



ENGINEERING and MARKETING S.P.A.

7109-M006-00

AIKIDO.EVOPREMIUM

INSTRUCTION MANUAL

EN

TRANSLATION FROM THE
ORIGINAL INSTRUCTIONS

For spare parts drawings refer to "LIST OF COMPONENTS" section.

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

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

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

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

7109-M006-00 - Rev. n. 00 (07/2021)



ENGINEERING and MARKETING S.P.A.

7109-M004-00

**AIKIDO.EVO
AIKIDO.EVOFI
AIKIDO.EVOPREMIUM**

INSTRUCTION MANUAL

EN

TRANSLATION FROM THE
ORIGINAL INSTRUCTIONS

For spare parts drawings refer to "LIST OF COMPONENTS" section.

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

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

7109-M004-00 - Rev. n. 00 (07/2021)

SUMMARY

GENERAL DESCRIPTION _____	4	12.0 USING THE MACHINE _____	21
SYMBOLS USED IN THE MANUAL _____	6	12.1 <i>Precaution measures during tyre removal and fitting</i> _____	21
INFORMATION PLATE LOCATION DRAWING _____	7	12.2 <i>Preliminary operations - Preparing the wheel</i> _____	21
1.0 GENERAL INTRODUCTION _____	9	12.3 <i>Use of the lifting device</i> _____	21
1.1 <i>Introduction</i> _____	9	12.4 <i>Wheel clamping</i> _____	22
2.0 INTENDED USE _____	9	12.4.1 <i>Chuck height adjustment</i> _____	24
2.1 <i>Training of personnel</i> _____	9	12.4.2 <i>Reverse wheel pan protection</i> _____	25
3.0 SAFETY DEVICES _____	10	12.5 <i>Bead breaking through vertical rollers</i> _____	25
3.1 <i>Residual risks</i> _____	10	12.6 <i>Demounting the tyre</i> _____	27
4.0 GENERAL SAFETY RULES _____	11	12.7 <i>Mounting the tyre</i> _____	31
5.0 PACKING AND MOBILIZATION FOR TRANSPORT _____	12	12.7.1 <i>Mounting the upper bead of the tyre with the bead pusher</i> _____	31
6.0 UNPACKING _____	12	12.8 <i>Special use of the bead-breaker</i> _____	32
7.0 MOBILIZATION _____	13	12.9 <i>Tyre inflation with machine without tubeless inflation unit</i> _____	33
8.0 WORKING ENVIRONMENT CONDITIONS _____	13	12.10 <i>Tyre inflation with machine with tubeless inflation (optional on some models)</i> _____	33
8.1 <i>Working position</i> _____	13	13.0 ROUTINE MAINTENANCE _____	34
8.2 <i>Working area</i> _____	13	13.1 <i>Replacement of the feeler pin</i> _____	35
8.3 <i>Lighting</i> _____	14	13.2 <i>Lubricants</i> _____	35
9.0 MACHINE ASSEMBLY _____	14	13.3 <i>Neck adjustment</i> _____	36
9.1 <i>Anchoring system</i> _____	14	14.0 TROUBLESHOOTING TABLE _____	39
9.2 <i>Assembly procedures</i> _____	15	15.0 TECHNICAL DATA _____	41
9.3 <i>Air connection</i> _____	16	15.1 <i>Technical electrical data</i> _____	41
10.0 ELECTRICAL CONNECTIONS _____	17	15.2 <i>Technical mechanical data</i> _____	41
10.1 <i>Electrical checks</i> _____	17	15.3 <i>Dimensions</i> _____	42
11.0 CONTROLS _____	18	16.0 STORING _____	43
11.1 <i>Control device</i> _____	18	17.0 SCRAPPING _____	43
11.2 <i>Storing of tool vertical position</i> _____	19	18.0 REGISTRATION PLATE DATA _____	43
11.2.1 <i>Return of tool vertical position</i> _____	19	19.0 FUNCTIONAL DIAGRAMS _____	43
11.2.2 <i>Erasure of tool stored position</i> _____	19	Drawing A - <i>Wiring diagram</i> _____	44
11.2.3 <i>Reset of tool stored position</i> _____	19	Drawing B - <i>Pneumatic diagram (versions without tubeless inflation only)</i> _____	46
11.3 <i>Pedalboard</i> _____	20	Drawing C - <i>Pneumatic diagram (versions with tubeless inflation only)</i> _____	49

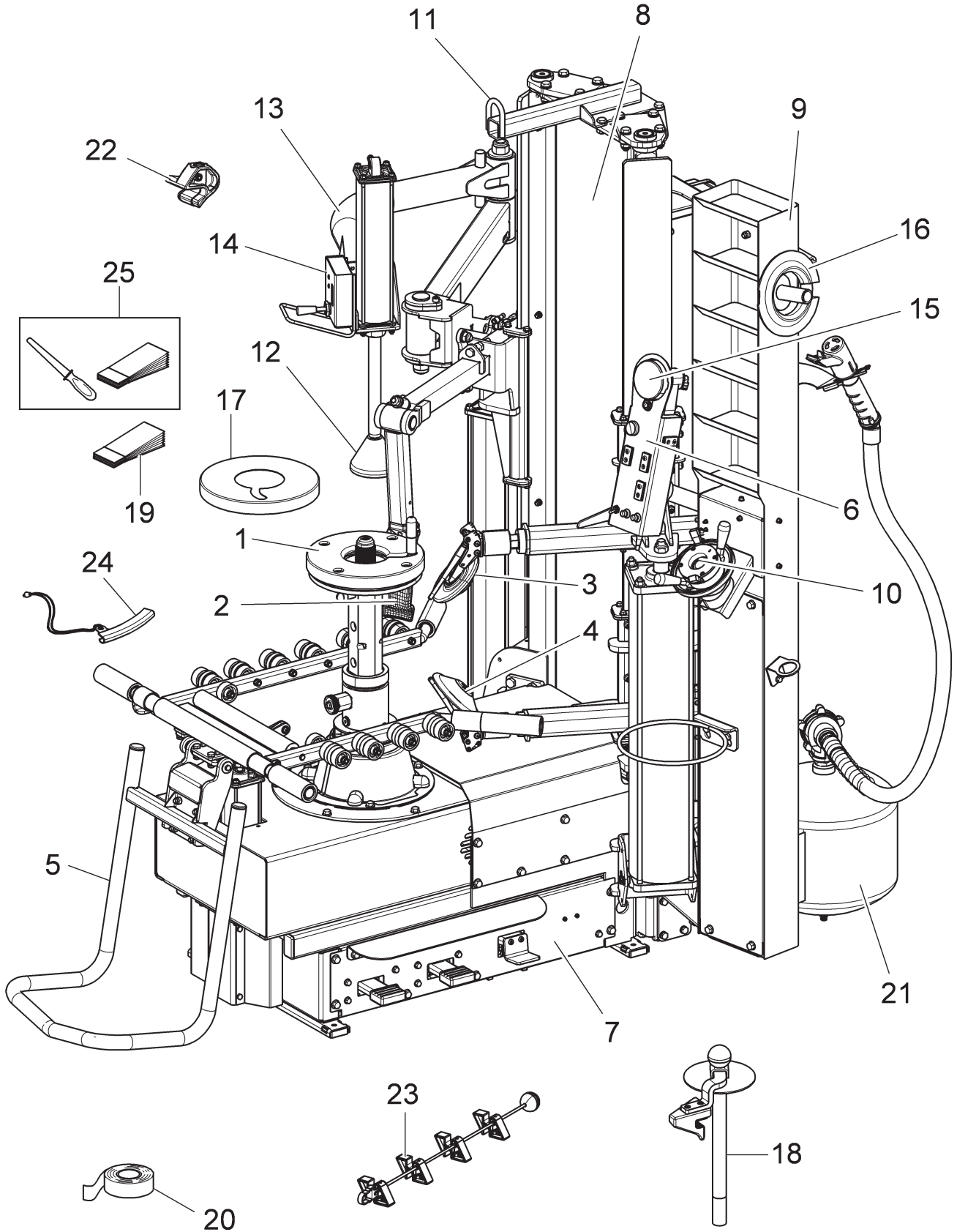
Features / Fixtures	Model	AIKIDO.EVO	AIKIDO.EVOFI	AIKIDO.EVOPREMIUM
Tubeless inflation unit			•	
Bead protection kit + 50 bead sliding foil				•
Pusher				•
Bead pressing extension				•
Bead protection for Run flat tyre				•

• = standard

OPT = optional

GENERAL DESCRIPTION







Fig. 1








KEY (Fig. 1)

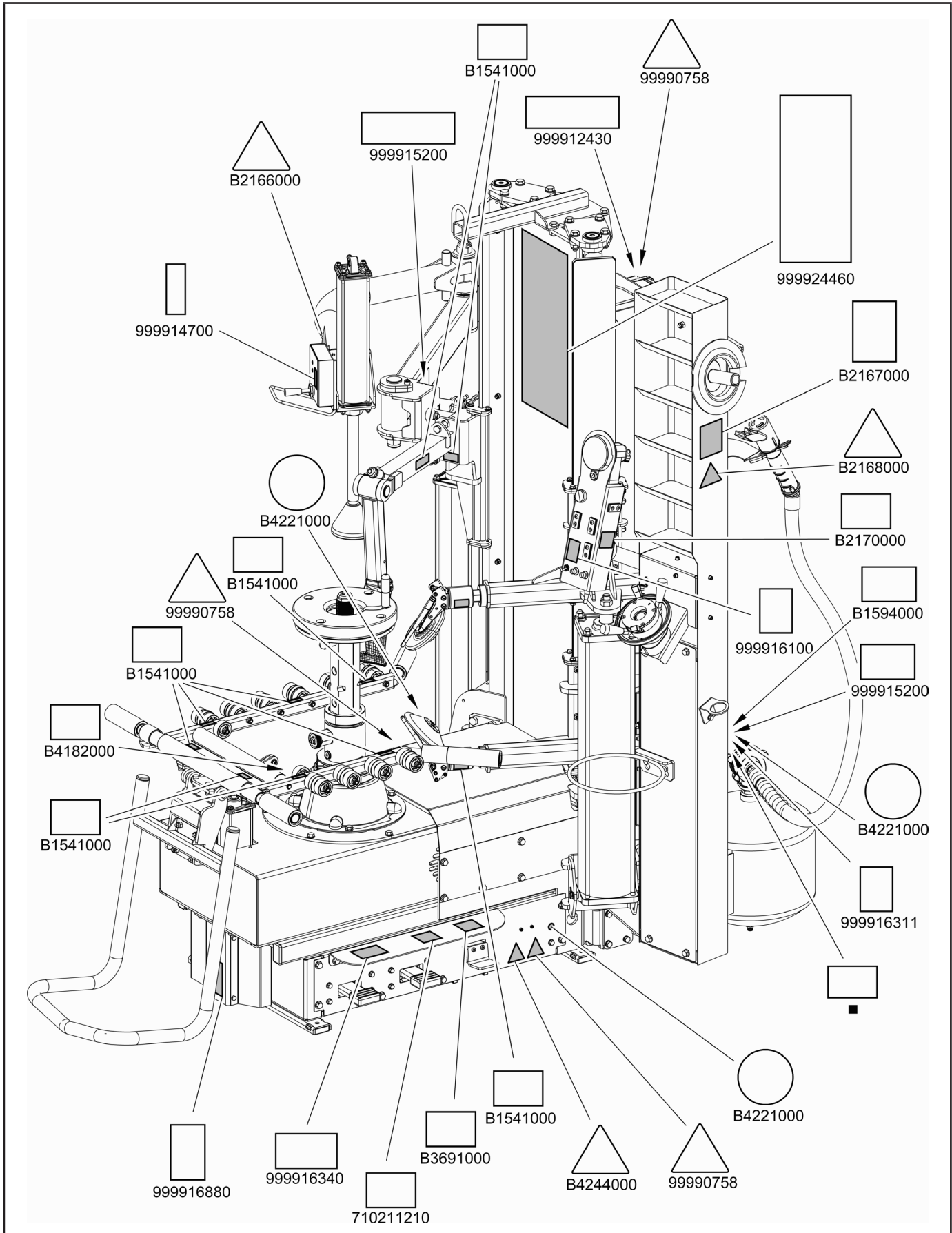
- | | |
|--------------------------------|--|
| 1 - Chuck | 16 - Two-faced cone |
| 2 - Tool | 17 - Reverse wheels protection |
| 3 - Upper bead breaker roller | 18 - Beadpusher with pulling system |
| 4 - Lower bead breaker roller | 19 - Bead sliding foil |
| 5 - Lifting device unit | 20 - Adhesive tape |
| 6 - Control panel | 21 - Tubeless inflation unit (standard on some models) |
| 7 - Pedalboard | 22 - Pressing device (standard on some models) |
| 8 - Column unit | 23 - 22-28 bead depressing extension (standard on some models) |
| 9 - Box unit | 24 - Bead protection for Run flat tyres (standard on some models) |
| 10 - Locking ring nut | 25 - Bead protection kit + bead sliding foil (standard on some models) |
| 11 - Lifting device | |
| 12 - Presser roller | |
| 13 - Pneumatic beadpusher unit | |
| 14 - Beadpusher control unit | |
| 15 - Inflation pressure gauge | |

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 intervention.

INFORMATION PLATE LOCATION DRAWING



Code numbers of plates

B1541000	<i>Danger plate</i>
B1594000	<i>Date indicating plate</i>
B2166000	<i>Bead breaker danger plate</i>
B2167000	<i>Protective clothing plate</i>
B2168000	<i>Tyre burst plate</i>
B2170000	<i>Maximum inflation pressure rating plate</i>
B3691000	<i>Inflation pedal plate</i>
B4182000	<i>Electric motor specifications plate</i>
B4221000	<i>Grounding plate</i>
B4244000	<i>Rotating parts danger plate</i>
99990758	<i>Electric shock danger plate</i>
710211210	<i>Rotation direction plate</i>
999912430	<i>230V 50 Hz plate</i>
999914700	<i>Bead pressing device control plate</i>
999915200	<i>Serial number plate</i>
999916100	<i>Auto/Man plate</i>
999916311	<i>Rubbish skip plate</i>
999916340	<i>Lifting device pedal plate</i>
999916880	<i>Max. capacity load 80 Kg plate (177 lbs)</i>
999924460	<i>AIKIDO.EVO plate</i>
■	<i>QR code plate</i>



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



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

1.0 GENERAL INTRODUCTION

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

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



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



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

1.1 Introduction

Thank you for purchasing this electropneumatic tyre changer. We feel sure you will not regret your decision. This machine has been designed for use in professional workshops and in particular it stands out for its reliability and easy, safe and rapid operation: with just a small degree of maintenance and care, this tyre changer will give you many years of trouble-free service and lots of satisfaction.

2.0 INTENDED USE

The machines described in this manual, and their different versions, are tyre-changers for car tyres projected to be used exclusively for the mounting, demounting, and inflation of wheels with dimension and width values mentioned in "Technical specifications" chapter.



THIS ACCESSORY MUST ONLY BE USED FOR THE PURPOSE FOR WHICH IT IS SPECIFICALLY DESIGNED. ANY OTHER USE IS CONSIDERED IMPROPER AND THEREFORE UNACCEPTABLE.



THE MANUFACTURER CANNOT BE HELD RESPONSIBLE FOR ANY DAMAGE 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 machine and to carry out the operations safely and efficiently, the personnel must be trained in such a way that they learn all the information necessary to operate the machine as intended by the manufacturer.



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

3.0 SAFETY DEVICES



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

All the machines are equipped with:

- **“man-operated” controls** (immediate stop of operation when the control is released) for all drives;
- chuck rotation;
- tool movement;
- bead breaking roller movement.
- **Control logic disposition**

Its function is to prevent the operator from dangerous mistakes.

- **Fixed protections and guards**

The machine is fitted with a number of fixed guards intended to prevent potential crushing, cutting and compression risks.

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

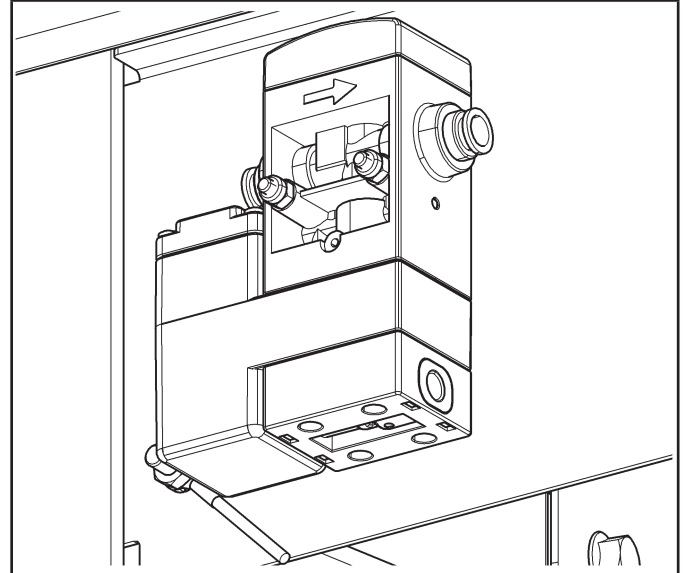
All protections, specially the rubber ones, have to be periodically checked in order to evaluate their wear state.



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

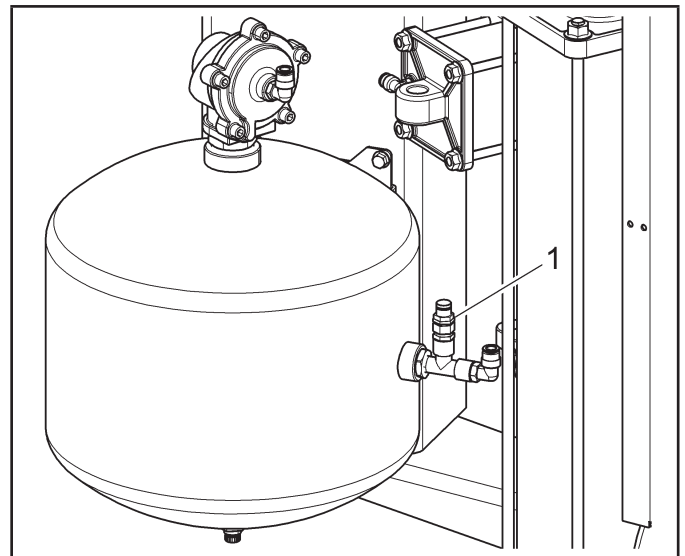
- **Non-adjustable (balancing valve) pressure relief device.**

This allows inflation of tyres in reasonable safety. Inflation of tyres to over $4,2 \pm 0,2$ bar (60 ± 3 psi) is not allowed.



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

The safety valve (see the following figure **ref. 1**) avoids that the inflation tank is under a pressure above 12 bar (174 psi).



3.1 Residual risks

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

This manual stresses possible residual risks, also highlighted in pictograms on the present manual and adhesive warning signals placed on the machine: their location is represented in “PLATE LOCATION” on page 7.




4.0 GENERAL SAFETY RULES




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

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

- The installation must be performed by qualified and authorized personnel in full compliance with the instructions given below.
- Ensure that there are no dangerous situations during the machine operating manoeuvres. Immediately stop the machine if it miss-functions and contact the customer service of an authorized dealer.
- In emergency situations and before carrying out any maintenance or repairs, isolate the equipment from energy sources by disconnecting the power supply using the main switch.
- The machine power supply system must be equipped with an appropriate earthing, to which the yellow-green machine protection wire must be connected.
- Ensure that the work area around the machine is free of potentially dangerous objects and that there is no oil since this could damage the tyre. Oil on the floor is also a potential danger for the operator.

	<p>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.</p>
	
	

- The machine handles and operating grips must be kept clean and free from oil.
- The workshop must be kept clean and dry. Make sure that the working premises are properly lit. The machine can be operated by a single operator. Unauthorised personnel must remain outside the working area, as shown in **Fig. 4**. Avoid any hazardous situations. Do not use air-operated or electrical equipment when the shop is damp or the floor slippery and do not expose such tools to atmospheric agents.
- 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 machine and never in front of it.
- When operating and servicing this machine, carefully follow all applicable safety and accident-prevention precautions. The machine must not be operated by untrained personnel.
- Never activate the inflation device (only on models with tubeless inflation) if the tyre has not been correctly locked.

	<p>IN CASE OF ACCIDENTAL SUPPLY FAILURE (BOTH ELECTRICITY AND COMPRESSED AIR), MOVE THE PEDALS TO THE NEUTRAL POSITION.</p>
---	--

5.0 PACKING AND MOBILIZATION FOR TRANSPORT

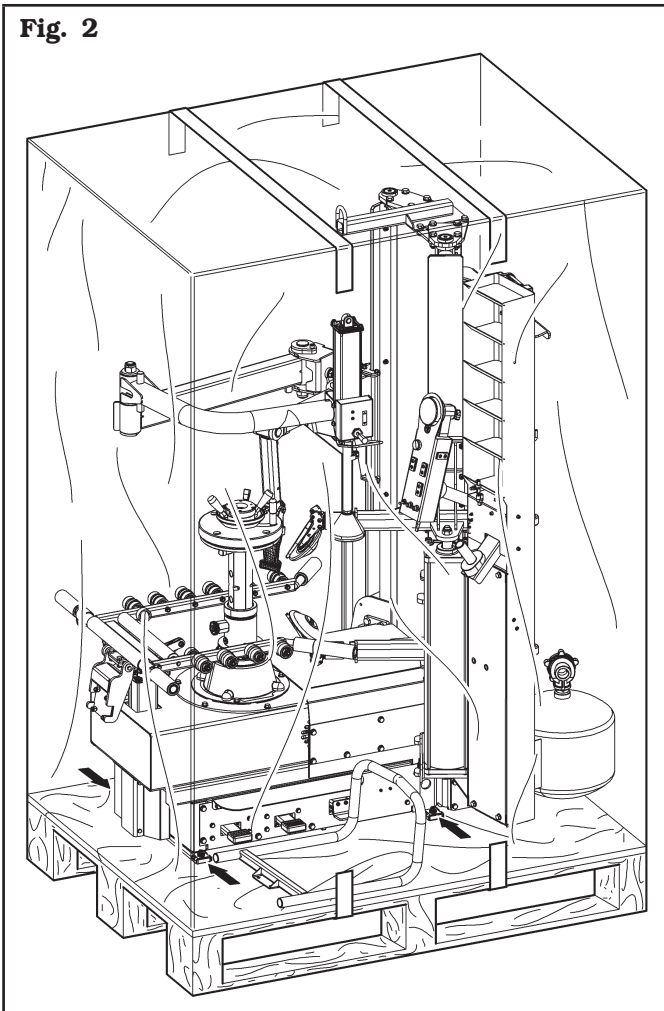


HAVE THE MACHINE HANDLED BY SKILLED PERSONNEL ONLY.

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

The machine is packed partially assembled.
Handling must be by pallet-lift or fork-lift trolley.
The fork lifting points are indicated on the packing.

Fig. 2



6.0 UNPACKING



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

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

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

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

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

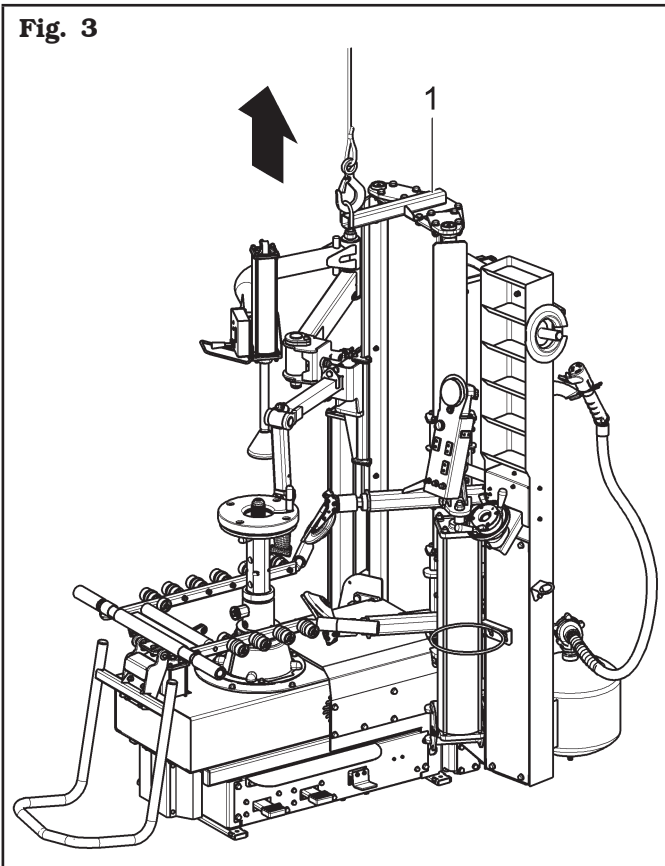
7.0 MOBILIZATION



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

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

- Protect the exposed corners with suitable material (Pluribol/cardboard).
- Do not use metallic cables for lifting.
- Make sure that the power supply is not connected.
- Sling with belts long at least 450 cm (177") and with a capacity load greater than 2500 Kg (5500 lbs).
- Then carry out the lifting using the bracket (**Fig. 3 ref. 1**).

Fig. 3

8.0 WORKING ENVIRONMENT CONDITIONS

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

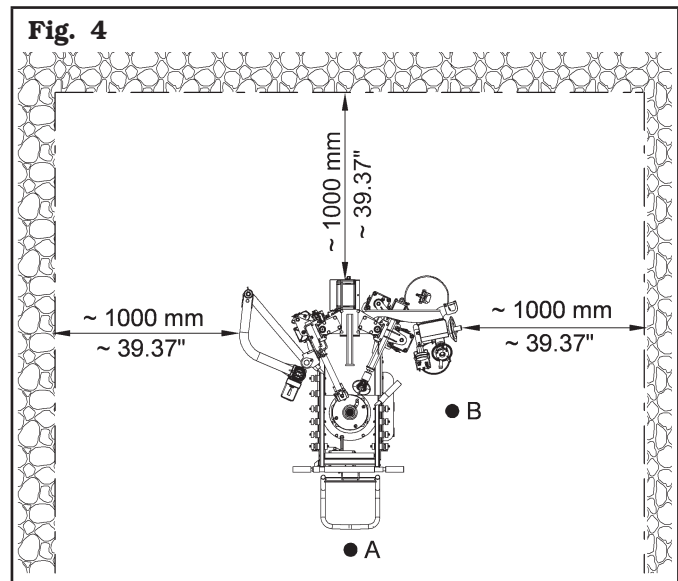
8.1 Working position

In **Fig. 4** it's possible to define working positions **A** and **B** which will be referred to in the description of machine operative phases.

