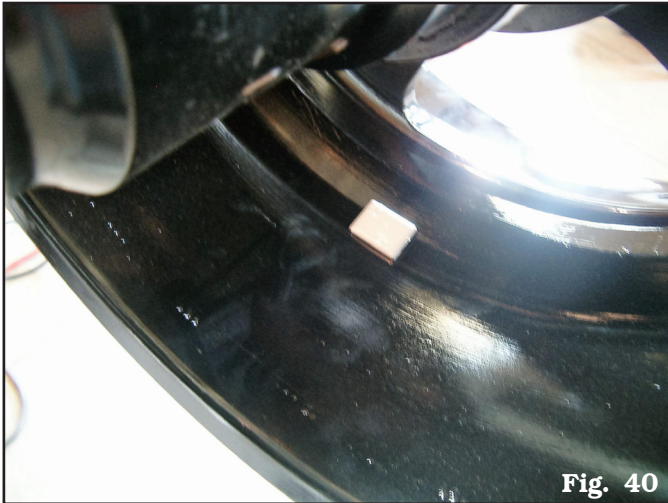


Fig. 40

Fit the adhesive weight on the inside of the wheel (**Fig. 41**) at the indicated distance (in the example at 55 mm) using a known weight (the example 15 g). Turn the wheel until the correct point is reached (par. 14.3.2). Check wheel balancing conditions by making a trial spin. The display screen will show an unbalance reset.



Fig. 41

If the adhesive weight has to be hidden behind spokes, refer to “weights hidden behind spokes mode” in Chapt. 17.

The ALU-S procedure is completed.

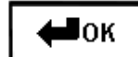
**14.4.13 ALU 1 procedure****Valid for car**

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 (Chap. 13). From the first display page (Chap. 13) press the “F3 key”



to select the type of desired correction.

Through the keys  or  display the ALU 1 function. Confirm the selection with the



“CENTR” key. Determine the wheel dimensions using the specific manual distance caliper



(par. 14.1). After entering data press “F4” to perform wheel spin; in a few seconds, the wheel runs at normal speed and the wheel balancer display shows wheel rotation (**Fig. 42**). Do not touch the wheel while taking measurements. At the end of the spin the wheel will stop automatically, also taking into account the measured unbalance so the external weight fitting point is exactly at “12 o’ clock”.

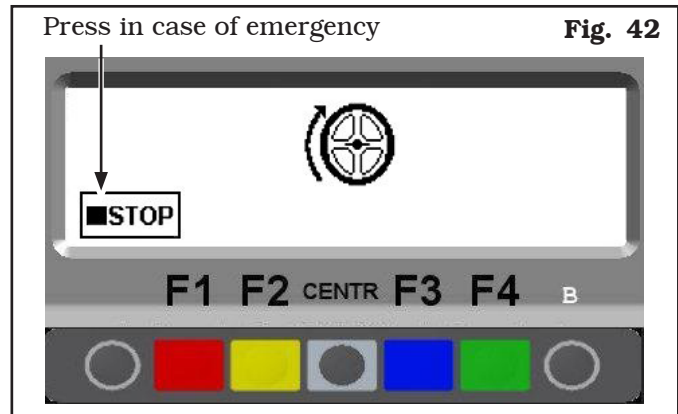
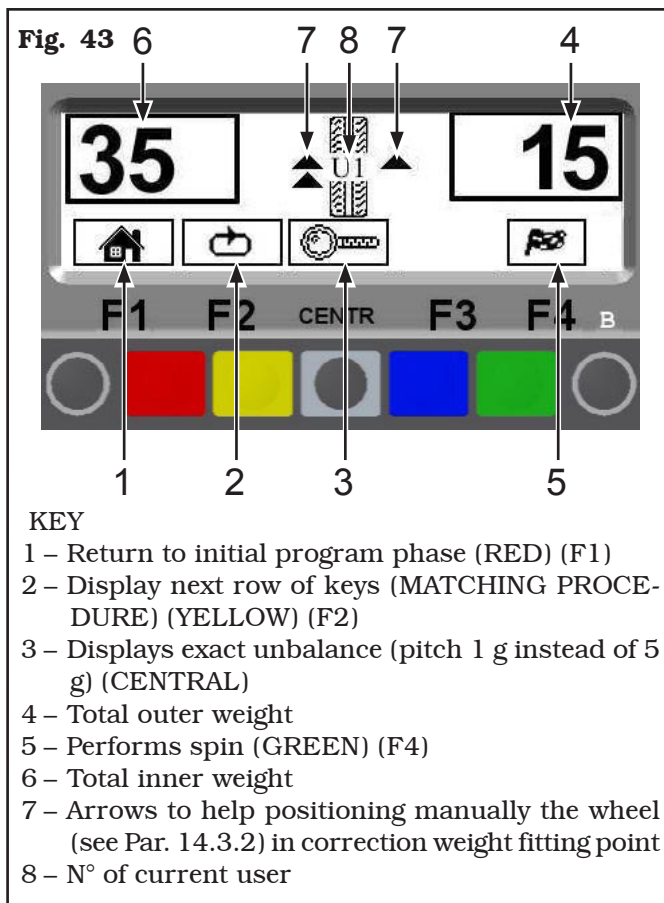


Fig. 42

The display screen shows the weight required to correct the unbalance (**Fig. 43**).

Turn the wheel at the point indicated by the arrows, until the correct position has been reached to correct the unbalance (par. 14.3.2).



Fit the adhesive weight on wheel outer side. The outer side weight must be positioned **by hand on the vertical** (Fig. 44).



To fit the adhesive weight on the inner part of the wheel, turn the wheel in the direction of the arrows until the correct position is reached (the arrow must be horizontal). The adhesive weight on the inner side of the wheel. The inner side weight must be positioned by hand high up **on the vertical at "12 o'clock"** (Fig. 44), using a weight of pre-determined value (the example in Fig. 43 shows 35 g). At the end of the procedure, wheel balancing conditions can be checked by performing a trial wheel spin.

The ALU 1 procedure is completed.


### 14.4.14 PAX mode



Valid for car

Make sure there are no stones and/or mud on the wheel.

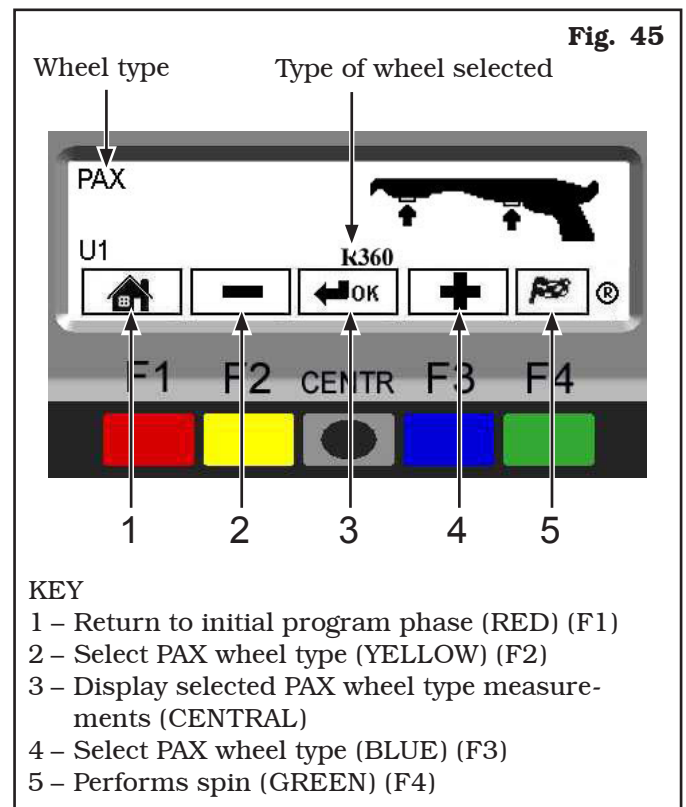
Remove any counterweights.


Fit the wheel and make sure it is properly fastened (Chap. 13.0).

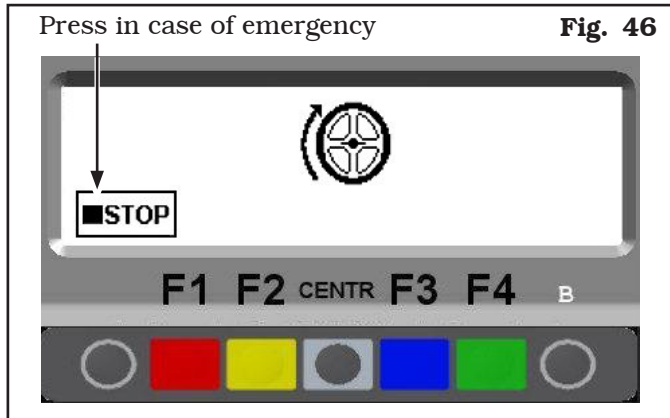
From the first display page (Chap. 13.0) press the "F3 key"  to select the type of desired correction.

Through the keys  or  display PAX function. Confirm the selection by pressing the

"CENTR"  key.



Press the "F4 key"  to perform a spin. In just a few seconds, the wheel will run at full speed; the wheel balancer display indicates the wheel rotation (Fig. 46). After the spin, the wheel stops automatically, taking into account the measured unbalance so that the fitting position of the outer weight is around at "12 o'clock".







Proceed to fit the weight as shown for the ALU-S mode (Par. 14.4.12).

### 14.5 Recalculation Function


After making a spin, the wheel automatically stops, and the required weight/s and its/their position is/are always indicated.

If a test is performed in DYNAMIC, ALU-S, or STATIC mode, the data of the other modes can be obtained without making another spin by simply setting other

dimensions and pressing the "Recalculation key" .

From the page where the results are shown (see for example, Fig. 27), press "F2"  key until displaying the  key. Press  and select the wished program.

At this point, simply set the dimensions again, in ALU-S, STATIC or again DYNAMIC mode, as explained in

Par. 14.1, and press key "Recalculation" .

The screen will show a new page with weights and position, in the new ALU-S, STATIC or DYNAMIC modes, taking into account the new dimensions.

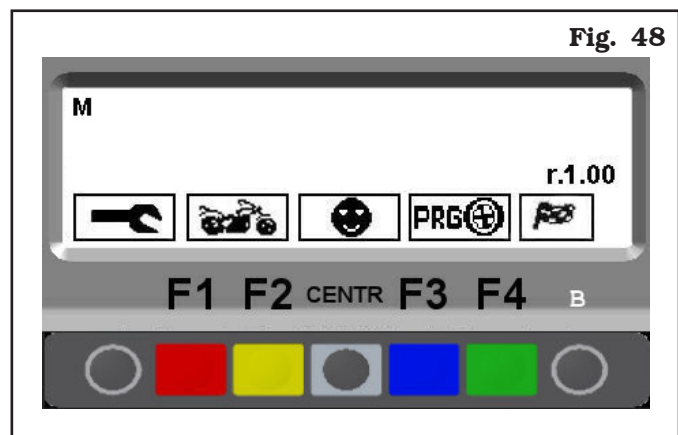
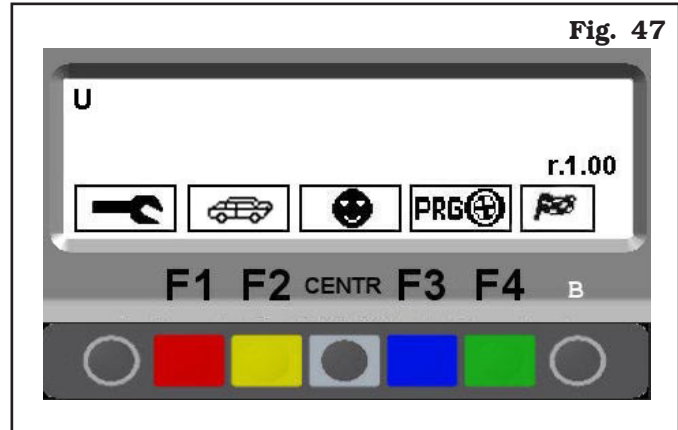
No new spin has to be made because the machine continues to store the data of the previous spin.

Similarly, new weight and position data can be obtained by switching from an "Auxiliary Programs" mode (see Par. 14.4) to another mode (ALU-S1 - ALU-S2 - STATIC1 - STATIC2 - ALU1 - ALU2 - ALU3 - ALU4 - PAX) without making another spin.

## 15.0 WHEEL BALANCING IN MOTORCYCLE MODE

(A) - Only for LIBRAK328

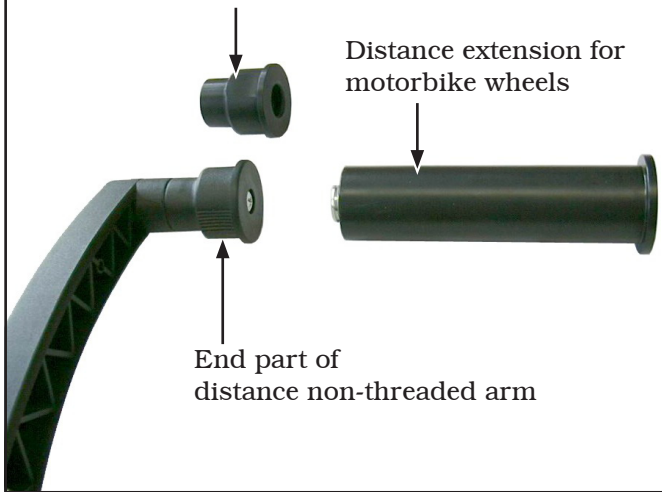
By enabling "Motorbike wheel balancing" function the wheel balancers can also balance motorbike wheels. From the opening page, press the "F2 key" to select car (Fig. 47) or motorcycle (Fig. 48) balancing mode.



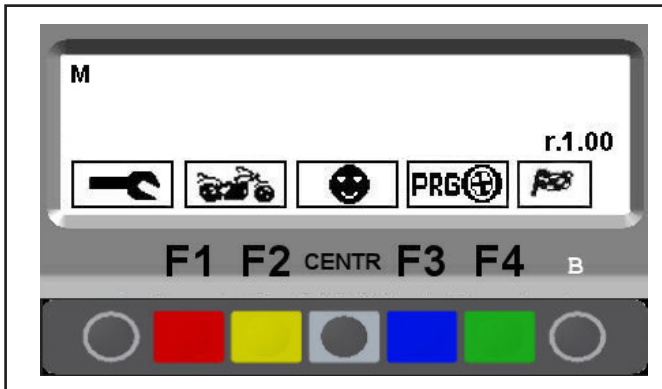
"Motorcycle" mode automatically recalculates wheel distance measurement, increasing it by the length of GAR181A1 optional extension.

To fit the distance extension, the old non-threaded end part of the arm must be removed and the threaded one fitted (see Fig. 49). The extension has to be screwed up only when balancing is performed in "Motorbike" mode.

End part of distance threaded  
arm for motorbike wheels

**Fig. 49****(B) - Only for LIBRAK328BIKE**

With this model it is possible to operate only in "Motorbike" function. It is not necessary to mount extensions and/or accessories.



## 16.0 SPLIT PROCEDURE

**Valid for car/motorcycle**

The SPLIT procedure proves useful when the DYNAMIC unbalance (par. 14.3.1) of a wheel is fairly high and the weight to be fitted is not available, 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.

The SPLIT procedure eliminates errors caused by manually fitting two 50 g weights close to one another, which could leave considerable outstanding unbalance.

**For example:**

100 g WEIGHT  
TO BE FITTED TO CORRECT UNBAL-  
ANCE



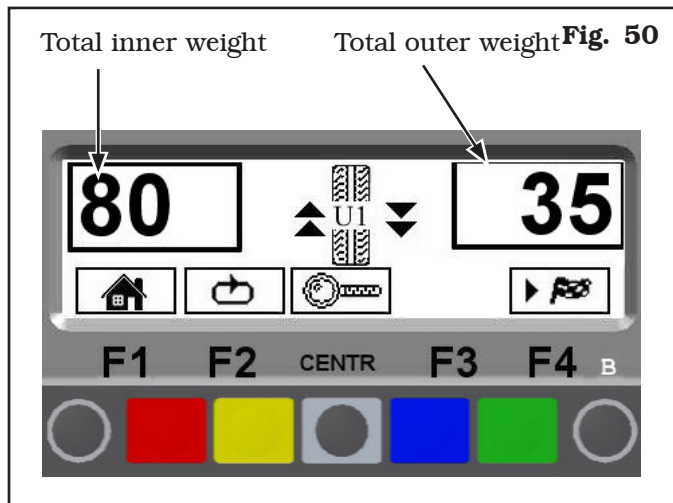
TWO SMALLER WEIGHTS (50 g)  
FITTED MANUALLY

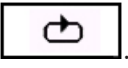


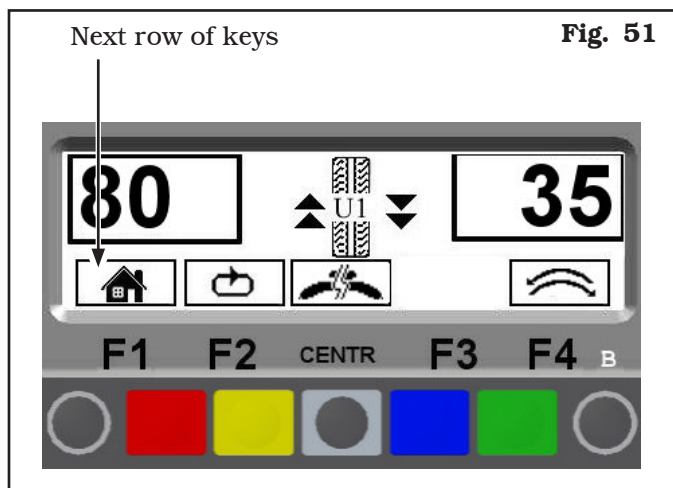
TWO SMALLER WEIGHTS (55 g)  
USING SPLIT PROCEDURE




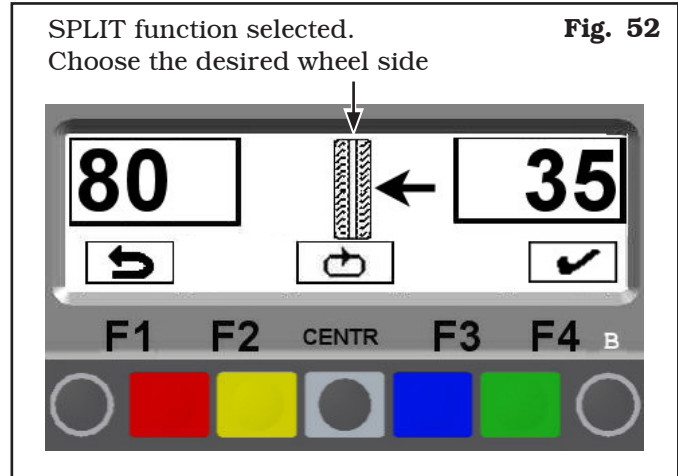
Proceed to DYNAMIC unbalance measurement displaying by performing a standard wheel spin (par. 14.3.1). Once the unbalance values have been detected (Fig. 50):




Press "key F2" corresponding to icon . The display screen will show another row of keys (Fig. 51).



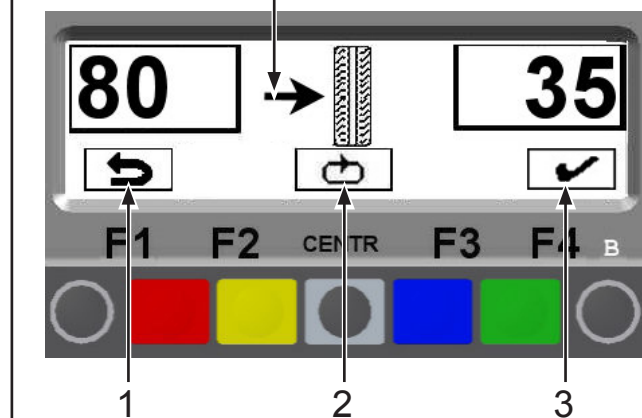
Press the key relating to the SPLIT function , the system will display the screen page in Fig. 52.



Press "CENTR" key corresponding to icon  to select the desired wheel side (outer or inner). Depending on the selected side, the monitor will show the position of the direction arrows.

Press "key F4"  to confirm.



Confirm the wheel side. In the example, the selected side is the inner; where the total weight is higher



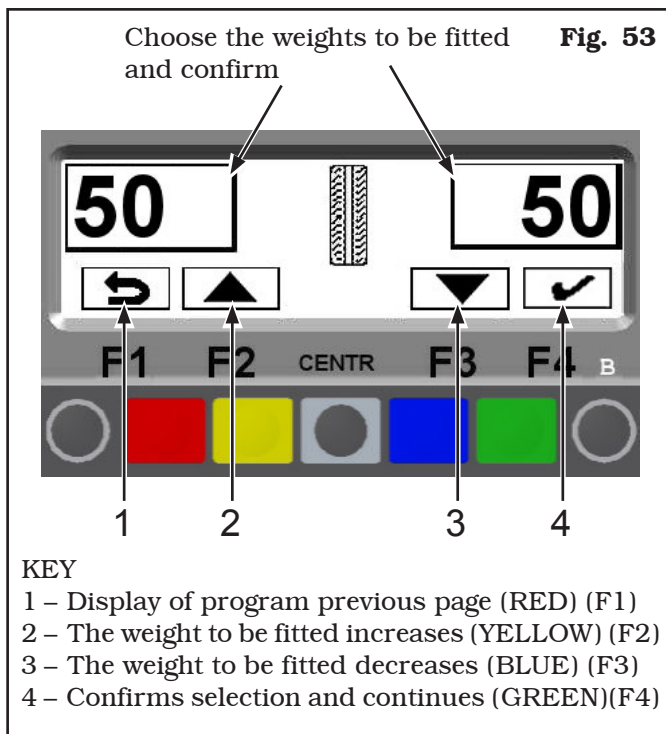
#### KEY

- 1 - Display of program previous page (RED) (F1)
- 2 - Selects wheel side (outer or inner) (CENTRAL)
- 3 - Confirms selection and continues (GREEN) (F4)

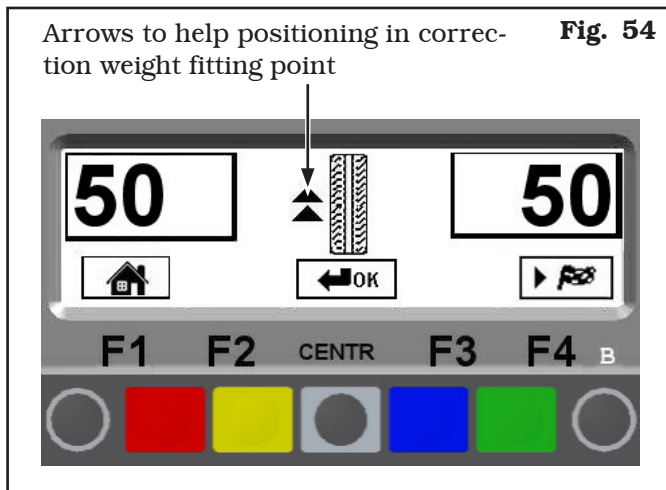
At this point, the system will display the quantity of the two weights to be fitted on the wheel (see Fig. 53).

Using the keys corresponding to icons  and , the operator can increase or decrease the quantity of the weights in the awareness that, the bigger the weights, the bigger the distance will automatically be between them.






Turn the wheel at the point indicated by the arrows, until the correct position has been reached to correct the unbalance (par. 14.3.2).



The monitor again displays **Fig. 54**. Turn wheel at the point indicated by the direction arrows, and fit the SECOND weight.

The inner side operation is complete, press "CENTR" key to quit.

