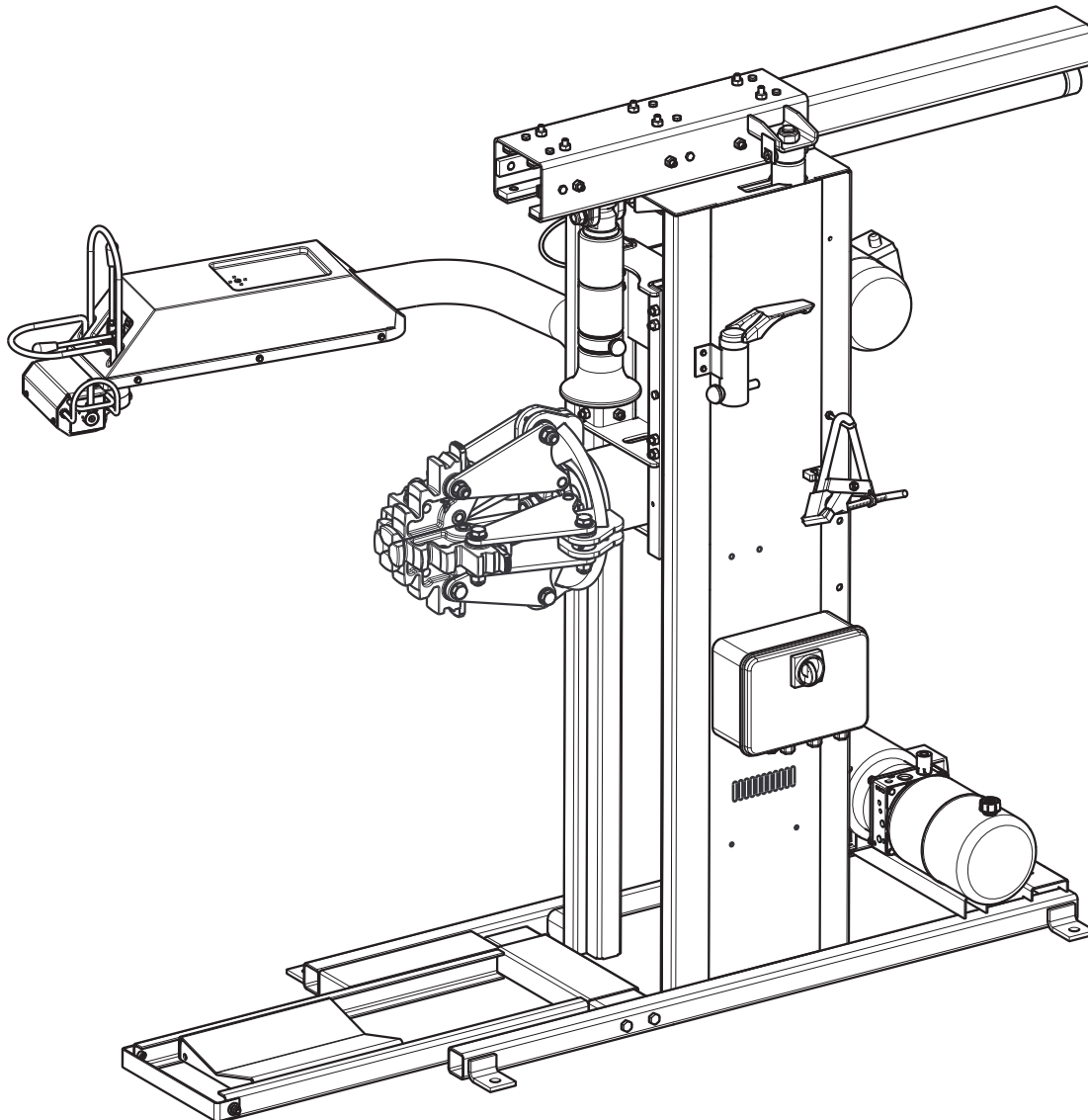




## RWC26HW (R560) Series Tire Changer



OPERATION & MAINTENANCE MANUAL

**IMPORTANT** Any damage caused by failure to follow the instructions in this manual or improper machine use shall relieve the manufacturer of all liability.