Position **A** is the main position for wheel fitting and removal on the chuck, while position **B** is ideal to follow tyre inflation 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

Fig. 4



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

The location of the machine requires a usable space as indicated in **Fig. 4**. The positioning of the machine must be according to the distances shown. From the control position the operator is able to observe all the machine and surrounding area. He must prevent unauthorized personnel or objects that could be dangerous from entering the area. The machine must be secured to a flat floor surface, preferably of cement or tiled. Avoid yielding or irregular surfaces. The base floor must be able to support the loads transmitted during operation. This surface must have a capacity load of at least 500 Kg/m² (102 lb/ft²).

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

8.3 Lighting

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

9.0 MACHINE ASSEMBLY

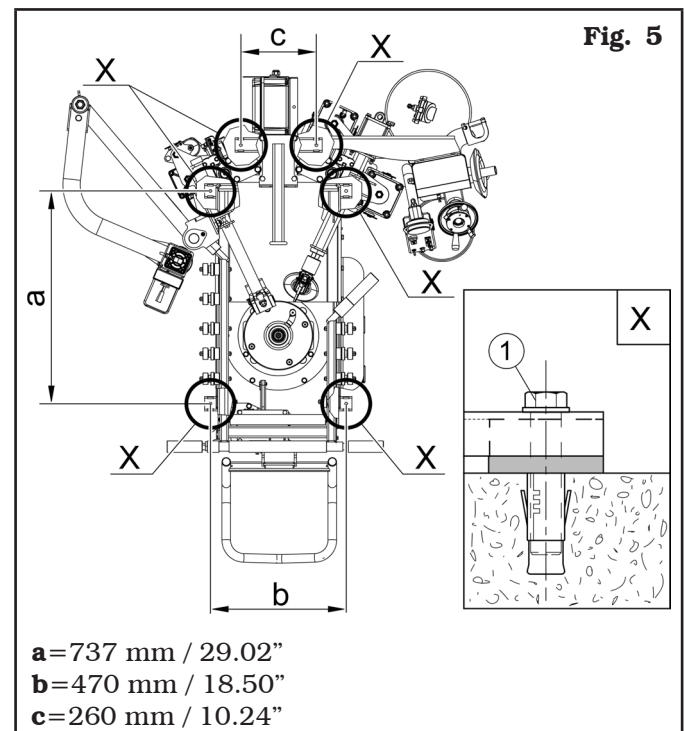


EACH MECHANICAL INTERVENTION MUST BE CARRIED OUT BY PROFESSIONALLY QUALIFIED STAFF.

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

9.1 Anchoring system

The packed machine is fixed to the support pallet through the holes prearranged on the frame and indicated in the figure below. Such holes can be used also to secure the machine to the ground, using floor anchors (not included in the supply). Before carrying out the definitive fixing, check that all the anchor points are laid down flat and correctly in contact with the fixing surface itself. If not so, insert shimming profiles between the machine and the fixing lower surface, as indicated in **Fig. 5**.

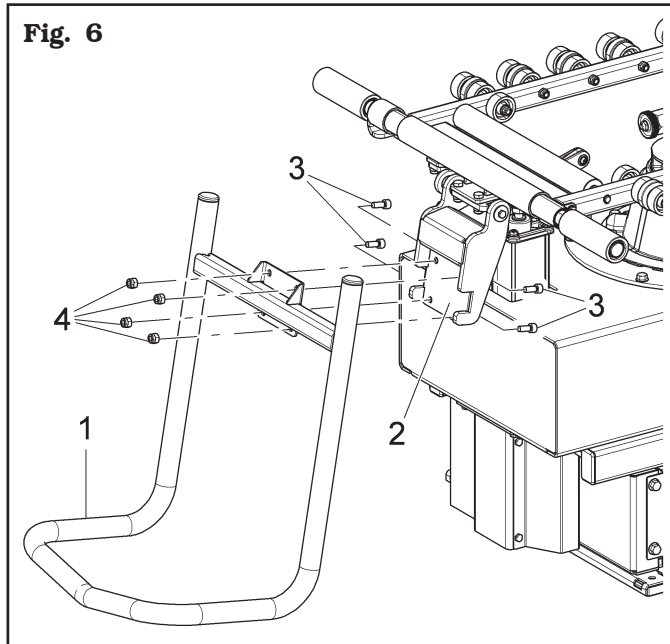


- To fasten the product to the ground, use anchoring plugs (**Fig. 5 ref. 1**) with a threaded shank M8 (UNC 5/16) suitable for the floor on which the tyre changer will be fixed and in a number equal to the number of fixing holes arranged on the bottom frame;
- drill holes in the floor, suitable for inserting the chosen anchors, in correspondence with the holes arranged on the bottom frame;
- insert the anchors into the holes made in the floor through the holes on the bottom-frame and tighten the threaded elements;

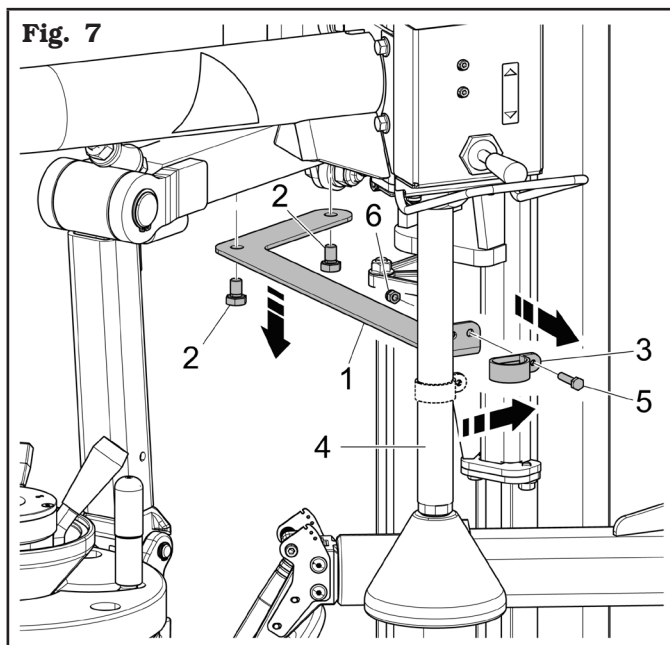
- tighten the anchors on the base frame by applying a torque equal to that indicated by the manufacturer of the anchors.

9.2 Assembly procedures

1. Fasten the tilter support pipe (**Fig. 6 ref. 1**) to the bracket of the support base (**Fig. 6 ref. 2**) using the bolts (**Fig. 6 ref. 3**) and the nuts (**Fig. 6 ref. 4**), on issue.



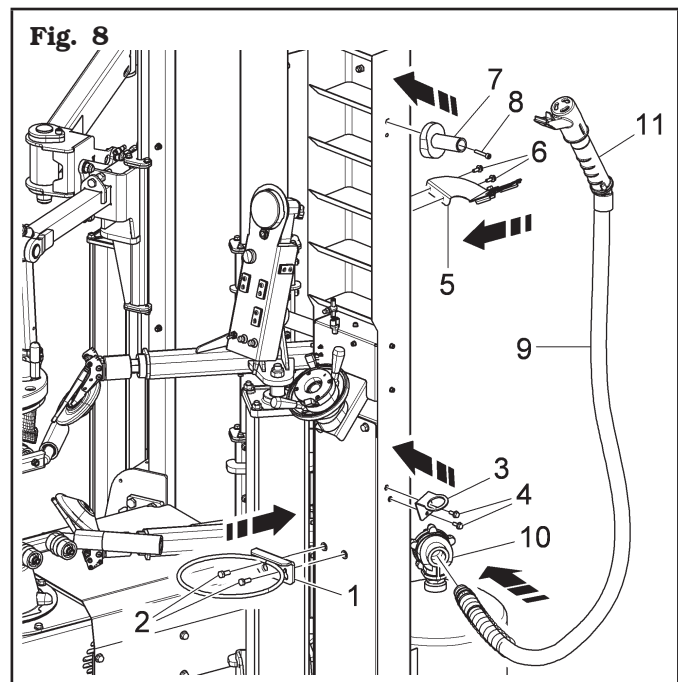
2. Remove the bracket (**Fig. 7 ref. 1**) that secures the pneumatic bead pusher unit to the tyre changer by unscrewing the bolts (**Fig. 7 ref. 2**). Remove the clamp (**Fig. 7 ref. 3**) from the piston rod of the pneumatic bead pusher (**Fig. 7 ref. 4**) by unscrewing the bolt (**Fig. 7 ref. 5**) and the nut (**Fig. 7 ref. 6**).



3. Fit the grease holder ring (**Fig. 8 ref. 1**) to the box unit with the bolts (**Fig. 8 ref. 2**), supplied. Fit the folded support (**Fig. 8 ref. 3**) with the bolts (**Fig. 8 ref. 4**), supplied. Fit the stake (**Fig. 8 ref. 7**) using the bolt (**Fig. 8 ref. 8**) supplied.

For models with Tubeless inflation unit

Fit the Tubeless inflation support unit (**Fig. 8 ref. 5**) with the bolts (**Fig. 8 ref. 6**), supplied. Connect the pipe (**Fig. 8 ref. 9**) to the tank valve (**Fig. 8 ref. 10**) and place the inflator (**Fig. 8 ref. 11**) onto the support (**Fig. 8 ref. 5**).



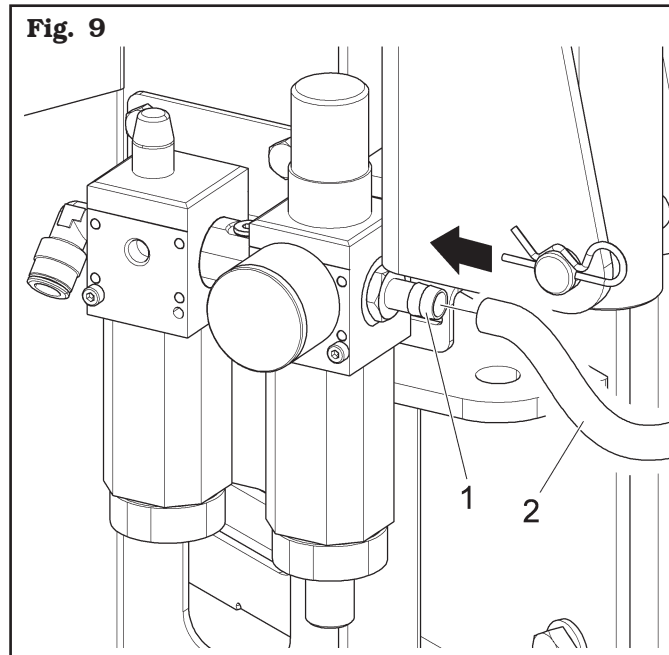
9.3 Air connection



ANY PNEUMATIC INTERVENTION MUST BE CARRIED OUT BY PROFESSIONALLY QUALIFIED STAFF.

Connect the tyre changer to the workshop compressed air system by means of plug (**Fig. 9 ref. 1**). The pressurized pipe coming from the mains must have a section of 1/4x10 (**Fig. 9 ref. 2**).

The filter unit is already mounted on the machine.





IF OTHER PNEUMATIC CONNECTIONS SHOULD BE EXECUTED, REFER TO THE PNEUMATIC DIAGRAMS ILLUSTRATED IN CHAPTER 19.0.



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

10.0 ELECTRICAL CONNECTIONS

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


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


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


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

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

For any other type of power supply, ask the manufacturer at the time of purchase: a machine functioning under the required voltage conditions will be prepared.


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


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

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

Models	Conformity standard	Voltage	Amperage	Poles	Minimum IP rating
Inverter	IEC 309	230V	16A	2 Poles + Ground	IP 44

10.1 Electrical checks

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

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

11.0 CONTROLS

11.1 Control device

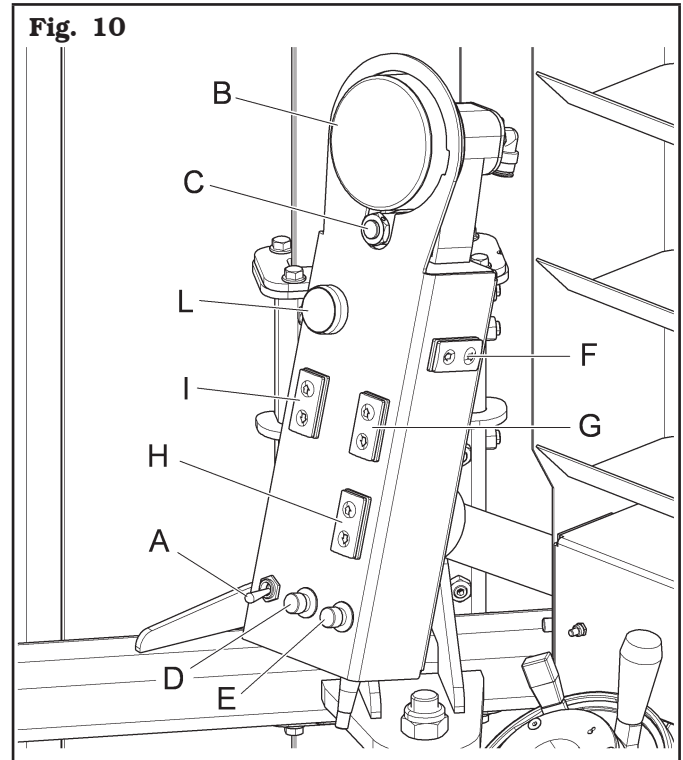
The control device consists of a panel with integrated keys and push buttons.

- The selector **"A"** allows the machine 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 required 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 the working 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.

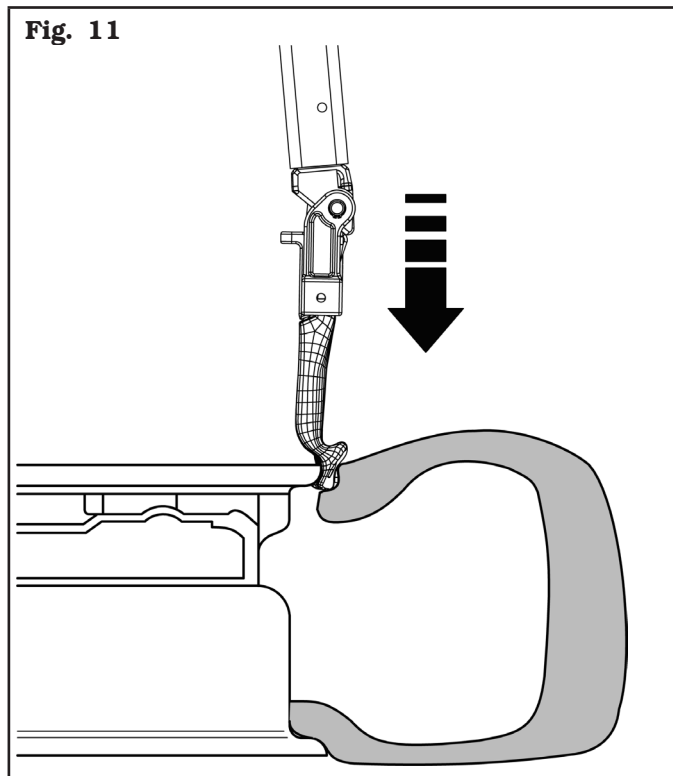
- Push button **"F"** has a maintained action position and once pushed (◀) it controls the ahead movement of the chuck. If pushed (▶) it controls the backwards movement of the chuck.
- Push button **"G"** has a maintained action position and it controls the vertical shifting of the upper bead breaking 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 maintained action position and once pushed it controls the vertical shifting of the lower bead breaking 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 maintained action position and it controls the upper tool 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 tool comes back to the previously stored position (see paragraph 11.2).

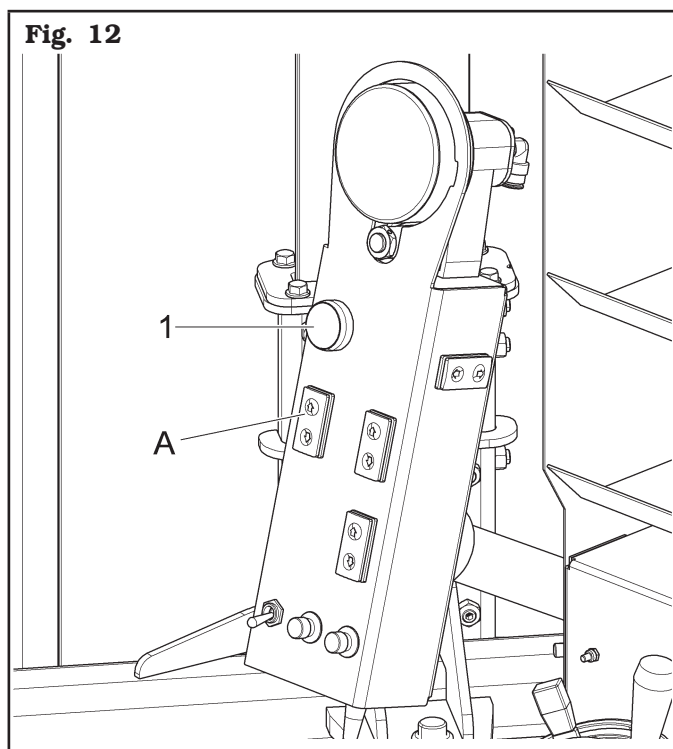


11.2 Storing of tool vertical position

Place the upper tool next to the rim edge (see **Fig. 11**).



Press the storing push button (**Fig. 12 ref. 1**) and keep it pressed until the same switches on. When it is switched on, tool position storing operation is completed.



11.2.1 Return of tool vertical position

Press storing push button (**Fig. 12 ref. 1**) in order to automatically move the upper tool in the previously stored position next to the rim edge (see **Fig. 11**). During the repositioning of the upper tool, 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 UPPER TOOL MOVEMENT, RETURNED THROUGH THE STORING FUNCTION, PRESS KEY "A" IN FIG. 12.
--	---

	ONLY THE VERTICAL POSITION OF THE UPPER TOOL CAN BE STORED.
--	--

11.2.2 Erasure of tool stored position

Press the storing push button (**Fig. 12 ref. 1**) and keep it pressed until the same switches off.

11.2.3 Reset of tool stored position

In order to modify the stored position of the upper tool, use tool vertical movement push button (**Fig. 10 ref. 1**) in order to move the same in the new required position. Press the storing push button (**Fig. 12 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 Pedalboard

“Pedal A” has two maintained action 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 UNIT SPEED CAN BE CONTINUOUSLY ADJUSTED UP TO THE MAXIMUM SPEED THROUGH A PROGRESSIVE PRESSURE ON THE PEDAL, ONLY IN CLOCKWISE DIRECTION.

“Pedal B” (inflation with pressure gauge)

The inflation pedal has only one function: with a maintained action, it supplies air at a controlled pressure (max $4,2 \pm 0,2$ 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.

“Pedal B” (inflation with tubeless tubeless inflation - for models that provide it)

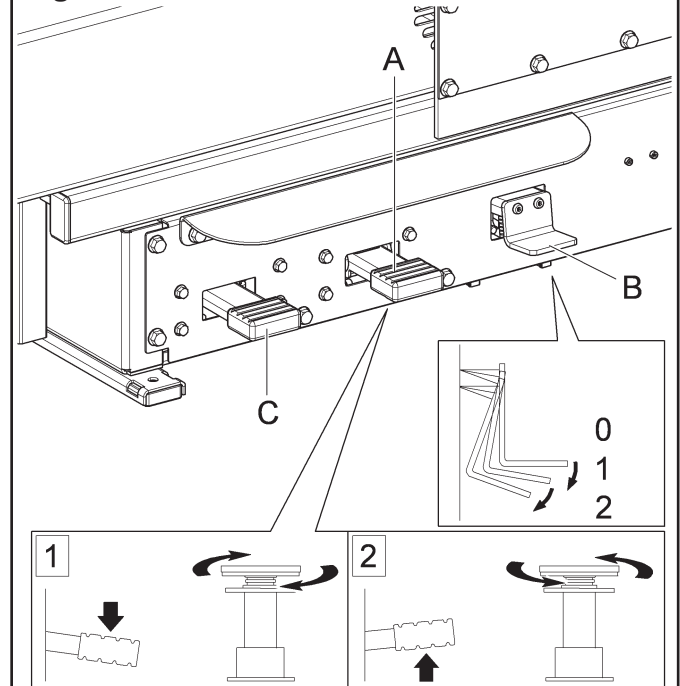
The inflation pedal has two functions. The supply of air at max. controlled pressure as in the previous version, and a second function of a jet of air from the inflation nozzle to assist the beading in of the tyre.



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 maintained action operative positions. A downward pressure raises the wheel support of the lifter. When the pedal is lifted upwards it operates the opposite movement.

Fig. 13



KEY (pedal ref. B)

ref. 1- Tyre inflation with pressure gauge

ref. 2- Tyre inflation with pressure gauge + inflation nozzle (standard on some models)

12.0 USING THE MACHINE

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 bead nor the tread of the tyre are damaged;
 - the rim does not produce dents and/or deformation (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 inner pipe 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; on the contrary, 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 machine.

12.2 Preliminary operations - Preparing the wheel

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



REMOVE THE VALVE STEM AND ALLOW THE TYRE TO COMPLETELY DEFLATE.

- Establish from which side the tyre should be de-mounted, checking the position of the groove.
- Find the rim locking type.
- Try to establish the special types of wheels, such as "EH2" and "EH2+", in order to improve locking, bead breaking, assembly and disassembly performances.



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

12.3 Use of the lifting device



CARRY OUT A DAILY CHECK OF THE MAINTAINED ACTION CONTROLS CORRECT FUNCTIONING, BEFORE STARTING MACHINE OPERATION.

1. After placing the wheel on the lifting tubular (see Fig. 14), press the lifting device drive pedal (Fig. 15 ref. 1) downwards and bring the wheel to a level where it can be shifted to the chuck by hand (see Fig. 15).

Fig. 14

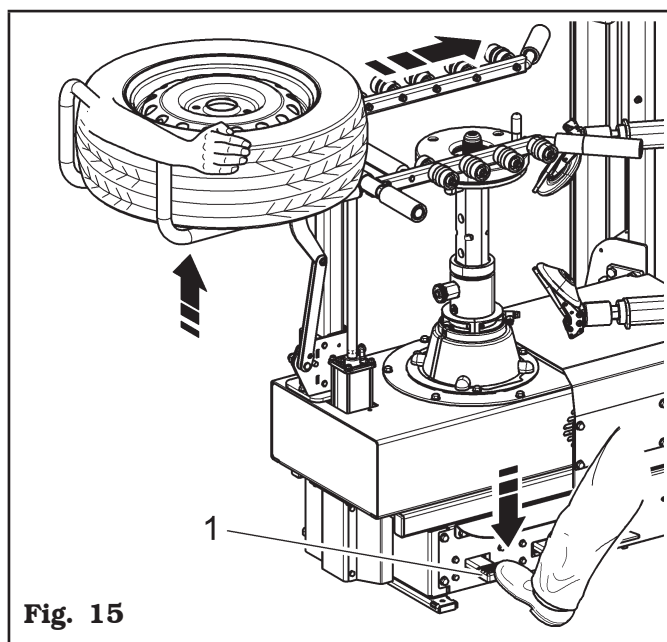
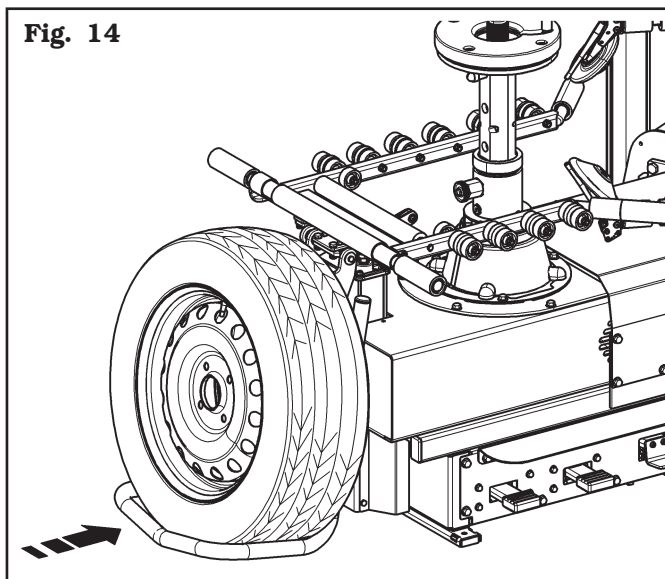
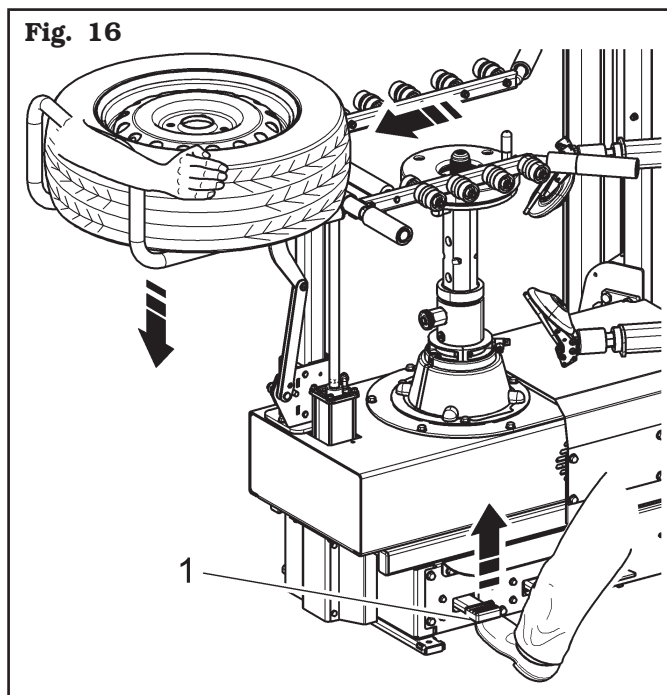


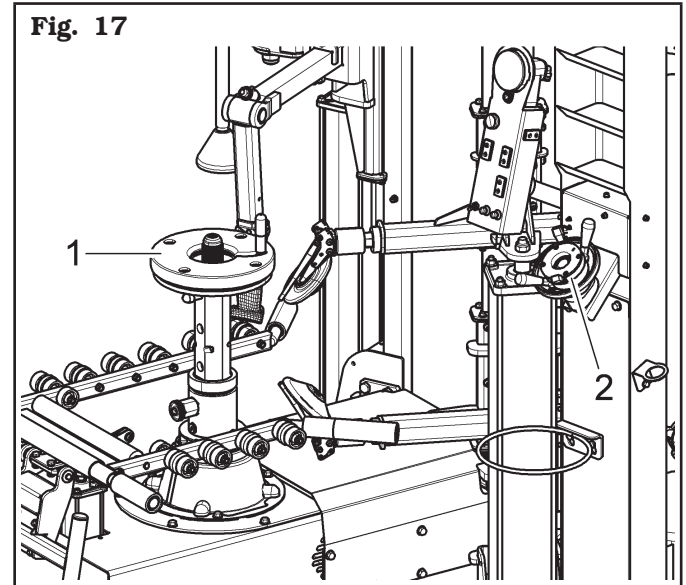
Fig. 15

2. Place the wheel on the chuck and lock it with the locking ring nut.
3. Lift the pedal (**Fig. 16 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 ring nut.
5. Lift the lifting tubular by pressing again the pedal downwards (**Fig. 15 ref. 1**).
6. Place the wheel on the lifting plate (see **Fig. 16**).
7. Move the pedal again (**Fig. 16 ref. 1**) upwards to make the tubular lower and bring back the wheel to the ground keeping a hand on it (see **Fig. 16**).



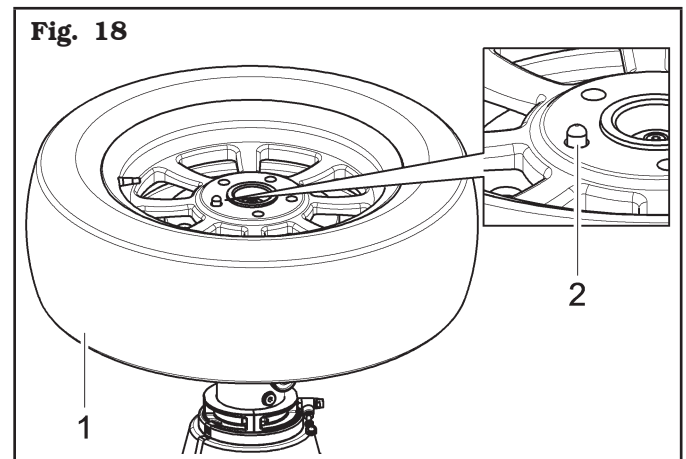
12.4 Wheel clamping

All wheels must be locked on the rubber plate (**Fig.17 ref. 1**) through the central hole using the proper locking ring nut (**Fig.17 ref. 2**).



To lock a rim proceed as follows:

1. Dowel the wheel (**Fig. 18 ref. 1**) on the locking platform and check that the dragging pin (**Fig. 18 ref. 2**) enter in a hole placed on the rim hub.



IF THE WHEEL HUB IS HIGHER THAN THE DRAGGING PIN (FIG. 19 REF. 2), USE THE EXTENSION (FIG. 19 REF. 1) SUPPLIED ON ISSUE.

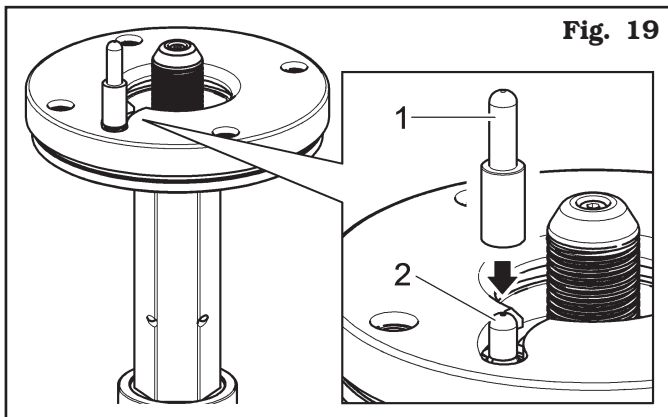


Fig. 19



FOR WHEELS WITH ALLOY RIMS,
USE THE PROPER PLASTIC GUARD
(FIG. 20 REF. 1).

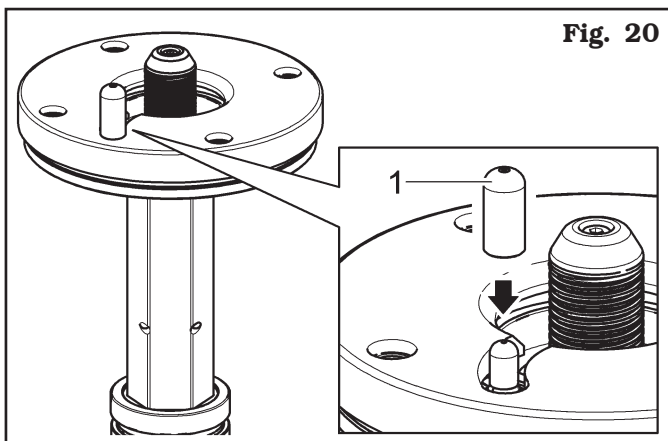


Fig. 20

2. Remove the locking ring nut (Fig. 21 ref. 1) from the activator support (Fig. 21 ref. 2).

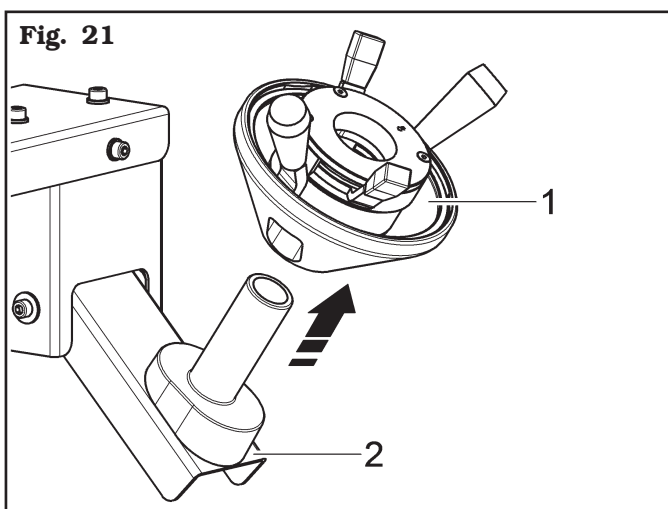


Fig. 21

3. By removing the locking ring-nut (Fig. 21 ref. 1) from the activator support (Fig. 21 ref. 2), the central threaded shaft (Fig. 22 ref. 1) lifts automatically up to its maximum height.



AFTER A DEFAULT MANUFACTURING TIME, THE THREADED SHAFT (Fig. 22 ref. 1) RETURNS TO ITS OWN HOUSING. IF THE LOCKING RING-NUT HAS NOT BEEN INSERTED YET, IT IS POSSIBLE TO MAKE IT COME OUT AGAIN, BY ACTIVATING THE ACTIVATOR SUPPORT MANUALLY (Fig. 22 ref. 4) OR BY REPOSITIONING (Fig. 22 ref. 3) AND THEN, GRABBING THE (Fig. 22 ref. 5) LOCKING RING NUT FROM ITS OWN SUPPORT, AS INDICATED IN FIG. 22.

4. Insert and block the ring nut (Fig. 22 ref. 2) on the threaded shaft (Fig. 22 ref. 1) as described hereafter.

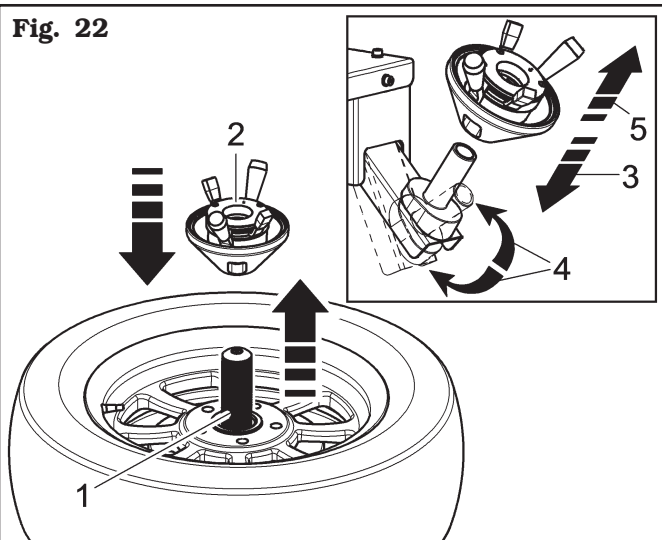


Fig. 22

5. Rotate clockwise the small internal levers (Fig. 23 ref. 1), until they reach the outer levers (Fig. 23 ref. 2) in order to unlock the ring-nut. Make the ring-nut (Fig. 23 ref. 3) and the cone (Fig. 23 ref. 4) approach the rim (Fig. 23 ref. 5). Release the small inner levers (Fig. 23 ref. 1) the ring-nut gets locked on the threaded shaft (Fig. 23 ref. 6).

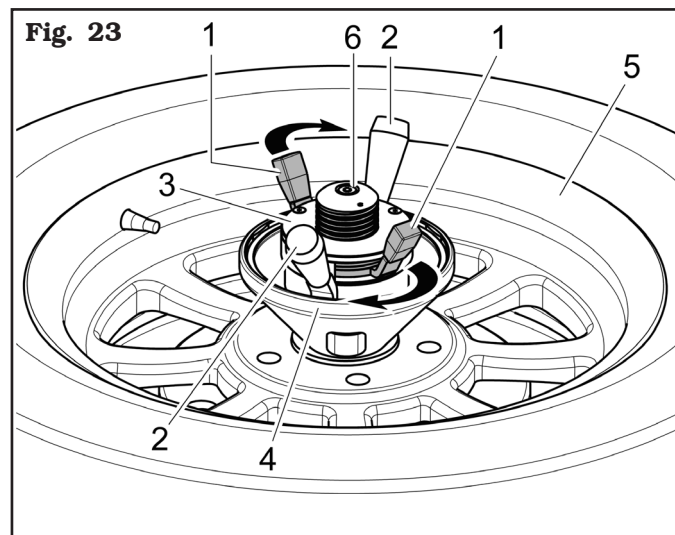
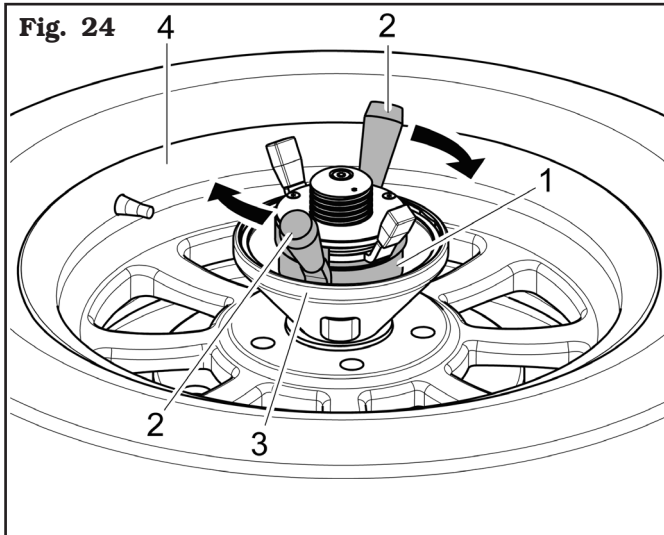


Fig. 23

6. Turn the ring nut (**Fig. 24 ref. 1**) clockwise through the external levers (**Fig. 24 ref. 2**) until the cone complete clamping (**Fig. 24 ref. 3**) on the rim (**Fig. 24 ref. 4**).

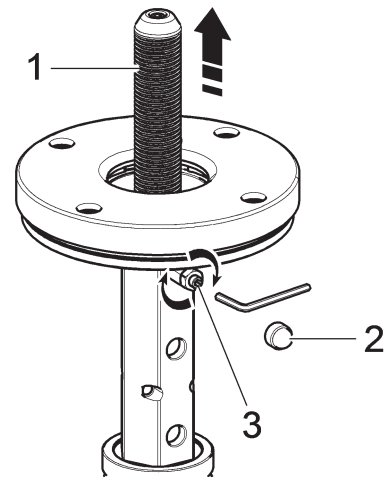


7. At the end of the operations, unlock the ring nut by loosening first the cone with the external levers and then moving the ring nut and the cone away from the rim with the small levers.

Place the locking ring nut onto its own activator support.



IN CASE THE PNEUMATIC SYSTEM FOR THE LIFTING OF THE THREADED CENTRAL SHAFT DOES NOT WORK (IN ORDER TO CONTINUE WORKING UNTIL THE REPAIR HAS BEEN CARRIED OUT), LIFT THE CENTRAL SHAFT MANUALLY (Fig. 25 ref. 1) UP TO ITS MAXIMUM HEIGHT, REMOVE THE PROTECTION CAP (Fig. 25 ref. 2) AND TIGHTEN THE DOWEL (Fig. 25 ref. 3) TO LOCK THE SHAFT INTO "COMPLETELY LIFTED" POSITION. WHEN THE REPAIR HAS BEEN COMPLETED, SLACKEN THE DOWEL TO RESET THE CORRECT FUNCTIONING OF THE PNEUMATIC LIFTING DEVICE FOR THE THREADED SHAFT.

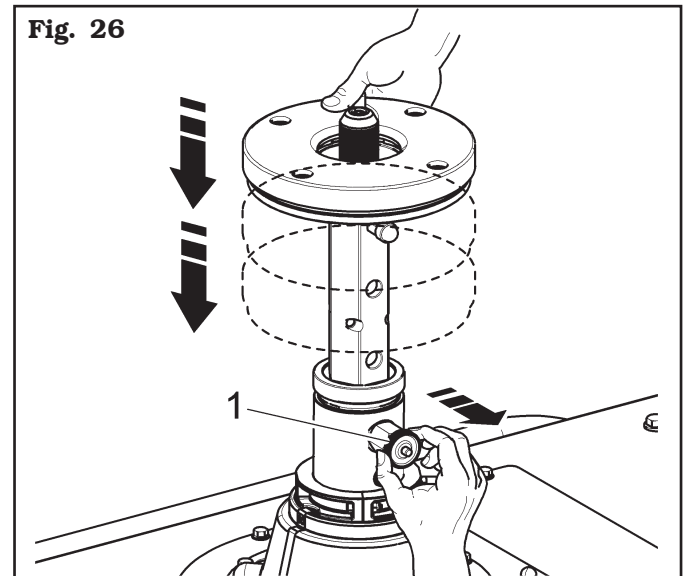
Fig. 25

12.4.1 Chuck height adjustment

The chuck with central locking has 3 different height modes, so that it is possible to operate with a wider range of wheels. A "quick release" system allows to remove the chuck mobile part and to dowel the support plate at the required height.

In order to adjust the height of the central support, pull the knob outwards (**Fig. 26 ref. 1**) and lift or lower the central support's plate up to the required height. Now it's possible to place the tyre in the right way with the working tools.

When employing wheels with oversize off-set, use the highest position. With the standard wheels, the average height is normally used. Finally, the lowest height is indicated for reverse "drop-center" wheels.

Fig. 26

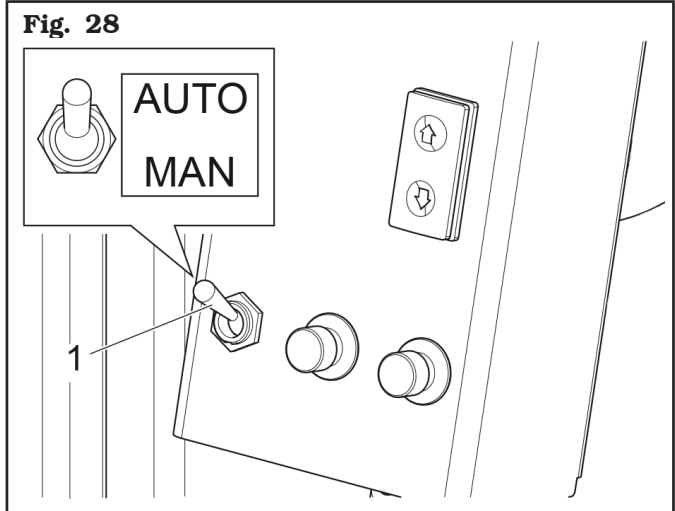
12.4.2 Reverse wheel pan protection

In case reversed wheels are used, in order to protect the rim, apply on the rubber platform a protection made of a transparent plastic material available on demand (**Fig. 27 ref. 1**). We suggest a constant replacement of it and in any case if there are visible damages (see **Fig. 27**).



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. 28 ref. 1**).

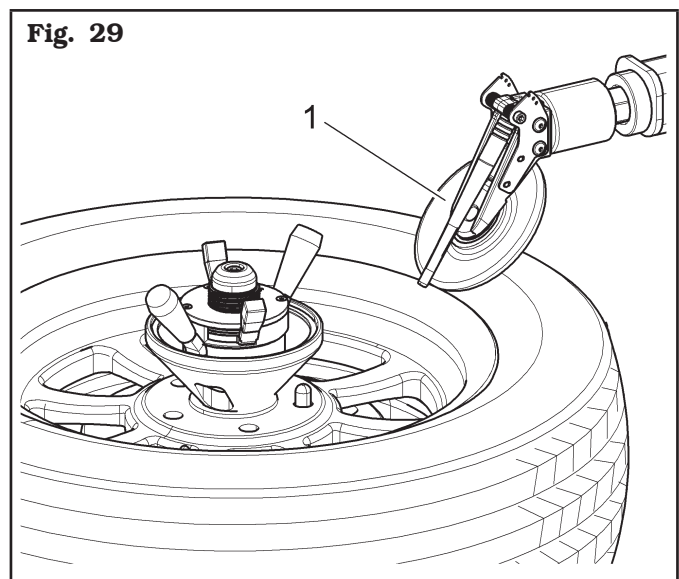


AUTOMATIC (AUTO)

1. After the wheel has been locked, move the upper bead breaker roller (**Fig. 29 ref. 2**) near rim edge; press the push button (**Fig. 10 ref. G**)(↓).

MOVE VERY CAREFULLY THE VERTICAL BEAD BREAKING ARMS TO WORKING POSITION, IN ORDER TO AVOID POSSIBLE HANDS CRUSHING.

2. Determine the working diameter by moving the chuck forward/backward until the upper roller is in the immediate vicinity of the rim, without touching it.



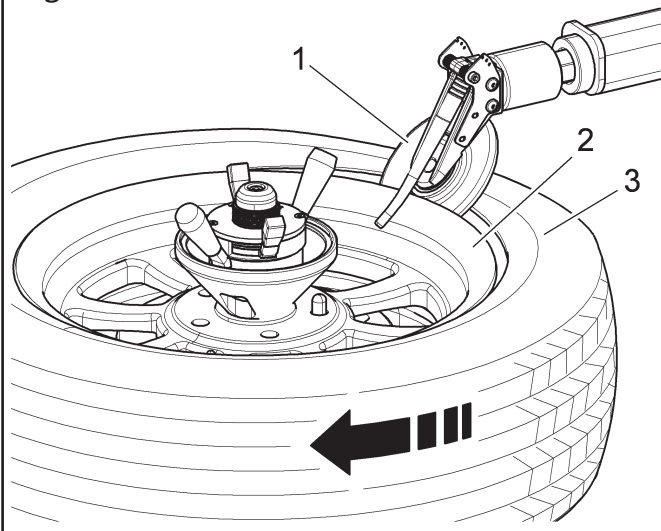
3. Go on with the vertical approaching movement, activating the wheel rotation in clockwise direction. The contact between feeler pin and rim edge will automatically activate the progress of the roller (Fig. 30 ref. 1), which will be inserted between the rim (Fig. 30 ref. 2) and the tyre (Fig. 30 ref. 3). The same automatism can be applied to the lower roller as well.



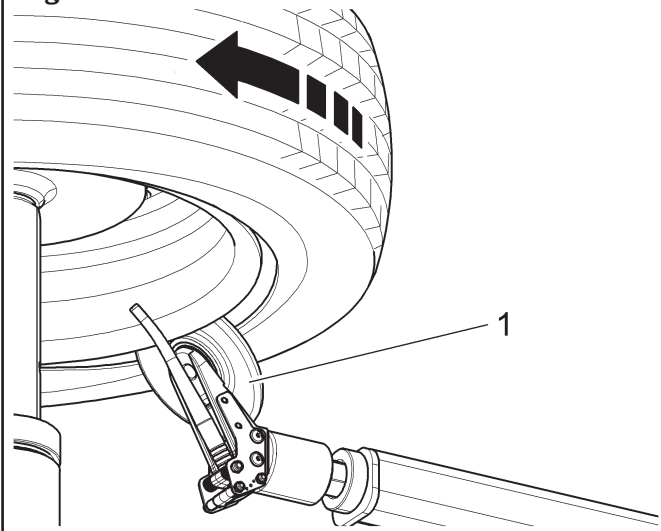
THE BEAD BREAKING DISC MUST EXERT PRESSURE ON THE TYRE BEAD BUT NEVER ON THE RIM.



USE VERY CAREFULLY THE VERTICAL BEAD BREAKING ROLLERS IN ORDER TO AVOID POSSIBLE HANDS CRUSHING.

Fig. 30

4. Move the lower roller close (Fig. 31 ref. 1) with the key (Fig. 10 ref. H) (↑).

Fig. 31

5. Only now turn the wheel clockwise pressing the pedal (Fig. 13 ref. A) and, at the same time, the push button (Fig. 10 ref. H) (↑), keeping it pressed until there's room enough for the bead breaking.

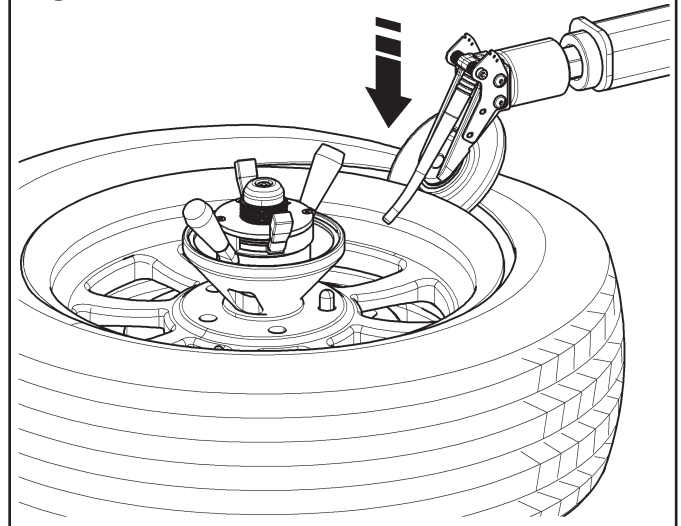



WHILE THIS OPERATION IS BEING CARRIED OUT PAY ATTENTION NOT TO DEFORM THE TYRE SIDE. GREASE THE BEAD BEFORE THE ROLLER RE-ENTERS.

6. Once bead breaking in the lower part has been completed, move the lower roller to rest position activating the push button (Fig. 10 ref. H) (↓). The roller re-enters automatically nullifying the approaching movement described at point 3). This automatism can be applied on both arms.
7. Rotate the rim until the valve is positioned on the immediate right of the roller.
8. Carry out upper edge bead breaking, in the same way, keeping the push button pushed (Fig. 10 ref. G) (↓) (see Fig. 32).



WHILE THIS OPERATION IS BEING CARRIED OUT PAY ATTENTION NOT TO DEFORM THE TYRE SIDE. GREASE THE BEAD BEFORE THE ROLLER RE-ENTERS.

Fig. 32


 **UNTIL BOTH UPPER AND LOWER ROLLERS ARE NOT BACK IN REST POSITION (29) IS NOT POSSIBLE TO CARRY OUT A NEW DIAMETER ADJUSTMENT, AS DESCRIBED AT 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 2. Then, continue the process as follows:

3. Go on with the approaching movement activating the wheel rotation in clockwise direction.
4. Move the lower roller close (**Fig. 31 ref. 1**) with the key (**Fig. 10 ref. H**) (↑).

 **USE VERY CAREFULLY THE VERTICAL BEAD BREAKING ROLLERS IN ORDER TO AVOID POSSIBLE HANDS CRUSHING.**

5. Press the pedal (**Fig. 13 ref. A**) to rotate the wheel in clockwise direction and at the same time operate the push button (**Fig. 10 ref. H**) (↑) keeping it pressed until creating a space large enough for the roller to progress with the manual cam. Activate the lower cam pushing the push button (**Fig. 10 ref. E**) and keep on bead breaking until the operation is complete.

Points 6 and 7 do not change, while for the upper edge bead breaking the instructions described above must be followed, but using the push buttons related to the upper roller (**Fig. 10 ref. G** (↓) and **D**).

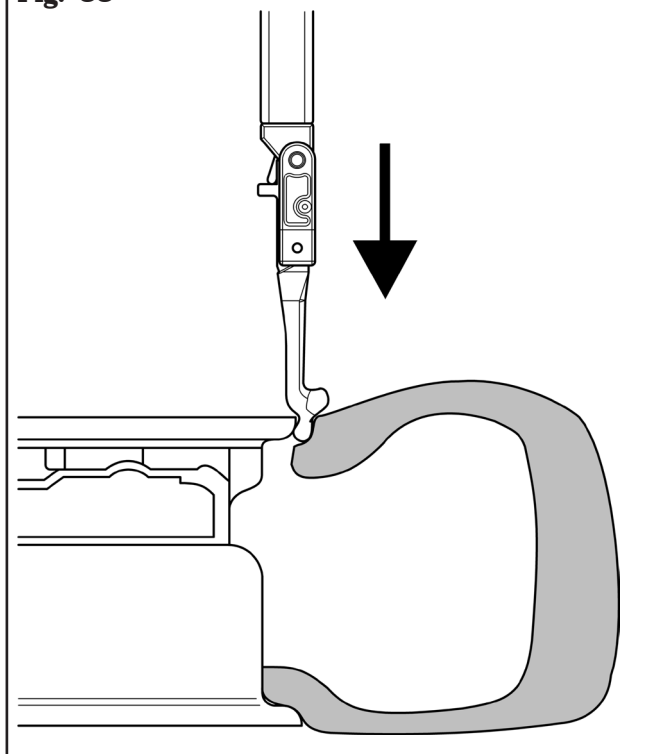
 **UNTIL BOTH UPPER AND LOWER ROLLERS DO NOT RE-ENTER, IS NOT POSSIBLE TO CARRY OUT A NEW DIAMETER ADJUSTMENT, AS DESCRIBED AT POINT 2).**

12.6 Demounting the tyre


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


1. Press the pedal (**Fig. 13 ref. A**) to rotate the wheel clockwise until the valve stem reaches “hour 1” position.
2. Bring the tool vertically (**Fig. 34 ref. 2**) just next to the rim edge using the provided control (**Fig. 10 ref. I**) (↓) (see **Fig. 33**).
 While this phase is being carried out, stay just next to a zone in the tyre where bead breaking has been effectuated.