Press "CENTRAL" key again and the key related to

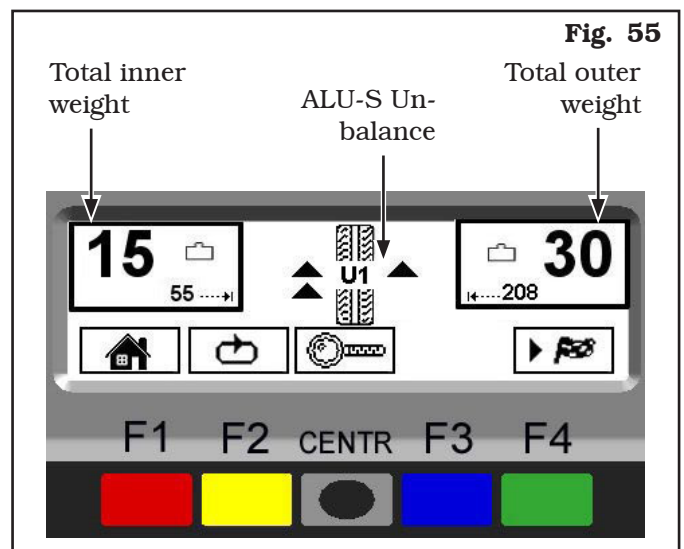
SPLIT function  (to perform the same operation for the outer side of the wheel) or fit the outer weight on the top part of the wheel, at "12 o' clock".

## 17.0 WEIGHTS HIDDEN BEHIND SPOKES MODE


Valid for car/motorcycle

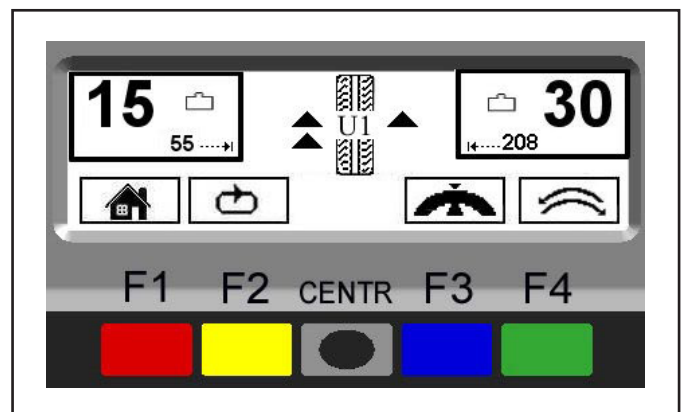
Adhesive correction weight positioning may not look attractive on some types of rims. In this case, "weights hidden behind spokes" mode can be used: it splits any correction weight on the outer side into two parts to be hidden behind rim spokes. It can be used in ALU-S Static mode.


Proceed to display the ALU-S unbalance measurements by performing a spin (**Fig. 55**).



Once the unbalance values have been determined,

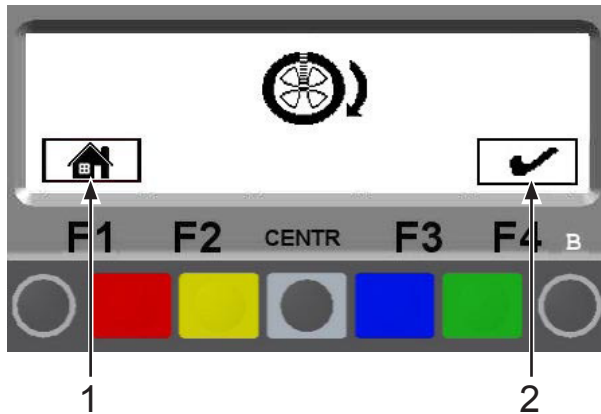
press the "F2 key" . At this point, the next row of keys is displayed on the monitor.



Press the "F3 key" relating to the weights hidden behind spokes mode . The program will display the screen page in **Fig. 56**.

Move any spoke up to "12 o' clock" (in many cases, the position could already be behind or near one of the spokes) and press the "F4 key" to confirm and continue.

Fig. 56



## KEY

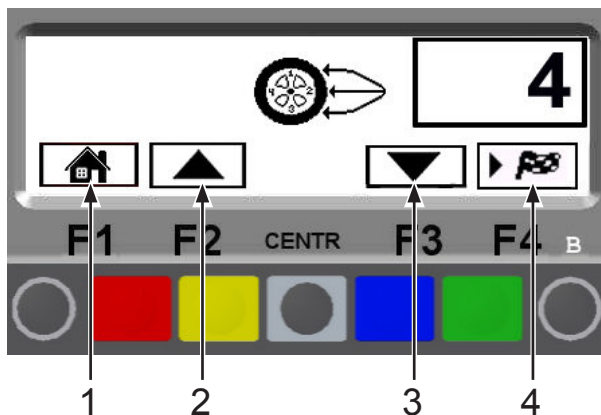
- 1 - Return to previous screen page (RED) (F1)
- 2 - Confirm spoke positioning at "12 o' clock" (GREEN) (F4)

Enter the number of spokes existing on the wheel, using keys F2 and F3 (Fig. 57).

A minimum of 3 spokes and a maximum of 12 can be entered.

Press the "F4 key" to confirm and continue.

Fig. 57

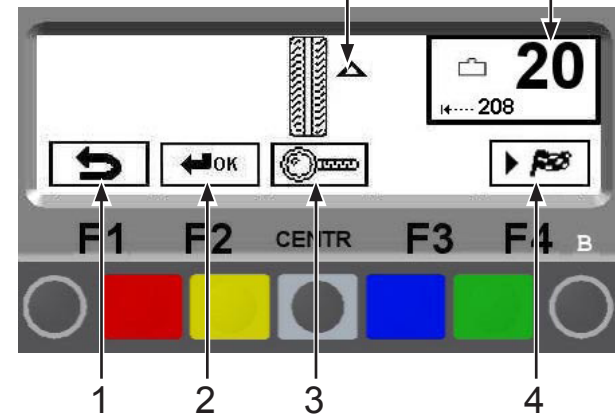


## KEY

- 1 - Return to previous screen page (RED) (F1)
- 2 - The number of spokes increases (YELLOW) (F2)
- 3 - The number of spokes decreases (BLUE) (F3)
- 4 - Confirm number of spokes (GREEN) (F4)

The machine automatically calculates weight position in two positions hidden behind the spokes.

Arrows to help positioning in correction weight fitting point Total weight



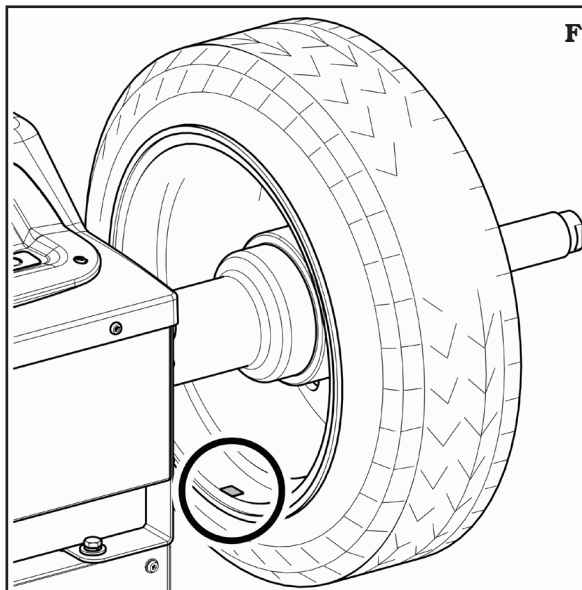
## KEY

- 1 - Return to previous screen page (RED) (F1)
- 2 - Return to initial unbalance screen page (YELLOW) (F2)
- 3 - Displays exact unbalance (pitch 1 g instead of 5 g) (CENTRAL) (CENTRAL)
- 4 - Confirm and continue second weight positioning (GREEN) (F4)



**THE MACHINE HAS BEEN CONFIGURED WITH ADHESIVE WEIGHTS POSITIONING AT "6 O' CLOCK" SEE Fig. 58).**

Fig. 58



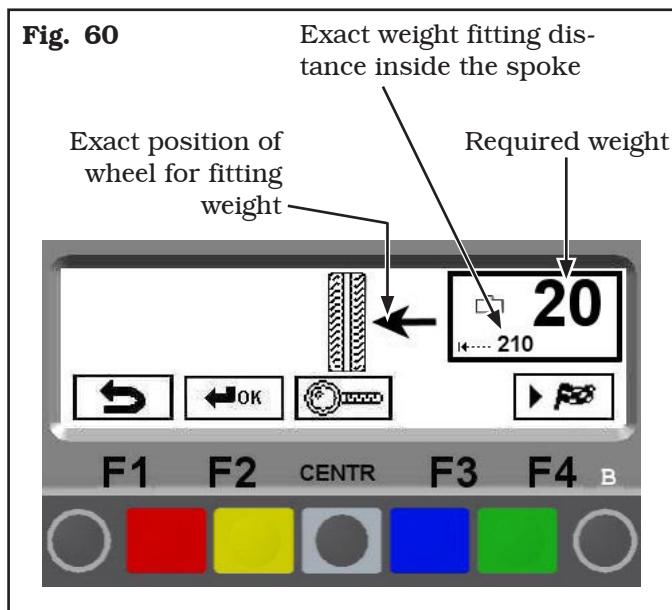
**DISABLE "ADHESIVE WEIGHTS" FITTING AT "6 O'CLOCK" FUNCTION BEFORE PROCEEDING.**

Correctly position the wheel (see Par. 14.3.2) and lock it

Fit the adhesive weight (in the example this is 20g) in the manual distance caliper as shown in **Fig. 59**.

**Fig. 59**

Fit the adhesive weight inside the spoke at the point indicated on the display screen in **Fig. 60**.

**Fig. 60**

Correctly position the wheel (see Par. 14.3.2) and lock it and fit the second adhesive weight in the manual distance caliper as shown in **Fig. 59**.

Fit the adhesive weight inside the spoke at the point indicated on the display screen in (**Fig. 60**).

Press the "F4 key" to confirm positioning of second weight behind the spoke.

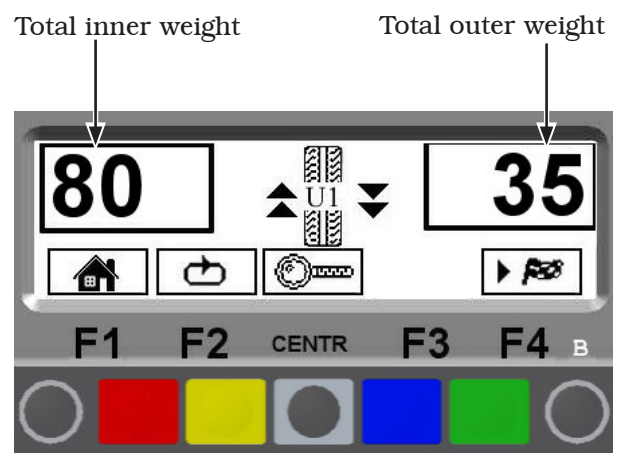
The system displays the initial unbalance situation before performing the SPOKES procedure.


## 18.0 MATCHING PROCEDURE (Rim - Tyre Optimization)

**Valid for car/motorcycle**

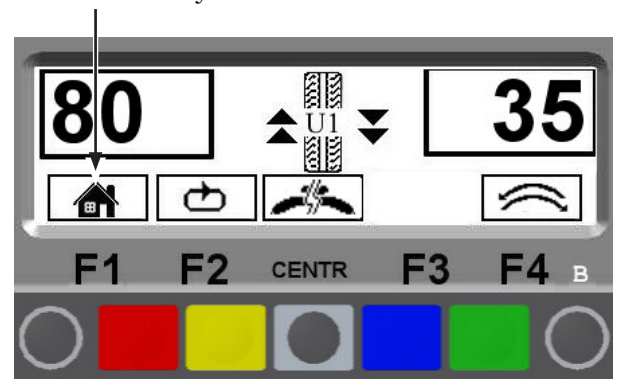
The Matching procedure offsets strong unbalance, reducing the weight quantity to be fitted on the wheel to achieve balancing. This procedure permits reducing unbalance as much as possible by offsetting the tyre unbalance with that of the rim.


After displaying any unbalance measurement (see example in **Fig. 61**).

**Fig. 61**

Once detected the unbalance measurements, press the F2 key corresponding to the icon . The monitor will show a new key sequence.

Next row of keys



Press the key relating to MATCHING  (\*) function, the system will display the screen page in **Fig. 62**

(\*): the MATCHING operation can only be performed if the static unbalance is > of 30 g. If it is less than this, the key relating to this operation is not displayed.

Make a reference mark, using chalk for instance, of the position of the rim and tyre, remaining 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.

Make a reference mark on the rim and tyre, in line with the arrow on the flange

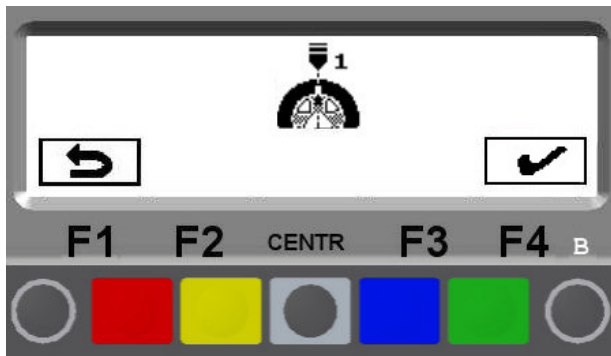
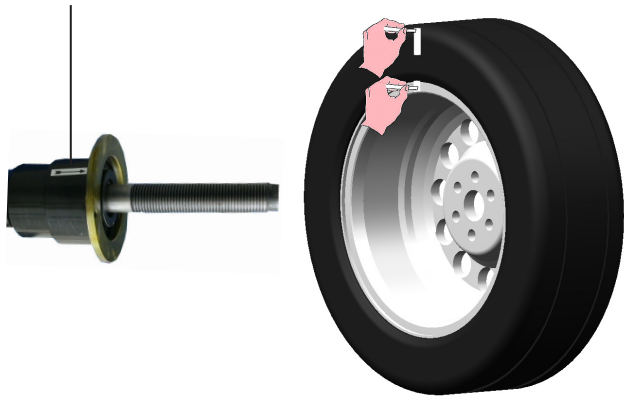
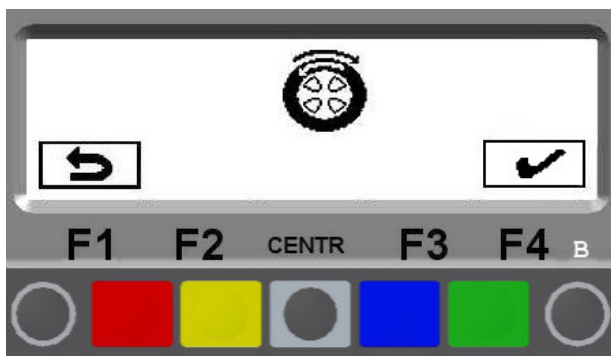
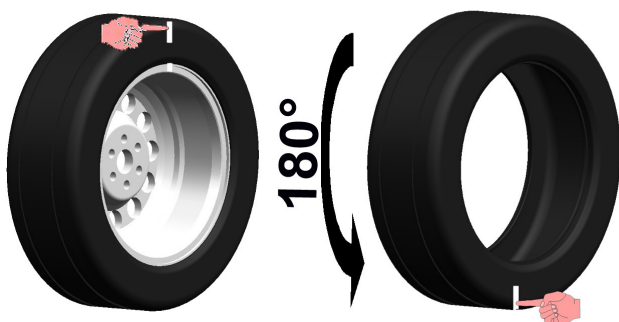


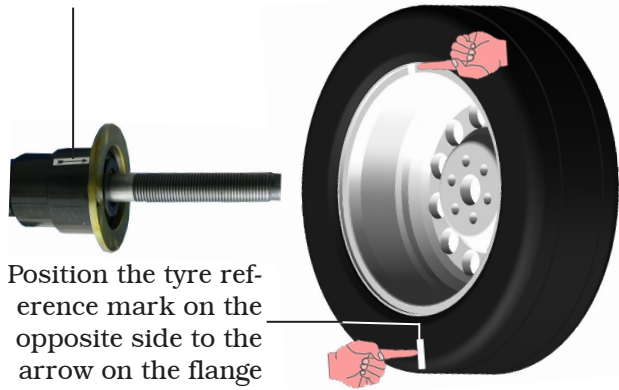
Fig. 62

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

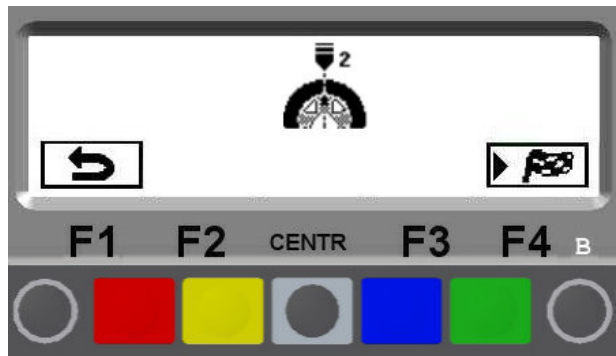


Fit the wheel back on the wheel balancer, positioning the reference mark on the rim in line with the arrow on the flange.

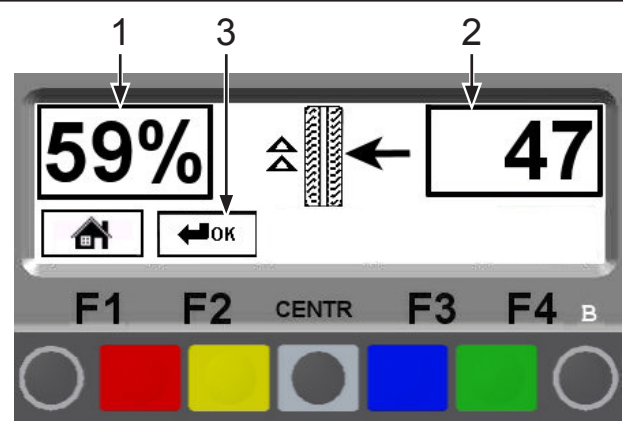
Position the reference mark on the rim in line with the arrow on the flange



Position the tyre reference mark on the opposite side to the arrow on the flange



Press the "F4 key" to start second spin. At the end of the spin the monitor will display the following image:



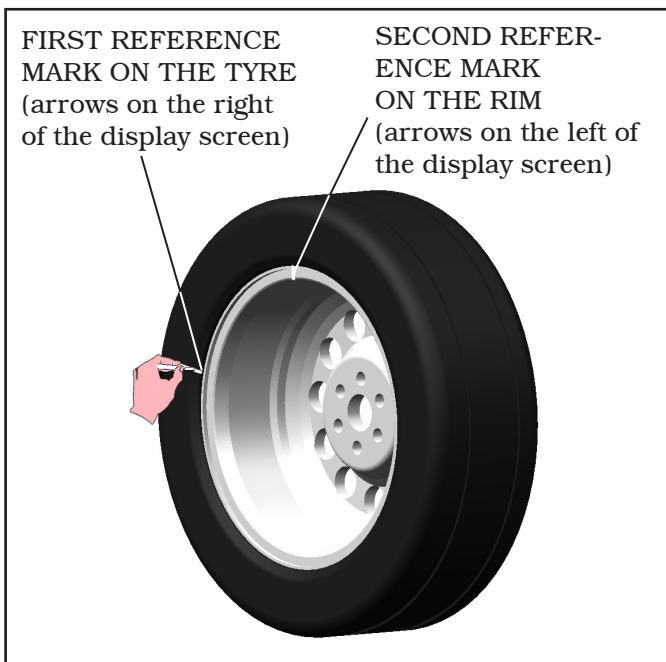
KEY


- 1 - % value of the possible unbalance reduction compared to wheel current situation
- 2 - Current static unbalance value in grams. It can be reduced with a further wheel and rim rotation
- 3 - Display again of the page with previous unbalance values (YELLOW) (F2)

Cancel the previously made reference marks.  
Position the wheel following the arrows on the display screen. Look at the arrows on the right. When these are horizontally (see Par. 14.3.2) make the **FIRST** reference mark on the rim.

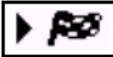


Look at the arrows on the left. When these are placed horizontally make the **SECOND** reference mark on the rim.



Remove the wheel from the wheel balancer. Remove the wheel and turn the tyre on the rim so that the two points coincide. Fit the wheel on the balancer (see **Fig. 63**) so that the two reference marks next to the arrow on the mandrel flange and press key .

**Fig. 63**

Press the green key corresponding to icon  on the keyboard. Perform another spin and correct any residual unbalance using the weights at disposal.

## 19.0 SETUP OF UNITS OF WEIGHT MEASUREMENT AND RIM WIDTH/DIAMETER AND SETTING CAR/MOTORCYCLE MODE

The weight determining wheel unbalance can be indicated on the display in "gram" or "ounce" measurement unit.

The width and diameter can be indicated in "inches" or "mm"

To change the unit of measurement, press the "F2 key" from the opening presentation page (see **Fig. 18**):

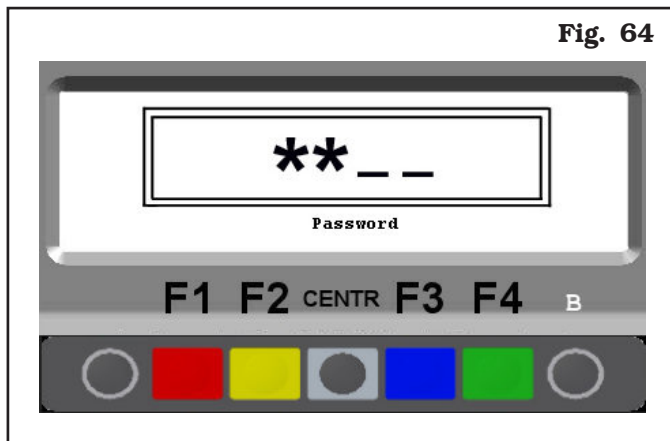


Fig. 64

Type in the password **F1-F2-CENTR-F3**, the program will show the screen page in **Fig. 65**:

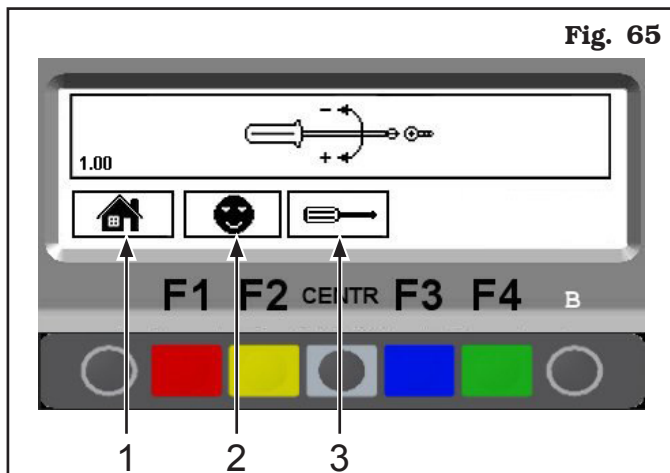

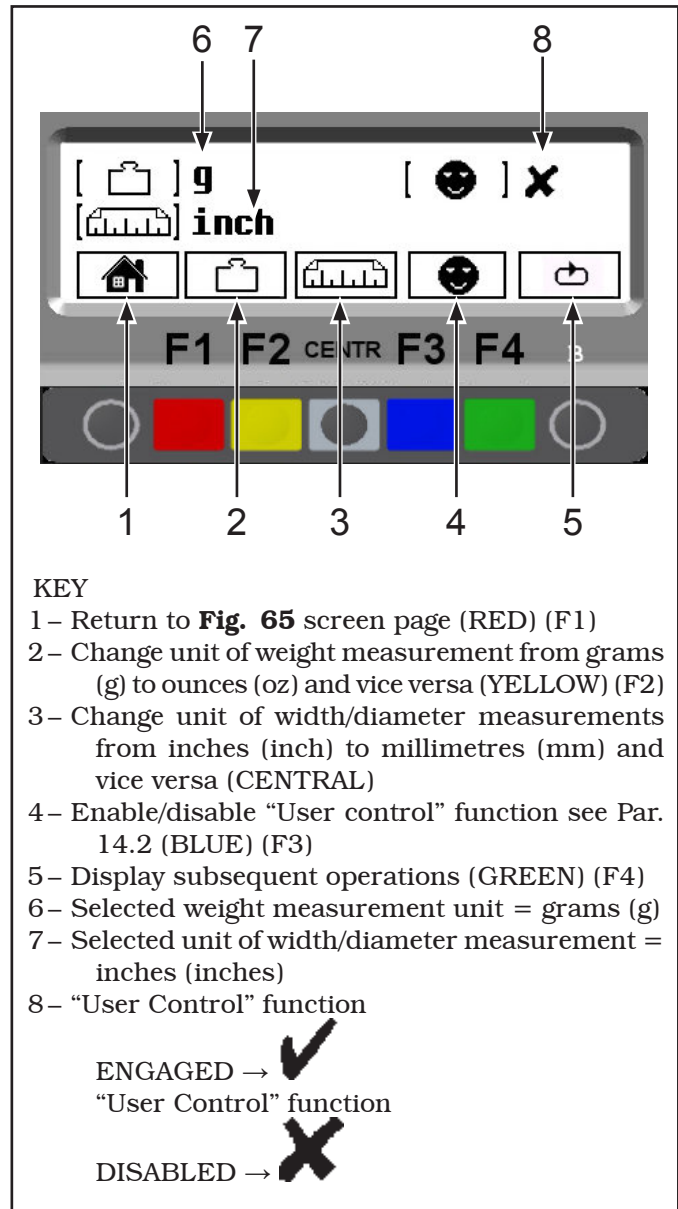


Fig. 65

## KEY

- 1 - Return to initial program page (RED) (F1)
- 2 - Configuration (YELLOW) (F2)
- 3 - Calibrations (CENTRAL)

Press key "F2"  and the program will display the following figure:




## KEY

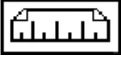
- 1 - Return to **Fig. 65** screen page (RED) (F1)
- 2 - Change unit of weight measurement from grams (g) to ounces (oz) and vice versa (YELLOW) (F2)
- 3 - Change unit of width/diameter measurements from inches (inch) to millimetres (mm) and vice versa (CENTRAL)
- 4 - Enable/disable "User control" function see Par. 14.2 (BLUE) (F3)
- 5 - Display subsequent operations (GREEN) (F4)
- 6 - Selected weight measurement unit = grams (g)
- 7 - Selected unit of width/diameter measurement = inches (inches)
- 8 - "User Control" function

ENGAGED → 


"User Control" function

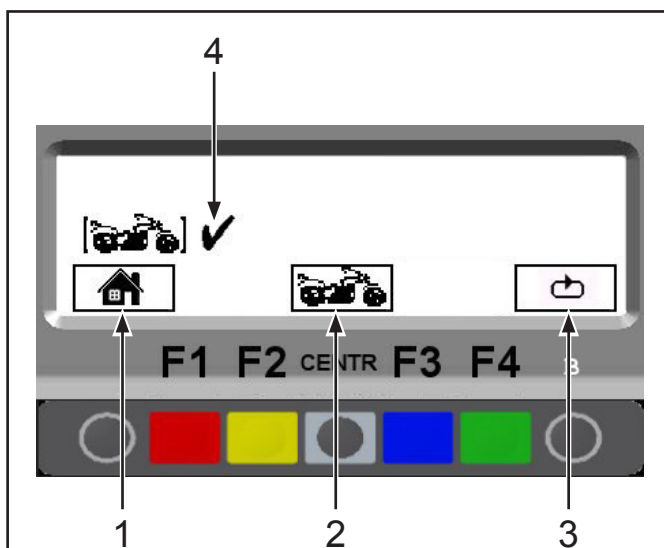
DISABLED → 

Press the "F2 key"  to change weight unit of measurement from grams to ounces and vice versa. The symbol "g" or "oz" appears on the monitor.

Press the "F3 key"  to change the width and diameter unit of measurements from inches to millimetres and vice versa. The symbol "inch" or "mm" appears on the monitor.

After setting the required measurement unit, to engage or disengage the motorcycle wheel balancing mode,

press the "F4 key" . The program will show the following image:




#### KEY

- 1 - Return to the image in **Fig. 64** (RED) (F1)
- 2 - Engage/Disengage motorcycle wheel balancing mode (CENTRAL)
- 3 - Display subsequent operations (GREEN) (F4)
- 4 - Motorcycle wheel balancing mode


ENGAGED →   
Motorcycle wheel balancing mode

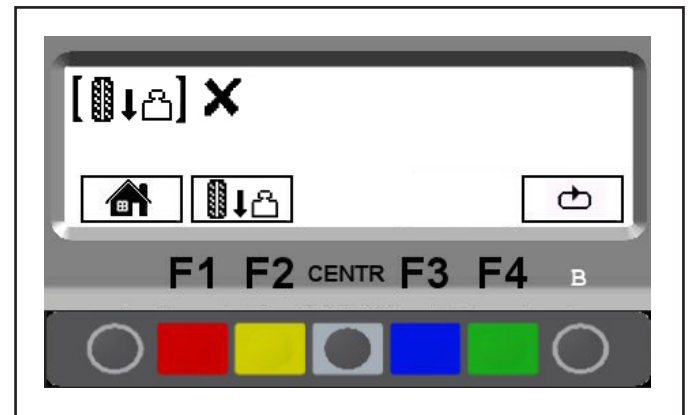
DISENGAGED → 

Press the "CENTR key"  to engage or disengage motorcycle wheel balancing mode. All the settings of the measurement unit are stored even after the machine is switched off.

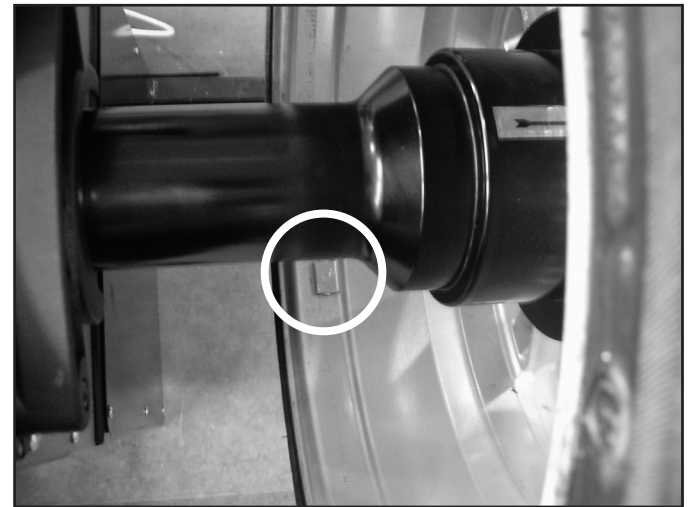
### 19.1 Setting of adhesive weight at "6" o'clock

On delivery, the machine is pre-set to operate with the setting activated.

Press many times "F4"  to display the following image:

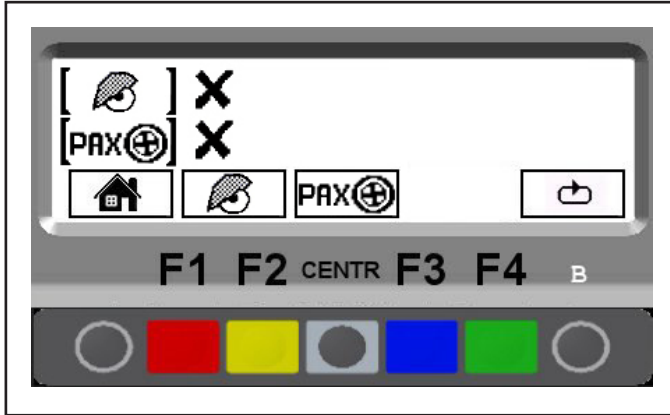


Through "F2" you can activate/deactivate the adhesive weight at "6" mode.




### 19.2 PAX enabling

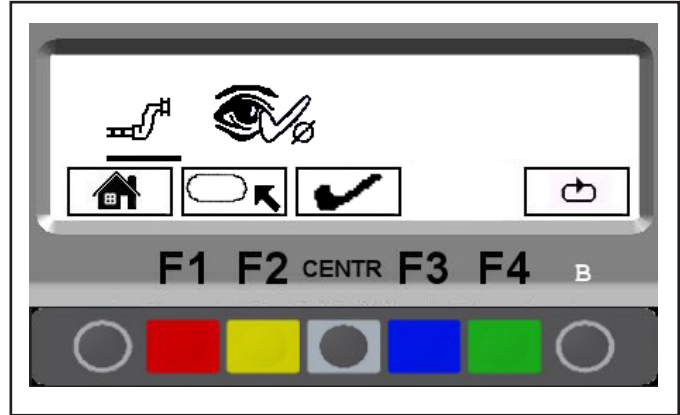
Press many times "F4"  to display the following image:



You can only activate PAX function.

### 19.3 Choice of the diameter to set

Press many times "F4"  to display the following image:



Select the diameter detection mode:

- reading the measurement on the tyre,
- use the gauge on issue.

Use the "F2" to select the detection mode and the "CENTR key" to confirm.



### 19.4 Lower weight limit

Correction weight below a certain limit is normally shown equal to zero.

In car way this limit can be set from 10 g to 1 g.

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





(see example **Fig. 27**), the weight can be displayed with gram resolution.

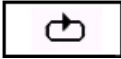
To change the resolution and lower limit, from the opening presentation page (see Figure **Fig. 18**), press



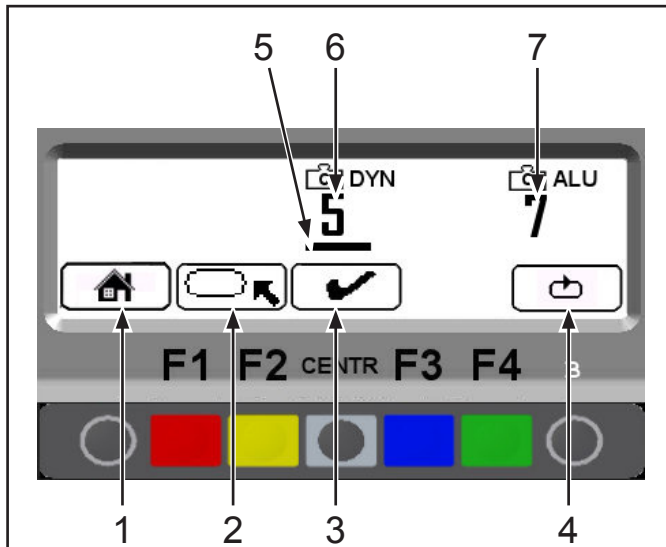
the "F1 key"; the program will display the image in **Fig. 64**.

Press the "F2 key" . Enter password **F1-F2-CENTR-F3** to access the "customer configuration"

screen page (**Fig. 65**). Press the  key and then press 5 successive times the "F4 key"



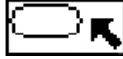
, the program will show the following screen page:



#### KEY

- 1 - Return to **Fig. 65** screen page (RED) (F1)
- 2 - Move the box onto resolution or lower limit value (YELLOW) (F2)
- 3 - Change the selected values with the box (CENTRAL)
- 4 - Displays client configuration pages (GREEN) (F4)
- 5 - Selection line
- 6 - Lower weight limit setting (5 g) for dynamic wheel balancing mode
- 7 - Lower weight limit setting (7 g) for ALU (all types) PAX and STATIC modes (all types)

Move the box onto the option to be changed by means

of the "F2 key" , and set the lower limit by

means of the "centr key" .

After terminating the operation, press the "F1 key"




to exit.



**IN THE PLANT, THE LOWER LIMIT FOR THE DYNAMIC WHEEL BALANCING MODE IS SET TO 5 G. THE LOWER LIMIT FOR ALL THE OTHER MODES IS SET TO 7 G.**


### 19.5 Setting adhesive weight dimensions

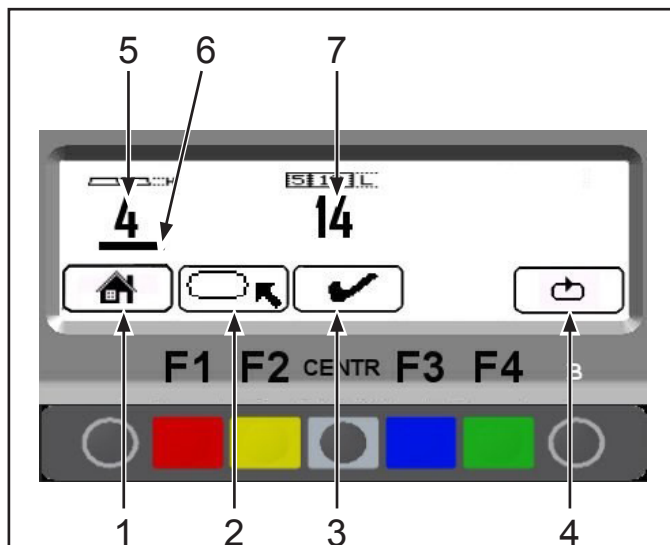
To ensure the balancing machine precisely calculates the dimensions and total adhesive weights, set the thickness and length of the adhesive weights at disposal.

To set the above values, from the opening presentation page (see **Fig. 18**), press the "F1 key" ; the program will display the image in **Fig. 64**.

Enter password **F1-F2-CENTR-F3** to access the "customer configuration" screen page (**Fig. 65**).

Press the "F2 key"  and then press 6 suc-


cessive times the "F4 key" , the program will show the following screen page:



#### KEY


- 1 - Return to **Fig. 65** screen page (RED) (F1)
- 2 - Move the box onto adhesive weight dimension or static threshold percentage (YELLOW) (F2)
- 3 - Change the selected values with the box (CENTRAL)
- 4 - Displays client configuration pages (GREEN) (F4)
- 5 - Setting the adhesive weight thickness (4mm)
- 6 - Selection line
- 7 - Setting the adhesive weight length (14 mm)

Move the box on the option to be changed using "key

F2" . Set the adhesive weight dimensions and the static threshold percentage by means of the


"CENTR key" .

After terminating the operation, press the "F1 key"

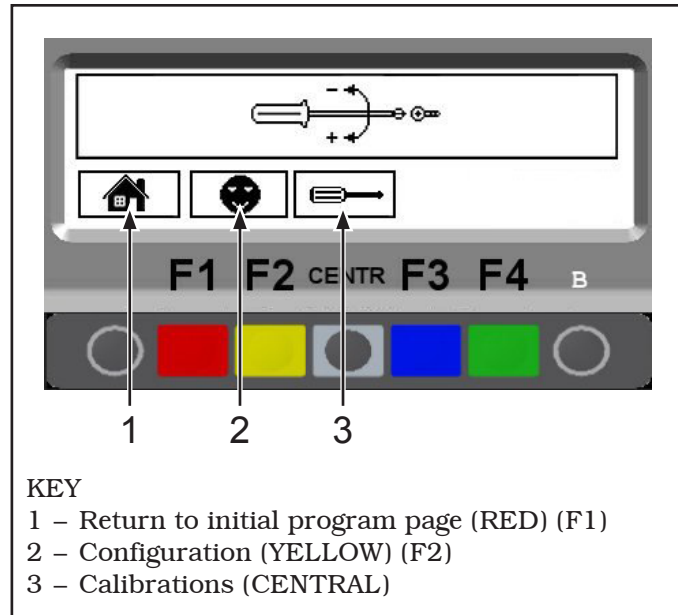
 to exit.

## 20.0 WHEEL BALANCER CALIBRATION

### 20.1 LIBRAK328 calibrations


From program presentation screen page, when the machine is set to CAR mode (symbol "" appears on the screen, see **Fig. 18**) press "F1 key" and enter the password **F1-F2-CENTR-F3**.

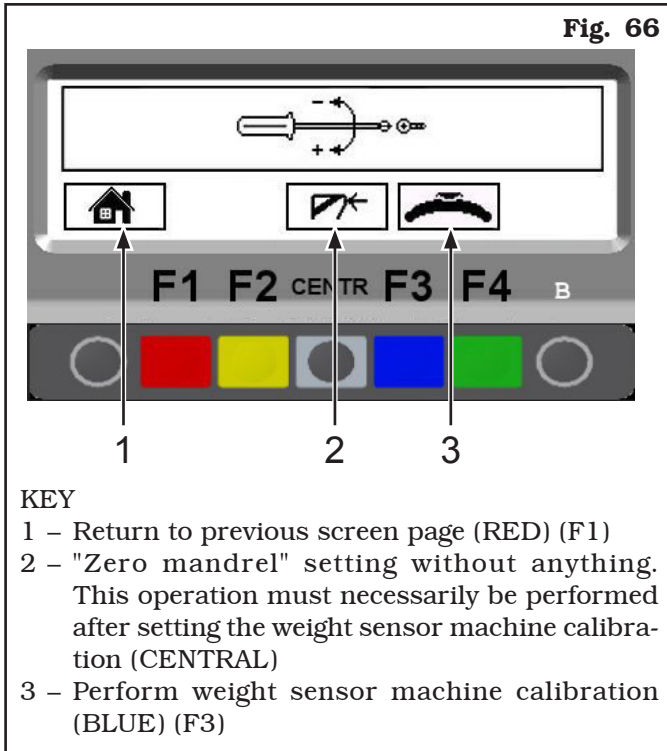
The program will display the following image:



#### KEY

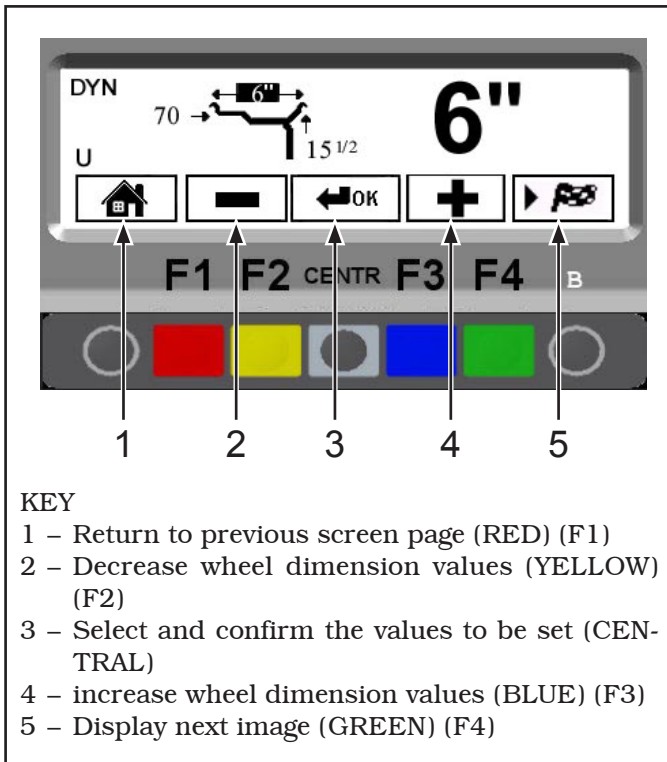
- 1 - Return to initial program page (RED) (F1)
- 2 - Configuration (YELLOW) (F2)
- 3 - Calibrations (CENTRAL)

Press key "CENTR"  and the program will display the following figure:



Fit a wheel of medium size, possibly balanced ( $\varnothing = 13 \div 14"$ ,  $L = 4 \div 5"$ ).

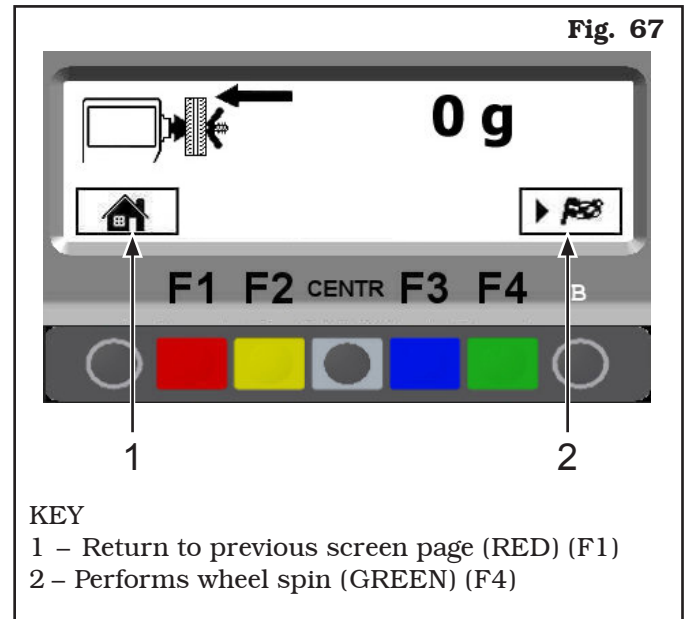
From the calibration page menu (see **Fig. 66** press "F3 key" weight sensor calibration; the program will display the following image:



Carefully enter distance, diameter and wheel width measurements, pressing the "CENTRE key" to select each measurement and confirm.

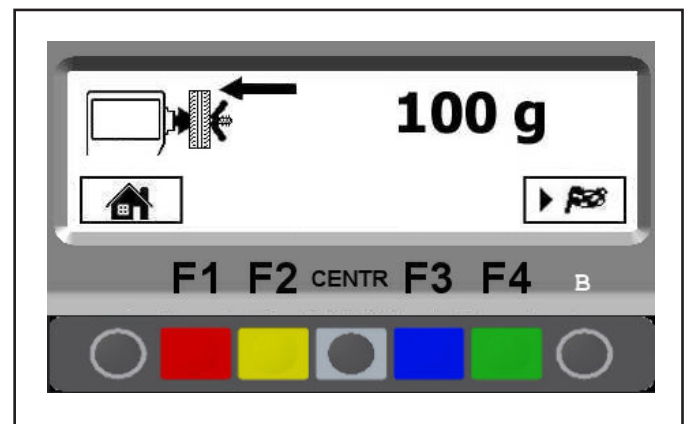
Select the "MINUS" or "PLUS" key to enter the desired values.

Press the "F4 key" to continue. The program will display the following image:



As shown in **Fig. 67**, press the "F4 key" to perform a wheel spin without adding weights.

After having executed the spin, the program displays the following figure:



Fit 100 g on the outside of the wheel, positioning the weight at "12 o' clock".

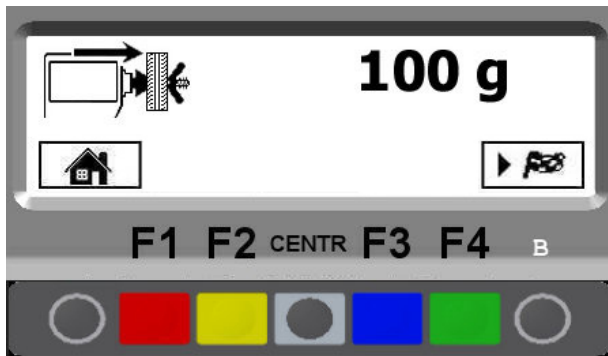
Press "F4 key" to perform the spin.

After the spin, remove the 100 g weight from the outside and fit it inside the wheel, as shown in **Fig. 68**.



**FIT 100 G ON THE INSIDE OF THE WHEEL IN THE SAME POSITION OF THE WEIGHT OUTSIDE, POSITIONING IT HIGH UP ON THE VERTICAL.**

Fig. 68



After the spin, remove the 100 g weight from the inside of the wheel and confirm by means of the "CENTRE key".


Fig. 69

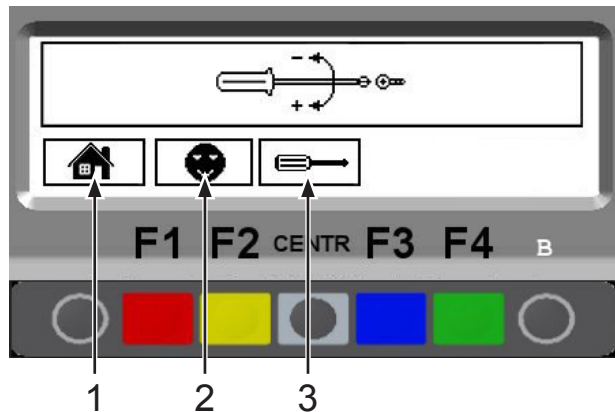


The calibration operation is now over. The program will show Fig. 67.

Press the "CENTRE key" to return to the first calibrations page.

## 20.2 LIBRAK328BIKE calibration

From program presentation screen page, when the machine is set to MOTORBIKE mode (the symbol "  " appears on the screen, see Fig. 17) press "F1 key" and enter the password **F1-F2-CENTR-F3**. The program will display the following image:

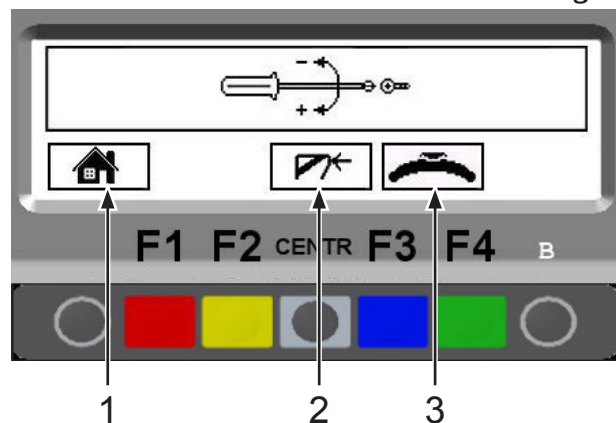


### KEY

- 1 - Return to initial program page (RED) (F1)
- 2 - Configuration (YELLOW) (F2)
- 3 - Calibrations (CENTRAL)

Press key "CENTR"  and the program will display the following figure:

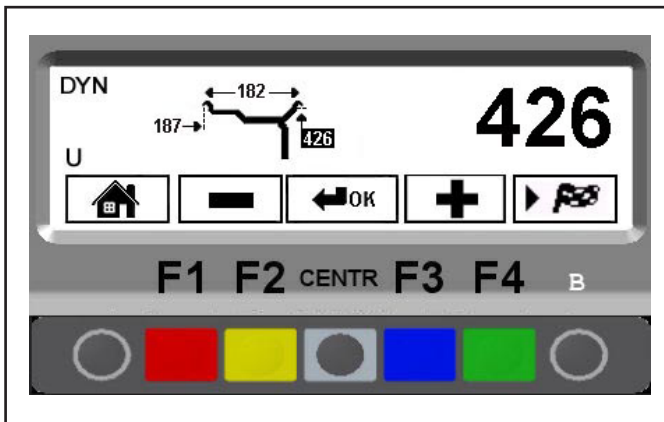
Fig. 70



### KEY

- 1 - Return to previous screen page (RED) (F1)
- 2 - "Zero mandrel" setting without anything. This operation must necessarily be performed after setting the weight sensor machine calibration (CENTRAL)
- 3 - Perform weight sensor machine calibration (BLUE) (F3)

Press key (**Fig. 70 ref. 3**) to display the following screen page:

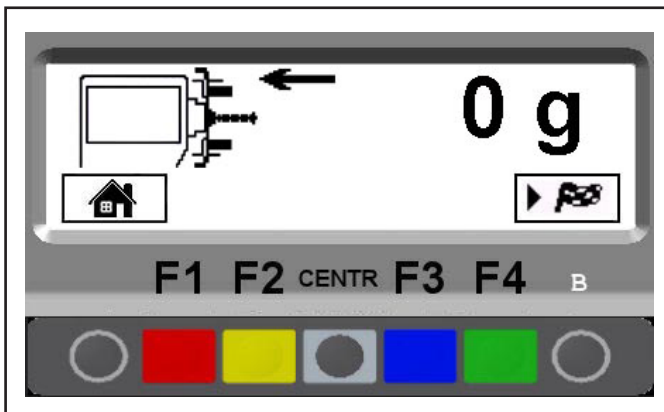


The screen page shows sizing tool's measures, pre-arranged and non-modifiable.



**BEFORE PROCEEDING WITH CALIBRATION OPERATIONS, MAKE SURE FLANGE'S ARMS (FIG. 71 REF. 2) ARE BOTH CLOSED.**

Press the "F4 key". You will see the following screen:

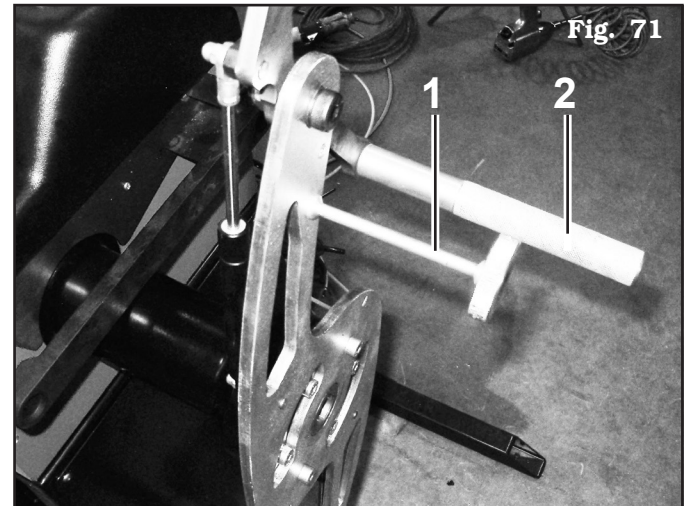


Press the "F4 key" to continue.

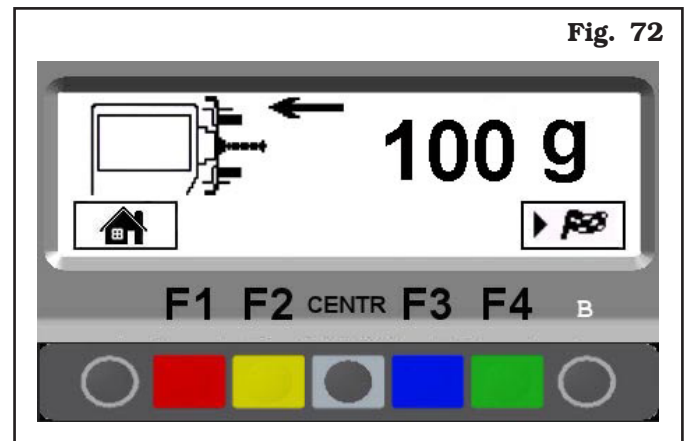


**REMAIN DISTANT ENOUGH SINCE THE WHEEL BALANCER IS OPERATING THE MANDREL ROTATION!**

At the end of the rotation fit the 100 g weight (**Fig. 71 ref. 1**), on issue, on the outside at "12" o'clock" as shown in **Fig. 71-72**.



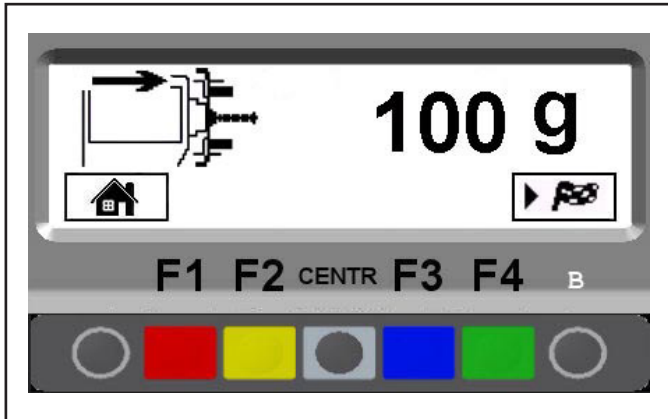
You will see the following screen:



Press the "F4 key". Now it's time to fit the 100 g weight on the inside.



You will see the following screen:



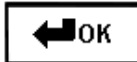
Press the "F4 key".

At the end of the calibration, **Fig. 69** will be displayed. Press the "CENTRE key" to return to the first calibrations page.

### **20.3 "Zero mandrel" setting without wheel (LIBRAK328)**

Always perform this operation, after the calibration with the tool or with the wheel.

From the setting menu page (see **Fig. 66**) press the "CENTRE" key relating to the "zero mandrel" setting. Press key "F4" to perform the mandrel reset spin without having fitted anything. Once the spin is over, the



screen page with

Mandrel resetting is complete. Press key "F1" to exit.

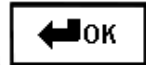
### **20.4 "Zero mandrel" setting without wheel (LIBRAK328BIKE)**



**BEFORE PROCEEDING WITH CALIBRATION OPERATIONS, MAKE SURE FLANGE'S ARMS (FIG. 71 REF. 2) ARE BOTH CLOSED.**

Always perform this operation, after the calibration with the tool or with the wheel.

From the setting menu page (see **Fig. 66**) press the "CENTRE" key relating to the "zero mandrel" setting. Press "F4" key to perform the mandrel reset spin since having fitted the motorbike universal flange + shaft making sure to remove the 100 g calibration weight.




Once the spin is over, the screen page with

Mandrel resetting is complete. Press key "F1" to exit.



**FOR BIKE MODEL, THE MANDREL "ZERO" IS CARRIED OUT AFTER REMOVING THE 100 G WEIGHT.**

## 21.0 ERROR SIGNALS

During wheel balancer operation, if wrong commands are given by the operator or device faults occur, an error code or symbol may appear on the display screen. Press key F1  to return to the previous program phase after remedying the fault. Below is a troubleshooting chart.

Error code	Error description	Cause
2	No rotation signal	<ul style="list-style-type: none"><li>- Faulty position transducer or transducer not fitted correctly.</li><li>- The motor is faulty or has not started because something is preventing its rotation.</li></ul>
3	Excessive weight value in wheel balancer calibration	<p>During the calibration procedure, the machine detects excessive weight.</p> <ul style="list-style-type: none"><li>- The weight may not have been fitted properly.</li><li>- The data acquisition or measurement sensor may be faulty.</li></ul>
8	Insufficient weight value in wheel balancer calibration	<p>During the calibration procedure, the machine detects insufficient weight.</p> <ul style="list-style-type: none"><li>- The weight may not have been fitted properly.</li><li>- The data acquisition or measurement sensor may be faulty.</li></ul>
9	Calibration spin not completed	<p>During the calibration procedure, the spin is not completed because the key has been pressed (STOP).</p>

## 22.0 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.**



**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!!**

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.



**23.0 TECHNICAL DATA**

	<b>LIBRAK328</b>	<b>LIBRAK328BIKE</b>
Wheel max. weight (Kg)	65	
Power supply	230V 50/60 Hz 1 ph	
Balancing precision (g)	1	
Rotating speed (revolutions/min)	<100	
Rim width setting (inches)	1.5" ÷ 22"	
Rim diameter setting (inches)	10" ÷ 26"	
Wheel max. diameter (mm)	720 (28")	
Sound emission level (dBA)	<70	
Cycle time (sec)	6	
Shaft diameter (mm)	14	
Shaft width (mm)	234	
Centring cones diameter (mm)	15-28	

**23.1 Dimensions**

Fig. 73

LIBRAK328

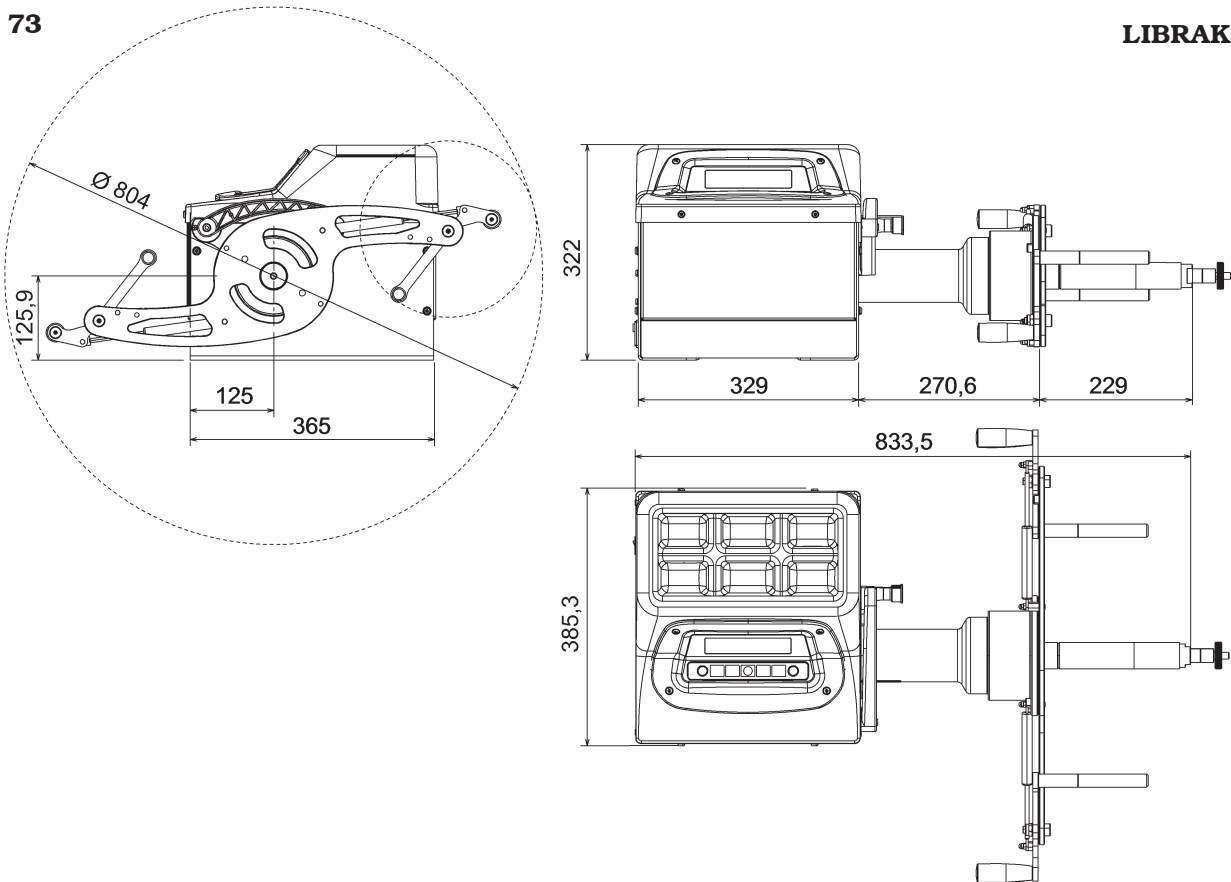
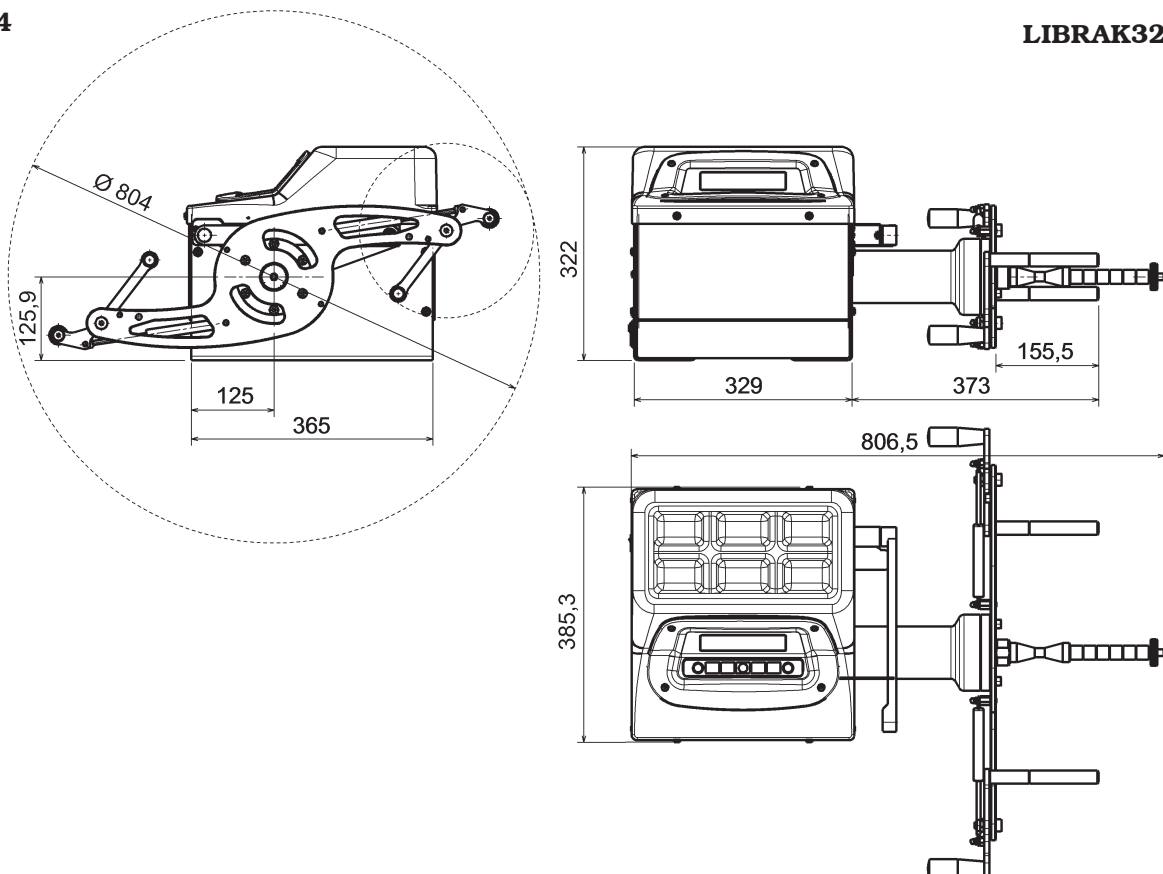


Fig. 74

LIBRAK328BIKE



## 24.0 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.

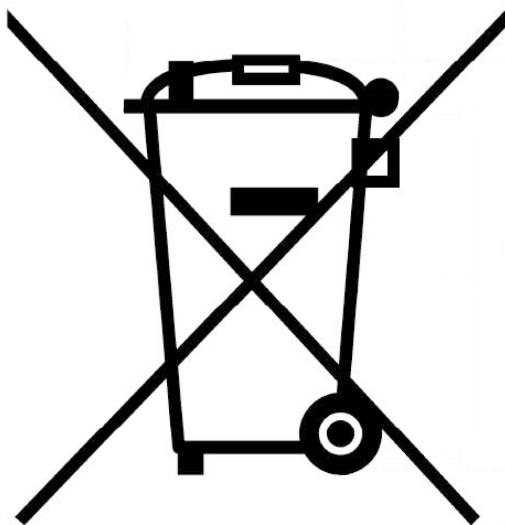
## 25.0 SCRAPPING

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.

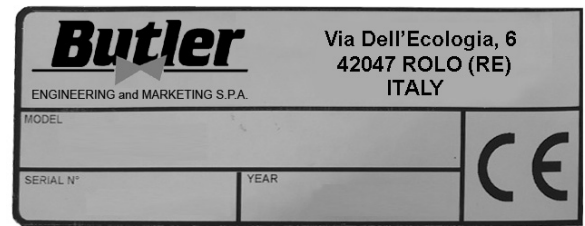
**Instructions for the correct management of waste from electric and electronic equipment (WEEE) according to the Italian legislative decree 49/14 and subsequent amendments.**

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. 75



## 26.0 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.**



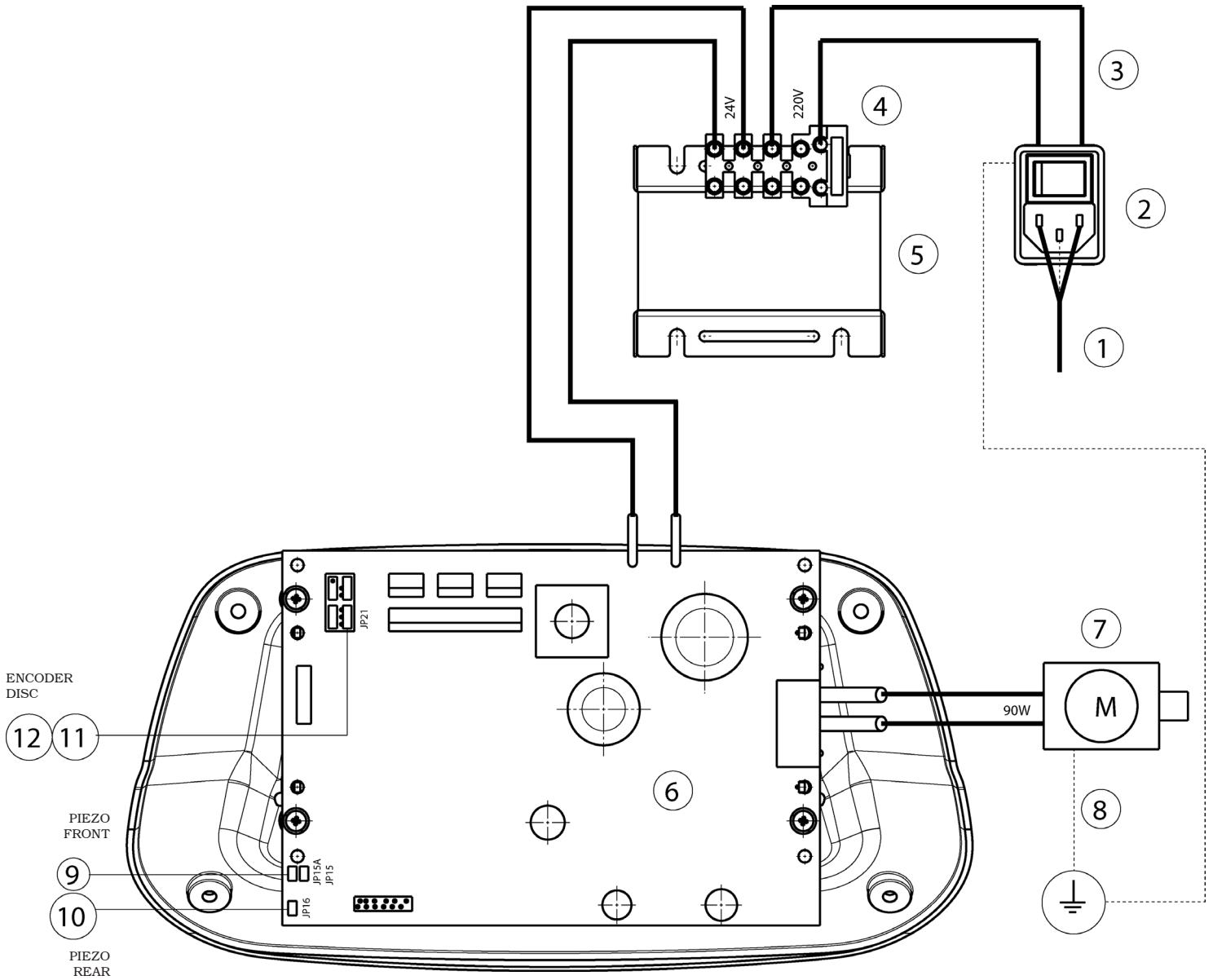
**ATTENTION: TAMPERING WITH, CARVING, CHANGING ANYHOW OR EVEN REMOVING MACHINE IDENTIFICATION PLATE IS ABSOLUTELY FORBIDDEN; DO NOT COVER IT WITH TEMPORARY PANELS, ETC., SINCE IT MUST ALWAYS BE VISIBLE.**

**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.*

## 27.0 FUNCTIONAL DIAGRAMS

Here follows a list of the machine functional diagrams.



**KEY**

- 1 – Power supply cable
- 2 – Wired switch with plug
- 3 – Cable from switch to transformer
- 4 – Fuse
- 5 – Transformer
- 6 – Display kit
- 7 – Motor
- 8 – Motor support ground cable
- 9 – Piezo with front cable
- 10 – Piezo with cable
- 11 – Wheel position sensor cable
- 12 – Buffered encoder card

LIBRAK328 - LIBRAK328BIKE

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**WIRING CONNECTION  
DIAGRAM**

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**GB**

1296-R016-0\_B

**LIBRAK328  
LIBRAK328BIKE**

- I** 28.0 LISTA DEI COMPONENTI
- GB** 28.0 LIST OF COMPONENTS
- D** 28.0 TEILELISTE
- F** 28.0 LISTE DES PIECES DETACHEES
- E** 28.0 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 diríjase directamente a:

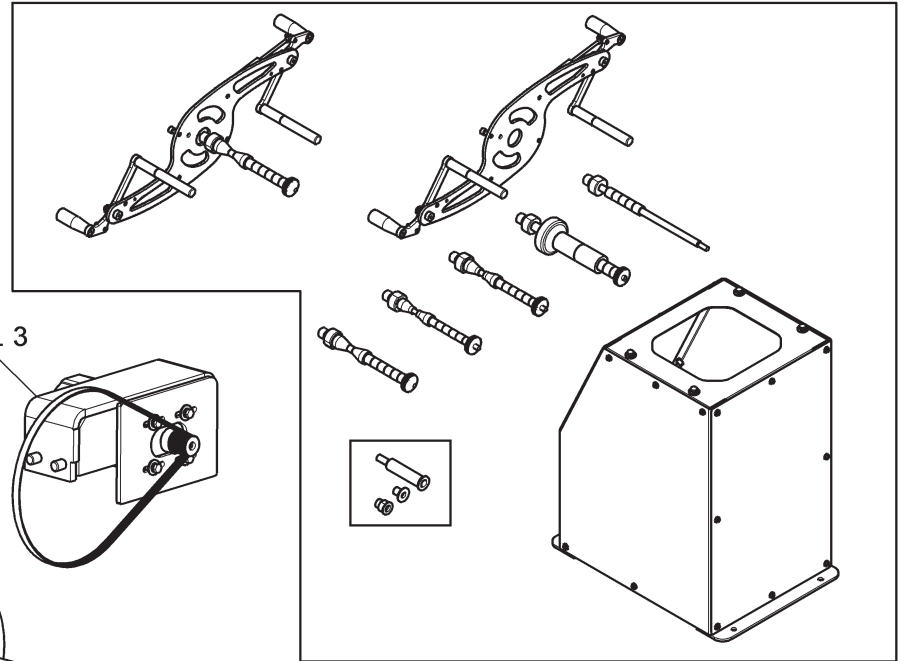
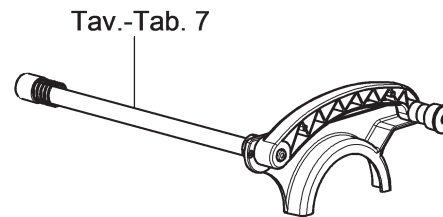
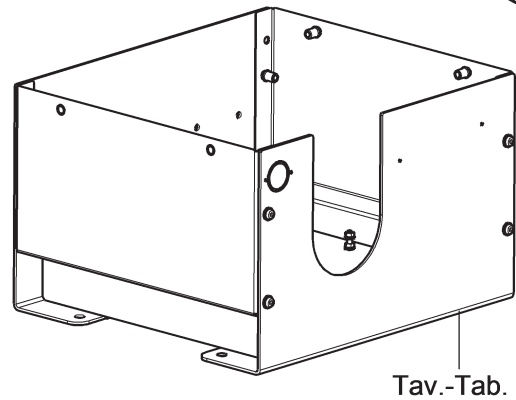
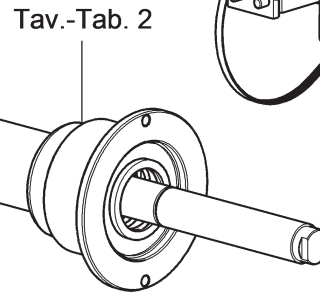
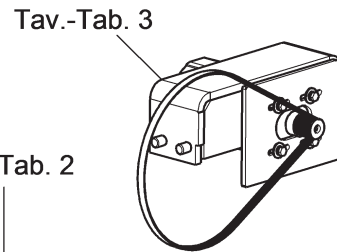
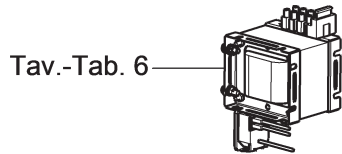
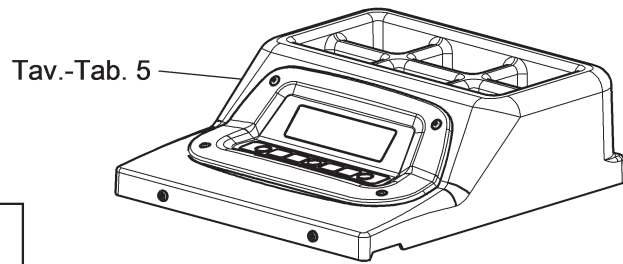
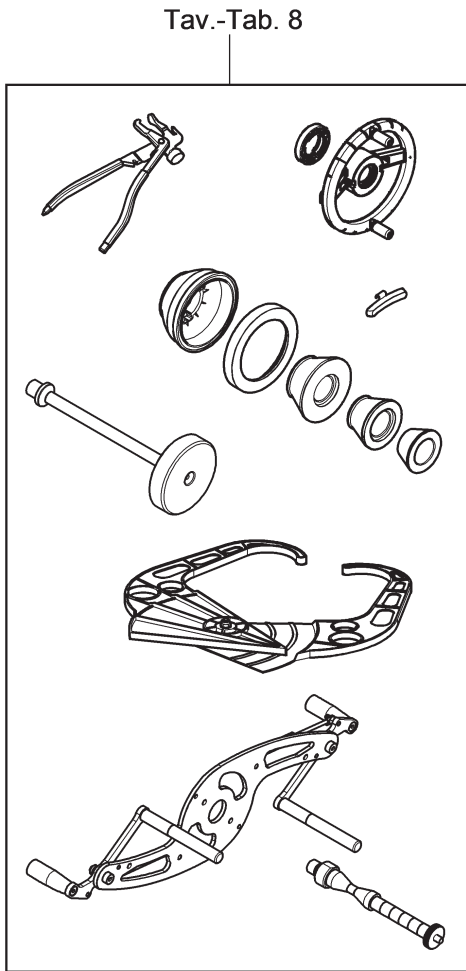
**BUTLER ENGINEERING and MARKETING S.p.A. a s. u.**

Via dell'Ecologia, 6 - 42047 Rolo - (RE) Italy

Phone (+39) 0522 647911 - Fax (+39) 0522 649760 - e-mail: [Info@butler.it](mailto:Info@butler.it)

**SOMMARIO - SUMMARY - INHALT**  
**SOMMAIRE - SUMARIO**

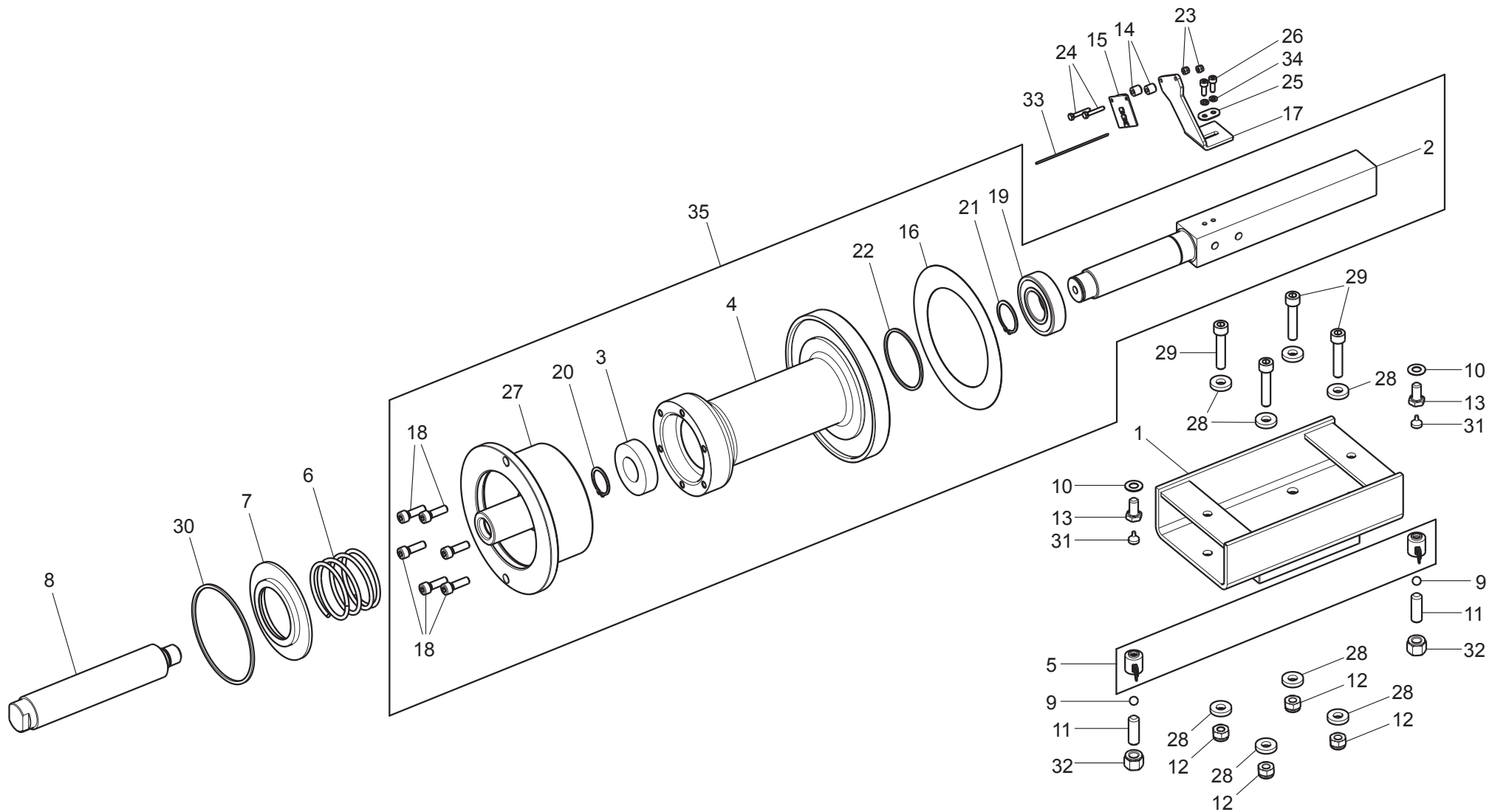
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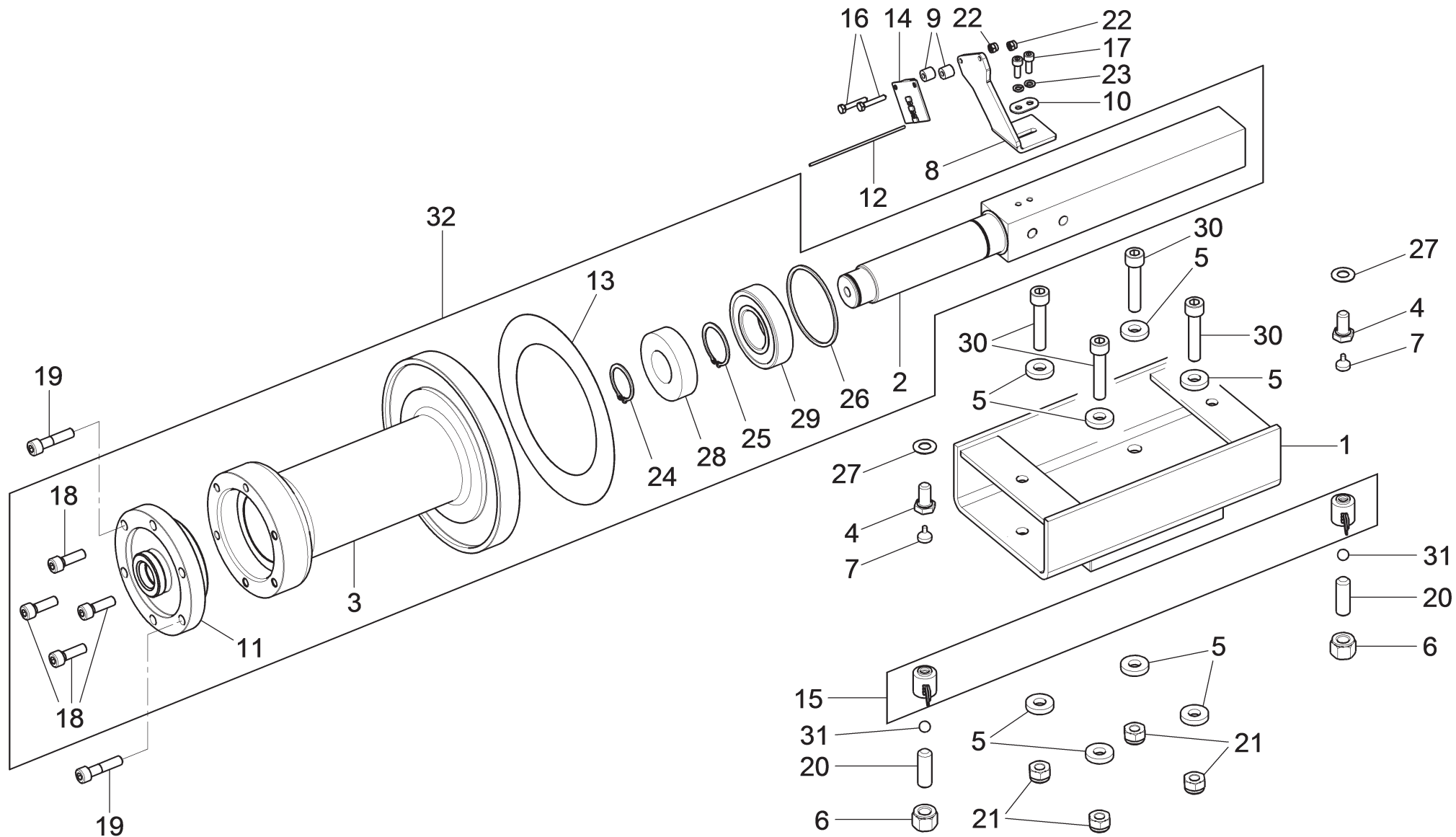
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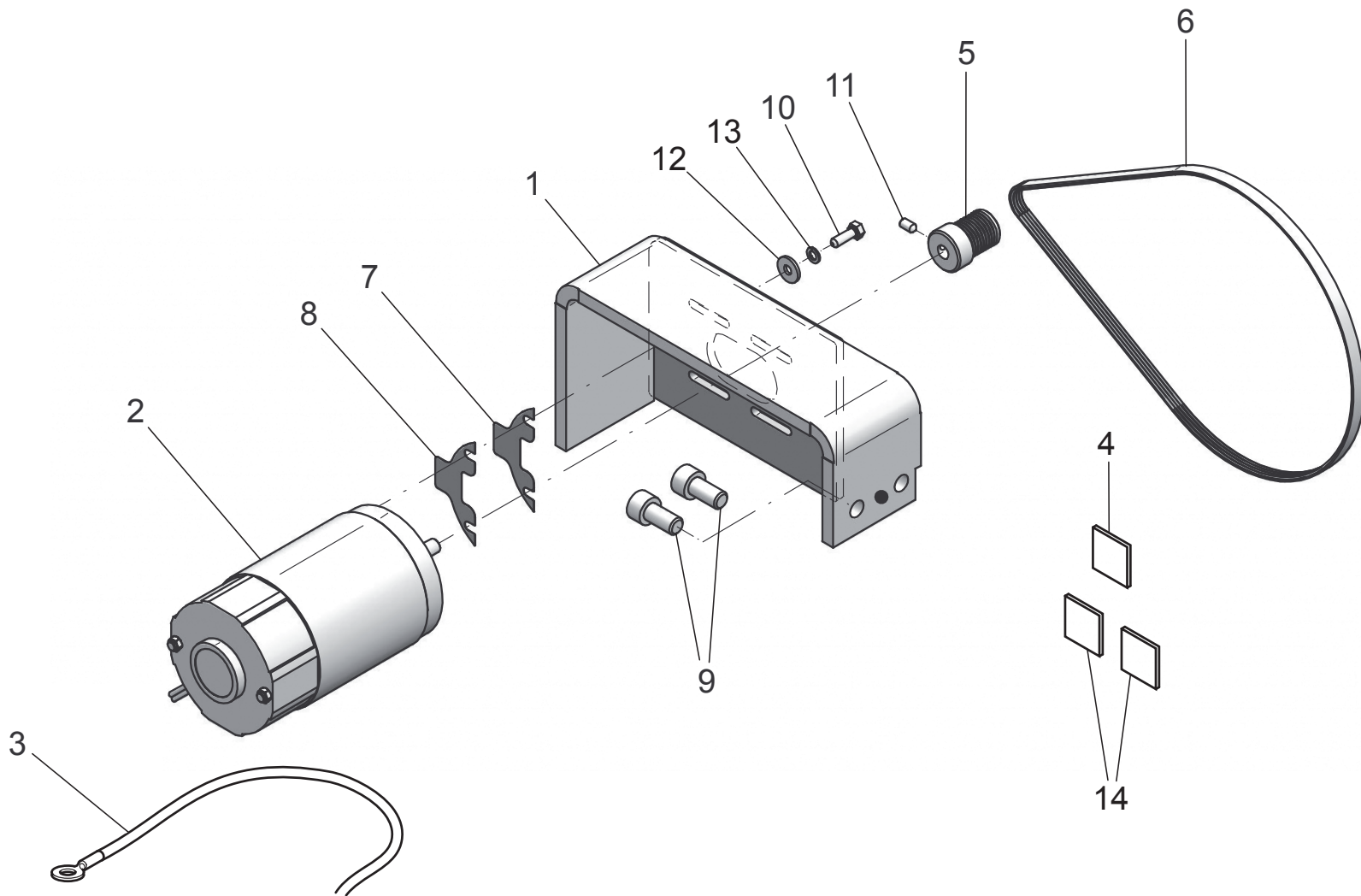