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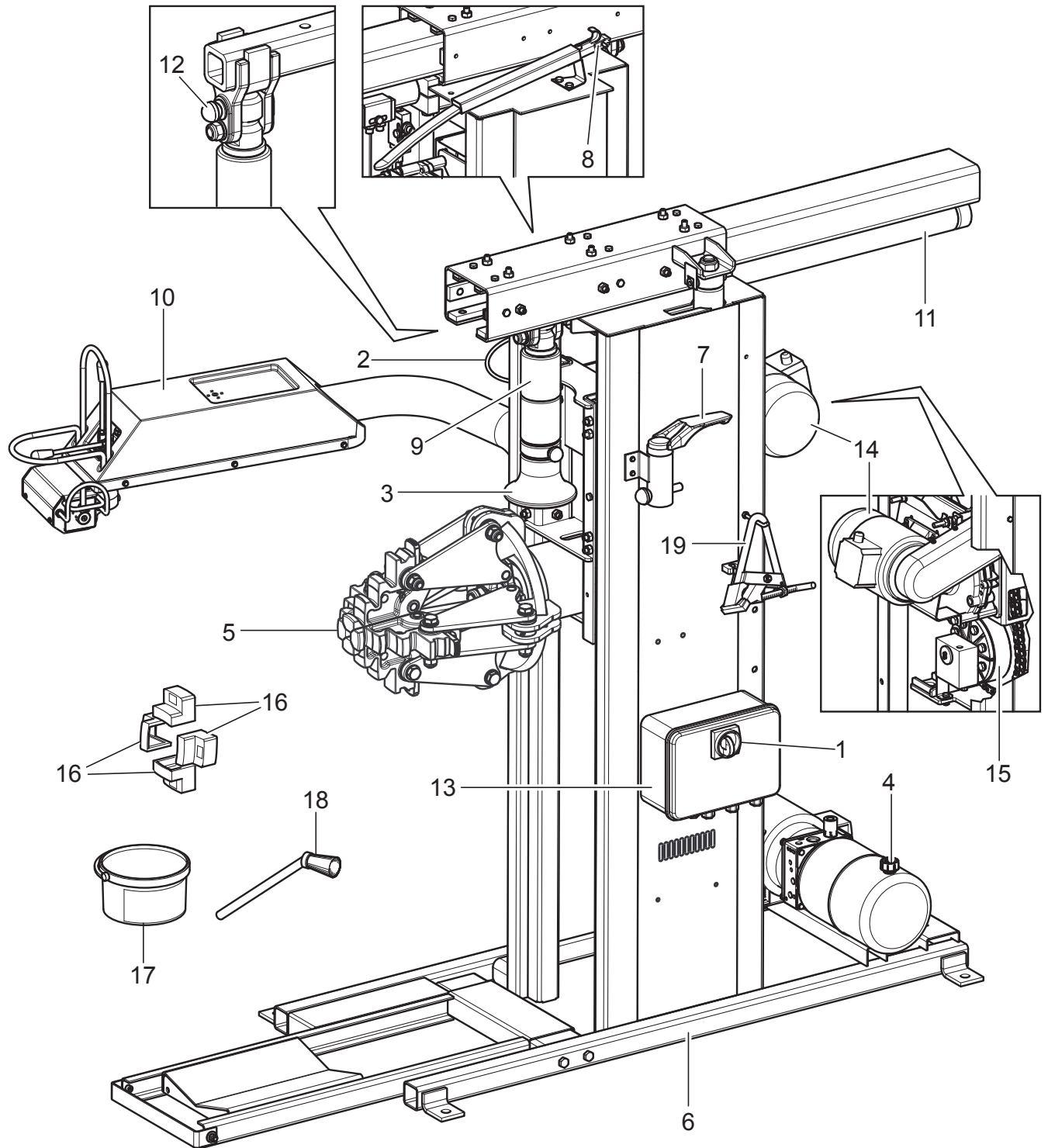
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| FEATURE               | Model | RWC26HWB | RWC26HWSB |
|-----------------------|-------|----------|-----------|
| 3 Ph electric cabinet |       | ●        |           |
| 1 Ph electric cabinet |       |          | ●         |