Fig. 33



3. Place the presser cone (**Fig. 34 ref. 3**) to “4 o'clock” position as shown in **Fig. 34** and press on the tyre operating the lever of the control unit (**Fig. 34 ref. 1**) downwards, until the tyre bead is placed next to the rim groove.

 **MAKE SURE THE STORING FUNCTION IS NOT ACTIVE (LIGHT OF PUSH BUTTON "1" IN FIG. 16 TURNED OFF) BEFORE PRESSING STORING PUSH BUTTON TO STORE THE POSITION REACHED BY THE TOOL ON THE RIM EDGE (SEE CHAR. 11.2).**

 **MOVE VERY CAREFULLY THE TOOLS HOLDER ARM TO WORKING POSITION, IN ORDER TO AVOID POSSIBLE HANDS CRUSHING.**

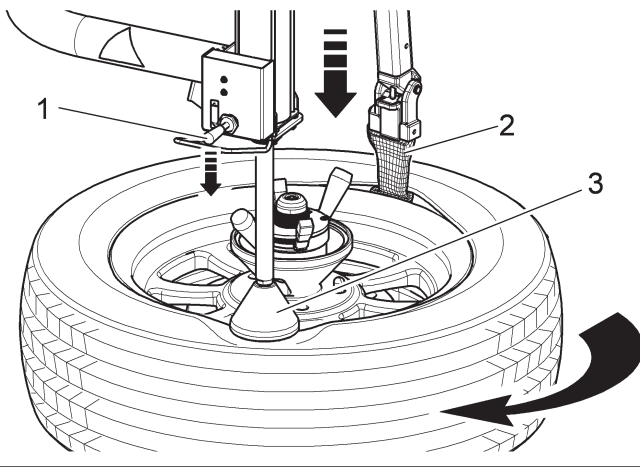


WHILE THIS OPERATION IS BEING CARRIED OUT PAY ATTENTION NOT TO DEFORM THE TYRE SIDE. GREASE THE BEAD BEFORE THE ROLLER RE-ENTERS.



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

Fig. 34



4. Move forward the tool so that it penetrates between rim and tyre (see **Fig. 36**). While this operation is being effectuated, the tool rotates around the rim edge until it hooks the tyre bead (see **Fig. 37**).

Fig. 36

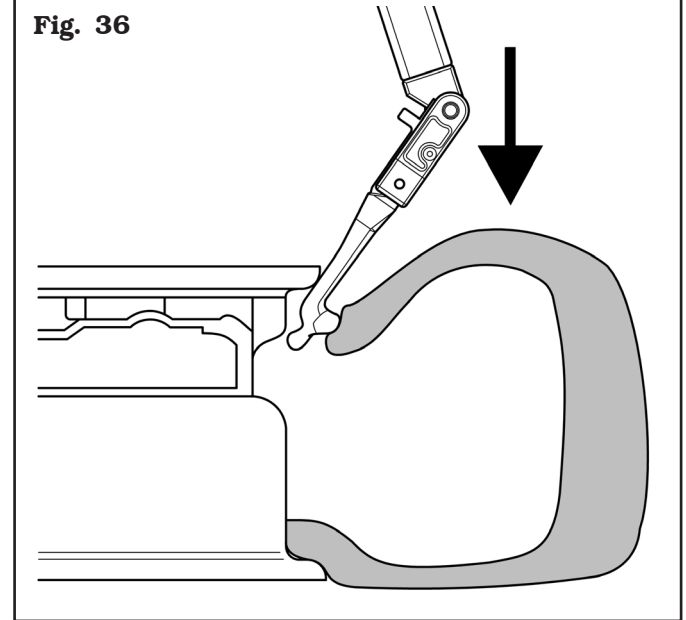
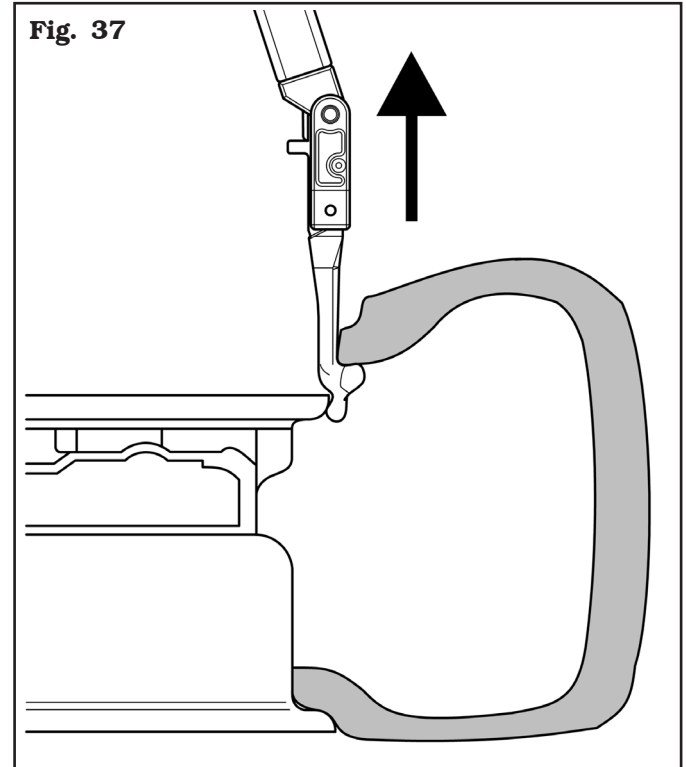


Fig. 37



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. 35**. In case of rim protectors with particular shapes, let the wheel turn counter-clockwise.

Fig. 35



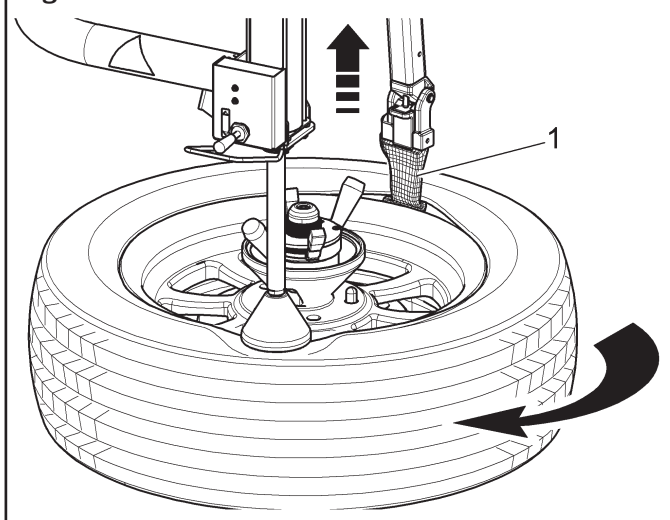
WHILE THIS OPERATION IS BEING CARRIED OUT PAY ATTENTION NOT TO DEFORM THE TYRE SIDE. GREASE THE BEAD.

5. Lift the tool (**Fig. 38 ref. 1**) through the provided control (**Fig. 10 ref. I**) (↑). When the tool is vertical with respect to the rim (see **Fig. 38**), rotate the spindle, pressing the pedal (**Fig. 13 ref. A**), so that the tyre enters the rim channel. Keep on raising the tool until the bead is on the rim edge (see **Fig. 37**). Rotate clockwise until the upper bead is completely disassembled.



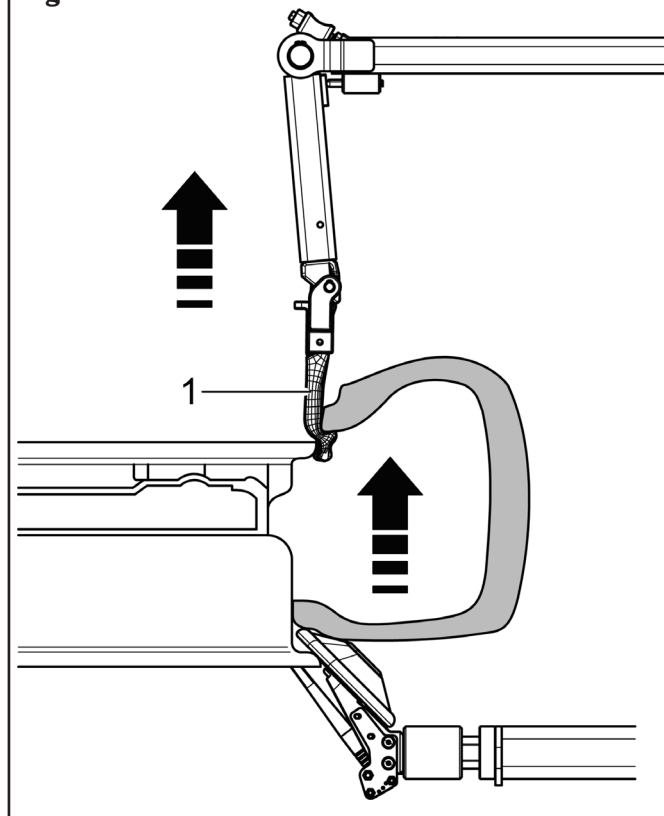
MAKE SURE THE TOOL IS IN DEMOUNTING POSITION (Fig. 37) BEFORE STARTING CHUCK ROTATION.

Fig. 38



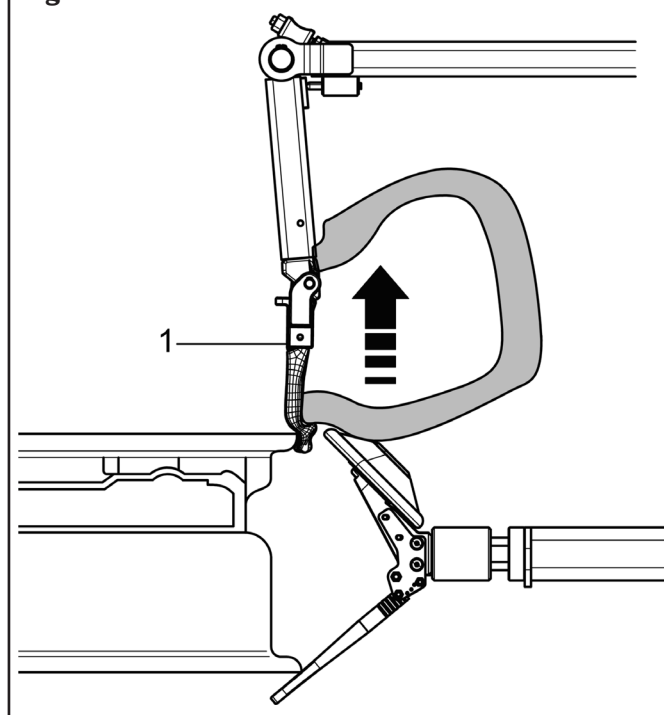
6. Lift the tool (see **Fig. 39 ref. 1**) keeping it coupled to the upper bead of the tyre with the help of the lower bead breaking roller.

Fig. 39



7. Position the tool (see **Fig. 40 ref. 1**) just next to the rim edge. Using the lower bead breaking roller, load the lower bead on the tool in demounting position.

Fig. 40

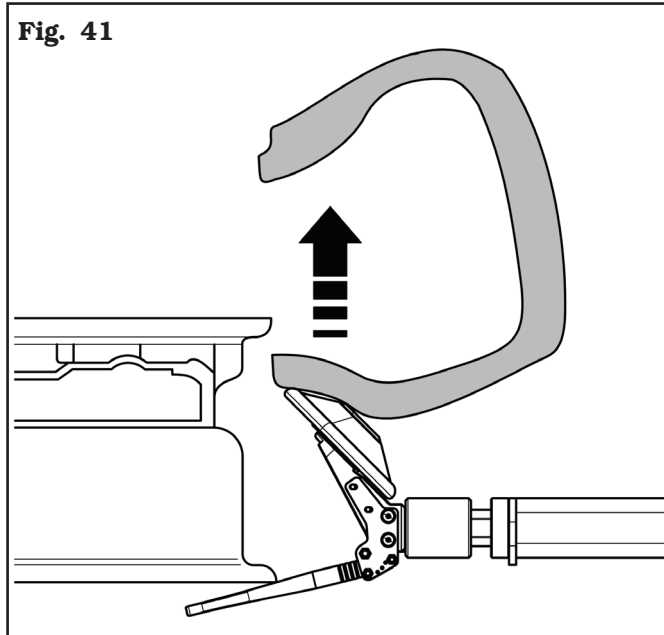


8. Rotate the chuck clockwise until the tyre is completely disassembled.
9. Lift the presser roller and close again the Bead pressing device into rest position.

Dismounting the lower bead with the bead breaking roller

For disassembly of the lower bead only the lower bead breaker roller can be used as an alternative. Lift the tool and go away from the working area.

1. Lift the roll and the tyre just next to the rim edge (see **Fig. 41**).



2. Then, move forward the bead breaker roller through the provided control (**Fig. 10 ref. H**) (↑) so that it is inserted between the rim edge and the lower bead (see **Fig. 42**).



THE BEAD BREAKING DISC MUST EXERT PRESSURE ON THE TYRE BEAD BUT NEVER ON THE RIM.



USE VERY CAREFULLY THE BEAD BREAKING ROLLER IN ORDER TO AVOID POSSIBLE HANDS CRUSHING.

3. Then, rotate and complete bead disassembly (see **Fig. 43**).



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



12.7 Mounting the tyre

To mount the tyre, proceed as follows:

1. Lubricate tyre beads.



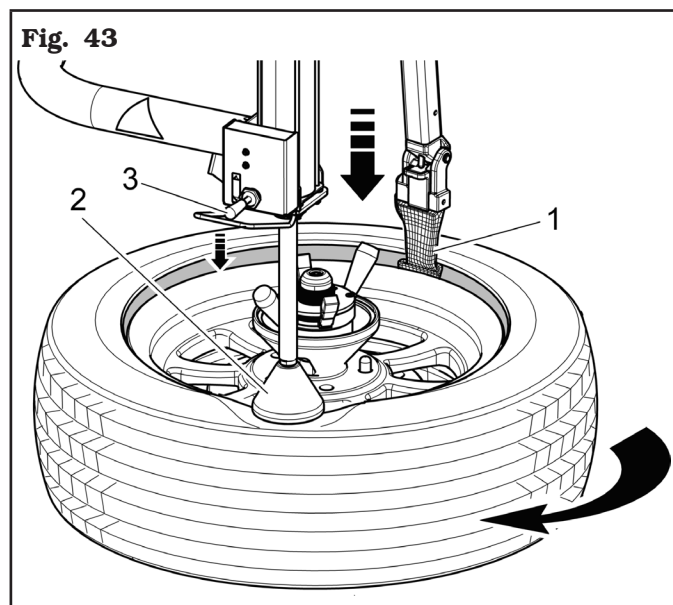
USE ONLY TYRE LUBRICANTS. SUITABLE LUBRICANTS CONTAIN NO WATER, HYDROCARBONS, OR SILICON.

2. Position the tool (**Fig. 43 ref. 1**) onto the rim edge.



MAKE SURE PUSH BUTTON "1" OF FIG. 12 IS BACKLIGHTED BEFORE PRESSING THE PUSH BUTTON TO MOVE AUTOMATICALLY THE UPPER TOOL TO THE PREVIOUSLY STORED POSITION (SEE CHAP. 11.2.1, RETURN FUNCTION).

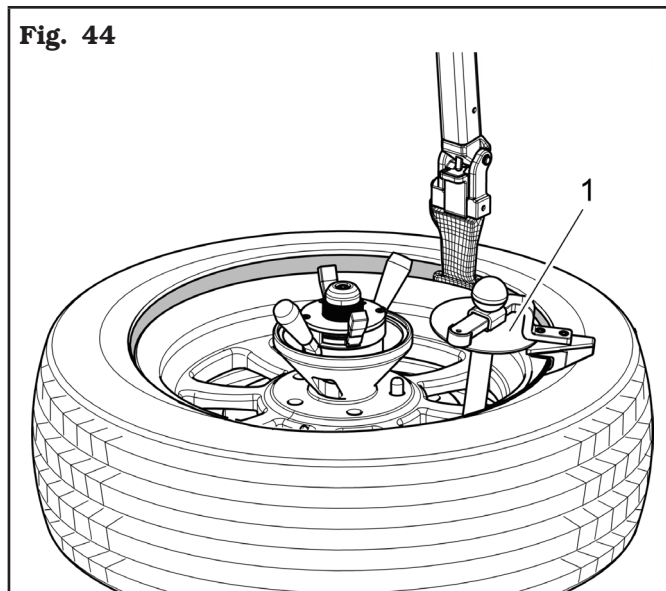
3. Hook the lower bead on the tool then rotate clockwise until the complete assembly.
4. Then, position the upper bead on the tool assembly area (**Fig. 43 ref. 1**).
5. Place the presser cone (**Fig. 43 ref. 2**) in "4 o'clock" position as shown in **Fig. 43** and press on the tyre operating the lever of the control unit (**Fig. 43 ref. 3**) downwards.
6. Rotate the chuck clockwise, pressing the pedal (**Fig. 13 ref. A**), until the tyre is completely assembled.
7. When these operations are over move the tool and presser roller into rest position.



12.7.1 Mounting the upper bead of the tyre with the bead pusher

1. Assemble the bead pusher (**Fig. 44 ref. 1**) with pulling system next to the rim edge (see **Fig. 44**).

Fig. 44



2. Place the upper bead breaker roller (**Fig. 45 ref. 1**) so that the tyre bead is kept at the same height of the rim groove (see **Fig. 45**).

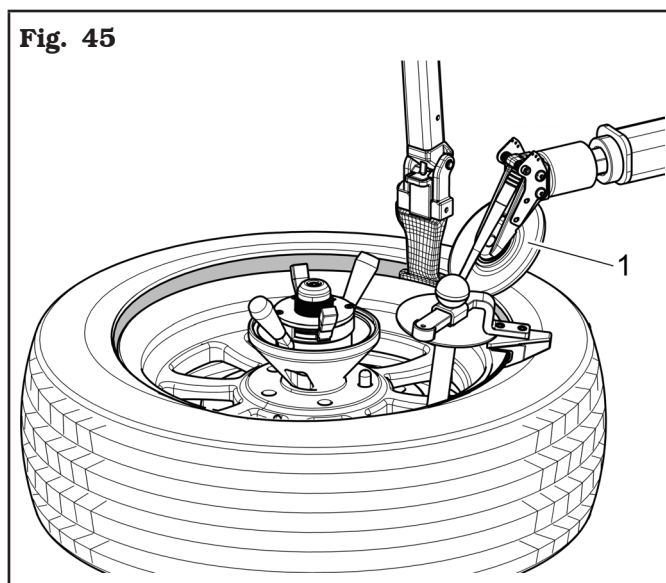


THE BEAD BREAKING DISC MUST EXERT PRESSURE ON THE TYRE BEAD BUT NEVER ON THE RIM.



USE VERY CAREFULLY THE BEAD BREAKING ROLLER IN ORDER TO AVOID POSSIBLE HANDS CRUSHING.

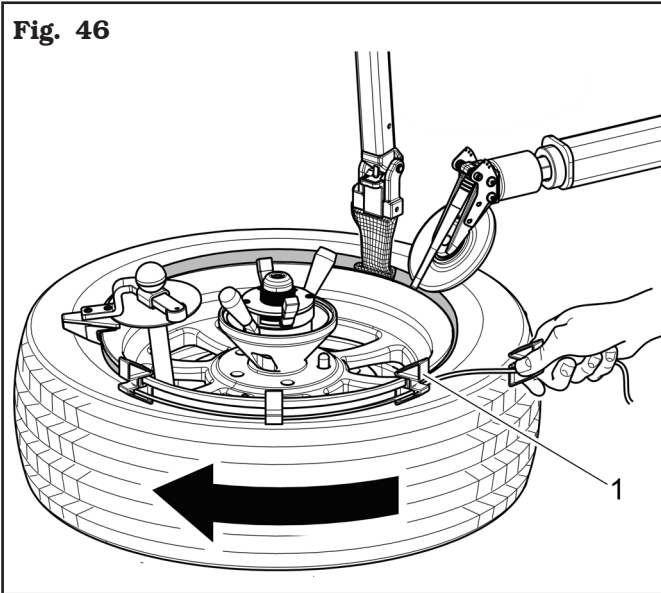
Fig. 45



3. Rotate clockwise up to tyre complete assembly (see **Fig. 46**).



FOR THE MOUNTING OF VERY DIFFICULT WHEELS, USE THE EXTENSION OF THE BEADPUSHER (FIG. 46 REF. 1) (STANDARD ON SOME MODELS)

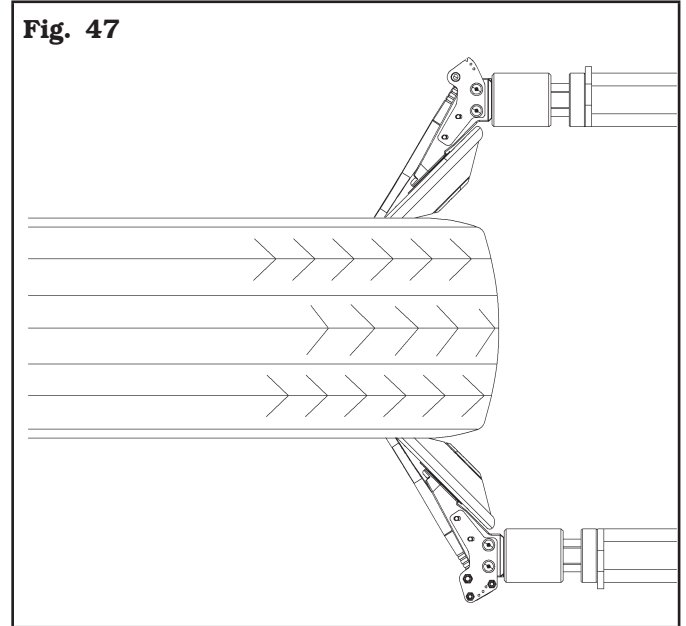
Fig. 46

4. When these operations are over move the tool and the bead breaker roller into rest position.

12.8 Special use of the bead-breaker

In addition to its use during mounting and demounting, the bead-breaker roller can also be used for matching the tyre to the rim. To conduct this operation carry out the following instructions.

- Clamp the tyre between the bead breaker rollers.
- Turn the motor clockwise until the reference point on the tyre coincides with the reference point on the rim (usually the valve) (see **Fig. 47**).

Fig. 47

12.9 Tyre inflation with machine without tubeless inflation unit

Connect the inflation device to the tyre valve and inflate the same tyre using the pedal provided (Fig. 13 ref. B).



A SAFETY DEVICE IS PRESENT FOR THE ADJUSTMENT OF THE MAXIMUM PRESSURE OF THE SUPPLIED AIR ($4,2 \pm 0,2$ 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.

12.10 Tyre inflation with machine with tubeless inflation (optional on some models)

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:

- Remove the valve stem core.
Removing the valve stem core will allow the tyre to inflate faster and the bead to seat easier.
- Connect the inflation terminal to the valve of the tyre.



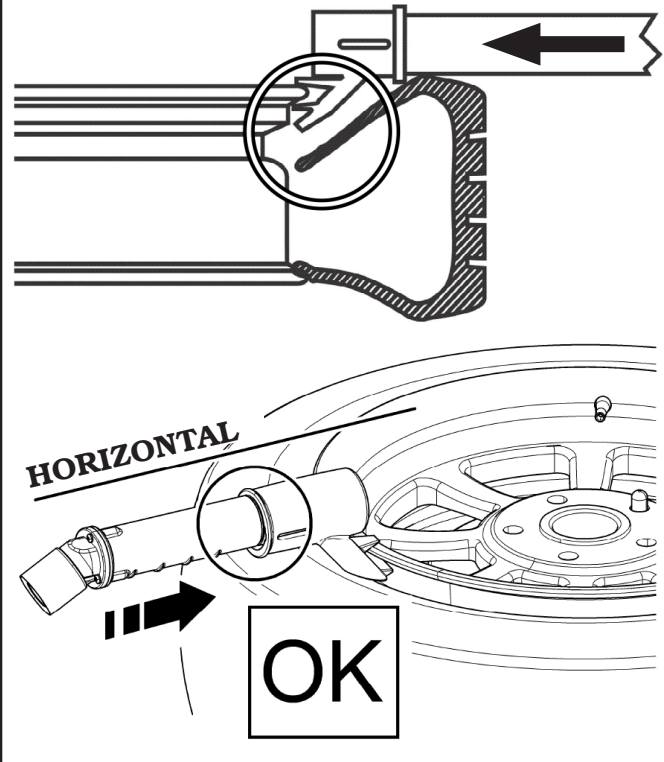
TO IMPROVE THE EFFECTIVENESS OF TUBELESS INFLATION SYSTEM, ALWAYS LUBRICATE TYRE BEADS.

- Press the bead blaster pipe on the wheel rim as shown in Fig. 48. Ensure the hose head is pressed in to activate the additional air jet.



THE NOZZLE SHOULD BE HORIZONTAL FOR OPTIMAL PERFORMANCE (FIG. 48).

Fig. 48



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

- Press completely downwards the inflating pedal, in order to release a high pressure air jet through the tubeless inflation nozzle.
- Keep the inflating pedal partially pressed downwards to inflate the tyre and place the beads in their seats.



DO NOT EXCEED THE PRE-ARRANGED PRESSURE VALUES WHILE SEALING THE BEAD.

- 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.

- Disconnect the inflation terminal from the valve.

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.

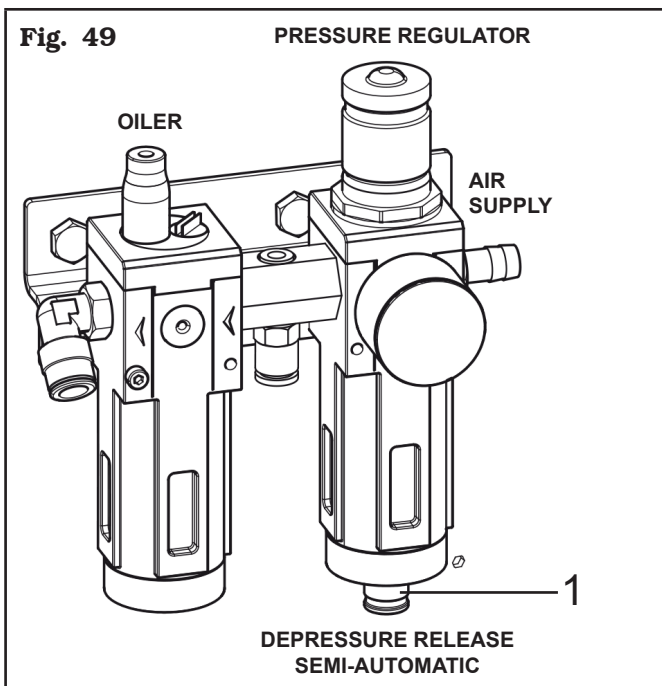
To guarantee the efficiency and correct functioning of the machine, it is essential to carry out daily or weekly cleaning and weekly routine maintenance, as described below.

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

- 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 cleaner.

DO NOT BLOW IT WITH COMPRESSED AIR.

- Do not use solvents to clean the pressure regulator.
- The conditioning unit is equipped with an automatic vacuum-operated drain therefore it requires no manual intervention by the operator (see **Fig. 49**).



IN ORDER TO ENSURE A GOOD FUNCTIONING AND TO AVOID THE PRESENCE OF CONDENSATION IN THE AIR TREATMENT UNITS WITH SEMI-AUTOMATIC DRAIN, IT'S NECESSARY TO MAKE SURE ABOUT THE CORRECT POSITION OF THE VALVE (FIG. 49 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.**

- Periodically, with a frequency of at least once a month, lubricate the arms of the bead breaking roller and of the tool.
- Immediately replace worn parts, bead breaking rollers, assembly tool, feeler pins.
- At regular intervals, at least every two months, verify the rubber guard conditions, in relation to point 3.0 Safety devices. If necessary replace damaged parts requesting for them to the supplier.
- 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.

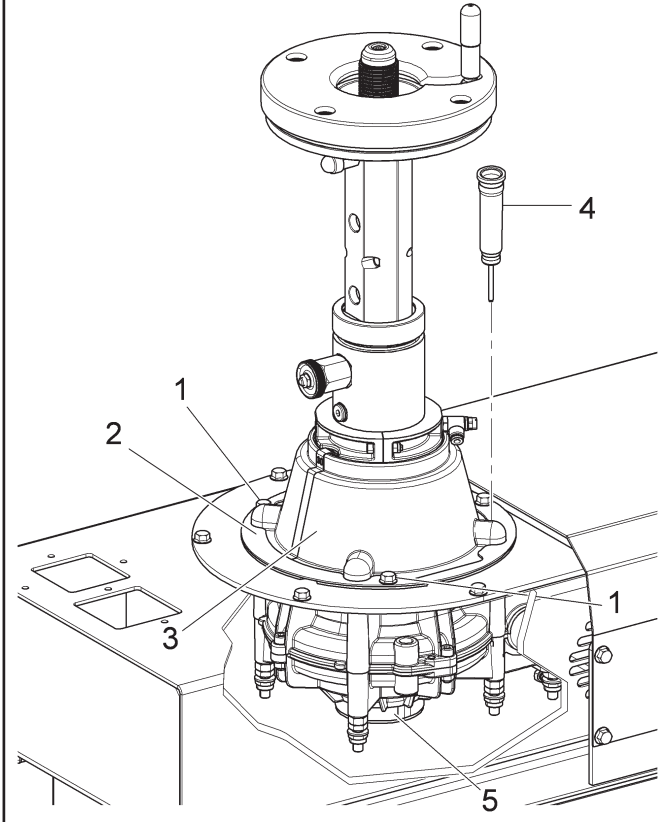


THIS OPERATION SHOULD NOT BE CARRIED OUT BY REMOVING THE CUP OF THE LUBRICATOR FILTER.

- The use of synthetic oil might damage the pressure regulator filter.

- At regular intervals, (at least every 100 working hours) check reduction gear (**Fig. 50 ref. 5**) lubricating oil level. Such operation must be effectuated removing the bolts (**Fig. 50 ref. 1**), removing the flange (**Fig. 50 ref. 2**), the guard (**Fig. 50 ref. 3**) and the plug (**Fig. 50 ref. 4**) on the reduction gear.

Fig. 50



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 Replacement of the feeler pin

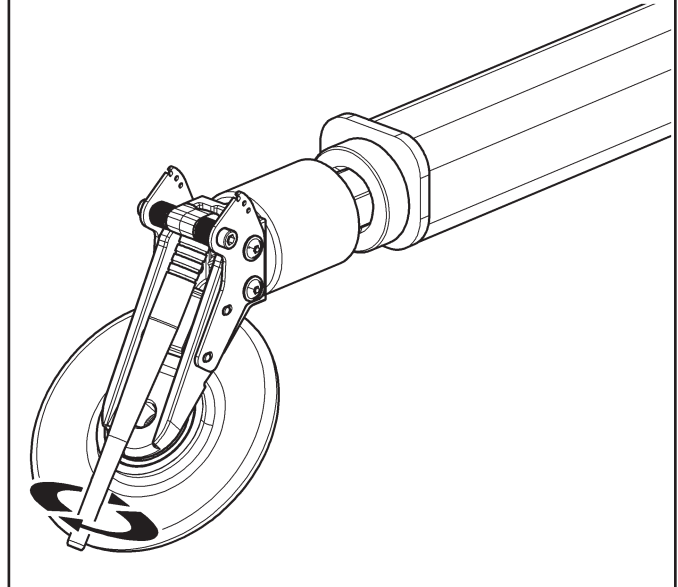
After a certain number of operations it's possible that the (upper and/or lower) feeler pin deform so that it can't ensure a proper functioning; in this case its replacement can be carried out following these simple operations (**Fig. 51**):

- Remove the deformed feeler pin
- 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.

Fig. 51



13.2 Lubricants

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

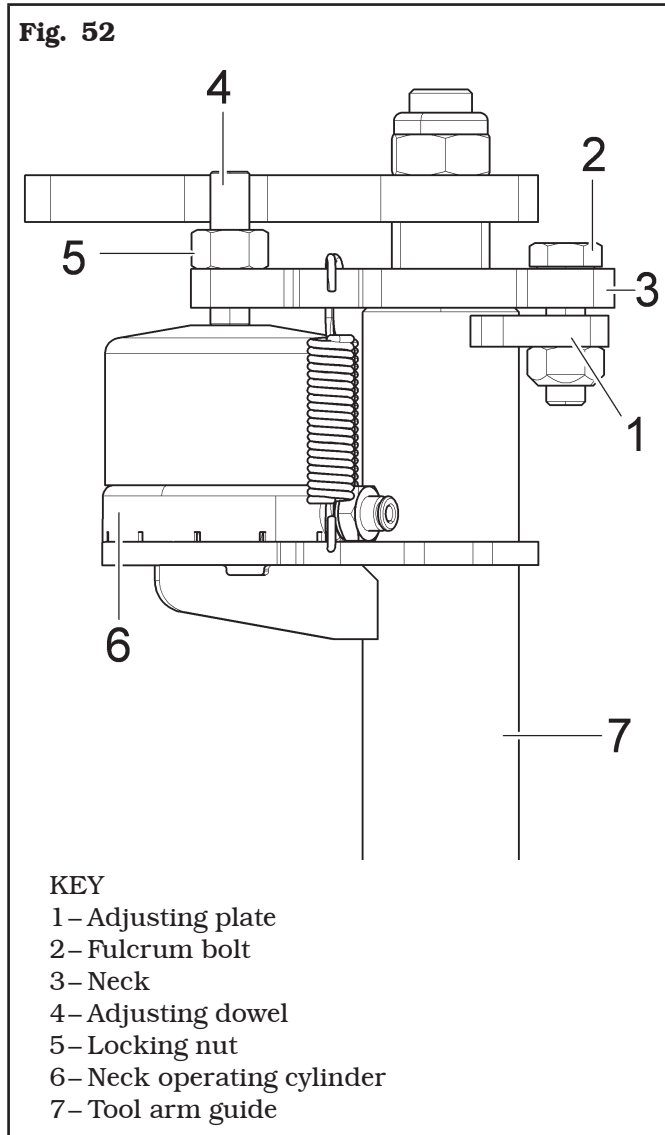
To lubricate the slides, use a brush with soft bristles and an **ESSO GP** type lubricant.



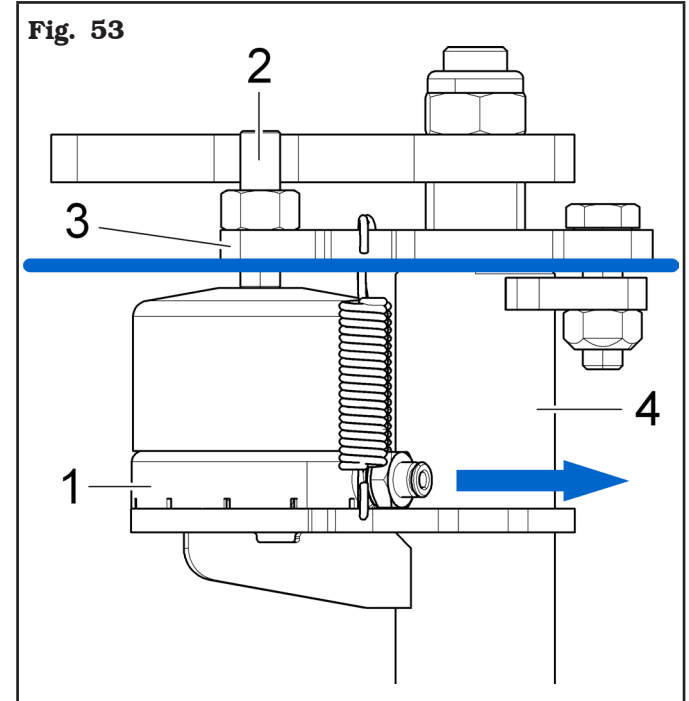
ANY DAMAGE TO THE MACHINE DEVICES RESULTING FROM THE USE OF LUBRICANTS OTHER THAN THOSE RECOMMENDED IN THIS MANUAL WILL RELEASE THE MANUFACTURER FROM ANY LIABILITY.

13.3 Neck adjustment

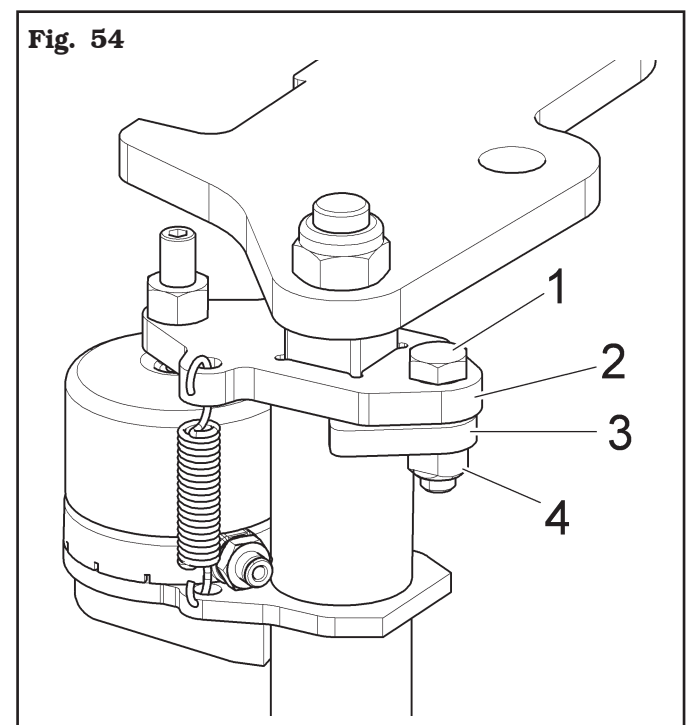
In case of fulcrum-type bolt (Fig. 52 ref. 2) with neck (Fig. 52 ref. 3) fully beating onto bead breaking arm's guide (Fig. 52 ref. 7) (not on the adjusting plate (Fig. 52 ref. 1)), carry out neck adjustment procedure as described below.



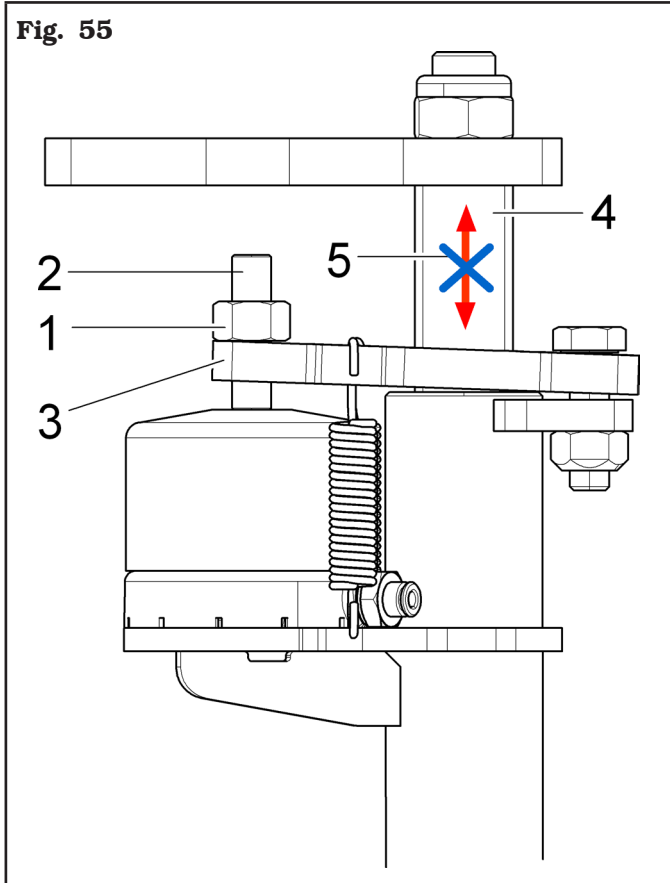
- a. Blow off the compressed air from neck cylinder (Fig. 53 ref. 1). Make neck (Fig. 53 ref. 3) reach beat position again on the guide support surface (Fig. 53 ref. 4), by turning the adjusting dowel (Fig. 53 ref. 2).



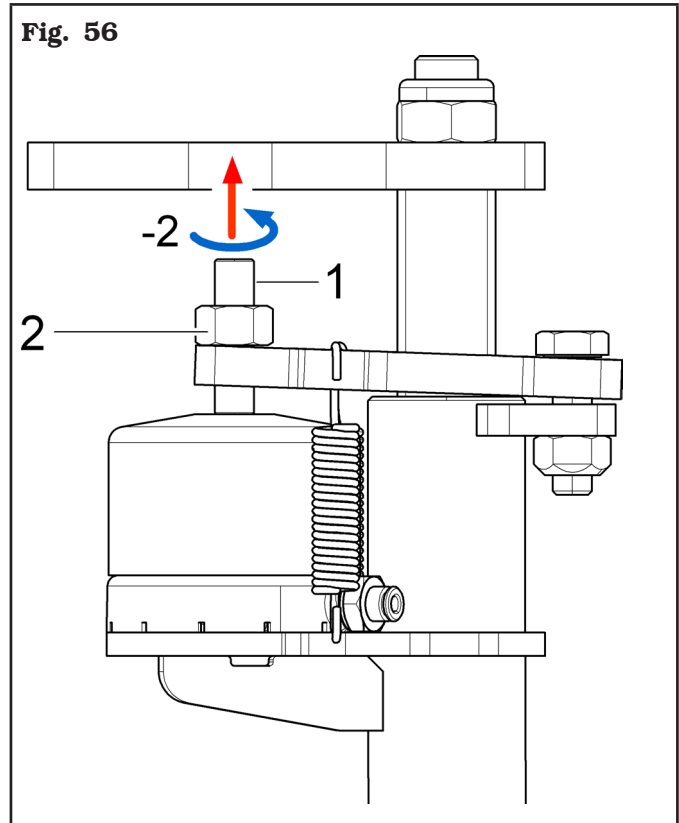
- b. Completely screw fulcrum-type bolt (Fig. 54 ref. 1) but without locking it, just making it approach, setting a 0.1 ÷ 0.2 mm play (0,005" ÷ 0.01") between neck (Fig. 54 ref. 2) and adjusting plate (Fig. 54 ref. 3), positioning nut (Fig. 54 ref. 4) and letting it rest completely onto adjusting plate.



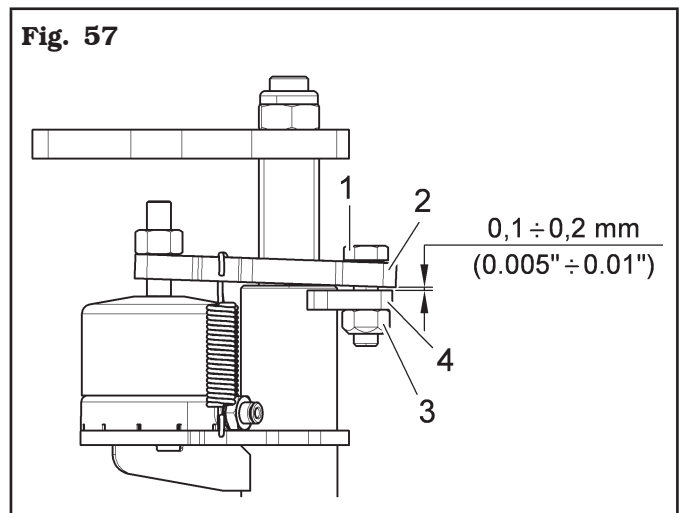
c. Slacken lock nut (**Fig. 55 ref. 1**) of adjusting dowel (**Fig. 55 ref. 2**). Then, screw the dowel (**Fig. 55 ref. 2**) until neck (**Fig. 55 ref. 3**) strikes onto arm (**Fig. 55 ref. 4**), that as a consequence results clamped (**Fig. 55 ref. 5**).



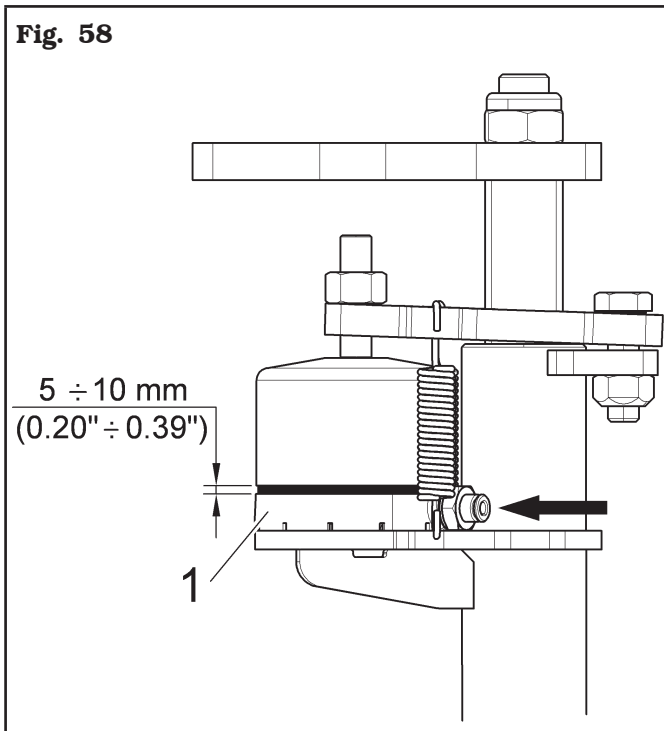
d. Starting from the position reached at point (c), remove neck adjusting dowel counter-clockwise by 2 complete turns (**Fig. 56 ref. 1**) and lock the relevant counter nut (**Fig. 56 ref. 2**).



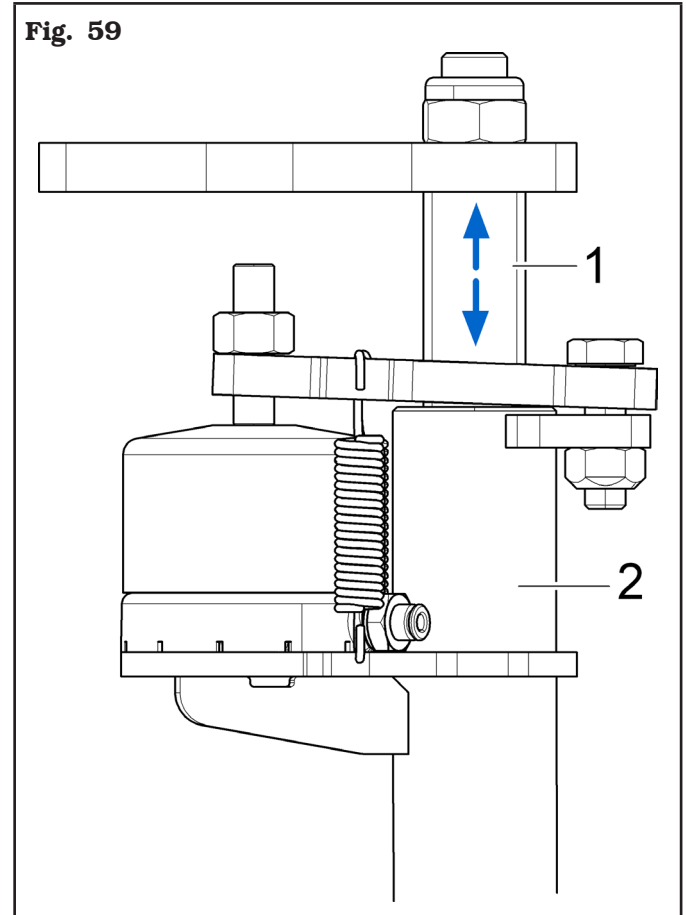
e. Turn fulcrum-type bolt (or bolts) (**Fig. 57 ref. 1**) in order to reset $0.1 \div 0.2 \text{ mm}$ ($0.005'' \div 0.01''$) between neck (**Fig. 57 ref. 2**) and fulcrum-type screw head (**Fig. 57 ref. 1**), letting nut (**Fig. 57 ref. 3**) rest completely onto adjusting plate (**Fig. 57 ref. 4**).



- f. Operate cylinder (**Fig. 58 ref. 1**), supplying it with compressed air, and make sure its stroke is included between 5 ÷ 10 mm (0.20" ÷ 0.39").



- g. Blow off cylinder and make sure the arm (**Fig. 59 ref. 1**) can slide freely in its guide (**Fig. 59 ref. 2**).



- h. Repeat points (f) and (g) 3 times at least.

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

Problem	Possible cause	Remedy
The arm advance cam (in auto-matic position) is immediately activated.	1. The feeler pin is unscrewed. 2. The connectors are extracted. 3. The feeler pin position is badly adjusted.	1. Screw the feeler pin well. 2. Check the connectors in the rear part of the arm 3. Set the feeler pin position
Nozzle does not deliver air when the inflation pedal is pressed.	The inflation pedal is badly adjusted.	Call for technical assistance. 
The chuck doesn't rotate.	Inverter overload alarm <i>Or</i> Inverter undervoltage alarm <i>Or</i> Inverter overvoltage alarm	Shorten the length of a possible machine 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 machine 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 machine is switched on again.	Pedalboard irreversible de-calibration.	Call for technical assistance. 
The chuck rotates slowly but it does not operate on the motor pedal.	Pedalboard reversible de-calibration.	1. Keep the pedal in rest position. 2. Keep the machine connected to the net. 3. Wait for 30 seconds that the pedalboard recalibration automatic attempt ends.
The tool holder carriage moves vertically during machining operations.	The locking cylinder is leaking air.	Call for technical assistance. 

Problem	Possible cause	Remedy
ROTATING BEAD PRESSING DEVICE		
No movement is generated when the control lever is operated.	<ol style="list-style-type: none"> 1. Power supply missed. 2. The supply pipes have not been correctly assembled. 3. The control valve is not working. 	<ol style="list-style-type: none"> 1. Check power supply. 2. Check pipes fitting. 3. Call for technical assistance. 
When the control lever is operated movement arises in one direction only.	The control valve is not working.	Call for technical assistance. 
LIFTING DEVICE		
No movement is produced when the control pedal is operated.	<ol style="list-style-type: none"> 1. Supply missing or insufficient. 2. The supply pipes have not been correctly assembled. 3. The control valve is not working. 	<ol style="list-style-type: none"> 1. Check power supply. 2. Check pipes fitting. 3. Call for technical assistance. 

15.0 TECHNICAL DATA

15.1 Technical electrical data

Motor power (kW)		0.75
Power supply	Voltage (V)	220 ÷ 265
	Phases	1
	Frequency (Hz)	50/60
Typical current draw (A)		6
Chuck rotation speed (rev/min)		15

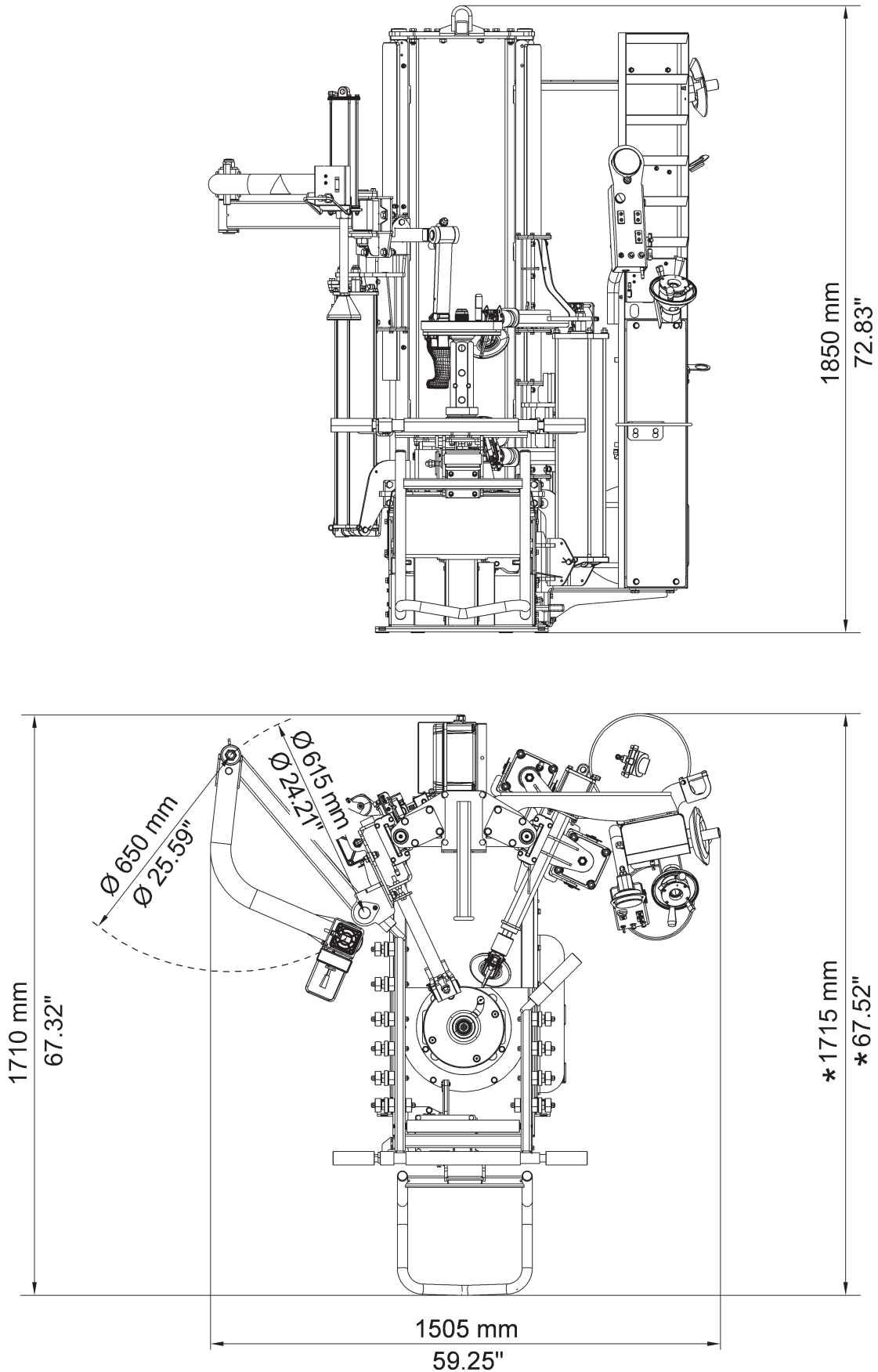
15.2 Technical mechanical data

Max. tyre diameter (inches)	50
Rim locking diameter (inches)	10 - 34
Max. wheel width (inches)	15
Bead-breaking force at 10 bar (145 psi) (kg)	1200 (2650 lbs)
Operating pressure (bar)	8 ÷ 10 (116 ÷ 145 psi)
Gear noise (dBA)	76

	Version without tubeless inflation	Version with tubeless inflation	Version without tubeless inflation PREMIUM
Weight (Kg)	466 (1028 lbs)	502 (1107 lbs)	480 (1059 lbs)

15.3 Dimensions

Fig. 60



* standard on some models

16.0 STORING

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

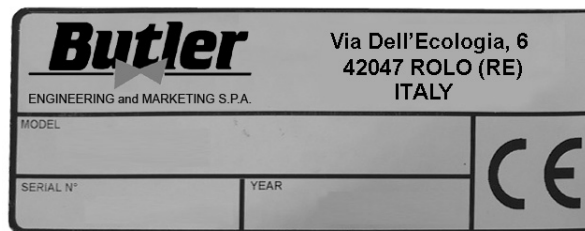
17.0 SCRAPPING

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

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


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

18.0 REGISTRATION PLATE DATA



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

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



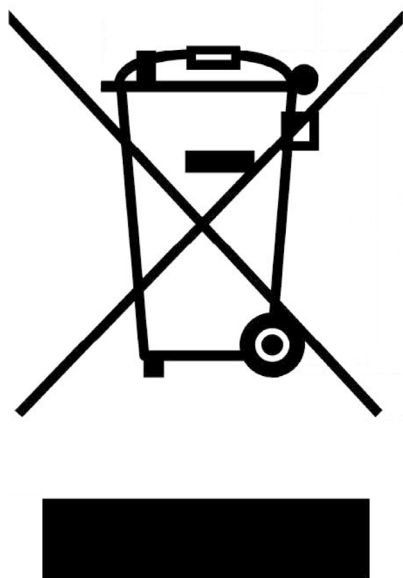
ATTENTION: TAMPERING WITH, CARVING, CHANGING ANYHOW OR EVEN REMOVING MACHINE IDENTIFICATION PLATE IS ABSOLUTELY FORBIDDEN; DO NOT COVER IT WITH TEMPORARY PANELS, ETC., SINCE IT MUST ALWAYS BE VISIBLE.

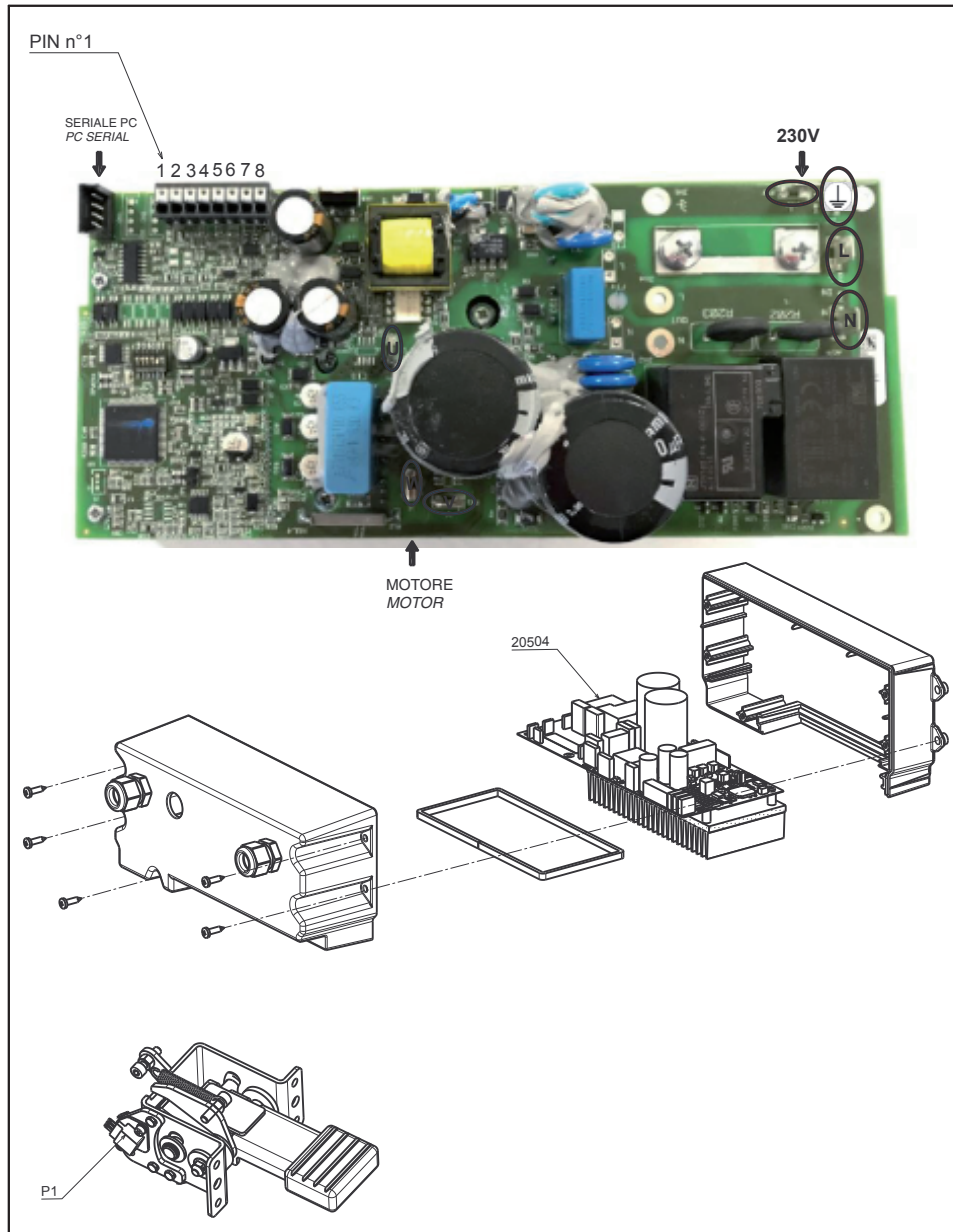
WARNING: Should the plate be accidentally damaged (removed from the machine, damaged or even partially illegible) inform immediately the manufacturer.

19.0 FUNCTIONAL DIAGRAMS

Here follows a list of the machine functional diagrams.

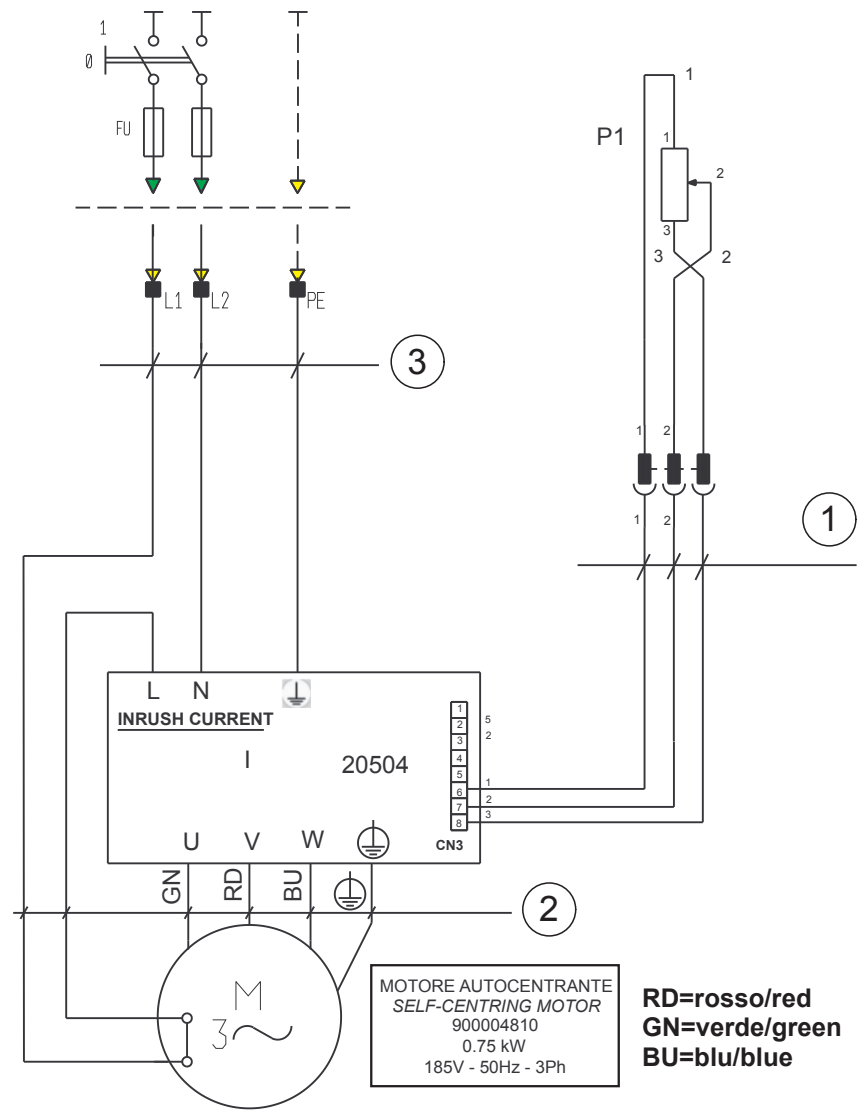
Fig. 61





MONOFASE CAVO ALIMENTAZIONE 2P+TERRA x bmmq
 SUPPLY CABLE MONOPHASE 2P+GROUND x bmmq

FU	Hz	V	220/240
			16 A



MOTORE AUTOCENTRANTE
 SELF-CENTRING MOTOR
 900004810
 0.75 kW
 185V - 50Hz - 3Ph

RD=rosso/red
 GN=verde/green
 BU=blu/blue



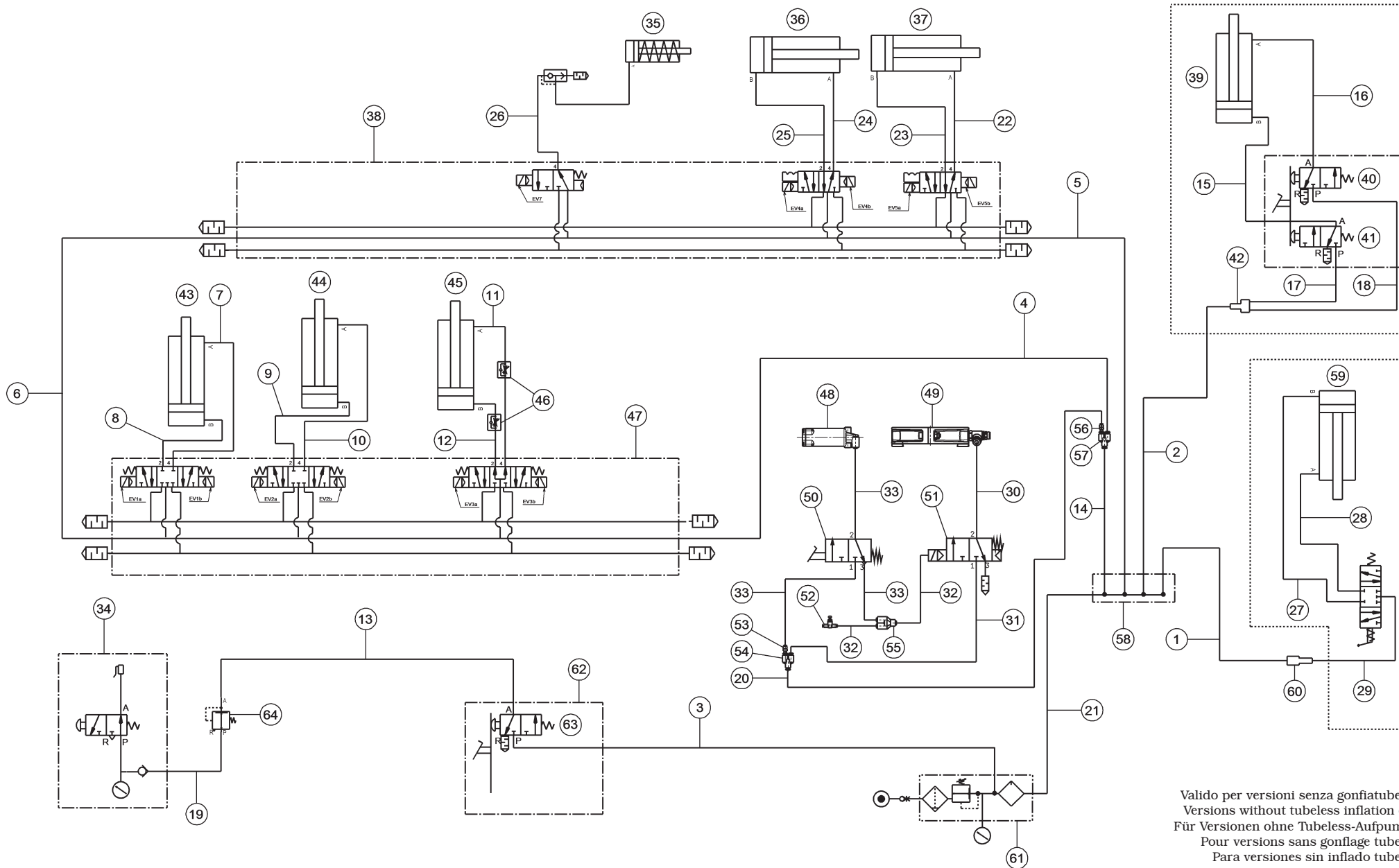
LISTA DEI COMPONENTI - LIST OF COMPONENTS - TEILELISTE
 LISTE DES PIÈCES DÉTACHÉES - LISTA DE PIEZAS

Tavola N°A - Rev. 0

710203061

SCHEMA ELETTRICO
 ELECTRICAL SCHEME
 SCHALTPLAN
 SCHEMA ELECTRIQUE
 ESQUEMA ELECTRICO

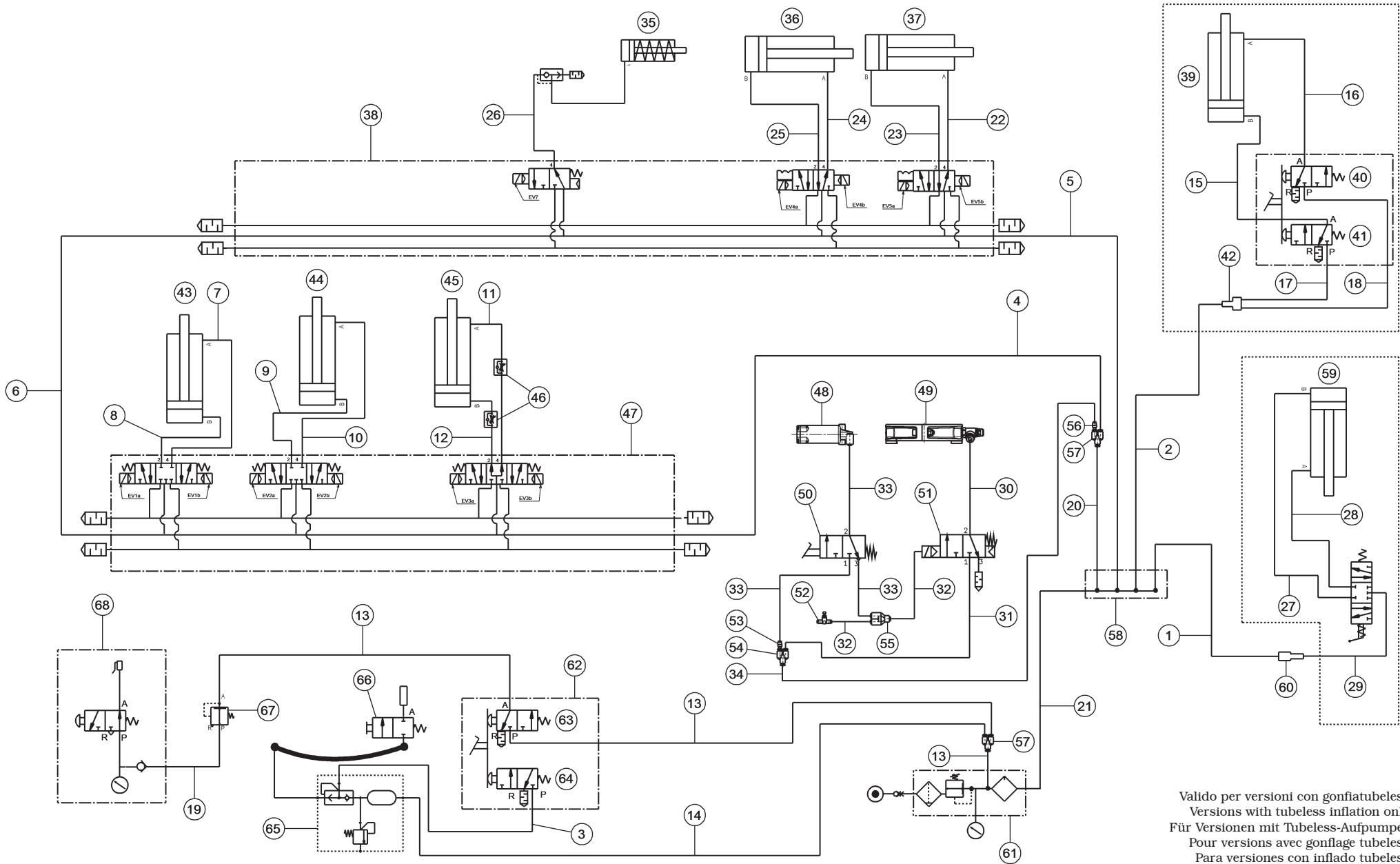
Pag. 44 di 51
 AIKIDO.EVO - AIKIDO.EVOFI
 AIKIDO.EVOPREMIUM



Valido per versioni senza gonfiatubeless
 Versions without tubeless inflation only
 Für Versionen ohne Tubeless-Aufpumper
 Pour versions sans gonflage tubeless
 Para versiones sin inflado tubeless

N°	Cod.	Descrizione	Description	Beschreibung	Description	Descripción
1	317007	Tubo rilsan 8x6 nero L=1800	8x6 black rilsan pipe L=1800	Rilsan Schlauch 8x6 schwarz L=1800	Tuyau rilsan 8x6 noir L=1800	Tubo rilsan 8x6 negro L=1800
2	317007	Tubo rilsan 8x6 nero L=1100	8x6 black rilsan pipe L=1100	Rilsan Schlauch 8x6 schwarz L=1100	Tuyau rilsan 8x6 noir L=1100	Tubo rilsan 8x6 negro L=1100
3	317007	Tubo rilsan 8x6 nero L=1000	8x6 black rilsan pipe L=1000	Rilsan Schlauch 8x6 schwarz L=1000	Tuyau rilsan 8x6 noir L=1000	Tubo rilsan 8x6 negro L=1000
4	317007	Tubo rilsan 8x6 nero L=460	8x6 black rilsan pipe L=460	Rilsan Schlauch 8x6 schwarz L=460	Tuyau rilsan 8x6 noir L=460	Tubo rilsan 8x6 negro L=460
5	317007	Tubo rilsan 8x6 nero L=700	8x6 black rilsan pipe L=700	Rilsan Schlauch 8x6 schwarz L=700	Tuyau rilsan 8x6 noir L=700	Tubo rilsan 8x6 negro L=700
6	317007	Tubo rilsan 8x6 nero L=300	8x6 black rilsan pipe L=300	Rilsan Schlauch 8x6 schwarz L=300	Tuyau rilsan 8x6 noir L=300	Tubo rilsan 8x6 negro L=300
7	317007	Tubo rilsan 8x6 nero L=1300	8x6 black rilsan pipe L=1300	Rilsan Schlauch 8x6 schwarz L=1300	Tuyau rilsan 8x6 noir L=1300	Tubo rilsan 8x6 negro L=1300
8	317007	Tubo rilsan 8x6 nero L=1200	8x6 black rilsan pipe L=1200	Rilsan Schlauch 8x6 schwarz L=1200	Tuyau rilsan 8x6 noir L=1200	Tubo rilsan 8x6 negro L=1200
9	317007	Tubo rilsan 8x6 nero L=850	8x6 black rilsan pipe L=850	Rilsan Schlauch 8x6 schwarz L=850	Tuyau rilsan 8x6 noir L=850	Tubo rilsan 8x6 negro L=850
10	317007	Tubo rilsan 8x6 nero L=650	8x6 black rilsan pipe L=650	Rilsan Schlauch 8x6 schwarz L=650	Tuyau rilsan 8x6 noir L=650	Tubo rilsan 8x6 negro L=650
11	317033	Tubo rilsan 8x6 superflex L=1650	8x6 superflex rilsan pipe L=1650	Rilsan superflex 8x6 röt L=1650	Tuyau rilsan 8x6 superflex L=1650	Tubo rilsan 8x6 superflex L=1650
12	317033	Tubo rilsan 8x6 superflex L=850	8x6 superflex rilsan pipe L=850	Rilsan superflex 8x6 röt L=850	Tuyau rilsan 8x6 superflex L=850	Tubo rilsan 8x6 superflex L=850
13	317009	Tubo rilsan 8x6 blu L=500	8x6 blue rilsan pipe L=500	Rilsan Schlauch 8x6 blau L=500	Tuyau rilsan 8x6 bleu L=500	Tubo rilsan 8x6 azul L=500
14	317009	Tubo rilsan 8x6 blu L=70	8x6 blue rilsan pipe L=70	Rilsan Schlauch 8x6 blau L=70	Tuyau rilsan 8x6 bleu L=70	Tubo rilsan 8x6 azul L=70
15	317009	Tubo rilsan 8x6 blu L=1550	8x6 blue rilsan pipe L=1550	Rilsan Schlauch 8x6 blau L=1550	Tuyau rilsan 8x6 bleu L=1550	Tubo rilsan 8x6 azul L=1550
16	317007	Tubo rilsan 8x6 nero L=1700	8x6 black rilsan pipe L=1700	Rilsan Schlauch 8x6 schwarz L=1700	Tuyau rilsan 8x6 noir L=1700	Tubo rilsan 8x6 negro L=1700
17	317038	Tubo Elastolan nero 8x5,5 L=300	8x5,5 black Elastolan pipe L=300	Schlauch Elastolan 8x5,5 schwarz L=300	Tuyau Elastolan 8x5,5 noir L=300	Tubo Elastolan 8x5,5 negro L=300
18	317038	Tubo Elastolan nero 8x5,5 L=260	8x5,5 black Elastolan pipe L=260	Schlauch Elastolan 8x5,5 schwarz L=260	Tuyau Elastolan 8x5,5 noir L=260	Tubo Elastolan 8x5,5 negro L=260
19	317008	Tubo rilsan 8x6 rosso L=2500	8x6 red rilsan pipe L=2500	Rilsan Schlauch 8x6 röt L=2500	Tuyau rilsan 8x6 rouge L=2500	Tubo rilsan 8x6 rojo L=2500
20	317007	Tubo rilsan 8x6 nero L=1600	8x6 black rilsan pipe L=1600	Rilsan Schlauch 8x6 schwarz L=1600	Tuyau rilsan 8x6 noir L=1600	Tubo rilsan 8x6 negro L=1600
21	317010	Tubo rilsan 10x8 nero L=600	10x8 black rilsan pipe L=600	Rilsanschlauch 10x8 schwarz L=600	Tuyau rilsan 10x8 noir L=600	Tubo rilsan 10x8 negro L=600
22	317006	Tubo rilsan 6x4 nero L=1600	6x4 black rilsan pipe L=1600	Rilsan Schlauch 6x4 schwarz L=1600	Tuyau rilsan 6x4 noir L=1600	Tubo rilsan 6x4 negro L=1600
23	317006	Tubo rilsan 6x4 nero L=1400	6x4 black rilsan pipe L=1400	Rilsan Schlauch 6x4 schwarz L=1400	Tuyau rilsan 6x4 noir L=1400	Tubo rilsan 6x4 negro L=1400
24	317006	Tubo rilsan 6x4 nero L=2100	6x4 black rilsan pipe L=2100	Rilsan Schlauch 6x4 schwarz L=2100	Tuyau rilsan 6x4 noir L=2100	Tubo rilsan 6x4 negro L=2100
25	317006	Tubo rilsan 6x4 nero L=1900	6x4 black rilsan pipe L=1900	Rilsan Schlauch 6x4 schwarz L=1900	Tuyau rilsan 6x4 noir L=1900	Tubo rilsan 6x4 negro L=1900
26	317026	Tubo rilsan 4x2,7 nero L=2000	4x2,7 black rilsan pipe L=2000	Rilsan Schlauch 4x2,7 schwarz L=2000	Tuyau rilsan 4x2,7 noir L=2000	Tubo rilsan 4x2,7 negro L=2000
27	317006	Tubo rilsan 6x4 nero L=350	6x4 black rilsan pipe L=350	Rilsan Schlauch 6x4 schwarz L=350	Tuyau rilsan 6x4 noir L=350	Tubo rilsan 6x4 negro L=350
28	317006	Tubo rilsan 6x4 nero L=350	6x4 black rilsan pipe L=350	Rilsan Schlauch 6x4 schwarz L=350	Tuyau rilsan 6x4 noir L=350	Tubo rilsan 6x4 negro L=350
29	317006	Tubo rilsan 6x4 nero L=2700	6x4 black rilsan pipe L=2700	Rilsan Schlauch 6x4 schwarz L=2700	Tuyau rilsan 6x4 noir L=2700	Tubo rilsan 6x4 negro L=2700
30	317006	Tubo rilsan 6x4 nero L=4000	6x4 black rilsan pipe L=4000	Rilsan Schlauch 6x4 schwarz L=4000	Tuyau rilsan 6x4 noir L=4000	Tubo rilsan 6x4 negro L=4000
31	317006	Tubo rilsan 6x4 nero L=50	6x4 black rilsan pipe L=50	Rilsan Schlauch 6x4 schwarz L=50	Tuyau rilsan 6x4 noir L=50	Tubo rilsan 6x4 negro L=50
32	317035	Tubo Elastolan 4x2,5 ne L=50	4x2,5 black Elastolan pipe L=50	Schlauch Elastolan 4x2,5 schwarz L=50	Tuyau Elastolan 4x2,5 noir L=50	Tubo Elastolan 4x2,5 negro L=50
33	317035	Tubo Elastolan 4x2,5 ne L=200	4x2,5 black Elastolan pipe L=200	Schlauch Elastolan 4x2,5 schwarz L=200	Tuyau Elastolan 4x2,5 noir L=200	Tubo Elastolan 4x2,5 negro L=200
34		Gruppo gonfiaggio con manometro	Inflation unit with pressure gauge	Aufpumpsatz mit Manometer	Groupe gonflage avec manomètre	Grupo inflado con manómetro
35		Cilindro blocco verticale per utensile	Vertical block cylinder for tool	Vertikaler Blockzylinder für Werkzeug	Cylindre de blocage vertical pour outil	Cilindro de bloque vertical para útil
36	710990030	Cilindro camma D.90	D.90 cam cylinder	D.90 Nockenzyylinder	Cylindre came D.90	Cilindro leva D.90
37	710990030	Cilindro camma D.90	D.90 cam cylinder	D.90 Nockenzyylinder	Cylindre came D.90	Cilindro leva D.90

N°	Cod.	Descrizione	Description	Beschreibung	Description	Descripción
38	710190450	Centralina pneumatica principale	Main pneumatic hydraulic power unit	Hauptpneumatischer Steuerung	Distributeur pneumatique principal	Centralita neumática principal
	710190451	Centralina pneumatica principale	Main pneumatic hydraulic power unit	Hauptpneumatischer Steuerung	Distributeur pneumatique principal	Centralita neumática principal
39	710490891	Cilindro pneumatico D.70	D.70 pneumatic cylinder	Cylindre pneumatique D.70	Cylindre pneumatique D.70	Cilindro neumático D.70
40		Nera N.A.	N.O. black	Schwarz N.O.	Noir N.O	Negra N.A.
41		Bianca N.C.	N.C. white	Weiß N.G.	Blanche N.F.	Blanca N.C.
42	325181	Raccordo a V8	Y8 fitting	V-Anschluss 8	Raccord à V8	Empalme en V8
43	710890250	Gruppo cilindro pneumatico D.125	D.125 pneumatic cylinder unit	Satz pneumatischen Zylinders D.125	Groupe cylindre pneumatique D.125	Grupo cilindro neumático D.125
44	710880720	Cilindro braccio stallonatore inferiore	Lower bead breaker arm cylinder	Unterer Abdrückarmzylinder	Cylindre bras décolle-pneus inférieur	Cilindro inferior brazo destalonador
45	710990640	Cilindro pneumatico D.100	D.100 pneumatic cylinder	Pneumatikzylinder D.100	Cylindre pneumatique D.100	Cilindro neumático D.100
46	399284	Regolatore di flusso	Flow regulator	Flussregler	Regulateur de débit	Regulación de flujo
47	710090661	Centralina pneumatica stallonatori	Bead breaking pneumatic hydraulic power unit	Abdrückpneumatischer Steuerung	Distributeur pneumatique décolle-pneus	Centralita neumática destalonadores
	710010662	Centralina pneumatica stallonatori	Bead breaking pneumatic hydraulic power unit	Abdrückpneumatischer Steuerung	Distributeur pneumatique décolle-pneus	Centralita neumática destalonadores
48	710292330	Gruppo serbatoio	Tank unit	Tanksatz	Groupe réservoir	Grupo tanque
49	710491550	Distributore pneumatico	Pneumatic distributor	Pneumatischer Verteiler	Distributeur pneumatique	Distribuidor neumático
50	710591960	Gruppo valvola	Valve group	Ventilsatz	Groupe vanne	Grupo válvula
51	710591950	Gruppo valvola vite pneumatica	Pneumatic bolt valve unit	Pneumatische Schraube Ventilsatz	Groupe vanne vis pneumatique	Grupo válvula tornillo neumática
52	399286	Regolatore di flusso	Flow regulator	Flussregler	Regulateur de débit	Regulación de flujo
53	B0171000	Raccordo riduzione fissa 6-4	6-4 Fixed reduction fitting	Festreduzieranschluss 6-4	Raccord reduction fixe 6-4	Empalme reducción fijo 6-4
54	325191	Raccordo pneumatico Y-6	Y-6 pneumatic fitting	Pneumatischer Anschluss Y-6	Raccord pneumatique Y-6	Empalme neumático Y-6
55	B5815000	Raccordo V D.4	Y D.4 fitting	Anschluss V D.4	Raccord V D.4	Empalme V D.4
56	325054	Riduzione 8-6	8-6 reduction	Reduzierstück 8-6	Reduction 8-6	Reducción 8-6
57	325181	Raccordo a V8	Y8 fitting	V-Anschluss 8	Raccord à V8	Empalme en V8
58		Ripartitore aria 5 vie	5-ways air distribution frame	5 Wege Luftverteiler	Répartiteur air à 5 voies	Tablero distribución aire de 5 vías
59	790090660	Cilindro pneumatico D.70	D.70 pneumatic cylinder	Pneumatikzylinder D.70	Cylindre pneumatique D.70	Cilindro neumático D.70
60	325185	Riduzione	Reduction	Reduktion	Reduction	Reducción
61		Gruppo filtro regolazione lubrificazione	Lubrication regulation filter unit	Filtersatz Schmierungsregelung	Groupe filtre régulation lubrification	Grupo filtro regulación lubricación
62		Valvole pedale di gonfiaggio	Inflation pedal valves	Ventile des Aufpumpedals	Vannes pédales de direction de gonflage	Válvulas pedal de inflado
63		Nera N.A.	N.O. black	Schwarz N.O.	Noir N.O	Negra N.A.
64		Valvola bilanciatrice	Balancing valve	Ventil Waage	Vanne balancement	Válvula balanceo



Valido per versioni con gonfiatubeless
 Versions with tubeless inflation only
 Für Versionen mit Tubeless-Aufpumper
 Pour versions avec gonflage tubeless
 Para versiones con inflado tubeless

N°	Cod.	Descrizione	Description	Beschreibung	Description	Descripción
1	317007	Tubo rilsan 8x6 nero L=1800	8x6 black rilsan pipe L=1800	Rilsan Schlauch 8x6 schwarz L=1800	Tuyau rilsan 8x6 noir L=1800	Tubo rilsan 8x6 negro L=1800
2	317007	Tubo rilsan 8x6 nero L=1100	8x6 black rilsan pipe L=1100	Rilsan Schlauch 8x6 schwarz L=1100	Tuyau rilsan 8x6 noir L=1100	Tubo rilsan 8x6 negro L=1100
3	317007	Tubo rilsan 8x6 nero L=1100	8x6 black rilsan pipe L=1100	Rilsan Schlauch 8x6 schwarz L=1100	Tuyau rilsan 8x6 noir L=1100	Tubo rilsan 8x6 negro L=1100
4	317007	Tubo rilsan 8x6 nero L=460	8x6 black rilsan pipe L=460	Rilsan Schlauch 8x6 schwarz L=460	Tuyau rilsan 8x6 noir L=460	Tubo rilsan 8x6 negro L=460
5	317007	Tubo rilsan 8x6 nero L=700	8x6 black rilsan pipe L=700	Rilsan Schlauch 8x6 schwarz L=700	Tuyau rilsan 8x6 noir L=700	Tubo rilsan 8x6 negro L=700
6	317007	Tubo rilsan 8x6 nero L=300	8x6 black rilsan pipe L=300	Rilsan Schlauch 8x6 schwarz L=300	Tuyau rilsan 8x6 noir L=300	Tubo rilsan 8x6 negro L=300
7	317007	Tubo rilsan 8x6 nero L=1300	8x6 black rilsan pipe L=1300	Rilsan Schlauch 8x6 schwarz L=1300	Tuyau rilsan 8x6 noir L=1300	Tubo rilsan 8x6 negro L=1300
8	317007	Tubo rilsan 8x6 nero L=1200	8x6 black rilsan pipe L=1200	Rilsan Schlauch 8x6 schwarz L=1200	Tuyau rilsan 8x6 noir L=1200	Tubo rilsan 8x6 negro L=1200
9	317007	Tubo rilsan 8x6 nero L=850	8x6 black rilsan pipe L=850	Rilsan Schlauch 8x6 schwarz L=850	Tuyau rilsan 8x6 noir L=850	Tubo rilsan 8x6 negro L=850
10	317007	Tubo rilsan 8x6 nero L=650	8x6 black rilsan pipe L=650	Rilsan Schlauch 8x6 schwarz L=650	Tuyau rilsan 8x6 noir L=650	Tubo rilsan 8x6 negro L=650
11	317033	Tubo rilsan 8x6 superflex L=1650	8x6 superflex rilsan pipe L=1650	Rilsan superflex 8x6 röt L=1650	Tuyau rilsan 8x6 superflex L=1650	Tubo rilsan 8x6 superflex L=1650
12	317033	Tubo rilsan 8x6 superflex L=850	8x6 superflex rilsan pipe L=850	Rilsan superflex 8x6 röt L=850	Tuyau rilsan 8x6 superflex L=850	Tubo rilsan 8x6 superflex L=850
13	317009	Tubo rilsan 8x6 blu L=500	8x6 blue rilsan pipe L=500	Rilsan Schlauch 8x6 blau L=500	Tuyau rilsan 8x6 bleu L=500	Tubo rilsan 8x6 azul L=500
14	317009	Tubo rilsan 8x6 blu L=800	8x6 blue rilsan pipe L=800	Rilsan Schlauch 8x6 blau L=800	Tuyau rilsan 8x6 bleu L=800	Tubo rilsan 8x6 azul L=800
15	317009	Tubo rilsan 8x6 blu L=1550	8x6 blue rilsan pipe L=1550	Rilsan Schlauch 8x6 blau L=1550	Tuyau rilsan 8x6 bleu L=1550	Tubo rilsan 8x6 azul L=1550
16	317007	Tubo rilsan 8x6 nero L=1700	8x6 black rilsan pipe L=1700	Rilsan Schlauch 8x6 schwarz L=1700	Tuyau rilsan 8x6 noir L=1700	Tubo rilsan 8x6 negro L=1700
17	317038	Tubo Elastolan nero 8x5,5 L=300	8x5,5 black Elastolan pipe L=300	Schlauch Elastolan 8x5,5 schwarz L=300	Tuyau Elastolan 8x5,5 noir L=300	Tubo Elastolan 8x5,5 negro L=300
18	317038	Tubo Elastolan nero 8x5,5 L=260	8x5,5 black Elastolan pipe L=260	Schlauch Elastolan 8x5,5 schwarz L=260	Tuyau Elastolan 8x5,5 noir L=260	Tubo Elastolan 8x5,5 negro L=260
19	317008	Tubo rilsan 8x6 rosso L=2500	8x6 red rilsan pipe L=2500	Rilsan Schlauch 8x6 röt L=2500	Tuyau rilsan 8x6 rouge L=2500	Tubo rilsan 8x6 rojo L=2500
20	317007	Tubo rilsan 8x6 nero L=70	8x6 black rilsan pipe L=70	Rilsan Schlauch 8x6 schwarz L=70	Tuyau rilsan 8x6 noir L=70	Tubo rilsan 8x6 negro L=70
21	317010	Tubo rilsan 10x8 nero L=600	10x8 black rilsan pipe L=600	Rilsan Schlauch 10x8 schwarz L=600	Tuyau rilsan 10x8 noir L=600	Tubo rilsan 10x8 negro L=600
22	317006	Tubo rilsan 6x4 nero L=1600	6x4 black rilsan pipe L=1600	Rilsan Schlauch 6x4 schwarz L=1600	Tuyau rilsan 6x4 noir L=1600	Tubo rilsan 6x4 negro L=1600
23	317006	Tubo rilsan 6x4 nero L=1400	6x4 black rilsan pipe L=1400	Rilsan Schlauch 6x4 schwarz L=1400	Tuyau rilsan 6x4 noir L=1400	Tubo rilsan 6x4 negro L=1400
24	317006	Tubo rilsan 6x4 nero L=2100	6x4 black rilsan pipe L=2100	Rilsan Schlauch 6x4 schwarz L=2100	Tuyau rilsan 6x4 noir L=2100	Tubo rilsan 6x4 negro L=2100
25	317006	Tubo rilsan 6x4 nero L=1900	6x4 black rilsan pipe L=1900	Rilsan Schlauch 6x4 schwarz L=1900	Tuyau rilsan 6x4 noir L=1900	Tubo rilsan 6x4 negro L=1900
26	317026	Tubo rilsan 4x2,7 nero L=2000	4x2,7 black rilsan pipe L=2000	Rilsan Schlauch 4x2,7 schwarz L=2000	Tuyau rilsan 4x2,7 noir L=2000	Tubo rilsan 4x2,7 negro L=2000
27	317006	Tubo rilsan 6x4 nero L=350	6x4 black rilsan pipe L=350	Rilsan Schlauch 6x4 schwarz L=350	Tuyau rilsan 6x4 noir L=350	Tubo rilsan 6x4 negro L=350
28	317006	Tubo rilsan 6x4 nero L=350	6x4 black rilsan pipe L=350	Rilsan Schlauch 6x4 schwarz L=350	Tuyau rilsan 6x4 noir L=350	Tubo rilsan 6x4 negro L=350
29	317006	Tubo rilsan 6x4 nero L=2700	6x4 black rilsan pipe L=2700	Rilsan Schlauch 6x4 schwarz L=2700	Tuyau rilsan 6x4 noir L=2700	Tubo rilsan 6x4 negro L=2700
30	317006	Tubo rilsan 6x4 nero L=4000	6x4 black rilsan pipe L=4000	Rilsan Schlauch 6x4 schwarz L=4000	Tuyau rilsan 6x4 noir L=4000	Tubo rilsan 6x4 negro L=4000
31	317006	Tubo rilsan 6x4 nero L=50	6x4 black rilsan pipe L=50	Rilsan Schlauch 6x4 schwarz L=50	Tuyau rilsan 6x4 noir L=50	Tubo rilsan 6x4 negro L=50
32	317035	Tubo Elastolan 4x2,5 ne L=50	4x2,5 black Elastolan pipe L=50	Schlauch Elastolan 4x2,5 schwarz L=50	Tuyau Elastolan 4x2,5 noir L=50	Tubo Elastolan 4x2,5 negro L=50
33	317035	Tubo Elastolan 4x2,5 ne L=200	4x2,5 black Elastolan pipe L=200	Schlauch Elastolan 4x2,5 schwarz L=200	Tuyau Elastolan 4x2,5 noir L=200	Tubo Elastolan 4x2,5 negro L=200
34	317006	Tubo rilsan 6x4 nero L=1600	6x4 black rilsan pipe L=1600	Rilsan Schlauch 6x4 schwarz L=1600	Tuyau rilsan 6x4 noir L=1600	Tubo rilsan 6x4 negro L=1600
35		Cilindro blocco verticale per utensile	Vertical block cylinder for tool	Vertikaler Blockzylinder für Werkzeug	Cylindre de blocage vertical pour outil	Cilindro de bloque vertical para útil
36	710990030	Cilindro camma D.90	D.90 cam cylinder	D.90 Nockenzyylinder	Cylindre came D.90	Cilindro leva D.90
37	710990030	Cilindro camma D.90	D.90 cam cylinder	D.90 Nockenzyylinder	Cylindre came D.90	Cilindro leva D.90

N°	Cod.	Descrizione	Description	Beschreibung	Description	Descripción
38	710190450	Centralina pneumatica principale	Main pneumatic hydraulic power unit	Hauptpneumatischer Steuerung	Distributeur pneumatique principal	Centralita neumática principal
	710190451	Centralina pneumatica principale	Main pneumatic hydraulic power unit	Hauptpneumatischer Steuerung	Distributeur pneumatique principal	Centralita neumática principal
39	710490891	Cilindro pneumatico D.70	D.70 pneumatic cylinder	Cylindre pneumatique D.70	Cylindre pneumatique D.70	Cilindro neumático D.70
40		Nera N.A.	N.O. black	Schwarz N.O.	Noir N.O	Negra N.A.
41		Bianca N.C.	N.C. white	Weiß N.G.	Blanche N.F.	Blanca N.C.
42	325181	Raccordo a V8	Y8 fitting	V-Anschluss 8	Raccord à V8	Empalme en V8
43	710890250	Gruppo cilindro pneumatico D.125	D.125 pneumatic cylinder unit	Satz pneumatischen Zylinders D.125	Groupe cylindre pneumatique D.125	Grupo cilindro neumático D.125
44	710880720	Cilindro braccio stallonatore inferiore	Lower bead breaker arm cylinder	Unterer Abdrückarmzylinder	Cylindre bras décolle-pneus inférieur	Cilindro inferior brazo destalonador
45	710990640	Cilindro pneumatico D.100	D.100 pneumatic cylinder	Pneumatikzylinder D.100	Cylindre pneumatique D.100	Cilindro neumático D.100
46	399284	Regolatore di flusso	Flow regulator	Flussregler	Regulateur de débit	Regulación de flujo
47	710090661	Centralina pneumatica stallonatori	Bead breaking pneumatic hydraulic power unit	Abdrückpneumatischer Steuerung	Distributeur pneumatique décolle-pneus	Centralita neumática destalonadores
	710010662	Centralina pneumatica stallonatori	Bead breaking pneumatic hydraulic power unit	Abdrückpneumatischer Steuerung	Distributeur pneumatique décolle-pneus	Centralita neumática destalonadores
48	710292330	Gruppo serbatoio	Tank unit	Tanksatz	Groupe réservoir	Grupo tanque
49	710491550	Distributore pneumatico	Pneumatic distributor	Pneumatischer Verteiler	Distributeur pneumatique	Distribuidor neumático
50	710591960	Gruppo valvola	Valve group	Ventilsatz	Groupe vanne	Grupo válvula
51	710591950	Gruppo valvola vite pneumatica	Pneumatic bolt valve unit	Pneumatische Schraube Ventilsatz	Groupe vanne vis pneumatique	Grupo válvula tornillo neumática
52	399286	Regolatore di flusso	Flow regulator	Flussregler	Regulateur de débit	Regulación de flujo
53	B0171000	Raccordo riduzione fissa 6-4	6-4 Fixed reduction fitting	Festreduzieranschluss 6-4	Raccord reduction fixe 6-4	Empalme reducción fijo 6-4
54	325191	Raccordo pneumatico Y-6	Y-6 pneumatic fitting	Pneumatischer Anschluss Y-6	Raccord pneumatique Y-6	Empalme neumático Y-6
55	B5815000	Raccordo V D.4	Y D.4 fitting	Anschluss V D.4	Raccord V D.4	Empalme V D.4
56	325054	Riduzione 8-6	8-6 reduction	Reduzierstück 8-6	Reduction 8-6	Reducción 8-6
57	325181	Raccordo a V8	Y8 fitting	V-Anschluss 8	Raccord à V8	Empalme en V8
58		Ripartitore aria 5 vie	5-ways air distribution frame	5 Wege Luftverteiler	Répartiteur air à 5 voies	Tablero distribución aire de 5 vías
59	790090660	Cilindro pneumatico D.70	D.70 pneumatic cylinder	Pneumatikzylinder D.70	Cylindre pneumatique D.70	Cilindro neumático D.70
60	325185	Riduzione	Reduction	Reduktion	Reduction	Reducción
61		Gruppo filtro regolazione lubrificazione	Lubrication regulation filter unit	Filtersatz Schmierungsregelung	Groupe filtre régulation lubrification	Grupo filtro regulación lubricación
62		Valvole pedale di gonfiaggio	Inflation pedal valves	Ventile des Aufpumpedals	Vannes pédales de direction de gonflage	Válvulas pedal de inflado
63		Nera N.A.	N.O. black	Schwarz N.O.	Noir N.O	Negra N.A.
64		Bianca N.C.	N.C. white	Weiß N.G.	Blanche N.F.	Blanca N.C.
65		Gruppo serbatoio	Tank unit	Tanksatz	Groupe réservoir	Grupo tanque
66		Ugello di gonfiaggio	Inflation nozzle	Aufpumpedüse	Gicleur de gonflage	Boquilla de inflado
67		Valvola bilanciatrice	Balancing valve	Ventil Waage	Vanne balancement	Válvula balanceo
68		Gruppo gonfiaggio con manometro	Inflation unit with pressure gauge	Aufpumpsatz mit Manometer	Groupe gonflage avec manomètre	Grupo inflado con manómetro



Noi
We / Wir / Nous / Nosotros

BUTLER ENGINEERING AND MARKETING S.p.A.s.u.
Via dell'Ecologia, 6
42047 Rolo RE ITALIA

dichiariamo sotto la nostra esclusiva responsabilità che il prodotto

declare, undertaking sole responsibility, that the product
erklären unter unserer alleinigen Verantwortung, dass das Produkt
déclarons, sous notre entière responsabilité, que le produit
declaramos bajo nuestra exclusiva responsabilidad, que el producto

Smontagomme Tyre changer Reifenmontiermaschine Démonte-Pneus Desmontadora	
--	--

al quale questa dichiarazione si riferisce, risponde alle seguenti Direttive applicabili:

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

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

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

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

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

E la seguente Norma tecnica
And the following technical Directive
Sowie die folgende technische Norm
Et la Norme technique suivante
Y la siguiente Norma técnica

UNI EN 17347:2021 Veicoli stradali - Macchine per smontaggio e montaggio pneumatici per veicoli – Requisiti di sicurezza

La persona preposta a costituire il fascicolo tecnico è Butler S.p.A. s.u.

The technical documentation file is constituted by Butler S.p.A.s.u.
Vorgesetzte Rechtsperson für die Erstellung des technischen Lastenheftes ist Butler S.p.A.s.u.
La société Butler S.p.A.s.u. est l'organisme délégué à la présentation de la documentation technique.
Butler S.p.A.s.u. es encargada a la constitución del archivo técnico.

Rolo,

7900-M004-03

**INSTRUCTION MANUAL
FOR DISASSEMBLY/ASSEMBLY
OF RF TYPE (Run Flat)
AND UHP TYPE TYRES
(Ultra High Performance)
FOR LEVERLESS TYRE CHANGERS**


EN

TRANSLATION FROM THE
ORIGINAL INSTRUCTIONS





• For any further information please contact your local dealer.

SUMMARY

SYMBOLS USED IN THE MANUAL	3
1.0 PRELIMINARY OPERATIONS PREPARING THE WHEEL	4
2.0 WHEEL CLAMPING	5
3.0 BEAD BREAKING THROUGH VERTICAL ROLLERS	6
4.0 DEMOUNTING THE TYRE	9
5.0 MOUNTING THE TYRE	13
6.0 TYRE DEMOUNTING PROCEDURE USING THE MAGIC TAIL	17
7.0 FITTING OF THE FIRST BEAD USING THE MAGIC TAIL	21
8.0 WHEEL INFLATION	23

 **THE OPERATIONS DESCRIBED IN THIS MANUAL APPLY TO ALL MODELS OF LEVER-LESS TYRE CHANGERS, SUCH AS FOR EXAMPLE THOSE WITH 3 OR 4 TOOLS AND THOSE WITH ONLY ONE BEAD BREKER DISC.**

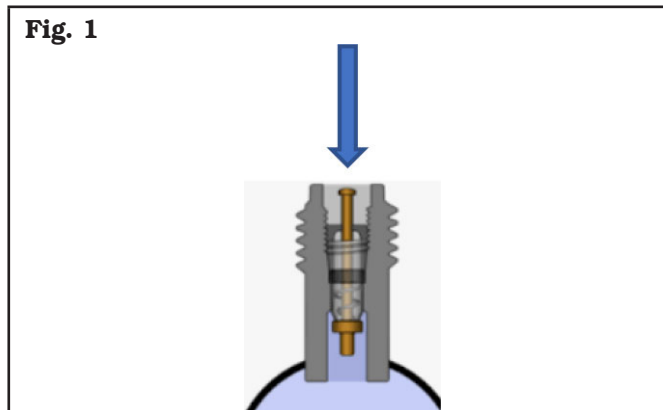
SYMBOLS USED IN THE MANUAL

Symbols	Description
	Mandatory. Operations or jobs to be performed compulsorily.
	Warning. Be particularly careful (possible material damages).
	Danger! Be particularly careful.
	Note. Indication and/or useful information.

 **THE PICTURES PRESENT IN THIS MANUAL HAVE BEEN PARTLY OBTAINED FROM PICTURES OF PROTOTYPES, THEREFORE SOME PARTS AND COMPONENTS OF THE ATTACHMENT MAY BE DIFFERENT FROM THE DEPICTED ILLUSTRATIONS.**


1.0 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. 1**) and allow the tyre to completely deflate.

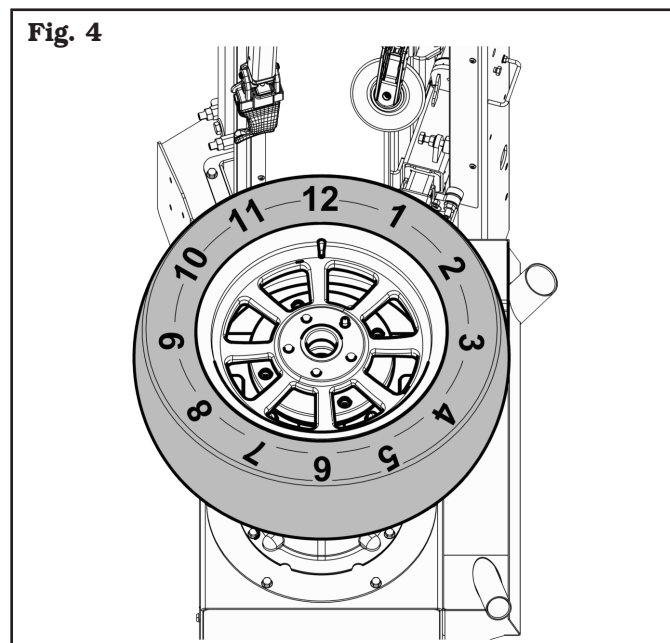


- Check which side the tyre is to be removed from.
- Find the rim locking type.
- Check the type of tyre to be removed (Run Flat, UHP), identify the rim data (see **Fig. 2**), check if the TPMS valve (see **Fig. 3**) or the normal valve is present. The tyre temperature can't be lower than 15°C.



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

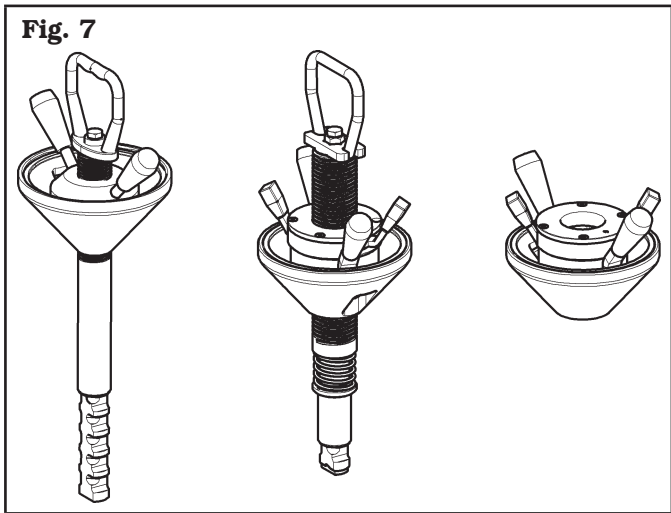
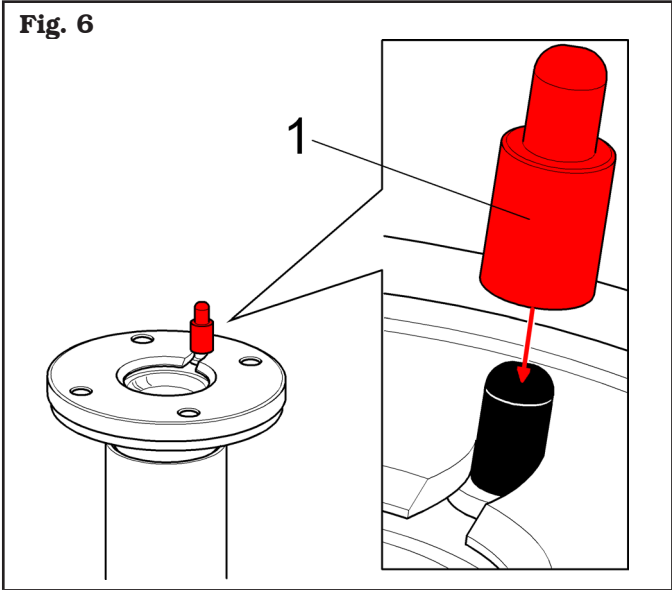
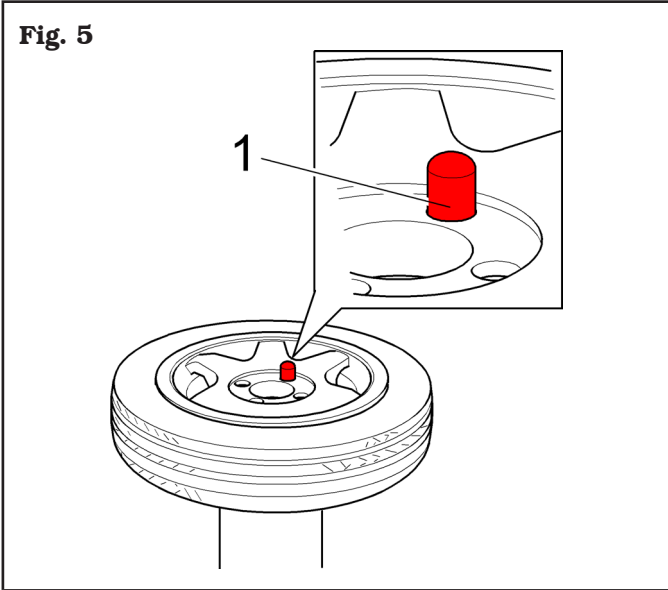
 TO BETTER EXPLAIN THE OPERATIONS, THE POSITIONING OF THE VARIOUS TOOLS ON THE TYRE IS INDICATED BY THE TIME PHASES, WHERE 12 O'CLOCK IS REPRESENTED IN CORRESPONDENCE WITH THE COLUMN OF THE TYRE CHANGER (FIG. 4).



2.0 WHEEL CLAMPING

Load the wheel with the lifting device (if available) on the rubber plate of the chuck, making sure that the driving pin (**Fig. 5 ref.1**) engages in one of the holes on the rim. If the thickness of the wheel rim is too high compared to the driving pin, use the extension (**Fig. 6 ref.1**) supplied, and lock the wheel with the special quick locking device. The three main types of device are shown in **Fig. 7**.

i FOR THE DETAILED PROCEDURE OF CONTROL USE, SEE CONTROL CHAPTER CONTAINED INTO THE INSTRUCTION AND MAINTENANCE MANUAL SUPPLIED WITH THE MACHINE.

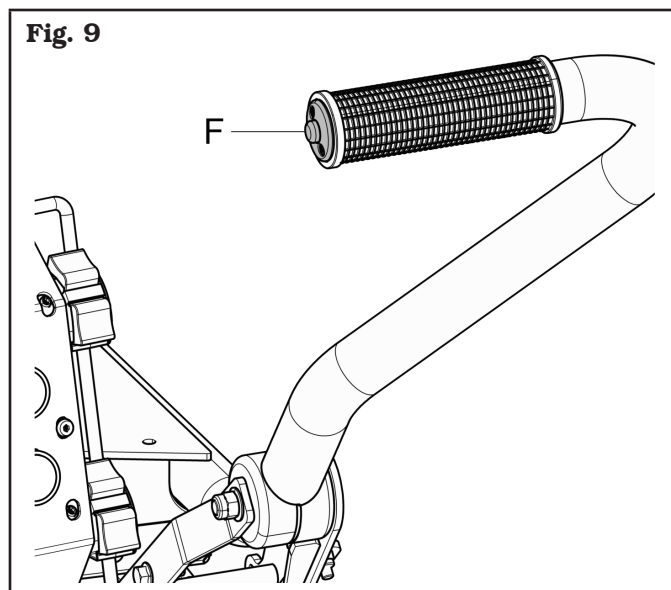
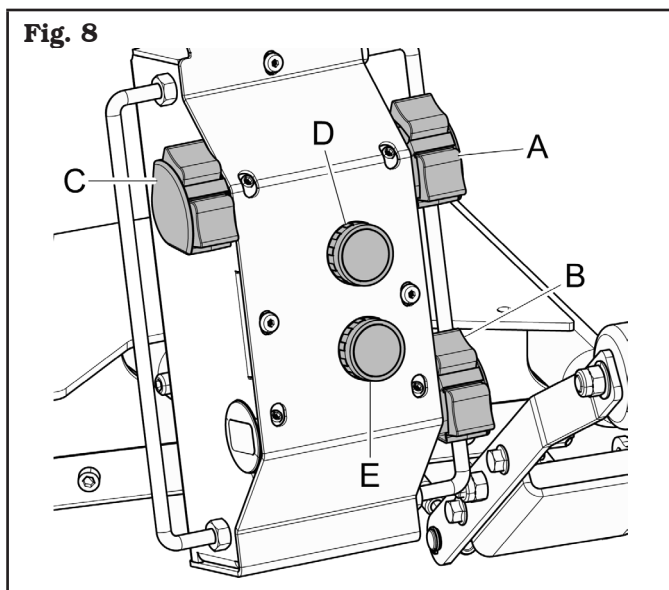


3.0 BEAD BREAKING THROUGH VERTICAL ROLLERS



THE CONTROL UNIT MAY VARY ACCORDING TO THE MODEL OF MACHINE IN YOUR POSSESSION. BELOW ARE IMAGES AND DESCRIPTIONS OF A CONTROL UNIT AS AN EXAMPLE. FOR THE CORRECT USE OF YOUR CONTROL UNIT, REFER TO THE "CONTROLS" CHAPTER OF THE USE AND MAINTENANCE INSTRUCTION BOOKLET SUPPLIED WITH YOUR MACHINE MODEL.

1. Bring the upper bead breaker disc close to the edge of the wheel, by pressing the descent button (**Fig. 8 ref. A**).
2. Adjust the tools according to the diameter of the wheel, by acting on the release button positioned on the control lever (**Fig. 9 ref. F**).



3. Position the valve next to the upper bead breaker disc (**Fig. 10**), start turning the wheel clockwise. Start pressing the bead breaker disc downwards when the valve is at about 3 o'clock, the bead breaker disc 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 bead breaker disc.





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



DURING THE ROTATION OF THE TYRE, ABUNDANTLY GREASE THE INSIDE OF THE BEAD AND THE ENTIRE SHOULDER OF THE TYRE, UP TO THE TREAD (FIG. 11; FIG. 12).

Fig. 11



Fig. 12



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

For manual versions only



AS THE BEAD BREAKER DISC REACHES THE RIM EDGE, OPERATE THE PUSH BUTTON FOR CAM MANUAL MOVEMENT (FIG. 8 REF. D). THE BEAD BREAKER DISC 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 BEAD BREAKER DISC.



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

4. Continue clockwise rotation of the wheel and at the same time press the lower bead breaker arm up button (**Fig. 8 ref. B**). Place the bead breaker disc on the tyre (**Fig. 13**) and start pushing, greasing the whole bead of the tyre abundantly (**Fig. 14**), the bead breaker disc 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 bead breaker disc.



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.

For manual versions only



AS THE BEAD BREAKER DISC REACHES THE RIM EDGE, OPERATE THE PUSH BUTTON FOR CAM MANUAL MOVEMENT (FIG. 8 REF. E). THE BEAD BREAKER DISC 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 BEAD BREAKER DISC.

4.0 DEMOUNTING THE TYRE

Disassembly operation using the rotating bead pressing device.

1. Press the tool descent button (**Fig. 8 ref. C**) and place it on the tyre without pushing. At the same time rotate the wheel until the valve is placed next to the extraction tool (**Fig. 15**).



2. Start the rotation of the wheel (without stopping until the tool is inserted). When the valve is at about 3 o'clock (**Fig. 16**), press the tool descent button (**Fig. 8 ref. C**) and insert it into the tyre (**Fig. 17**).

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



- 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 extraction tool (**Fig. 18**).



- Press the up button of the lower bead breaker arm (**Fig. 8 ref. B**) until the bead breaker disc rests on the tyre (**Fig. 19**). Push lightly to reduce the tension on the opposite bead of the tyre and hold it in place.



- Finish lifting the extraction tool, position the rotating bead pressing device at about 6 o'clock on the tyre (**Fig. 20**).



IF NECESSARY, USE THE ROTATING BEAD PRESSING DEVICE TO PUSH THE TYRE BEAD INTO THE RIM GROOVE.



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. 21**).



7. Press the appropriate push button (**Fig. 8 ref. C**). Lift the extraction tool and remove it from the tyre.
8. Place the valve next to the bead breaker disc, manually push the tyre on the bead breaker disc (**Fig. 22**), and using the appropriate button (**Fig. 8 ref. B**), lift the lower bead breaker disc.



For manual versions only

When the bead breaker disc has passed the edge of the rim , press the advance button of the bead breaker disc cam (Fig. 8 ref. E) (Fig. 23).



THE POSITION OF THE VALVE IN CORRESPONDENCE WITH THE BEAD BREAKER DISC IS TO AVOID BREAKAGE OF THE TPMS SENSOR (SEE FIG. 24). 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.



5.0 MOUNTING THE TYRE

Assembly operation using the rotating bead pressing device.

1. Generously grease the rim, taking care to keep the valve clean and not greased (**Fig. 26**).
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 centimetres per side inside the tyre (**Fig. 27**).

Fig. 26

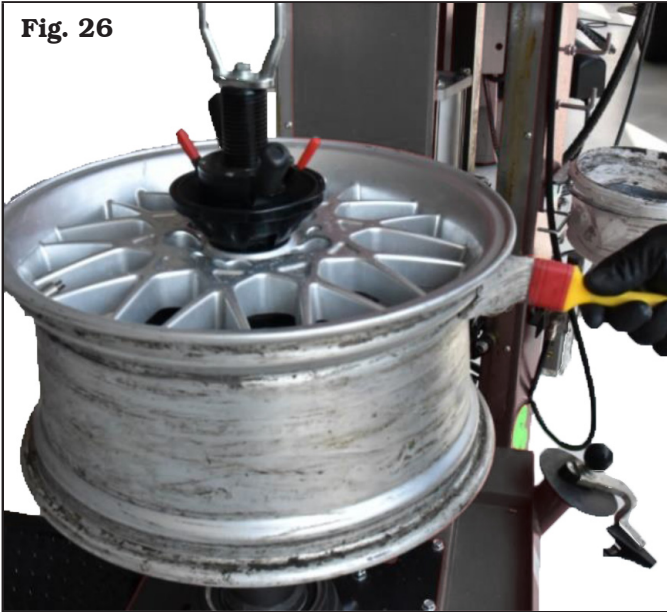
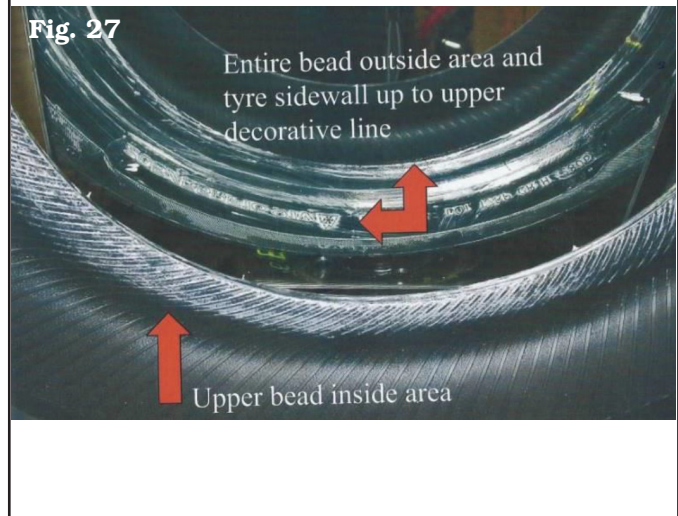


Fig. 27



3. Position the valve at about 7 o'clock, lay the tyre on the rim, press the appropriate push button (**Fig. 8 ref. C**) to position the tool on the rim (**Fig. 28**), insert the tyre in the mounting position on the tool and press the rotation pedal until the first bead is inserted.



RUN FLAT OR UHP TYRES HAVE A PARTICULARLY RIGID PROFILE AND THE BEAD BREAKER DISC CAN ALSO BE USED TO INSERT THE FIRST BEAD (FIG. 29). IN THIS CASE, ALWAYS POSITION THE VALVE AT 7 O'CLOCK, FIT THE TYRE ON THE RIM (SEE FIG. 29) AND USING THE APPROPRIATE BUTTON (FIG. 8 REF. A) LOWER THE BEAD BREAKER DISC 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. 28



Fig. 29





FOR EQUIPMENT EQUIPPED WITH THE FOURTH TOOL, TO INSERT THE FIRST BEAD, FOLLOW THE PROCEDURE DESCRIBED IN POINT 3.

- Pressing the rotation pedal, place the valve at approximately 3 o'clock. Acting on the appropriate button (**Fig. 8 ref. C**), position the assembly tool on the edge of the rim.
- Acting on the appropriate button (**Fig. 8 ref. A**), use the bead breaker disc to push the tyre bead under the rim edge (**Fig. 30**).

Fig. 30



- Insert the bead pressing device exactly next to the valve (**Fig. 31**). Fit the plastic protection on the edge of the rim next to the bead pressing device as shown in **Fig. 32**.

Fig. 31



Fig. 32



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) IS ALWAYS BETWEEN 10 CM AND 15 CM BEFORE THE VALVE. TO ALWAYS OBTAIN THIS RESULT, ALWAYS INSERT THE BEAD PRESSING DEVICE NEXT TO THE VALVE.

7. While pressing the rotation pedal, slowly bring the bead press and the plastic guard to 6 o'clock position (**Fig. 33**). Insert the rotating bead pressing device at 3 o'clock (**Fig. 34**), and slowly finish the tyre mounting operation (**Fig. 35**).

Fig. 33



Fig. 34



Fig. 35



8. At the end of the operation remove all the tools used (**Fig. 36**).



6.0 TYRE DEMOUNTING PROCEDURE USING THE MAGIC TAIL

1. Follow all the operations previously described in paragraph 3, for the correct preparation and lubrication of the tyre.
2. Press the tool descent button (**Fig. 8 ref. C**) and place it on the tyre without pushing. At the same time rotate the wheel until the valve is placed next to the extraction tool (**Fig. 15**).
3. Start the rotation of the wheel (without stopping until the tool is inserted). When the valve is at about 3 o'clock (**Fig. 16**), press the tool descent button (**Fig. 8 ref. C**) and insert it into the tyre (**Fig. 17**).



THE TOOL MUST BE INSERTED BEFORE THE VALVE PASSES IN FRONT OF THE TOOL AGAIN

4. By turning counterclockwise, position the valve at approximately 4 o'clock (**Fig. 37**).

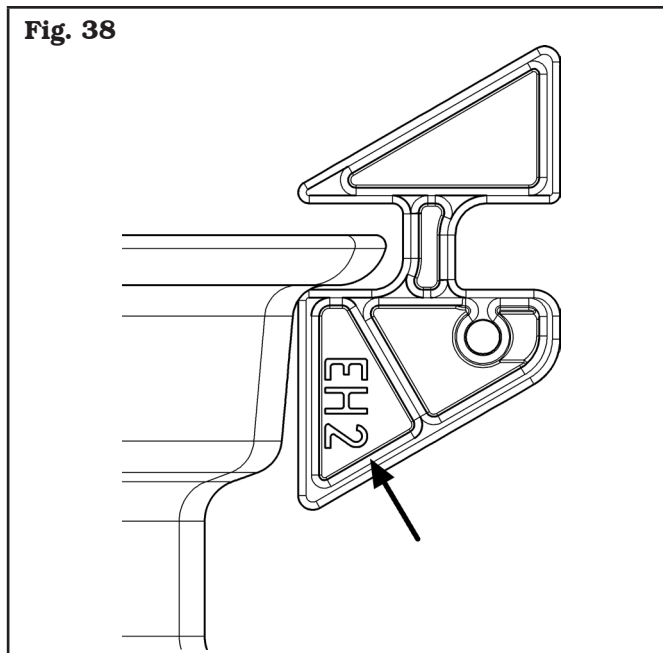


THE MAGIC TAIL IS MADE UP OF TWO-WEDGES-INSERTS OF DIFFERENT SIZES (EH, EH2) (FIG. 38). THESE WEDGES, SUITABLY MOUNTED, INSERT THE TYRE BEAD AT TWO DIFFERENT RIM DEPTHS AND IN ANY CASE INSIDE THE GROOVE. CHOOSING THE CORRECT WEDGE TO BE USED DEPENDS ON THE TYPE OF RIM YOU INTEND TO WORK ON.



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. 38).

Fig. 38



5. Press the rotation pedal and insert all the wedges one at a time.



THE VALVE MUST BE PLACED AT APPROXIMATELY 9 O'CLOCK AND IN ANY CASE EXACTLY ON THE OPPOSITE SIDE OF THE WEDGES (FIG. 39).

6. Using the appropriate push button (**Fig. 8 ref. A**) lift the bead breaker disc. Using the appropriate push button (**Fig. 8 ref. C**), slightly lift the extraction tool, but without placing it on the edge of the rim. By pressing the rotation pedal, position the valve exactly in front of the rotation tool (**Fig. 40**).

Fig. 39



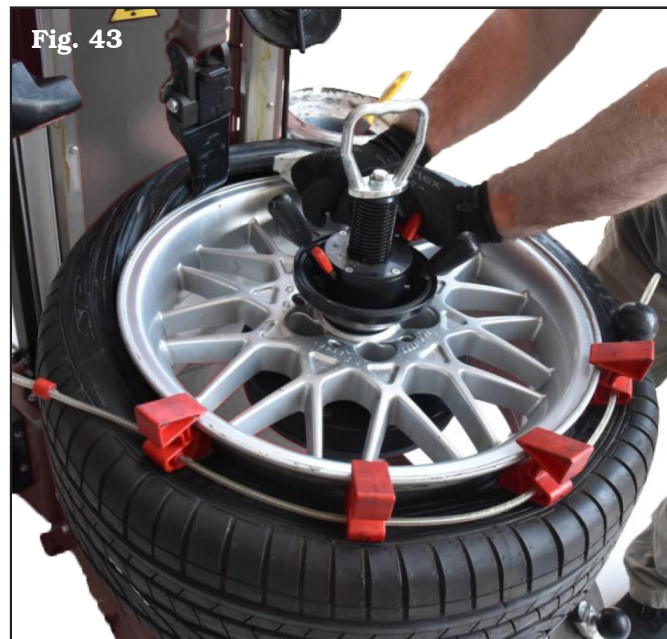
Fig. 40



7. By pressing the up button of the lower bead breaker arm (**Fig. 8 ref. B**) rest the bead breaker disc on the tyre. Push slightly to reduce the tension on the opposite bead of the tyre and hold it in place (**Fig. 41**).
8. Finish the lifting of the extraction tool. Insert the bead protection tool together with the plastic sheets between the tyre bead and the rim (**Fig. 42**).



9. Lock the protection tool with your hand (**Fig. 43**). Press the rotation pedal remove the first bead of the tyre.



10. By pressing the rotation pedal, place the valve next to the bead breaker disc. Manually push the tyre on the bead breaker disc (**Fig. 44**), and using the appropriate button (**Fig. 8 ref. B**), lift the lower bead breaker disc.



For manual versions only

When the bead breaker disc has passed the edge of the rim, press the advance button of the bead breaker disc cam (**Fig. 8 ref. E**).



THE POSITION OF THE VALVE NEXT TO THE BEAD BREAKER DISC SERVES TO AVOID BREAKAGE OF THE TPMS, AS SHOWN IN FIG. 45, 46 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.



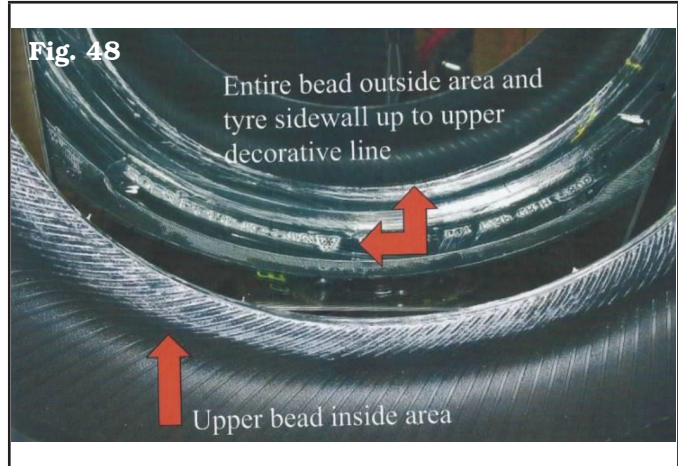
7.0 FITTING OF THE FIRST BEAD USING THE MAGIC TAIL

1. Generously grease the rim, taking care to keep the valve clean and not greased (**Fig. 47**).
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 centimetres per side inside the tyre (**Fig. 48**).

Fig. 47



Fig. 48



3. Position the valve at 7 o'clock, lay the tyre on the rim, press the appropriate push button (**Fig. 8 ref. C**) to position the tool on the rim (**Fig. 49**), insert the tyre in the mounting position on the tool and press the rotation pedal until the first bead is inserted.



RUN FLAT OR UHP TYRES HAVE A PARTICULARLY RIGID PROFILE AND THE BEAD BREAKER DISC CAN ALSO BE USED TO INSERT THE FIRST BEAD (FIG. 50). IN THIS CASE, ALWAYS POSITION THE VALVE AT 7 O'CLOCK, FIT THE TYRE ON THE RIM (SEE FIG. 50) AND USING THE APPROPRIATE BUTTON (FIG. 8 REF. A) LOWER THE BEAD BREAKER DISC 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. 49



Fig. 50



4. By pressing the rotation pedal, position the valve at about 3 o'clock, using the appropriate button (**Fig. 8 ref. C**), place the assembly tool on the edge of the rim.
5. Acting on the appropriate button (**Fig. 8 ref. A**), use the bead breaker disc to push the tyre bead under the rim edge.
6. Insert the bead pressing device exactly next to the valve. Fit the plastic protection on the edge of the rim next to the bead pressing device as shown in **Fig. 32**.



IN ORDER NOT TO DAMAGE THE TPMS VALVE, IT IS IMPORTANT THAT THE TRACTION POINT (CONTACT POINT OF THE TYRE BEAD ON THE RIM) IS ALWAYS BETWEEN 10 AND 15 CM BEFORE THE VALVE, TO ALWAYS OBTAIN THIS RESULT, ALWAYS INSERT THE BEAD PRESSING DEVICE NEXT TO THE VALVE.

7. While pressing the rotation pedal, slowly bring the bead press and the plastic guard to about 5 o'clock. Using the appropriate button (**Fig. 8 ref. A**), lower the upper bead breaker roller on the tyre sidewall to create the correct space for inserting the wedges of the "magic tail" fitting (**Fig. 51**).



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. 52**)
9. At the end of the operation, remove the magic tail and all the tools used.



TO FACILITATE THE OPERATION, LEAVE THE UPPER BEAD BREAKER DISC IN POSITION ON THE TYRE, AND LIFTING THE ROTATION PEDAL, ROTATE THE WHEEL COUNTERCLOCKWISE. THE WEDGES OF THE MAGIC TAIL AND THE BEAD PRESSING DEVICE CAN BE REMOVED EFFORTLESSLY AT THE BEAD BREAKER DISC.

8.0 WHEEL INFLATION

The inflation of a wheel must always take place without the inner core of the valve (**Fig. 1**). 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 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, IT IS NECESSARY TO DEFLATE THE WHEEL, BEAD AND ABUNDANTLY LUBRICATE THE TYRE AND RIM, AND REPEAT THE INFLATION OPERATION.