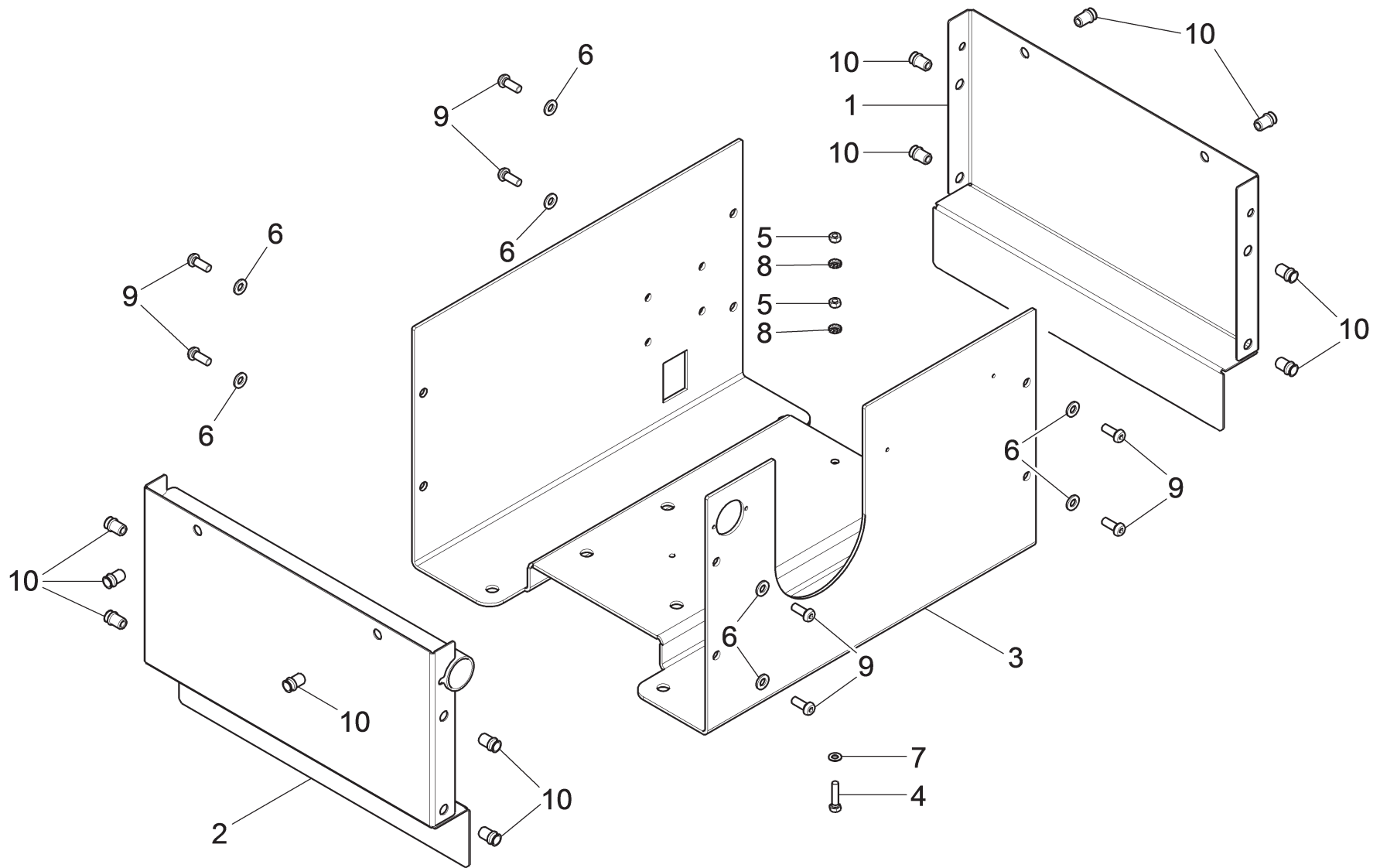
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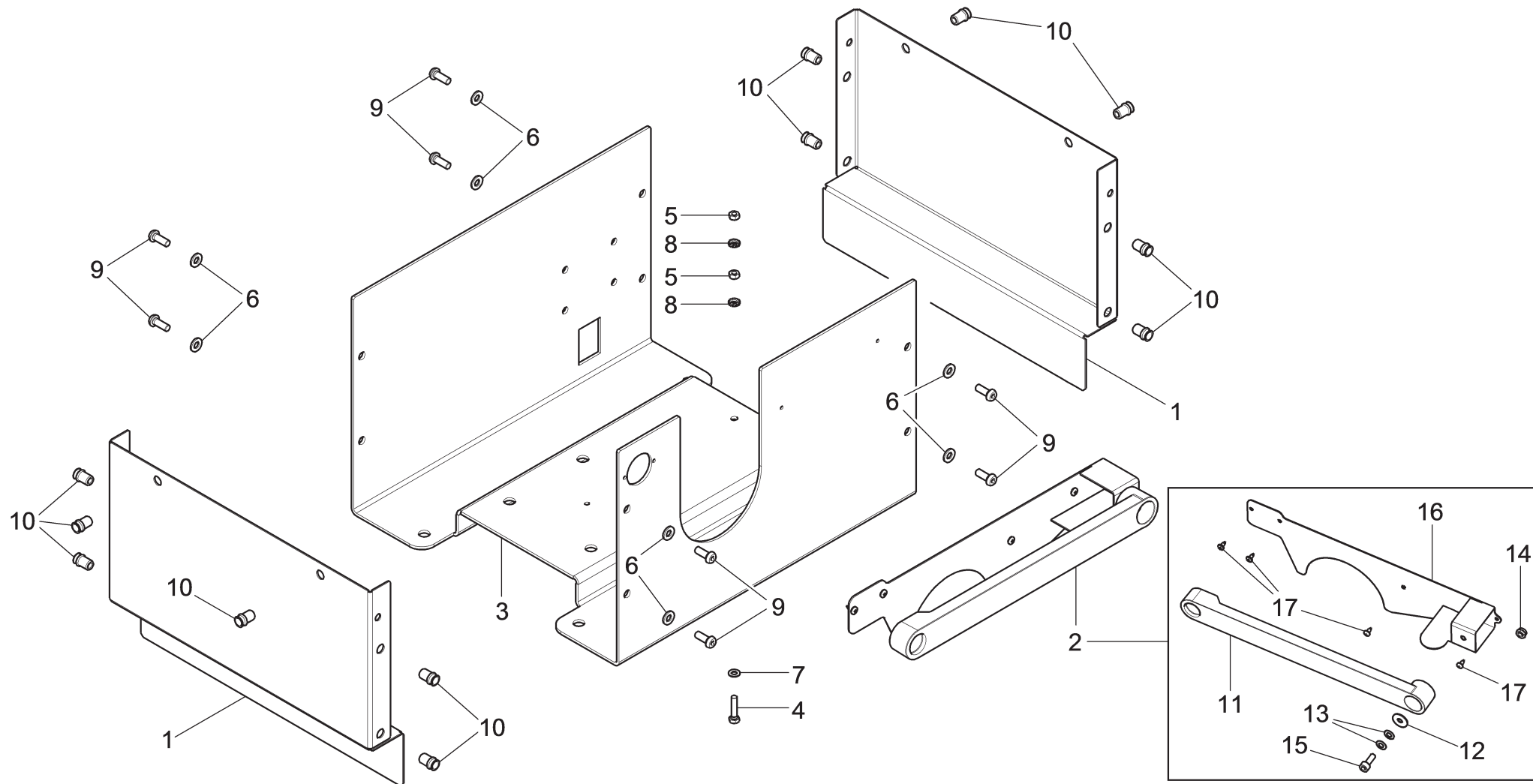
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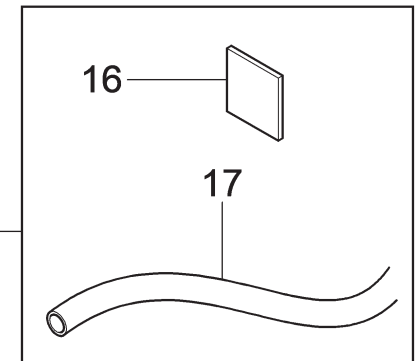
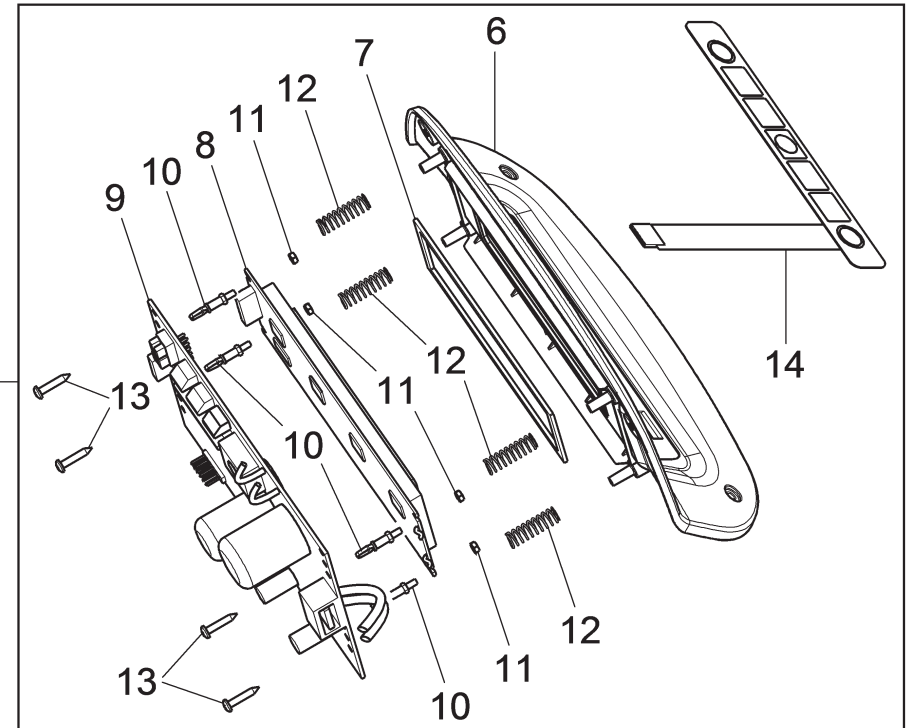
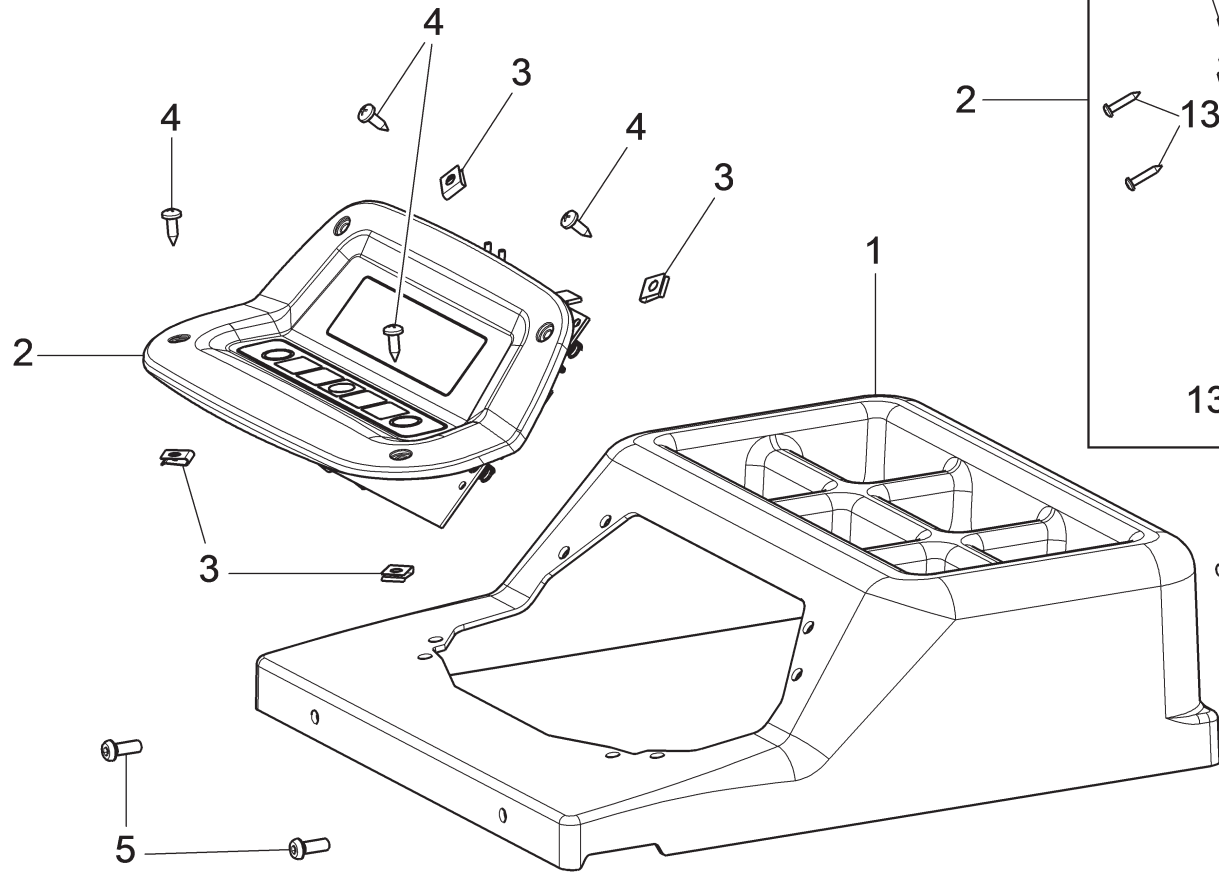
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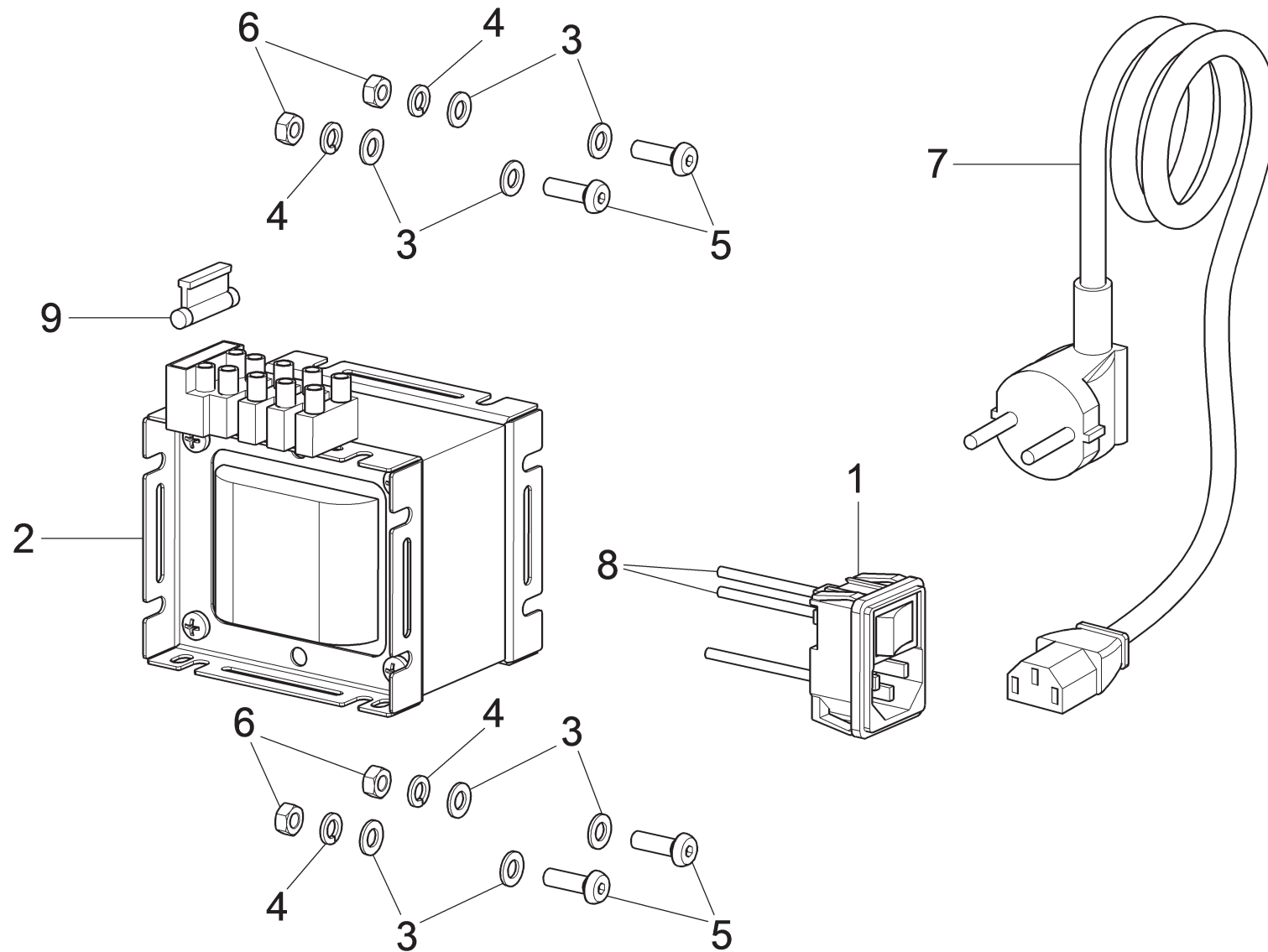
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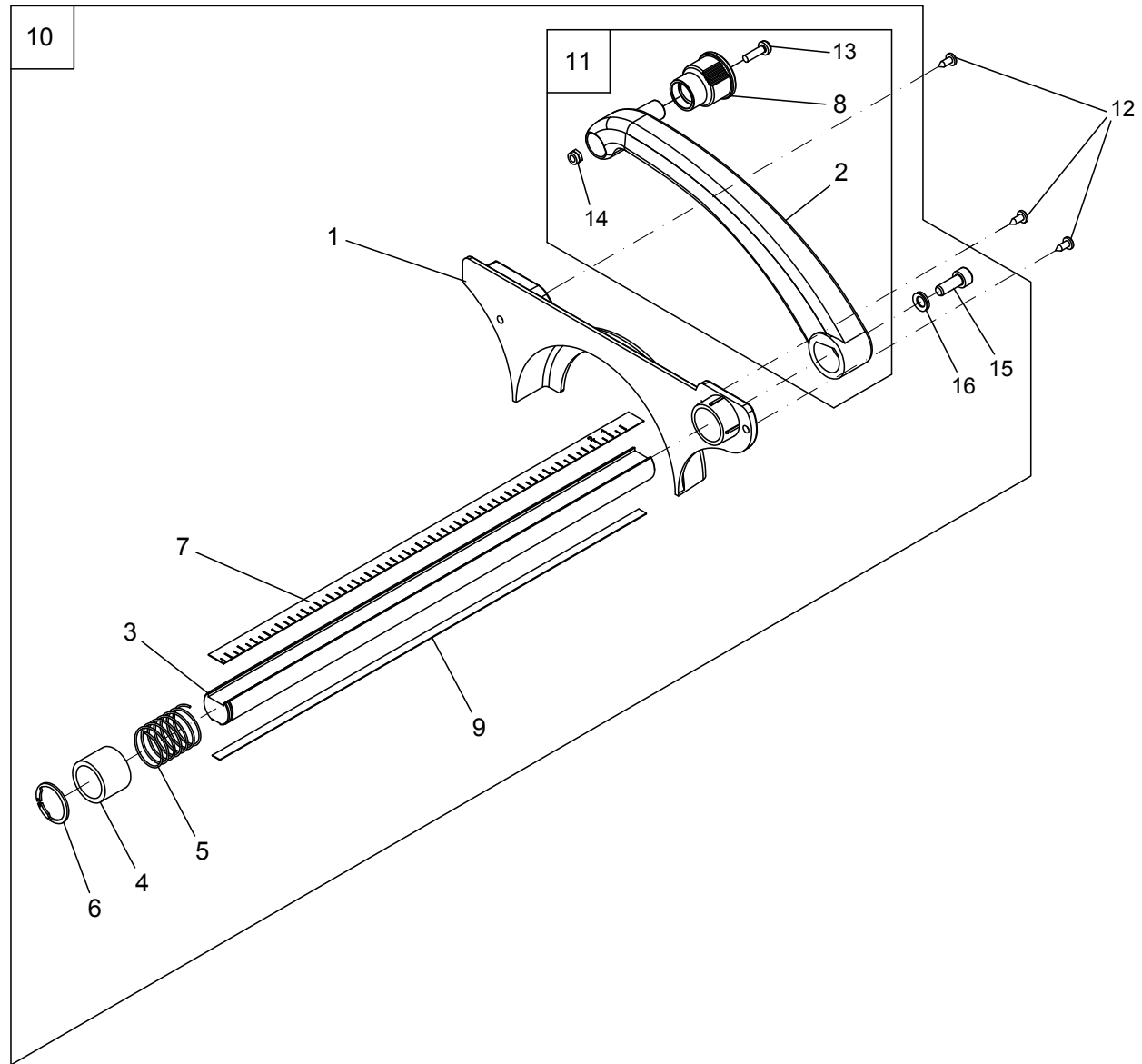
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<i>LIBRAK328</i>	<i>LIBRAK328BIKE</i>		
<b>Butler</b>	<b>LISTA DEI COMPONENTI - LIST OF COMPONENTS - TEILELISTE LISTE DES PIÈCES DÉTACHÉES - LISTA DE PIEZAS</b>		<b>GRUPPO PLANCIA LCD LCD BOARD UNIT LCD BRETTSATZ GRUPE PLANCHE LCD GRUPO TABLERO LCD</b>
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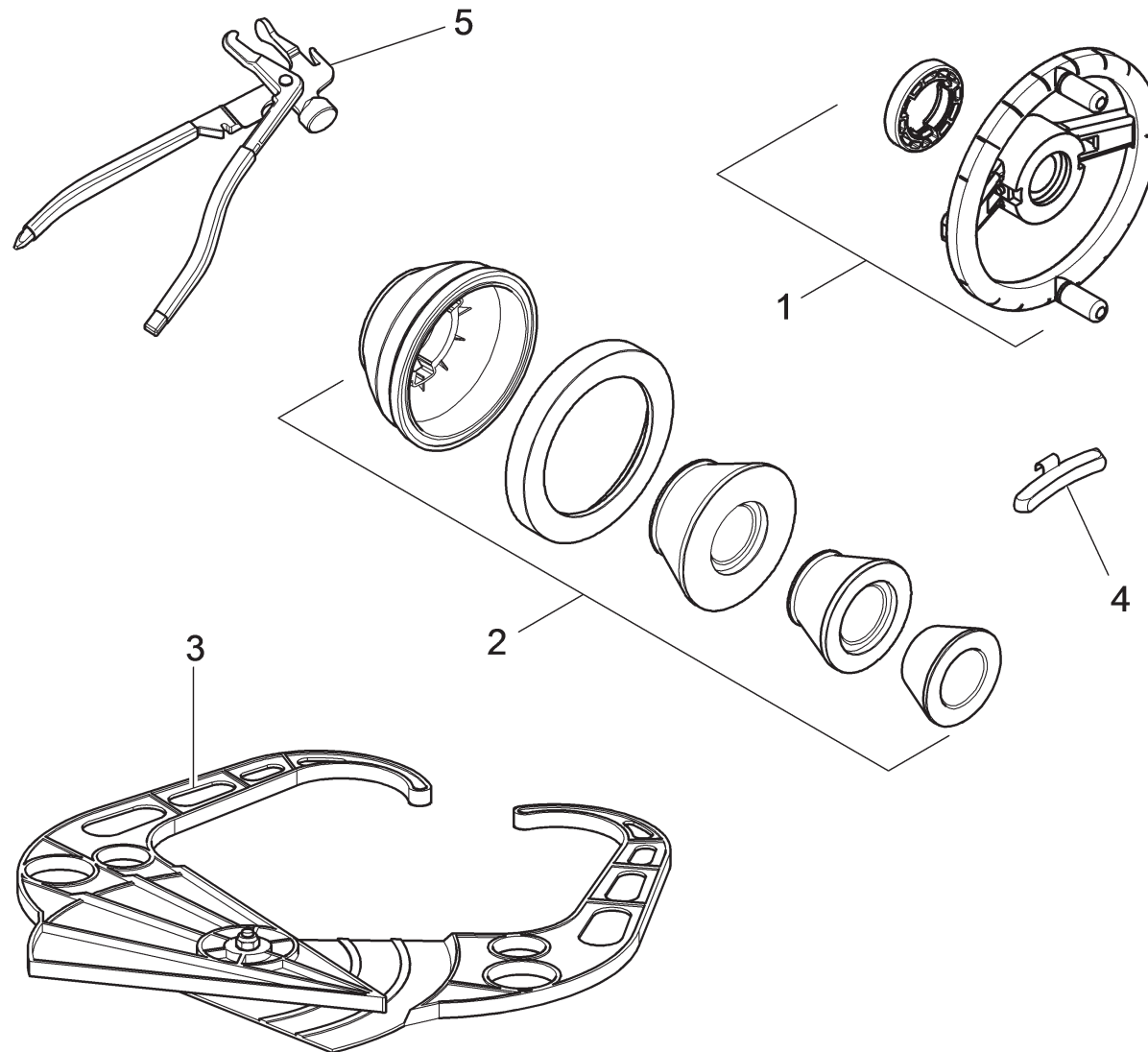


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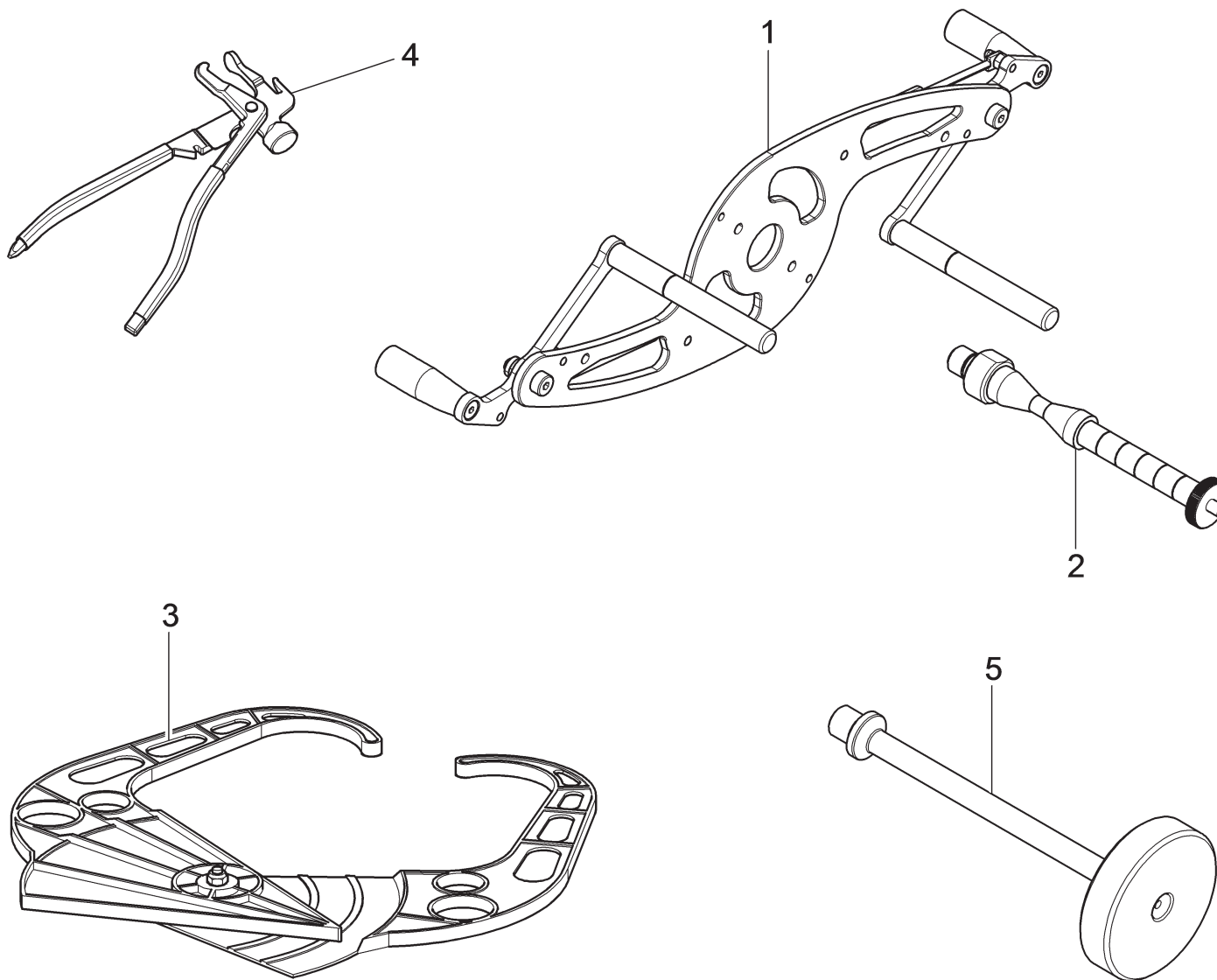



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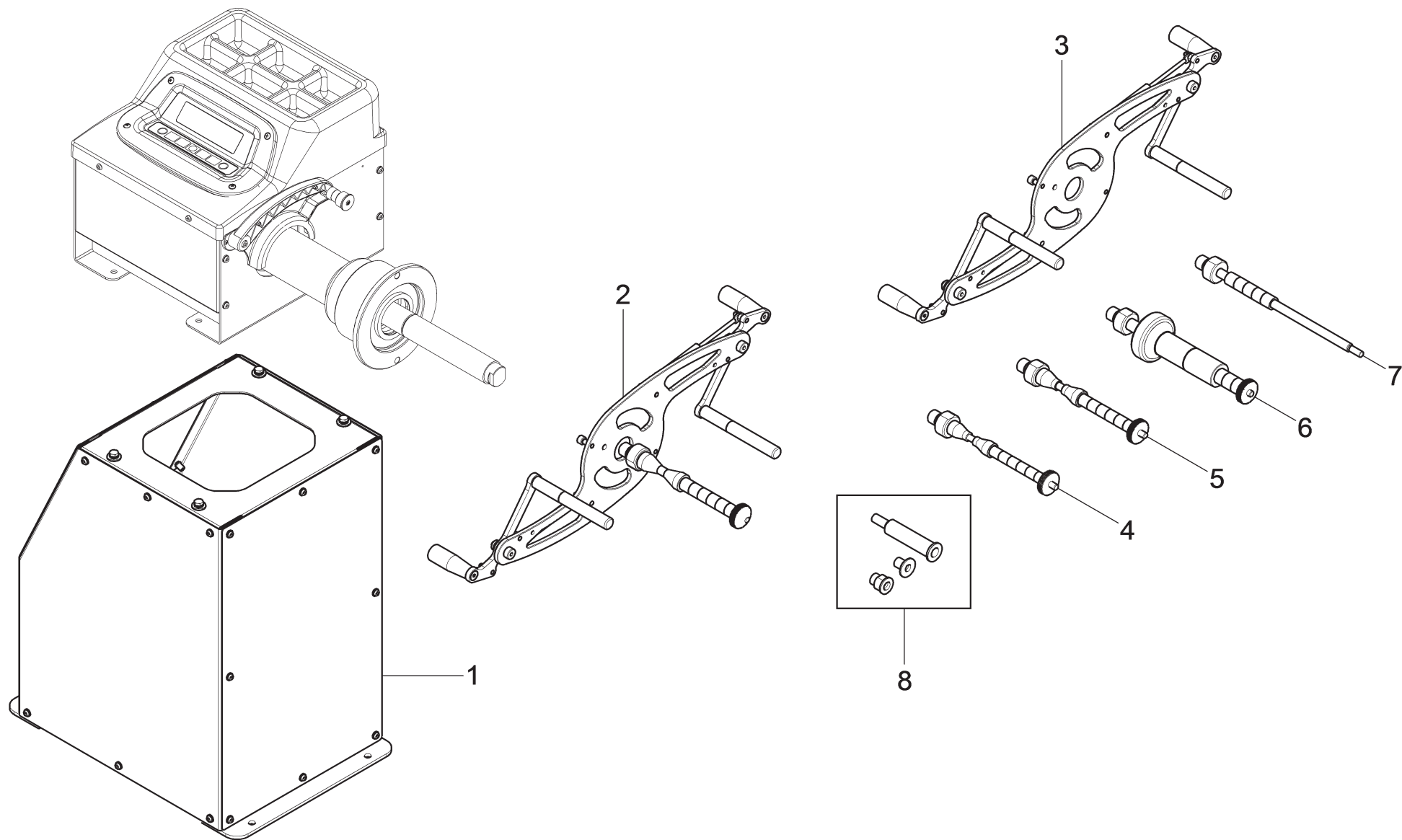




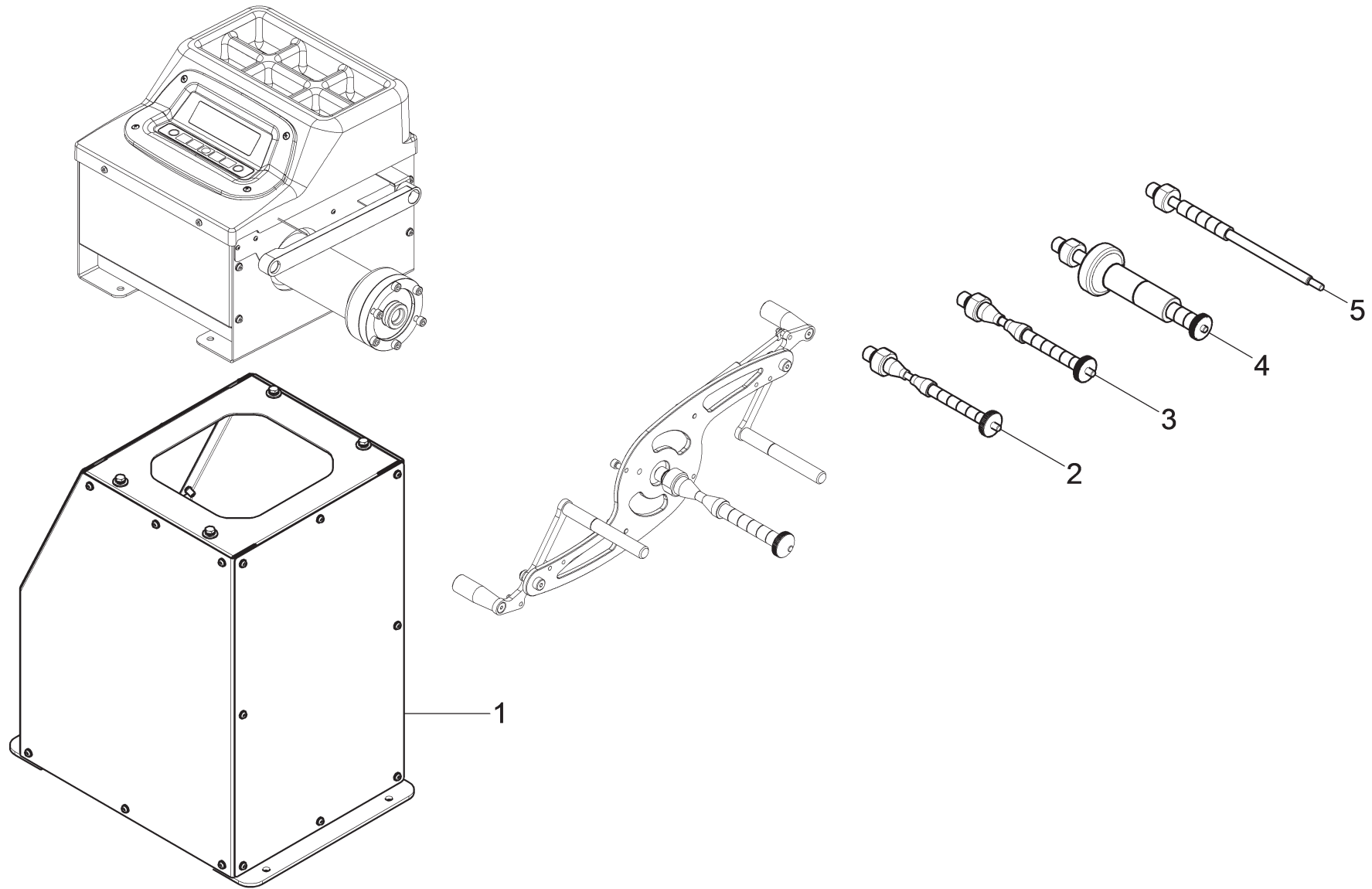
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	Tavola N°8A - Rev. 0	129390670		



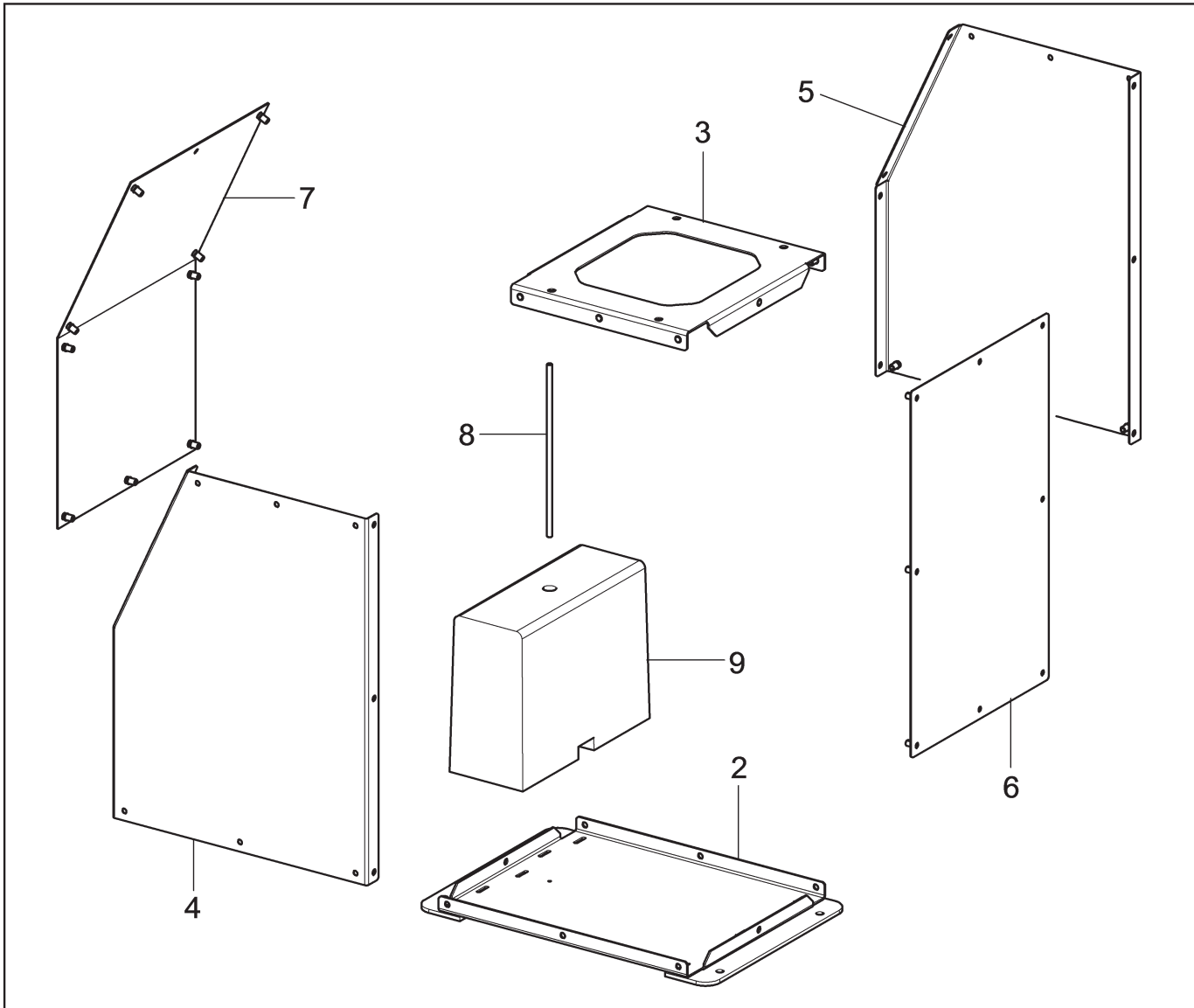
LIBRAK328		LIBRAK328BIKE		
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 ENGINEERING and MARKETING S.P.A.	LISTA DEI COMPONENTI - LIST OF COMPONENTS - TEILELISTE LISTE DES PIECES DETACHEES - LISTA DE PIEZAS		DOTAZIONE EQUIPMENT AUSRÜSTUNG DOTACIÓN	<b>Pag. 14 di 24</b>
	Tavola N°8B - Rev. 0	129795180		




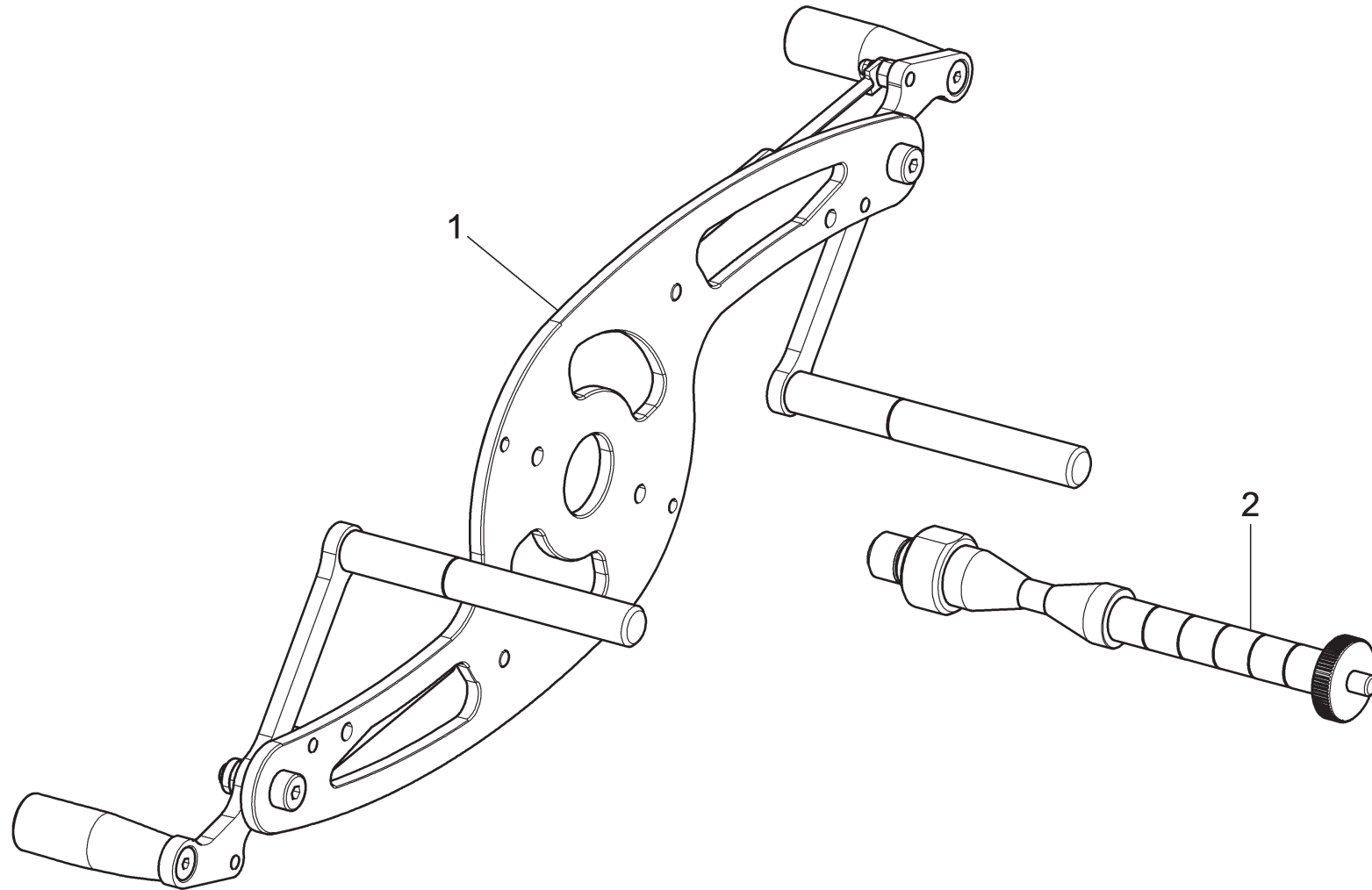
LIBRAK328	LIBRAK328BIKE		
OPT			
 ENGINEERING and MARKETING S.P.A.	LISTA DEI COMPONENTI - LIST OF COMPONENTS - TEILELISTE LISTE DES PIÈCES DÉTACHÉES - LISTA DE PIEZAS		ACCESSORI FIXTURES ZUBEHÖR ACCESSOIRES ACCESORIOS
Tavola N°9A - Rev. 0	129608520	Pag. 15 di 24	




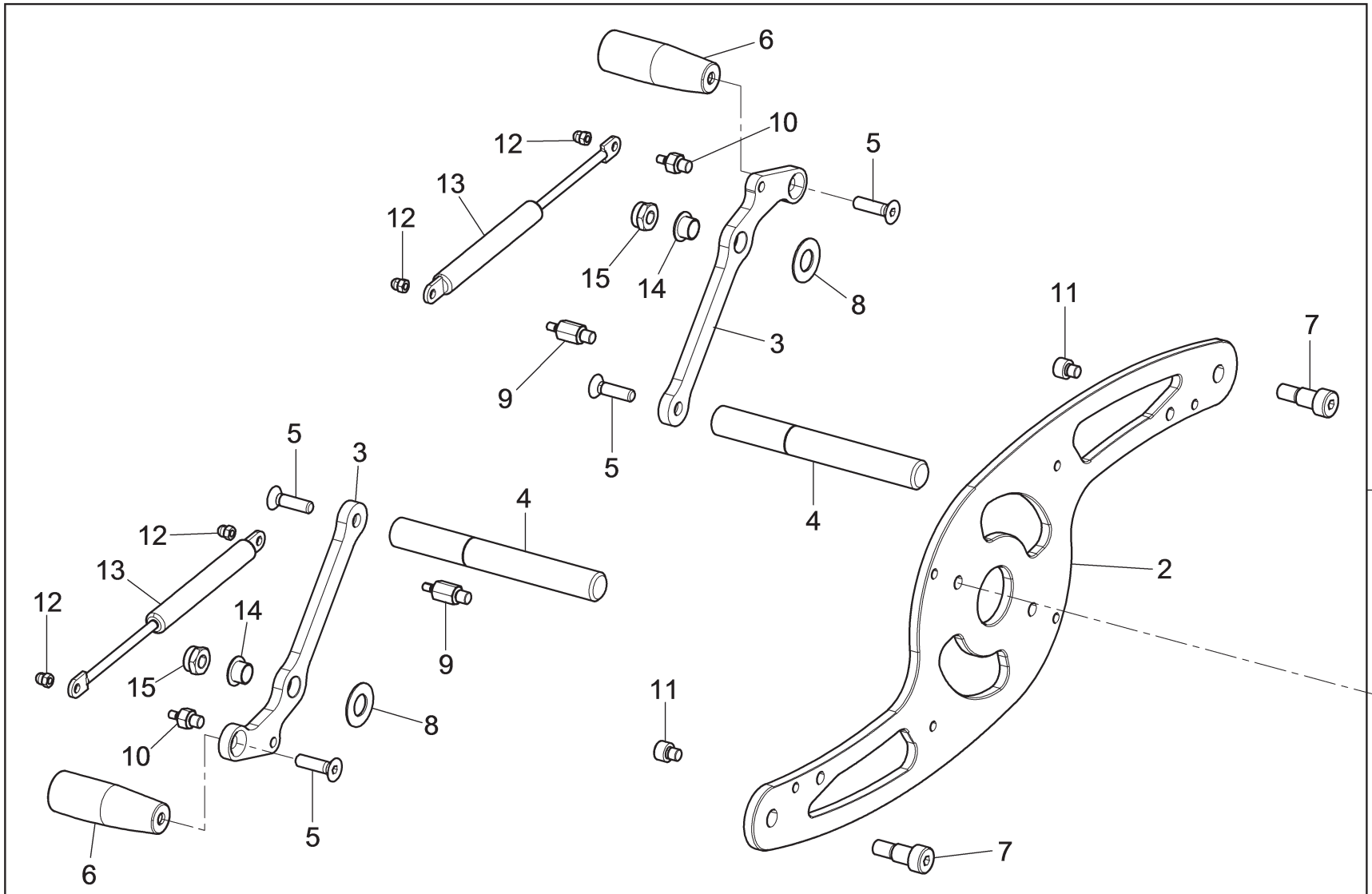
<i>LIBRAK328</i>		<i>LIBRAK328BIKE</i>		
		OPT		
 ENGINEERING and MARKETING S.P.A.	<b>LISTA DEI COMPONENTI - LIST OF COMPONENTS - TEILELISTE</b> <b>LISTE DES PIÈCES DÉTACHÉES - LISTA DE PIEZAS</b>		ACCESSORI FIXTURES ZUBEHÖR ACCESORIOS ACCESORIOS	<b>Pag. 16 di 24</b>
	<b>Tavola N°9B - Rev. 0</b>	<b>129608530</b>		




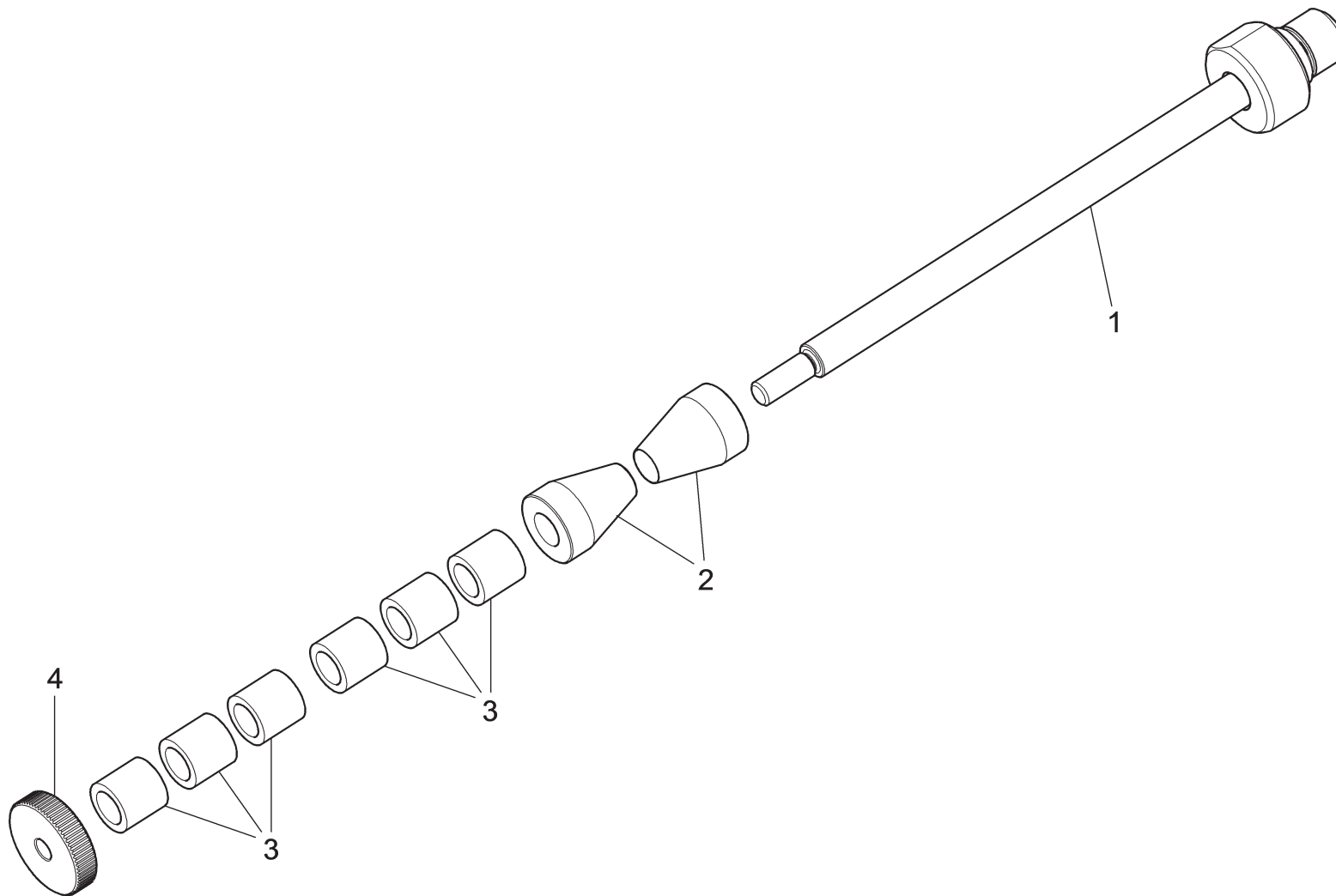
<i>LIBRAK328</i>	<i>LIBRAK328BIKE</i>		
OPT	OPT		
 ENGINEERING and MARKETING S.P.A.	<b>LISTA DEI COMPONENTI - LIST OF COMPONENTS - TEILELISTE</b> <b>LISTE DES PIÈCES DÉTACHÉES - LISTA DE PIEZAS</b>		BASE DI SUPPORTO SUPPORT BASE TRÄGERBASIS BASE DE SUPPORT BASE DE SOPORTE
	<b>Tavola N°10 - Rev. 0</b>	<b>GAR363</b>	




<b>LIBRAK328</b>	<b>LIBRAK328BIKE</b>		
<b>OPT</b>	•		
 <b>ENGINEERING and MARKETING S.P.A.</b>	<b>LISTA DEI COMPONENTI - LIST OF COMPONENTS - TEILELISTE</b> <b>LISTE DES PIÈCES DÉTACHÉES - LISTA DE PIEZAS</b>		<b>Pag. 18 di 24</b>
	<b>Tavola N°11 - Rev. 0</b>	<b>GAR181N</b>	

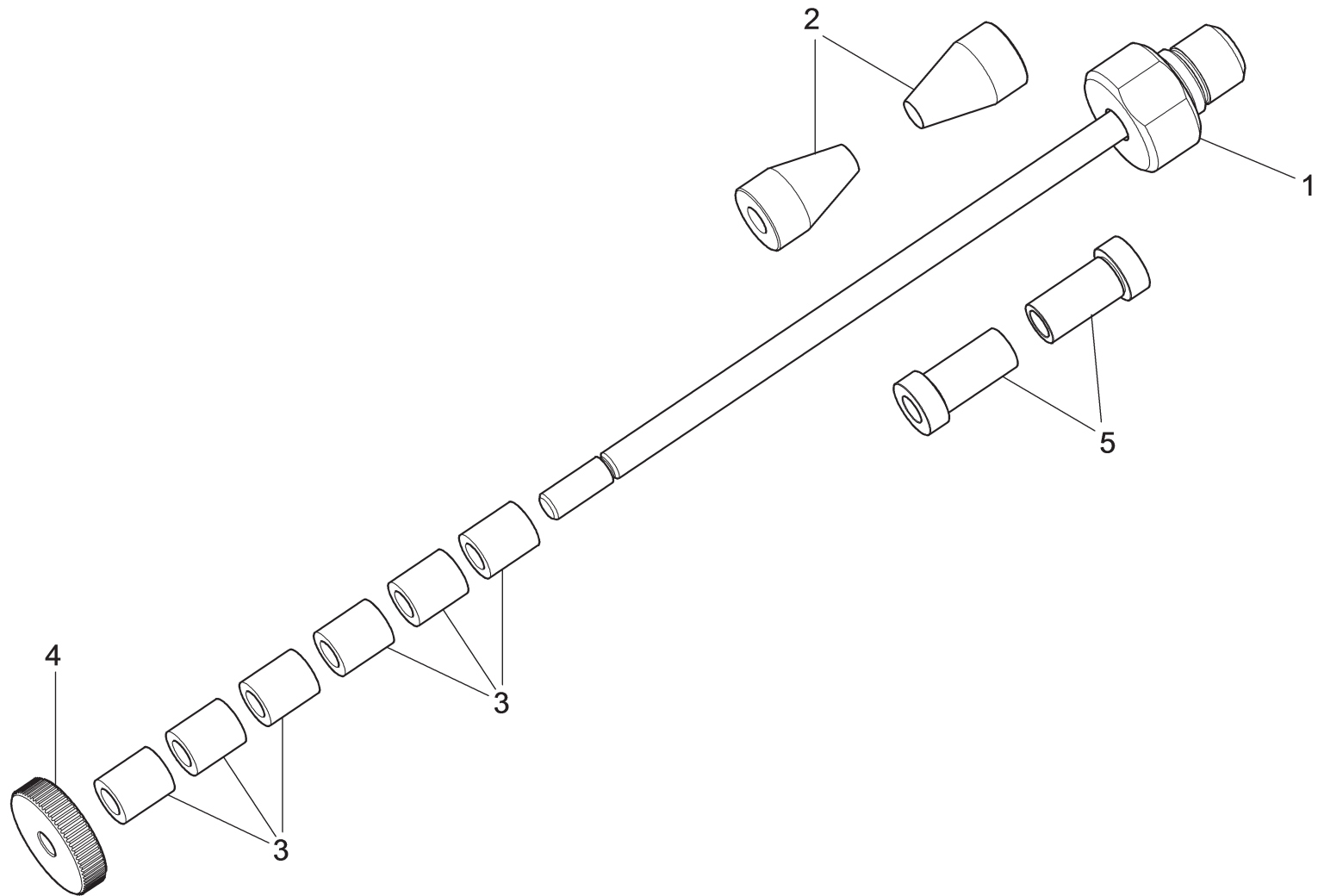



LIBRAK328		LIBRAK328BIKE		
OPT		•		
 ENGINEERING and MARKETING S.P.A.	LISTA DEI COMPONENTI - LIST OF COMPONENTS - TEILELISTE LISTE DES PIECES DETACHEES - LISTA DE PIEZAS		FLANGIA UNIVERSALE MOTO MOTORBIKE UNIVERSAL FLANGE MOTORRAD UNIVERSELLER FLANSCH BRIDE UNIVERSELLE MOTO BRIDA UNIVERSAL MOTO	
	Tavola N°12 - Rev. 0	GAR354		Pag. 19 di 24

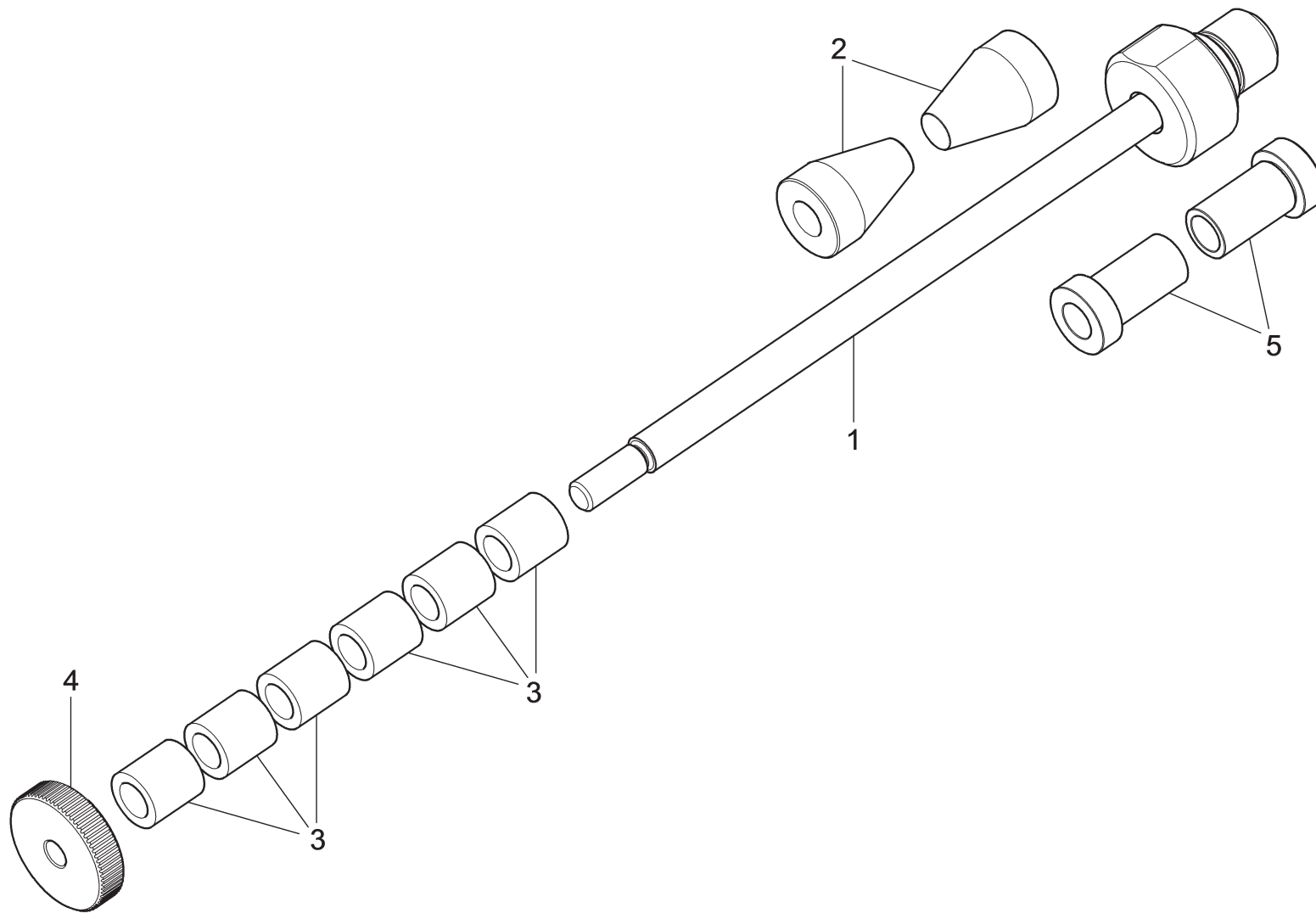



<b>LIBRAK328</b>	<b>LIBRAK328BIKE</b>		
<b>OPT</b>	•		
 <b>ENGINEERING and MARKETING S.P.A.</b>	<b>LISTA DEI COMPONENTI - LIST OF COMPONENTS - TEILELISTE</b> <b>LISTE DES PIÈCES DÉTACHÉES - LISTA DE PIEZAS</b>		<b>Pag. 20 di 24</b>
	<b>Tavola N°13 - Rev. 0</b>	<b>GAR355</b>	

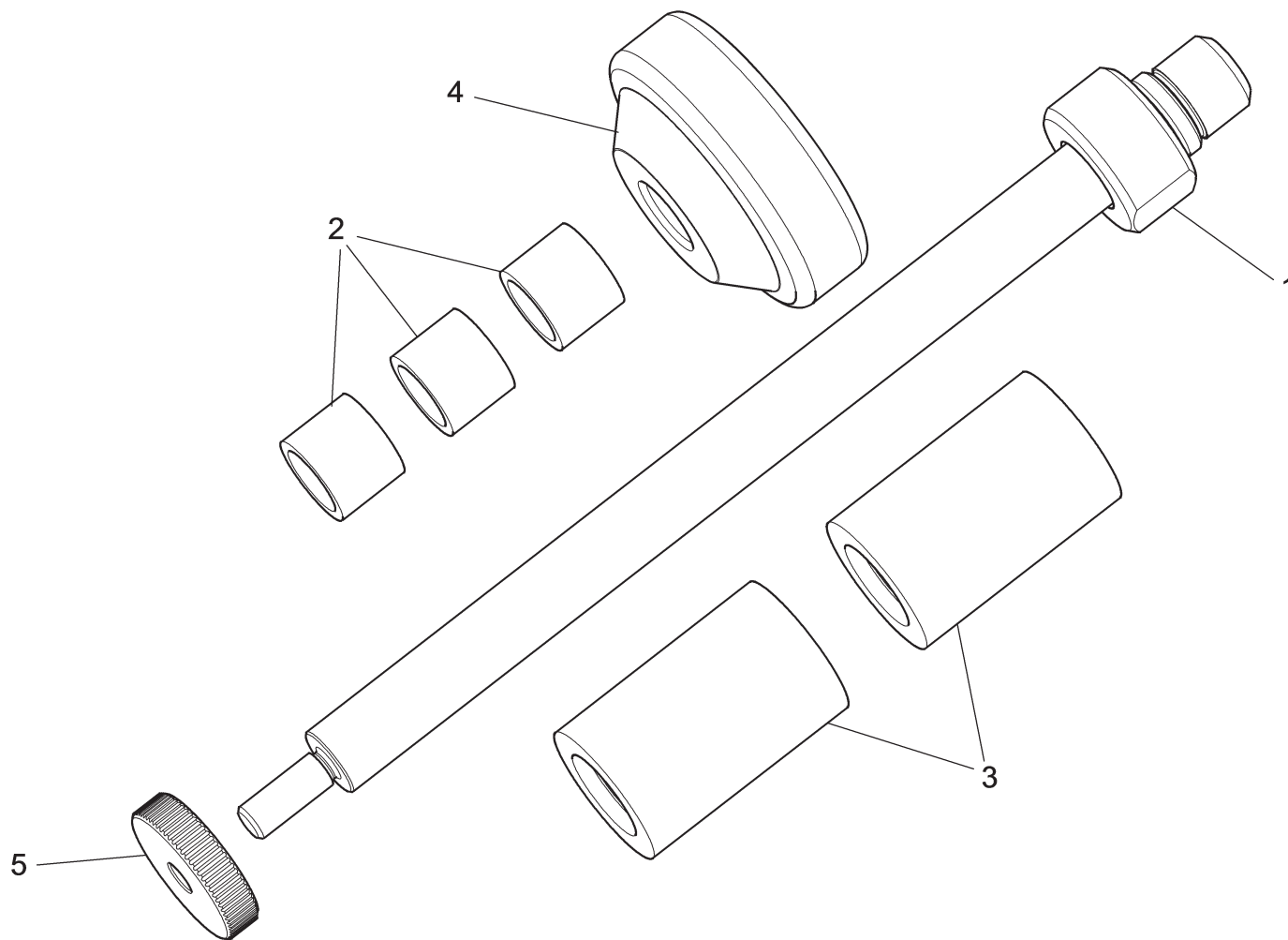





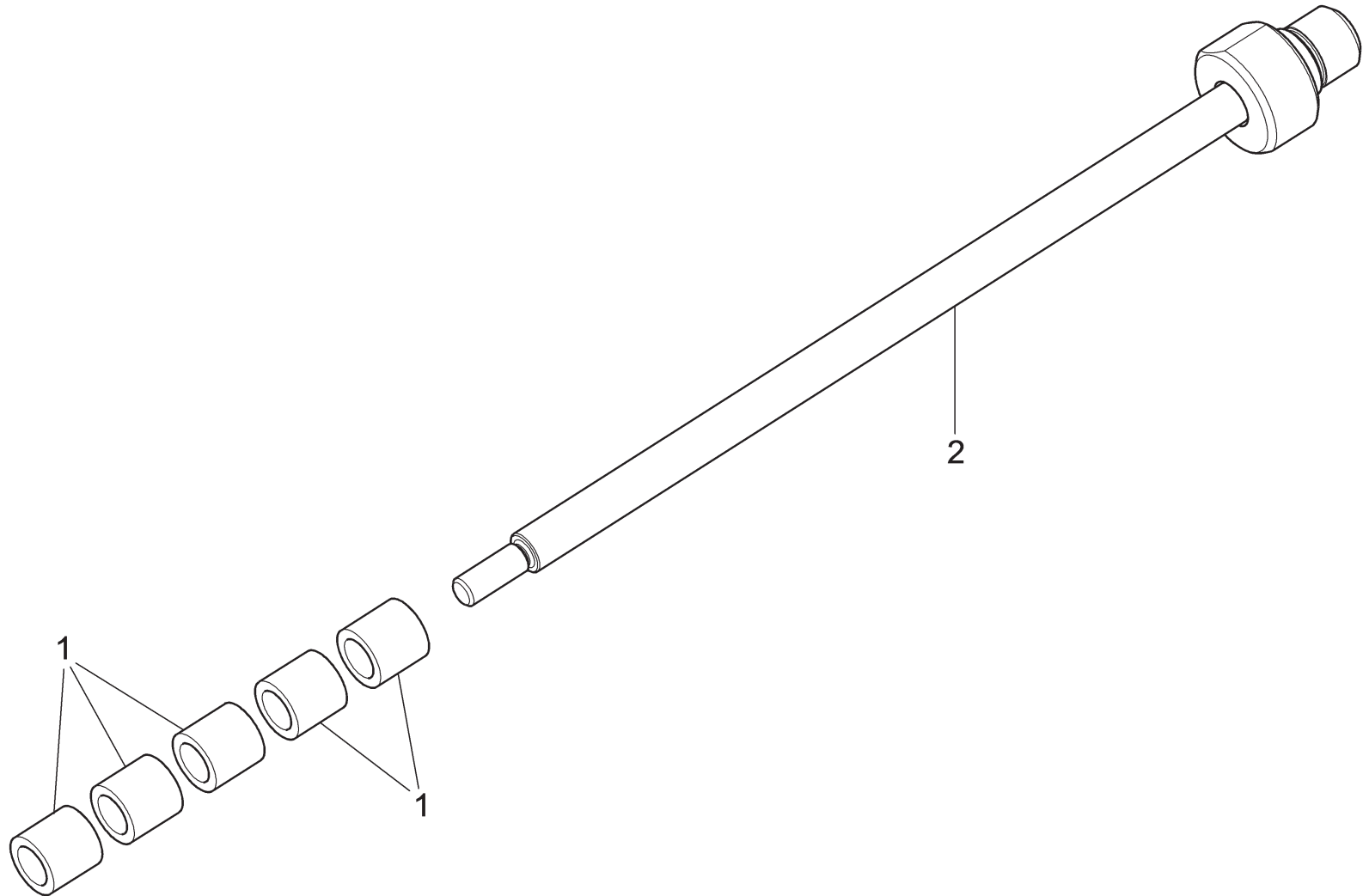
<i>LIBRAK328</i>		<i>LIBRAK328BIKE</i>		
OPT		OPT		
 ENGINEERING and MARKETING S.P.A.	<b>LISTA DEI COMPONENTI - LIST OF COMPONENTS - TEILELISTE</b> <b>LISTE DES PIÈCES DÉTACHÉES - LISTA DE PIEZAS</b>			ALBERO MOTO D=10 COMPLETO D=10 COMPLETE MOTORBIKE SHAFT D=10 KOMPLETTE MOTORRAD WELLE ARBRE MOTO D=10 COMPLET ÁRBOL MOTO D=10 COMPLETO
	<b>Tavola N°14 - Rev. 0</b>	<b>GAR356</b>		




<i>LIBRAK328</i>		<i>LIBRAK328BIKE</i>		
OPT		OPT		
 ENGINEERING and MARKETING S.P.A.	<b>LISTA DEI COMPONENTI - LIST OF COMPONENTS - TEILELISTE</b> <b>LISTE DES PIÈCES DÉTACHÉES - LISTA DE PIEZAS</b>			ALBERO MOTO D=12 COMPLETO D=12 COMPLETE MOTORBIKE SHAFT D=12 KOMPLETTE MOTORRAD WELLE ARBRE MOTO D=12 COMPLET ÁRBOL MOTO D=12 COMPLETO
	<b>Tavola N°15 - Rev. 0</b>	<b>GAR182N</b>		



<i>LIBRAK328</i>	<i>LIBRAK328BIKE</i>		
OPT	OPT		
 ENGINEERING and MARKETING S.P.A.	<b>LISTA DEI COMPONENTI - LIST OF COMPONENTS - TEILELISTE</b> <b>LISTE DES PIECES DETACHEES - LISTA DE PIEZAS</b>		ALBERO MOTO D=19 COMPLETO D=19 COMPLETE MOTORBIKE SHAFT D=19 KOMPLETTE MOTORRAD WELLE ARBRE MOTO D=19 COMPLET ÁRBOL MOTO D=19 COMPLETO
	<b>Tavola N°16 - Rev. 0</b>	<b>GAR191N</b>	



<i>LIBRAK328</i>		<i>LIBRAK328BIKE</i>		
OPT		OPT		
 ENGINEERING and MARKETING S.P.A.	<b>LISTA DEI COMPONENTI - LIST OF COMPONENTS - TEILELISTE</b> <b>LISTE DES PIECES DETACHEES - LISTA DE PIEZAS</b>			ALBERO MOTO D=14 ALLUNGATO D=14 EXTENDED MOTORCYCLE SHAFT D=14 VERLÄNGERTE MOTORRAD WELLE ARBRE MOTO D=14 ALLONGÉ ÁRBOL MOTO ALARGADO D=14
	<b>Tavola N°17 - Rev. 0</b>	<b>GAR184N</b>		



Dichiarazione di Conformità  
Declaration of Conformity  
Konformitätserklärung  
Déclaration de Conformité  
Declaración de Conformidad



Vehicle Service Group Italy S.r.l.  
via Brunelleschi, 9

Noi  
We / Wir / Nous / Nosotros

44020 San Giovanni di Ostellato (Ferrara) – ITALIA

dichiariamo sotto la nostra esclusiva responsabilità che il prodotto  
*declare, undertaking sole responsibility, that the product*  
*erklären unter unserer alleinigen Verantwortung, dass das Produkt*  
*déclarons, sous notre entière responsabilité, que le produit,*  
*declaramos bajo nuestra exclusiva responsabilidad, que el producto*

Equilibratrice / Wheel balancer Radauswuchtmaschinen / Equilibreuse Equilibradora	
---	--

al quale questa dichiarazione si riferisce, risponde alle seguenti Direttive applicabili:  
*to which this declaration applies is in compliance with the following applicable Directives:*  
*auf das sich diese Erklärung bezieht, den nachstehenden anwendbaren Normen entspricht:*  
*objet de cette déclaration est conforme aux Directives applicables suivantes:*  
*al que se refiere esta declaración cumple con las siguientes Normas aplicables:*

2006/42/CE                      Direttiva Macchine  
2014/30/UE                      Direttiva Compatibilità Elettromagnetica

Per la conformità alle suddette direttive sono state seguite le seguenti Norme Armonizzate:

*To comply with the above mentioned Directives, we have followed the following harmonized directives:*  
*In Übereinstimmung mit o.g. Richtlinien wurden folgende harmonisierte Normen befolgt:*  
*Pour la conformité aux normes ci-dessus, nous avons suivi les normes harmonisées suivantes:*  
*Para la conformidad a las Normas arriba mencionadas, hemos seguido las siguientes normas armonizadas:*

UNI EN ISO 12100:2010                      Sicurezza del macchinario – Principi generali di progettazione - Valutazione del rischio e riduzione del rischio  
CEI EN 60204-1:2018                      Sicurezza del macchinario – Equipaggiamento elettrico delle macchine - Parte 1: Regole generali

La persona preposta a costruire il fascicolo tecnico è Vehicle Service Group Italy S.r.l.  
*The technical documentation file is constituted by Vehicle Service Group Italy S.r.l.*  
*Vorgesetzte Rechtsperson für die Erstellung des technischen Lastenheftes ist Vehicle Service Group Italy S.r.l.*  
*La société Vehicle Service Group Italy S.r.l. est l'organisme délégué à la présentation de la documentation technique.*  
*Vehicle Service Group Italy S.r.l. es encargata a la constitución del archivo técnico.*

SIMONE FERRARI  
VP VSG Europe Managing Director

S.G. di Ostellato, / /

1294-DC004P 01/07/2023                      Il modello della presente dichiarazione è conforme alla norma  
*The version of this declaration conforms to the regulation*  
*Das Modell der vorliegenden Erklärung entspricht der Norm*  
*Le modèle de la présente déclaration est conforme à la norme*  
*El modelo de la presente declaración cumple la norma*

UNI CEI EN ISO/IEC 17050-1



UK Declaration of Conformity



We

Vehicle Service Group Italy S.r.l.  
via Brunelleschi, 9  
44020 San Giovanni di Ostellato (Ferrara) – ITALIA

declare, undertaking sole responsibility, that the product

Wheel balancer	
----------------	--

to which this declaration applies is in compliance with the following applicable Regulations:

**The Supply of Machinery (Safety) Regulations 2008**

**The Electrical Equipment (Safety) Regulations 2016**

**Electromagnetic Compatibility Regulations 2016**

To comply with the above mentioned Regulations, we have followed, totally, the following designated standards

- BS EN ISO 12100:2010** Safety of machinery. General principles for design. Risk assessment and risk reduction.
- BS EN 60204-1:2018** Safety of machinery. Electrical equipment of machines. General requirements.
- BS EN 61000-6-3:2007 +A1:2011 +AC:2012** Electromagnetic compatibility (EMC) - Part 6-3. Generic Standards - Emission standard for residential, commercial and light-industrial environments.
- BS EN 61000-6-2:2005 +AC:2005** Electromagnetic compatibility (EMC) - Part 6-2. Generic Standards - Immunity for industrial environments.

The technical documentation file is constituted by

**VEHICLE SERVICE GROUP UK LTD**  
**3 Fourth Avenue**  
**Bluebridge Industrial Estate**  
**Halstead**  
**Essex C09 2SY**  
**United Kingdom**

S.G.di Ostellato, / /

**SIMONE FERRARI**  
**VP VSG Europe Managing Director**

UK1296-DC013P 01/07/2023

The version of this declaration conforms to the standard BS EN ISO/IEC 17050- 1:2010