7109-M008-00

TYRE-CHANGER SERIES
AIKIDO.EVO

INSTRUCTION MANUAL
Applicable to the following models
ROT.AIKID.200235
ROT.AIKID.200075
ROT.AIKID.200099

EN TRANSLATION OF THE ORIGINAL INSTRUCTIONS

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

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

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7109-M008-00 - Rev. n. 00 (04/2024)

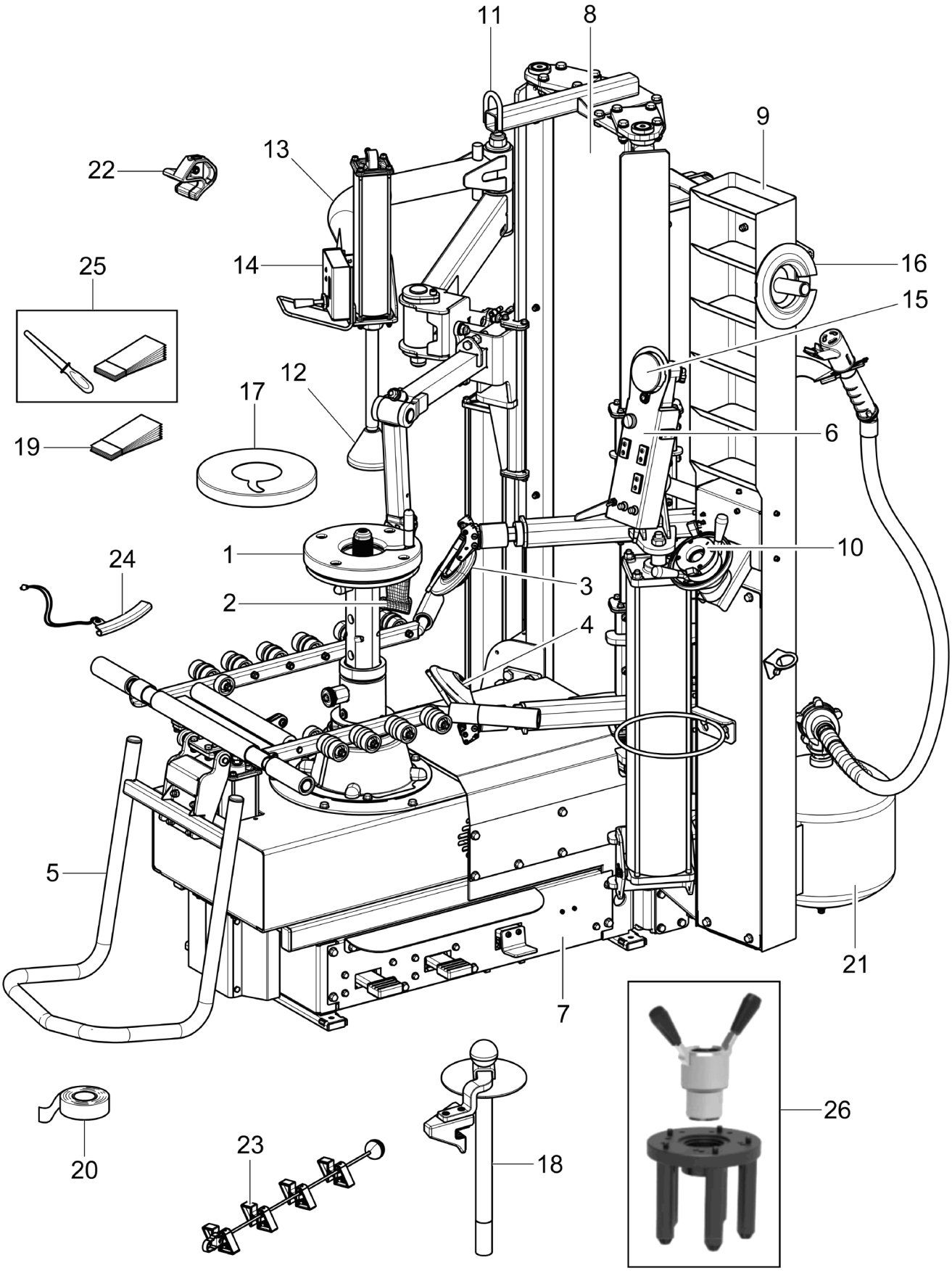
SUMMARY

Features / Accessories / Model	ROT.AIKID.200235	ROT.AIKID.200075	ROT.AIKID.200099
Tubeless inflation unit system			●
Universal centring flange		●	

● = standard

GENERAL DESCRIPTION

Fig. 1



KEY (**Fig. 1**)

1 - Chuck
2 - Toolhead
3 - Upper bead breaker roller
4 - Lower bead breaker roller
5 - Frontal lifting device
6 - Control panel
7 - Pedalboard
8 - Column
9 - Tool compartments
10 - Locking ring nut
11 - Lifting device
12 - Bead press tool
13 - Bead press device
14 - Bead press device control unit
15 - Inflation pressure gauge
16 - Two-faced cone
17 - Reverse wheels protection
18 - Beadpusher with puller
19 - Bead sliding foil
20 - Adhesive tape
21 - Tubeless inflation vessel (standard on one model)
22 - Press device
23 - 22-28 bead press extension
24 - Bead protection for Run flat tyres
25 - Bead protection kit + bead sliding foil
26 - Universal centring flange (standard on some models)

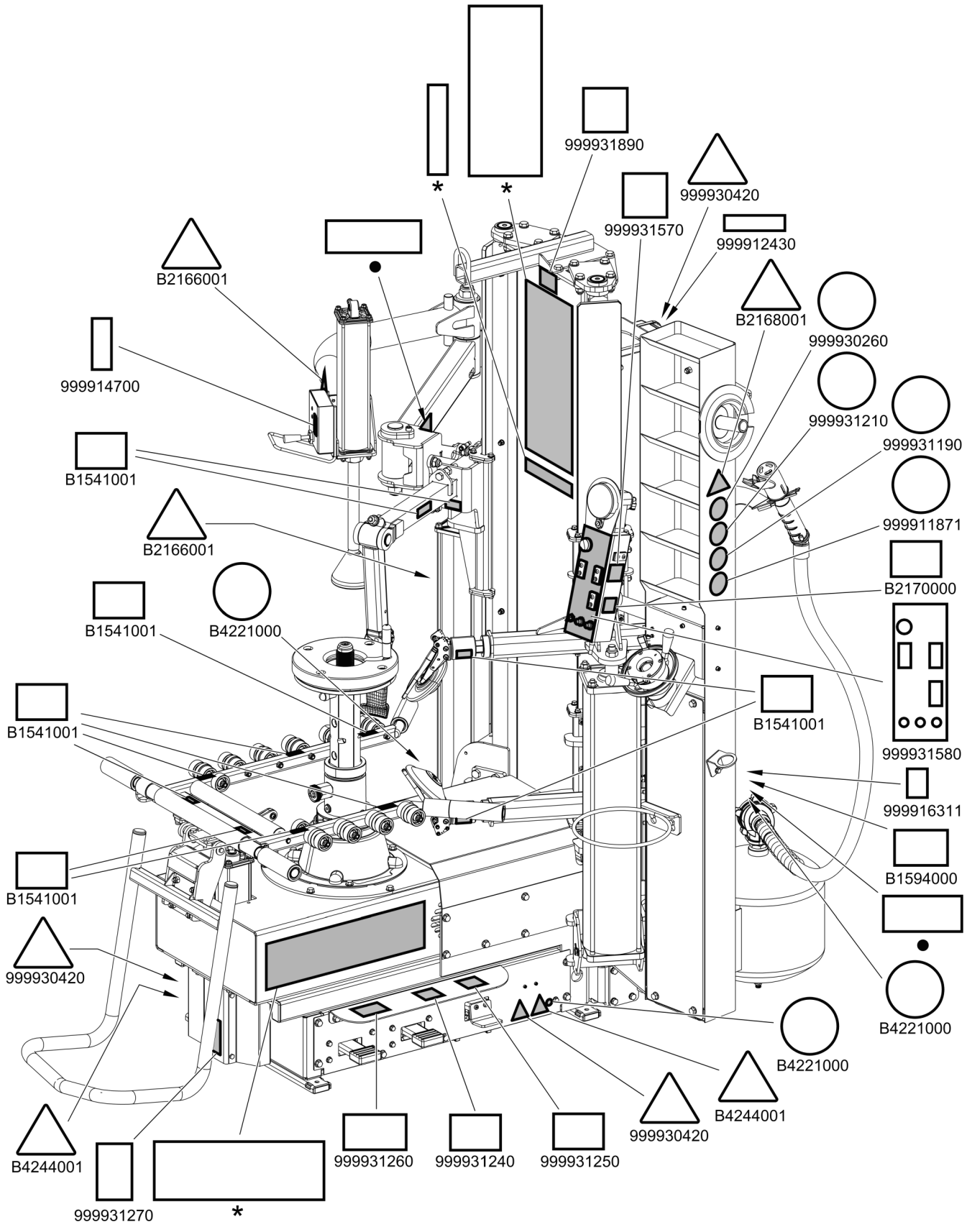
SYMBOLS USED IN THE MANUAL

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

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

PLATES LOCATION DRAWING

Fig. 2



Code numbers of nameplates	
B1541001	*Danger nameplate*
B1594000	*Date indicating nameplate*
B2166001	*Bead breaker danger nameplate*
B2168001	*Tyre burst danger indicating nameplate*
B2170000	*Max. inflation pressure rating nameplate*
B4182000	*Electric motor specifications nameplate (placed on the motor)*
B4221000	*Grounding nameplate*
B4244001	*Rotating parts danger nameplate*
999911871	*Headset nameplate*
999912430	*230 V - 1 Ph - 50 Hz voltage nameplate*
999914700	*Bead press device control nameplate*
999916100	*Auto/Man nameplate*
999916311	*Rubbish skip nameplate*
999930260	*Instruction manual reading nameplate*
999930420	*Electric shock danger nameplate*
999931190	*Obligation to wear goggles nameplate*
999931210	*Obligation to wear shoes nameplate*
999931240	*Rotation nameplate*
999931250	*Pressure nameplate*
999931260	*Up-down nameplate*
999931270	*Weight nameplate*
999931330	*AIKIDO.EVO nameplate*
999931570	*Side button for diameter acquisition nameplate*
999931580	*Control nameplate*
999931890	*WDK nameplate*
●	*Serial number nameplate*
*	*Manufacturer nameplate or machine name*

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

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

1.0 GENERAL INTRODUCTION

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

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

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

1.1 Introduction

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

2.0 INTENDED USE

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

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

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

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

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

2.1 Training of personnel

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

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

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

3.0 SAFETY DEVICES

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

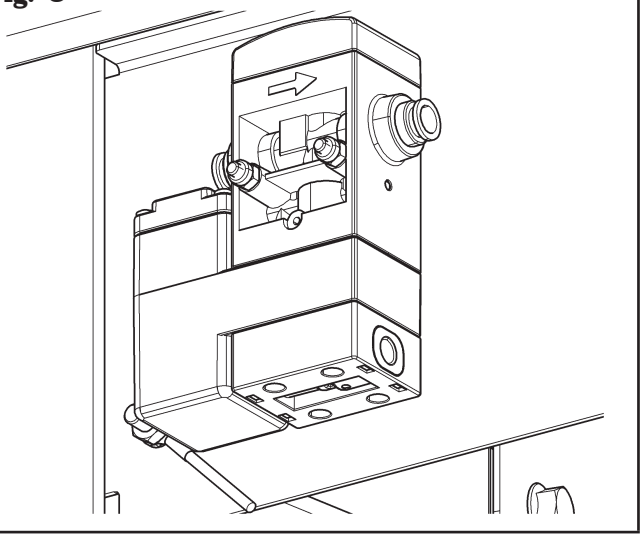
The product is equipped with:

- **hold-to-run controls** (immediate stop of operation when the control is released) for all drives;
- chuck rotation;
- toolhead movement;
- bead breaker roller movement;
- **controls logic disposition.**
  Its function is to prevent the operator from dangerous mistakes;
- **fixed protections and guards.**
  This equipment has permanent guards installed to avoid potential risks of getting crushed, cut or squeezed.
  These protections were made after the risk assessment and after having evaluated all the operating situations of the equipment.
  All protections, specially the rubber ones, have to be periodically checked in order to evaluate their wear state.

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

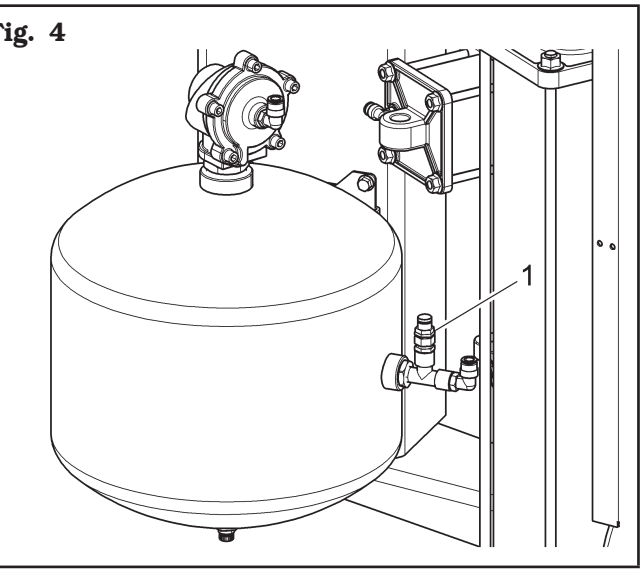
- **Non-adjustable (balancing valve) pressure relief device.**
  This allows inflation of tyres in reasonable safety. In fact, this limiter does not allow inflation of tyres to over 4.2 ± 0.2 bar (60 ± 3 psi) (see **Fig. 3**).

Fig. 3



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

Fig. 4



3.1 *Residual risks*

The equipment was subjected to a complete analysis of risks according to reference standard EN ISO 12100. Risks are as reduced as possible in relation with technology and equipment functionality. Any residual risks have been highlighted in this manual through pictograms and adhesive warning signals placed on the equipment: their location is represented in “PLATE LOCATION DRAWING” (see **Fig. 2**).

4.0 IMPORTANT SAFETY INSTRUCTIONS

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

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

SAVE THESE INSTRUCTIONS

4.1 General safety rules

- Any tampering with or modification to the machine not previously authorized by the manufacturer exempts the latter from all responsibility for damage caused by or derived from said actions.
- Removing of or tampering with the safety devices or with the warning signals placed on the equipment leads to serious dangers and represents a transgression of European safety standards.
- Use of the equipment 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 equipment if it malfunctions and contact the customer service of the authorized dealer.
- In emergency situations and before carrying out any maintenance or repairs, isolate the equipment from energy sources by disconnecting the power supply using the main switch.
- The equipment power supply system must be supplied with an appropriate earth wire, to which the yellow-green equipment protection wire must be connected.
- Ensure that the area around the machine is free of potentially dangerous objects and that the area is oil free since this could damage the tyre. Oil on the floor is also a potential danger for the operator.

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

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

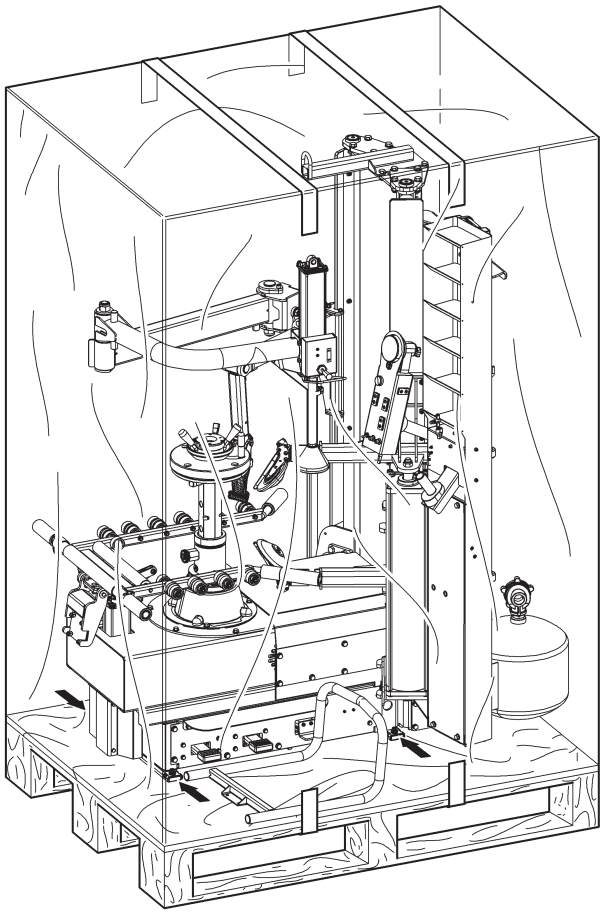
ALWAYS KEEP THE CONTROLS IN THE NEUTRAL POSITION.

5.0 PACKING AND MOBILIZATION FOR TRANSPORT

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

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

Fig. 5



6.0 UNPACKING

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

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

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

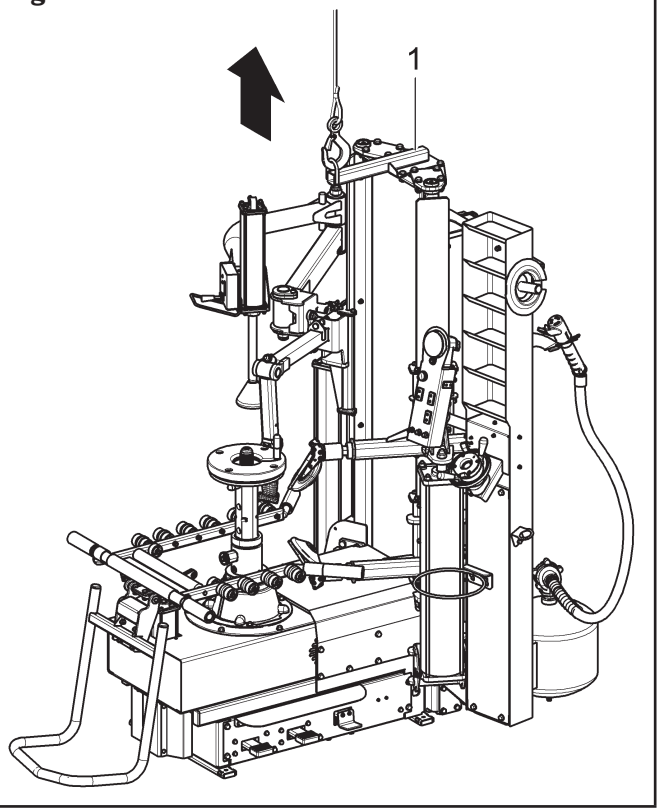
7.0 MOBILIZATION

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

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

- Protect the exposed corners with suitable material (bubble wrap/cardboard).
- Do not use metallic cables for lifting.
- Make sure that the equipment power supply is not connected.
- 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. 6 ref. 1**).

Fig. 6



8.0 WORKING ENVIRONMENT CONDITIONS

The equipment must be operated under proper conditions as follows:

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

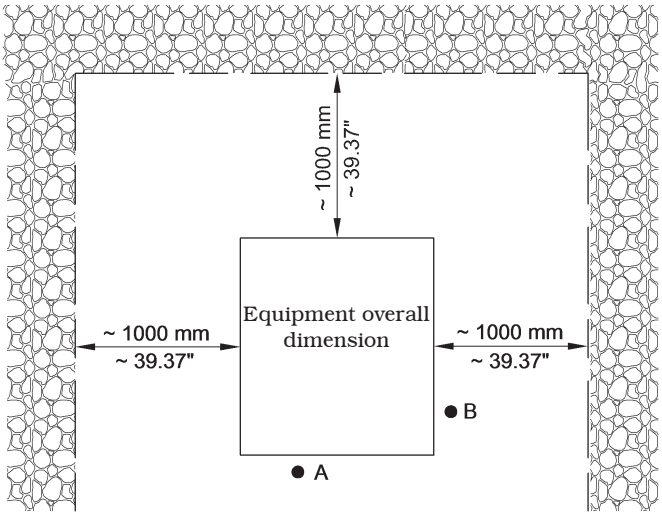
The use of the equipment in ambient conditions other than those specified above is only allowed after prior agreement with and approval of the manufacturer.

8.1 Work position

In **Fig. 7** it's possible to define work positions **A** and **B** which will be referred to in the description of equipment 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. 7



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

The location of the equipment requires a usable space as indicated in **Fig. 7**. The positioning of the equipment must be executed according to the distances shown. From the control position the operator is able to observe all the equipment and surrounding area. Operator must prevent unauthorized personnel or objects that could be dangerous from entering the area. The equipment must be secured to a flat floor surface, preferably of cement or tiled. Avoid yielding or irregular surfaces. The equipment base floor must be able to support the loads transmitted during operation. This surface must have a capacity load of at least 500 kg\m² (100 lb/ft²).
The depth of the solid floor must guarantee the tightness of the anchor plugs.

8.3 Lighting

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

9.0 ASSEMBLY AND PREPARATION FOR USE

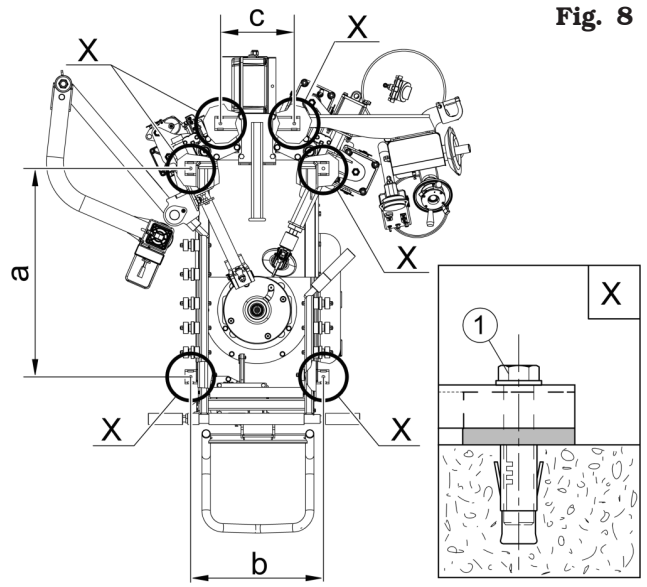
ALL EQUIPMENT ASSEMBLY OR ADJUSTMENTS MUST BE CARRIED OUT BY PROFESSIONALLY QUALIFIED STAFF.

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

9.1 Anchoring system

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

Fig. 8



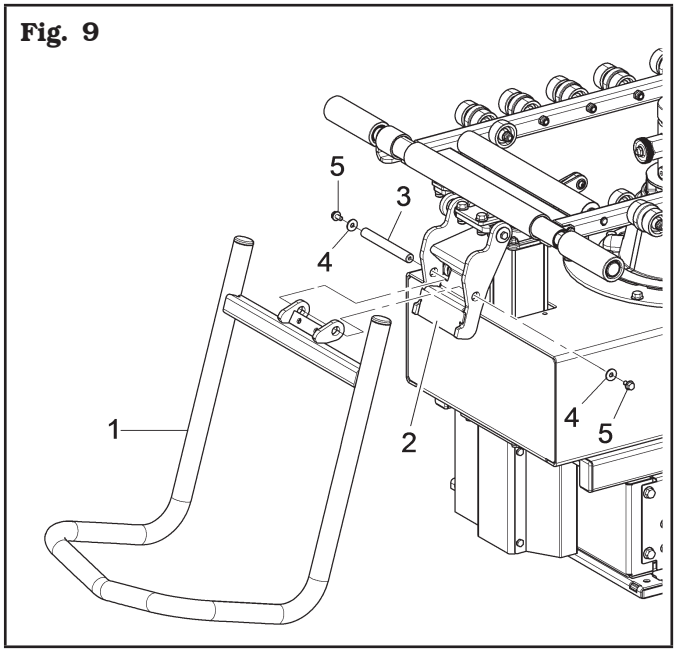
a=737 mm / 29.02”
b=470 mm / 18.50”
c=260 mm / 10.24”

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

9.2 Assembly procedures

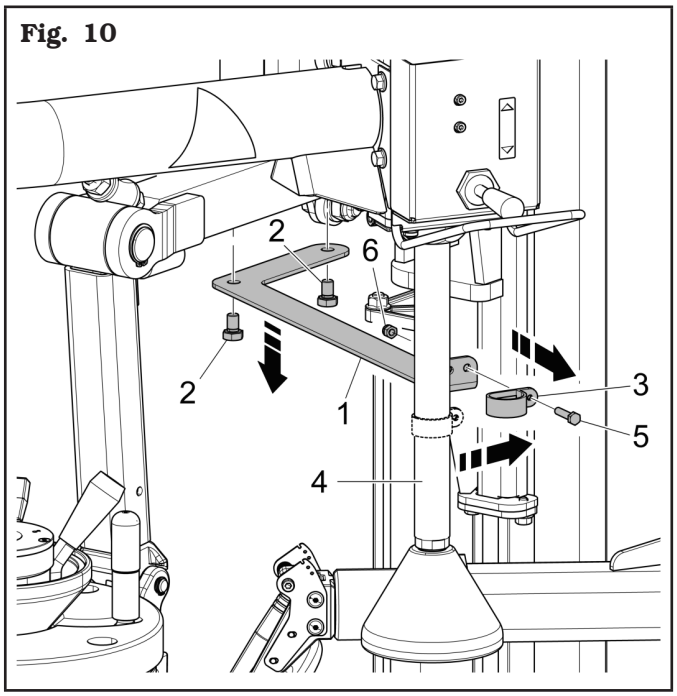
1. Secure the wheel lift cradle support hose (**Fig. 9 ref. 1**) to the bracket of the base support (**Fig. 9 ref. 2**) using the pin (**Fig. 9 ref. 3**), the washers (**Fig. 9 ref. 4**) and the bolts (**Fig. 9 ref. 5**) supplied;

Fig. 9



2. remove the bracket (**Fig. 10 ref. 1**) securing the bead press device to the tyre changer by unscrewing the bolts (**Fig. 10 ref. 2**). Remove the clamp (**Fig. 10 ref. 3**) from the cylinder rod of the bead press device (**Fig. 10 ref. 4**) by removing the bolt (**Fig. 10 ref. 5**) and the nut (**Fig. 10 ref. 6**);

Fig. 10

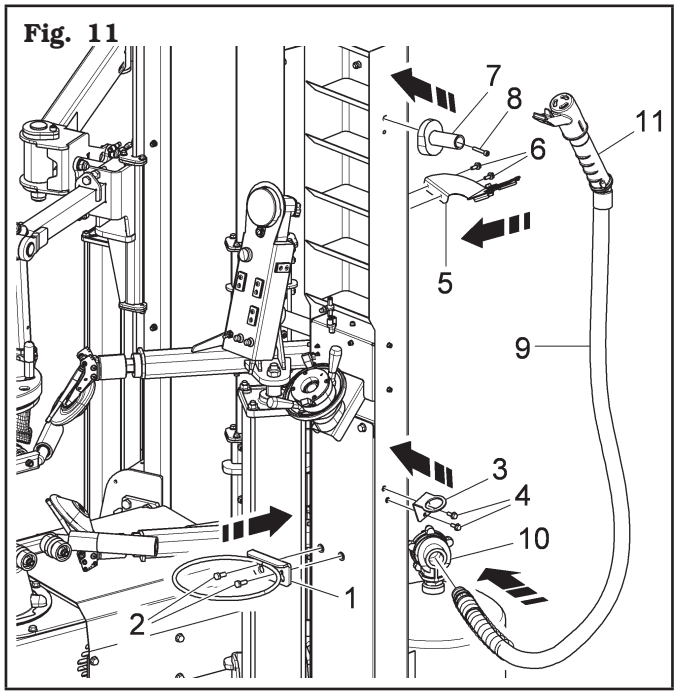


3. attach the grease-holder ring (**Fig. 11 ref. 1**) to the tool box with the bolts (**Fig. 11 ref. 2**) supplied. Fit the folded support (**Fig. 11 ref. 3**) with the bolts (**Fig. 11 ref. 4**), supplied.
Fit the stake (**Fig. 11 ref. 7**) using the bolt (**Fig. 11 ref. 8**) supplied.

Applies to model with tubeless inflation system

Fit the Tubeless inflation support (**Fig. 11 ref. 5**) with the bolts (**Fig. 11 ref. 6**) supplied.
Connect the hose (**Fig. 11 ref. 9**) to the pressure vessel valve (**Fig. 11 ref. 10**) and place the inflator (**Fig. 11 ref. 11**) onto the support (**Fig. 11 ref. 5**).

Fig. 11

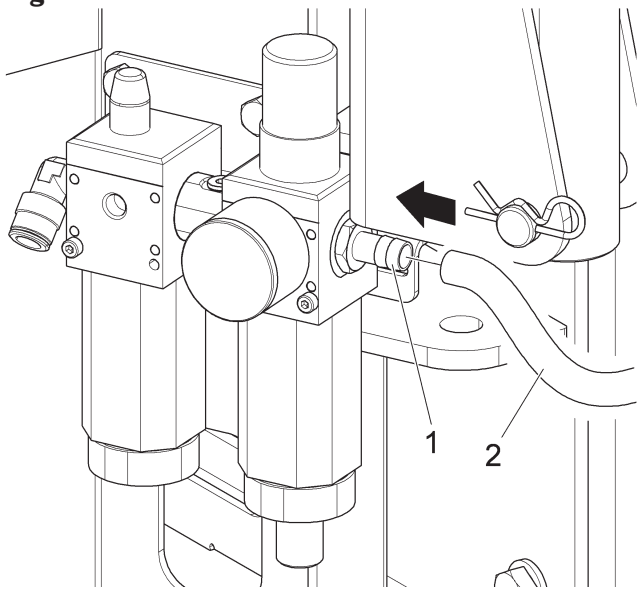


9.3 Connection to the compressed air supply

ANY PNEUMATIC ATTACHMENTS MUST BE CARRIED OUT BY QUALIFIED STAFF.

Connect the mains pneumatic supply through the fitting (**Fig. 12 ref. 1**) placed on equipment filter assembly. The pressurized hose (**Fig. 12 ref. 2**) coming from the mains must have a minimum inner diameter of 10 mm (3/8") and a minimum outer diameter of 19 mm (3/4") to have sufficient flow rate (see **Fig. 12**).

Fig. 12



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

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

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

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

10.0 ELECTRICAL CONNECTIONS

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

BEFORE CONNECTING THE EQUIPMENT MAKE SURE THAT:
- **POWER LINE SPECIFICATIONS CORRESPOND TO EQUIPMENT REQUIREMENTS AS SHOWN ON THE MACHINE NAMEPLATE;**
- **ALL MAIN POWER COMPONENTS ARE IN GOOD CONDITION;**
- **THE ELECTRICAL SYSTEM IS PROPERLY GROUNDED (GROUND WIRE MUST BE THE SAME CROSS-SECTION AREA AS THE LARGEST POWER SUPPLY CABLES OR GREATER);**
- **MAKE SURE THAT THE ELECTRICAL SYSTEM FEATURES A PADLOCKABLE MAIN SWITCH AND A CUTOUT WITH DIFFERENTIAL PROTECTION SET AT 30 mA.**

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

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

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

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

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

Motor power supply	Conformity standard	Voltage	Amperage	Poles	Minimum IP rating
Power supply 1 Ph, inverter motor	IEC 309	200-240 V	16A	2 Poles + Ground	IP 44

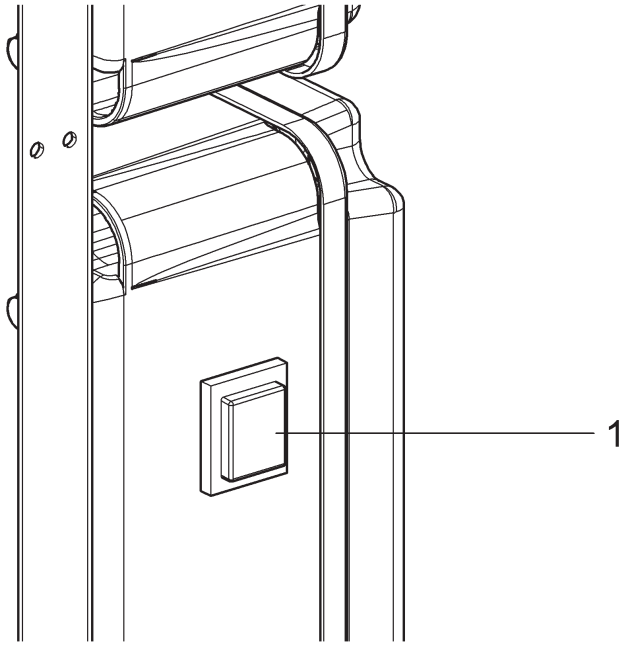
10.1 Electrical checks

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 HOLD-TO-RUN CONTROL CONTROLS FOR PROPER FUNCTIONING, BEFORE STARTING EQUIPMENT OPERATION.

Once the plug/socket connection has been made, turn on the tyre changer using the main switch (**Fig. 13 ref. 1**).

Fig. 13



11.0 CONTROLS

11.1 Control device

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

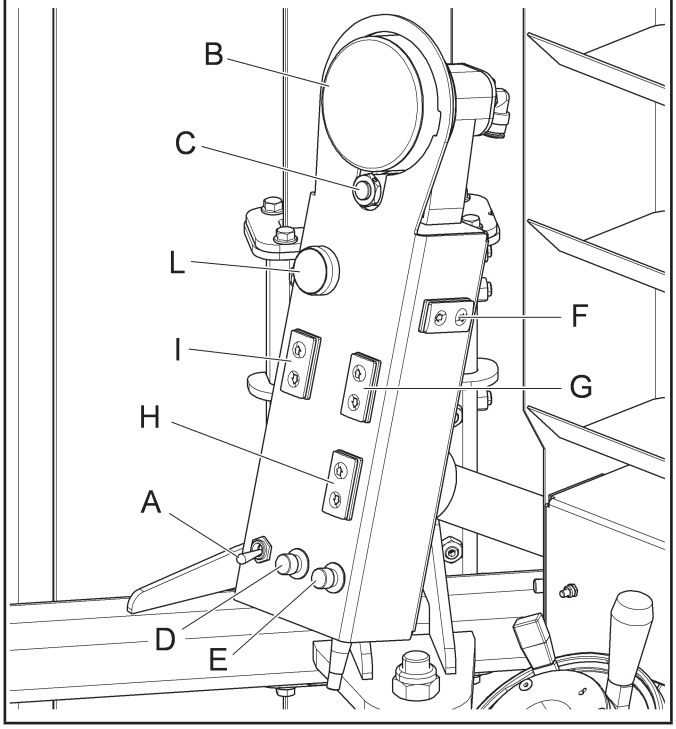
- The selector **"A"** allows the equipment working selection: automatic or manual.
- Automatic: it allows to enable the functioning of the feeler pins placed on the bead breaking rollers.
- Manual: it allows to carry out all the bead breaking operations without the checking of the feeler pins.
- The inflation pressure gauge **"B"** for the reading of the pressure inside the tyre.
- The inflation push button **"C"**, if pushed, allows to deflate the tyre at the desired pressure.
- Push button **"D"**, in "Manual" mode, is pressed to activate the cam for inserting the upper bead breaker roller into the rim.
  In the "Automatic" model the push button is disabled.
- Push button **"E"**, in "Manual" mode, is pressed to activate the cam for inserting the lower bead breaker roller into the rim.
  In the "Automatic" model the push button is disabled.
- Arms automatic return from work position.

In AUTO mode, pushing at the same time keys **"E"** and **"D"**, the tools arms automatically return into the limit switch position. To stop the automatism, to push the keys to control the arms vertical movement.

- Push button **"F"** has a hold-to-run control position and once pushed (⬅) it controls the ahead movement of the chuck. If pushed (➡) it controls the backwards movement of the chuck.
- Push button **"G"** has a hold-to-run control position and it controls the vertical shifting of the upper bead breaker roller. If pushed on its lower part (⬇), it will control the downwards movement. If pushed on its upper part (⬆), it controls upward movement. Keeping it pushed for more than one second, movement carries on automatically until the arm reaches the stroke limit. To stop automatism, push again push button "**G**".
- Push button **"H"** has a hold-to-run control position and once pushed it controls the vertical shifting of the lower bead breaker roller. If pushed on its lower part (⬇), it will control the downwards movement. If pushed on its upper part (⬆), it controls upward movement. Keeping it pushed for more than one second, movement carries on automatically until the arm reaches the stroke limit. To stop automatism, push again push button **"H"**.

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

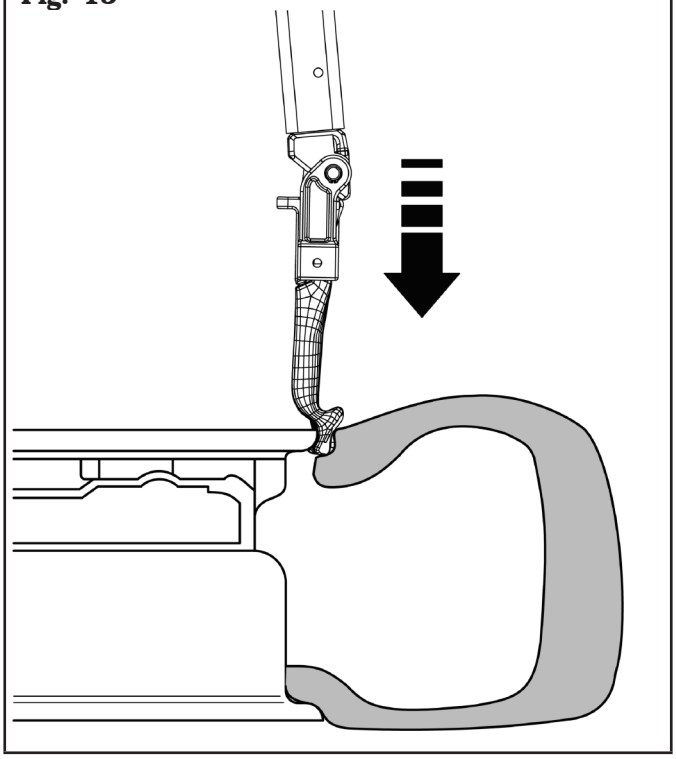
Fig. 14



11.2 Storing of toolhead vertical position

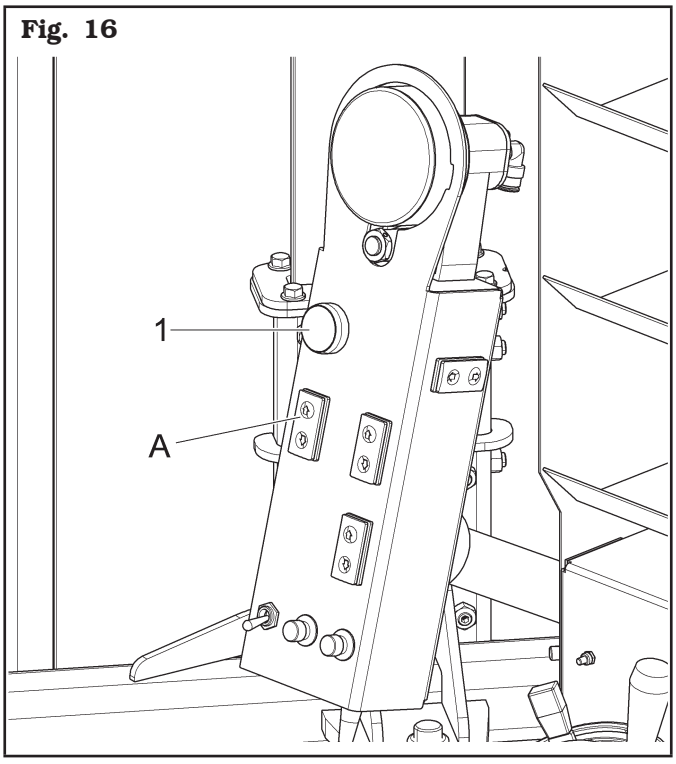
Place the toolhead next to the rim edge (see **Fig. 15**).

Fig. 15



Press the storing push button (**Fig. 16 ref. 1**) and keep it pressed until the same switches on. When it is switched on, toolhead position storing operation is completed.

Fig. 16



11.2.1 Return of toolhead vertical position

Press storing push button (**Fig. 16 ref. 1**) in order to automatically move the toolhead in the previously stored position next to the rim edge (see **Fig. 15**). During the repositioning of the toolhead, the storing push button starts blinking. Once the stored position has been reached, the push button light will become fixed.

IN ORDER TO STOP THE TOOLHEAD MOVEMENT, RETURNED THROUGH THE STORING FUNCTION, PRESS KEY "A" IN FIG. 16.

ONLY THE VERTICAL POSITION OF THE TOOLHEAD CAN BE STORED.

11.2.2 Erasure of toolhead stored position

Press the storing push button (**Fig. 16 ref. 1**) and keep it pressed until the same switches off.

11.2.3 Reset of toolhead stored position

In order to modify the stored position of the toolhead, use vertical movement push button (**Fig. 14 ref. I**) in order to move it in the new desired position. Press the storing push button (**Fig. 16 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 hold-to-run control operative positions. When it is pushed downwards it controls chuck motor clockwise rotary movement. When the pedal is lifted upwards it operates the opposite movement.

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

"Pedal B" has a different function according to the version present on the equipment.

Version with inflation with pressure gauge
The inflation pedal in this version has only one function. A continuous pressure supplies air at a controlled pressure (max 4.2 ± 0.2 bar / 60 ± 3 psi).

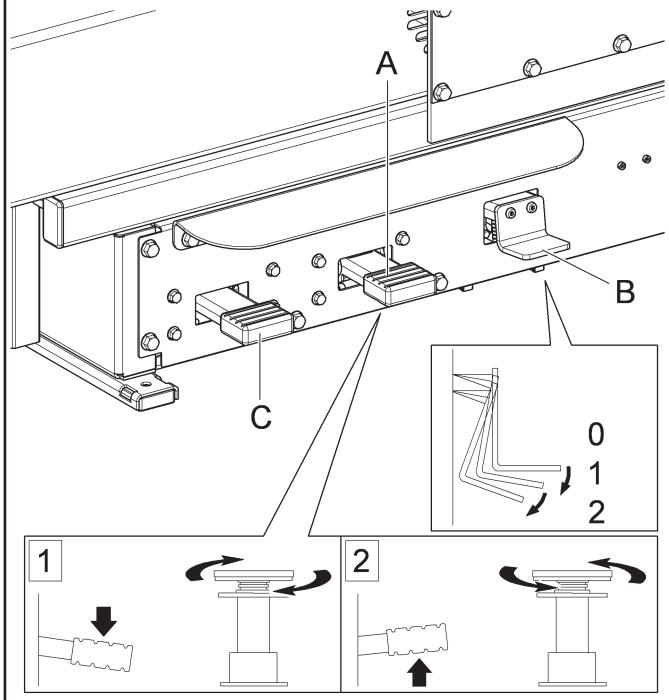
DO NOT CHANGE THE SET OPERATING PRESSURE VALUE BY MEANS OF THE MAXIMUM PRESSURE VALVES. THE MANUFACTURER SHALL NOT BE RESPONSIBLE FOR INJURY OR DAMAGE ARISING FROM UNAUTHORISED CHANGES.

Version with Tubeless inflation (on model with tubeless inflation system)
The inflation pedal has two functions. The supply of air at max. controlled pressure as in the previous version, and a second function of a jet of air from the inflation nozzle to assist the beading in of the tyre.

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

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

Fig. 17



KEY (pedal **ref. B**)
ref. 1- Tyre inflation with pressure gauge
ref. 2- Tyre inflation with pressure gauge + inflation nozzle (on model with tubeless inflation system)

12.0 USE OF THE EQUIPMENT

12.1 Precaution measures during tyre removal and fitting

Before fitting a tyre, observe the following safety rules:

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

FITTING A TYRE WITH A DAMAGED BEAD, TREAD AND/OR SIDEWALL ON A WHEEL RIM REDUCES THE SAFETY OF A VEHICLE AND CAN LEAD TO TRAFFIC ACCIDENTS, SERIOUS INJURY OR EVEN DEATH.
IF A TYRE BEAD, TREAD OR SIDEWALL IS DAMAGED DURING REMOVAL, NEVER REFIT THE TYRE ONTO A WHEEL.
IF YOU SUSPECT THAT A BEAD, TREAD OR SIDEWALL OF A TYRE MAY HAVE BEEN DAMAGED DURING FITTING, REMOVE THE TYRE AND INSPECT IT CAREFULLY.
NEVER REFIT IT TO A WHEEL IF A BEAD, TREAD OR SIDEWALL IS DAMAGED.

THE USE OF AN INADEQUATE, WORN OR OTHERWISE DAMAGED LEVER TO REMOVE TYRE BEADS MAY LEAD TO DAMAGE TO A BEAD AND/OR A TYRE SIDEWALL, REDUCING THE SAFETY OF A VEHICLE EQUIPPED WITH THE TYRE ITSELF.
ONLY USE THE LEVER SUPPLIED WITH THE EQUIPMENT AND CHECK ITS CONDITION BEFORE EACH DISASSEMBLY.
IF IT IS WORN OR OTHERWISE DAMAGED, DO NOT USE IT TO REMOVE THE TYRE, BUT REPLACE IT WITH A LEVER SUPPLIED BY THE EQUIPMENT MANUFACTURER OR ONE OF ITS AUTHORIZED DISTRIBUTORS.

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

FAILURE TO INSERT A SUITABLE SECTION OF A BEAD INSIDE THE RIM DROP CENTRE, AS INDICATED IN THIS MANUAL DURING THE FITTING OR REMOVAL OF THE BEAD, RESULTS IN AN ABNORMAL TENSION ON THE BEAD.
THIS CAN CAUSE DAMAGE TO THE BEAD AND/OR THE SIDEWALL OF THE TYRE TO WHICH THE BEAD IS CONNECTED, REDUCING THE SAFETY OF A VEHICLE EQUIPPED WITH THE TYRE.
ALWAYS FOLLOW THE DIRECTIONS IN THE MANUAL REGARDING ALIGNMENT OF A SECTION OF A BEAD TO THE RIM DROP CENTRE.
DO NOT PROCEED WITH THE REMOVAL OR INSTALLATION OF A BEAD IF YOU ARE NOT ABLE TO ALIGN A SECTION OF A BEAD WITH THE RIM DROP CENTRE AS INDICATED IN THIS MANUAL.

AN INCORRECT POSITIONING OF THE VALVE AT THE BEGINNING OF THE DISASSEMBLY AND/OR ASSEMBLY OPERATIONS OF EACH TYRE BEAD CAN CAUSE THE VALVE TO BE, DURING THESE OPERATIONS, IN OR NEAR AN AREA WHERE THE BEAD HAS FITTED INTO THE RIM DROP CENTRE.
THE BEAD COULD PRESS ON THE PRESSURE SENSOR, LOCATED UNDER THE VALVE INSIDE THE DROP CENTRE, CAUSING IT TO BREAK.
ALWAYS RESPECT THE POSITIONING OF THE VALVE AT THE BEGINNING OF EACH BEAD DISASSEMBLY AND/OR ASSEMBLY OPERATION INDICATED IN THIS MANUAL.

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 demounted, checking the position of the drop centre.
- 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 FRONT LIFTING DEVICE SHOULD BE USED.

12.3 Use of the front lifting device

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

1. After placing the wheel on the lifting tubular (see **Fig. 18**), press the front lifting device drive pedal (**Fig. 19 ref. 1**) downwards and bring the wheel to a level where it can be shifted to the chuck by hand (see **Fig. 19**);

Fig. 18

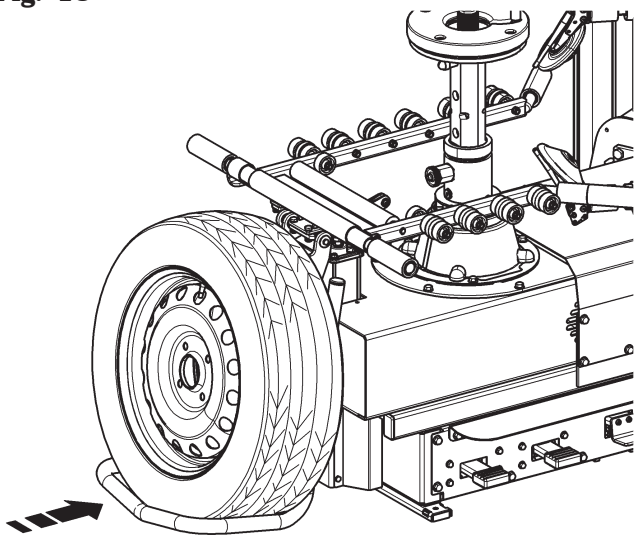
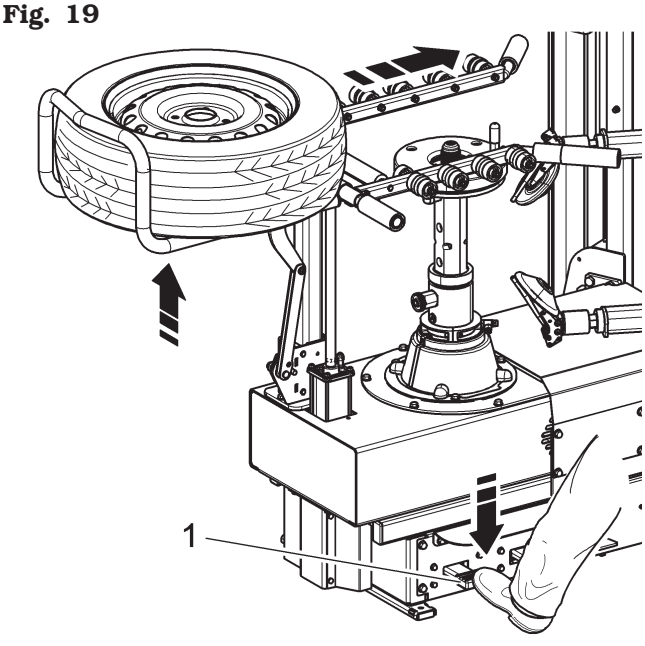
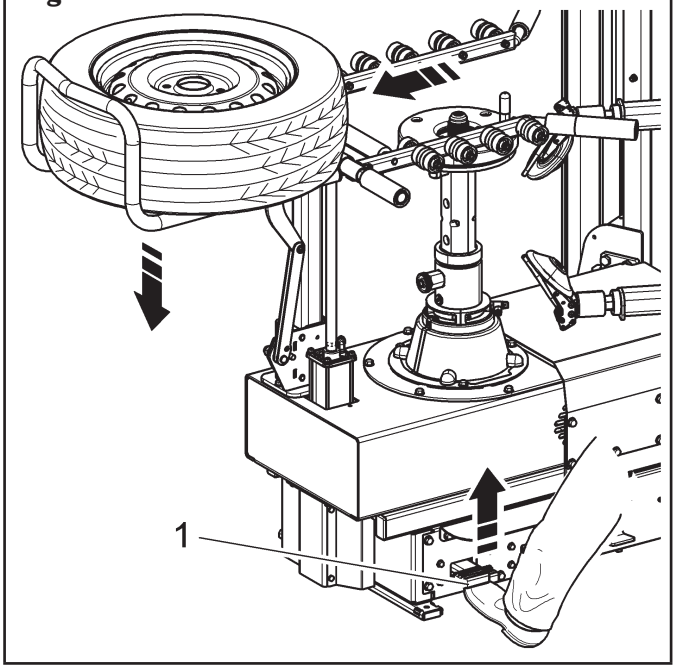


Fig. 19



2. place the wheel on the chuck and lock it with the locking ring nut;
3. lift the pedal (**Fig. 20 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. 19 ref. 1**);
6. place the wheel on the lifting plate (see **Fig. 20**);
7. move the pedal again (**Fig. 20 ref. 1**) upwards to make the tubular lower and bring back the wheel to the ground keeping a hand on it (see **Fig. 20**).

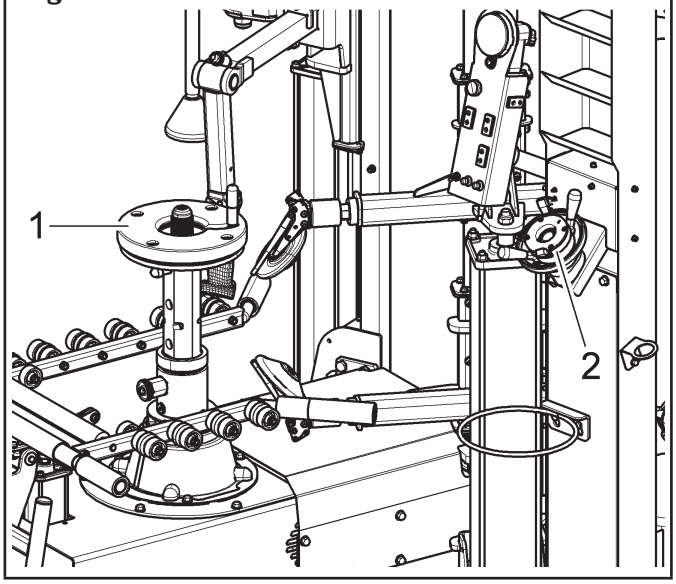
Fig. 20



12.4 Wheel clamping

All wheels must be locked on the rubber plate (**Fig. 21 ref. 1**) through the central hole using the proper locking device (**Fig. 21 ref. 2**).

Fig. 21

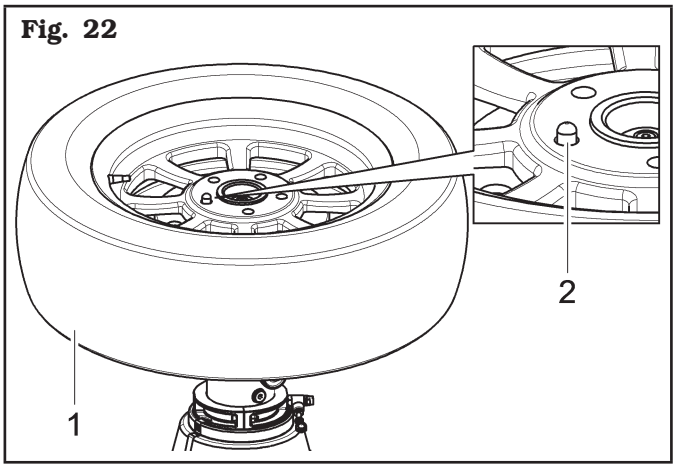


IN CASE OF USE OF RIMS WITHOUT CENTRAL HOLE, IT'S NECESSARY TO USE THE PROPER ACCESSORY (AVAILABLE ON DEMAND).

To lock a rim proceed as follows:

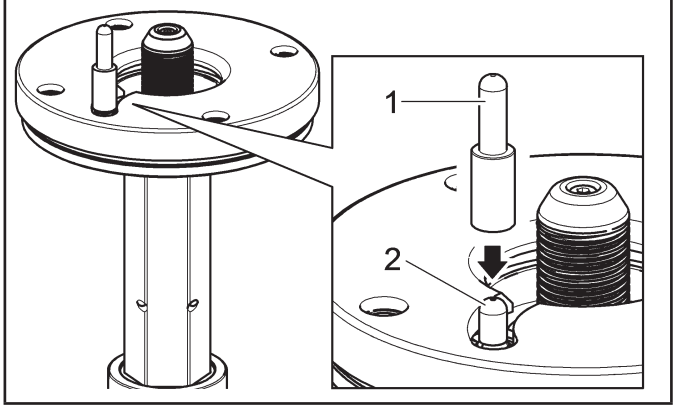
1. load the wheel (**Fig. 22 ref. 1**) with the front lifting device on the rubber plate of the chuck, making sure that the puller pin (**Fig. 22 ref. 2**) engages in one of the holes on the rim;

Fig. 22



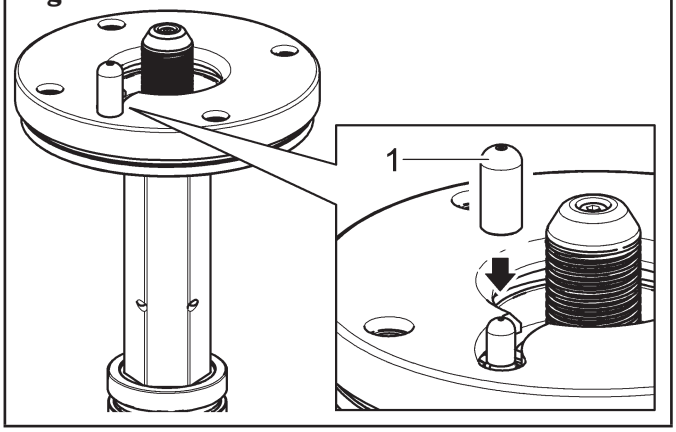
IF THE WHEEL HUB IS HIGHER THAN THE PULLER PIN (FIG. 23 REF. 2), USE THE EXTENSION (FIG. 23 REF. 1) SUPPLIED.

Fig. 23



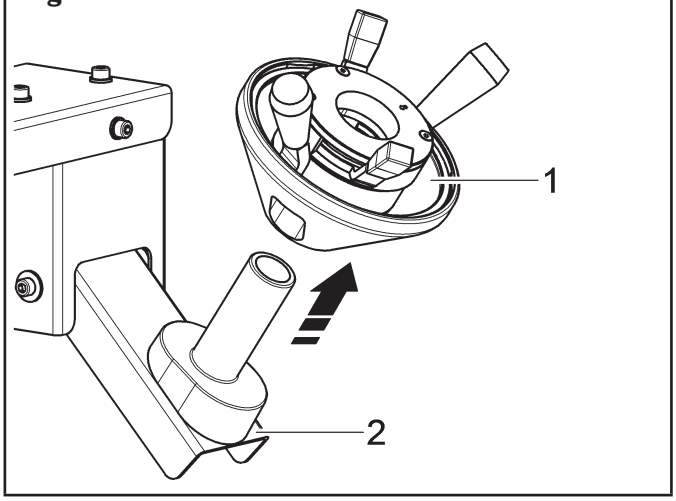
FOR WHEELS WITH ALLOY RIMS, USE THE PROPER PLASTIC GUARD (FIG. 24 REF. 1).

Fig. 24



2. remove the locking ring nut (**Fig. 25 ref. 1**) from the activator support (**Fig. 25 ref. 2**);

Fig. 25

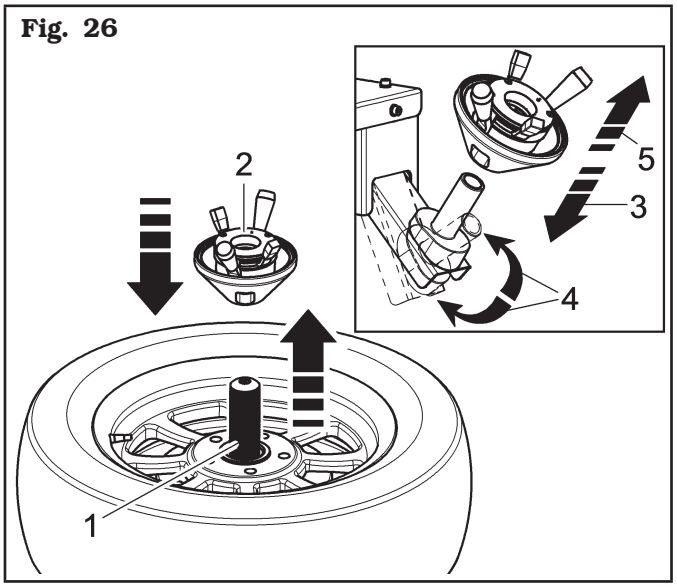


3. by removing the locking ring nut (**Fig. 25 ref. 1**) from the activator support (**Fig. 25 ref. 2**), the central threaded shaft (**Fig. 26 ref. 1**) lifts automatically up to its maximum height;

AFTER A DEFAULT MANUFACTURING TIME, THE THREADED SHAFT (FIG. 26 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. 26 REF. 4) OR BY REPOSITIONING (FIG. 26 REF. 3) AND THEN, GRABBING THE (FIG. 26 REF. 5) LOCKING RING NUT FROM ITS OWN SUPPORT, AS INDICATED IN FIG. 26.

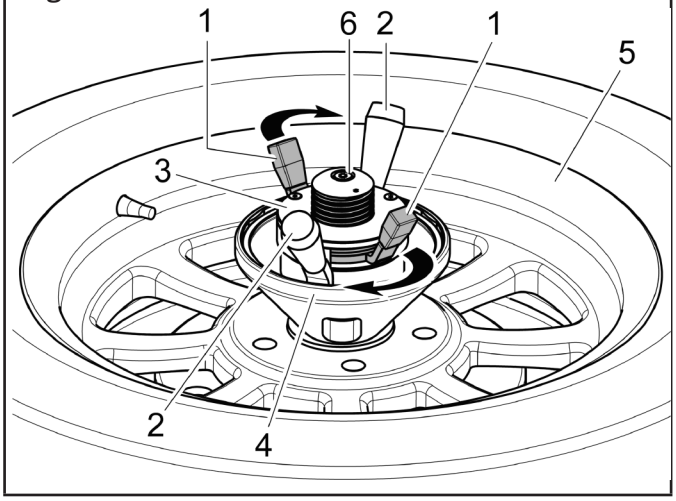
4. insert and block the ring nut (**Fig. 26 ref. 2**) on the threaded shaft (**Fig. 26 ref. 1**) as described hereafter;

Fig. 26



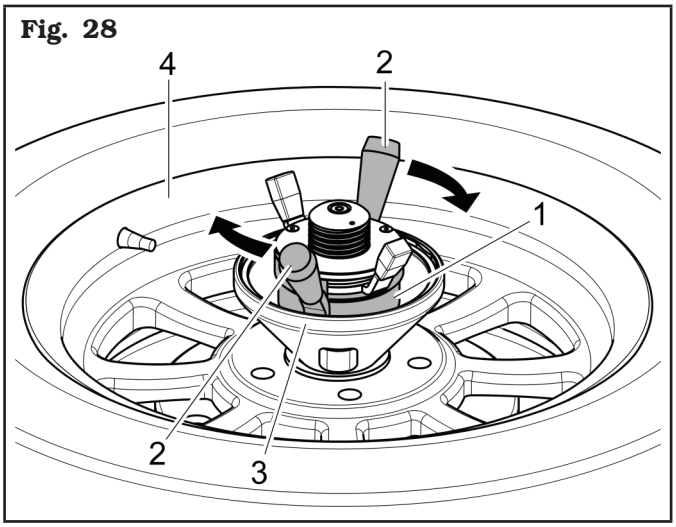
5. rotate clockwise the small internal levers (**Fig. 27 ref. 1**), until they reach the outer levers (**Fig. 27 ref. 2**) in order to unlock the ring nut. Make the ring nut (**Fig. 27 ref. 3**) and the cone (**Fig. 27 ref. 4**) approach the rim (**Fig. 27 ref. 5**). Release the small inner levers (**Fig. 27 ref. 1**) the ring nut gets locked on the threaded shaft (**Fig. 27 ref. 6**);

Fig. 27



6. turn the ring nut (**Fig. 28 ref. 1**) clockwise using the larger outside levers (**Fig. 28 ref. 2**) until the cone completely clamps (**Fig. 28 ref. 3**) the rim (**Fig. 28 ref. 4**);

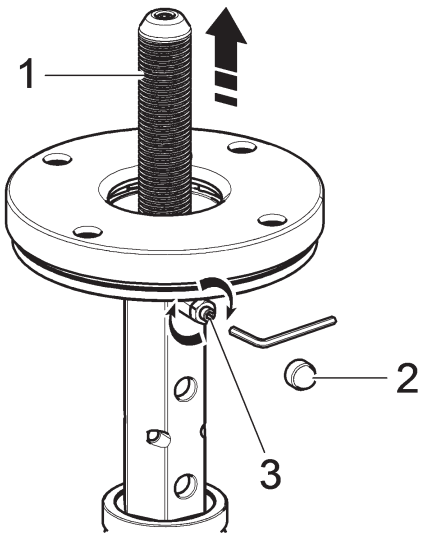
Fig. 28



7. at the end of the operations, unlock the ring nut by loosening first the cone using the outside 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.

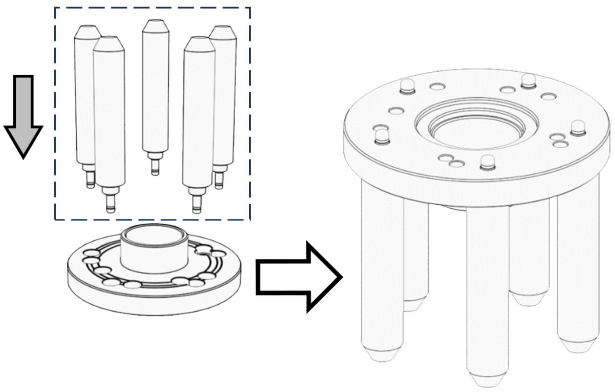
IN CASE THE PNEUMATIC SYSTEM FOR THE LIFTING OF THE THREADED CENTRAL SHAFT DOES NOT WORK (IN ORDER TO CONTINUE WORKING UNTIL THE REPAIR HAS BEEN CARRIED OUT), LIFT THE CENTRAL SHAFT MANUALLY (FIG. 29 REF. 1) UP TO ITS MAXIMUM HEIGHT, REMOVE THE PROTECTION CAP (FIG. 29 REF. 2) AND TIGHTEN THE GRUB SCREW (FIG. 29 REF. 3) TO LOCK THE SHAFT INTO "COMPLETELY LIFTED" POSITION.
WHEN THE REPAIR HAS BEEN COMPLETED, SLACKEN THE GRUB SCREW TO RESET THE CORRECT FUNCTIONING OF THE PNEUMATIC LIFTING DEVICE FOR THE THREADED SHAFT.

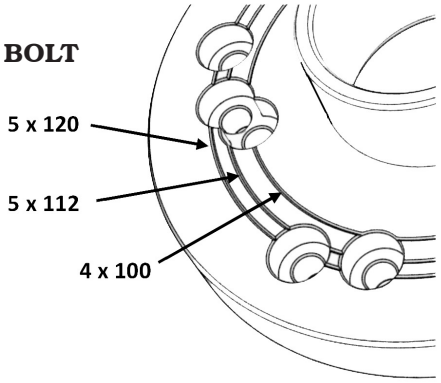
Fig. 29



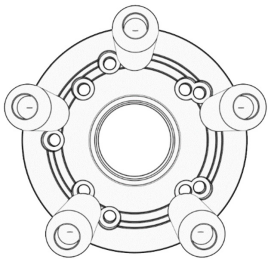
Applies to model with universal centring flange

Fig. 30

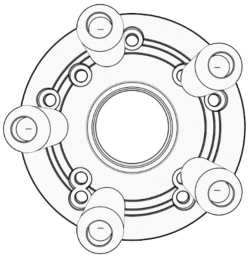




DIAMETER	BOLT DIAMETER
OUTSIDE	5 x 120



DIAMETER	BOLT DIAMETER
MEDIUM	5 x 112



DIAMETER	BOLT DIAMETER
INSIDE	4 x 100

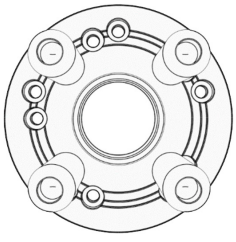
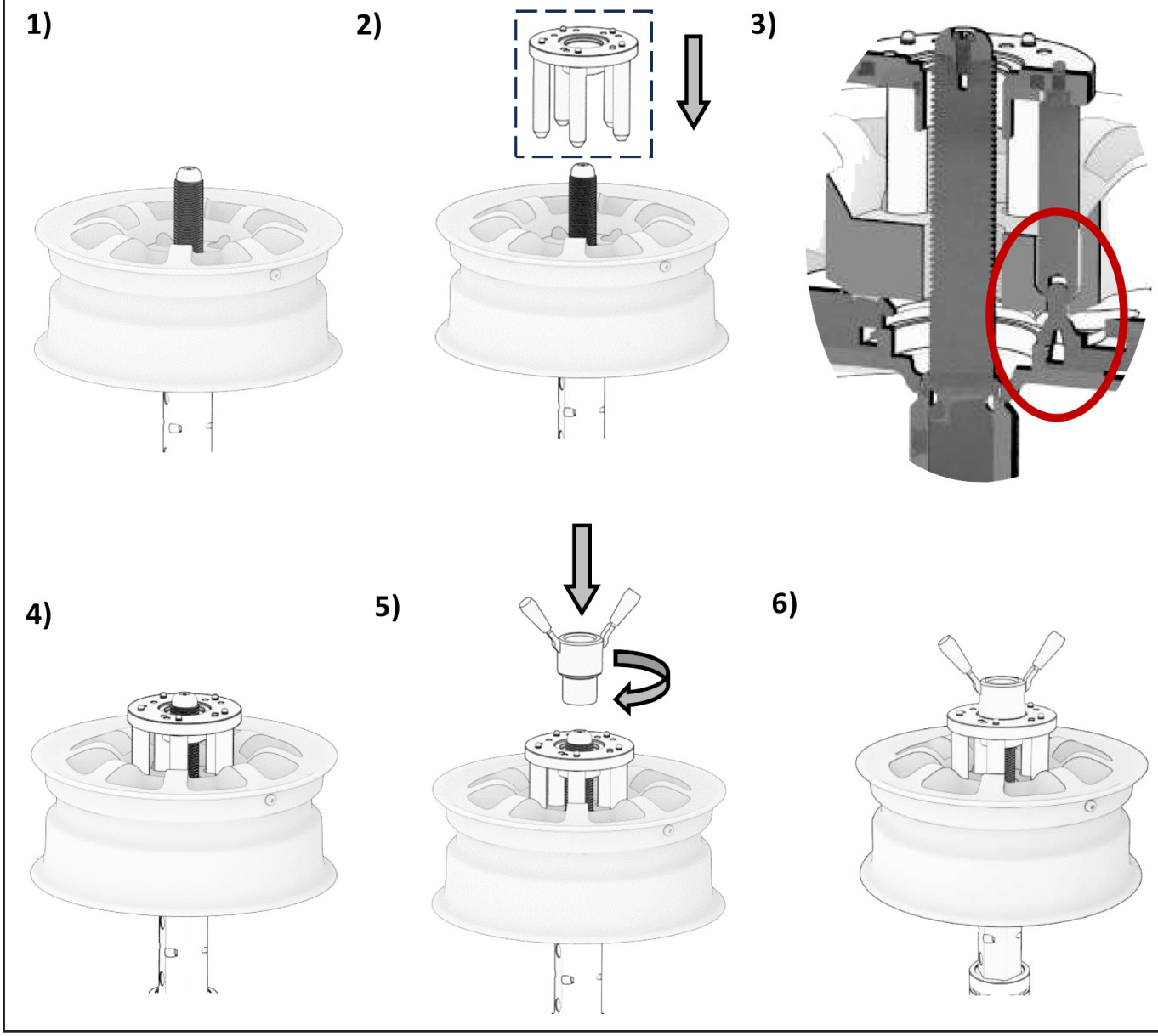


Fig. 31



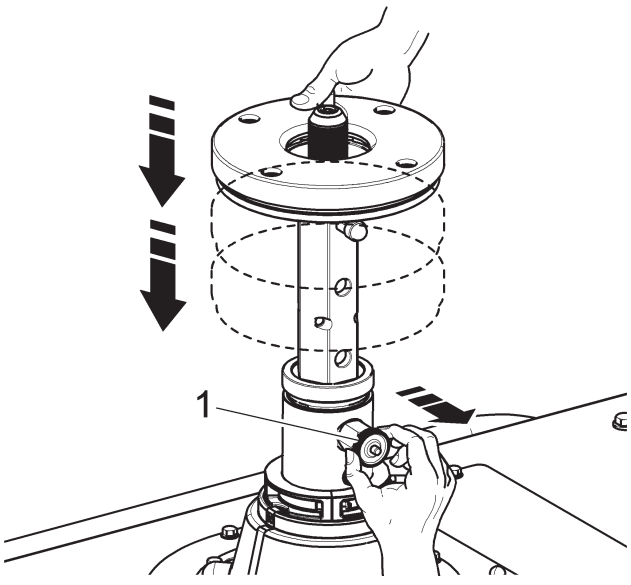
12.4.1 Chuck height adjustment

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

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

In order to adjust the height of the central support, pull the knob outwards (**Fig. 32 ref. 1**) and lift or lower the central support’s plate up to the desired 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.

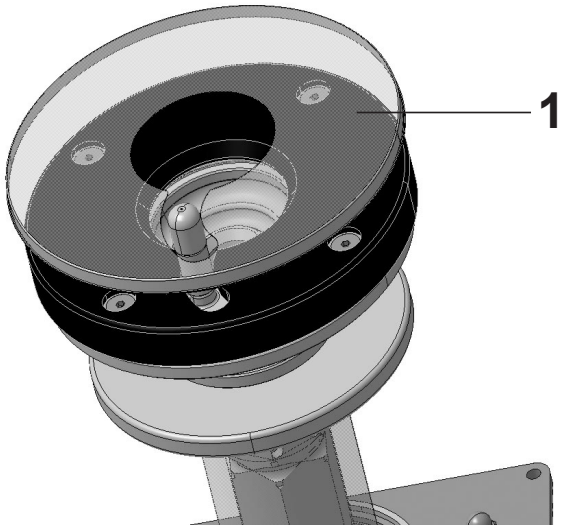
Fig. 32



12.4.2 Reverse wheel pan protection

In case reversed wheels are used, in order to protect the rim, apply on the rubber platform a protection (**Fig. 33 ref. 1**), supplied. We suggest replacing it if there are visible damages (see **Fig. 33**).

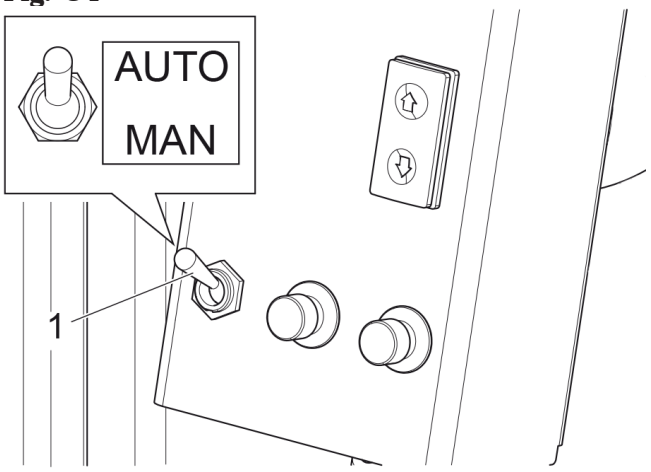
Fig. 33



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. 34 ref. 1**).

Fig. 34



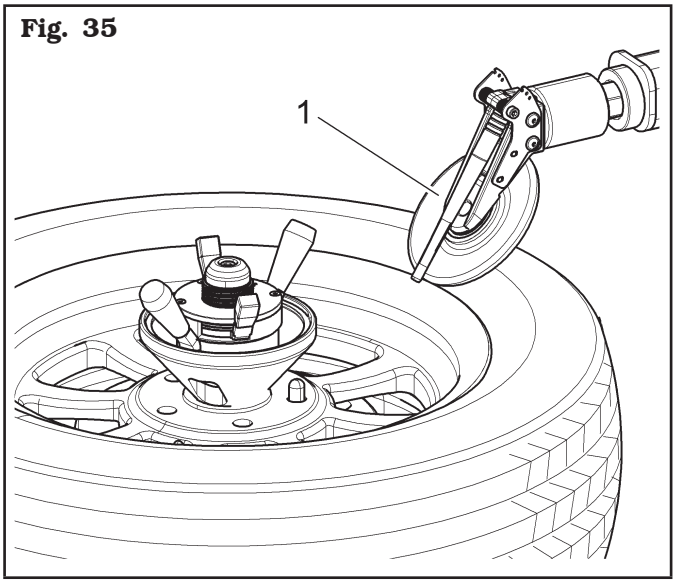
AUTOMATIC (AUTO)

1. After the wheel has been locked, move the upper bead breaker roller (**Fig. 35 ref. 1**) closer to the rim edge, pressing the button (**Fig. 14 ref. G**) (⬇);

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

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

Fig. 35

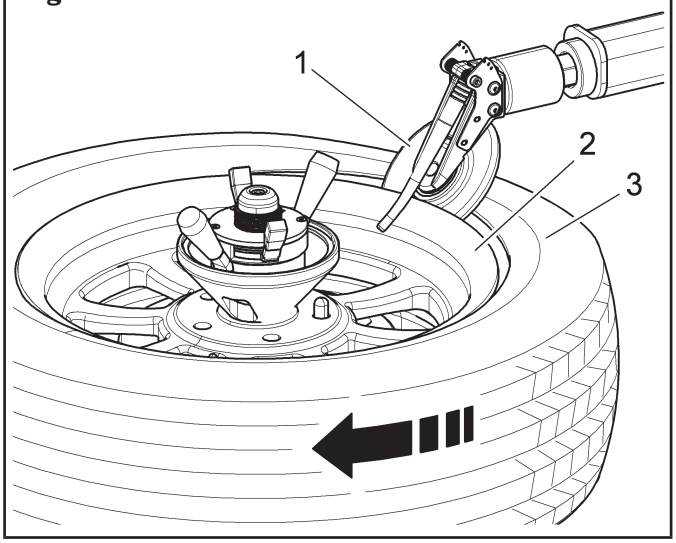


3. g on with the vertical approaching movement, activating the wheel rotation in clockwise direction. The contact between feeler pin and rim edge will automatically activate the progress of the upper bead breaker roller (**Fig. 36 ref. 1**), which will be inserted between the rim (**Fig. 36 ref. 2**) and the tyre (**Fig. 36 ref. 3**). The same automatism can be applied to the lower bead breaker roller as well;

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

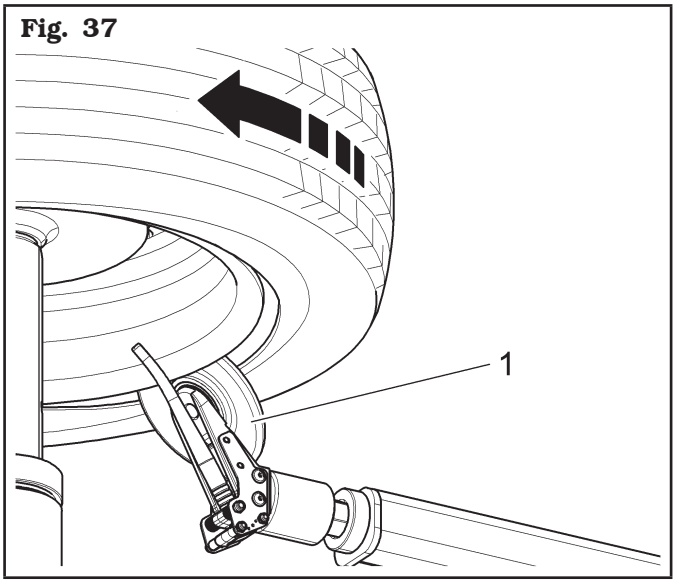
VERY CAREFULLY USE THE VERTICAL BEAD BREAKER ROLLER IN ORDER TO AVOID POSSIBLE HAND CRUSHING INJURY.

Fig. 36



4. move the lower bead breaker roller closer (**Fig. 37 ref. 1**) by pressing the button (**Fig. 14 ref. H**) (⬆);

Fig. 37



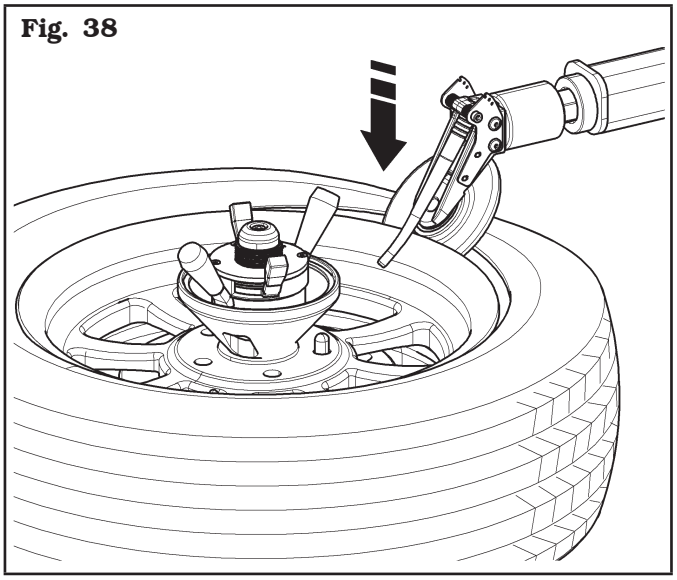
5. only now turn the wheel clockwise pressing the pedal (**Fig. 17 ref. A**) and, at the same time, the push button (**Fig. 14 ref. H**) (⬆), keeping it pressed until there's room enough for the bead breaking;

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

6. once bead breaking in the lower part has been completed, move the lower bead breaker roller to rest position activating the push button (**Fig. 14 ref. H**) (⬇). The roller re-enters automatically nullifying the approaching movement described at point 3). This automatism can be applied on both bead breaker arms;
7. rotate the rim until the valve is positioned on the immediate right of the upper bead breaker roller;
8. carry out upper edge bead breaking, in the same way, keeping the push button pushed (**Fig. 14 ref. G**) (⬇) (see **Fig. 38**).

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

Fig. 38



UNTIL BOTH UPPER AND LOWER ROLLERS ARE NOT BACK TO REST POSITION (FIG. 33) 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 bead breaker roller closer (**Fig. 37 ref. 1**) pressing the button (**Fig. 14 ref. H**) (⬆);

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

5. press the pedal (**Fig. 17 ref. A**) to rotate the wheel in clockwise direction and at the same time operate the push button (**Fig. 14 ref. H**) (⬆) keeping it pressed until creating a space large enough for the bead breaker roller to progress with the manual cam. Activate the lower cam pushing the push button (**Fig. 14 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 bead breaker roller (**Fig. 14 ref. G** (⬇) **and D**).

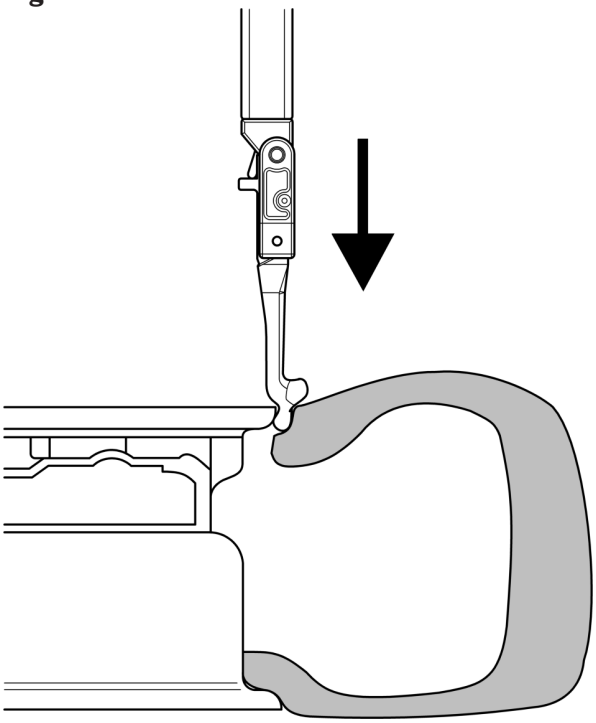
UNTIL BOTH BEAD BREAKER UPPER AND LOWER ROLLERS DO NOT RE-ENTER, IS NOT POSSIBLE TO CARRY OUT A NEW DIAMETER ADJUSTMENT, AS DESCRIBED AT POINT 2).

12.6 Demounting the tyre

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

1. press the pedal (**Fig. 17 ref. A**) to rotate the wheel clockwise until the valve stem reaches "1 o'clock" position;
2. bring the toolhead vertically (**Fig. 40 ref. 2**) to the edge of the rim using the appropriate control (**Fig. 14 ref. I**) (⬇) (see **Fig. 39**).
   While this phase is being carried out, stay just next to a zone in the tyre where bead breaking has been performed;

Fig. 39



3. place the bead press tool (**Fig. 40 ref. 3**) to "4 o'clock" position as shown in **Fig. 40** and press on the tyre operating the lever of the bead press device control unit (**Fig. 40 ref. 1**) downwards, until the tyre bead is placed next to the rim drop centre;

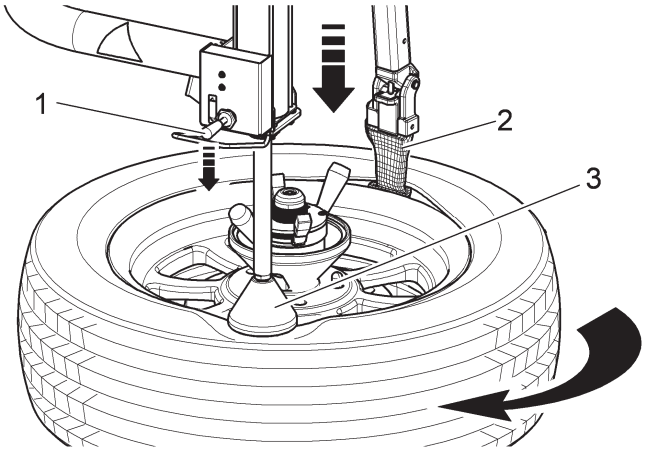
MAKE SURE THE STORING FUNCTION IS NOT ACTIVE (LIGHT OF PUSH BUTTON "1" IN FIG. 16 TURNED OFF) BEFORE PRESSING STORING PUSH BUTTON TO STORE THE POSITION REACHED BY THE TOOLHEAD ON THE RIM EDGE (SEE CHAP. 11.2).

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

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

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

Fig. 40



Wheels with rim protector

With this type of tyre, there could be cases where the rim protector doesn't allow the toolhead to insert between rim and tyre.
In these cases, turn the wheel clockwise, with a slight pressure with the toolhead as described in **Fig. 41**.
In case of rim protectors with particular shapes, let the wheel turn counter-clockwise.

Fig. 41

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

4. move the toolhead forward so that it penetrates between rim and tyre (see **Fig. 42**). While this operation is being performed, the toolhead rotates around the rim edge until it hooks the tyre bead (see **Fig. 43**).

Fig. 42

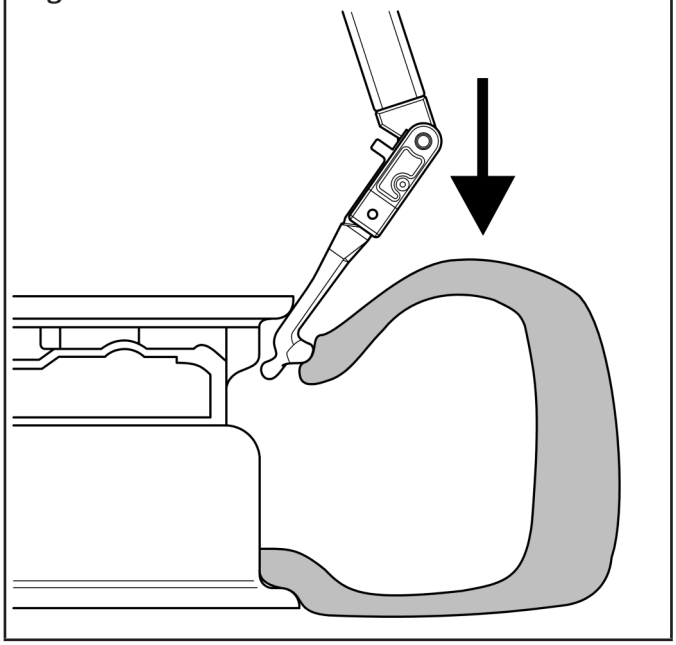
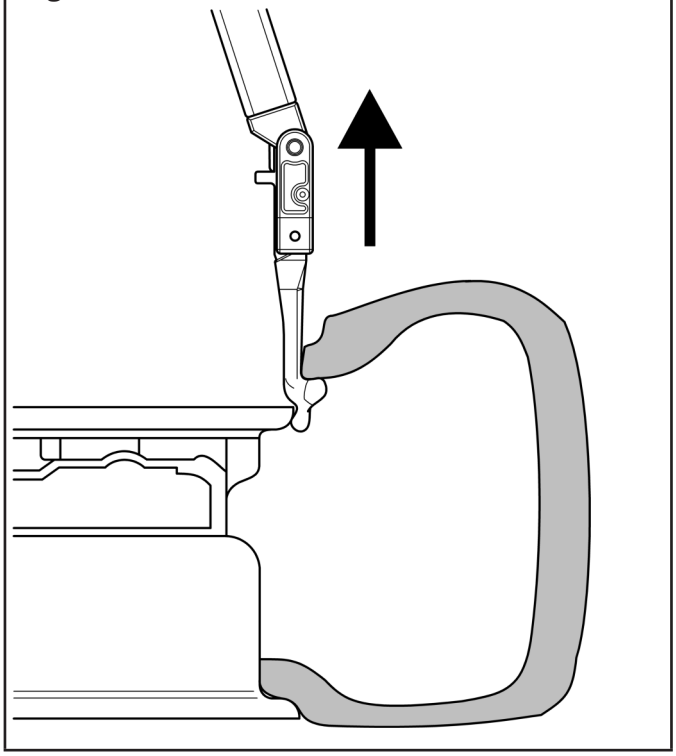


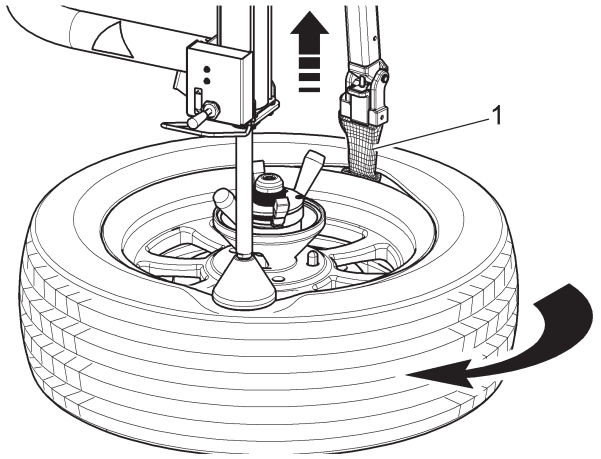
Fig. 43



5. lift the toolhead (**Fig. 44 ref. 1**) through the provided control (**Fig. 14 ref. I**) (⬆). When the toolhead is vertical with respect to the rim (see **Fig. 44**), rotate the chuck, pressing the pedal (**Fig. 17 ref. A**), so that the tyre fits into the rim drop centre. Keep on raising the toolhead until the bead is on the rim edge (see **Fig. 43**). Rotate clockwise until the upper bead is completely disassembled;

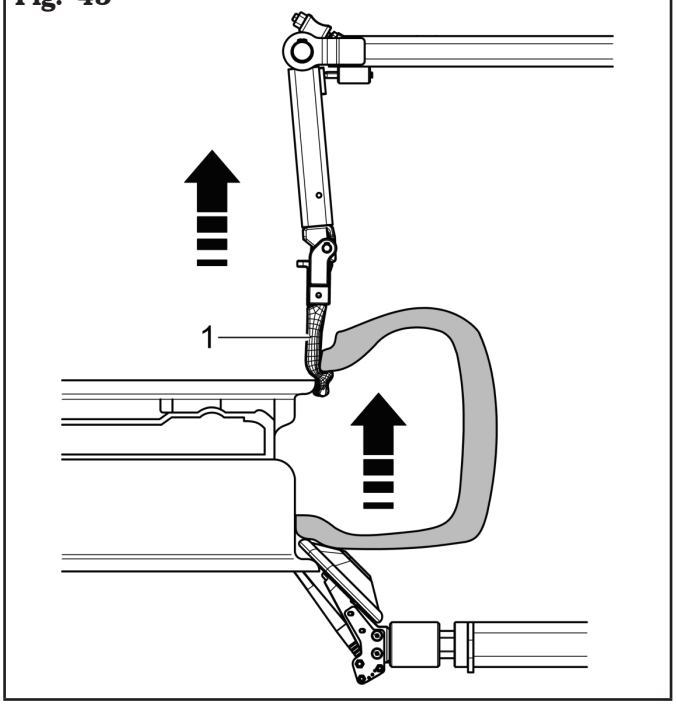
MAKE SURE THAT THE TOOLHEAD IS IN THE DISASSEMBLY POSITION (FIG. 43) BEFORE STARTING CHUCK ROTATION.

Fig. 44



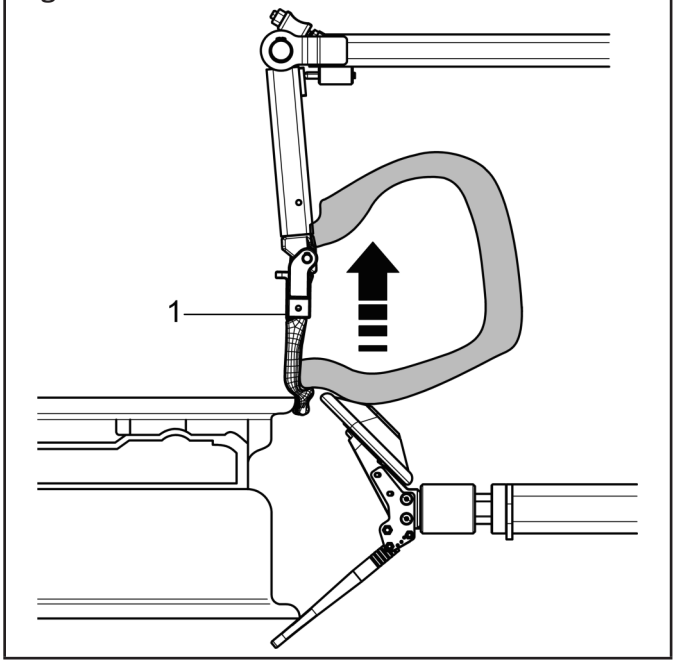
6. lift the toolhead (see **Fig. 45 ref. 1**) keeping it coupled to the upper bead of the tyre with the lower bead breaker roller;

Fig. 45



7. position the toolhead (see **Fig. 46 ref. 1**) just next to the rim edge. Using the lower bead breaker roller, load the lower bead on the toolhead in demounting position;

Fig. 46



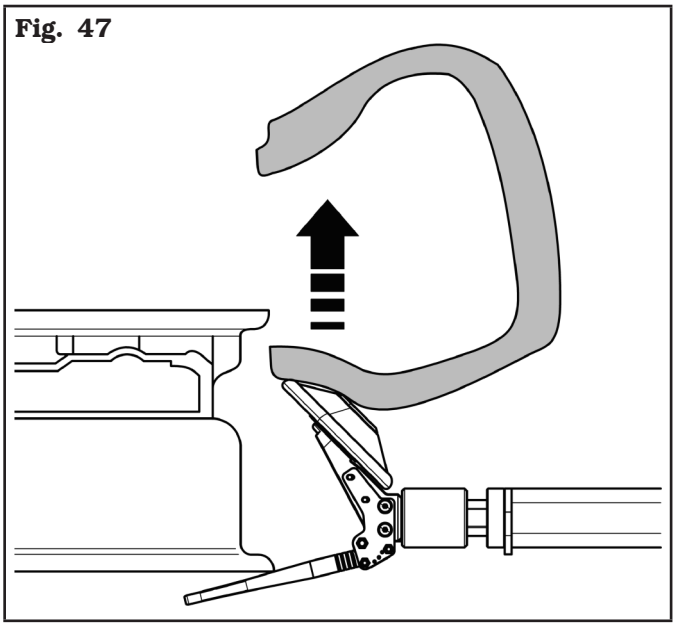
8. rotate the chuck clockwise until the tyre is completely disassembled;
9. lift the bead press tool and close again the bead press Device into rest position.

<u>Dismounting the lower bead with the bead breaker roller</u>

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

1. lift the roller and the tyre just next to the rim edge (see **Fig. 47**);

Fig. 47



2. then, move forward the lower bead breaker roller through the provided control (**Fig. 14 ref. H**) (⬆) so that it is inserted between the rim edge and the lower bead (see **Fig. 48**);

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

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

Fig. 48

3. then, rotate and complete bead disassembly (see **Fig. 49**).

Fig. 49

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

12.7 Mounting the tyre

To mount the tyre, proceed as follows:

1. lubricate tyre beads;

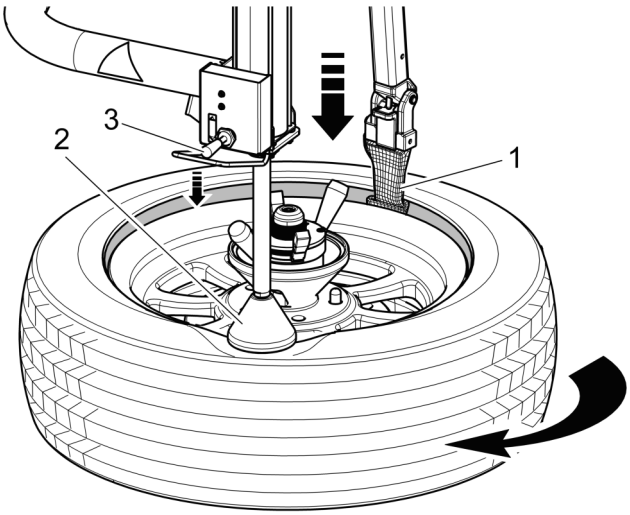
USE ONLY TYRE LUBRICANTS. SUITABLE LUBRICANTS CONTAIN NO WATER, HYDROCARBONS, OR SILICON.

2. position the toolhead (**Fig. 50 ref. 1**) onto the rim edge;

MAKE SURE PUSH BUTTON "1" OF FIG. 16 IS BACKLIGHTED BEFORE PRESSING THE PUSH BUTTON TO MOVE AUTOMATICALLY THE TOOLHEAD TO THE PREVIOUSLY STORED POSITION (SEE CHAP. "11.2.1 RETURN OF TOOLHEAD VERTICAL POSITION").

3. hook the lower bead on the toolhead then rotate clockwise until the complete assembly;
4. then, position the upper bead on the toolhead assembly area (**Fig. 50 ref. 1**);
5. place the bead press tool (**Fig. 50 ref. 2**) in “4 o'clock” position as shown in **Fig. 50** and press on the tyre operating the lever of the bead press device control unit (**Fig. 50 ref. 3**) downwards;
6. rotate the chuck clockwise, pressing the pedal (**Fig. 17 ref. A**), until the tyre is completely assembled;
7. when these operations are over move the toolhead and the bead press tool into rest position.

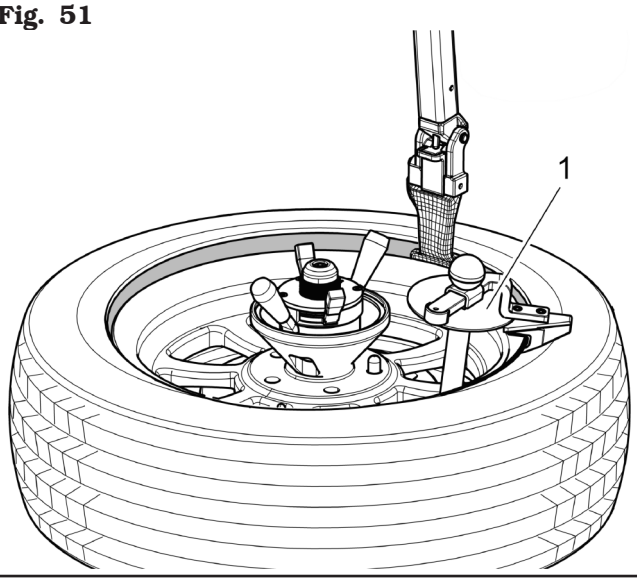
Fig. 50



12.7.1 Fitting the tyre upper bead using beadpusher with puller

1. Assemble the beadpusher (**Fig. 51 ref. 1**) with puller next to the rim edge (see **Fig. 51**);

Fig. 51

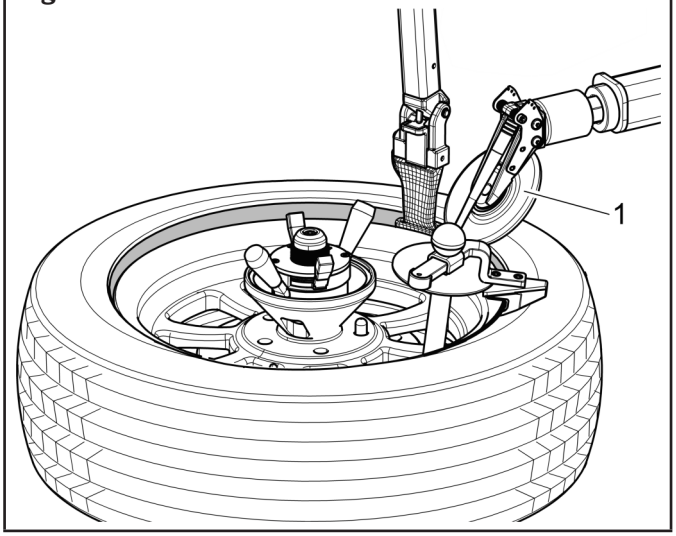


2. place the upper bead breaker roller (**Fig. 52 ref. 1**) so that the tyre bead is kept at the same height of the rim drop centre (see **Fig. 52**);

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

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

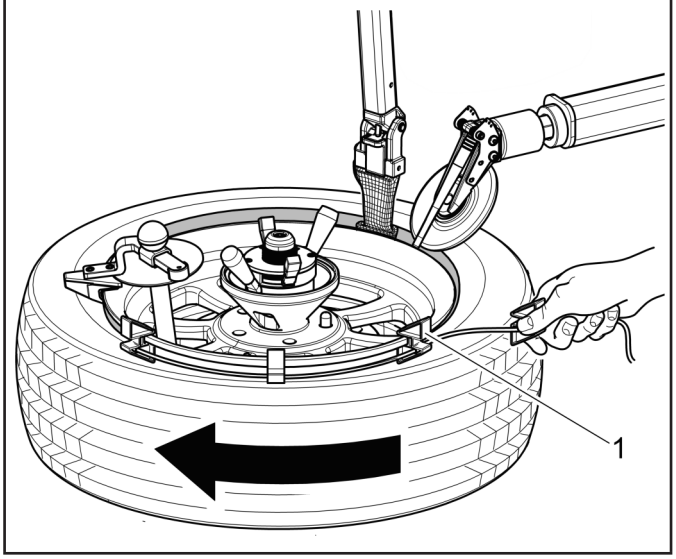
Fig. 52



3. rotate clockwise up to tyre complete assembly (see **Fig. 53**);

FOR THE MOUNTING OF VERY DIFFICULT WHEELS, USE THE EXTENSION OF THE BEADPUSHER (FIG. 53 REF. 1) (STANDARD ON SOME MODELS).