● = standard

**GENERAL DESCRIPTION**














FIG. 1



**KEY**

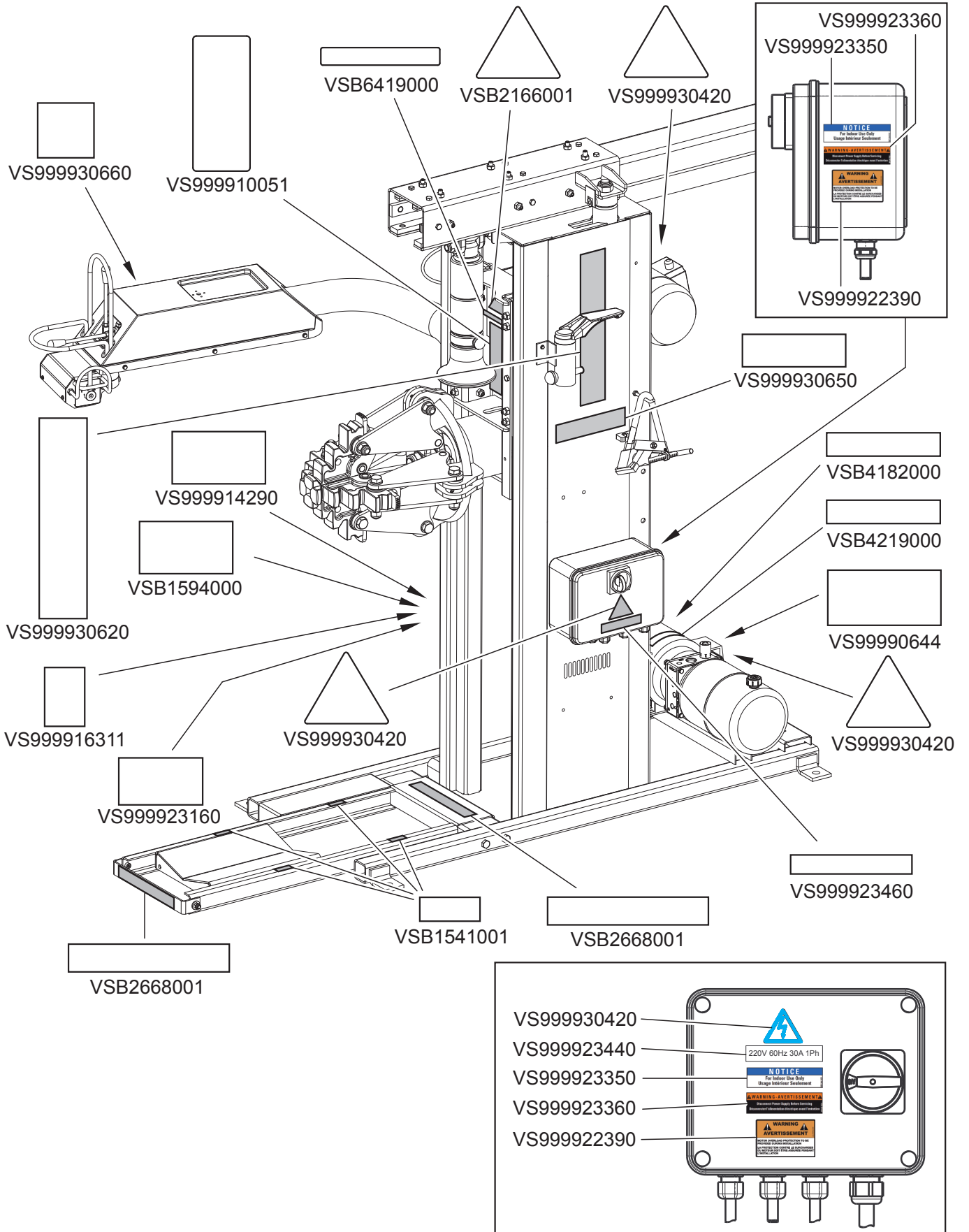
- |                                    |   |
|------------------------------------|---|
| 1 - Main switch                    | 11 - Bead breaker tool/roller movement cylinder |
| 2 - Grease-holder ring             | 12 - Tool holder arm locking pin                |
| 3 - Bead breaker Roller            | 13 - Electric cabinet                           |
| 4 - Oil-pressure power unit        | 14 - Chuck rotation motor                       |
| 5 - Self-centering chuck           | 15 - Chuck opening/closing cylinder             |
| 6 - Chassis                        | 16 - Standard clamp protections for alloy rims  |
| 7 - Tool                           | 17 - Mounting grease                            |
| 8 - Bead lever                     | 18 - Brush                                      |
| 9 - Bead breaker roller holder arm | 19 - Clamp for alloy rims (optional)            |
| 10 - Control unit                  |   |

## SYMBOLS USED IN THE MANUAL

| Symbols   | Description   |
|---|---|
|    | Read instruction manual.  |
|    | Wear work gloves.   |
|    | Wear work shoes.  |
|    | Wear safety goggles.  |
|    | Mandatory. Operations or jobs to be performed compulsorily.     |
|    | Danger! Be particularly careful.                                |
|   | Warning. Be particularly careful (possible material damages).   |
|  | Move with fork lift truck or pallet truck.                      |
|  | Lift from above.  |
|  | Note. Indication and/or useful information.                     |
|  | Technical assistance necessary. Do not perform any maintenance. |
|  | Risk of hands crushing.   |
|  | Danger: tires could drop.                                       |

# NAMEPLATES LOCATION DRAWING

FIG. 2



**Code numbers of nameplates**

|             |   |
|-------------|---|
| VSB1541001  | Danger nameplate  |
| VSB1594000  | Date indicating nameplate   |
| VSB2166001  | Bead breaker danger nameplate   |
| VSB2668001  | Wheel lifting device danger nameplate   |
| VSB4182000  | Electric motor specifications nameplate   |
| VSB4219000  | Rotation indicating nameplate   |
| VSB6419000  | Rotation nameplate  |
| VS99990644  | Chuck rotation index nameplate  |
| VS999910051 | Protection device use nameplate   |
| VS999914290 | Serial number nameplate   |
| VS999916311 | Rubbish skip nameplate  |
| VS999922390 | Overload protection nameplate   |
| VS999923160 | Prop 65 Attention nameplate   |
| VS999923350 | For indoor use only nameplate   |
| VS999923360 | Disconnect power supply nameplate   |
| VS999923440 | 220 V - 1 Ph - 60 Hz - 30 A voltage nameplate (applies to model with 1 Ph electric cabinet) |
| VS999923460 | 220 V - 3 Ph - 60 Hz - 15 A voltage nameplate (applies to model with 3 Ph electric cabinet) |
| VS999930420 | Electricity danger nameplate  |
| VS999930620 | Rotary logo nameplate   |
| VS999930650 | Equipment nameplate   |
| VS999930660 | QR code nameplate   |



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



SOME OF THE PICTURES AND/OR DISPLAY SCREEN PAGES PRESENT IN THIS MANUAL HAVE BEEN OBTAINED FROM PICTURES OF PROTOTYPES, THEREFORE THE STANDARD PRODUCTION EQUIPMENTS 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. 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 TECHNICIANS TO CONSULT IT WHENEVER IN DOUBT.



THE MANUFACTURER CAN NOT BE HELD RESPONSIBLE FOR ANY DAMAGE TO THE SHOP, EQUIPMENT OR CUSTOMER WHEEL/TIRE 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 the R560 tire changer! The R560 is designed and built for professional garages. The tire changer is easy to use with safety in mind. Following the care and maintenance outlined in this tire changer manual your tire changer will provide years of service.

## 2.0 INTENDED USE

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

- an electric motor coupled to a gearbox to handle the tire rotation, and
- a hydraulic pump system to handle clamping and movement of hydraulic cylinders to more mounting/dismounting tools.

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

The equipment is NOT intended to be used for tire inflation.



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



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

### 2.1 *Training of personnel*

The equipment to 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 equipment 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.

This equipment is equipped with:

- hold-to-run controls (immediate stop of operation when the control is released);
  - control logic disposition.
- To prevent the operator from making dangerous mistakes;



NO MODIFICATION OR CALIBRATION OF THE OPERATING PRESSURE OF THE MAXIMUM PRESSURE VALVE OR OF THE HYDRAULIC CIRCUIT PRESSURE LIMITER IS PERMITTED.

- controlled check valves on:
  - opening of chuck jaws,
  - chuck lifting,
  - tool roller movement.

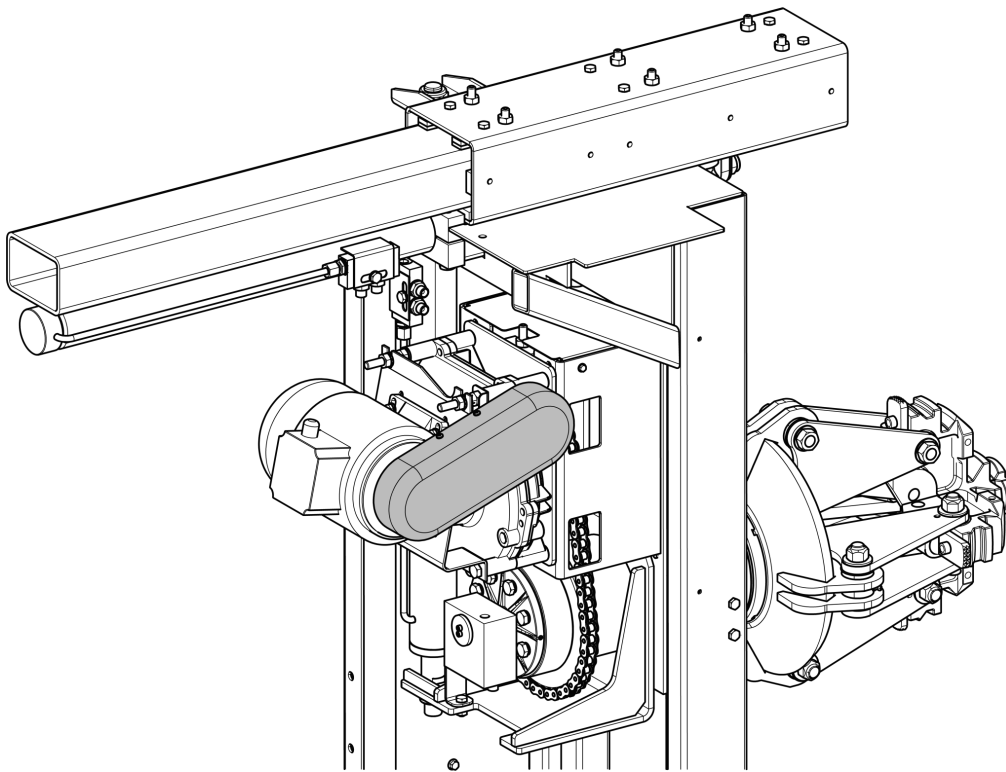
These valves will stop unintended movement of the jaws and of wheel clamping self-centering unit.

- Fuses on the electric supply line of the chuck motor;
- fixed protections and guards.

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

These protections can be located in Fig. 3.

Fig. 3



#### 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.

This manual stresses possible residual risks, also highlighted in pictograms on the present manual and adhesive warning signals placed on the equipment: their location is represented in "TAVOLA PLATES 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 in case 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 equipment 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 OSHA 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 equipment operating manoeuvres. Immediately stop the equipment if it malfunctions and contact the customer service of the authorized dealer.
- In emergency conditions and before any maintenance or repair work, 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 ground wire, to which the yellow-green equipment protection wire must be connected.
- