



**7105-M023-00**

**TYRE-CHANGER SERIES  
G1250**

**INSTRUCTION MANUAL**  
Applicable to the following models  
**RAV.G1250.200129**  
**RAV.G1250.200037**

**EN**

ORIGINAL INSTRUCTIONS

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*For spare parts drawings refer to the document "LIST OF COMPONENTS" to be requested from the manufacturer.*

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

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**7105-M023-00 - Rev. n. 00 (09/2023)**

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**INSTRUCTION, USE AND  
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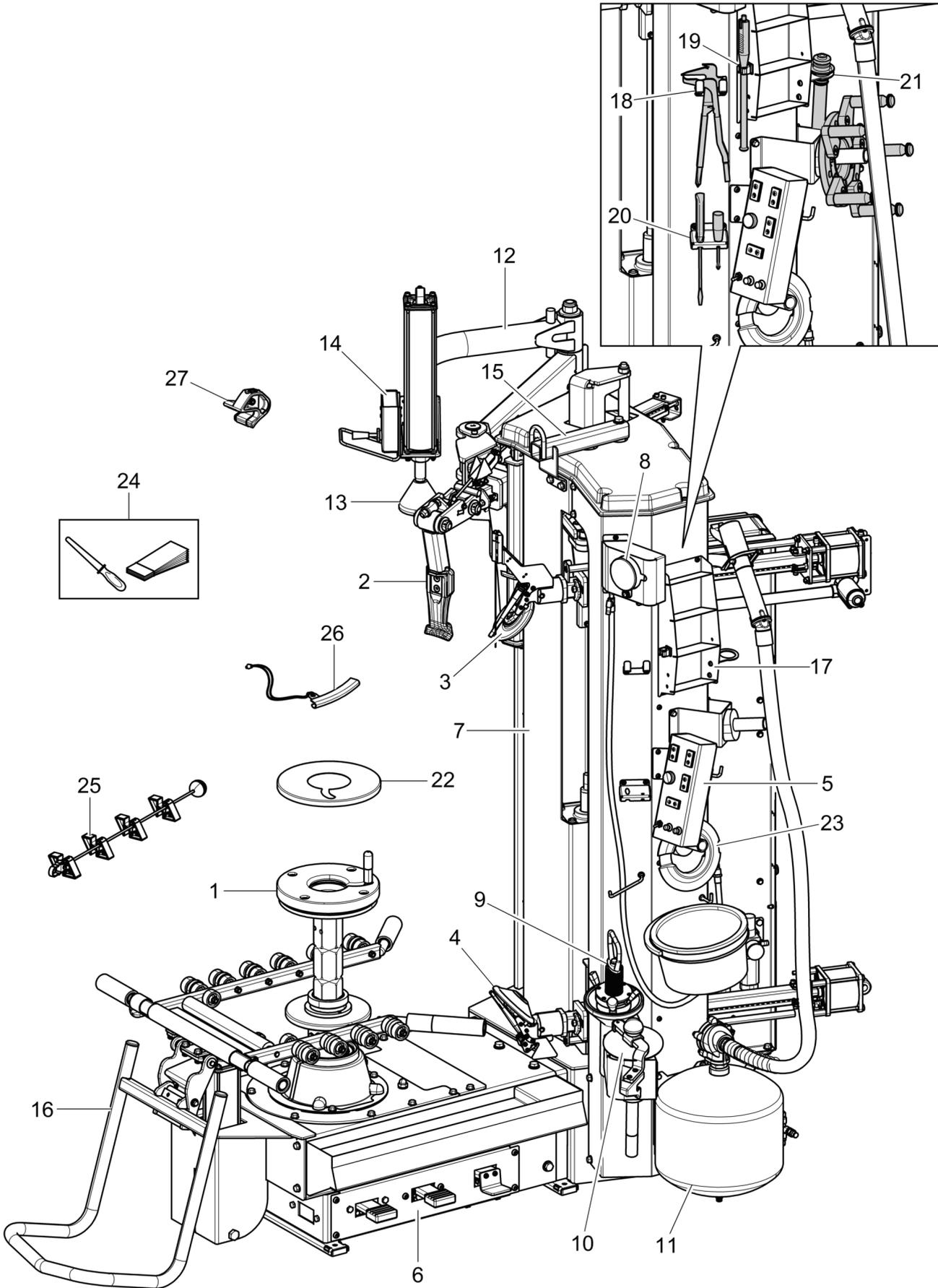
TYRE-CHANGER SERIES  
G1250

<b>Features</b>	<b>Model</b>	
Tubeless inflation unit system	RAV.G1250.200129	RAV.G1250.200037 ●

● = standard

**GENERAL DESCRIPTION**

**Fig. 1**



**KEY (Fig. 1)**

- |  |  |
|--|--|
| 1 - Chuck  | 15 - Lifting device                              |
| 2 - Toolhead   | 16 - Frontal lifting device                      |
| 3 - Upper bead breaker roller                          | 17 - Tool compartments                           |
| 4 - Lower bead breaker roller                          | 18 - Pliers holder                               |
| 5 - Control panel                                      | 19 - Accessory holder                            |
| 6 - Pedalboard   | 20 - Tool holder                                 |
| 7 - Column   | 21 - Flange clamp holder                         |
| 8 - Inflation pressure gauge                           | 22 - Reverse wheels protection                   |
| 9 - Locking shaft assembly                             | 23 - Two-faced cone                              |
| 10 - Beadpusher with puller                            | 24 - Bead protection kit + 50 bead sliding foils |
| 11 - Tubeless inflation vessel (standard on one model) | 25 - 22-28 bead press extension                  |
| 12 - Bead press device                                 | 26 - Bead protector                              |
| 13 - Bead press tool                                   | 27 - Wedge tool                                  |
| 14 - Bead press device control unit                    |  |

**SYMBOLS USED IN THE MANUAL**

Symbols	Description
	Read instruction manual.
	Wear work gloves.
	Wear work shoes.
	Wear safety goggles.
	Mandatory. Operations or jobs to be performed compulsorily.
	Warning. Be particularly careful (possible material damages).

Symbols	Description
	Danger! Be particularly careful.
	Note. Indication and/or useful information.
	Move with fork lift truck or pallet truck.
	Lift from above.
	Technical assistance necessary. Do not perform any maintenance.

**PLATES LOCATION DRAWING**

**Fig. 2a**

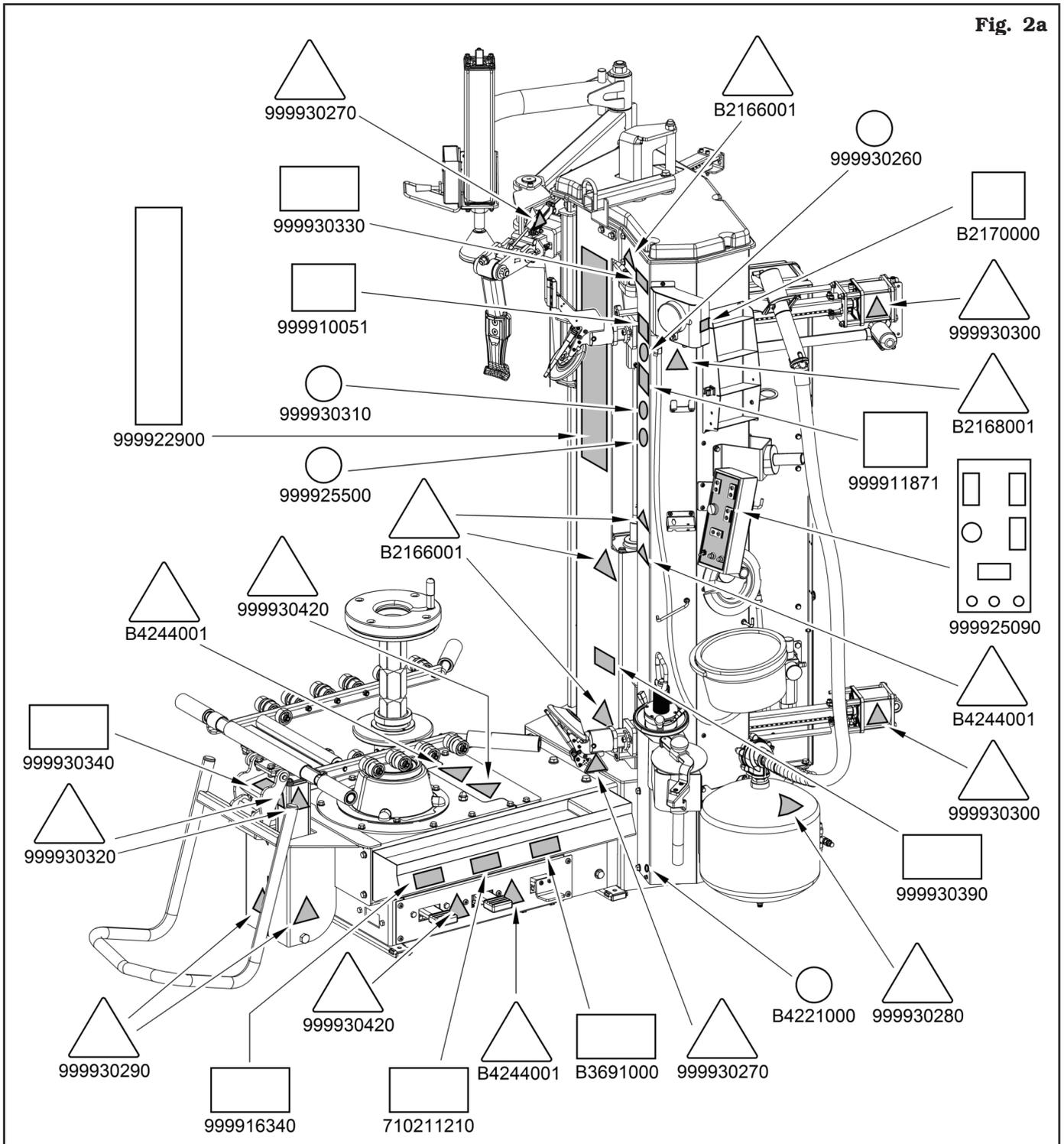
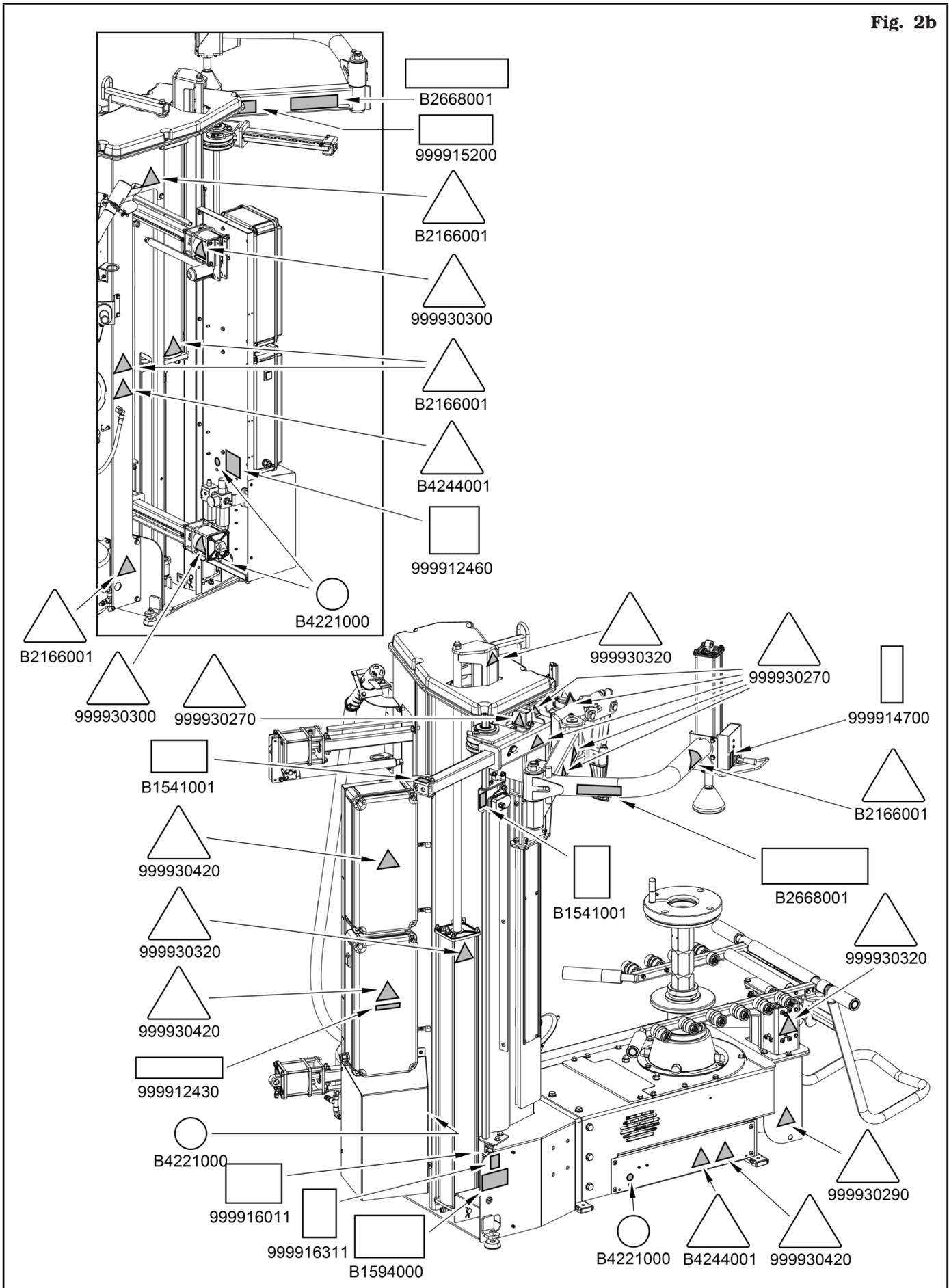


Fig. 2b



**Code numbers of nameplates**

<b>B1541001</b>	<i>Danger nameplate</i>
<b>B1594000</b>	<i>Date indicating nameplate</i>
<b>B2166001</b>	<i>Bead breaker danger nameplate</i>
<b>B2168001</b>	<i>Tyre burst nameplate</i>
<b>B2170000</b>	<i>Max. inflation pressure rating nameplate</i>
<b>B2668001</b>	<i>Wheel lifting device danger nameplate</i>
<b>B3691000</b>	<i>Inflation pedal nameplate</i>
<b>B4221000</b>	<i>Grounding nameplate</i>
<b>B4244001</b>	<i>Rotating parts danger nameplate</i>
<b>710211210</b>	<i>Rotation direction nameplate</i>
<b>999910051</b>	<i>Protection device use nameplate</i>
<b>999911871</b>	<i>Headset nameplate</i>
<b>999912430</b>	<i>230 V - 1 Ph - 50 Hz nameplate</i>
<b>999912460</b>	<i>Supply pressure indicating nameplate</i>
<b>999914700</b>	<i>Bead press device control nameplate</i>
<b>999915200</b>	<i>Serial number nameplate</i>
<b>999916011</b>	<i>Motoinverter nameplate</i>
<b>999916311</b>	<i>Rubbish skip nameplate</i>
<b>999916340</b>	<i>Lifting device pedal nameplate</i>
<b>999922900</b>	<i>RAV 600x125 vertical nameplate</i>
<b>999925090</b>	<i>Handle control nameplate</i>
<b>999925500</b>	<i>WDK certification nameplate</i>
<b>999930260</b>	<i>Instruction manual reading nameplate</i>
<b>999930270</b>	<i>Finger crushing danger nameplate</i>
<b>999930280</b>	<i>Pressure vessel danger nameplate</i>
<b>999930290</b>	<i>Foot crushing danger nameplate</i>
<b>999930300</b>	<i>Hand crushing danger nameplate</i>
<b>999930310</b>	<i>Use by two operators prohibition nameplate</i>
<b>999930320</b>	<i>Cutting danger nameplate</i>
<b>999930330</b>	<i>Class 1 laser product nameplate</i>
<b>999930340</b>	<i>Max. capacity load 80 Kg nameplate (176 lbs)</i>
<b>999930390</b>	<i>Rotation direction nameplate</i>
<b>999930420</b>	<i>Electric shock danger nameplate</i>



**IF ONE OR MORE NAMEPLATES ARE MISSING FROM THE EQUIPMENT OR BECOMES DIFFICULT TO READ. REPLACE IT AND QUOTE ITS/THEIR PART NUMBER/S WHEN REORDERING.**



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

## 1.0 GENERAL INTRODUCTION

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

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



**KEEP THE MANUAL IN A KNOWN EASILY ACCESSIBLE PLACE FOR ALL SERVICE TECHNICIAN TO CONSULT IT WHENEVER IN DOUBT.**



**THE MANUFACTURER CAN NOT BE HELD RESPONSIBLE FOR ANY DAMAGE TO THE SHOP, EQUIPMENT OR CUSTOMER WHEEL/TYRE THAT MAY OCCUR WHEN THE INSTRUCTIONS GIVEN IN THIS MANUAL ARE NOT FOLLOWED. DISREGARDING THESE INSTRUCTIONS MAY CAUSE INJURY OR DEATH.**

### 1.1 Introduction

Thanks for purchasing this tyre changer! The tyre changer is designed and built for professional garages. The tyre changer is easy to use with safety in mind. Following the care and maintenance outlined in this tyre changer manual your tyre changer will provide years of service.

## 2.0 INTENDED USE

The equipment described in this manual is a tyre changer that uses two systems:

- an electric motor coupled to a reduction gearbox to handle the tyre rotation, and
- a compressed air system to manage the movement of the pneumatic cylinders with several assembly/disassembly tools.

The equipment is to be used only for the mounting and demounting of any type of wheel with the whole rim (drop centre and with bead) with diameters and width values mentioned in "Technical specifications" chapter.



**THIS EQUIPMENT MUST ONLY BE USED FOR THE PURPOSE FOR WHICH IT IS SPECIFICALLY DESIGNED. ANY OTHER USES ARE TO BE CONSIDERED IMPROPER AND THEREFORE UNACCEPTABLE.**



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

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



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

### 3.0 SAFETY DEVICES



**DAILY CHECK THE INTEGRITY AND THE FUNCTIONALITY OF THE SAFETY AND PROTECTION DEVICES ON THE EQUIPMENT.**

The equipment is equipped with:

- **hold-to-run controls** (immediate stop of operation when the control is released) for all drives;
- chuck rotation;
- toolhead movement;
- bead breaker roller movement.
- **Control logic disposition.**

Its function is to prevent the operator from dangerous mistakes.

- **Fixed protections and guards**

This equipment has permanent guards installed to avoid potential risks of getting crushed, cut or squeezed.

These protections have been realized after risks evaluation and after all equipment operative situations have been considered.

All protections, specially the rubber ones, have to be periodically checked in order to evaluate their wear state.

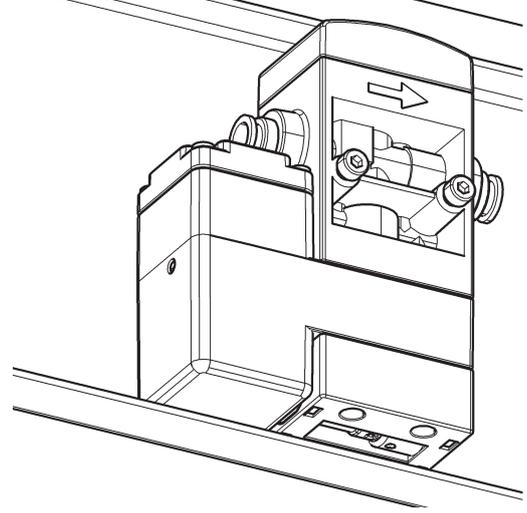


**PERIODICALLY CARRY OUT THE MAINTENANCE OF THE PROTECTIONS, SHIELDS AND SAFETY DEVICES IN GENERAL, AS INDICATED IN CHAPTER 13. ROUTINE MAINTENANCE.**

- **Non-adjustable (balancing valve) pressure relief device.**

This allows inflation of tyres in reasonable safety. In fact, this limiter does not allow inflation of tyres to over  $4.2 \pm 0.2$  bar ( $60 \pm 3$  psi) (see **Fig. 3**).

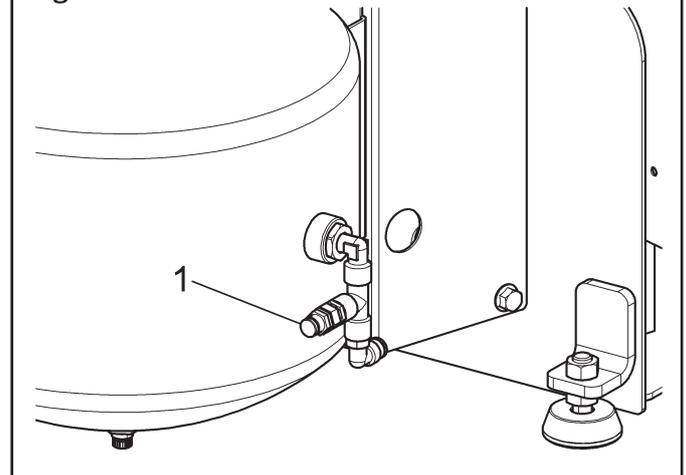
**Fig. 3**



- **12 bar safety valve on tank (on model with tubeless inflation system only).**

The safety valve (**Fig. 4 ref. 1**) avoids that the tubeless inflation system vessel is under a pressure above 12 bar (174 psi).

**Fig. 4**



### 3.1 Residual risks

The equipment was subjected to a complete analysis of risks according to reference standard EN ISO 12100. Risks are as reduced as possible in relation with technology and equipment functionality.

Any residual risks have been highlighted in this manual through pictograms and adhesive warning signals placed on the equipment: their location is represented in "PLATE LOCATION DRAWING" (see **Fig. 2a** and **2b**).

## 4.0 IMPORTANT SAFETY INSTRUCTIONS

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

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

**SAVE THESE INSTRUCTIONS**

## 4.1 General safety rules



- 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 equipment leads to serious dangers and represents a transgression of European safety standards.
- The equipment may be used only in areas free from the danger of explosion or fire.
- The use of only original accessories and spare parts is advised. Our equipment is designed to function only with original accessories.
- The installation must be performed by qualified personnel in full compliance with the instructions given below.
- Ensure that there are no dangerous situations during the machine operating manoeuvres. Immediately stop the equipment if it malfunctions and contact the customer service of the authorized dealer.
- In emergency situations and before carrying out any maintenance or repairs, isolate the equipment from energy sources by disconnecting the electrical and/or pneumatic power supply using the main switch.
- Ensure that the area around the equipment is free of potentially dangerous objects and that the area is oil free since this could damage the tyre. Oil on the floor is also a slipping hazard for the operator.



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



**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 equipment handles and operating grips must be kept clean and free from oil.
- The workshop must be kept clean and dry and not in an out doors location. Make sure that the working premises are properly lit.  
The equipment can be operated by a single operator at a time. Unauthorized personnel must remain outside the working area, as shown in **Fig. 7**. Avoid any hazardous situations. Do not use this equipment when the shop is damp or the floor slippery and do not use this equipment out doors.
- During inflation do not lean on the tyre or stand on it; when beading in the tyre, keep hands away from tyre and rim edge.
- During inflation always stay to the side of the equipment and never in front of it.
- When operating and servicing this equipment, carefully follow all in force safety and accident-prevention precautions.  
The equipment must not be operated by untrained personnel.
- Never activate the inflation device (on model with tubeless inflation system) if the tyre has not been correctly locked.



**ALWAYS KEEP THE CONTROLS IN THE NEUTRAL POSITION.**

## 5.0 PACKING AND MOBILIZATION FOR TRANSPORT

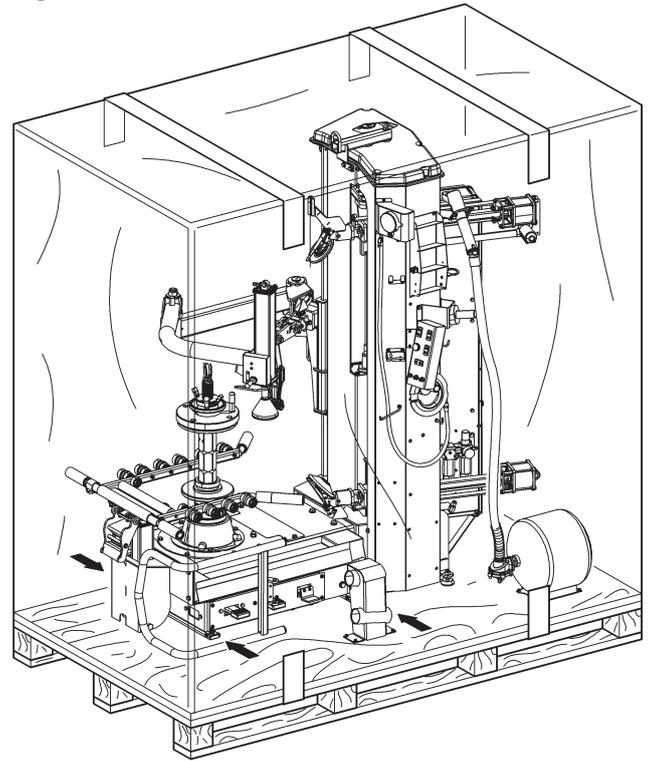


**HAVE THE EQUIPMENT HANDLED BY SKILLED PERSONNEL ONLY.**

**THE LIFTING EQUIPMENT MUST WITHSTAND A MINIMUM RATED LOAD EQUAL TO THE WEIGHT OF THE PACKED EQUIPMENT (see paragraph "TECHNICAL SPECIFICATIONS").**

The equipment is packed partially assembled. Handling must be by pallet-lift or fork-lift trolley. The fork lifting points are indicated on the packing, **Fig. 5**.

**Fig. 5**



## 6.0 UNPACKING




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

The cardboard box is supported with plastic strapping. Cut the strapping with suitable scissors. Use a small knife to cut along the lateral axis of the box and open it like a fan.

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

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

The packing (plastic bags, expanded polystyrene, nails, bolts, timber, etc.) should not be left within reach of children since it is potentially dangerous. These materials should be deposited in the relevant collection points if they are pollutants or non biodegradable.



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

## 7.0 MOBILIZATION



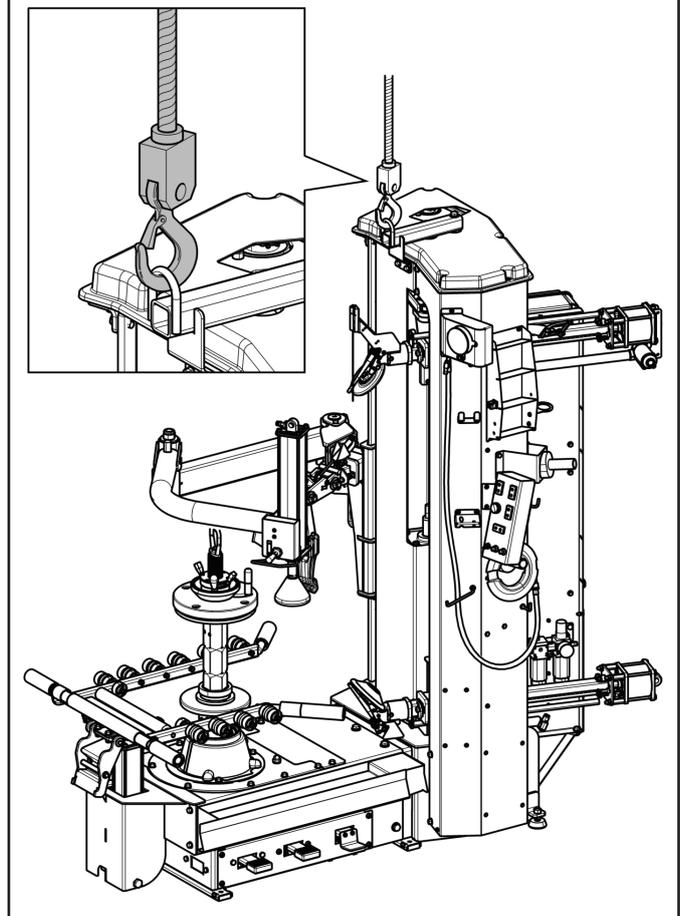



**THE LIFTING EQUIPMENT MUST WITHSTAND A MINIMUM RATED LOAD EQUAL TO THE WEIGHT OF THE EQUIPMENT (SEE PARAGRAPH TECHNICAL SPECIFICATIONS). NON FAR ALLOW THE LIFTED EQUIPMENT TO SWING.**

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

- Protect the exposed corners with suitable material (bubble wrap/cardboard).
- Do not use metallic cables for lifting.
- Make sure that the equipment power supply is not connected.
- Lift and transport with suitable device with adequate dimensions as indicated in **Fig. 6**.

**Fig. 6**



## 8.0 WORKING ENVIRONMENT CONDITIONS

The equipment must be operated under proper conditions as follows:

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

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

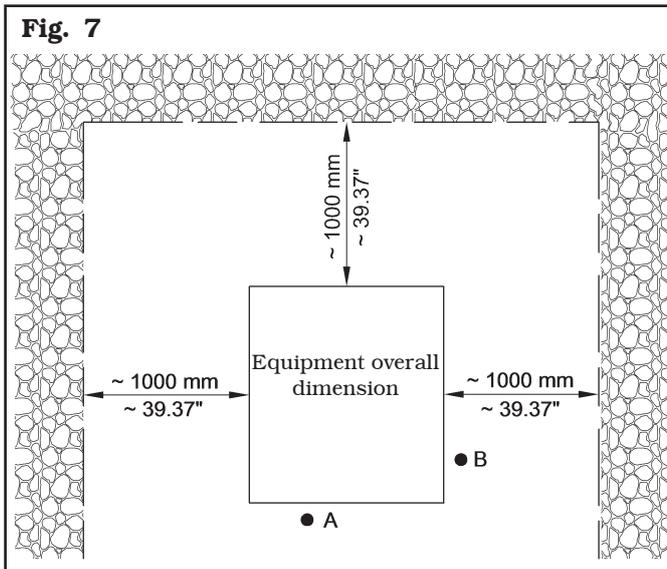
### 8.1 Work position

In **Fig. 7** it is possible to identify work positions **A** and **B**.

Position **A** is the main position for wheel fitting and removal with the chuck, while position **B** is ideal to follow wheel bead breaking operations.

Working in these positions allows better precision and speed during operating phases as well as greater safety for the operator.

### 8.2 Working area



The location of the equipment requires a usable space as indicated in **Fig. 7**. The positioning of the equipment must be executed according to the distances shown. From the control position the operator is able to observe all the equipment and surrounding area. Operator must prevent unauthorized personnel or objects that could be dangerous from entering the area. The equipment must be secured to a flat floor surface, preferably of cement or tiled. Avoid yielding or irregular surfaces.

The equipment base floor must be able to support the loads transmitted during operation. This surface must have a capacity load of at least 500 kg/m<sup>2</sup> (100 lb/ft<sup>2</sup>). The depth of the solid floor must guarantee the tightness of the anchor plugs.

### 8.3 Lighting

The equipment must be placed in a sufficiently lit environment in compliance with current regulations.



**USE THE EQUIPMENT IN A DRY AND SUFFICIENTLY ILLUMINATED PLACE, CLOSED, PROTECTED FROM ALL WEATHER CONDITIONS AND COMPLYING WITH THE REGULATIONS IN FORCE REGARDING WORK SAFETY.**

## 9.0 ASSEMBLY AND PREPARATION FOR USE



**ALL EQUIPMENT ASSEMBLY OR ADJUSTMENTS MUST BE CARRIED OUT BY PROFESSIONALLY QUALIFIED STAFF.**

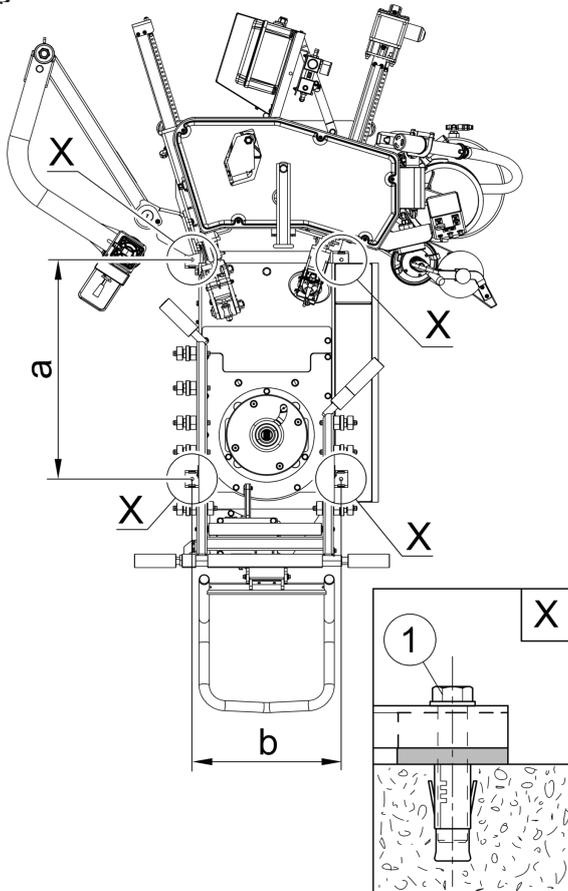
After removing the various components from the packing, check that they are complete, and that there are no missing or damaged parts, then use the following instructions for the assembly of the components making use of the following series of illustrations.

### 9.1 Anchoring system

The packed equipment is secured to the support pallet through the holes on the frame and indicated in the figure below. These holes can be used to secure the equipment to the floor, using suitable concrete anchors (not included). Before concrete anchoring to floor, check that all the anchor points are flat, or level in contact with the floor. If not, shim between the equipment and the floor, as indicated in **Fig. 8**.

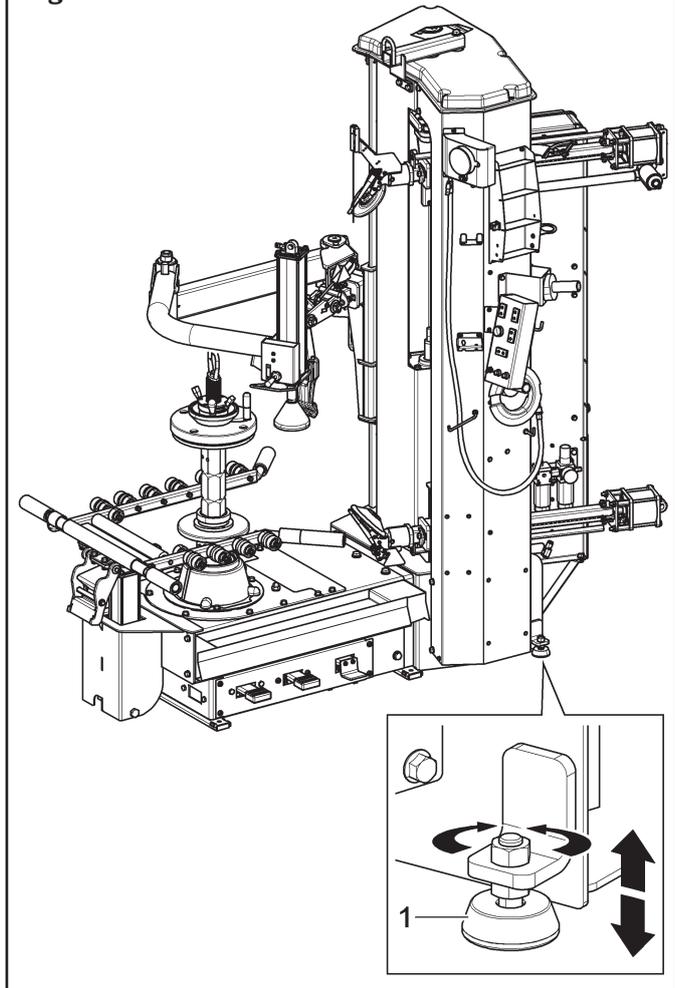
- To secure the equipment to the floor, use anchoring bolts/studs (**Fig. 8 ref. 1**) with a threaded shank M8 (UNC 5/16) suitable for the floor on which the tyre changer will be secured and in a number equal to the number of mounting holes on the bottom frame;
- drill holes in the floor, suitable for inserting the chosen anchors, in correspondence with the holes on the bottom frame;
- insert the anchors into the holes drilled in the floor through the holes on the bottom frame and tighten the anchors;
- tighten the anchors on the base frame and torque as indicated by the manufacturer of the anchors.
- Before securing completely the equipment to the ground, flush its rear part rotating its feet (**Fig. 9 ref. 1**).

**Fig. 8**



**a**=651 mm / 25.63"  
**b**=440 mm / 17.32"

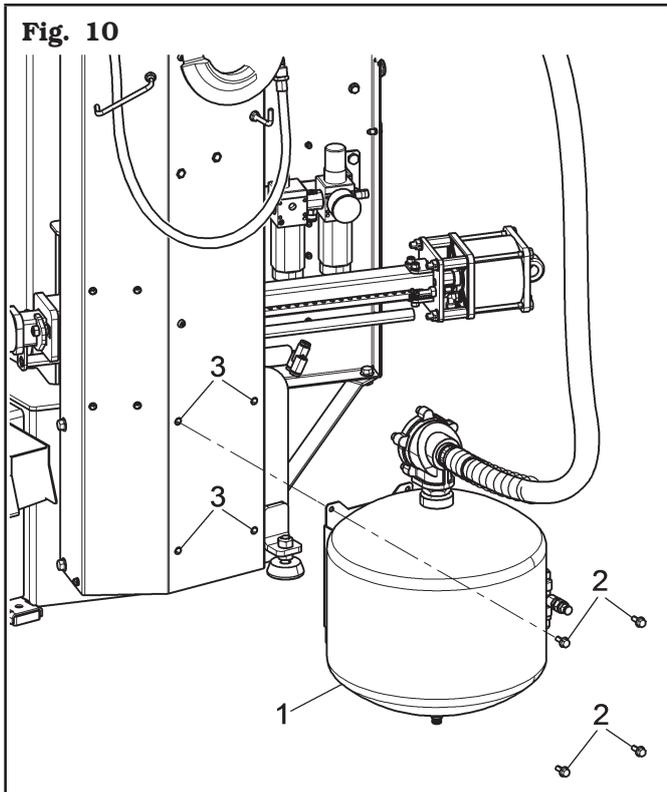
**Fig. 9**



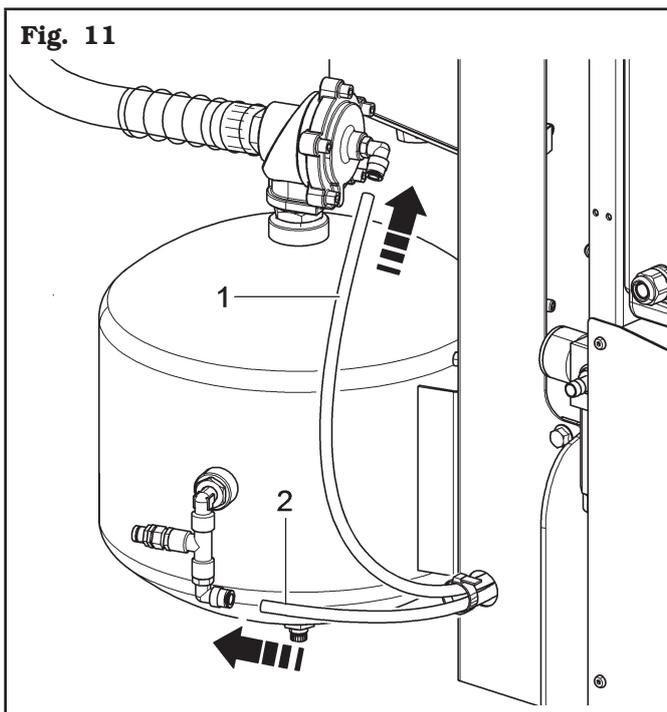
## 9.2 Assembly procedures

### On models with tubeless inflation system

1. Fit the vessel (**Fig. 10 ref. 1**) of the Tubeless inflation system by tightening the supplied bolts (**Fig. 10 ref. 2**) to the threaded inserts on the equipment (**Fig. 10 ref. 3**), as shown in **Fig. 10**;

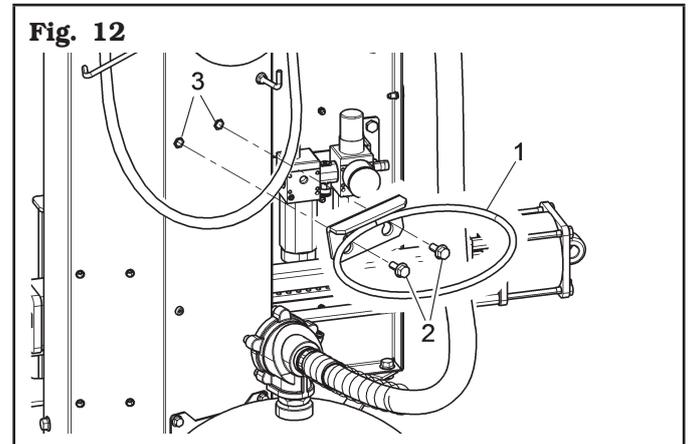


2. connect the black hose (**Fig. 11 ref. 1**) and the blue hose (**Fig. 11 ref. 2**) on the provided quick couplings as shown in figure **Fig. 11**;

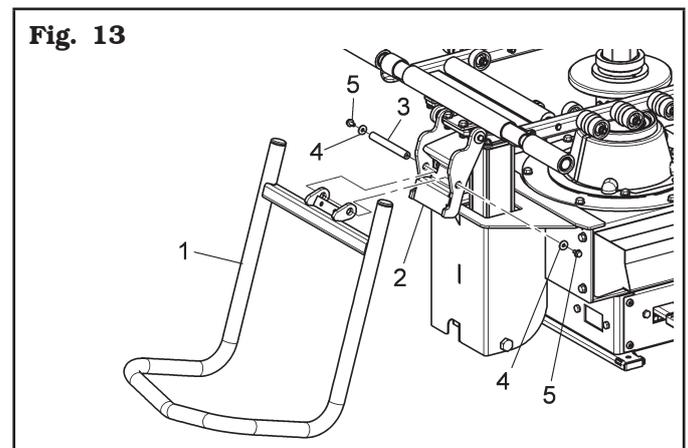


### For all models

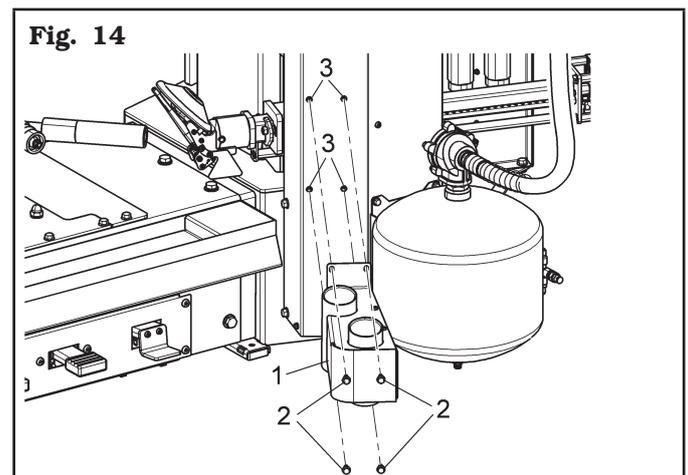
3. attach the grease-holder ring (**Fig. 12 ref. 1**) with the 2 supplied bolts (**Fig. 12 ref. 2**), to the threaded inserts provided on the equipment (**Fig. 12 ref. 3**), as shown in **Fig. 12**;



4. secure the wheel lift cradle support hose (**Fig. 13 ref. 1**) to the bracket of the base support (**Fig. 13 ref. 2**) using the pin (**Fig. 13 ref. 3**), the washers (**Fig. 13 ref. 4**) and the bolts (**Fig. 13 ref. 5**) supplied;



5. secure the locking shaft support (**Fig. 14 ref. 1**) to the threaded inserts (**Fig. 14 ref. 3**) arranged on the column of the tyre changer, using the bolts (**Fig. 14 ref. 2**) supplied.



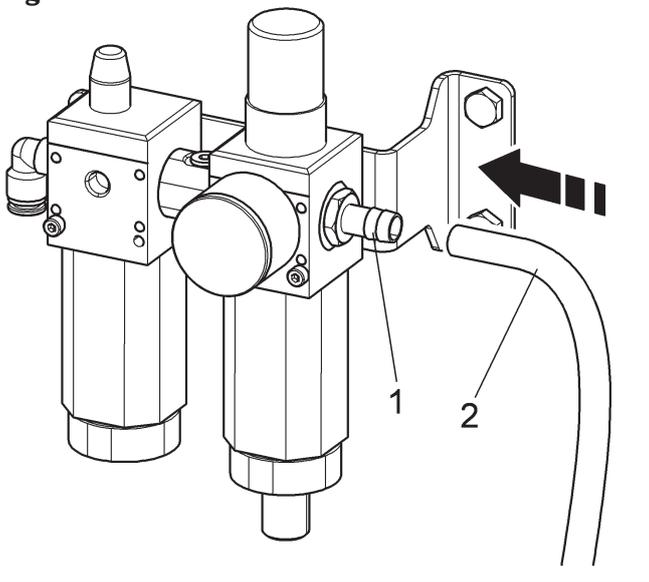
### 9.3 Connection to the compressed air supply



ANY PNEUMATIC ATTACHMENTS MUST BE CARRIED OUT BY QUALIFIED STAFF.

Connect the mains pneumatic supply through the fitting (**Fig. 15 ref. 1**) placed on equipment filter assembly. The pressurized hose (**Fig. 15 ref. 2**) coming from the mains must have a minimum inner diameter of 10 mm (3/8") and a minimum outer diameter of 19 mm (3/4") (see **Fig. 15**) to have sufficient flow (see **Fig. 15**).

Fig. 15



THE MINIMUM OPERATING PRESSURE OF THE SUPPLY HOSE AND INSTALLED FITTINGS MUST BE AT LEAST 300 psi. THE MAXIMUM BURST PRESSURE OF THE SAME MUST BE AT LEAST 900 psi.



USE A SUITABLE PNEUMATIC THREADED CONNECTION SEALING TAPE FOR ALL PNEUMATIC CONNECTIONS.



IF OTHER PNEUMATIC CONNECTIONS SHOULD BE EXECUTED, REFER TO THE PNEUMATIC DIAGRAMS ILLUSTRATED IN CHAPTER 19.



IN CASE OF A CHANCE SUPPLY FAILURE, AND/OR BEFORE ANY PNEUMATIC CONNECTIONS, MOVE THE CONTROLS TO THE NEUTRAL POSITION.

## 10.0 ELECTRICAL CONNECTIONS



**ALL ELECTRICAL CONNECTIONS ARE TO BE DONE BY QUALIFIED PERSONNEL ONLY.**



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

- POWER LINE SPECIFICATIONS CORRESPOND TO EQUIPMENT REQUIREMENTS AS SHOWN ON THE MACHINE NAMEPLATE;
- 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 PADLOCKABLE MAIN SWITCH AND A CUTOUT WITH DIFFERENTIAL PROTECTION SET AT 30 mA.

The equipment is supplied with a cable. A plug corresponding to the following requirements must be connected to the cable:



**FIT A TYPE-APPROVED (AS REPORTED BEFORE) PLUG TO THE EQUIPMENT CABLE (THE GROUND WIRE IS YELLOW/GREEN AND MUST NEVER BE CONNECTED TO ONE OF THE PHASE LEADS OR TO THE NEUTRAL).**



**MAKE SURE THAT THE ELECTRICAL SYSTEM IS COMPATIBLE WITH THE RATED POWER REQUIREMENTS SPECIFIED IN THIS MANUAL AND APT TO ENSURE THAT VOLTAGE DROP UNDER FULL LOAD WILL NOT EXCEED 4% OF RATED VOLTAGE (10% UPON START-UP).**

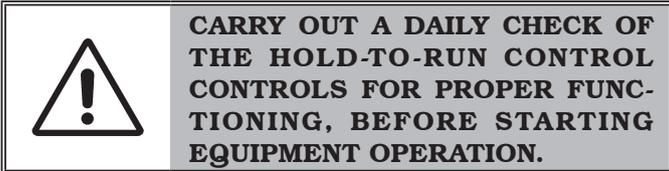
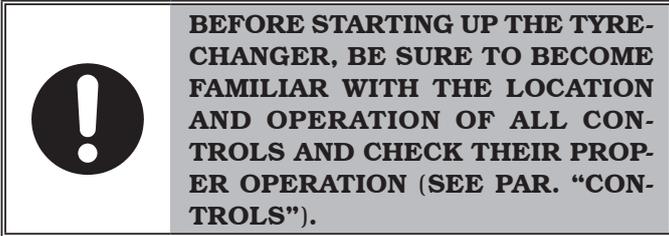


**FAILURE TO OBSERVE THE ABOVE INSTRUCTIONS WILL IMMEDIATELY INVALIDATE THE WARRANTY AND MAY DAMAGE THE EQUIPMENT.**

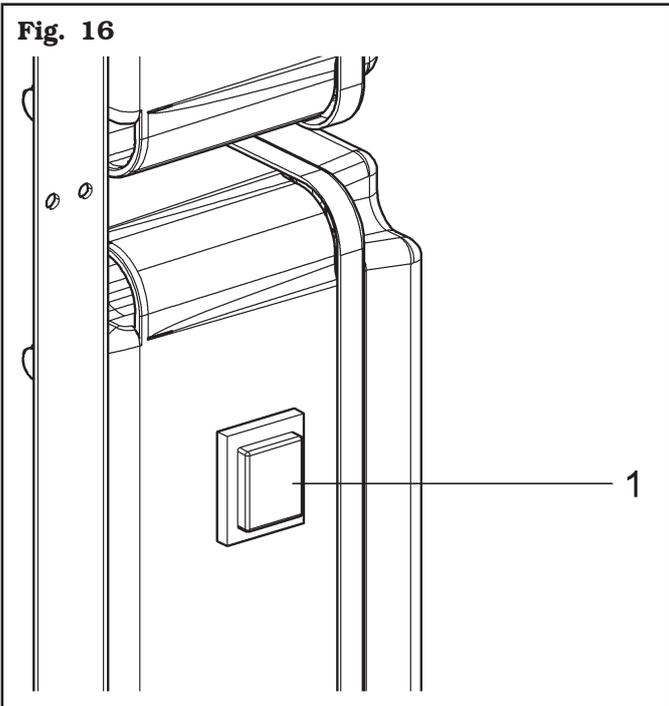
As envisaged by the regulations in force, the equipment is not equipped with a master circuit breaker, but simply has a plug-socket connection to the electrical mains.

Motor power supply	Conformity standard	Voltage	Amperage	Poles	Minimum IP rating
Power supply 1 Ph, inverter motor	IEC 309	200/265V	16A	2 Poles + Ground	IP 44

## 10.1 Electrical checks



Once the plug/socket connection has been made, turn on the tyre changer using the main switch (**Fig. 16 ref. 1**).



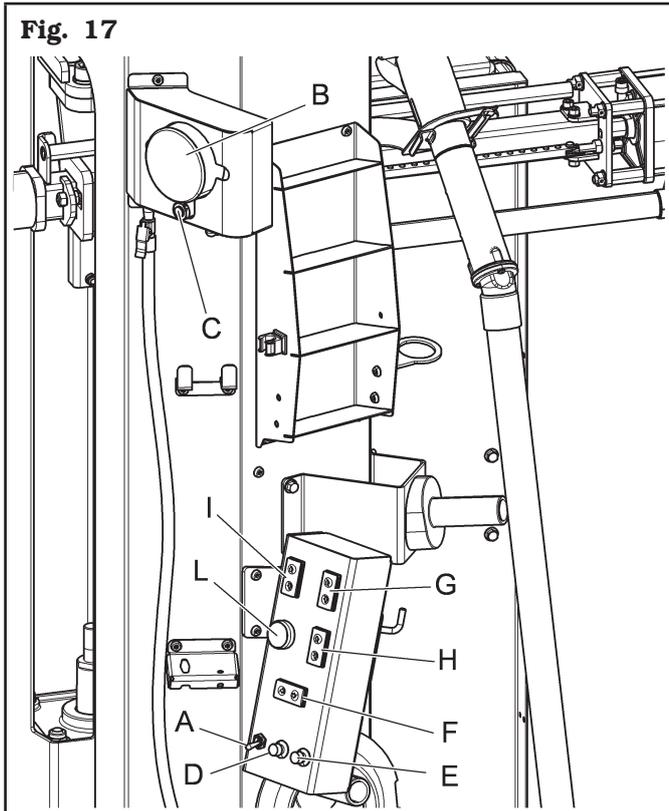
## 11.0 CONTROLS

### 11.1 Control device

The control device consists of a panel with integrated keys and push buttons.

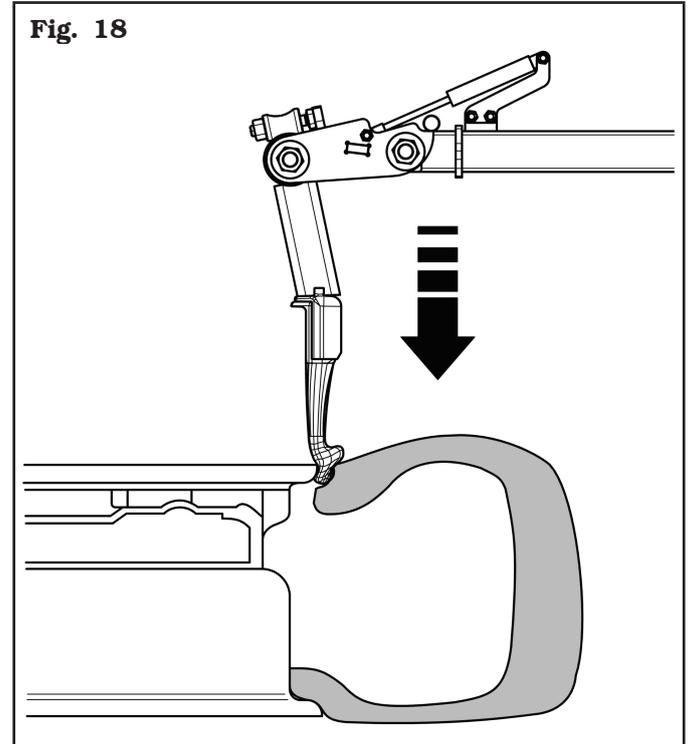
- The selector "A" allows the equipment working selection: automatic or manual.
  - Automatic: it allows to enable the functioning of the feeler pins placed on the bead breaking rollers.
  - Manual: it allows to carry out all the bead breaking operations without the checking of the feeler pins.
- The inflation pressure gauge "B" for the reading of the pressure inside the tyre.
- The inflation push button "C", if pushed, allows to deflate the tyre at the desired pressure.
- Push button "D", in "Manual" mode, is pressed to activate the cam for inserting the upper bead breaker roller into the rim.
  - In the "Automatic" model the push button is disabled.
- Push button "E", in "Manual" mode, is pressed to activate the cam for inserting the lower bead breaker roller into the rim.
  - In the "Automatic" model the push button is disabled.
- Arms automatic return from work position.
  - In AUTO mode, pushing at the same time keys "E" and "D", the tools arms automatically return into the limit switch position. To stop the automatism, to push the keys to control the arms vertical movement.
- Push button "F" has a hold-to-run control position and once pushed (◀) it controls the ahead movement of the tools. If pushed (▶) it controls the backwards movement of the tools.
- Push button "G" has a hold-to-run control position and it controls the vertical shifting of the upper bead breaker roller. If pushed on its lower part (↓), it will control the downwards movement. If pushed on its upper part (↑), it controls upward movement. Keeping it pushed for more than one second, movement carries on automatically until the arm reaches the stroke limit. To stop automatism, push again push button "G".
- Push button "H" has a hold-to-run control position and once pushed it controls the vertical shifting of the lower bead breaker roller. If pushed on its lower part (↓), it will control the downwards movement. If pushed on its upper part (↑), it controls upward movement. Keeping it pushed for more than one second, movement carries on automatically until the arm reaches the stroke limit. To stop automatism, push again push button "H".

- Push button **"I"** has a hold-to-run control position and it controls the upper toolhead vertical shift. If pushed on its lower part (↓), it will control the downwards movement. If pushed on its upper part (↑), it controls upward movement.
- The backlighted push button **"L"** allows the storing of the height position of the tool arm, so that by merely pressing the same, the toolhead comes back to the previously stored position (see paragraph 11.2).

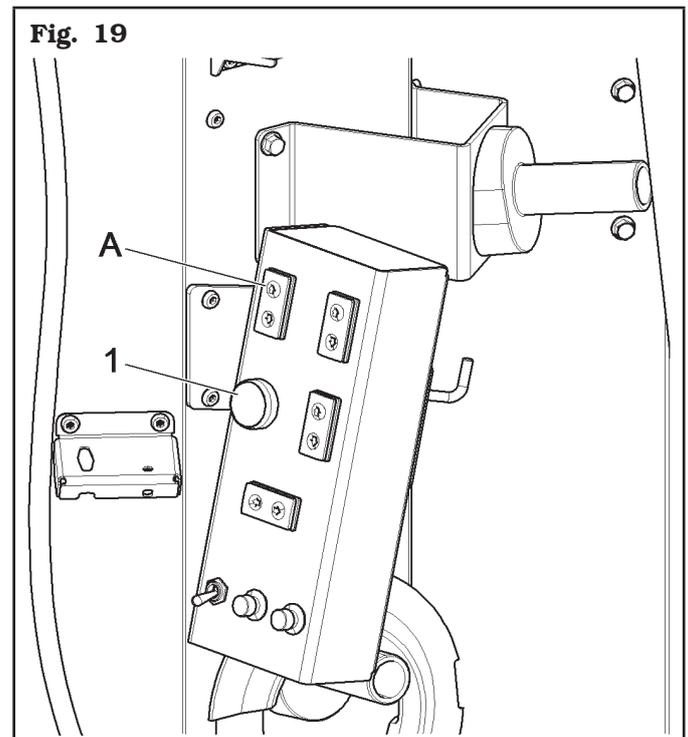


### **11.2 Storing of toolhead vertical position**

Place the upper toolhead next to the rim edge (see **Fig. 18**).



Press the storing push button (**Fig. 19 ref. 1**) and keep it pressed until the same switches on. When it is switched on, toolhead position storing operation is completed.



### 11.2.1 Return of toolhead vertical position

Press storing push button (**Fig. 19 ref. 1**) in order to automatically move the toolhead in the previously stored position next to the rim edge (see **Fig. 18**). During the repositioning of the toolhead, the storing push button starts blinking. Once the stored position has been reached, the push button light will become fixed.



IN ORDER TO STOP THE TOOL-  
HEAD MOVEMENT, RETURNED  
THROUGH THE STORING FUNC-  
TION, PRESS KEY "A" IN FIG. 19.



ONLY THE VERTICAL POSITION  
OF THE TOOLHEAD CAN BE  
STORED.

### 11.2.2 Erasure of toolhead stored position

Press the storing push button (**Fig. 19 ref. 1**) and keep it pressed until the same switches off.

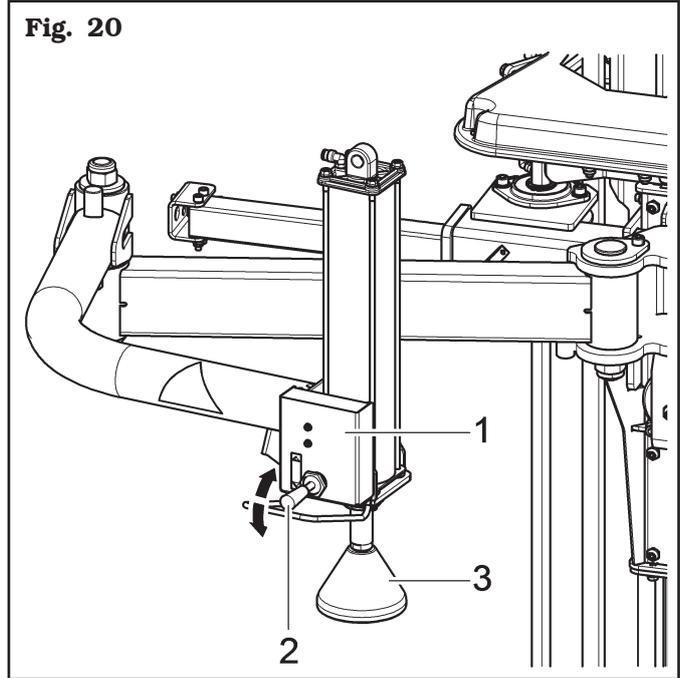
### 11.2.3 Reset of toolhead stored position

In order to modify the stored position of the toolhead, use vertical movement push button (**Fig. 17 ref. I**) in order to move it in the new desired position. Press the storing push button (**Fig. 19 ref. 1**) and keep it pressed until the same switches off. When the button is kept pressed, it lights up again, indicating the storing of the new position.

### 11.3 Bead press device control unit

It is made up of an handle control (**Fig. 20 ref. 1**), positioned on the device. This handle control allows to operate the vertical movement of the bead press tool (**Fig. 20 ref. 3**) Lift the lever (**Fig. 20 ref. 2**) to operate the upwards movement, and lower the lever (**Fig. 20 ref. 2**) to perform the downwards movement. The device arm positioning next to the tyre is a completely manual operation.

Fig. 20



### **11.4 Pedalboard**

“**Pedal A**” has two hold-to-run control operative positions. When it is pushed downwards it controls chuck motor clockwise rotary movement. When the pedal is lifted upwards it operates the opposite movement.



**THE CHUCK ASSEMBLY SPEED CAN BE CONTINUOUSLY ADJUSTED UP TO THE MAXIMUM SPEED THROUGH A PROGRESSIVE PRESSURE ON THE PEDAL, ONLY IN CLOCKWISE DIRECTION.**

“**Pedal B**” has a different function according to the version present on the equipment.

#### **Version with inflation with pressure gauge**

The inflation pedal in this version has only one function. A continuous pressure supplies air at a controlled pressure (max 4 ± 0.2 / bar 60 ± 3 psi).



**DO NOT CHANGE THE SET OPERATING PRESSURE VALUE BY MEANS OF THE MAXIMUM PRESSURE VALVES. THE MANUFACTURER SHALL NOT BE RESPONSIBLE FOR INJURY OR DAMAGE ARISING FROM UNAUTHORIZED CHANGES.**

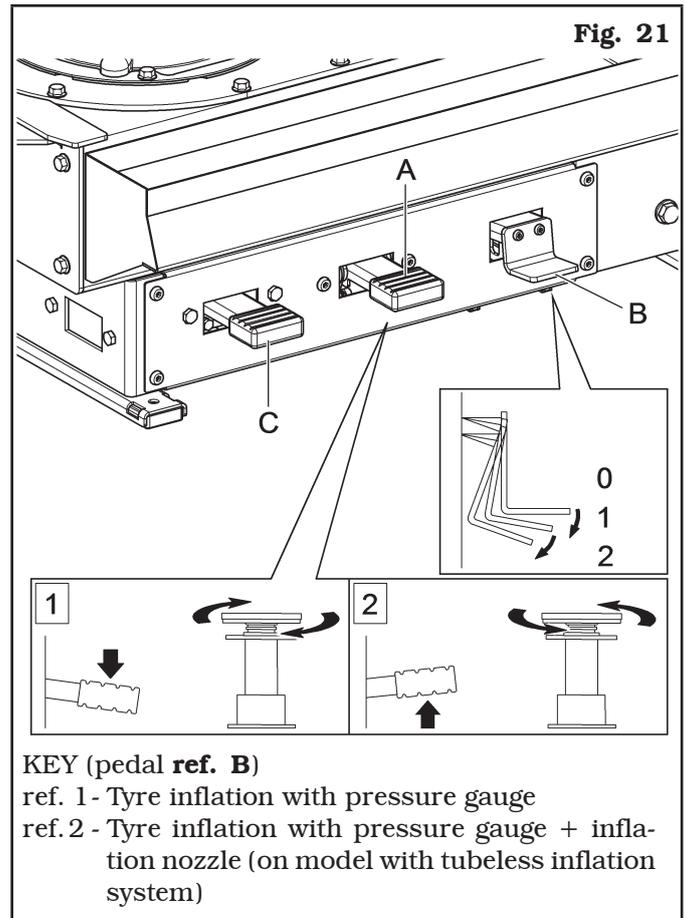
#### **Version with Tubeless inflation (on model with tubeless inflation system)**

The inflation pedal has two functions. The supply of air at max. controlled pressure as in the previous version, and a second function of a jet of air from the inflation nozzle to assist the beading in of the tyre.



**DO NOT CHANGE THE SET OPERATING PRESSURE VALUE BY MEANS OF THE MAXIMUM PRESSURE VALVES. THE MANUFACTURER SHALL NOT BE RESPONSIBLE FOR INJURY OR DAMAGE ARISING FROM UNAUTHORIZED CHANGES.**

“**Pedal C**” has two hold-to-run control operative positions. A downward pressure raises the wheel support of the front lifting device. When the pedal is lifted upwards it operates the opposite movement.



## 12.0 USE OF THE EQUIPMENT

### 12.1 Precaution measures during tyre removal and fitting



Before fitting a tyre, observe the following safety rules:

- rim and tyre must always be clean, dry and in good condition; if necessary, clean the rims and check that:
  - neither the beads, the sidewalls nor the tread of the tyre are damaged;
  - the rim does not have any dents and/or deformations (especially for alloy rims, dents can cause internal micro-fractures, that pass unobserved at visual inspection, and can compromise the solidity of the rim and constitute danger even during inflation);
- adequately lubricate the contact surface of rim and the tyre beads, using specific tyre lubricants only;
- replace the rim valve with a new valve. if the tyre pipe has a metal valve, replace the grommet.
- always make sure that tyre and rim sizes are correct for their coupling; never fit a tyre unless you are sure it is of the right size (the rated size of rim and tyre is usually printed directly on them);
- do not use compressed air or water jets to clean the wheels on the equipment.



**FITTING A TYRE WITH A DAMAGED BEAD, TREAD AND/OR SIDEWALL ON A WHEEL RIM REDUCES THE SAFETY OF A VEHICLE AND CAN LEAD TO TRAFFIC ACCIDENTS, SERIOUS INJURY OR EVEN DEATH.**

**IF A TYRE BEAD, TREAD OR SIDEWALL IS DAMAGED DURING REMOVAL, NEVER REFIT THE TYRE ONTO A WHEEL.**

**IF YOU SUSPECT THAT A BEAD, TREAD OR SIDEWALL OF A TYRE MAY HAVE BEEN DAMAGED DURING FITTING, REMOVE THE TYRE AND INSPECT IT CAREFULLY. NEVER REFIT IT TO A WHEEL IF A BEAD, TREAD OR SIDEWALL IS DAMAGED.**



**INADEQUATE LUBRICATION OF THE TYRE, THE RIM, THE TOOL-HEAD AND/OR THE LEVER CAN CAUSE AN ABNORMAL FRICTION BETWEEN THE TYRE AND THESE ELEMENTS DURING THE DISASSEMBLY AND/OR ASSEMBLY OF THE TYRE AND CAUSE DAMAGE TO THE TYRE ITSELF, REDUCING THE SAFETY OF A VEHICLE EQUIPPED WITH THE TYRE. ALWAYS LUBRICATE THESE ELEMENTS THOROUGHLY USING A SPECIFIC LUBRICANT FOR TYRES, FOLLOWING THE INDICATIONS CONTAINED IN THIS MANUAL.**



**THE USE OF AN INADEQUATE, WORN OR OTHERWISE DAMAGED LEVER TO REMOVE TYRE BEADS MAY LEAD TO DAMAGE TO A BEAD AND/OR A TYRE SIDEWALL, REDUCING THE SAFETY OF A VEHICLE EQUIPPED WITH THE TYRE ITSELF.**

**ONLY USE THE LEVER SUPPLIED WITH THE EQUIPMENT AND CHECK ITS CONDITION BEFORE EACH DISASSEMBLY.**

**IF IT IS WORN OR OTHERWISE DAMAGED, DO NOT USE IT TO REMOVE THE TYRE, BUT REPLACE IT WITH A LEVER SUPPLIED BY THE EQUIPMENT MANUFACTURER OR ONE OF ITS AUTHORIZED DISTRIBUTORS.**



**AN INCORRECT POSITIONING OF THE VALVE AT THE BEGINNING OF THE DISASSEMBLY AND/OR ASSEMBLY OPERATIONS OF EACH TYRE BEAD CAN CAUSE THE VALVE TO BE, DURING THESE OPERATIONS, IN OR NEAR AN AREA WHERE THE BEAD HAS FITTED INTO THE RIM DROP CENTRE.**

**THE BEAD COULD PRESS ON THE PRESSURE SENSOR, LOCATED UNDER THE VALVE INSIDE THE DROP CENTRE, CAUSING IT TO BREAK.**

**ALWAYS RESPECT THE POSITIONING OF THE VALVE AT THE BEGINNING OF EACH BEAD DISASSEMBLY AND/OR ASSEMBLY OPERATION INDICATED IN THIS MANUAL.**



**FAILURE TO INSERT A SUITABLE SECTION OF A BEAD INSIDE THE RIM DROP CENTRE, AS INDICATED IN THIS MANUAL DURING THE FITTING OR REMOVAL OF THE BEAD, RESULTS IN AN ABNORMAL TENSION ON THE BEAD.**

**THIS CAN CAUSE DAMAGE TO THE BEAD AND/OR THE SIDEWALL OF THE TYRE TO WHICH THE BEAD IS CONNECTED, REDUCING THE SAFETY OF A VEHICLE EQUIPPED WITH THE TYRE.**

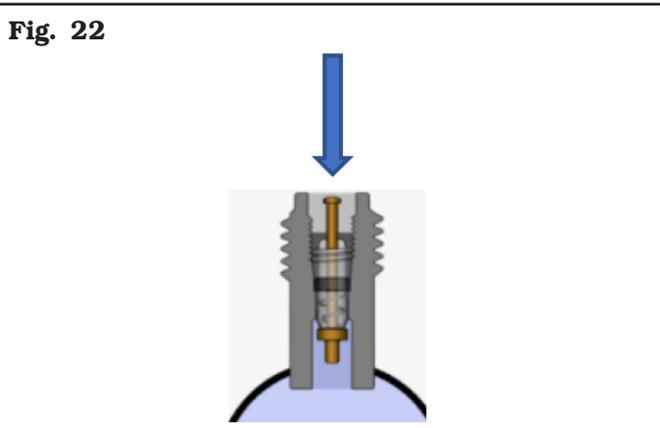
**ALWAYS FOLLOW THE DIRECTIONS IN THE MANUAL REGARDING ALIGNMENT OF A SECTION OF A BEAD TO THE RIM DROP CENTRE.**

**DO NOT PROCEED WITH THE REMOVAL OR INSTALLATION OF A BEAD IF YOU ARE NOT ABLE TO ALIGN A SECTION OF A BEAD WITH THE RIM DROP CENTRE AS INDICATED IN THIS MANUAL.**

**12.2 Preliminary operations - Preparing the wheel**

- Remove the wheel balancing weights from both sides of the wheel.

 **REMOVE THE INNER CORE OF THE VALVE (SEE FIG. 22) AND ALLOW THE TYRE TO COMPLETELY DEFLATE.**



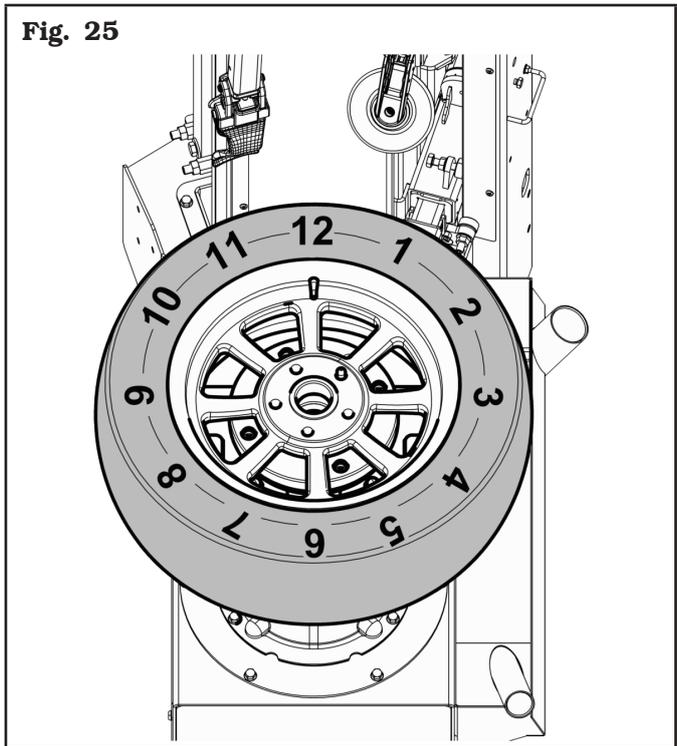
- Establish from which side the tyre should be de-mounted, checking the position of the drop centre.
- Find the rim locking type.
- Identify the type of rim (standard or special) (eg "EH2" or "EH2 +") (see **Fig. 23**), the type of tyre (standard or special) to be removed (eg Run Flat, UHP) and the type of valve fitted (standard or special) (eg. TPMS) (see **Fig. 24**) to improve locking, bead breaking, assembly and disassembly operations.



 **THE TYRE TEMPERATURE CAN'T BE LOWER THAN 15°C.**

 **IN CASE OF USE OF RIMS WITHOUT CENTRAL HOLE, IT'S NECESSARY TO USE THE PROPER ACCESSORY (AVAILABLE ON DEMAND).**

 **TO BETTER EXPLAIN THE OPERATIONS, THE POSITIONING OF THE VARIOUS TOOLS ON THE TYRE IS INDICATED BY THE TIME PHASES, WHERE 12 O'CLOCK IS REPRESENTED IN CORRESPONDENCE WITH THE COLUMN OF THE TYRE CHANGER (FIG. 25).**





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

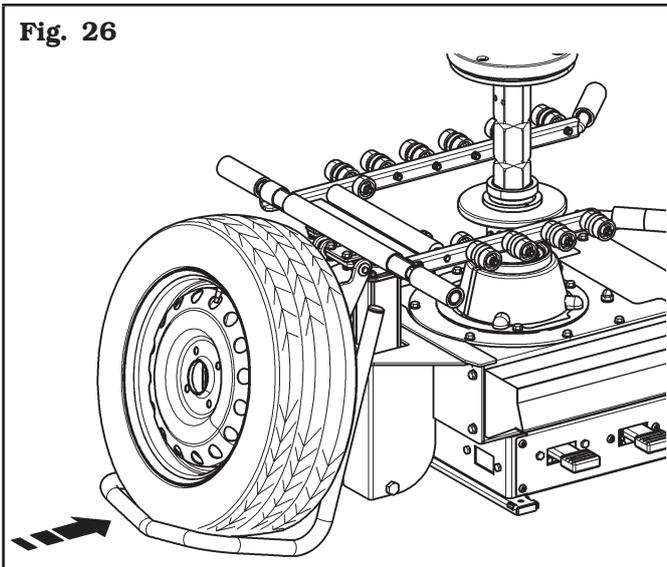
### **12.3 Use of the front lifting device**



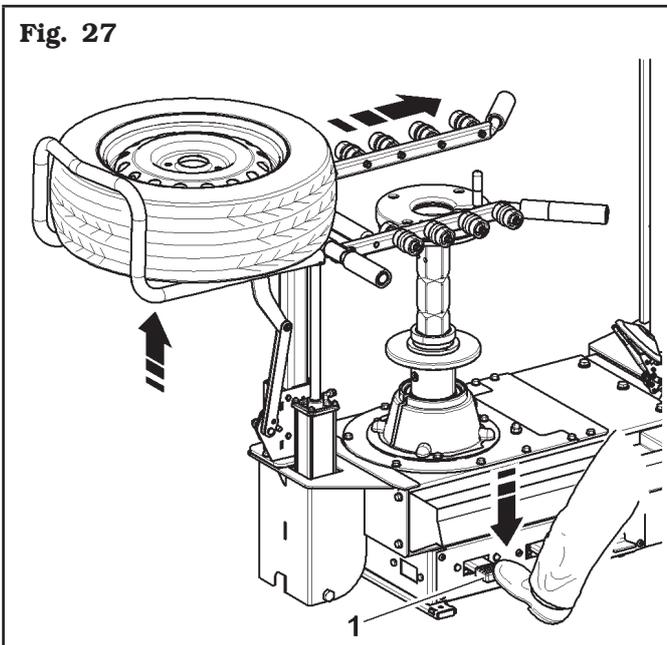
**CARRY OUT A DAILY CHECK OF THE HOLD-TO-RUN CONTROL CONTROLS FOR PROPER FUNCTIONING, BEFORE STARTING EQUIPMENT OPERATION.**

1. After placing the wheel on the lifting tubular (see **Fig. 26**), press the front lifting device drive pedal (**Fig. 27 ref. 1**) downwards and bring the wheel to a level where it can be shifted to the chuck by hand (see **Fig. 27**);

**Fig. 26**

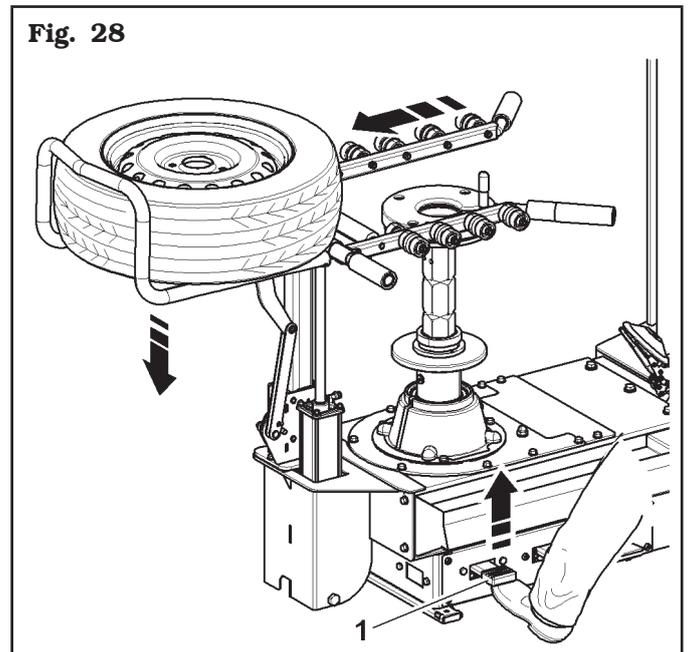


**Fig. 27**



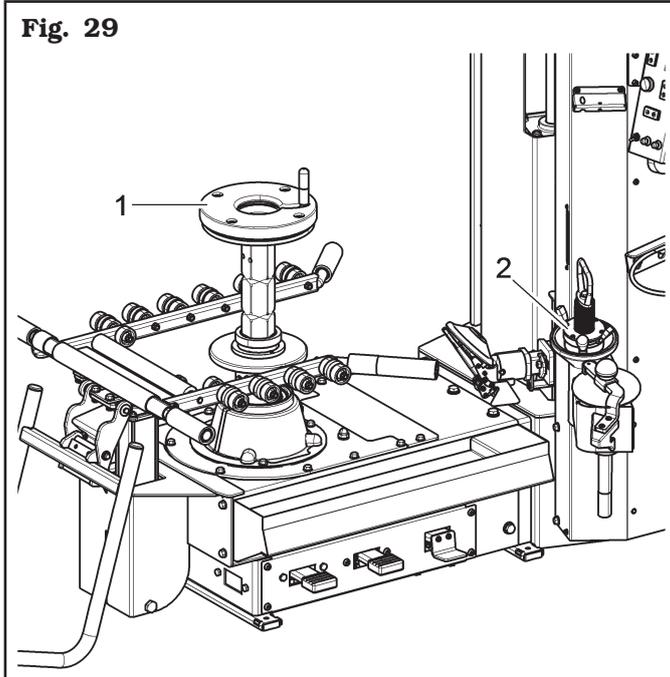
2. place the wheel on the chuck and lock it with the locking shaft;
3. lift the pedal (**Fig. 28 ref. 1**) upwards in order to lower the lifting tubular;
4. after all tyre demounting and mounting operations have been performed, unlock the wheel by removing the locking shaft;
5. lift the lifting tubular by pressing again the pedal downwards (**Fig. 27 ref. 1**);
6. place the wheel on the lifting tubular (see **Fig. 28**);
7. move the pedal again (**Fig. 28 ref. 1**) upwards to make the tubular lower and bring back the wheel to the ground, keeping a hand on it (see **Fig. 28**).

**Fig. 28**

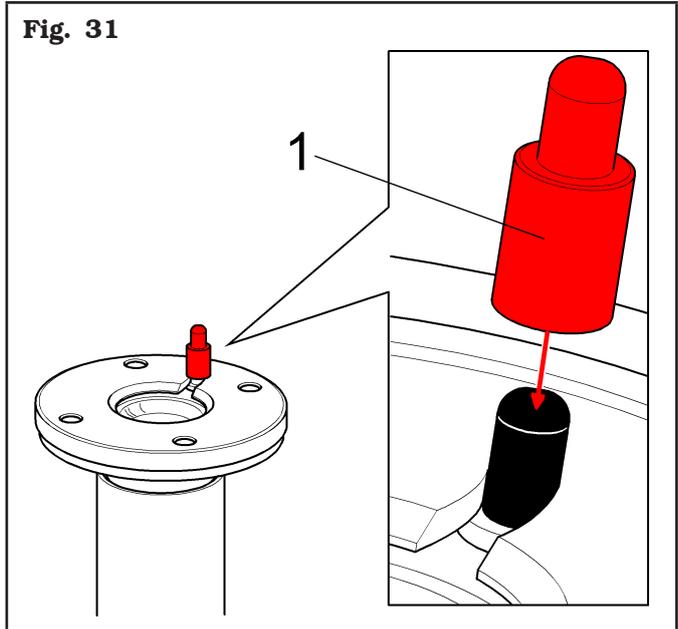


**12.4 Wheel clamping**

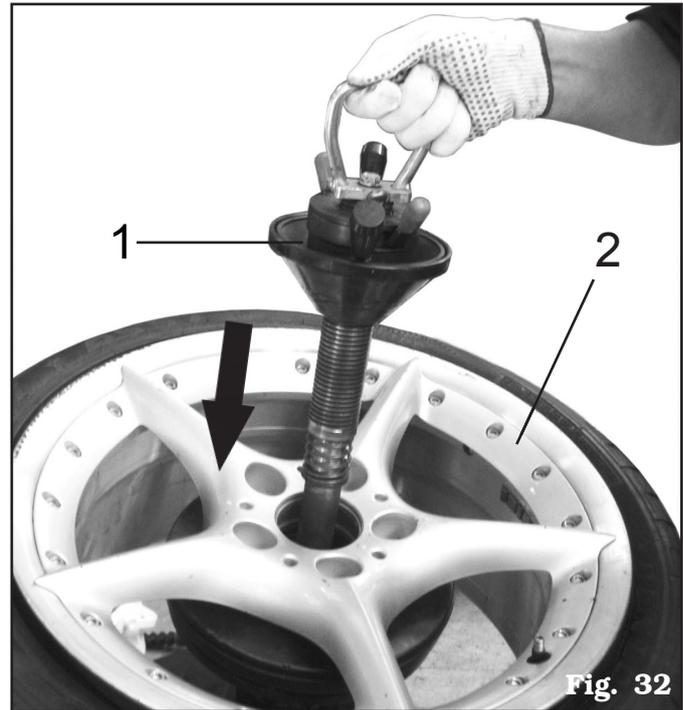
All wheels must be locked on the rubber plate (**Fig. 29 ref. 1**) through the central hole using the proper locking device (**Fig. 29 ref. 2**).



2. if the wheel hub is higher than the puller, use the extension (**Fig. 31 ref. 1**) supplied.



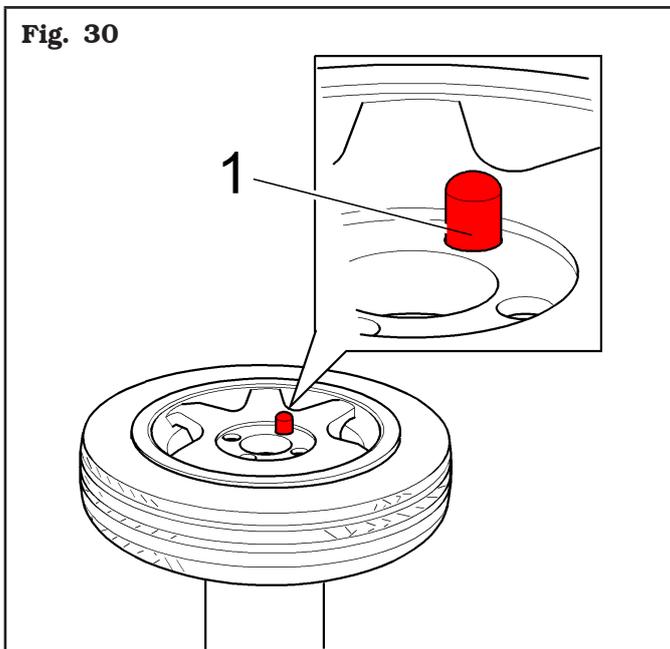
3. insert the locking shaft (**Fig. 32 ref. 1**) on the rim (**Fig. 32 ref. 2**);



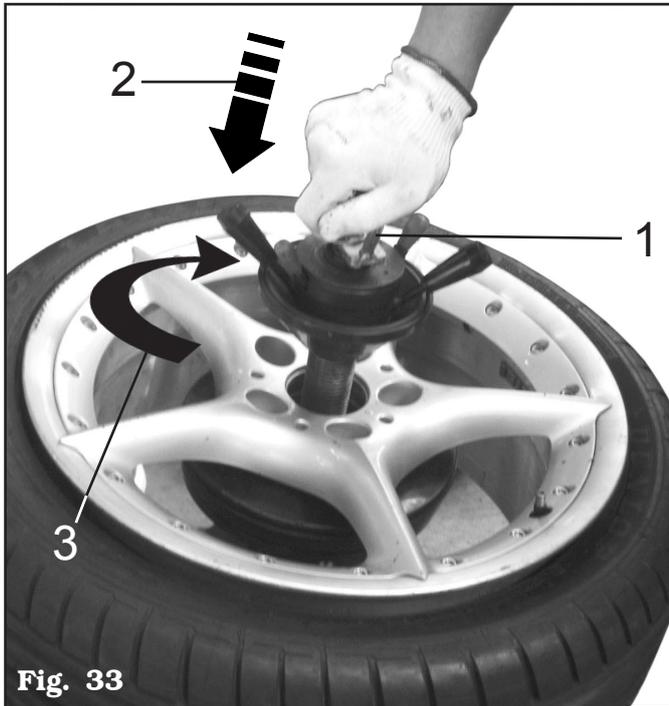
**i** IN CASE OF USE OF RIMS WITHOUT CENTRAL HOLE, IT'S NECESSARY TO USE THE PROPER ACCESSORY (AVAILABLE ON DEMAND).

To lock a rim proceed as follows:

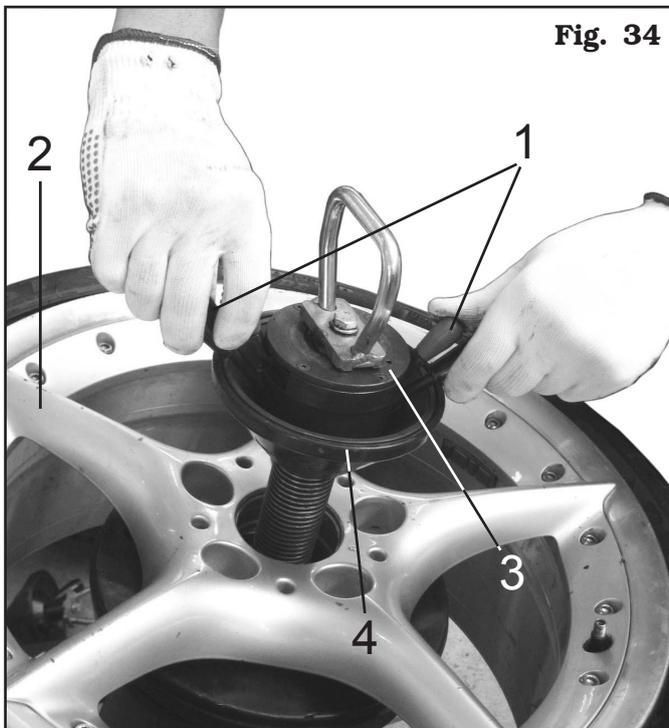
1. load the wheel with the front lifting device on the rubber plate of the chuck, making sure that the puller pin (**Fig. 30 ref. 1**) engages in one of the holes on the rim;



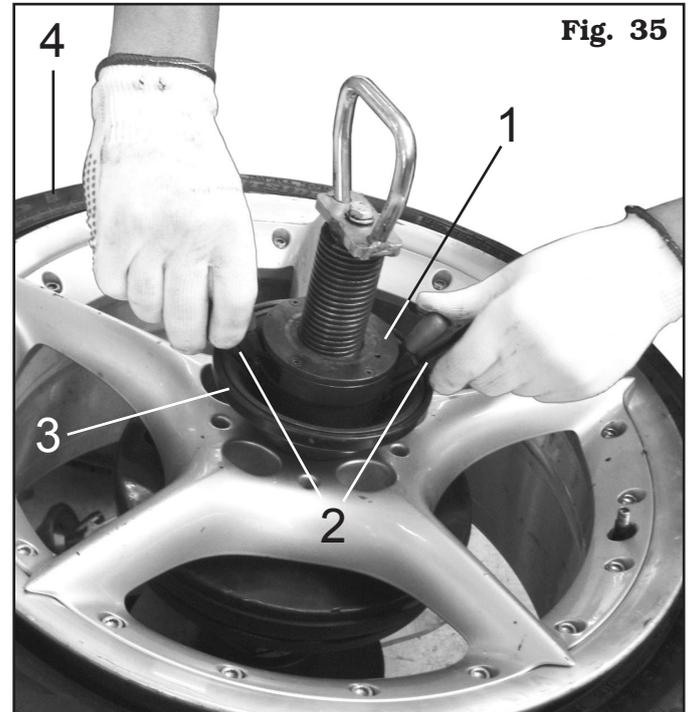
4. using the handle shown (**Fig. 33 ref. 1**), push downwards (**Fig. 33 ref. 2**), turn it through 90° (**Fig. 33 ref. 3**);



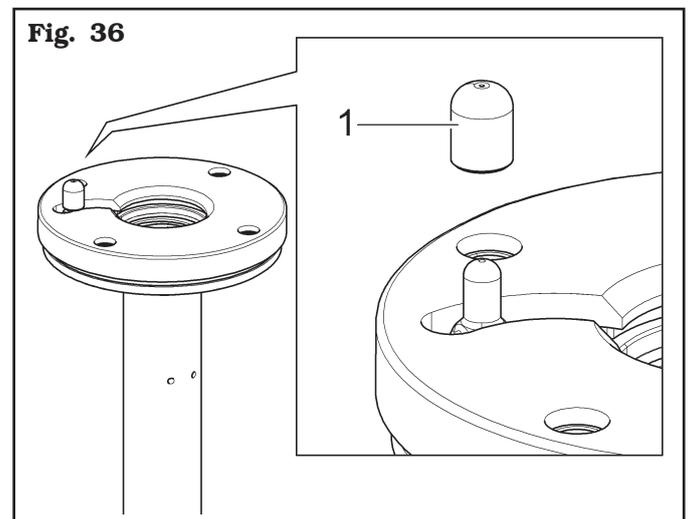
5. using the small inside levers (**Fig. 34 ref. 1**), loose the ring nut and push ring nut (**Fig. 34 ref. 3**) and cone (**Fig. 34 ref. 4**) to the rim (**Fig. 34 ref. 2**);



6. then, turn the ring nut (**Fig. 35 ref. 1**) using the outside levers (**Fig. 35 ref. 2**) until the cone completely clamps (**Fig. 35 ref. 3**) the wheel (**Fig. 35 ref. 4**);



7. for wheels with alloy rims, use the proper plastic guard (**Fig. 36 ref. 1**);



8. at the end of the operations, loosen the locking shaft releasing first the cone using the outside levers and then moving the ring nut and the cone away from the rim with the small levers;
9. lower the locking shaft to release it from its seat, turn it 90° counter-clockwise and extract it from the hole using the handle.



**NEVER LEAVE THE WHEEL FITTED ON THE EQUIPMENT FOR A PERIOD LONGER THAN NECESSARY FOR DOING THE WORK AND NEVER LEAVE IT UNATTENDED.**

### 12.4.1 Chuck height adjustment

The chuck with central locking has 3 different height mode. A “quick release” system allows to remove the chuck mobile part and to dowel the support plate at the desired height.

The adjustment through the sliding shaft is possible following three phases as indicated on the enclosed photo.



**TO CARRY OUT THE OPERATIONS LISTED BELOW, NO WHEEL MUST BE POSITIONED AND SECURED ON THE CHUCK.**

1. lift the flange to release the wheel support as indicated by the arrows (**Fig. 37 ref. 1**);
2. at the same time lift the wheel support as indicated by the arrows (**Fig. 37 ref. 2**);
3. check that the flange returns to its position.

Now it's possible to place the tyre in the right way with the working tools.

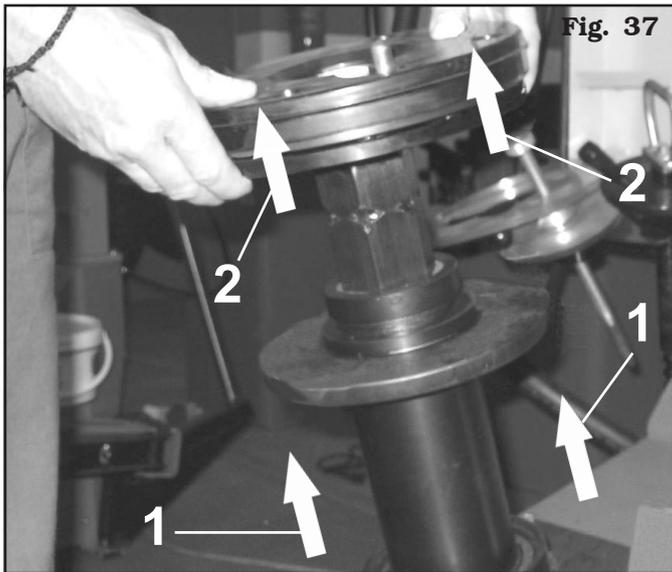


Fig. 37

### 12.4.2 Reverse wheel pan protection

In case reversed wheels are used, in order to protect the rim, apply on the rubber platform a protection (**Fig. 38 ref. 1**), supplied. We suggest replacing it if there are visible damages (see **Fig. 38**).

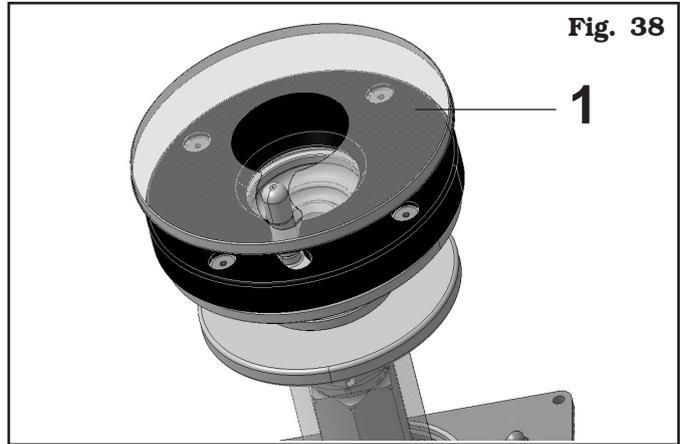
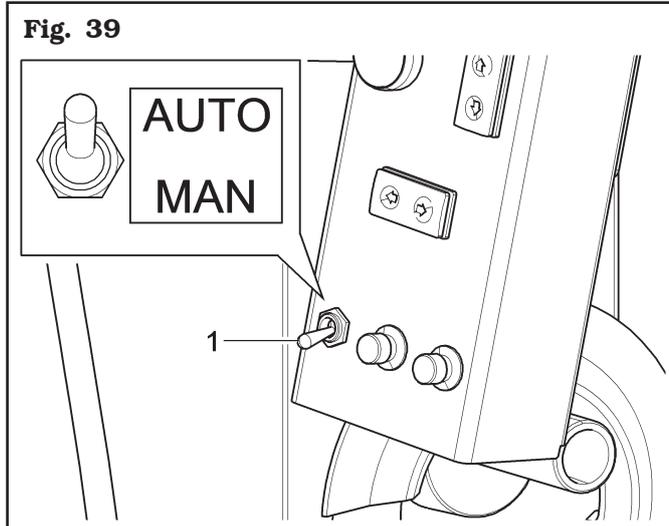


Fig. 38

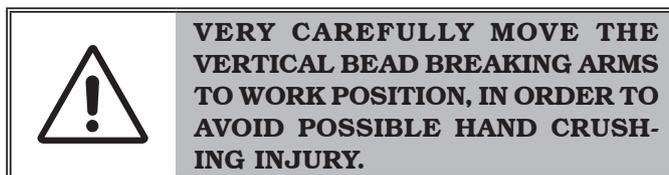
### **12.5 Bead breaking through vertical rollers**

For what concerns bead breaking, there are two different options, which can be activated through the selector (**Fig. 39 ref. 1**).



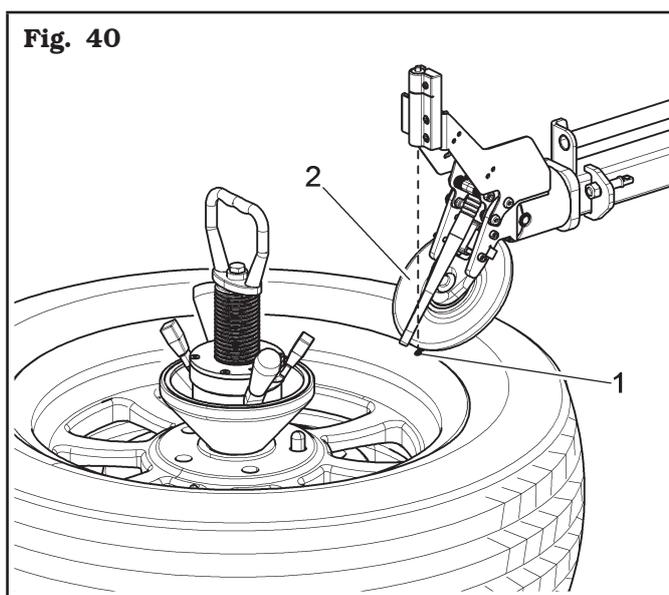
#### **AUTOMATIC (AUTO)**

1. After the wheel has been locked, move the upper bead breaker roller (**Fig. 40 ref. 2**) near rim edge; press the push button (**Fig. 17 ref. G**)(↓);

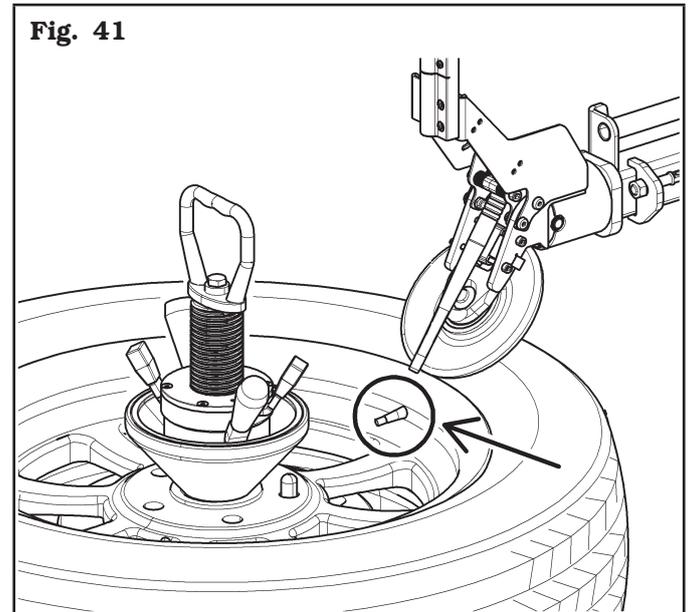


**VERY CAREFULLY MOVE THE VERTICAL BEAD BREAKING ARMS TO WORK POSITION, IN ORDER TO AVOID POSSIBLE HAND CRUSHING INJURY.**

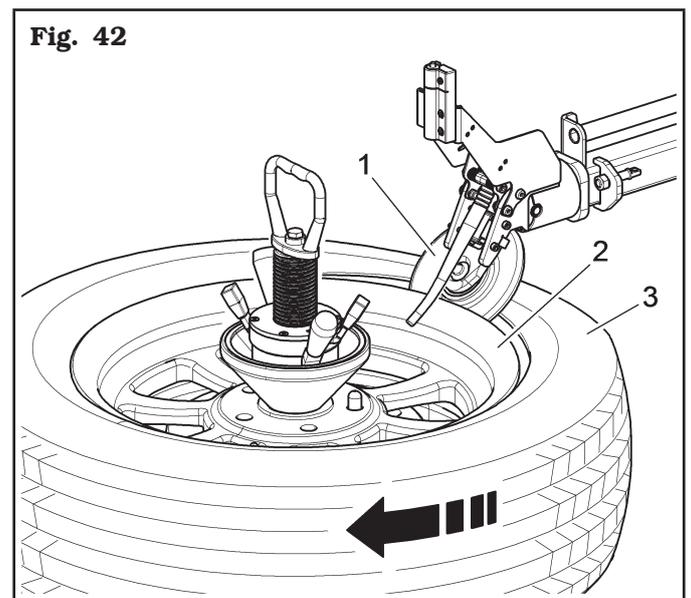
2. establish the diameter with the help of laser (**Fig. 40 ref. 1**) using the button (**Fig. 17 ref. F**);



3. continue the vertical approach of the upper bead breaker roller until the feeler pin is positioned in the immediate vicinity of the rim, without touching it;
4. activate the rotation of the wheel until the valve is positioned in correspondence with the upper bead breaker roller (**Fig. 41**);



5. start the rotation of the wheel clockwise;
6. when the valve is at about at "3 o'clock", press the upper bead breaker roller downwards. The contact between feeler pin and rim edge will automatically activate the progress of the roller (**Fig. 42 ref. 1**), which will be inserted between the rim (**Fig. 42 ref. 2**) and the tyre (**Fig. 42 ref. 3**);





**THE BEAD BREAKER ROLLER MUST EXERT PRESSURE ON THE TYRE BEAD BUT NEVER ON THE RIM.**



**VERY CAREFULLY USE THE VERTICAL BEAD BREAKER ROLLER IN ORDER TO AVOID POSSIBLE HAND CRUSHING INJURY.**



**DURING THE ROTATION OF THE TYRE, ABUNDANTLY GREASE THE INSIDE OF THE BEAD (FIG. 43) AND THE ENTIRE SHOULDER OF THE TYRE, UP TO THE TREAD (FIG. 44).**



**DURING LUBRICATION, DO NOT PUSH TOO DEEP ON THE TYRE SIDEWALL.**

Fig. 43

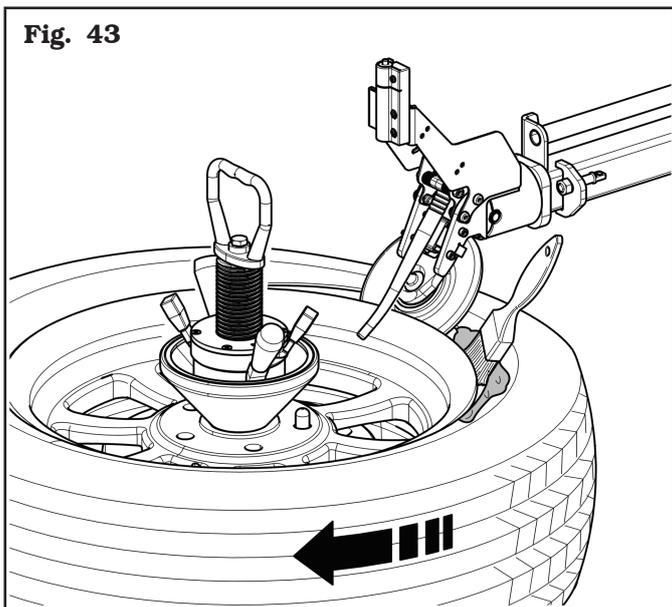
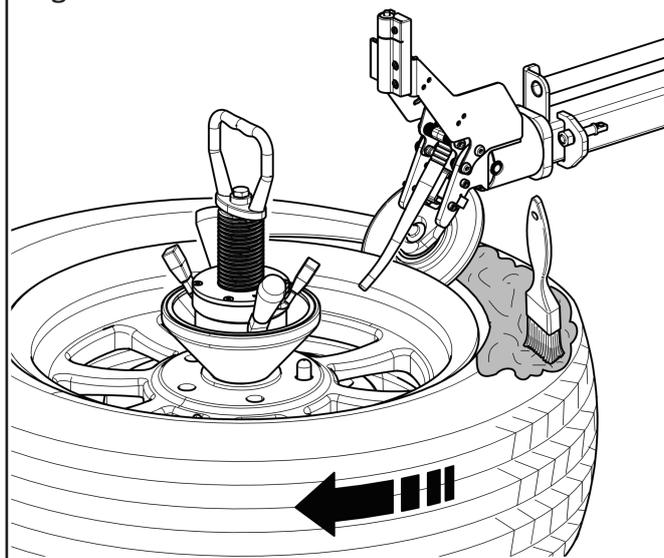


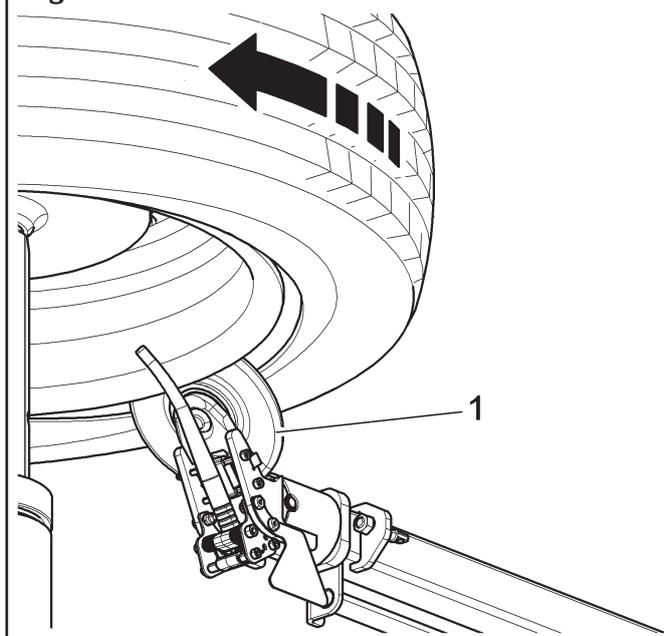
Fig. 44



**LIFT THE BEAD BREAKER ROLLER WHENEVER DURING THE ROTATION OF THE TYRE THE VALVE REACHES THE BEAD BREAKER ROLLER ITSELF. FAILURE TO COMPLY WITH THIS RULE COULD CAUSE THE TPMS SENSOR TO BREAK.**

7. move the lower roller close (Fig. 45 ref. 1) with the key (Fig. 17 ref. H) (↑);

Fig. 45



8. only now turn the wheel clockwise pressing the pedal (**Fig. 21 ref. A**) and, at the same time, the push button (**Fig. 17 ref. H**) (↑), keeping it pressed until there's room enough for the bead breaking;



**WHILE THIS OPERATION IS BEING CARRIED OUT PAY ATTENTION NOT TO DEFORM THE TYRE SIDEWALL.**

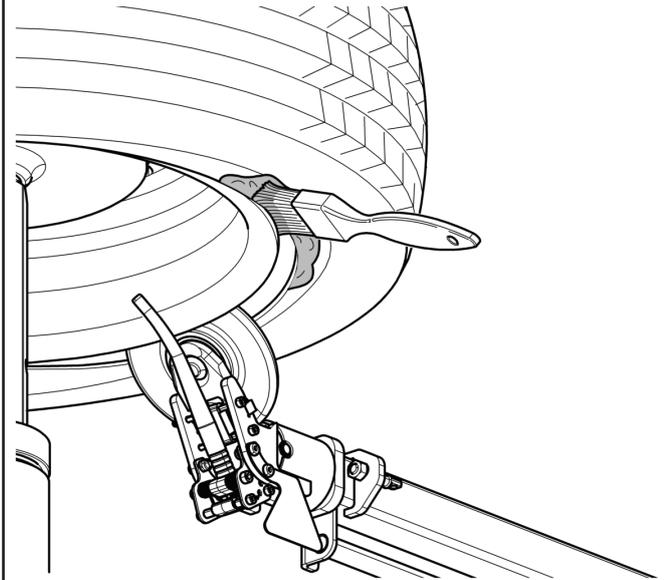


**DURING THE ROTATION OF THE TYRE, ABUNDANTLY GREASE THE INSIDE OF THE BEAD (FIG. 46).**



**DURING LUBRICATION, DO NOT PUSH TOO DEEP ON THE TYRE SIDEWALL.**

**Fig. 46**



9. once bead breaking in the lower part has been completed, move the lower roller to rest position activating the push button (**Fig. 17 ref. H**) (↓). The roller re-enters automatically nullifying the approaching movement described at point 6). This automatism can be applied on both arms.



**UNTIL BOTH UPPER AND LOWER FEELER PINS ARE NOT BACK TO REST POSITION, IT IS NOT POSSIBLE TO CARRY OUT A NEW DIAMETER ADJUSTMENT, AS DESCRIBED IN POINT 2.**

For some types of tyres/rims the feeler pin might not work in a short lack of time as it should, causing the tyre turnover or the lacking of bead breaking. To solve this trouble, carry out manual bead breaking (see related paragraph).

**MANUAL (MAN)**

The same operations described in the *automatic* bead breaking must be followed up to point 5. Then, continue the process as follows:

6. when the valve is at at "3 o'clock", press the upper bead breaker roller downwards until it passes the edge of the rim;



**THE BEAD BREAKER ROLLER MUST EXERT PRESSURE ON THE TYRE BEAD BUT NEVER ON THE RIM.**



**VERY CAREFULLY USE THE VERTICAL BEAD BREAKER ROLLER IN ORDER TO AVOID POSSIBLE HAND CRUSHING INJURY.**



**AS THE UPPER BEAD BREAKER ROLLER REACHES THE RIM EDGE, OPERATE THE PUSH BUTTON FOR CAM MANUAL MOVEMENT (FIG. 17 REF. D). THE UPPER BEAD BREAKER ROLLER WILL FIT BETWEEN THE RIM AND THE WHEEL AND THE BEAD BREAKING OF THE TYRE WILL BEGIN. AT THE END OF THE OPERATION LIFT THE UPPER BEAD BREAKER ROLLER.**



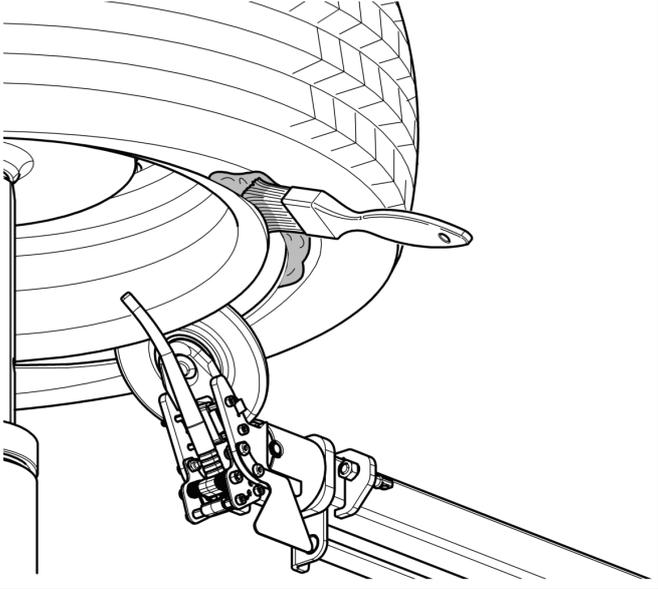
**DURING THE ROTATION OF THE TYRE, ABUNDANTLY GREASE THE INSIDE OF THE BEAD (FIG. 47).**



**LIFT THE UPPER BEAD BREAKER ROLLER WHENEVER DURING THE ROTATION OF THE TYRE THE VALVE REACHES THE BEAD BREAKER ROLLER ITSELF. FAILURE TO COMPLY WITH THIS RULE COULD CAUSE THE TPMS SENSOR TO BREAK.**

7. continue clockwise rotation of the wheel and at the same time press the lower bead breaker arm up button (**Fig. 17 ref. H**). Place the lower bead breaker roller on the tyre and start pushing, greasing the whole bead of the tyre abundantly (**Fig. 47**), the lower bead breaker roller will fit between the rim and the wheel and the bead breaking of the tyre will begin. At the end of the operation, lower the lower bead breaker roller.

Fig. 47



AS THE BEAD BREAKER ROLLER REACHES THE RIM EDGE, OPERATE THE PUSH BUTTON FOR CAM MANUAL MOVEMENT (FIG. 17 REF. E). THE LOWER BEAD BREAKER ROLLER WILL FIT BETWEEN THE RIM AND THE WHEEL AND THE BEAD BREAKING OF THE TYRE WILL BEGIN. AT THE END OF THE OPERATION LIFT THE LOWER BEAD BREAKER ROLLER.



DURING THIS OPERATION, PAY ATTENTION NOT TO DEFORM THE TYRE SIDEWALL. GREASE THE BEAD BEFORE THE ROLLER RE-ENTERS.



UNTIL BOTH UPPER AND LOWER ROLLERS DO NOT RE-ENTER, IS NOT POSSIBLE TO CARRY OUT A NEW DIAMETER ADJUSTMENT, AS DESCRIBED AT POINT 2).



DURING LUBRICATION, DO NOT PUSH TOO DEEP ON THE TYRE SIDEWALL.



DURING BEAD-BREAKING OF THE LOWER PART OF THE TYRE, IT IS NOT NECESSARY TO CHECK THE POSITION OF THE VALVE.

### **12.6 Demounting the standard tyre without TPMS valve**

When both beads are broken, the tyre can be demounted:

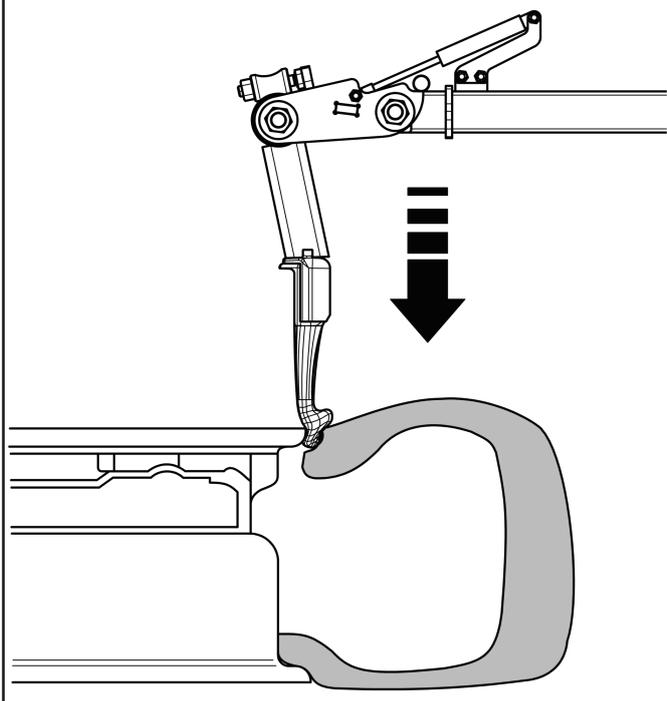
1. press the pedal (**Fig. 21 ref. A**) to rotate the wheel clockwise until the valve stem reaches "1 o'clock" position;
2. bring the toolhead vertically (see **Fig. 48**) to the edge of the rim by pressing the button (**Fig. 17 ref. I**) (↓). The position of the toolhead on the diameter of the rim should already be correct as the adjustment occurs simultaneously with the previous adjustment of the bead breaker rollers.

While this phase is being carried out, stay just next to a zone in the tyre where bead breaking has been performed;



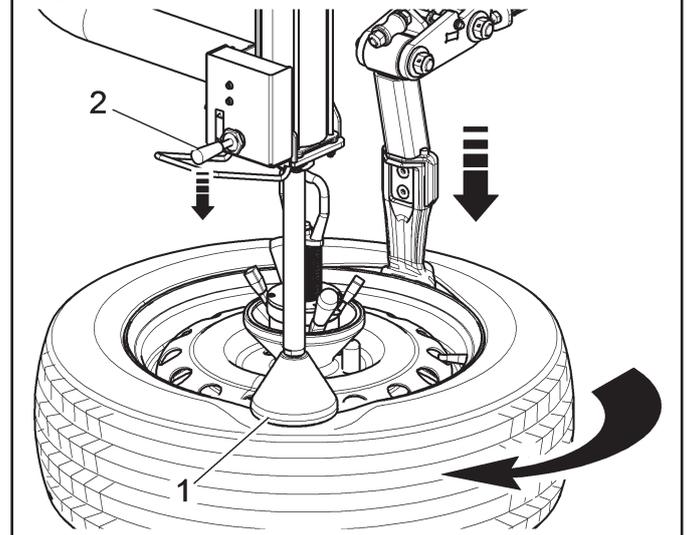
**VERY CAREFULLY MOVE THE TOOLS HOLDER ARM TO WORK, IN ORDER TO AVOID POSSIBLE HAND CRUSHING INJURY.**

**Fig. 48**



3. place the bead press tool (**Fig. 49 ref. 3**) to "4 o'clock" position as shown in **Fig. 49** and press on the tyre operating the lever of the control unit (**Fig. 49 ref. 2**) downwards, until the tyre bead is placed next to the rim drop centre.

**Fig. 49**



**WHILE THIS OPERATION IS BEING CARRIED OUT PAY ATTENTION NOT TO DEFORM THE TYRE SIDEWALL.**



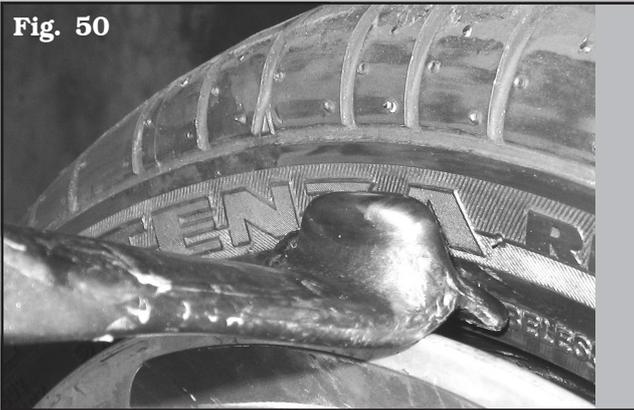
**USE ONLY TYRE LUBRICANTS. SUITABLE LUBRICANTS CONTAIN NO WATER, HYDROCARBONS, OR SILICON.**

***Wheels with rim protector***

With this type of tyre, there could be cases where the rim protector doesn't allow the upper tool to insert between rim and tyre.

In these cases, turn the wheel clockwise, with a slight pressure with the tool as described in **Fig. 50**. In case of rim protectors with particular shapes, let the wheel turn counter-clockwise.

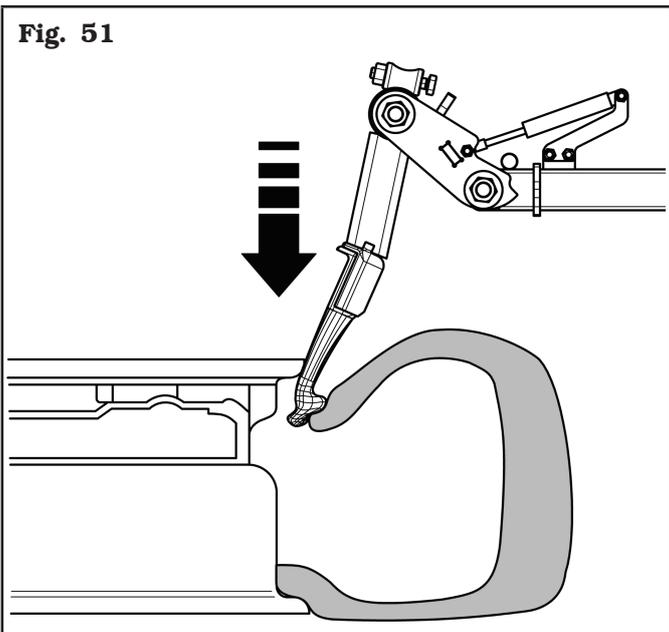
**Fig. 50**



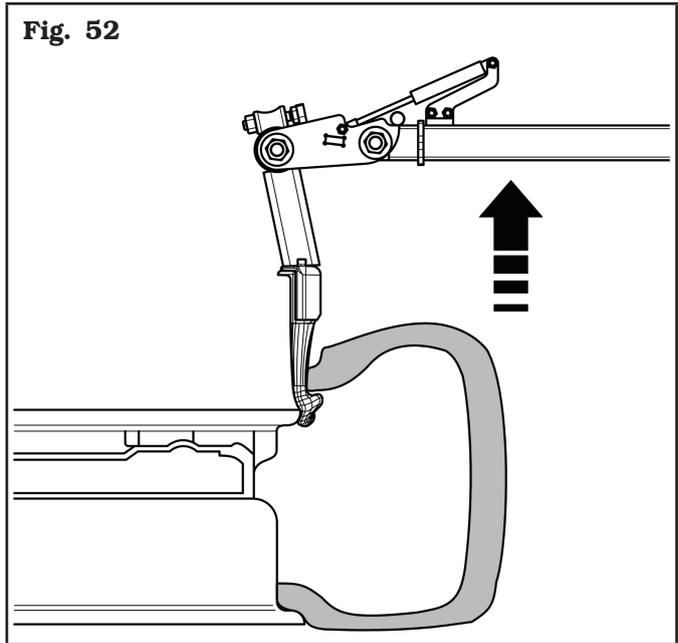
**WHILE THIS OPERATION IS BEING CARRIED OUT PAY ATTENTION NOT TO DEFORM THE TYRE SIDEWALL. GREASE THE BEAD.**

- press the push button (**Fig. 17 ref. I**) (↓) so that the tool penetrates between rim and tyre (see **Fig. 51**). While this operation is being performed, the tool-head rotates around the rim edge until it hooks the tyre bead (see **Fig. 52**);

**Fig. 51**



**Fig. 52**

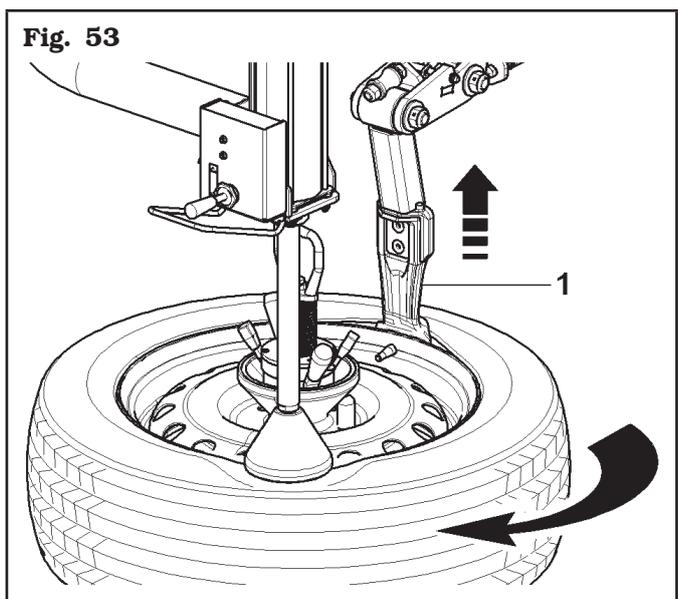


- lift the toolhead (**Fig. 53 ref. 1**) by pressing the push button (**Fig. 17 ref. I**) (↑). When the toolhead is vertical with respect to the rim (see **Fig. 53**), rotate the chuck, pressing the pedal (**Fig. 21 ref. A**), so that the tyre fits into the rim drop centre. Keep on raising the toolhead until the bead is on the rim edge (see **Fig. 52**). Rotate clockwise until the upper bead is completely disassembled;

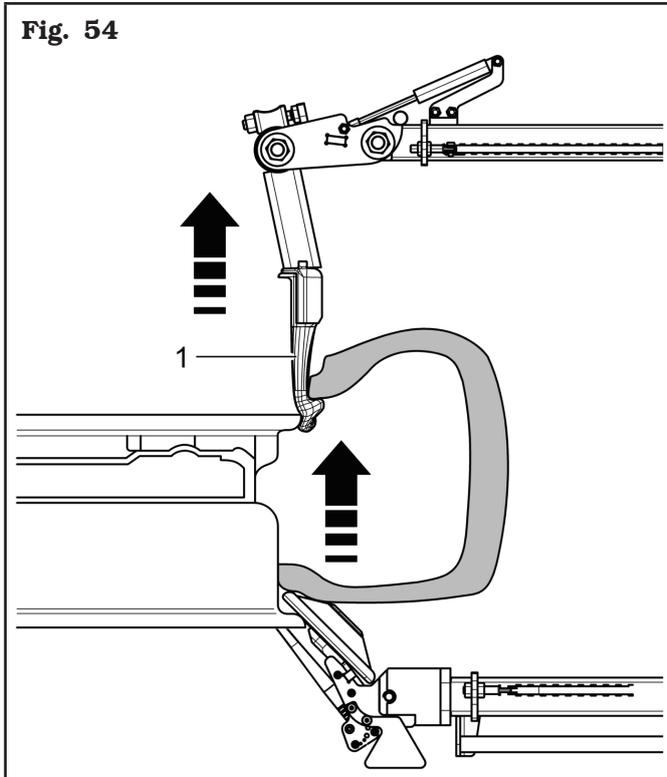


**MAKE SURE THAT THE TOOL-HEAD IS IN THE DISASSEMBLY POSITION (FIG. 52) BEFORE STARTING CHUCK ROTATION.**

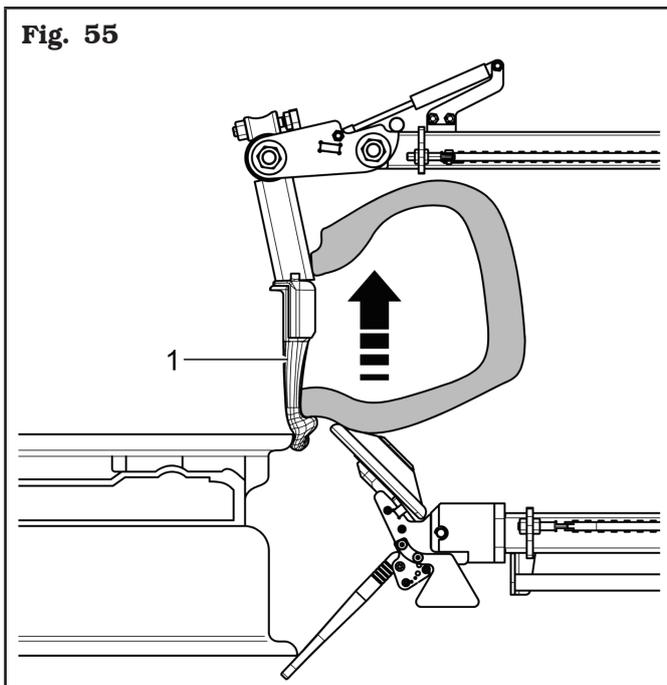
**Fig. 53**



- lift the toolhead (see **Fig. 54 ref. 1**) keeping it coupled to the upper bead of the tyre with the lower bead breaker roller;



- position the toolhead (see **Fig. 55 ref. 1**) just next to the rim edge. Using the lower bead breaker roller, load the lower bead on the toolhead in demounting position;

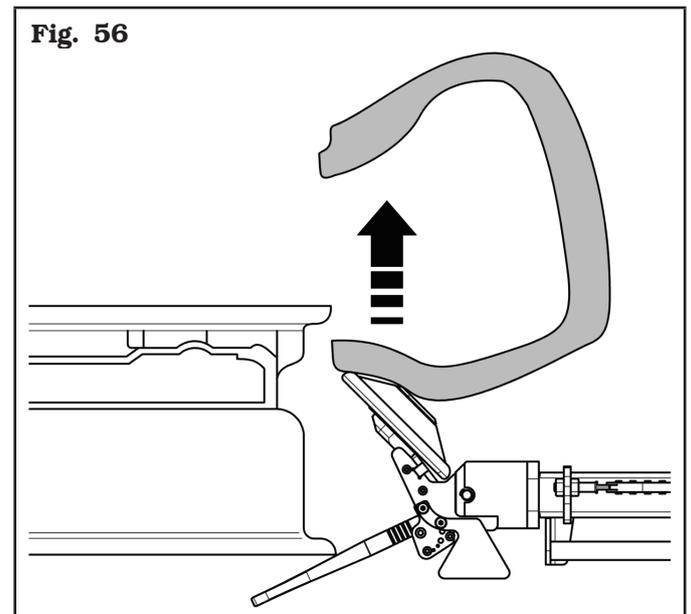


- rotate the chuck clockwise until the tyre is completely disassembled;
- lift the bead press tool and close again the bead press device into rest position.

**Dismounting the lower bead with the bead breaker roller**

For disassembly of the lower bead only the lower bead breaker roller can be used as an alternative. Lift the toolhead away from the work area, through pressing the push button (**Fig. 17 ref. I**) (↑):

- lift the roller and the tyre just next to the rim edge (see **Fig. 56**):



- then, move forward the bead breaker roller through the provided control (see **Fig. 17 ref. F**) so that it is inserted between the rim edge and the lower bead (see **Fig. 57**):

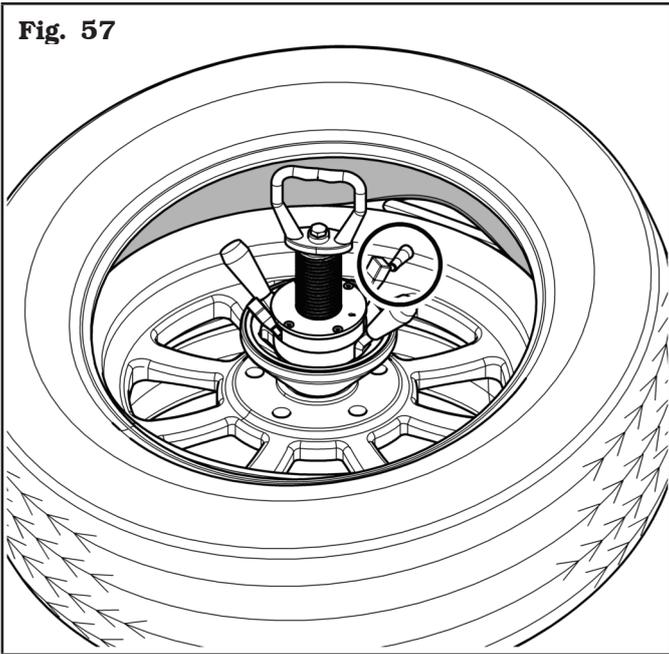


**THE LOWER BEAD BREAKER ROLLER MUST EXERT PRESSURE ON THE TYRE BEAD BUT NEVER ON THE RIM.**



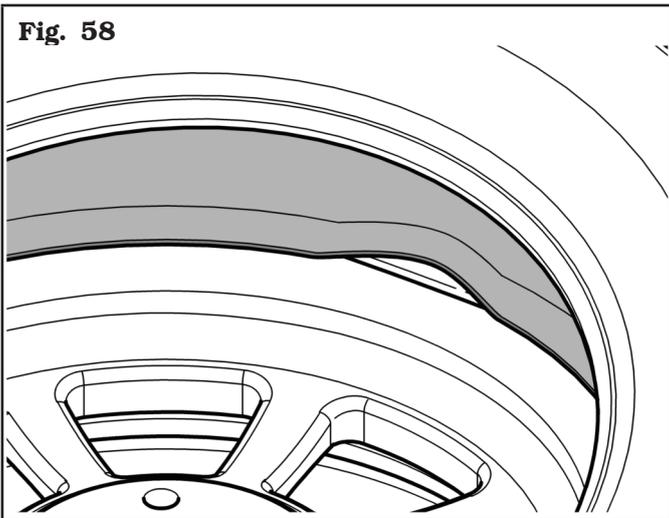
**VERY CAREFULLY USE THE BEAD BREAKER ROLLERS IN ORDER TO AVOID POSSIBLE HAND CRUSHING INJURY.**

**Fig. 57**



3. then, rotate and complete bead disassembly (see **Fig. 58**).

**Fig. 58**

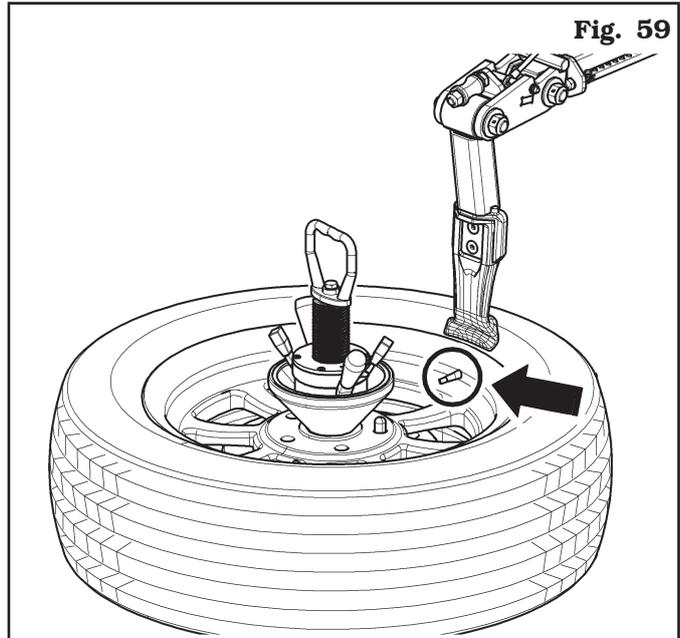


**WHEN THE BEADS COME OUT OF THE RIM THE TYRE MAY FALL. CARRY OUT THESE OPERATIONS VERY CAREFULLY.**

**12.7 Demounting the Run Flat or UHP tyre with TPMS valve using bead press device**

1. Press the tool descent button (**Fig. 17 ref. I**) (↓) and place it on the tyre without pushing. At the same time rotate the wheel until the valve is positioned next to the toolhead (**Fig. 59**);

**Fig. 59**

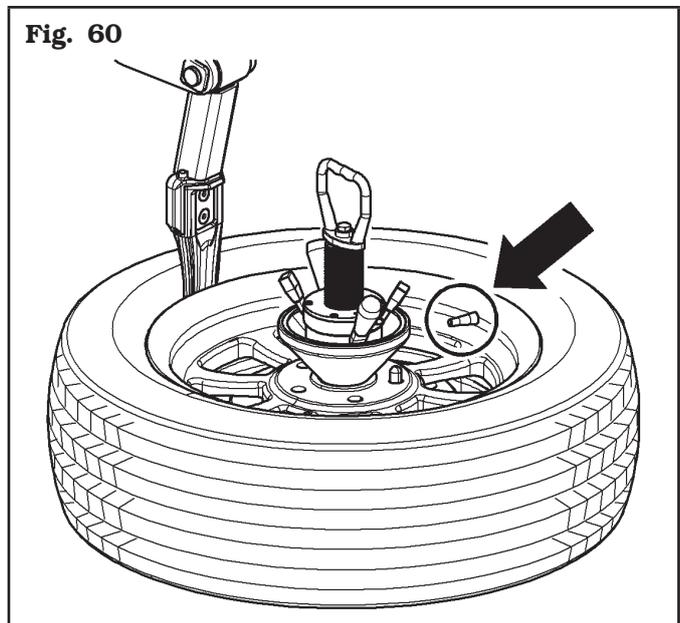


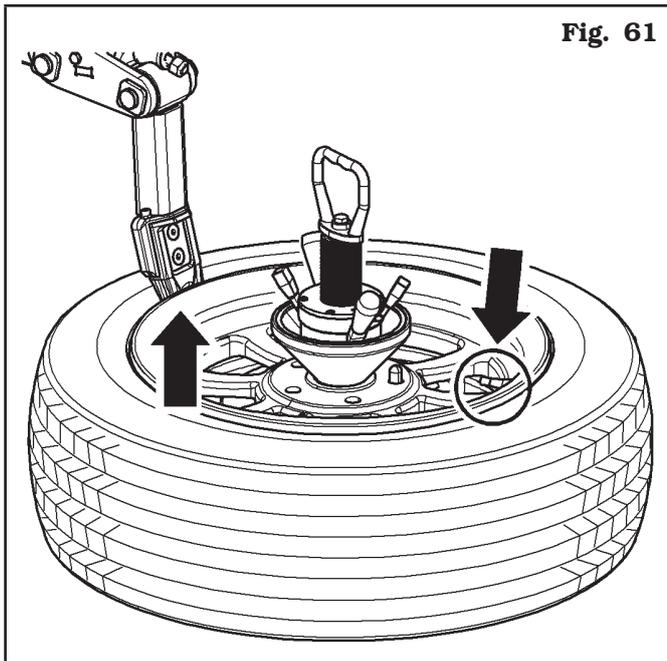
2. start the rotation of the wheel (without stopping until the toolhead is inserted). When the valve is at about 3 o'clock (**Fig. 60**), press the toolhead descent button (**Fig. 17 ref. I**) (↓) and insert it into the tyre (**Fig. 61**);



**THE TOOLHEAD MUST BE INSERTED BEFORE THE VALVE PASSES IN FRONT OF THE TOOL-HEAD AGAIN.**

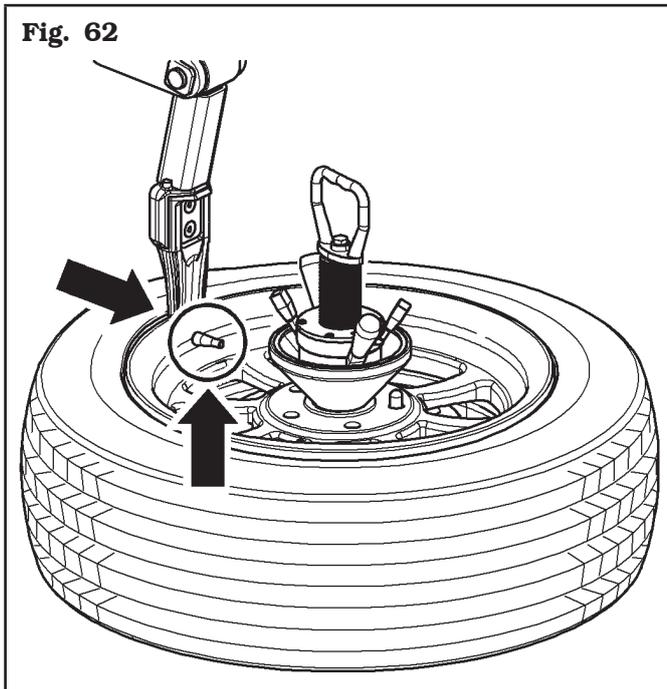
**Fig. 60**





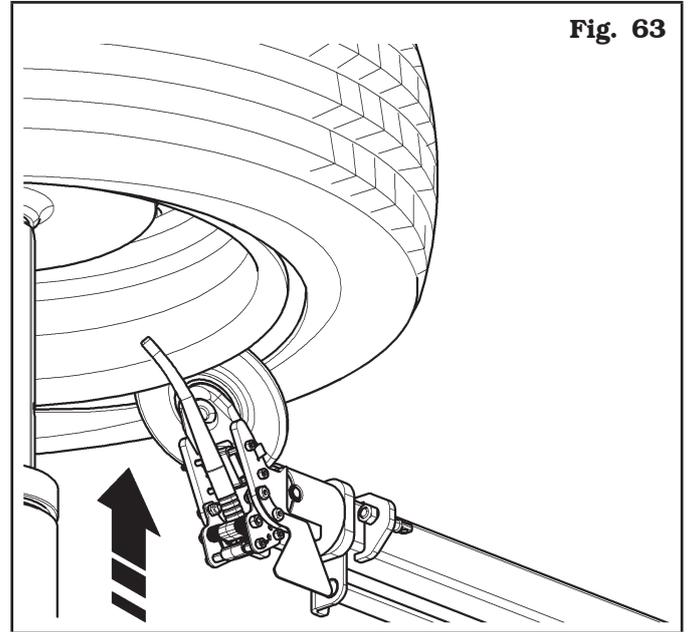
**Fig. 61**

3. when the valve is at 9 o'clock, slightly lift the tool, straighten it without bringing it to the extraction position, and continue the rotation until the valve is exactly under the toolhead (**Fig. 62**);



**Fig. 62**

4. press the up button of the lower bead breaker roller (**Fig. 17 ref. H**) (↑) until the bead breaker roller rests on the tyre (**Fig. 63**). Push lightly to reduce the tension on the opposite bead of the tyre and hold it in place;

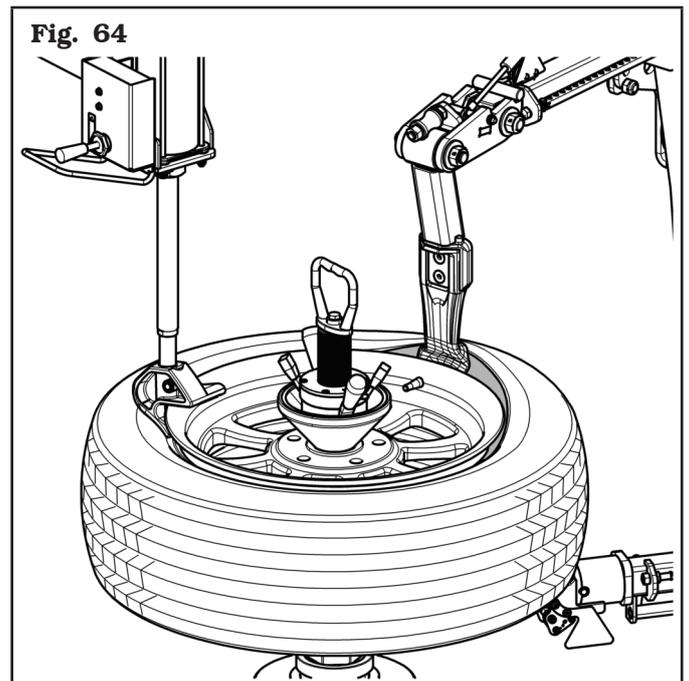


**Fig. 63**

5. finish lifting the toolhead, position the bead press device at about "6 o'clock" on the tyre (**Fig. 64**);

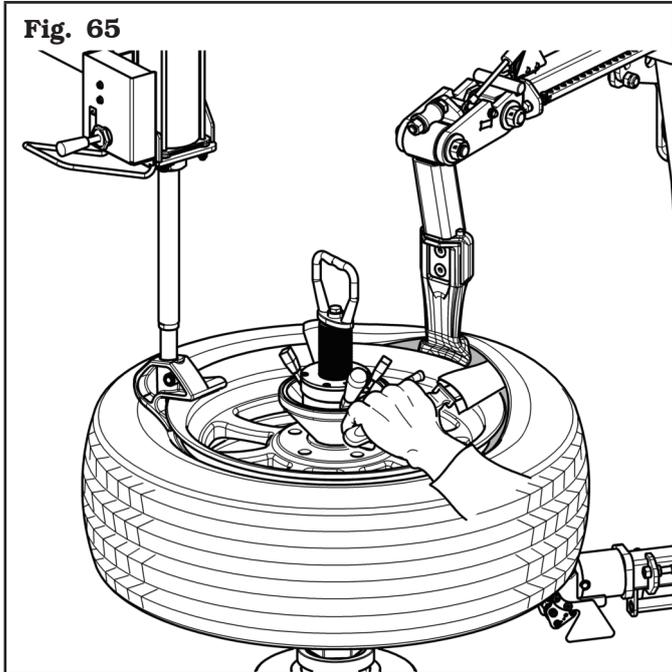


**IF NECESSARY, USE THE BEAD PRESS DEVICE TO PUSH THE TYRE BEAD INTO THE RIM DROP CENTRE.**



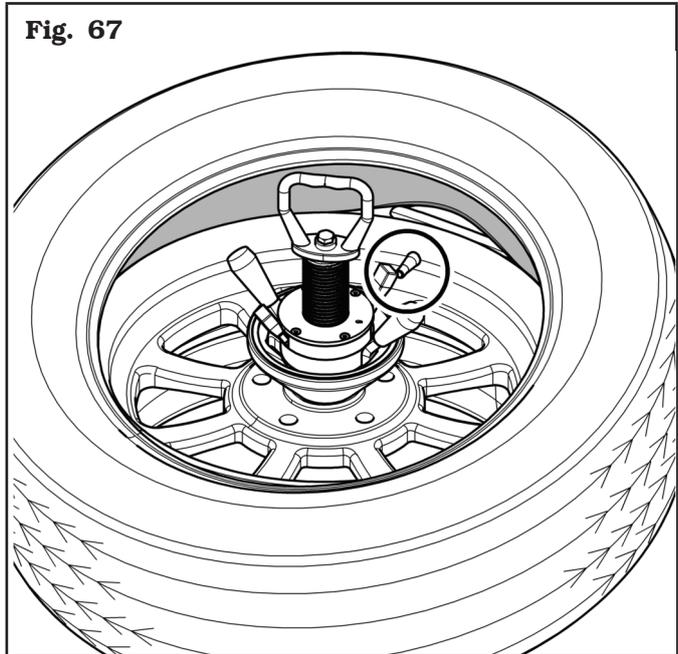
**Fig. 64**

6. insert the bead protection tool together with the plastic sheets between the tyre bead and the rim and lock the protection tool with your hand. Press the rotation pedal and remove the first bead of the tyre (Fig. 65);

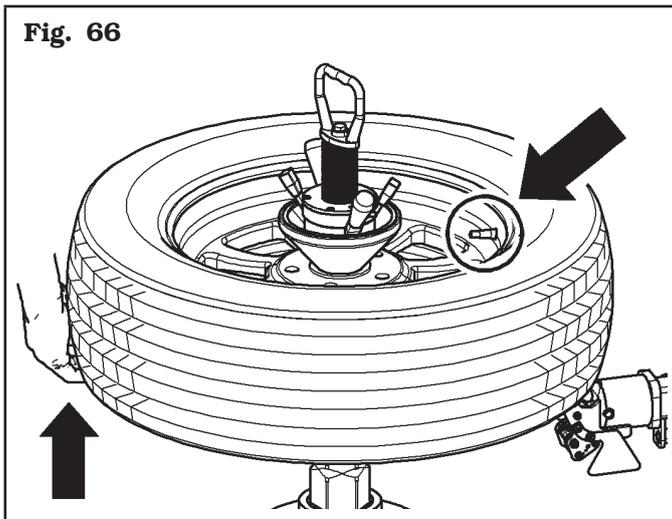


**Only in manual mode**

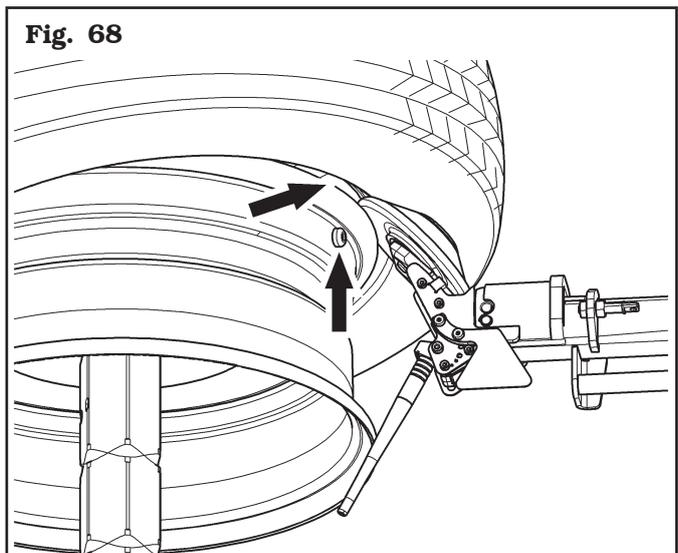
When the bead breaker roller has passed the edge of the rim, press the advance button of the lower bead breaker roller cam (Fig. 17 ref. E) (Fig. 67).



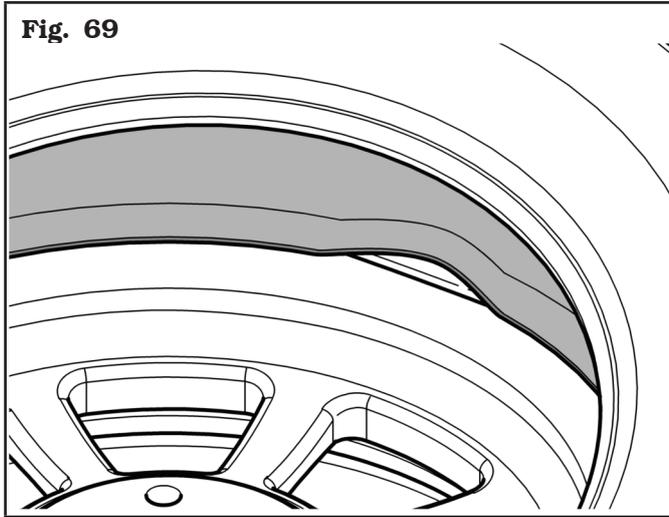
7. press the appropriate push button (Fig. 17 ref. I) (↑). Lift the toolhead and remove it from the tyre;
8. place the valve next to the lower bead breaker roller, manually push the tyre on the bead breaker roller (Fig. 66), and using the appropriate button (Fig. 17 ref. H) (↑), lift the lower bead breaker roller.



 **THE POSITION OF THE VALVE IN CORRESPONDENCE WITH THE LOWER BEAD BREAKER ROLLER IS TO AVOID BREAKAGE OF THE TPMS SENSOR (SEE FIG. 68). USING THE CORRECT PROCEDURE, THE TPMS VALVE FINDS ITSELF OUTSIDE THE TYRE.**



9. Press the rotation pedal, and rotate the wheel until the tyre is completely extracted (**Fig. 69**).



**12.8 Demounting the tyre using the bead press extension**

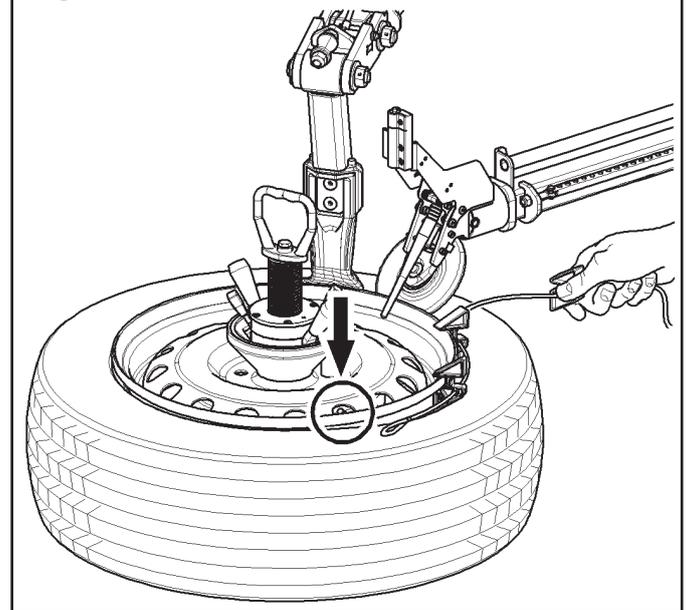
1. Follow all the operations previously described for the correct preparation and lubrication of the tyre;
2. press the toolhead descent button (**Fig. 17 ref. I**) (↓) and place it on the tyre without pushing. At the same time rotate the wheel until the valve is positioned next to the toolhead (**Fig. 59**);
3. start the rotation of the wheel (without stopping until the toolhead is inserted). When the valve is at about 3 o'clock (**Fig. 60**), press the toolhead descent button (**Fig. 17 ref. I**) (↓) and insert it into the tyre (**Fig. 61**);



**THE TOOLHEAD MUST BE INSERTED BEFORE THE VALVE PASSES IN FRONT OF THE TOOL-HEAD AGAIN.**

4. by turning counterclockwise, position the valve at approximately 4 o'clock (**Fig. 70**);

**Fig. 70**

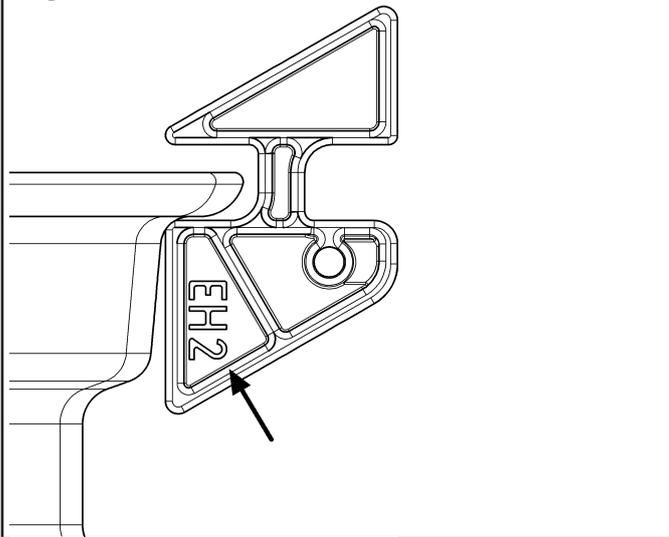


**THE BEAD PRESS EXTENSION IS MADE UP OF TWO-WEDGES-INSERTS OF DIFFERENT SIZES (EH, EH2) (FIG. 71). THESE WEDGES, SUITABLY MOUNTED, INSERT THE TYRE BEAD AT TWO DIFFERENT RIM DEPTHS AND IN ANY CASE INSIDE THE DROP CENTRE. CHOOSING THE CORRECT WEDGE TO BE USED DEPENDS ON THE TYPE OF RIM YOU INTEND TO WORK ON.**



**IN THE CASE OF AN EH2 OR EH2+ RIM IT IS NECESSARY TO USE THE BLOCKS ON THE SIDE HIGHLIGHTED BY THE PRINTED SIGN "EH2" (THE DEEPER ONES) (SEE FIG. 71).**

**Fig. 71**

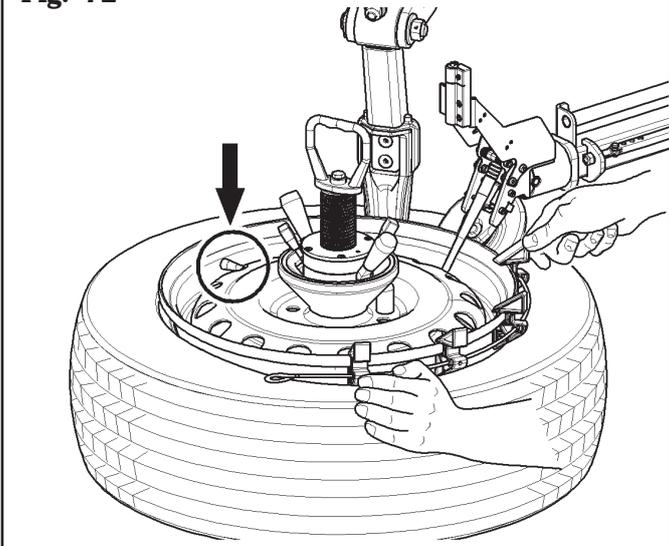


5. press the rotation pedal and insert all the wedges one at a time (**Fig. 70**);



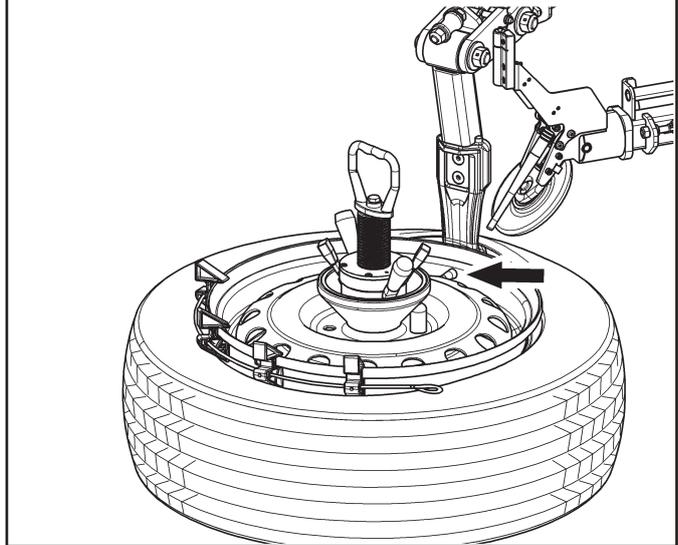
**THE VALVE MUST BE PLACED AT APPROXIMATELY 9 O'CLOCK AND IN ANY CASE EXACTLY ON THE OPPOSITE SIDE OF THE WEDGES (FIG. 72).**

**Fig. 72**



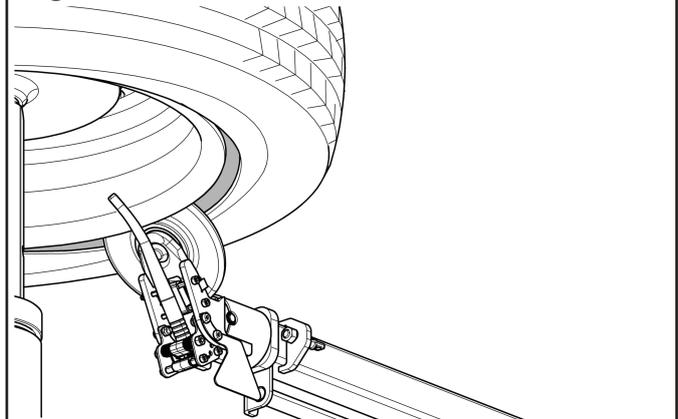
6. using the appropriate push button (**Fig. 17 ref. G**) (↑) lift the upper bead breaker roller. Using the appropriate push button (**Fig. 17 ref. I**) (↑), slightly lift the toolhead, but without placing it on the edge of the rim. By pressing the rotation pedal, place the valve exactly in front of the toolhead (**Fig. 73**);

**Fig. 73**



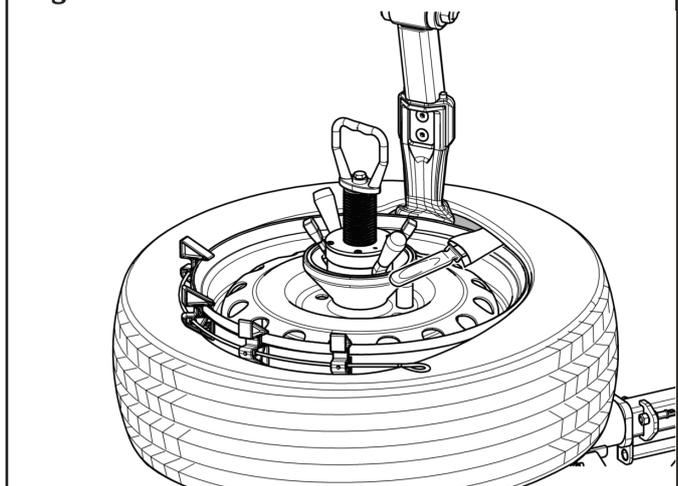
7. press the up button of the lower bead breaker roller (**Fig. 17 ref. H**) (↑) until the bead breaker roller rests on the tyre. Push slightly to reduce the tension on the opposite bead of the tyre and hold it in place (**Fig. 74**);

**Fig. 74**

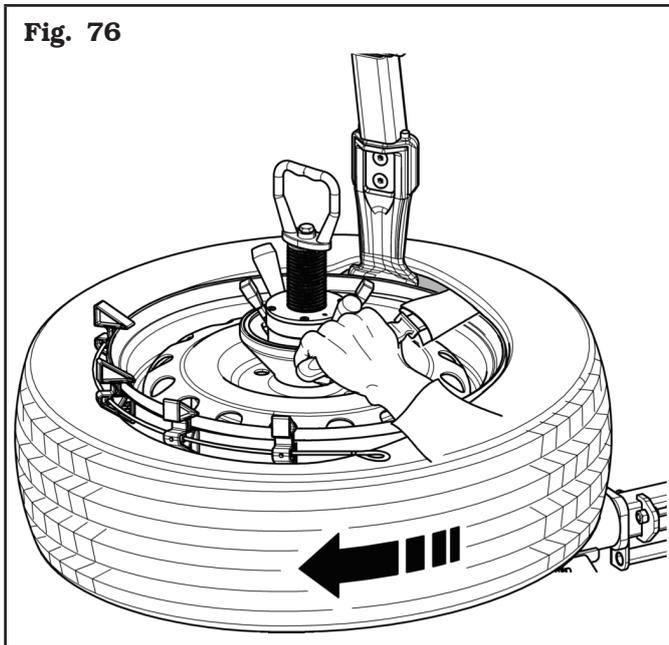


8. finish lifting the toolhead. Insert the bead protection tool together with the plastic sheets between the tyre bead and the rim (**Fig. 75**);

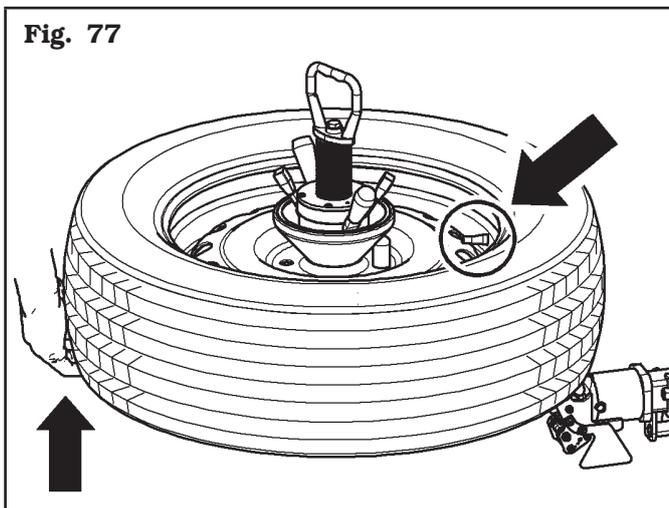
**Fig. 75**



9. lock the protection tool with your hand (**Fig. 76**). Press the rotation pedal remove the first bead of the tyre;

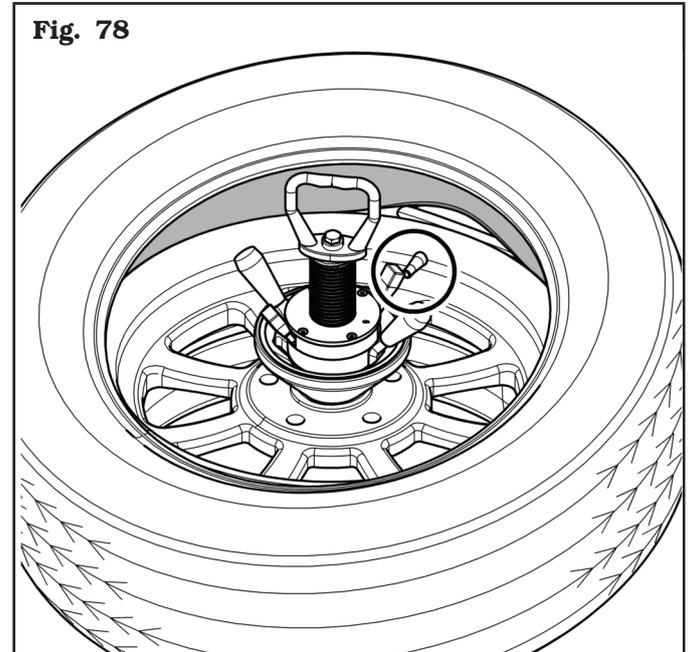


10. by pressing the rotation pedal, place the valve next to the lower bead breaker roller. Manually push the tyre on the bead breaker roller (**Fig. 77**), and using the appropriate button (**Fig. 17 ref. H**) (↑), lift the lower bead breaker roller;

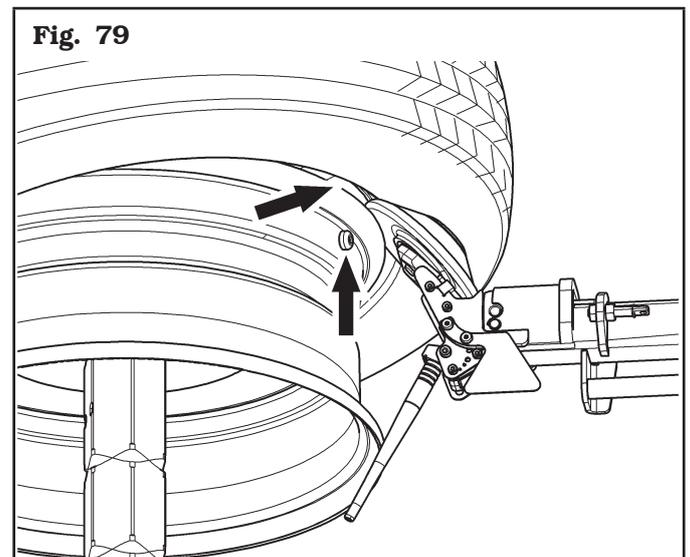


**Only in manual mode**

When the lower bead breaker roller has passed the edge of the rim, press the advance button of the lower bead breaker roller cam (**Fig. 17 ref. E**) (**Fig. 78**).



**THE POSITION OF THE VALVE NEXT TO THE LOWER BEAD BREAKER ROLLER SERVES TO AVOID BREAKAGE OF THE TPMS, AS SHOWN IN FIG. 79., USING THE CORRECT PROCEDURE, THE TPMS VALVE IS FOUND OUTSIDE THE TYRE.**



11. Press the rotation pedal, rotate the wheel until the tyre is completely extracted.

**12.9 Mounting the standard tyre without TPMS valve**

To mount the tyre, proceed as follows:

1. lubricate tyre beads;



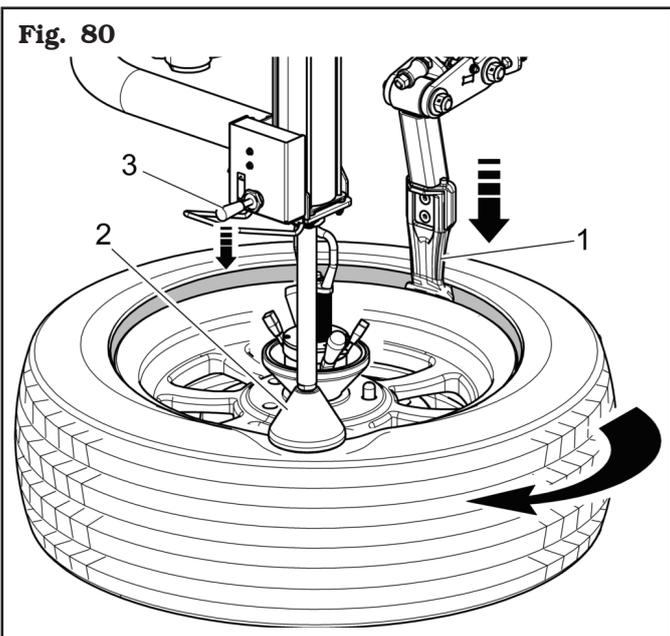
**USE ONLY TYRE LUBRICANTS. SUITABLE LUBRICANTS CONTAIN NO WATER, HYDROCARBONS, OR SILICON.**

2. position the toolhead (Fig. 80 ref. 1) onto the rim edge;



**MAKE SURE PUSH BUTTON "1" OF FIG. 19 IS BACKLIGHTED BEFORE PRESSING THE PUSH BUTTON TO MOVE AUTOMATICALLY THE TOOLHEAD TO THE PREVIOUSLY STORED POSITION (SEE CHAP. 11.2.1, RETURN FUNCTION).**

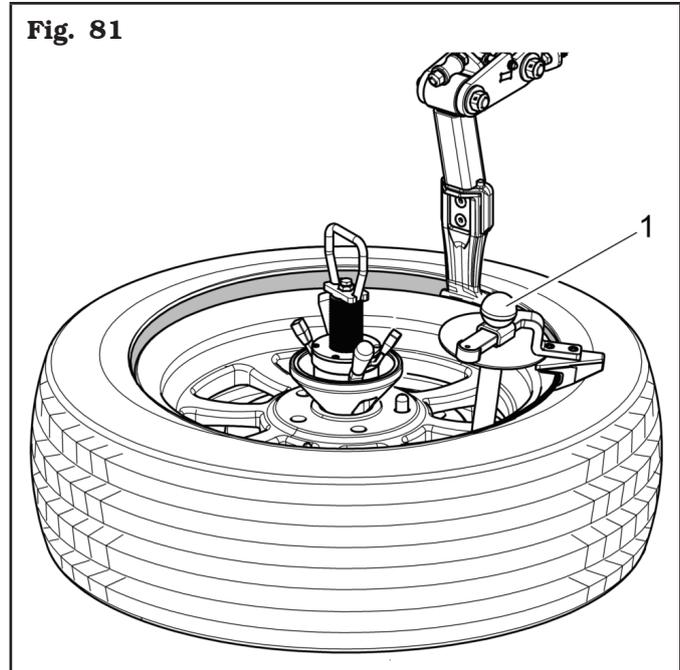
3. hook the lower bead on the toolhead then rotate clockwise until the complete assembly;
4. then, position the upper bead on the toolhead assembly area (Fig. 80 ref. 1);
5. place the bead press tool (Fig. 80 ref. 2) in "4 o'clock" position as shown in Fig. 80 and press on the tyre operating the lever of the control unit (Fig. 80 ref. 3) downwards;
6. rotate the chuck clockwise, pressing the pedal (Fig. 21 ref. A), until the tyre is completely assembled;
7. when these operations are over move the toolhead and the bead press tool into rest position.



**12.9.1 Fitting the tyre upper bead using beadpusher with puller**

1. Assemble the beadpusher (Fig. 81 ref. 1) with puller next to the rim edge (see Fig. 81);

Fig. 81



2. place the upper bead breaker roller (Fig. 82 ref. 1) so that the tyre bead is kept at the same height of the rim drop centre (see Fig. 82);

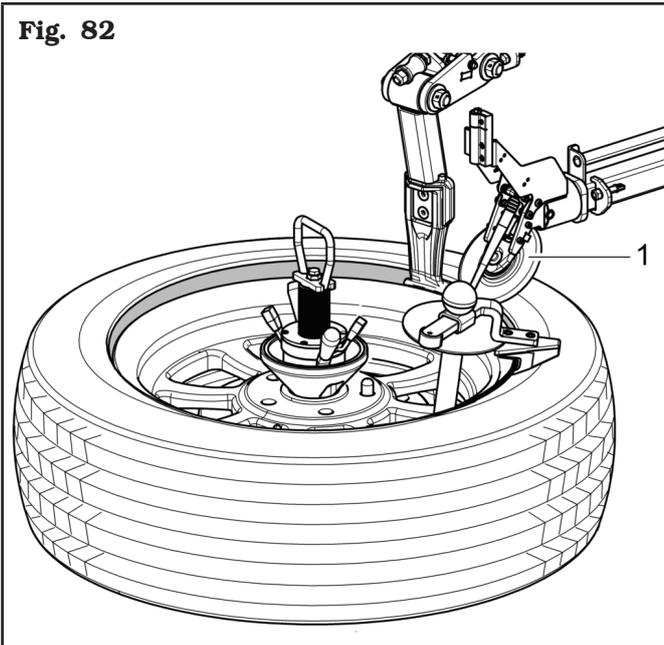


**THE UPPER BEAD BREAKER ROLLER MUST EXERT PRESSURE ON THE TYRE BEAD BUT NEVER ON THE RIM.**



**VERY CAREFULLY USE THE BEAD BREAKING ROLLERS IN ORDER TO AVOID POSSIBLE HAND CRUSHING INJURY.**

**Fig. 82**

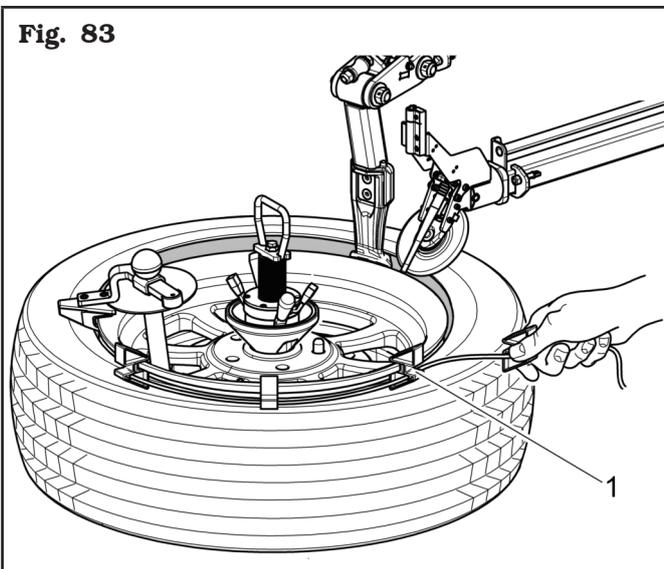


3. rotate clockwise up to tyre complete assembly (see **Fig. 83**);



**FOR PARTICULARLY DIFFICULT  
WHEELS TO ASSEMBLE, USE  
THE BEAD PRESS EXTENSION OF  
THE BEADPUSHER WITH PULLER  
(FIG. 83 REF. 1).**

**Fig. 83**

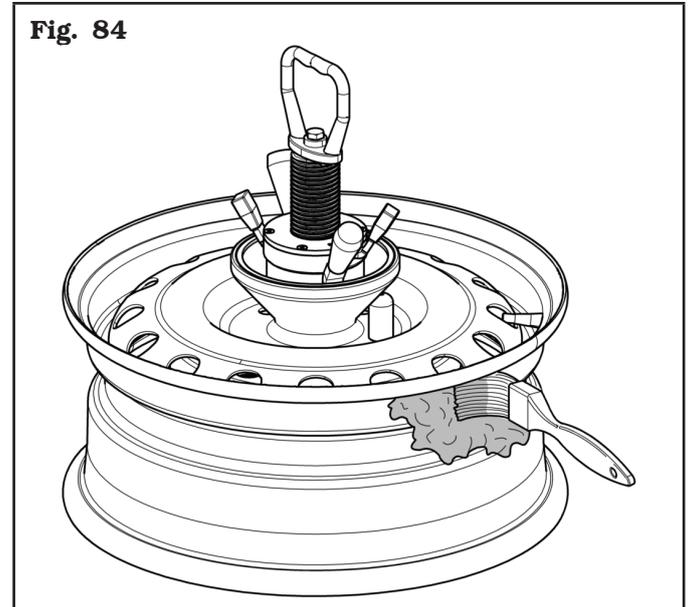


4. when these operations are over move the toolhead and the upper bead breaker roller into rest position.

**12.10 Mounting the Run Flat or UHP tyre with  
TPMS valve using bead press device**

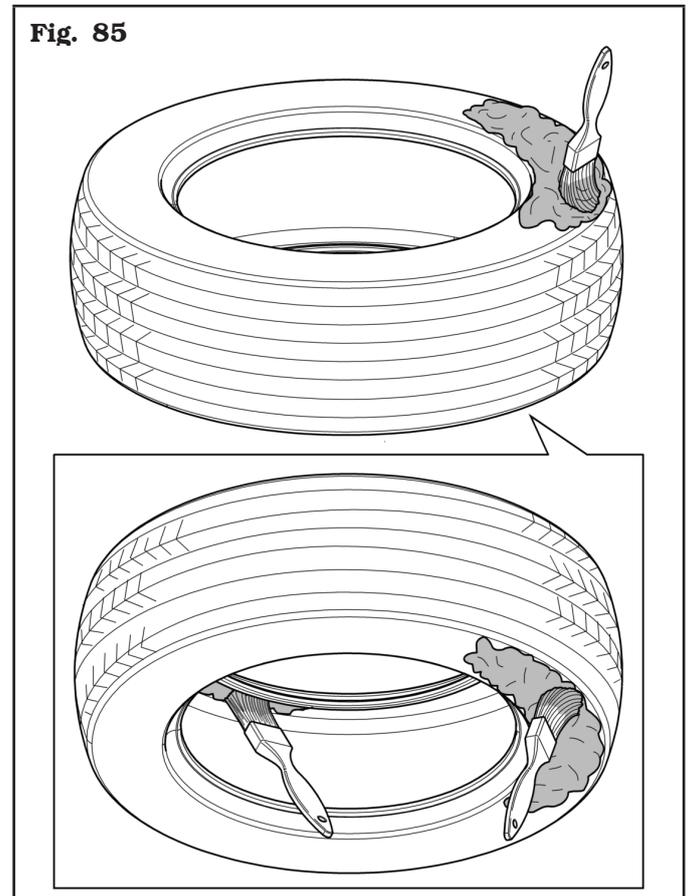
1. Generously grease the rim, taking care to keep the valve clean and not greased (**Fig. 84**);

**Fig. 84**



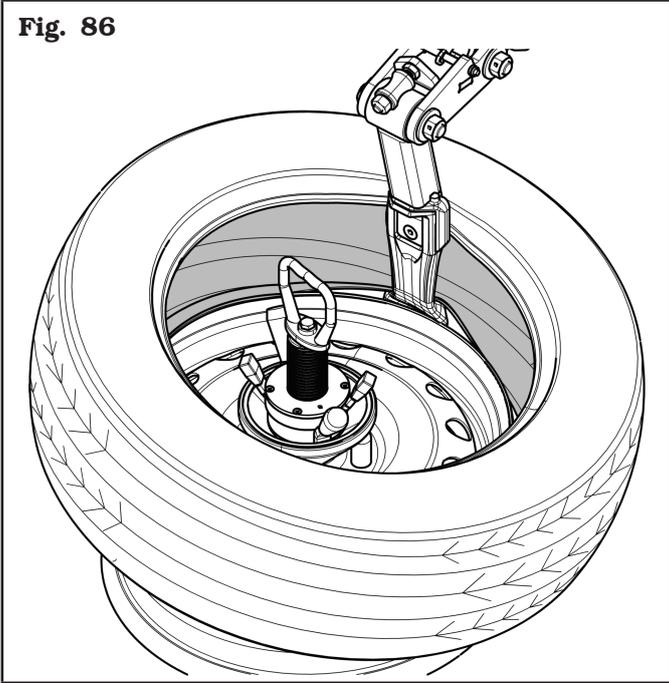
2. generously grease the tyre, both the lower part of the bead and the external part of the same, up to the tyre tread, and at least 3 cm (1.18") per side inside the tyre (**Fig. 85**);

**Fig. 85**

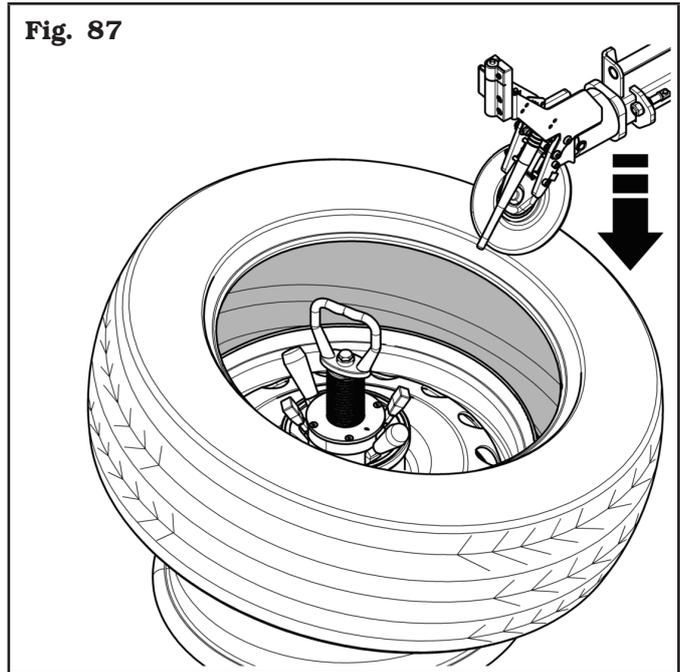


3. position the valve at about 7 o'clock, lay the tyre on the rim, press the appropriate push button (**Fig. 17 ref. I**) (↓) to position the toolhead on the rim (**Fig. 86**), insert the tyre in the mounting position on the toolhead and press the rotation pedal until the first bead is inserted;

**Fig. 86**

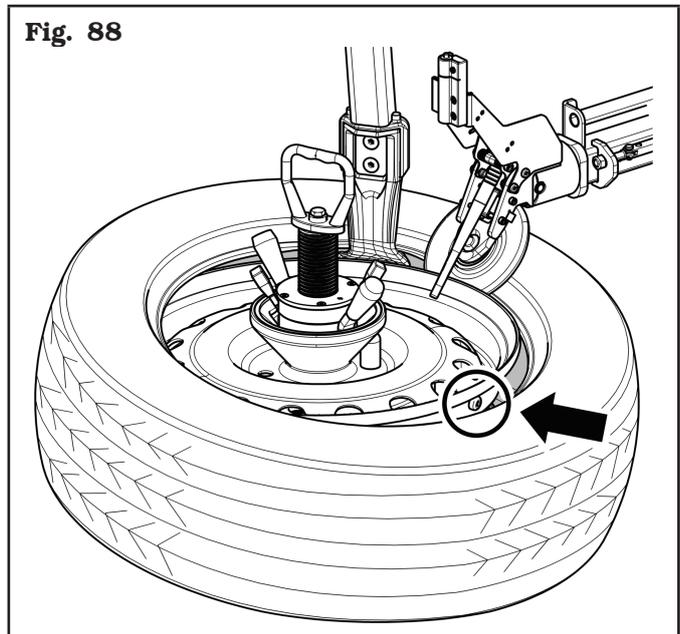


**Fig. 87**



4. pressing the rotation pedal, place the valve at approximately 3 o'clock (**Fig. 88**). Using the appropriate push button (**Fig. 17 ref. I**) (↓), place the toolhead on the edge of the rim;
5. acting on the appropriate button (**Fig. 17 ref. G**) (↓), use the upper bead breaker roller to push the tyre bead under the rim edge (**Fig. 88**);

**Fig. 88**

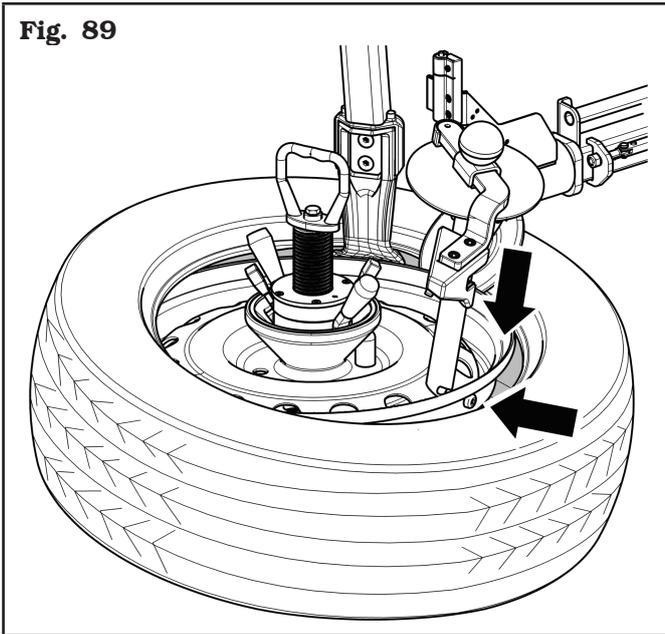


6. insert the bead pusher with puller exactly in correspondence with the valve (**Fig. 89**). Fit the plastic protection on the edge of the rim next to the bead-pusher with puller as shown in **Fig. 90**;



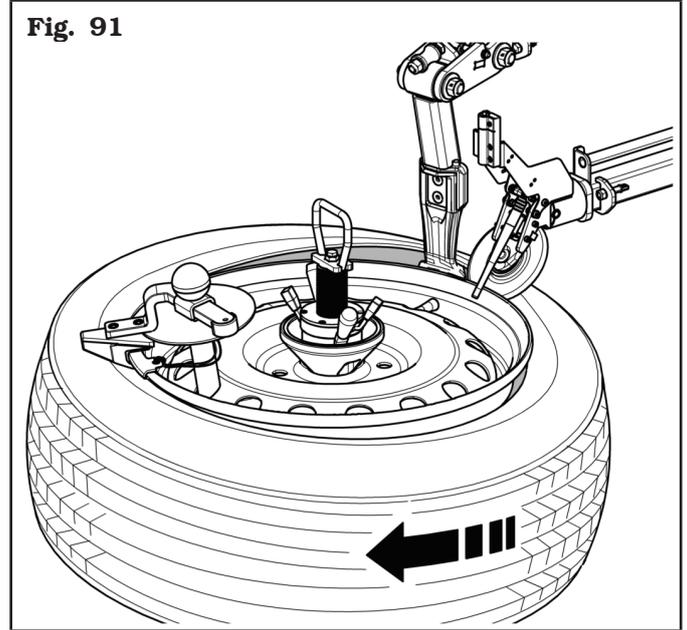
**RUN FLAT OR UHP TYRES HAVE A PARTICULARLY RIGID PROFILE AND THE UPPER BEAD BREAKER ROLLER CAN ALSO BE USED TO INSERT THE FIRST BEAD (FIG. 87). IN THIS CASE, ALWAYS POSITION THE VALVE AT 7 O'CLOCK, FIT THE TYRE ON THE RIM (SEE FIG. 87) AND USING THE APPROPRIATE BUTTON (FIG. 17 REF. G) (↓) LOWER THE UPPER BEAD BREAKER ROLLER UNTIL IT TOUCHES THE TYRE. PUSH SLIGHTLY AND PRESS THE ROTATION PEDAL. THE RIGIDITY OF THE TYRE WILL ALLOW THE INSERTION OF THE FIRST BEAD.**

**Fig. 89**

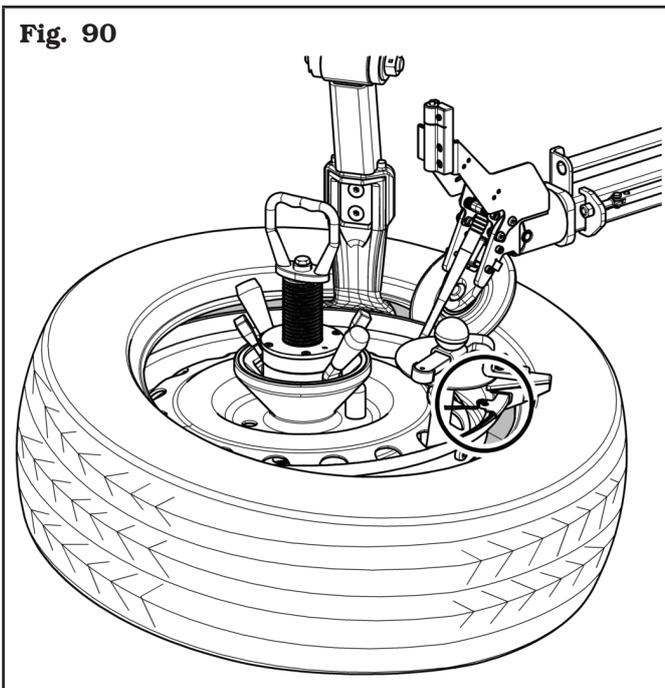


7. While pressing the rotation pedal, slowly bring the beadpusher with puller and the plastic protection to 6 o'clock position (**Fig. 91**). Insert the bead press device at 3 o'clock (**Fig. 92**), and slowly finish the tyre mounting operation (**Fig. 93**);

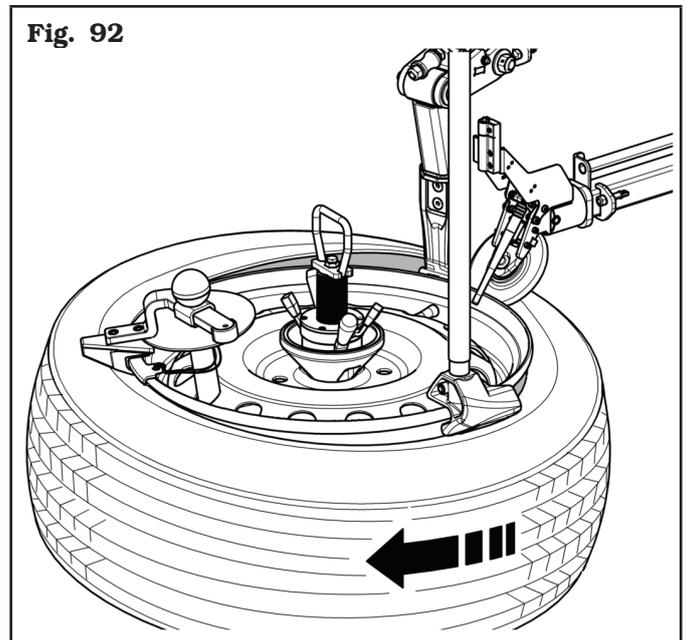
**Fig. 91**



**Fig. 90**

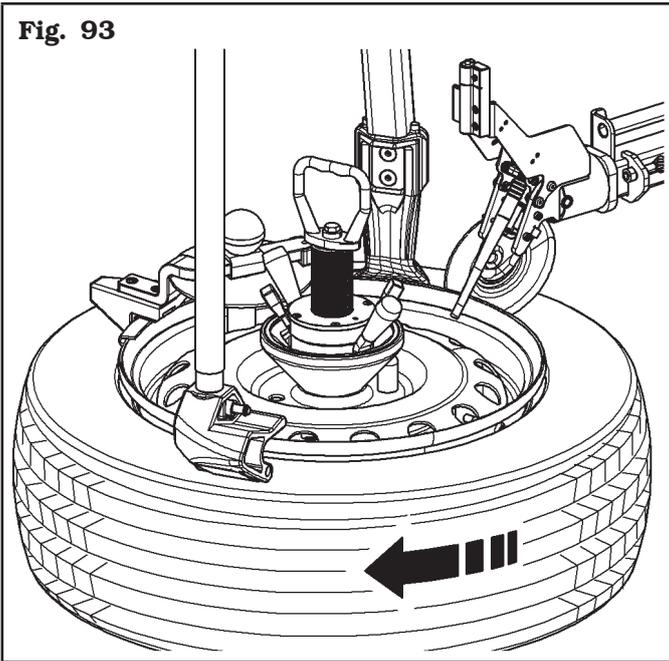


**Fig. 92**



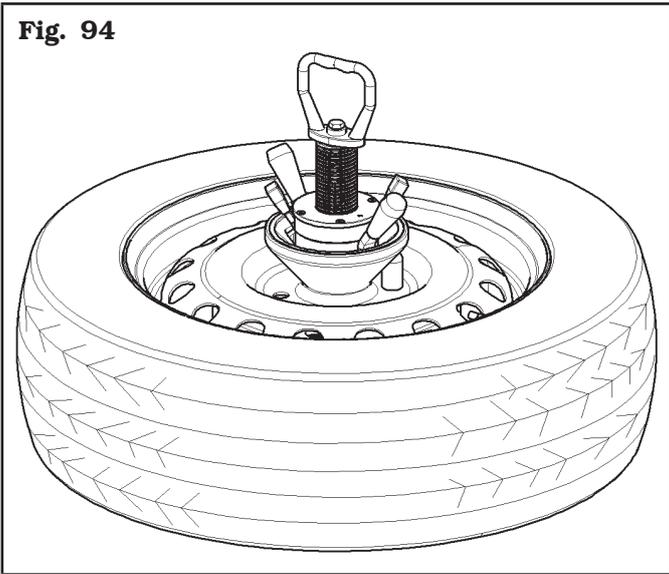
**IN ORDER NOT TO DAMAGE THE TPMS VALVE, IT IS IMPORTANT THAT THE DISTANCE BETWEEN THE TRACTION POINT (CONTACT POINT OF TYRE BEAD ON THE RIM) AND THE VALVE, IS ALWAYS BETWEEN 10 cm (3.94") AND 15 cm (5.91") BEFORE THE VALVE. TO OBTAIN THIS RESULT, ALWAYS INSERT BEADPUSHER WITH PULLER NEXT TO THE VALVE.**

Fig. 93



8. at the end of the operation remove all the tools used (Fig. 94).

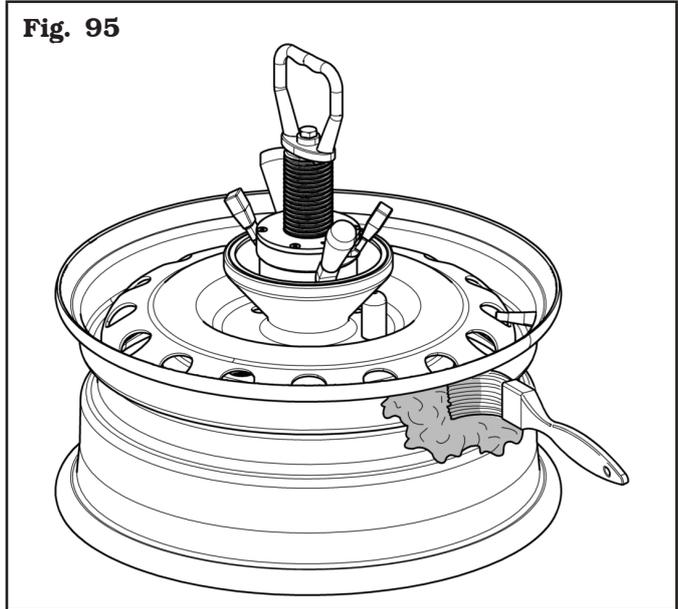
Fig. 94



**12.11 Fitting of the first bead using the bead pressing extension**

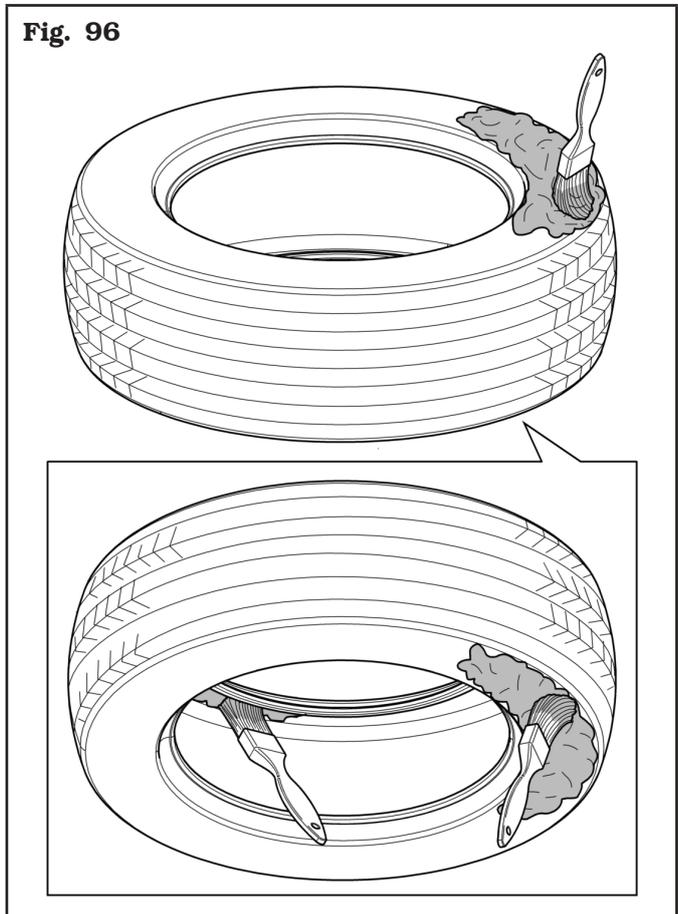
1. Generously grease the rim, taking care to keep the valve clean and not greased (Fig. 95);

Fig. 95



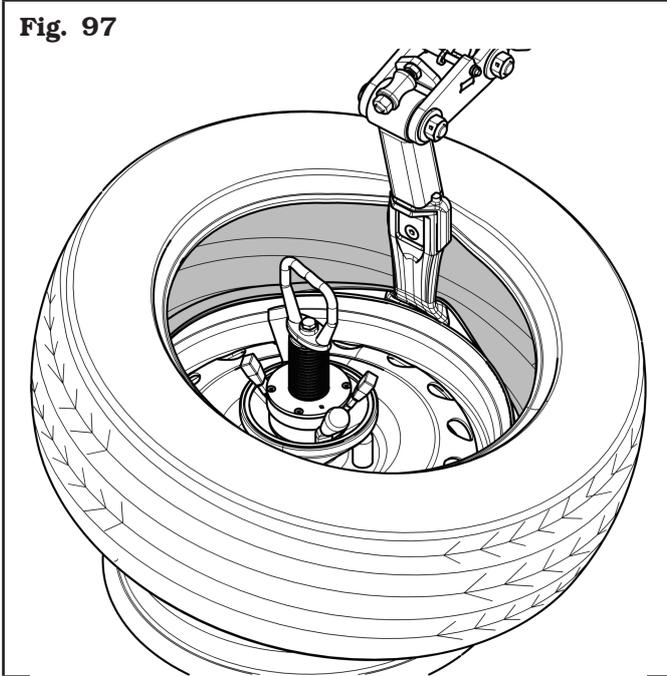
2. generously grease the tyre, both the lower part of the bead and the external part of the same, up to the tyre tread, and at least 3 cm (1.18") per side inside the tyre (Fig. 96);

Fig. 96

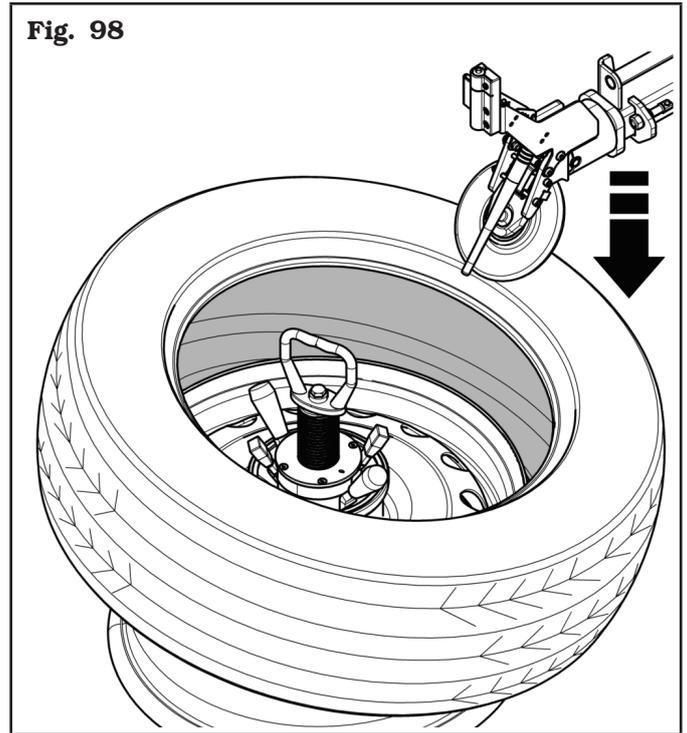


- position the valve at about 7 o'clock, lay the tyre on the rim, press the appropriate push button (**Fig. 17 ref. I**) (↓) to position the toolhead on the rim (**Fig. 97**), insert the tyre in the mounting position on the toolhead and press the rotation pedal until the first bead is inserted;

**Fig. 97**



**Fig. 98**



- pressing the rotation pedal, place the valve at approximately 3 o'clock. Using the appropriate push button (**Fig. 17 ref. I**) (↓), place the toolhead on the edge of the rim;
- acting on the appropriate button (**Fig. 17 ref. G**) (↓), use the upper bead breaker roller to push the tyre bead under the rim edge;
- insert the bead pusher with puller exactly in correspondence with the valve. Fit the plastic protection on the edge of the rim next to the beadpusher with puller as shown in **Fig. 90**;



**RUN FLAT OR UHP TYRES HAVE A PARTICULARLY RIGID PROFILE AND THE UPPER BEAD BREAKER ROLLER CAN ALSO BE USED TO INSERT THE FIRST BEAD (FIG. 98). IN THIS CASE, ALWAYS POSITION THE VALVE AT 7 O'CLOCK, FIT THE TYRE ON THE RIM (SEE FIG. 98) AND USING THE APPROPRIATE BUTTON (FIG. 17 REF. G) (↓) LOWER THE UPPER BEAD BREAKER ROLLER UNTIL IT TOUCHES THE TYRE. PUSH SLIGHTLY AND PRESS THE ROTATION PEDAL. THE RIGIDITY OF THE TYRE WILL ALLOW THE INSERTION OF THE FIRST BEAD.**

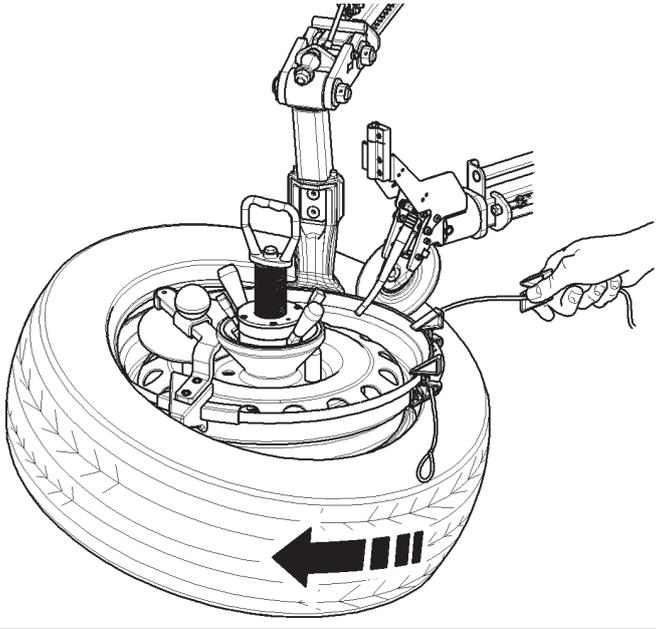


**IN ORDER NOT TO DAMAGE THE TPMS VALVE, IT IS IMPORTANT THAT THE DISTANCE BETWEEN THE TRACTION POINT (CONTACT POINT OF TYRE BEAD ON THE RIM) AND THE VALVE, IS ALWAYS BETWEEN 10 cm (3.94") AND 15 cm (5.91") BEFORE THE VALVE, TO OBTAIN THIS RESULT, ALWAYS INSERT BEADPUSHER WITH PULLER NEXT TO THE VALVE.**

7. While pressing the rotation pedal, slowly bring the beadpusher with puller and the plastic protection to 5 o'clock position. Using the appropriate button (**Fig. 17 ref. G**) (↓), lower the upper bead breaker roller on the tyre sidewall to create the correct space for inserting the wedges of the “bead pressing extension” accessory (**Fig. 99**);

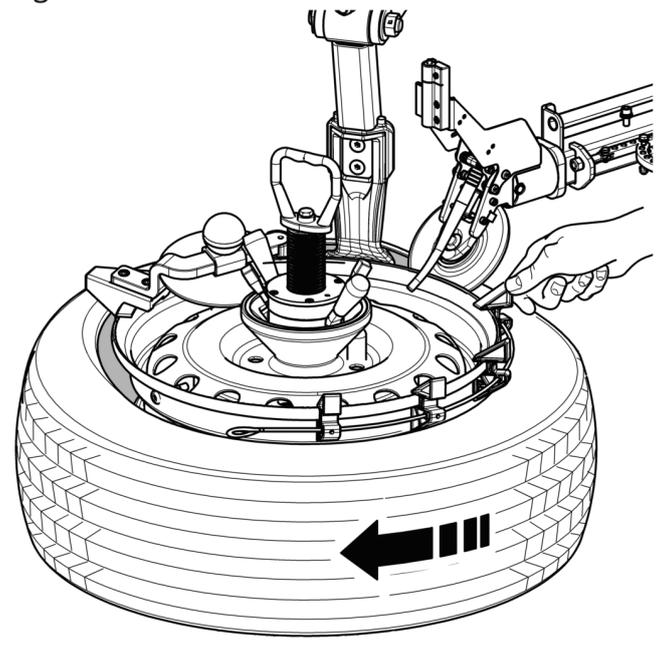
9. the end of the operation, remove the bead pressing extension and all the tools used.

Fig. 99



8. using the correct size according to the type of rim (EH, EH2), insert the first wedge, and slowly pressing the rotation pedal, insert all the others in sequence. Slowly continue the rotation until the tyre is completely assembled (**Fig. 100**);

Fig. 100



**TO FACILITATE THE OPERATION, LEAVE THE UPPER BEAD BREAKER ROLLER IN POSITION ON THE TYRE AND, LIFTING THE ROTATION PEDAL, ROTATE THE WHEEL COUNTERCLOCKWISE. THE WEDGES OF THE BEAD PRESS EXTENSION AND BEAD-PUSHER WITH PULLER CAN BE REMOVED EFFORTLESSLY AT THE BEAD BREAKER ROLLER.**

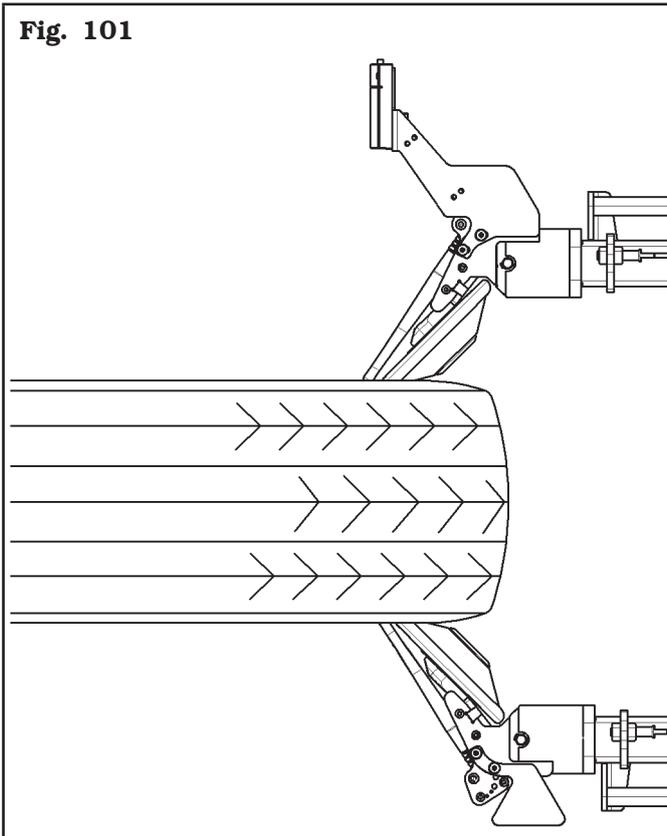
### **12.12 Special use of the bead-breaker**

In addition to its use during mounting and demounting, the bead breaker rollers can also be used for matching the tyre to the rim.

To conduct this operation carry out the following instructions.

1. clamp the tyre between the bead breaker rollers;
2. turn the motor clockwise until the reference point on the tyre coincides with the reference point on the rim (usually the valve) (see **Fig. 101**).

**Fig. 101**



### **12.13 Tyre inflation**



**TYRE INFLATING OPERATIONS ARE HAZARDOUS FOR THE OPERATOR; MOREOVER, IF NOT PROPERLY EXECUTED, THEY CAN CAUSE DAMAGE TO THE USERS OF THE VEHICLE WHERE THE TYRES ARE FITTED.**



**STANDARD OR OPTIONAL INFLATING UNITS FITTED ON TYRE CHANGERS ARE ALWAYS EQUIPPED WITH A PRESSURE LIMITING DEVICE WHICH ELIMINATES ANY RISK OF TYRE EXPLOSION DURING TYRE INFLATION. HOWEVER, A RESIDUAL RISK OF EXPLOSION STILL EXISTS. THE FOLLOWING PRECAUTIONS MUST BE TAKEN:**

- **OPERATORS SHOULD WEAR SUITABLE PROTECTIVE CLOTHING LIKE: GLOVES, SAFETY EYEWEAR AND EARPLUGS.**
- **BEFORE FITTING A TYRE, CHECK TYRE AND RIM CONDITIONS AS WELL AS THEIR PROPER COUPLING.**
- **CORRECT WORK POSITION: DURING TYRE BEADING AND INFLATING THE OPERATOR MUST KEEP HIS BODY AS FAR AS POSSIBLE FROM THE TYRE.**
- **COMPLIANCE WITH TYRE MANUFACTURER'S SPECIFICATIONS FOR TYRE INFLATION PRESSURE.**



**IF MEASURED PRESSURE EXCEEDS 4.2 BAR (60 PSI), it means that the pressure limiting valve and/or pressure gauge is not working properly. In this case, deflate the tyre on the spot and contact an authorized service centre to verify equipment operation. Make sure of proper operation before using any inflating equipment.**

**12.13.1 Tyre inflation on equipment without using tubeless inflation assembly**

Connect the inflation device to the tyre valve and inflate the same tyre using the pedal provided (Fig. 21 ref. B).

 **A SAFETY DEVICE IS PRESENT FOR THE ADJUSTMENT OF THE MAXIMUM PRESSURE OF THE SUPPLIED AIR (4.2 ± 0.2 bar / 60 ± 3 psi).**

Well lubricated beads and rims make the beading in and inflation much safer and easier.

**In case the beads are not seated at 4.2 ± 0.2 bar (60 ± 3 psi), release all the air from the wheel, remove it from the tyre changer and put it in a safety cage to complete the inflation procedure.**

**12.13.2 Tyre inflation using tubeless inflation unit (on model with tubeless inflation system)**

Some types of tyre can be difficultly inflated if the beads are not in contact with the rim. The tubeless inflation device supplies high-pressure air from the nozzle, which encourages the correct positioning of the bead against the rim, and therefore normal inflation. In order to carry out the inflation of the tyre follow these indications:

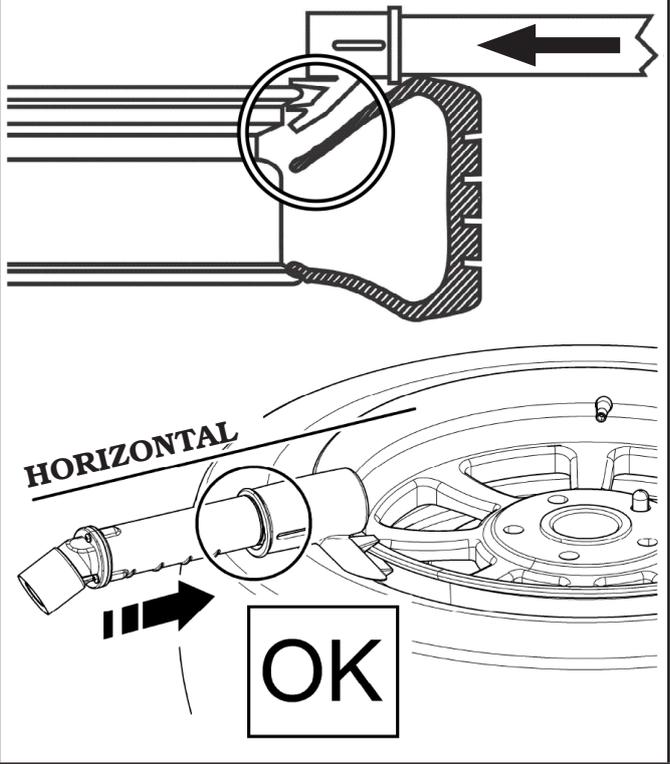
1. remove the valve stem core.  
 Removing the valve stem core will allow the tyre to inflate faster and the bead to seat easier;
2. connect the inflation terminal to the valve of the tyre;

 **TO IMPROVE THE TUBELESS INFLATION SYSTEM, ALWAYS LUBRICATE THE TYRE BEADS.**

3. press the bead blaster hose on the wheel rim as shown in Fig. 102. Ensure the hose head is pressed in to activate the additional air jet;

 **THE NOZZLE SHOULD BE HORIZONTAL FOR OPTIMAL PERFORMANCE (FIG. 102).**

Fig. 102



 **IN ORDER TO ALLOW THE AIR JET TO BREAK BOTH BEADS, DO NOT KEEP THE BEAD LIFTED FORCING IT.**

4. press completely downwards the inflating pedal, in order to release a high pressure air jet through the tubeless inflation nozzle;
5. keep the inflating pedal partially pressed downwards to inflate the tyre and place the beads in their seats;

 **DO NOT EXCEED THE PRE-SET PRESSURE VALUES WHILE INSERTING BEAD INTO THE TYRE.**

6. after the beads take place in their own seat, disconnect the inflating terminal and install again the valve gear, that was removed previously. Then connect the inflating terminal and inflate the tyre with the required pressure;

 **IF THE TYRE GETS INFLATED TOO MUCH, IT IS POSSIBLE TO GET THE AIR OUT OF THE TYRE, BY PUSHING THE MANUAL DEFLATING PUSH BUTTON LOCATED UNDER THE PRESSURE GAUGE.**

7. disconnect the inflation terminal from the valve.

### **12.13.3 Tubeless inflation of Run Flat or UHP tyre with TPMS valve**

The inflation of a wheel must always take place without the inner core of the valve (**Fig. 22**). Inflate the tyre following the safety procedures and inflation instructions given by the tyre manufacturer.



**INFLATE AT INTERVALS. ON THE TYRE CHANGER THERE IS A SAFETY SYSTEM FOR THE ADJUSTMENT OF THE MAXIMUM PRESSURE OF THE SUPPLIED AIR (4 bar  $\pm$  0.2 / 60  $\pm$  3 psi).**



**IF THE TYRE BEADS AND RIMS ARE WELL LUBRICATED THEY MAKE TYRE INFLATION MUCH SAFER AND EASIER. IN THE EVENT THAT THE TYRE BEAD DOES NOT OCCUR AT 4  $\pm$  0,2 bar (60  $\pm$  3 psi), IT IS NECESSARY TO DEFLATE THE WHEEL, BEAD AND ABUNDANTLY LUBRICATE THE TYRE AND RIM, AND REPEAT THE INFLATION OPERATION.**

## **13.0 ROUTINE MAINTENANCE**



**BEFORE CARRYING OUT ANY ROUTINE MAINTENANCE OR ADJUSTMENT PROCEDURE, DISCONNECT THE EQUIPMENT 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 SELF-CENTRING CHUCK.**

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

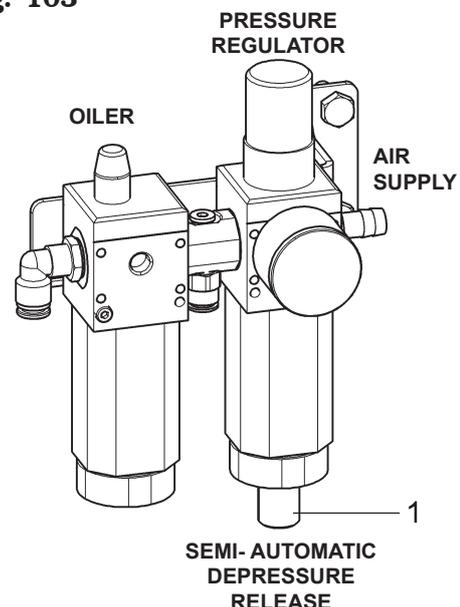
Cleaning and routine maintenance must be conducted by authorized personnel and according to the instructions given below.

- Disconnect the equipment from the electrical and pneumatic power supplies before carrying out any cleaning operations.
- Remove deposits of tyre powder and other waste materials with a vacuum.

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

- Do not use solvents to clean the pressure regulator.
- The conditioning assembly is equipped with an automatic vacuum-operated drain therefore it requires no manual intervention by the operator (see **Fig. 103**).
- Periodically check the calibration of lubricator of pressure/oiler gauge assembly:

**Fig. 103**





IN ORDER TO ENSURE A GOOD FUNCTIONING AND TO AVOID THE PRESENCE OF CONDENSATION IN THE AIR TREATMENT ASSEMBLIES WITH SEMI-AUTOMATIC DRAIN, IT'S NECESSARY TO MAKE SURE ABOUT THE CORRECT POSITION OF THE VALVE (FIG. 103 REF. 1), PLACED UNDER THE CAP. TO ACTIVATE A CORRECT DRAIN FUNCTION, THE CAP MUST BE ROTATED IN THE RIGHT WAY.



IN ORDER TO ALLOW A LONGER LIFE OF THE FILTER AND OF ALL MOVING PNEUMATIC DEVICES, YOU HAVE TO MAKE SURE THAT THE SUPPLIED AIR IS:

- EXEMPT FROM THE LUBRICATING OIL OF THE COMPRESSOR;
- EXEMPT FROM HUMIDITY;
- EXEMPT FROM IMPURITY.

- Every **week** and/or when necessary, top up the oil tank using the filler hole provided, closed by a cap or bolt, on the lubricator filter.



**THIS OPERATION SHOULD NOT BE CARRIED OUT BY REMOVING THE CUP OF THE LUBRICATOR FILTER.**

- The use of synthetic oil might damage the pressure regulator filter.
- Periodically, at least monthly, lubricate the horizontal sliding arms of the bead breaker rollers and the toolhead.
- Periodically, at least monthly, lubricate the vertical sliding crosspieces of the arms of the bead breaker rollers and of the toolhead.

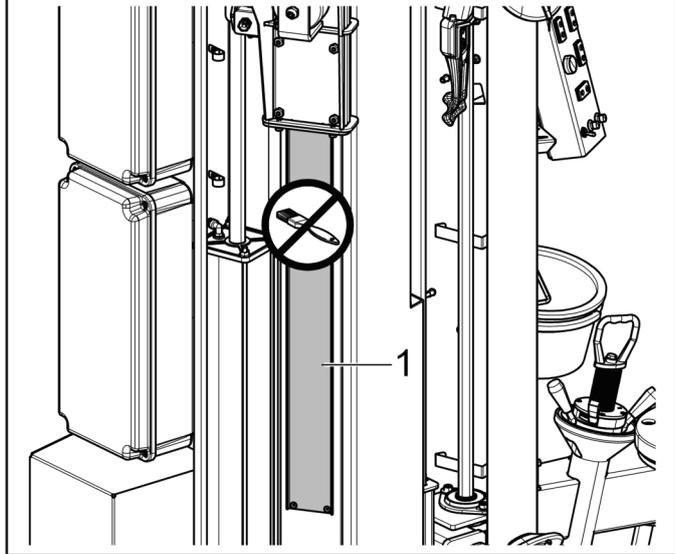


**WHEN LUBRICATING THE VERTICAL SLIDING CROSSPIECE OF THE TOOL ARM, BE CAREFUL NOT TO LUBRICATE THE ALUMINIUM PROFILE HIGHLIGHTED IN GREY (FIG. 104 REF. 1).**



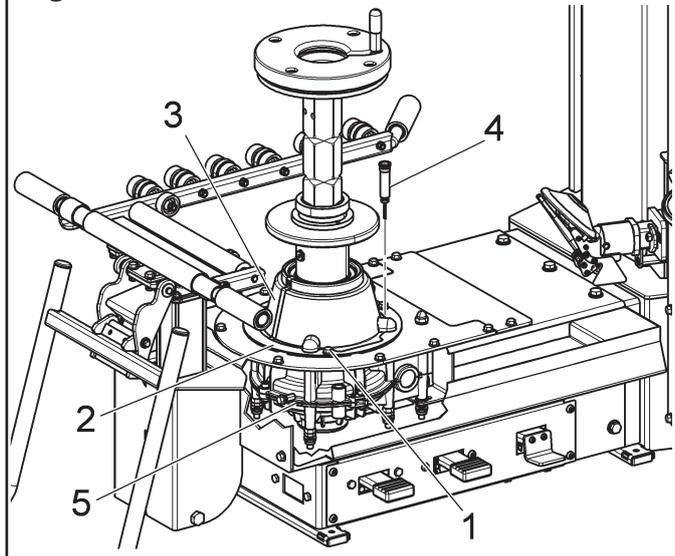
**IF, BY MISTAKE, THE ALUMINIUM PROFILE HIGHLIGHTED IN GREY IS LUBRICATED (FIG. 104 REF. 1), CORRECT OPERATION OF THE EQUIPMENT COULD BE COMPROMISED.**

Fig. 104



- Periodically, at least monthly, clean the bead breaker rollers and toolhead arm synchronization chains.
- Periodically (at least every 100 working hours) check reduction gear lubricating oil level (Fig. 105 ref. 5). Such operation must be performed removing the bolts (Fig. 105 ref. 1), removing the flange (Fig. 105 ref. 2), the guard (Fig. 105 ref. 3) and the plug (Fig. 105 ref. 4) on the reduction gear.

Fig. 105



**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!!**

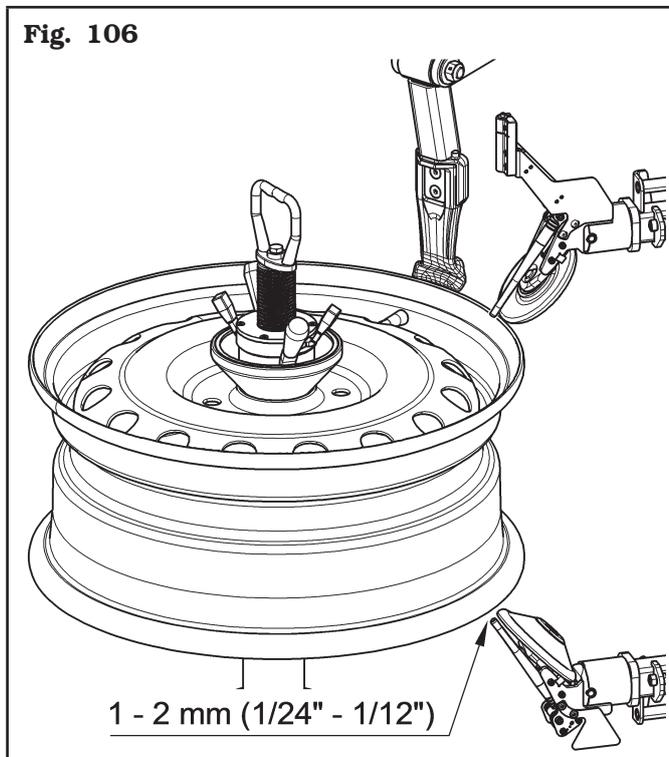
### **13.1 Rim arm calibration**

Make sure that the bead rollers and the toolhead take place correctly in comparison to the rim, as described hereafter:

1. mount a rim in good conditions (not ovalized and not bent) without tyre on the equipment;
2. lock the rim with the locking shaft assembly.

#### **With equipment in manual mode**

1. Move the arms horizontally until the upper bead breaker roller and the toolhead come into contact with the rim, as shown in **Fig. 106**;
2. check that the lower bead breaker roller is positioned approximately 1-2 mm (1/24"-1/12") from the edge of the rim, as indicated in **Fig. 106**.



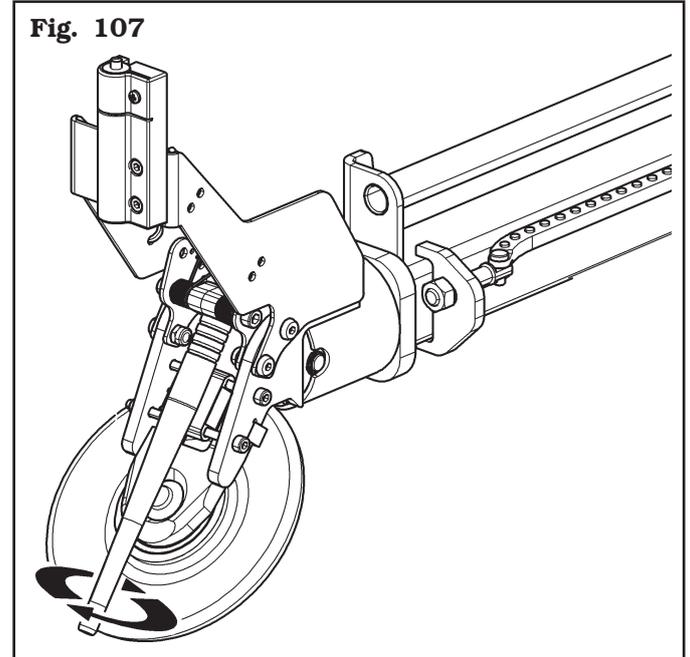
### **13.2 Replacement of the feeler pin**

After a certain number of operations it's possible that the (upper and/or lower) feeler pin deform so that it can't ensure a proper functioning; in this case its replacement can be carried out following these simple operations (**Fig. 107**):

1. remove the deformed feeler pin;
2. replace it by a new feeler pin, keeping the head of the bolt pressed in order to facilitate this operation.



**THE FEELER PINS MUST BE ABSOLUTELY ORIGINAL; DON'T REPLACE THEM WITH IMPROVISED FEELER PINS, DON'T MODIFY THE ORIGINAL FEELER PINS.**



### **13.3 Lubricants**

To grease the chuck movement control reduction gear, use **ESSO GEAR OIL GX140**.

To lubricate the slides, use a brush with soft bristles and an **ESSO GP** type lubricant.



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

**14.0 TROUBLESHOOTING TABLE**

Possible troubles which might occur to the tyre-changer are listed below. The manufacturer disclaims all responsibility for damages to people, animals or objects due to improper operation by non-unauthorised personnel. In case of trouble, call Technical Service Department for instructions on how to service and/or adjust the machine in full safety to avoid any risk of damage to people, animals or objects.

In an emergency and before maintenance on tyre-changer, set the main switch to “0” and lock it in this position.



**CONTACT AUTHORIZED TECHNICAL SERVICE**

**do not try and service alone**

<b>Problem</b>	<b>Possible cause</b>	<b>Remedy</b>
The arm advance cam is not immediately activated.	1. Power supply missed. 2. The control push button is broken. 3. Feeler pin faulty.	1. Connect the power supply. 2. Call for technical assistance. 3. Call for technical assistance. 
By pressing the release button, the horizontal arms of the bead breaker rollers and the toolhead do not move or move with difficulty.	1. Horizontal movement guides blocked. 2. Translation actuator faulty. 3. Actuator power supply. 4. Electronic board failure.	1. Clean the guides and lubricate them. 2. Call for technical assistance. 3. Call for technical assistance. 4. Call for technical assistance. 
The nozzle doesn't supply air when the inflation pedal is pressed (applies to model with tubeless inflation system vessel).	The inflation pedal is badly adjusted.	Call for technical assistance. 
The chuck doesn't rotate.	Inverter overload alarm Or Inverter undervoltage alarm Or Inverter overvoltage alarm	Shorten the length of a possible equipment extension cable or increase the conductors section (disconnect and connect again). Lift the motor pedal and wait for the automatic reset.
	Overtemperature alarm.	Wait until the motor system cools (the equipment does not restart if the temperature level does not go below the set safety threshold).
The chuck does not reach the maximum rotation speed.	The mechanical resistance of the gearmotor system has increased.	Turn the chuck without wheel for a few minutes so that the system heats, thus reducing frictions. If in the end the chuck does not accelerate again, call for technical assistance. 
The chuck does not rotate in counter-clockwise direction.	Pedalboard microswitch breakage.	Replace microswitch.
The chuck doesn't rotate, but it attempts rotation when the equipment is switched on again.	Pedalboard irreversible de-calibration.	Call for technical assistance. 

<b>Problem</b>	<b>Possible cause</b>	<b>Remedy</b>
The chuck rotates slowly but it does not operate on the motor pedal.	Pedalboard reversible de-calibration.	<ol style="list-style-type: none"> <li>1. Keep the pedal to rest position.</li> <li>2. Keep the equipment connected to the net.</li> <li>3. Wait for 30 seconds that the pedalboard recalibration automatic attempt ends.</li> </ol>
The toolhead holder carriage moves vertically during machining operations.	<ol style="list-style-type: none"> <li>1. The locking cylinder is leaking air.</li> <li>2. The vertical clamping aluminium plate was inadvertently lubricated.</li> </ol>	<ol style="list-style-type: none"> <li>1. Call for technical assistance.</li> <li>2. Clean the aluminium plate from any residual lubricant.</li> </ol> 
<b>BEAD PRESS DEVICE</b>		
No movement is generated when the control lever is operated.	<ol style="list-style-type: none"> <li>1. Power supply missed.</li> <li>2. The supply hoses have not been correctly assembled.</li> <li>3. The control valve is not working.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check power supply.</li> <li>2. Check hoses fitting.</li> <li>3. Call for technical assistance.</li> </ol> 
When the control lever is operated movement arises in one direction only.	The control valve is not working.	Call for technical assistance. 
<b>FRONT LIFTING DEVICE</b>		
No movement is produced when the control pedal is operated.	<ol style="list-style-type: none"> <li>1. Supply missing or insufficient.</li> <li>2. The supply hoses have not been correctly assembled.</li> <li>3. The control valve is not working.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check power supply.</li> <li>2. Check hoses fitting.</li> <li>3. Call for technical assistance.</li> </ol> 
When the equipment is aired, the front lifting device tends to move with no consent by the operator.	Possible valve de-calibration.	Call for technical assistance. 



## 15.0 TECHNICAL DATA

### 15.1 Technical electrical data

Motor power (kW)		0.75 (1 Hp)
Inverter motor power (kW)		1.5 (2 Hp)
Power supply	Voltage (V)	200-265
	Phases	1
	Frequency (Hz)	50/60
Typical current draw (A)		10
Chuck rotation speed (rev/min)		0 - 15

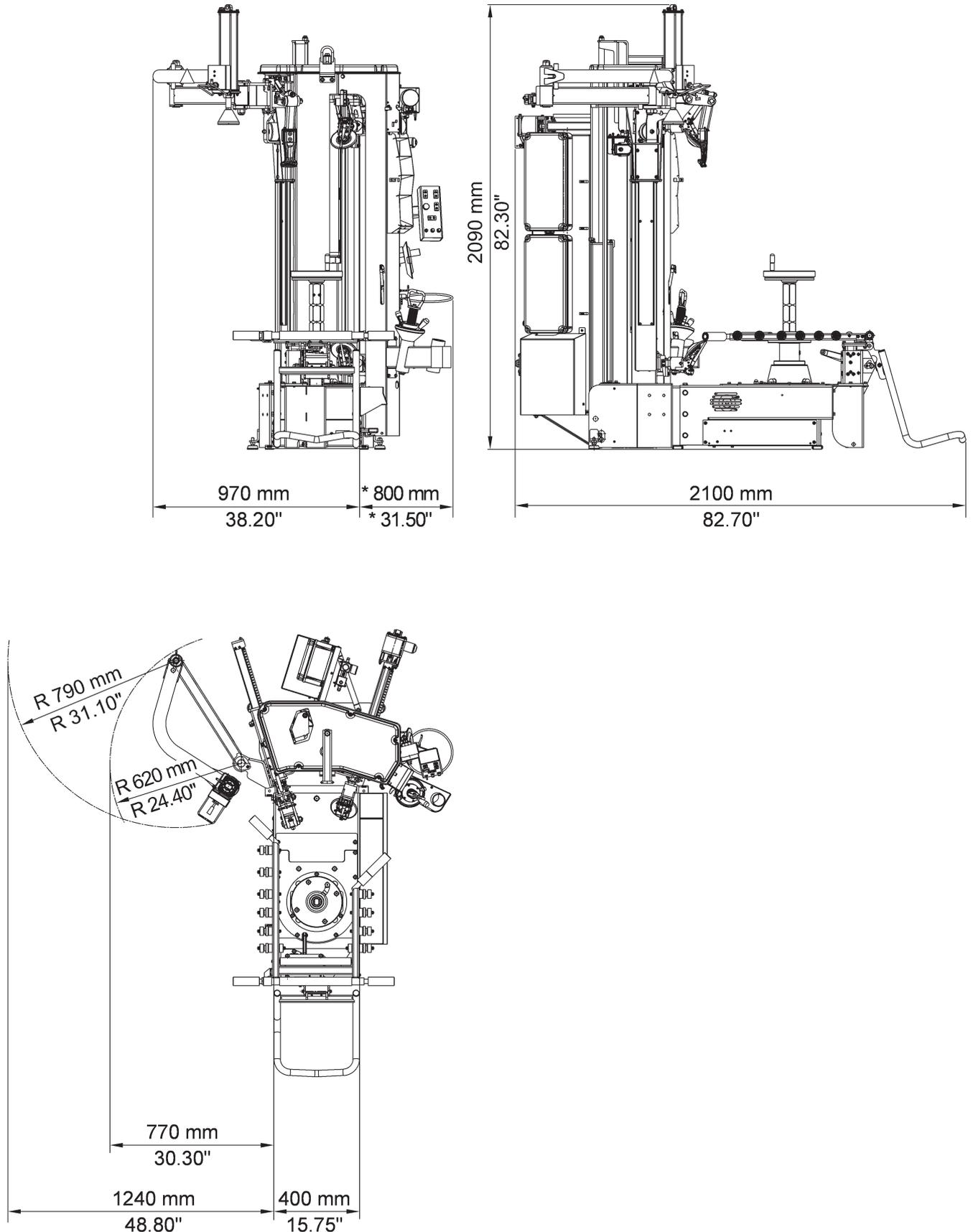
### 15.2 Technical mechanical data

Tyre max. diameter (inches)	1194 (47")
Rim locking diameter (inches)	10 - 30
Wheel max. width (inches)	15
Bead-breaking force at 10 bar (145 psi) (N)	12000 (2700 lbs)
Operating pressure (bar)	8 - 10 (116 - 145 psi)

	<b>RAV.G1250.200129</b>	<b>RAV.G1250.200037</b>
Weight (kg)	460 (1014 lbs)	470 (1036 lbs)

**15.3 Dimensions**

**Fig. 108**



\* applies to model with tubeless inflation system

**16.0 STORING**

If storing for long periods disconnect the main power supply and take measures to protect the equipment from dust build-up. Lubricate parts that could be damaged from drying out. When putting the equipment back into operation replace the rubber pads and the toolhead.

**17.0 SCRAPPING**

When the decision is taken not to make further use of the equipment, it is advisable to make it inoperative by removing the connection pressure hoses. The equipment 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 equipment (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.

**18.0 REGISTRATION PLATE DATA**

TYRE CHANGER MODEL	SERIAL N°	MONTH-YEAR
AMPERAGE	BAR	POWER SUPPLY

**The validity of the Conformity Declaration enclosed to this manual is also extended to products and/or devices the equipment model object of the Conformity Declaration can be equipped with. Said plate must always be kept clean from grease residues or filth generally.**

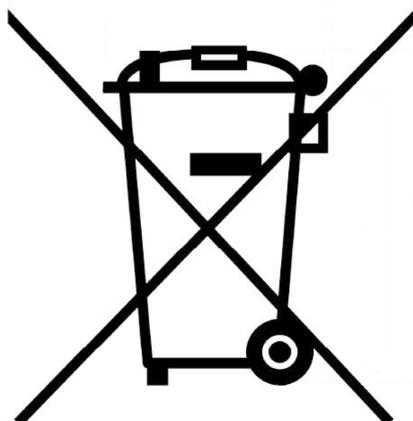
**ATTENTION: TAMPERING WITH, CARVING, CHANGING ANYHOW OR EVEN REMOVING EQUIPMENT IDENTIFICATION PLATE IS ABSOLUTELY FORBIDDEN; DO NOT COVER IT WITH TEMPORARY PANELS, ETC., SINCE IT MUST ALWAYS BE VISIBLE.**

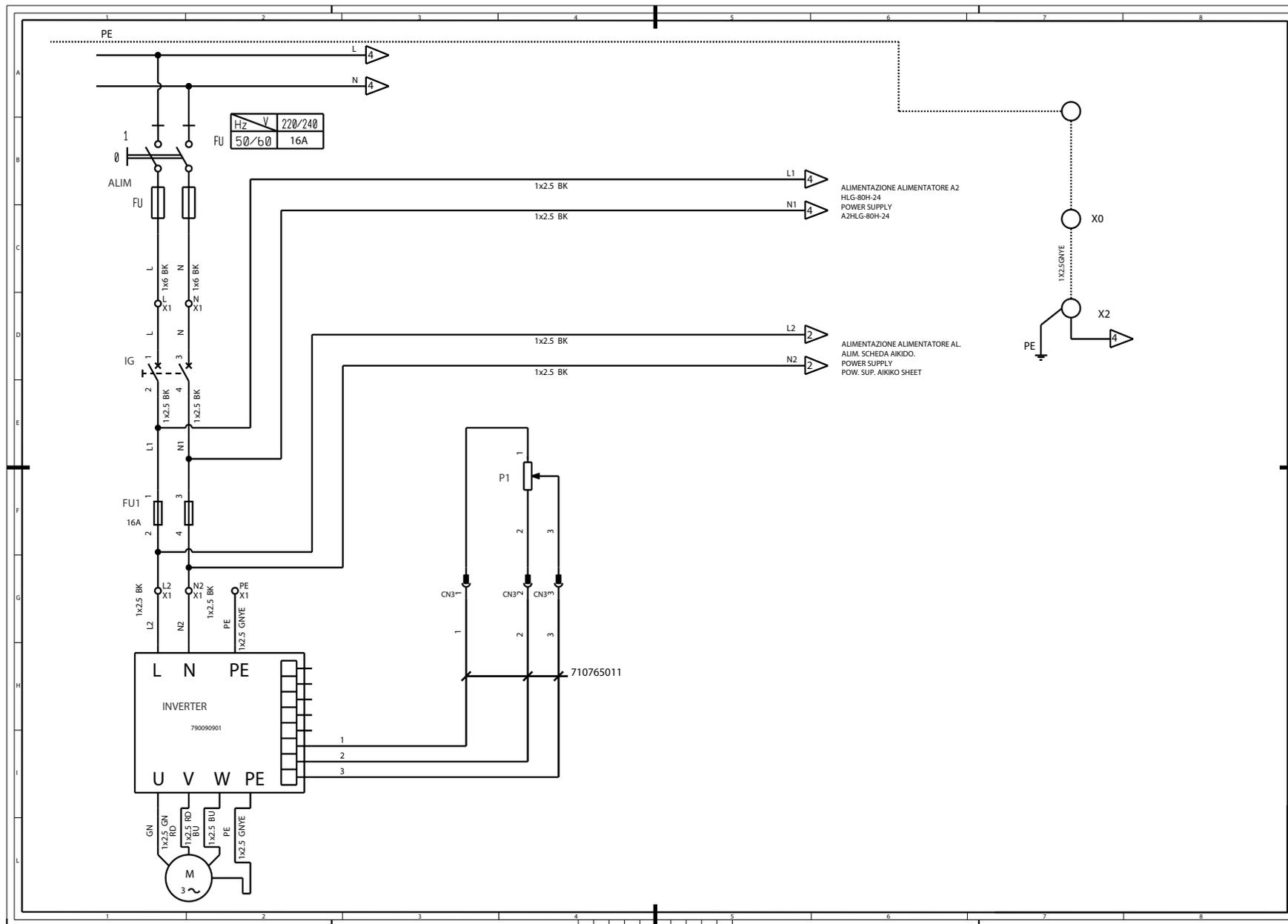
*WARNING: Should the plate be accidentally damaged (removed from the equipment, damaged or even partially illegible) inform immediately the manufacturer.*

**19.0 FUNCTIONAL DIAGRAMS**

Here follows a list of the equipment functional diagrams.

**Fig. 109**





LIST OF COMPONENTS

Drawing N°A

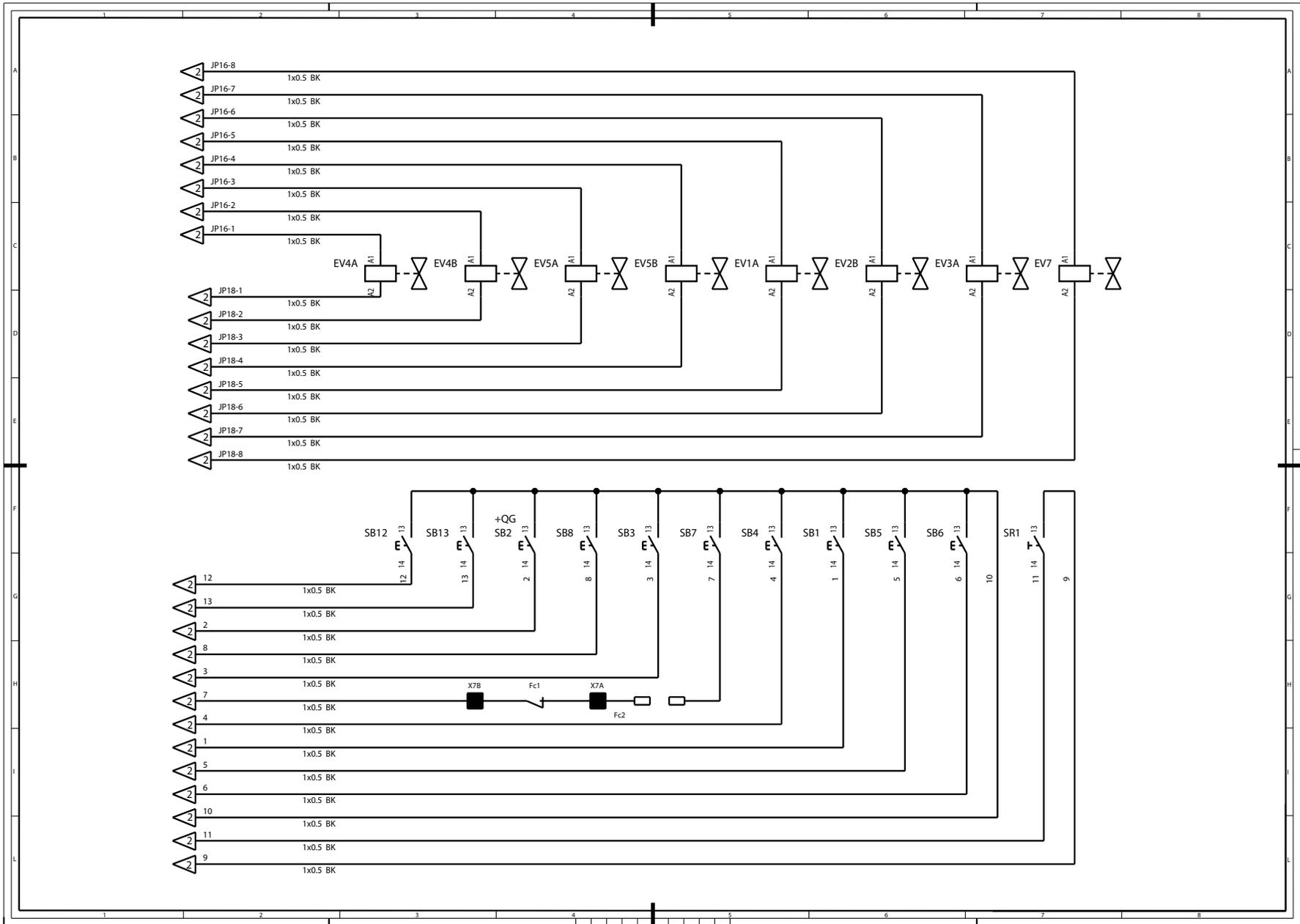
710505570 - Rev. 0

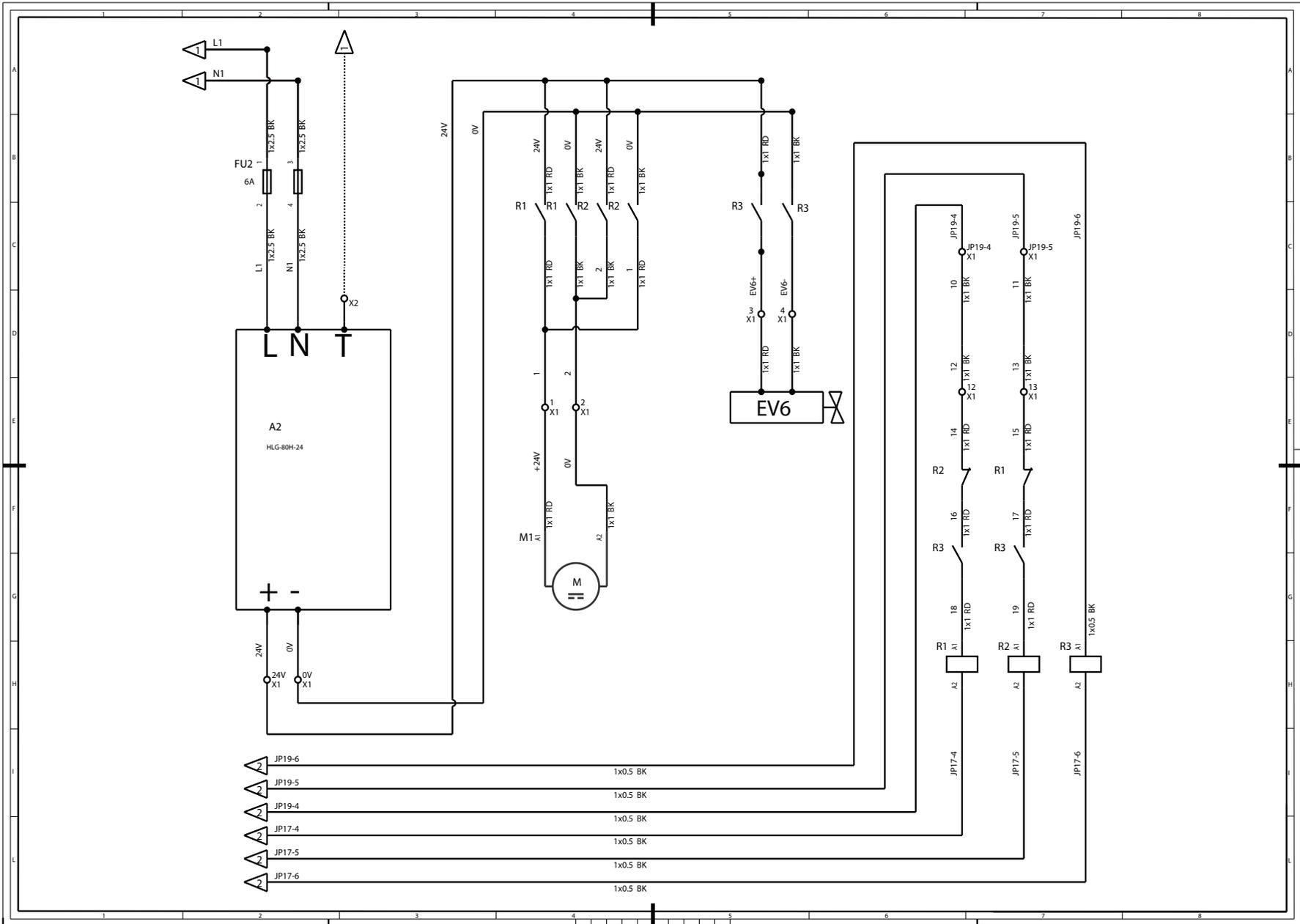
WIRING DIAGRAM 1/5

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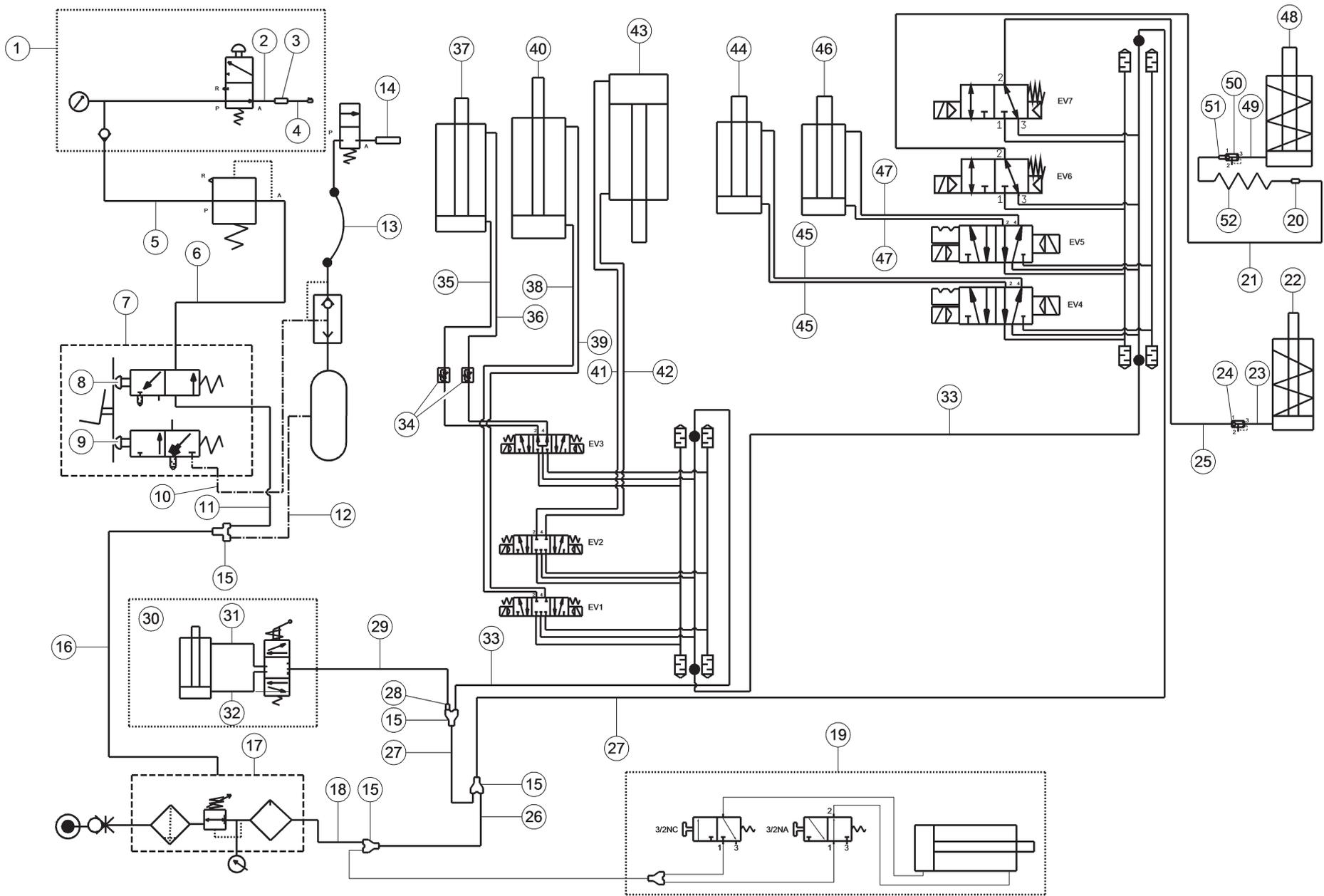
TYRE-CHANGER SERIES  
G1250













LIST OF COMPONENTS

PNEUMATIC DIAGRAM

Drawing N°B - Rev. 0

710505170

TYRE-CHANGER SERIES  
G1250

No.	Cod.	Description
1		Inflation assembly with pressure gauge
2	317008	8x6 red rilsan hose L=950
3	325204	Straight fixed fitting 1/4"
4	B1600000	Inflation device
5	317008	8x6 red rilsan hose L=2350
6	317009	8x6 blue rilsan hose L=450
7		Inflation pedal valve
8		Black - Normally open
9		White - Normally closed
10	317007	8x6 black rilsan hose L=1200
11	317009	8x6 blue rilsan hose L=250
12	317009	8x6 blue rilsan hose L=690
13	790090810	Hose
14		Inflation nozzle.
15	325181	Y8-fitting
16	317009	8x6 blue rilsan hose L=1500
17		Pressure reducer filter assembly
18	317007	8x6 black rilsan hose L=600
19	710591650	Front lifting device
20	B9451000	D.4 straight intermediate fitting
21	317026	4x2.7 black rilsan hose L=2300
22		Tool carriage brake cylinder
23	317006	6x4 black rilsan hose L=90
24	B4077600	Quick exhaust valve
25	317006	6x4 black rilsan hose L=2800
26	317007	8x6 black rilsan hose L=100
27	317007	8x6 black rilsan hose L=50
28	325054	8-6 reduction
29	317006	6x4 black rilsan hose L=4700
30		Plus cylinder
31	317006	6x4 black rilsan hose L=200
32	317006	6x4 black rilsan hose L=350
33	317007	8x6 black rilsan hose L=300
34	399284	Flow regulator
35	317007	8x6 black rilsan hose L=500
36	317007	8x6 black rilsan hose L=1450
37		Tool cylinder
38	317007	8x6 black rilsan hose L=700
39	317007	8x6 black rilsan hose L=1480
40		Upper bead breaker roller cylinder



**Content of the EC declaration of conformity (with reference to point 1.7.4.2, letter c) of directive 2006/42/EC)**

With reference to annex II, part 1, section A of directive 2006/42/EC, the declaration of conformity accompanying the machinery contains:

1. the business name and full address of the manufacturer and, where applicable, its authorised representative;  
**See the first page of the manual**
2. name and address of the person authorised to compile the technical file, who must be established in the Community;  
**It coincides with the manufacturer, see the first page of the manual**
3. description and identification of the machine, including generic name, function, model, type, serial number, trade name;  
**See the first page of the manual**
4. a statement explicitly declaring that the machinery is in conformity with all the relevant provisions of this directive and, where appropriate, a similar statement declaring conformity with other community directives and/or relevant provisions with which the machinery complies. These references must be those of the texts published in the Official Journal of the European Union;  
**The machinery must comply with the following applicable Directives:**  

<b>2006/42/CE</b>	<b>Machinery Directive</b>
<b>2014/30/EU</b>	<b>Electromagnetic Compatibility Directive</b>
5. where appropriate, the name, address and identification number of the notified body which carried out the EC type-examination referred to in annex IX and the number of the EC type-examination certificate;  
**N/A**
6. where appropriate, the name, address and identification number of the notified body which approved the full quality assurance system referred to in annex X;  
**N/A**
7. where appropriate, reference to the harmonised standards referred to in article 7, paragraph 2, which have been applied;  

<b>UNI EN ISO 12100:2010</b>	<b>Safety of machinery - General principles for design - Risk assessment and risk reduction;</b>
<b>CEI EN 60204-1:2018</b>	<b>Safety of machinery - Electrical equipment of machines - Part 1: General requirements</b>
8. where appropriate, reference to other standards and technical specifications applied;  

<b>UNI EN 17347:2001</b>	<b>Road vehicles – Machines for mounting and demounting vehicle tyres – Safety requirements</b>
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9. place and date of declaration;  
**Ostellato,                    /                    /**
10. identification and signature of the person authorised to draw up the declaration on behalf of the manufacturer or its authorised representative.  
**SIMONE FERRARI VP VSG Europe Managing Director**

**Content of the declaration of conformity (with reference to Schedule 2, Part 1, Annex I, point 1.7.4.2, letter c) of UK Statutory Instrument 2008 No. 1597)**

With reference to schedule 2 annex I, part1, section A of UK Statutory Instrument 2008 No. 1597, the declaration of conformity accompanying the machinery contains:

1. the business name and full address of the manufacturer and, where applicable, its authorised representative;  
**Manufacturer: see the first page of the manual.**  
 Authorised representative:  
**VEHICLE SERVICE GROUP UK LTD**  
**3 Fourth Avenue - Bluebridge Industrial Estate - Halstead**  
**Essex CO9 2SY - United Kingdom**
2. name and address of the person authorised to compile the technical file;  
**It coincides with the authorized representative, see point 1**
3. description and identification of the machine, including generic name, function, model, type, serial number, trade name;  
**See the first page of the manual**
4. a sentence expressly declaring that the machinery fulfils all the relevant provisions of these Regulations and where appropriate, a similar sentence declaring the conformity with other enactments or relevant provisions with which the machinery complies;  
**The machinery complies with the following applicable UK Statutory Instruments:**  
**The Supply of Machinery (Safety) Regulations 2008**  
**The Electrical Equipment (Safety) Regulations 2016**  
**The Electromagnetic Compatibility Regulations 2016**
5. where appropriate, the name, address and identification number of the approved body which approved the full quality assurance system referred to in Annex X (Part 10 of this Schedule);  
**N/A**
6. where appropriate, the name, address and identification number of the approved body which approved the full quality assurance system referred to in Annex X (Part 10 of this Schedule);  
**N/A**
7. where appropriate, a reference to the designated standards used;
 

<b>BS EN ISO 12100:2010</b>	<b>Safety of machinery - General principles for design - Risk assessment and risk reduction;</b>
<b>BS EN 60204-1:2018</b>	<b>Safety of machinery - Electrical equipment of machines. General requirements.</b>
<b>BS EN 61000-6-3:2007 +A1:2011 +AC:2012</b>	<b>Electromagnetic compatibility (EMC) - Part 6-3. Generic standards - Emission standard for residential, commercial and light-industrial environments.</b>
<b>BS EN 61000-6-2:2005 +AC:2005</b>	<b>Electromagnetic compatibility (EMC) - Part 6-2. Generic standards - Immunity for industrial environments.</b>
8. where appropriate, reference to other standards and technical specifications applied;  
**N/A**
9. place and date of declaration;  
**Ostellato,                    /                    /**
10. identification and signature of the person authorised to draw up the declaration on behalf of the manufacturer or its authorised representative.  
**SIMONE FERRARI VP VSG Europe Managing Director**