Fig. 53



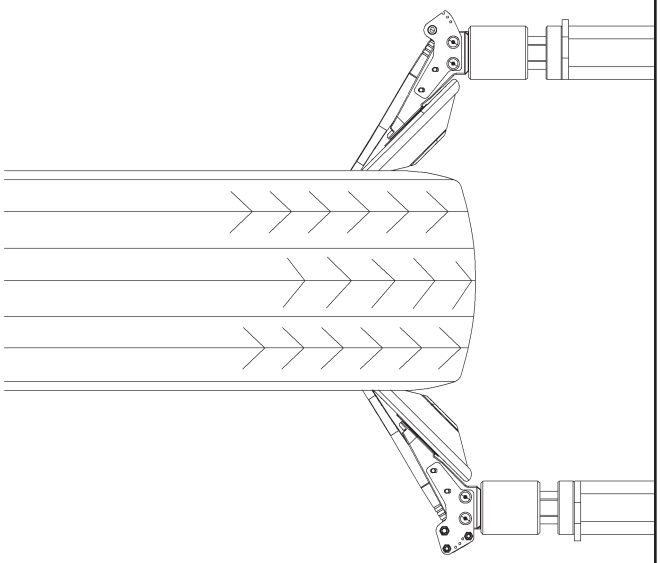
4. when these operations are over move the toolhead and the upper bead breaker roller into rest position.

12.8 Special use of the bead-breaker

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

1. clamp the tyre between the bead breaker rollers;
2. turn the motor clockwise until the reference point on the tyre coincides with the reference point on the rim (usually the valve) (see **Fig. 54**).

Fig. 54



12.9 Tyre inflation

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

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

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

IF MEASURED PRESSURE EXCEEDS 4.2 BAR (60 PSI), IT MEANS THAT THE PRESSURE LIMITING VALVE AND/OR PRESSURE GAUGE IS NOT WORKING PROPERLY. IN THIS CASE, DEFLATE THE TYRE ON THE SPOT AND CONTACT AN AUTHORIZED SERVICE CENTRE TO VERIFY EQUIPMENT OPERATION. MAKE SURE OF PROPER OPERATION BEFORE USING ANY INFLATING EQUIPMENT.

12.9.1 Tyre inflation with pressure gauge

Connect the inflation device to the tyre valve and inflate the same tyre using the pedal provided (**Fig. 17 ref. B**).

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

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

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

12.9.2 Tyre inflation with tubeless inflation unit (on model with tubeless inflation system)

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

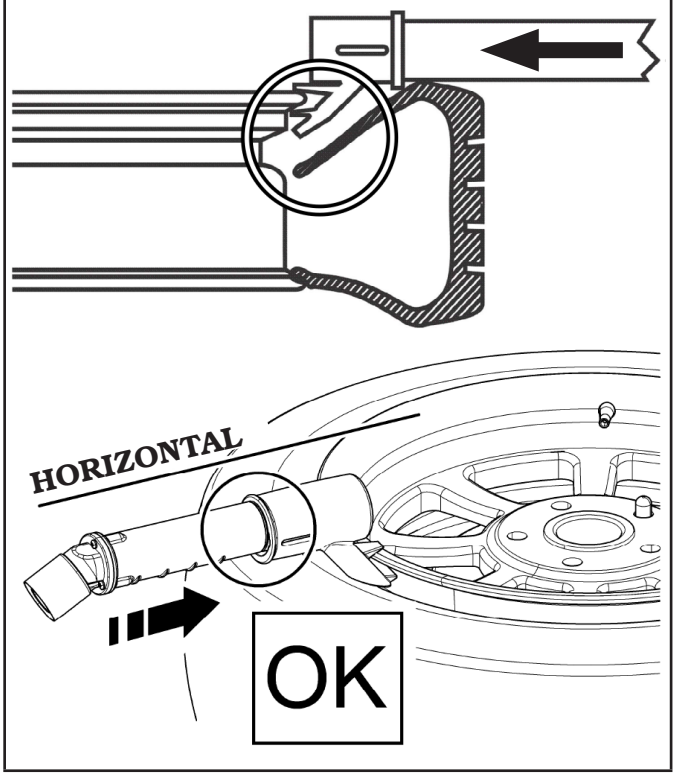
1. remove the valve stem core.
   Removing the valve stem core will allow the tyre to inflate faster and the bead to seat easier;
2. connect the inflation terminal to the valve of the tyre;

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

3. press the bead blaster hose on the wheel rim as shown in **Fig. 55**. Ensure the hose head is pressed in to activate the additional air jet;

THE NOZZLE SHOULD BE HORIZONTAL FOR OPTIMAL PERFORMANCE (FIG. 55).

Fig. 55



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

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

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

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

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

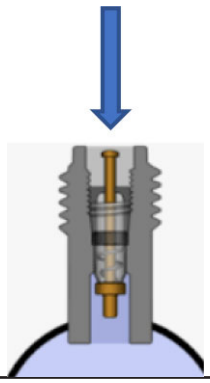
7. disconnect the inflation terminal from the valve.

12.10 Instructions for replacing RF (Run-Flat) and UHP (Ultra High-Performance) tyres

12.10.1 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. 56**) and allow the tyre to completely deflate.

Fig. 56



- 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. 57**), check if the TPMS valve (see **Fig. 58**) or the normal valve is present. The tyre temperature can't be lower than 15°C.

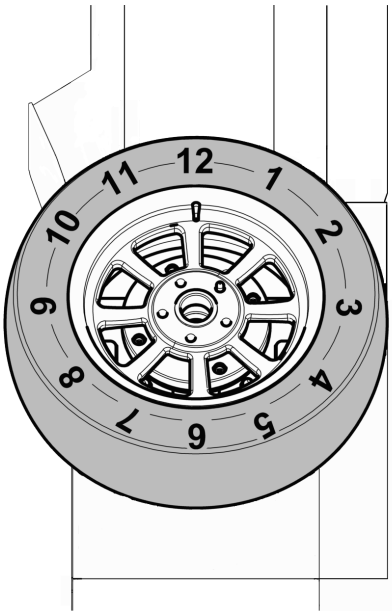
Fig. 57

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

TO BETTER EXPLAIN THE OPERATIONS, THE POSITIONING OF THE VARIOUS TOOLS ON THE TYRE IS INDICATED BY THE TIME PHASES, WHERE 12 O'CLOCK IS REPRESENTED IN CORRESPONDENCE WITH THE COLUMN OF THE TYRE CHANGER (FIG. 59).

Fig. 58

Fig. 59



12.10.2 Wheel clamping

Load the wheel with the lifting device on the rubber plate of the chuck, making sure that the puller pin (**Fig. 60 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. 61 ref. 1**) supplied, and lock the wheel with the special quick locking device. The three main types of device are shown in **Fig. 62**.

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

Fig. 60

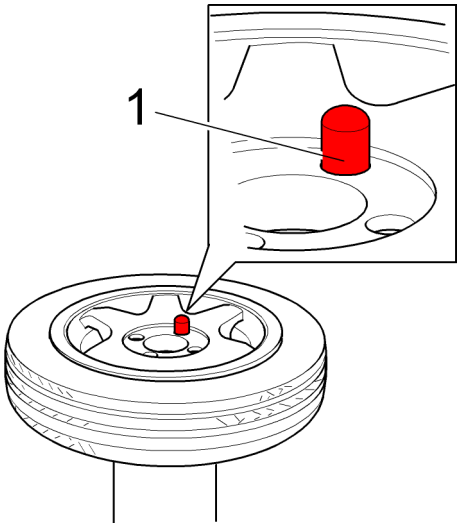


Fig. 61

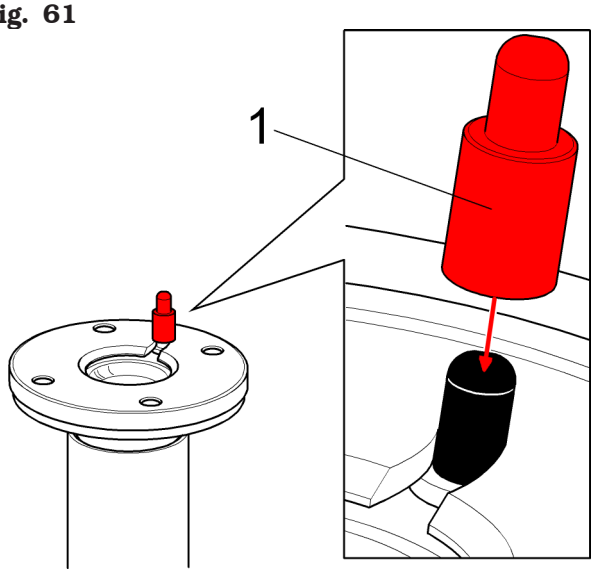
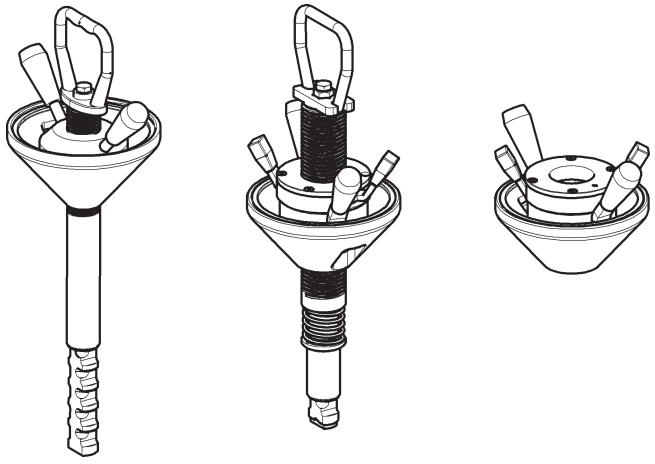


Fig. 62



12.10.3 Bead breaking through vertical rollers

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

1. Bring the upper bead breaker roller close to the edge of the wheel, by pressing the descent button (**Fig. 63 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. 64 ref. F**).

Fig. 63

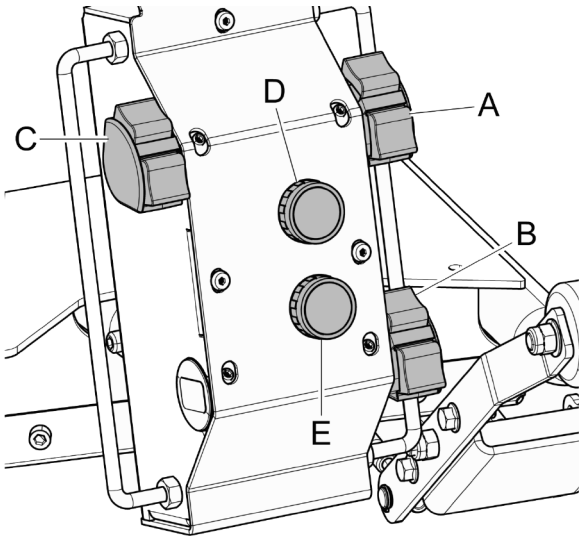
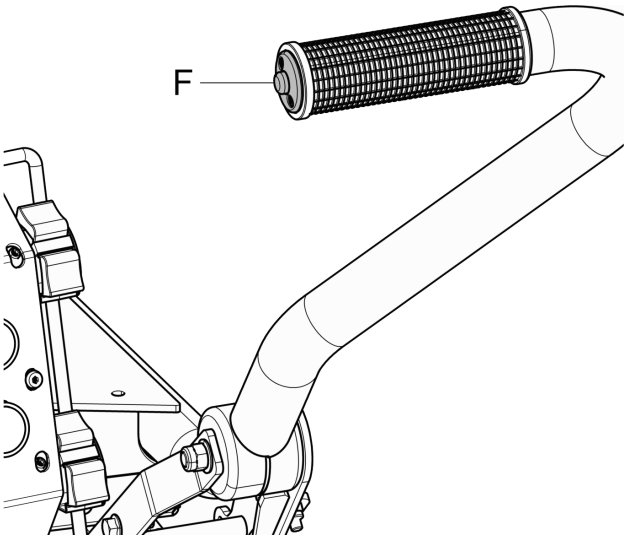


Fig. 64



3. Position the valve next to the upper bead breaker roller (**Fig. 65**), start turning the wheel clockwise. Start pressing the bead breaker roller downwards when the valve is at about 3 o'clock, the bead breaker roller will fit between the rim and the wheel and the bead breaking of the tyre will begin, at the end of the operation lift the bead breaker roller.

Fig. 65

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. 66; FIG. 67).

Fig. 66

Fig. 67

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

Applies to manual mode

AS THE BEAD BREAKER ROLLER REACHES THE RIM EDGE, OPERATE THE PUSH BUTTON FOR CAM MANUAL MOVEMENT (Fig. 63 ref. D). THE BEAD BREAKER ROLLER WILL FIT BETWEEN THE RIM AND THE WHEEL AND THE BEAD BREAKING OF THE TYRE WILL BEGIN. AT THE END OF THE OPERATION LIFT THE BEAD BREAKER ROLLER.

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

4. Continue clockwise rotation of the wheel and at the same time press the lower bead breaker arm up button (**Fig. 63 ref. B**). Place the bead breaker roller on the tyre (**Fig. 68**) and start pushing, greasing the whole bead of the tyre abundantly (**Fig. 69**), the bead breaker roller will fit between the rim and the wheel and the bead breaking of the tyre will begin. At the end of the operation, lower the bead breaker roller.

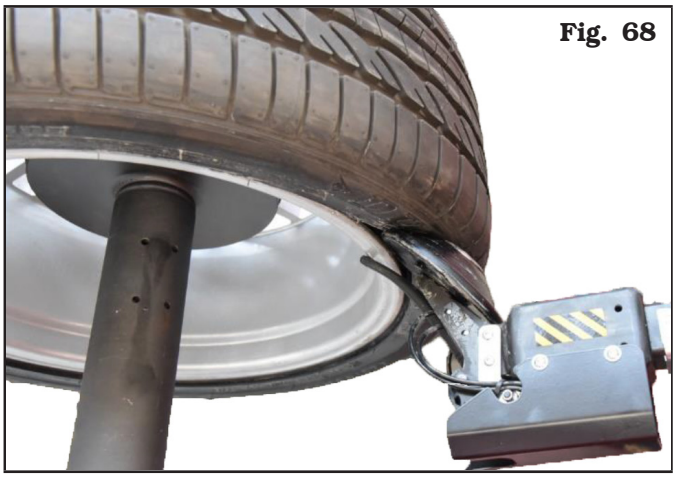


Fig. 68


Fig. 69

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.

Applies to manual mode

AS THE BEAD BREAKER ROLLER REACHES THE RIM EDGE, OPERATE THE PUSH BUTTON FOR CAM MANUAL MOVEMENT (FIG. 63 REF. E). THE BEAD BREAKER ROLLER WILL FIT BETWEEN THE RIM AND THE WHEEL AND THE BEAD BREAKING OF THE TYRE WILL BEGIN. AT THE END OF THE OPERATION, LOWER THE BEAD BREAKER ROLLER.

12.10.4 Disassembly of the tyre

Disassembly operation using the Bead press device.

1. Press the tool descent button (**Fig. 63 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. 70**).


Fig. 70

2. Start the rotation of the wheel (without stopping until the toolhead is inserted). When the valve is at about 3 o'clock (**Fig. 71**), press the toolhead descent button (**Fig. 63 ref. C**) and insert it into the tyre (**Fig. 72**).

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


Fig. 71


Fig. 72

3. When the valve is at 9 o'clock, slightly lift the tool, straighten it without bringing it to the extraction position, and continue the rotation until the valve is exactly under the toolhead (**Fig. 73**).


Fig. 73

4. Press the up button of the lower bead breaker arm (**Fig. 63 ref. B**) until the bead breaker roller rests on the tyre (**Fig. 74**). Push lightly to reduce the tension on the opposite bead of the tyre and hold it in place.

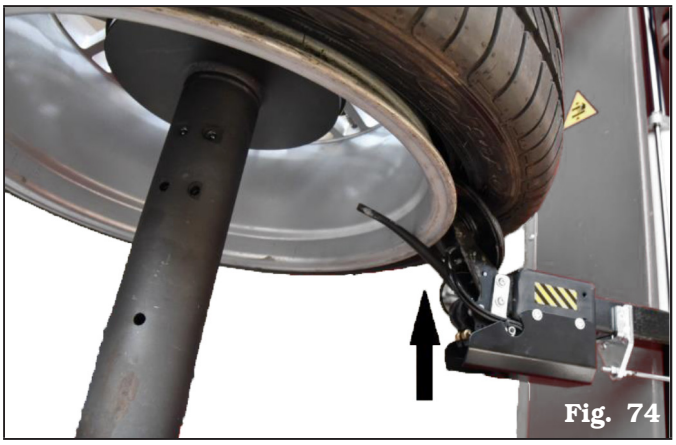


Fig. 74

5. Finish lifting the toolhead, position the rotating bead press device at about "6 o'clock" on the tyre (**Fig. 75**).

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


Fig. 75

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. 76**).


Fig. 76

7. Press the appropriate push button (**Fig. 63 ref. C**). Lift the toolhead and remove it from the tyre.
8. Place the valve next to the bead breaker roller, manually push the tyre on the bead breaker roller (**Fig. 77**), and using the appropriate button (**Fig. 63 ref. B**), lift the lower bead breaker roller.


Fig. 77

Applies to manual mode

When the bead breaker roller has passed the edge of the rim , press the advance button of the bead breaker roller cam (**Fig. 63 ref. E**) (**Fig. 78**).


Fig. 78

THE POSITION OF THE VALVE IN CORRESPONDENCE WITH THE BEAD BREAKER ROLLER IS TO AVOID BREAKAGE OF THE TPMS SENSOR (SEE FIG. 79). USING THE CORRECT PROCEDURE, THE TPMS VALVE FINDS ITSELF OUTSIDE THE TYRE.

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

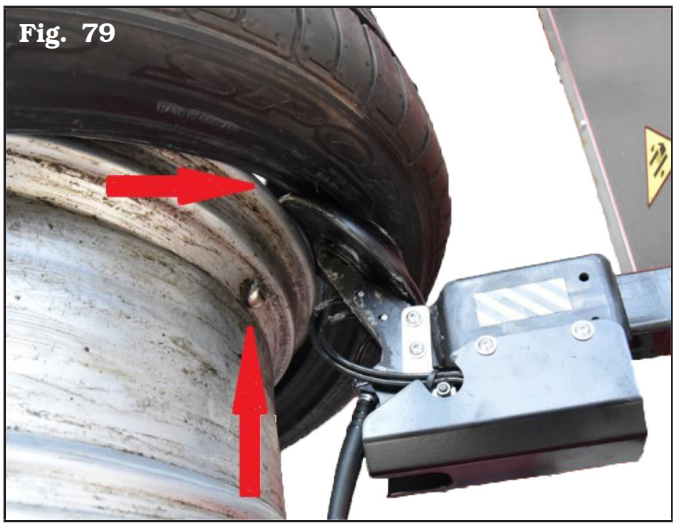


Fig. 79


Fig. 80

12.10.5 Mounting of the tyre

Assembly operation using the Bead press device.

1. Generously grease the rim, taking care to keep the valve clean and not greased (**Fig. 81**).
2. Generously grease the tyre, both the lower part of the bead and the external part of the same, up to the tyre tread, and at least 3 cm (1.18") per side inside the tyre (**Fig. 82**).

Fig. 81

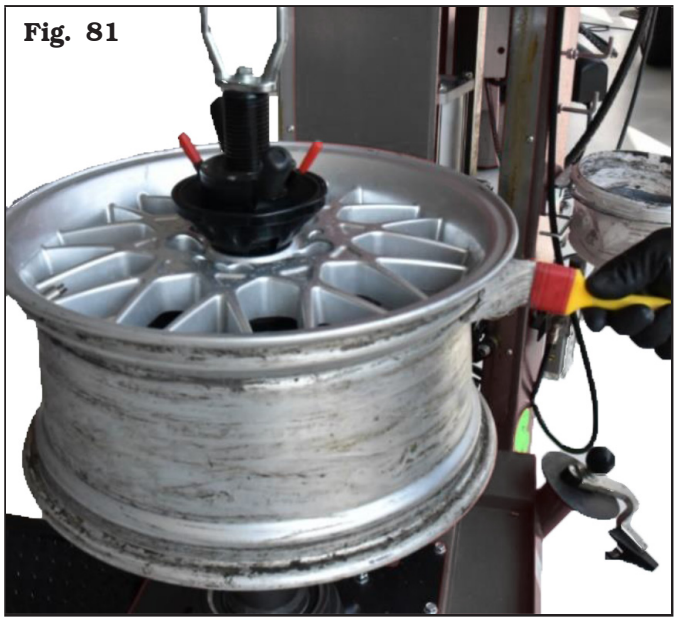
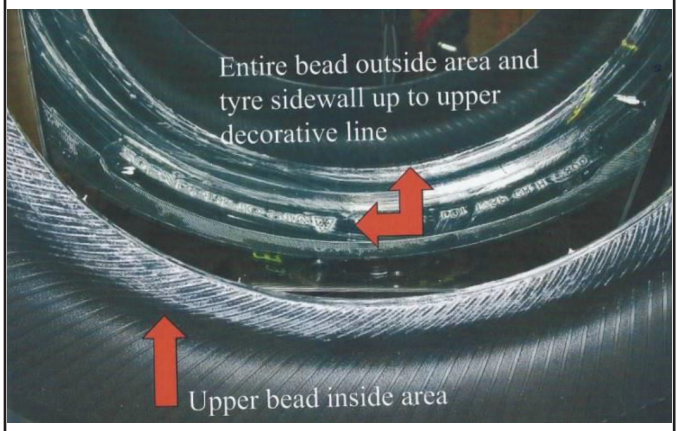


Fig. 82



3. Position the valve at about 7 o'clock, lay the tyre on the rim, press the appropriate push button (**Fig. 63 ref. C**) to position the toolhead on the rim (**Fig. 83**), insert the tyre in the mounting position on the toolhead 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 ROLLER CAN ALSO BE USED TO INSERT THE FIRST BEAD (FIG. 84). IN THIS CASE, ALWAYS POSITION THE VALVE AT 7 O'CLOCK, FIT THE TYRE ON THE RIM (SEE FIG. 84) AND USING THE APPROPRIATE BUTTON (FIG. 63 REF. A) LOWER THE BEAD BREAKER ROLLER UNTIL IT TOUCHES THE TYRE. PUSH SLIGHTLY AND PRESS THE ROTATION PEDAL. THE RIGIDITY OF THE TYRE WILL ALLOW THE INSERTION OF THE FIRST BEAD.

Fig. 83

Fig. 84

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

4. Pressing the rotation pedal, place the valve at approximately 3 o'clock. Using the appropriate push button (**Fig. 63 ref. C**), place the toolhead on the edge of the rim.
5. Acting on the appropriate button (**Fig. 63 ref. A**), use the bead breaker roller to push the tyre bead under the rim edge (**Fig. 85**).

Fig. 85

6. Insert the bead press device exactly next to the valve (**Fig. 86**). Fit the plastic protection on the edge of the rim next to the bead press device as shown in **Fig. 87**.

Fig. 86

Fig. 87

IN ORDER NOT TO DAMAGE THE TPMS VALVE, IT IS IMPORTANT THAT THE DISTANCE BETWEEN THE TRACTION POINT (CONTACT POINT OF TYRE BEAD ON THE RIM) AND THE VALVE, IS ALWAYS BETWEEN 10 cm (3.94") AND 15 cm (5.91") BEFORE THE VALVE. TO OBTAIN THIS RESULT, ALWAYS INSERT BEAD PRESS 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. 88**). Insert the bead press device at 3 o'clock (**Fig. 89**), and slowly finish the tyre mounting operation (**Fig. 90**).

Fig. 88

Fig. 89

Fig. 90

8. At the end of the operation remove all the tools used (**Fig. 91**).

Fig. 91

12.10.6 Tyre demounting procedure using the bead pressing extension

1. Follow all the operations previously described in paragraph ***"12.10.3 Bead breaking through vertical rollers"***, for the correct preparation and lubrication of the tyre.
2. Press the tool descent button (**Fig. 63 ref. C**) and place it on the tyre without pushing. At the same time rotate the wheel until the valve is positioned next to the toolhead (**Fig. 70**).
3. Start the rotation of the wheel (without stopping until the toolhead is inserted). When the valve is at about 3 o'clock (**Fig. 71**), press the toolhead descent button (**Fig. 63 ref. C**) and insert it into the tyre (**Fig. 72**).

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

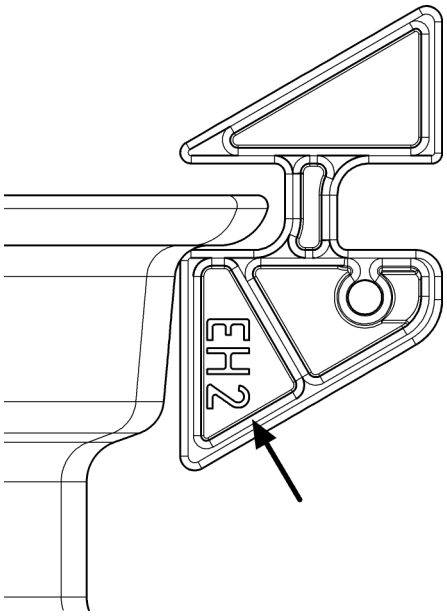
4. By turning counterclockwise, position the valve at approximately 4 o'clock (**Fig. 92**).

Fig. 92

THE BEAD PRESS EXTENSION IS MADE UP OF TWO-WEDGES-INSERTS OF DIFFERENT SIZES (EH, EH2) (FIG. 93). THESE WEDGES, SUITABLY MOUNTED, INSERT THE TYRE BEAD AT TWO DIFFERENT RIM DEPTHS AND IN ANY CASE INSIDE THE DROP CENTRE.
CHOOSING THE CORRECT WEDGE TO BE USED DEPENDS ON THE TYPE OF RIM YOU INTEND TO WORK ON.

IN THE CASE OF AN EH2 OR EH2+ RIM IT IS NECESSARY TO USE THE WEDGES ON THE SIDE HIGHLIGHTED BY THE PRINTED SIGN "EH2" (THE DEEPER ONES) (SEE FIG. 93).

Fig. 93



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. 94).

6. Using the appropriate push button (**Fig. 63 ref. A**) lift the bead breaker roller. Using the appropriate push button (**Fig. 63 ref. C**), slightly lift the toolhead, but without placing it on the edge of the rim. By pressing the rotation pedal, place the valve exactly in front of the toolhead (**Fig. 93**).

Fig. 94

Fig. 95

7. By pressing the up button of the lower bead breaker arm (**Fig. 63 ref. B**) rest the bead breaker roller on the tyre. Push slightly to reduce the tension on the opposite bead of the tyre and hold it in place (**Fig. 96**).
8. Finish lifting the toolhead. Insert the bead protection tool together with the plastic sheets between the tyre bead and the rim (**Fig. 97**).

Fig. 96

Fig. 97

9. Lock the protection tool with your hand (**Fig. 98**). Press the rotation pedal remove the first bead of the tyre.

Fig. 98

10. By pressing the rotation pedal, place the valve next to the bead breaker roller. Manually push the tyre on the bead breaker roller (**Fig. 99**), and using the appropriate button (**Fig. 63 ref. B**), lift the lower bead breaker roller.


Fig. 99

Applies to manual mode

When the bead breaker roller has passed the edge of the rim, press the advance button of the bead breaker roller cam **(Fig. 63 ref. E)**.

THE POSITION OF THE VALVE NEXT TO THE BEAD BREAKER ROLLER SERVES TO AVOID BREAKAGE OF THE TPMS, AS SHOWN IN FIG. 100 AND FIG. 101 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.

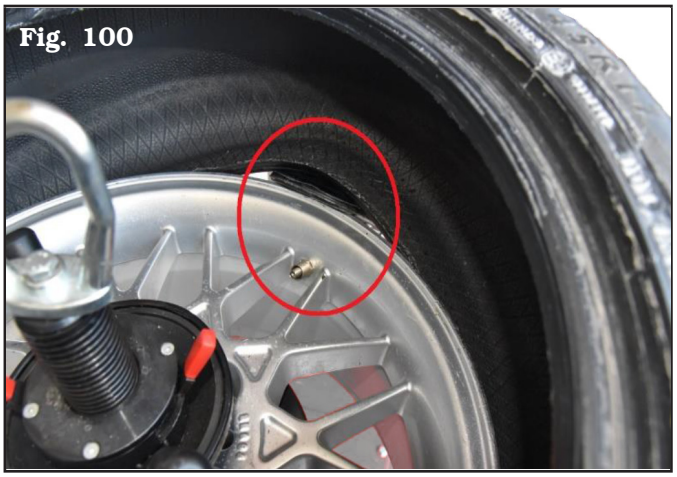


Fig. 100

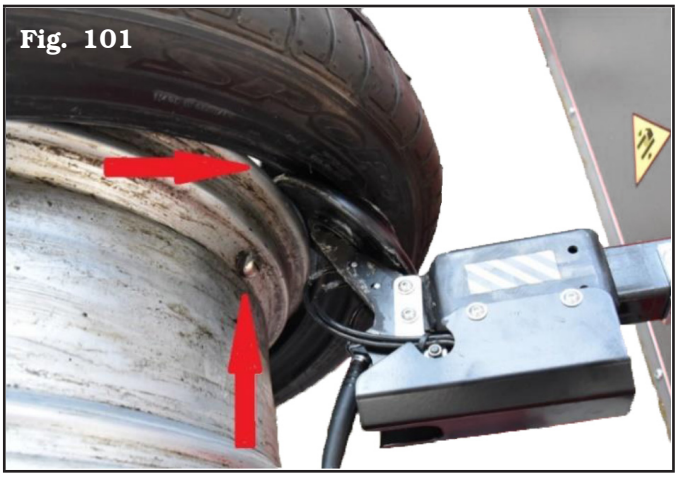


Fig. 101

12.10.7 Fitting of the first bead using the bead pressing extension

1. Generously grease the rim, taking care to keep the valve clean and not greased (**Fig. 100**).
2. Generously grease the tyre, both the lower part of the bead and the external part of the same, up to the tyre tread, and at least 3 cm (1.18") per side inside the tyre (**Fig. 103**).

Fig. 102

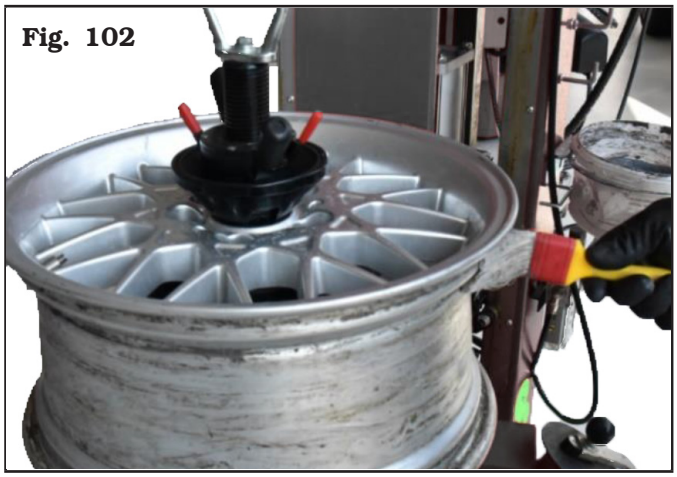
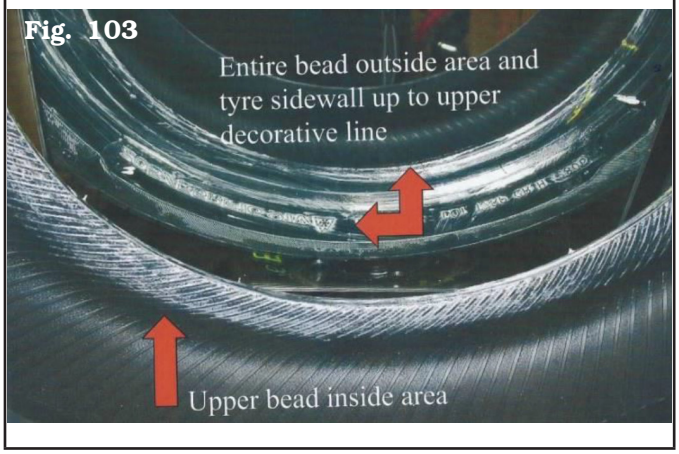


Fig. 103



3. Position the valve at about 7 o'clock, lay the tyre on the rim, press the appropriate push button (**Fig. 63 ref. C**) to position the toolhead on the rim (**Fig. 104**), insert the tyre in the mounting position on the toolhead 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 ROLLER CAN ALSO BE USED TO INSERT THE FIRST BEAD (FIG. 105). IN THIS CASE, ALWAYS POSITION THE VALVE AT 7 O'CLOCK, FIT THE TYRE ON THE RIM (SEE FIG. 105) AND USING THE APPROPRIATE BUTTON (FIG. 63 REF. A) LOWER THE BEAD BREAKER ROLLER UNTIL IT TOUCHES THE TYRE. PUSH SLIGHTLY AND PRESS THE ROTATION PEDAL. THE RIGIDITY OF THE TYRE WILL ALLOW THE INSERTION OF THE FIRST BEAD.

Fig. 104

Fig. 105

4. By pressing the rotation pedal, position the valve at about 3 o'clock, using the appropriate button (**Fig. 63 ref. C**), place the mounting toolhead on the edge of the rim.
5. Acting on the appropriate button (**Fig. 63 ref. A**), use the bead breaker roller to push the tyre bead under the rim edge.
6. Insert the bead press device exactly next to the valve. Fit the plastic protection on the edge of the rim next to the bead press device as shown in **Fig. 87**.

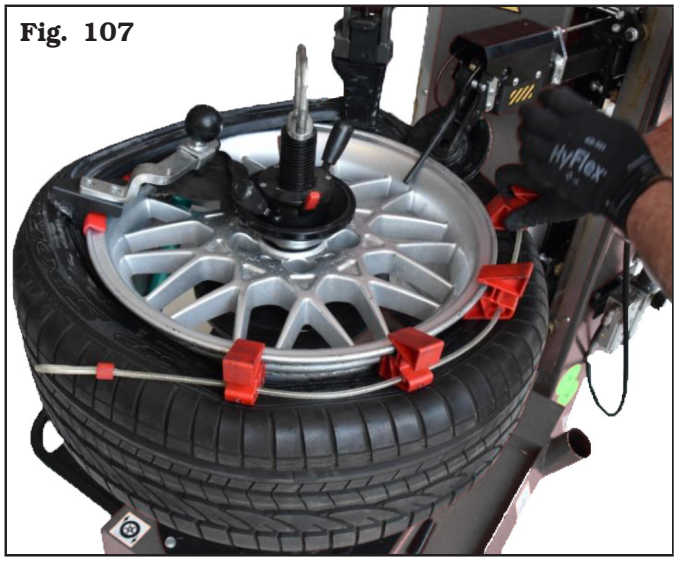
IN ORDER NOT TO DAMAGE THE TPMS VALVE, IT IS IMPORTANT THAT THE DISTANCE BETWEEN THE TRACTION POINT (CONTACT POINT OF TYRE BEAD ON THE RIM) AND THE VALVE, IS ALWAYS BETWEEN 10 cm (3.94") AND 15 cm (5.91") BEFORE THE VALVE, TO OBTAIN THIS RESULT, ALWAYS INSERT BEAD PRESS NEXT TO THE VALVE.

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. 61 ref. A**), lower the upper bead breaker roller on the tyre sidewall to create the correct space for inserting the wedges of the "bead pressing extension" accessory (**Fig. 106**).

Fig. 106

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. 107**)
9. At the end of the operation, remove the bead pressing extension and all the tools used.

Fig. 107



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

12.10.8 Wheel inflation

The inflation of a wheel must always take place without the inner core of the valve (**Fig. 56**). 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 ± 0.2 bar / 60 ± 3 psi).

IF THE TYRE BEADS AND RIMS ARE WELL LUBRICATED THEY MAKE TYRE INFLATION MUCH SAFER AND EASIER. IN THE EVENT THAT THE TYRE BEAD DOES NOT OCCUR AT 4 ± 0.2 bar / 60 ± 3 psi, IT IS NECESSARY TO DEFLATE THE WHEEL, BEAD AND ABUNDANTLY LUBRICATE THE TYRE AND RIM, AND REPEAT THE INFLATION OPERATION.

13.0 ROUTINE MAINTENANCE

BEFORE CARRYING OUT ANY ROUTINE MAINTENANCE PROCEDURE, DISCONNECT THE EQUIPMENT FROM ITS POWER SUPPLY SOURCES, TAKING SPECIAL CARE OF THE ELECTRICAL PLUG/SOCKET CONNECTION.

BEFORE EXECUTING ANY MAINTENANCE OPERATION, MAKE SURE THERE ARE NO WHEELS LOCKED ONTO THE SELF-CENTRING CHUCK.

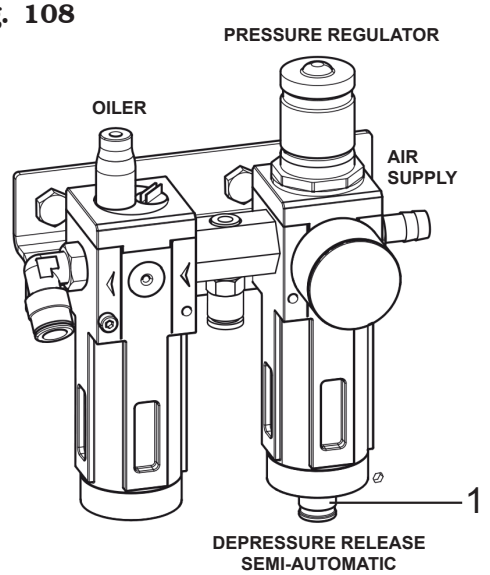
To guarantee the efficiency and correct functioning of the equipment, it is essential to carry out daily or weekly cleaning and weekly routine maintenance, as described below.
Cleaning and routine maintenance must be conducted by authorized personnel and according to the instructions given below.

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

DO NOT BLOW IT WITH COMPRESSED AIR.

- Do not use solvents to clean the pressure regulator.
- The conditioning assembly is equipped with an automatic vacuum-operated drain therefore it requires no manual intervention by the operator (see **Fig. 108**).
- Periodically check the calibration of lubricator of pressure/oiler gauge assembly:

Fig. 108



IN ORDER TO ENSURE A GOOD FUNCTIONING AND TO AVOID THE PRESENCE OF CONDENSATION IN THE AIR TREATMENT ASSEMBLIES WITH SEMI-AUTOMATIC DRAIN, IT'S NECESSARY TO MAKE SURE ABOUT THE CORRECT POSITION OF THE VALVE (FIG. 108 REF. 1), PLACED UNDER THE CAP. TO ACTIVATE A CORRECT DRAIN FUNCTION, THE CAP MUST BE ROTATED IN THE RIGHT WAY.

IN ORDER TO ALLOW A LONGER LIFE OF THE FILTER AND OF ALL MOVING PNEUMATIC DEVICES, YOU HAVE TO MAKE SURE THAT THE SUPPLIED AIR IS:
- **EXEMPT FROM THE LUBRICATING OIL OF THE COMPRESSOR;**
- **EXEMPT FROM HUMIDITY;**
- **EXEMPT FROM IMPURITY.**

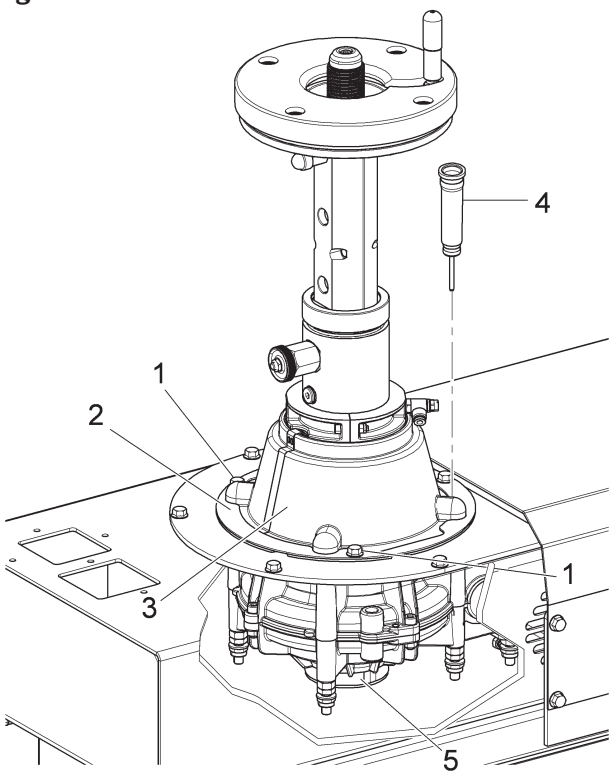
- Every **week** and/or when necessary, top up the oil tank using the filler hole provided, closed by a cap or bolt, on the lubricator filter.

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

- The use of synthetic oil might damage the pressure regulator filter.
- Immediately replace worn parts, bead breaking roller, toolhead, feeler pins.
- Periodically, at least monthly, lubricate the horizontal sliding arms of the bead breaker rollers and the toolhead.
- Periodically, at least monthly, lubricate the vertical sliding crosspieces of the arms of the bead breaker rollers and of the toolhead.

- Periodically (at least every 100 working hours) check reduction gear lubricating oil level (**Fig. 109 ref. 5**). Such operation must be performed by removing the bolts (**Fig. 109 ref. 1**), removing the flange (**Fig. 109 ref. 2**), the guard (**Fig. 109 ref. 3**) and the plug (**Fig. 109 ref. 4**) on the reduction gear.

Fig. 109



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!!

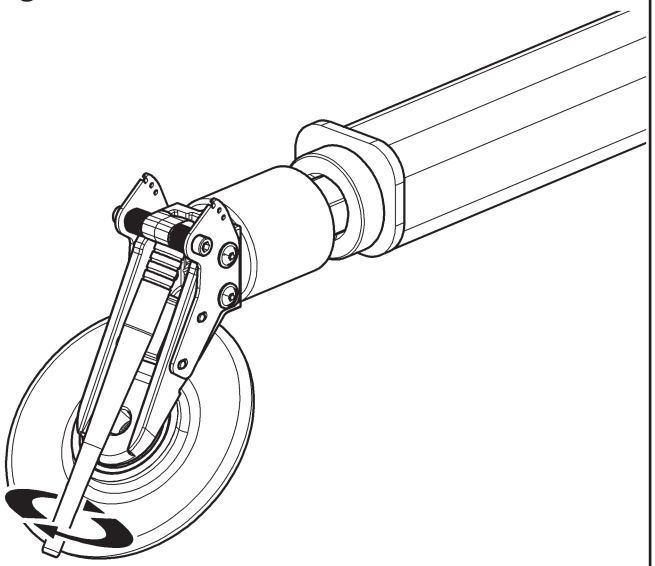
13.1 Replacement of the feeler pin

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. 110**):

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

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

Fig. 110



13.2 Lubricants

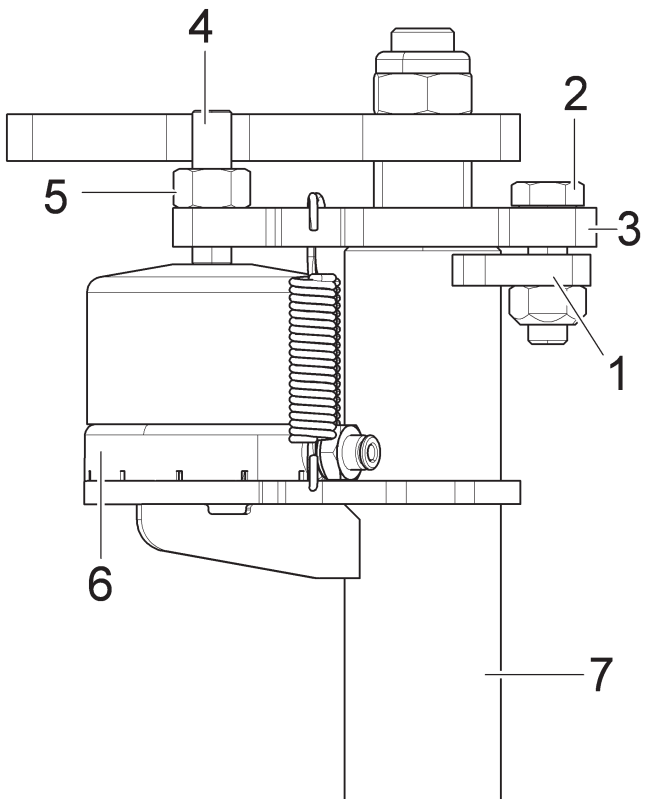
To grease the chuck movement control reduction gear, use **ESSO GEAR OIL GX140**.
To lubricate the slides, use a brush with soft bristles and an **ESSO GP** type lubricant.

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

13.3 Neck adjustment

In case of fulcrum-type bolt (**Fig. 111 ref. 2**) with neck (**Fig. 111 ref. 3**) fully beating onto bead breaker arm's guide (**Fig. 111 ref. 7**) (not on the adjusting plate (**Fig. 111 ref. 1**)), carry out neck adjustment procedure as described below.

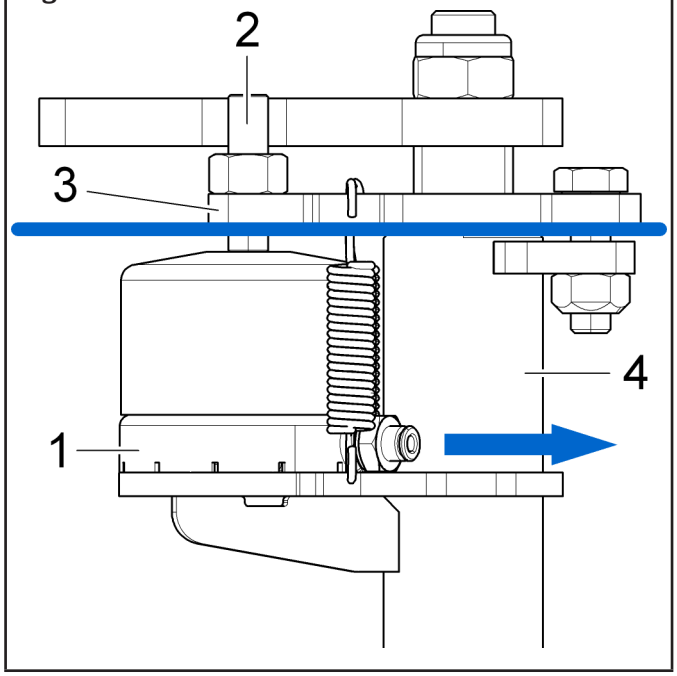
Fig. 111



KEY
1 – Adjusting plate
2 – Fulcrum bolt
3 – Neck
4 – Adjusting grub screw
5 – Locking nut
6 – Neck operating cylinder
7 – Tool arm guide

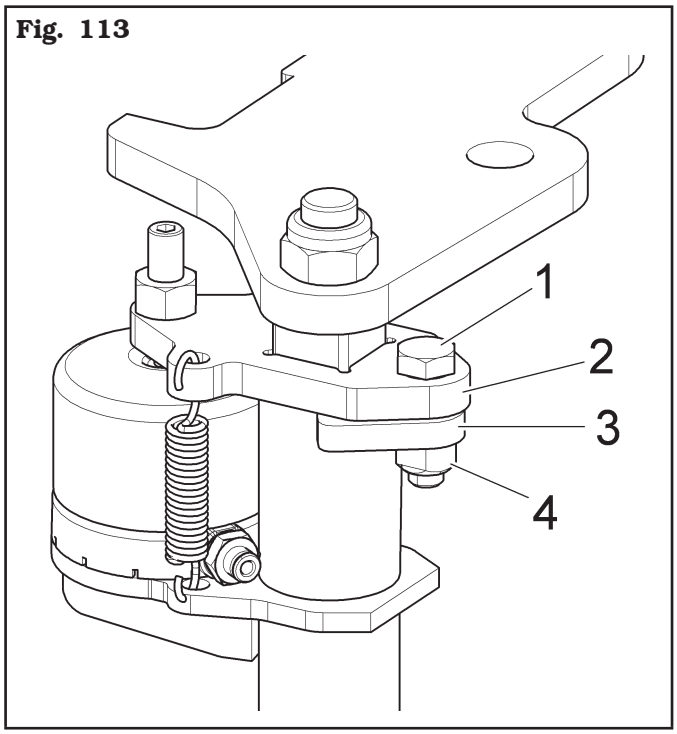
1. Blow off the compressed air from neck cylinder (**Fig. 112 ref. 1**). Make neck (**Fig. 110 ref. 3**) reach beat position again on the guide support surface (**Fig. 110 ref. 4**), by turning the adjusting grub screw (**Fig. 110 ref. 2**);

Fig. 112



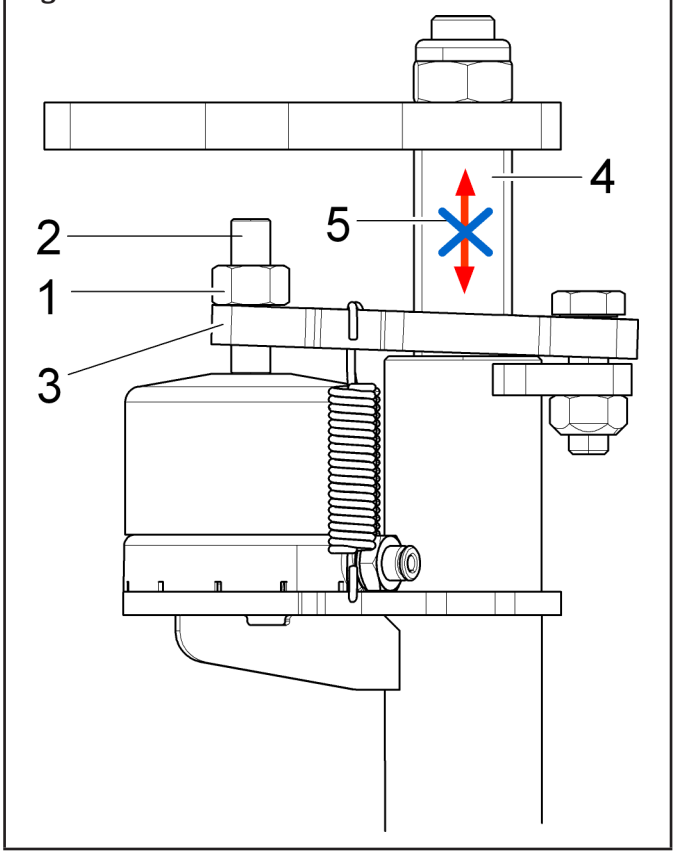
2. completely screw fulcrum-type bolt (**Fig. 113 ref. 1**) but without locking it, just making it approach, setting a 0.1 - 0.2 mm play (0,005" - 0.01") between neck (**Fig. 113 ref. 2**) and adjusting plate (**Fig. 113 ref. 3**), positioning nut (**Fig. 113 ref. 4**) and letting it rest completely onto adjusting plate;

Fig. 113



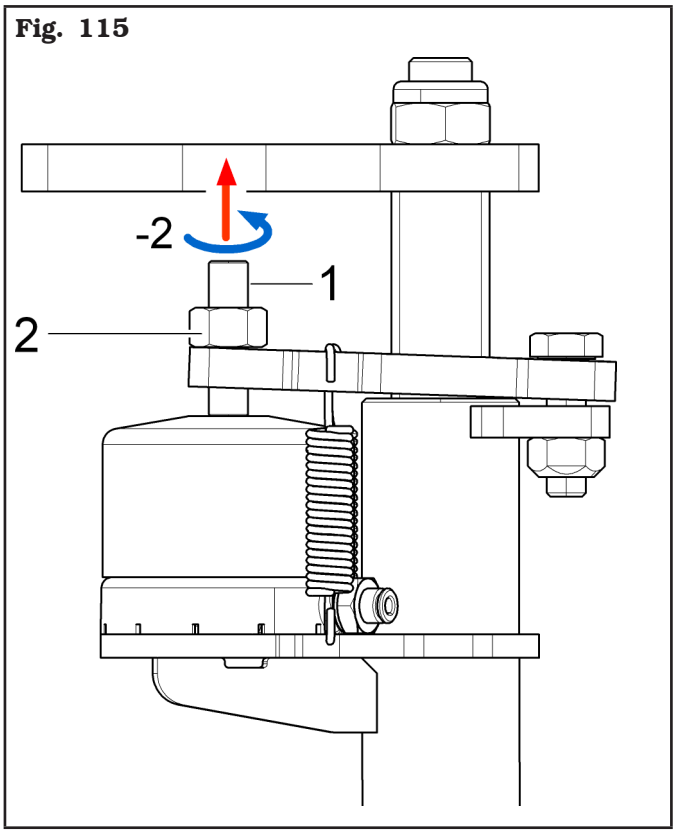
3. slacken lock nut (**Fig. 114 ref. 1**) of adjusting grub screw (**Fig. 114 ref. 2**). Then, screw the grub screw (**Fig. 114 ref. 2**) until neck (**Fig. 114 ref. 3**) strikes onto arm (**Fig. 114 ref. 4**), that as a consequence results clamped (**Fig. 114 ref. 5**);

Fig. 114



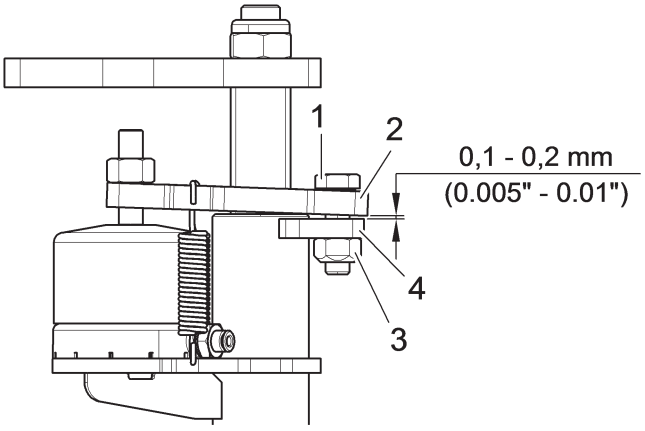
4. the position reached at point (3), remove neck adjusting grub screw counter-clockwise by 2 complete turns (**Fig. 115 ref. 1**) and lock the relevant counter nut (**Fig. 115 ref. 2**);

Fig. 115



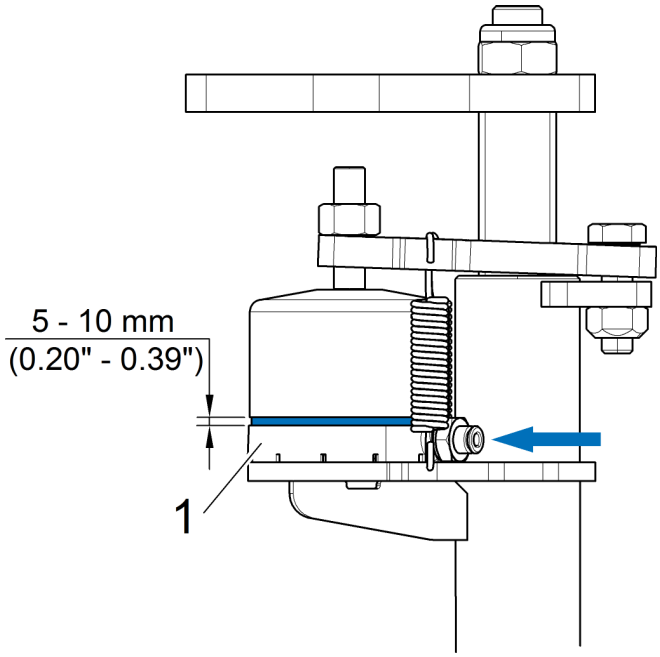
5. turn fulcrum-type bolt (or bolts) (**Fig. 116 ref. 1**) in order to reset 0.1 - 0.2 mm play (0.005" - 0.01") between neck (**Fig. 116 ref. 2**) and fulcrum-type screw head (**Fig. 116 ref. 1**), letting nut (**Fig. 116 ref. 3**) rest completely onto adjusting plate (**Fig. 116 ref. 4**);

Fig. 116



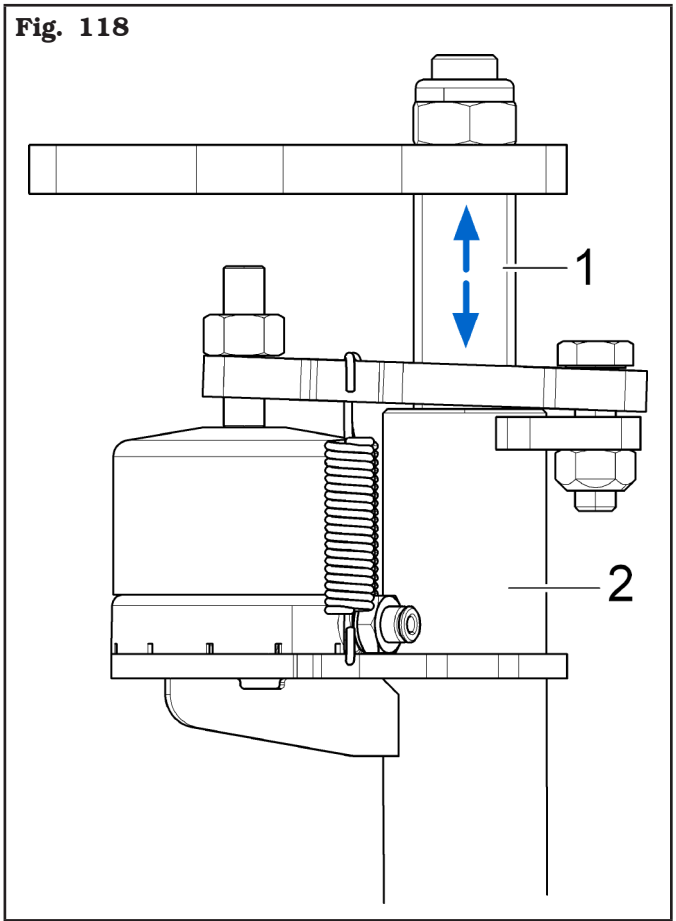
6. operate cylinder (**Fig. 117 ref. 1**), supplying it with compressed air, and make sure its stroke is included between 5 - 10 mm (0.20" - 0.39");

Fig. 117



7. blow off cylinder and make sure the arm (**Fig. 118 ref. 1**) can slide freely in its guide (**Fig. 118 ref. 2**);

Fig. 118



8. repeat points (6) and (7) 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 is not immediately activated.	1. Power supply missed. 2. The control push button is broken. 3. Feeler pin faulty.	1. Connect the power supply. 2. Call for technical assistance. 3. Call for technical assistance.
By pressing the release button, the horizontal arms of the bead breaker rollers and the toolhead do not move or move with difficulty.	1. Horizontal movement guides blocked. 2. Translation actuator faulty. 3. Actuator power supply. 4. Electronic board failure.	1. Clean the guides and lubricate them. 2. Call for technical assistance. 3. Call for technical assistance. 4. Call for technical assistance.
The nozzle doesn't supply air when the inflation pedal is pressed (on models with pressure vessel)	The inflation pedal is badly adjusted.	Call for technical assistance.
The chuck doesn't rotate.	Inverter overload alarm *Or* Inverter undervoltage alarm *Or* Inverter overvoltage alarm	Shorten the length of a possible equipment extension cable or increase the conductors section (disconnect and connect again). Lift the motor pedal and wait for the automatic reset.
	Overtemperature alarm.	Wait until the motor system cools (the equipment does not restart if the temperature level does not go below the set safety threshold).
The chuck does not reach the maximum rotation speed.	The mechanical resistance of the gearmotor system has increased.	Turn the chuck without wheel for a few minutes so that the system heats, thus reducing frictions. If in the end the chuck does not accelerate again, call for technical assistance.
The chuck does not rotate in counter-clockwise direction.	Pedalboard microswitch breakage.	Replace microswitch.
The chuck doesn't rotate, but it attempts rotation when the equipment is switched on again.	Pedalboard irreversible de-calibration.	Call for technical assistance.

Problem	Possible cause	Remedy
The chuck rotates slowly but it does not operate on the motor pedal.	Pedalboard reversible de-calibration.	1. Keep the pedal to rest position. 2. Keep the equipment connected to the net. 3. Wait for 30 seconds that the pedalboard recalibration automatic attempt ends.
The toolhead holder carriage moves vertically during machining operations.	1. The locking cylinder is leaking air. 2. The vertical clamping aluminium plate was inadvertently lubricated.	1. Call for technical assistance. 2. Clean the aluminium plate from any residual lubricant. 
BEAD PRESS DEVICE		
No movement is generated when the control lever is operated.	1. Power supply missed. 2. The supply hoses have not been correctly assembled. 3. The control valve is not working.	1. Check power supply. 2. Check hoses 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. 
FRONT LIFTING DEVICE		
No movement is produced when the control pedal is operated.	1. Supply missing or insufficient. 2. The supply hoses have not been correctly assembled. 3. The control valve is not working.	1. Check power supply. 2. Check hoses fitting. 3. Call for technical assistance. 
When the equipment is aired, the front lifting device tends to move with no consent by the operator.	Possible valve de-calibration.	Call for technical assistance. 

15.0 TECHNICAL DATA

15.1 Technical electrical data

Motor power (kW)		0.75 (1 Hp)
Inverter motor power (kW)		1.5 (2 Hp)
Power supply	Voltage (V)	200 - 240
	Number of phases	1
	Frequency (Hz)	50/60
Typical current draw (A)		10
Chuck rotation speed (rev/min)		0 - 15

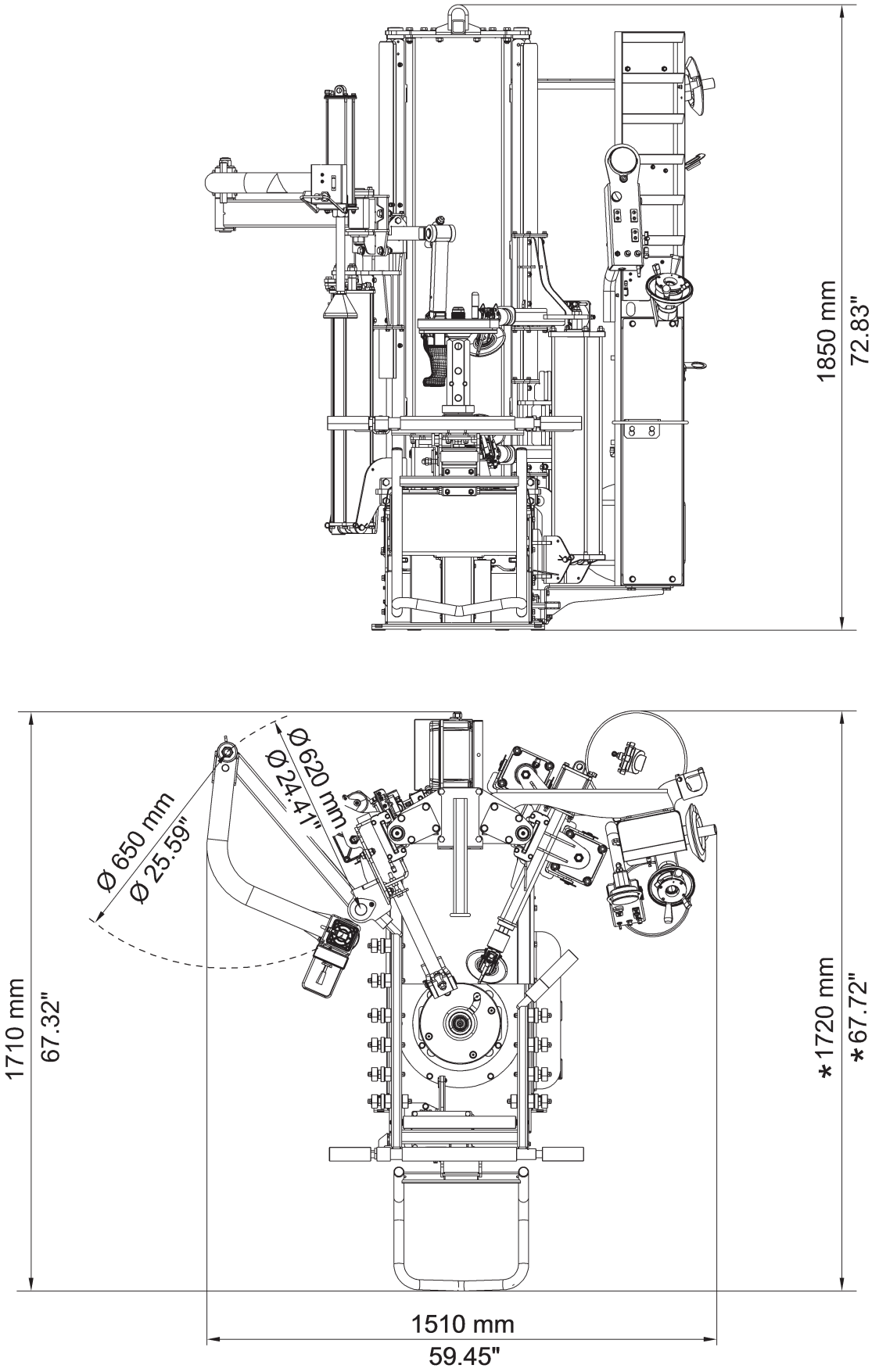
15.2 Technical mechanical data

Tyre max. diameter (inches)	50
Rim locking diameter (inches)	10 - 34
Wheel max. 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

	ROT.AIKID.200235	ROT.AIKID.200099
Weight (kg)	515 (1135 lbs)	570 (1256 lbs)

15.3 Dimensions

Fig. 119



*** on model with tubeless inflation system vessel**

16.0 STORING

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

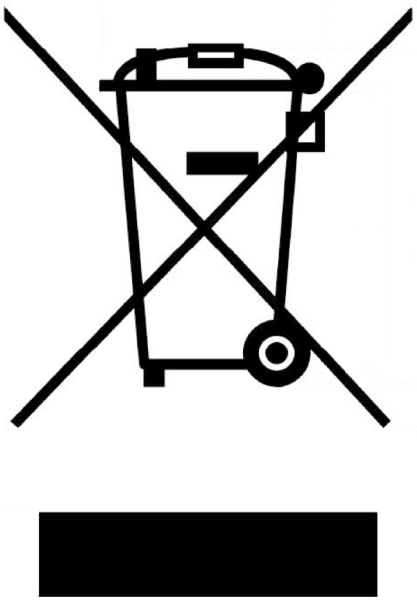
17.0 SCRAPPING

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

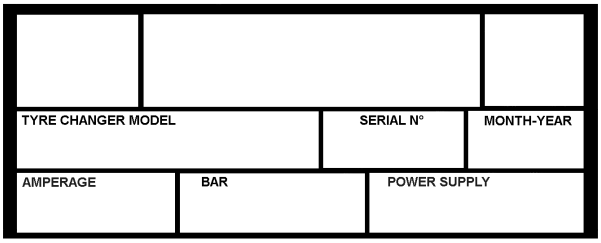
Instructions for the correct management of waste from electric and electronic equipment (WEEE) according to the Italian legislative decree 49/14 and subsequent amendments.

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

Fig. 120



18.0 REGISTRATION PLATE DATA



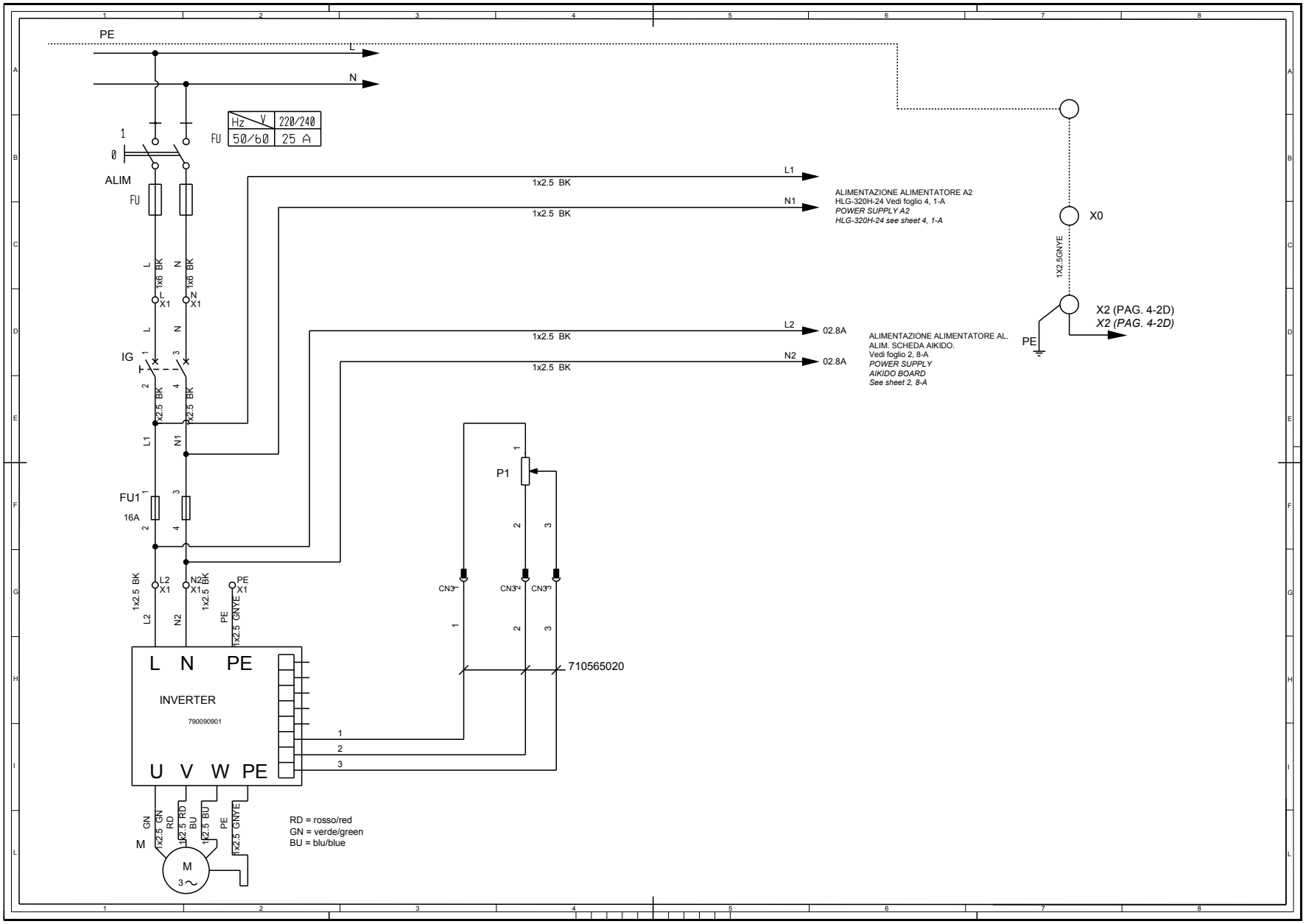
The validity of the Conformity Declaration enclosed to this manual is also extended to products and/or devices the equipment model object of the Conformity Declaration can be equipped with.
Said plate must always be kept clean from grease residues or filth generally.

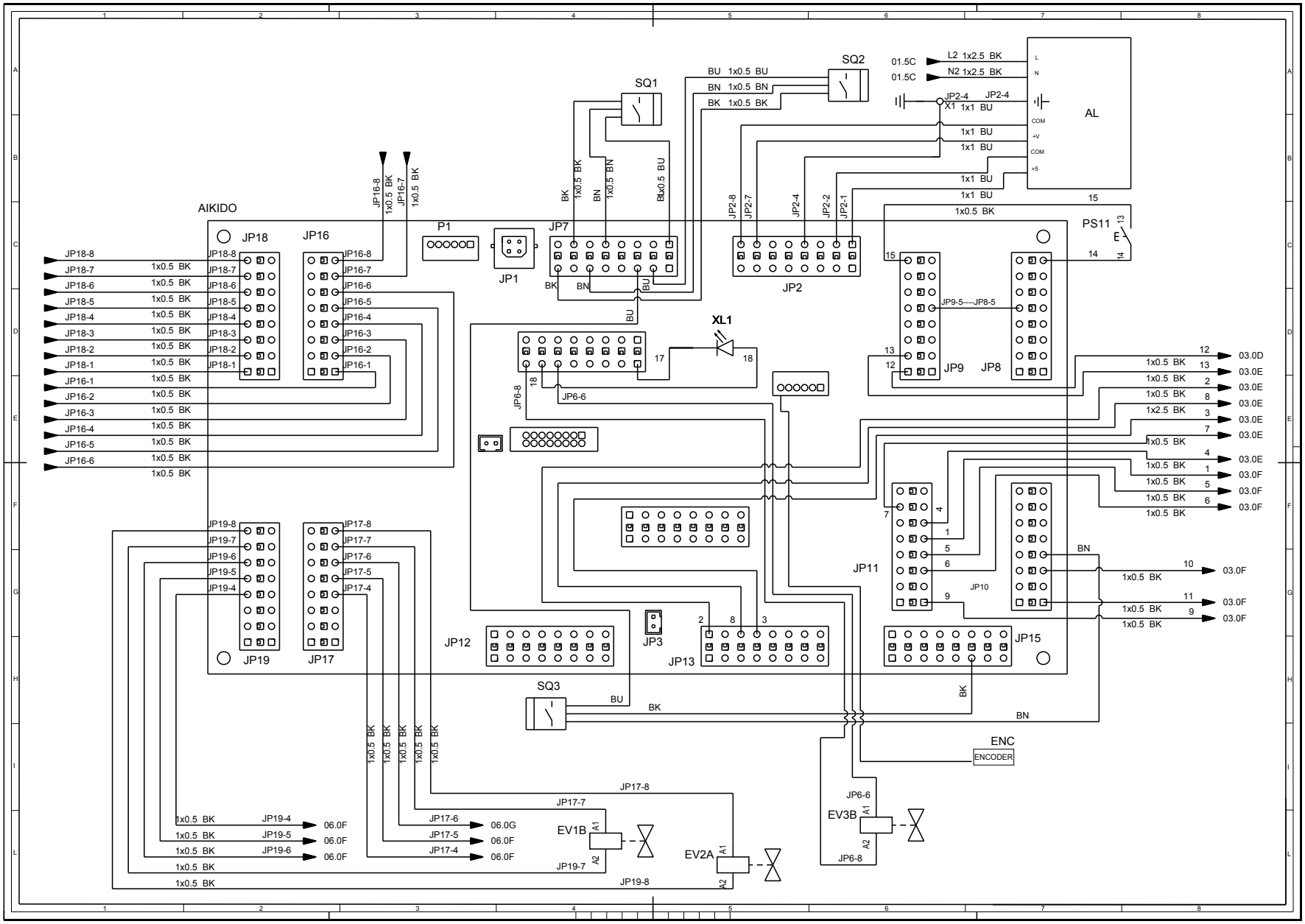
ATTENTION: TAMPERING WITH, CARVING, CHANGING ANYHOW OR EVEN REMOVING EQUIPMENT IDENTIFICATION PLATE IS ABSOLUTELY FORBIDDEN; DO NOT COVER IT WITH TEMPORARY PANELS, ETC., SINCE IT MUST ALWAYS BE VISIBLE.

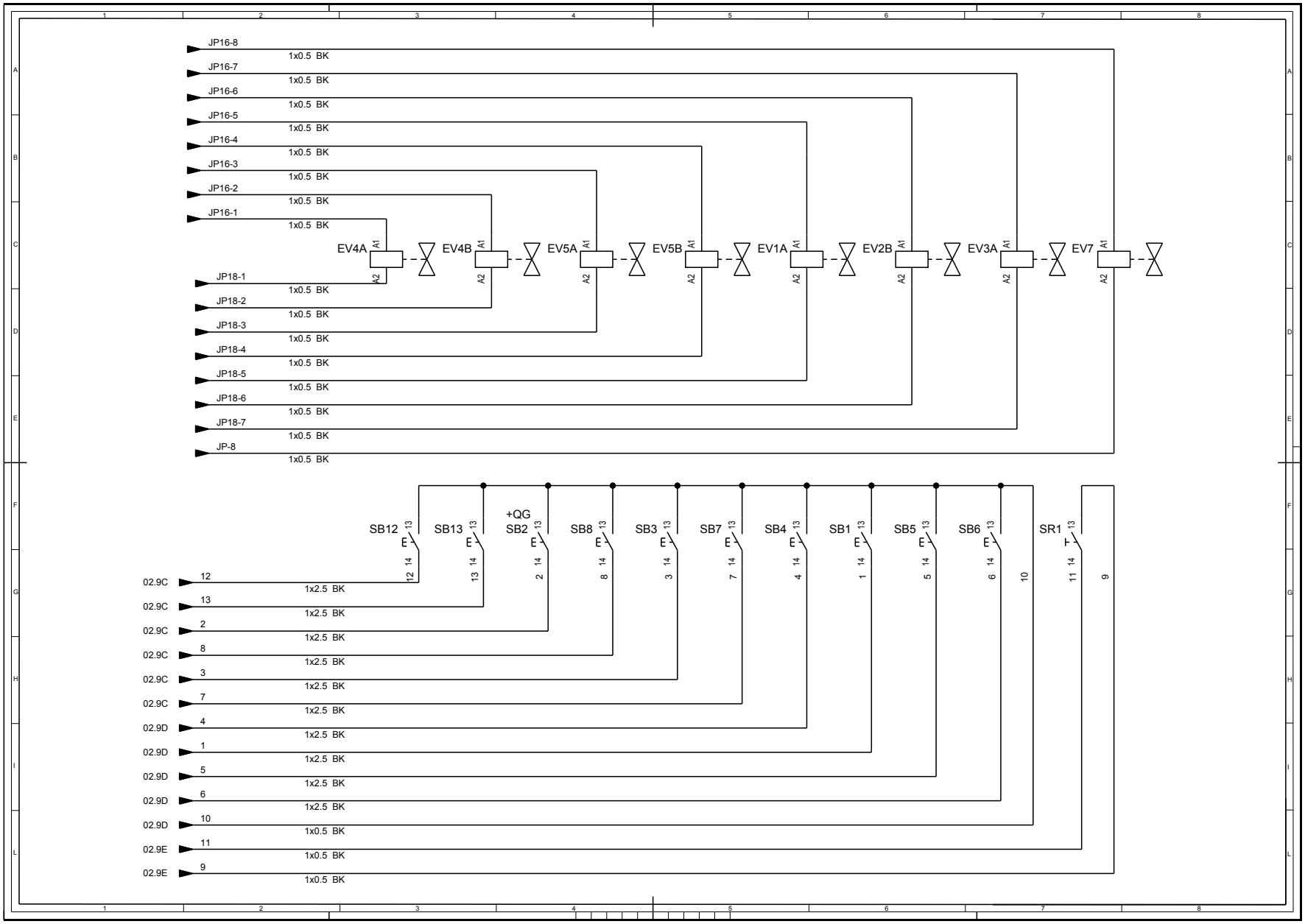
WARNING: Should the plate be accidentally damaged (removed from the equipment, damaged or even partially illegible) inform immediately the manufacturer.

19.0 FUNCTIONAL DIAGRAMS

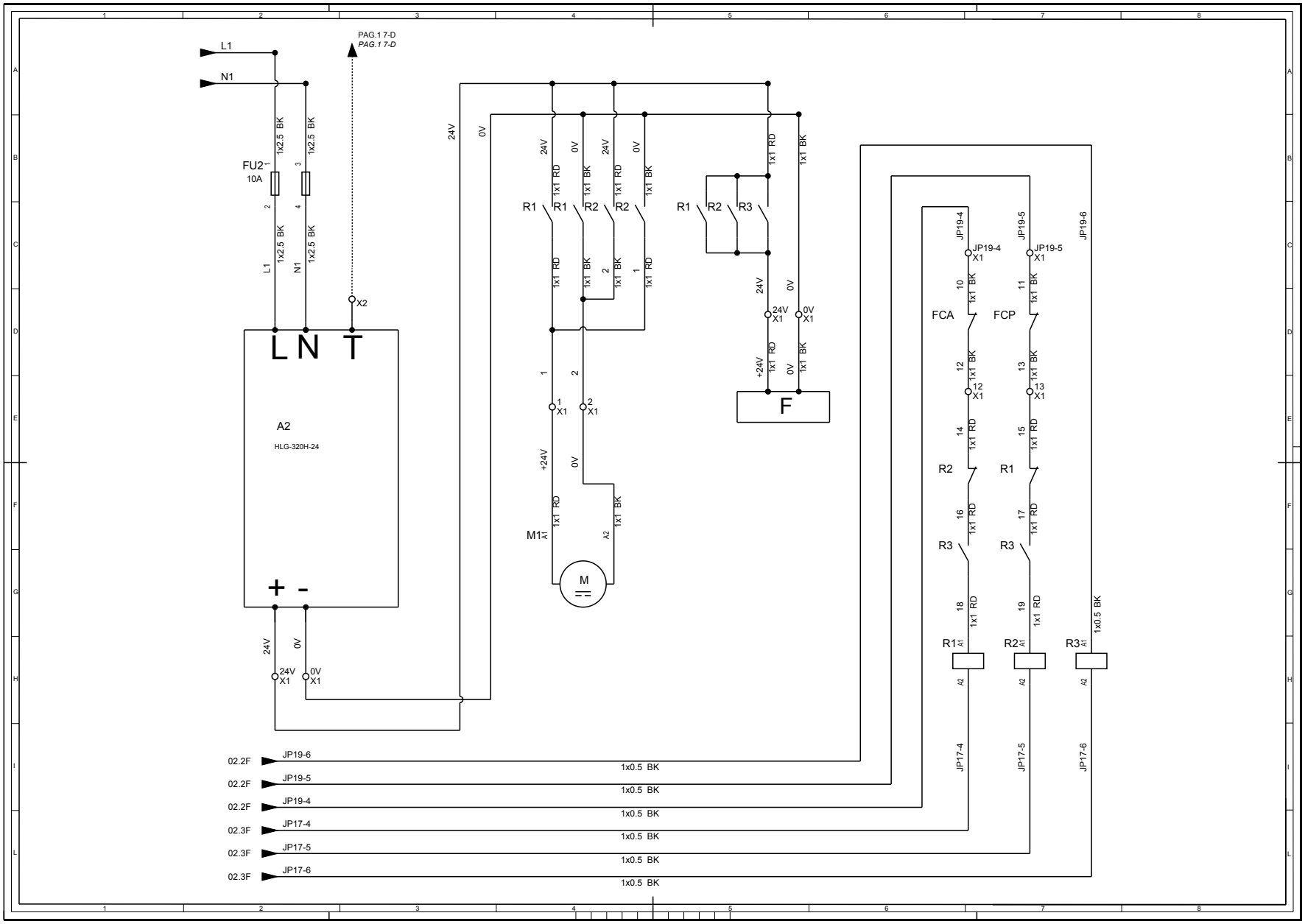
Here follows a list of the equipment functional diagrams.

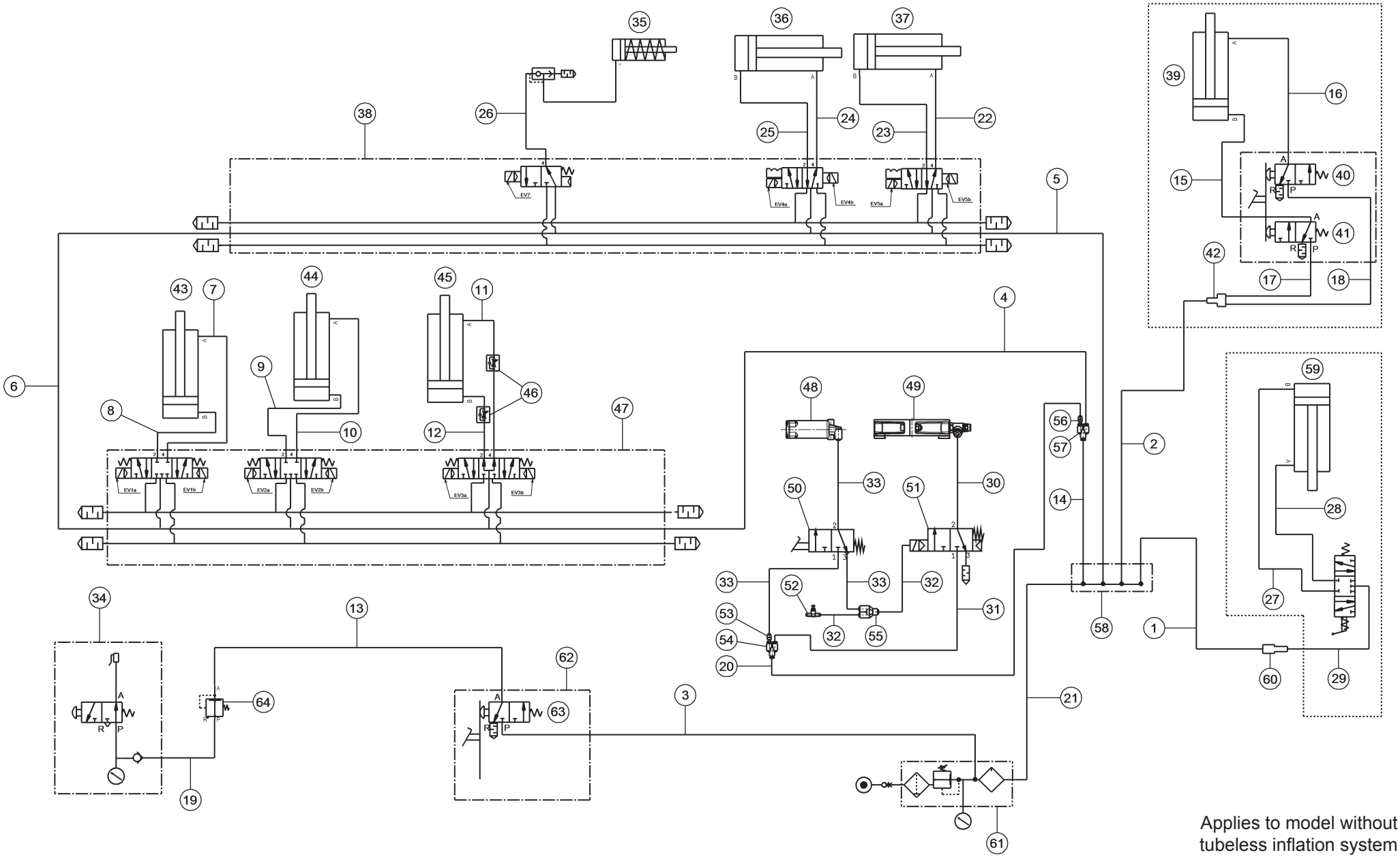

PE
L
N
Hz
V
220/240
FU
50/60
25 A
1
0
ALIM
FU
L1
1x2.5 BK
N1
1x2.5 BK
ALIMENTAZIONE ALIMENTATORE A2
HLG-320H-24 Vedi foglio 4, 1-A
POWER SUPPLY A2
HLG-320H-24 see sheet 4, 1-A
X0
1X2.5GNYE
X2 (PAG. 4-2D)
X2 (PAG. 4-2D)
PE
L 1x6 BK
N 1x6 BK
X1
IG
L2
1x2.5 BK
02.8A
N2
1x2.5 BK
02.8A
ALIMENTAZIONE ALIMENTATORE AL.
ALIM. SCHEDA AIKIDO.
Vedi foglio 2, 8-A
POWER SUPPLY
AIKIDO BOARD
See sheet 2, 8-A
1x2.5 BK
1x2.5 BK
FU1
16A
L2 X1
N2 X1
PE X1
1x2.5 GNYE
P1
CN3
L N PE
INVERTER
790090901
U V W PE
710565020
1
2
3
GN 1x2.5 GN
RD 1x2.5 RD
BU 1x2.5 BU
PE 1x2.5 GNYE
M
3~
RD = rosso/red
GN = verde/green
BU = blu/blue


AIKIDO
JP18
JP16
JP19
JP17
P1
JP1
JP7
SQ1
SQ2
SQ3
JP2
JP9
JP8
JP11
JP10
JP12
JP3
JP13
JP15
XL1
PS11
AL
ENC
ENCODER
EV1B
EV2A
EV3B
L2 1x2.5 BK
N2 1x2.5 BK
01.5C
BU 1x0.5 BU
BN 1x0.5 BN
BK 1x0.5 BK
JP9-5----JP8-5
JP6-6
JP6-8
JP17-8
JP17-7
JP17-6
JP17-5
JP17-4
JP19-4
JP19-5
JP19-6
JP19-7
JP19-8
06.0F
06.0G
03.0D
03.0E
03.0F



VSG VEHICLE SERVICE GROUP a DOVER company	**LIST OF COMPONENTS**		*WIRING DIAGRAM 3/4*	***Page 73 of 82***
	Drawing N°A - Rev. 1	**710905510**		**TYRE-CHANGER SERIES AIKIDO.EVO**

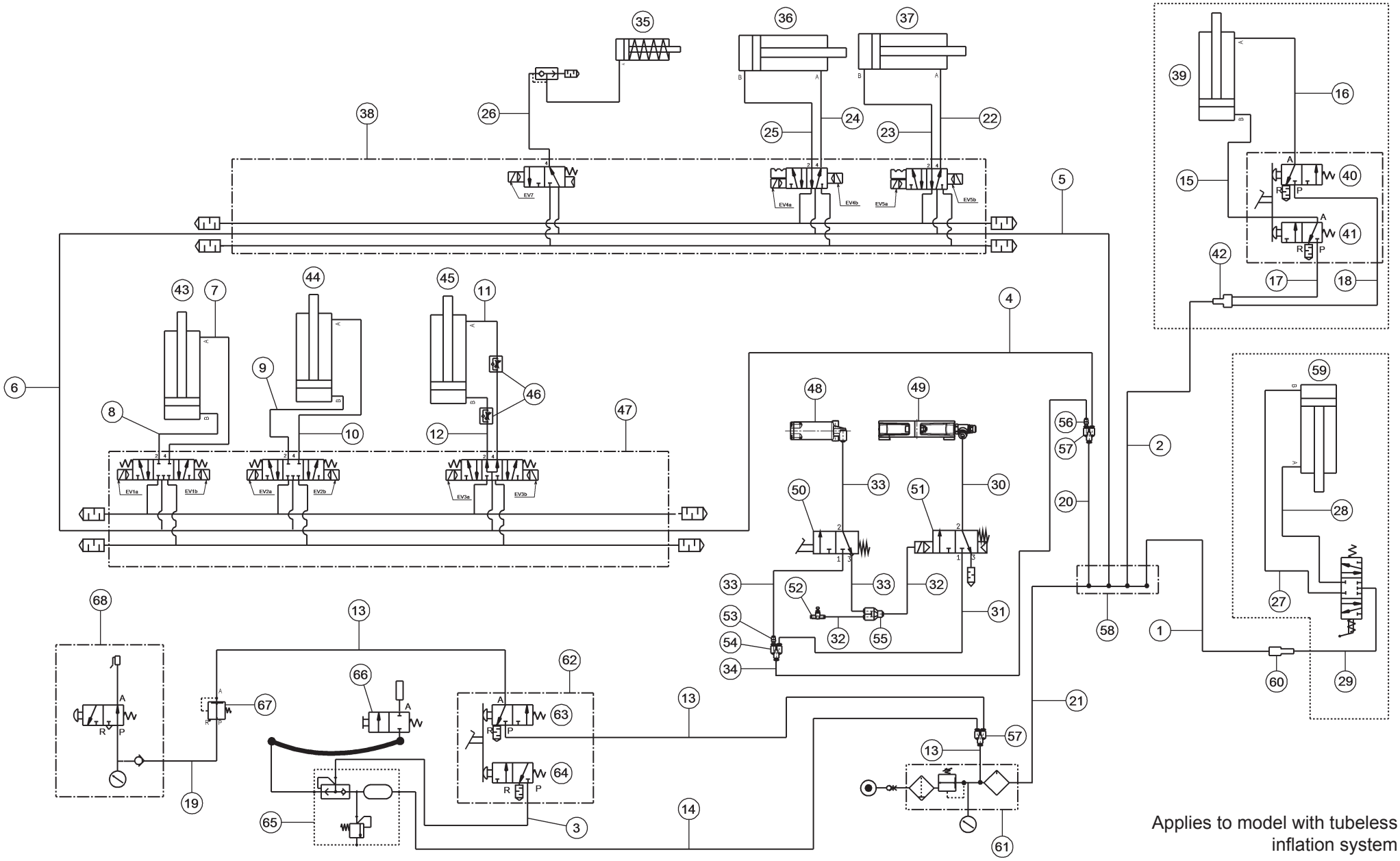

L1
N1
PAG.17-D
PAG.17-D
FU2
10A
1x2.5 BK
1x2.5 BK
1x2.5 BK
1x2.5 BK
X2
L N T
A2
HLG-320H-24
+ -
24V
0V
24V
X1
0V
X1
R1
R2
R3
1x1 RD
1x1 BK
1
2
X1
+24V
M1
M
F
JP19-4
JP19-5
JP19-6
FCA
FCP
10
11
12
13
14
15
16
17
18
19
1x1 BK
1x1 RD
R1
R2
R3
1x0.5 BK
JP17-4
JP17-5
JP17-6
02.2F
02.3F
1x0.5 BK



Applies to model without tubeless inflation system

No.	Cod.	Description
1	317007	*8x6 black rilsan hose L=1900*
2	317007	*8x6 black rilsan hose L=1100*
3	317009	*8x6 blue rilsan hose L=1000*
4	317007	*8x6 black rilsan hose L=550*
5	317007	*8x6 black rilsan hose L=700*
6	317007	*8x6 black rilsan hose L=300*
7	317007	*8x6 black rilsan hose L=1300*
8	317007	*8x6 black rilsan hose L=1200*
9	317007	*8x6 black rilsan hose L=850*
10	317007	*8x6 black rilsan hose L=650*
11	317033	*8x6 superflex rilsan hose L=1650*
12	317033	*8x6 superflex rilsan hose L=850*
13	317009	*8x6 blue rilsan hose L=500*
14	317007	*8x6 black rilsan hose L=70*
15	317009	*8x6 blue rilsan hose L=1550*
16	317007	*8x6 black rilsan hose L=1700*
17	317038	*Elastollan hose 8x5.5 black L=300*
18	317038	*Elastollan hose 8x5.5 black L=260*
19	317008	*8x6 red rilsan hose L=2500*
20	317006	*6x4 black rilsan hose L=1600*
21	317010	*10x8 black rilsan hose L=600*
22	317006	*6x4 black rilsan hose L=1600*
23	317006	*6x4 black rilsan hose L=1400*
24	317006	*6x4 black rilsan hose L=2100*
25	317006	*6x4 black rilsan hose L=1900*
26	317026	*4x2.7 black rilsan hose L=2000*
27	317006	*6x4 black rilsan hose L=350*
28	317006	*6x4 black rilsan hose L=350*
29	317006	*6x4 black rilsan hose L=2700*
30	317006	*6x4 black rilsan hose L=4000*
31	317006	*6x4 black rilsan hose L=50*
32	317035	*Black Elastolan hose 4x2.5 L=50*
33	317035	*Black Elastolan hose 4x2.5 L=200*
34		*Inflation assembly with pressure gauge*
35		*Vertical lock cylinder for tool*
36	710990030	*Cam cylinder D.90*
37	710990030	*Cam cylinder D.90*
38	710190450	*Main pneumatic power unit*
	710190451	*Main pneumatic power unit*
39	710490891	*Pneumatic cylinder D.70*

No.	Cod.	Description
40		*N.O. black*
41		*N.C. white*
42	325181	*Y8-fitting*
43	710890250	*D.125 pneumatic cylinder assembly*
44	710880720	*Lower bead breaker arm cylinder*
45	710990640	*Pneumatic cylinder D.100*
46	399284	*Flow regulator*
47	710090661	*Bead breaker pneumatic power unit*
	710010662	*Bead breaker pneumatic power unit*
48	710292330	*Tank assembly*
49	710491550	*Pneumatic manifold*
50	710591960	*Valve assembly*
51	710591950	*Pneumatic bolt valve assembly*
52	399286	*Flow regulator*
53	B0171000	*6-4 Fixed reduction fitting*
54	325191	*Pneumatic fitting Y-6*
55	B5815000	*V D.4 fitting*
56	325054	*8-6 reduction*
57	325181	*Y8-fitting*
58		*5-ways air distribution frame*
59	790090660	*Pneumatic cylinder D.70*
60	325185	*Reduction*
61		*Lubricator regulation filter assembly*
62		*Inflation pedal valve*
63		*N.O. black*
64		*Balancing valve*



Applies to model with tubeless inflation system

VSG VEHICLE SERVICE GROUP a DOVER company	LIST OF COMPONENTS		PNEUMATIC DIAGRAM	*Page 78 of 82*
	Drawing N°C - Rev. 1	710905030		TYRE-CHANGER SERIES AIKIDO.EVO

No.	Cod.	Description
1	317007	*8x6 black rilsan hose L=1900*
2	317007	*8x6 black rilsan hose L=1100*
3	317007	*8x6 black rilsan hose L=1100*
4	317007	*8x6 black rilsan hose L=550*
5	317007	*8x6 black rilsan hose L=700*
6	317007	*8x6 black rilsan hose L=300*
7	317007	*8x6 black rilsan hose L=1300*
8	317007	*8x6 black rilsan hose L=1200*
9	317007	*8x6 black rilsan hose L=850*
10	317007	*8x6 black rilsan hose L=650*
11	317033	*8x6 superflex rilsan hose L=1650*
12	317033	*8x6 superflex rilsan hose L=850*
13	317009	*8x6 blue rilsan hose L=500*
14	317009	*8x6 blue rilsan hose L=800*
15	317009	*8x6 blue rilsan hose L=1550*
16	317007	*8x6 black rilsan hose L=1700*
17	317038	*Elastollan hose 8x5.5 black L=300*
18	317038	*Elastollan hose 8x5.5 black L=260*
19	317008	*8x6 red rilsan hose L=2500*
20	317007	*8x6 black rilsan hose L=70*
21	317010	*10x8 black rilsan hose L=600*
22	317006	*6x4 black rilsan hose L=1600*
23	317006	*6x4 black rilsan hose L=1400*
24	317006	*6x4 black rilsan hose L=2100*
25	317006	*6x4 black rilsan hose L=1900*
26	317026	*4x2.7 black rilsan hose L=2000*
27	317006	*6x4 black rilsan hose L=350*
28	317006	*6x4 black rilsan hose L=350*
29	317006	*6x4 black rilsan hose L=2700*
30	317006	*6x4 black rilsan hose L=4000*
31	317006	*6x4 black rilsan hose L=50*
32	317035	*Black Elastolan hose 4x2.5 L=50*
33	317035	*Black Elastolan hose 4x2.5 L=200*
34	317006	*6x4 black rilsan hose L=1600*
35		*Vertical lock cylinder for tool*
36	710990030	*Cam cylinder D.90*
37	710990030	*Cam cylinder D.90*
38	710190450	*Main pneumatic power unit*
	710190451	*Main pneumatic power unit*
39	710490891	*Pneumatic cylinder D.70*

No.	Cod.	Description
40		*N.O. black*
41		*N.C. white*
42	325181	*Y8-fitting*
43	710890250	*D.125 pneumatic cylinder assembly*
44	710880720	*Lower bead breaker arm cylinder*
45	710990640	*Pneumatic cylinder D.100*
46	399284	*Flow regulator*
47	710090661	*Bead breaker pneumatic power unit*
	710010662	*Bead breaker pneumatic power unit*
48	710292330	*Tank assembly*
49	710491550	*Pneumatic manifold*
50	710591960	*Valve assembly*
51	710591950	*Pneumatic bolt valve assembly*
52	399286	*Flow regulator*
53	B0171000	*6-4 Fixed reduction fitting*
54	325191	*Pneumatic fitting Y-6*
55	B5815000	*V D.4 fitting*
56	325054	*8-6 reduction*
57	325181	*Y8-fitting*
58		*5-ways air distribution frame*
59	790090660	*Pneumatic cylinder D.70*
60	325185	*Reduction*
61		*Lubricator regulation filter assembly*
62		*Inflation pedal valve*
63		*N.O. black*
64		*N.C. white*
65		*Tank assembly*
66		*Inflation nozzle.*
67		*Balancing valve*
68		*Inflation assembly with pressure gauge*

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

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

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

2006/42/CE	**Machinery Directive**
2014/30/EU	**Electromagnetic Compatibility Directive**

5. where appropriate, the name, address and identification number of the notified body which carried out the EC type-examination referred to in annex IX and the number of the EC type-examination certificate;
   N/A
6. where appropriate, the name, address and identification number of the notified body which approved the full quality assurance system referred to in annex X;
   N/A
7. where appropriate, reference to the harmonised standards referred to in article 7, paragraph 2, which have been applied;

UNI EN ISO 12100:2010	**Safety of machinery - General principles for design - Risk assessment and risk reduction;**
CEI EN 60204-1:2018	**Safety of machinery - Electrical equipment of machines - Part 1: General requirements**

8. where appropriate, reference to other standards and technical specifications applied;

UNI EN 17347:2001	**Road vehicles – Machines for mounting and demounting vehicle tyres – Safety requirements**

9. place and date of declaration;
   Ostellato, / /
10. identification and signature of the person authorised to draw up the declaration on behalf of the manufacturer or its authorised representative.
    SIMONE FERRARI VP VSG Europe Managing Director

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

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

1. the business name and full address of the manufacturer and, where applicable, its authorised representative;
   Manufacturer: see the first page of the manual.
   Authorised representative:
   VEHICLE SERVICE GROUP UK LTD
   3 Fourth Avenue - Bluebridge Industrial Estate - Halstead
   Essex C09 2SY - United Kingdom
2. name and address of the person authorised to compile the technical file;
   It coincides with the authorized representative, see point 1
3. description and identification of the machine, including generic name, function, model, type, serial number, trade name;
   See the first page of the manual
4. a sentence expressly declaring that the machinery fulfils all the relevant provisions of these Regulations and where appropriate, a similar sentence declaring the conformity with other enactments or relevant provisions with which the machinery complies;
   The machinery complies with the following applicable UK Statutory Instruments:
   The Supply of Machinery (Safety) Regulations 2008
   The Electrical Equipment (Safety) Regulations 2016
   The Electromagnetic Compatibility Regulations 2016
5. where appropriate, the name, address and identification number of the approved body which approved the full quality assurance system referred to in Annex X (Part 10 of this Schedule);
   N/A
6. where appropriate, the name, address and identification number of the approved body which approved the full quality assurance system referred to in Annex X (Part 10 of this Schedule);
   N/A
7. where appropriate, a reference to the designated standards used;

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

8. where appropriate, reference to other standards and technical specifications applied;
   N/A
9. place and date of declaration;
   Ostellato, / /
10. identification and signature of the person authorised to draw up the declaration on behalf of the manufacturer or its authorised representative.
    SIMONE FERRARI VP VSG Europe Managing Director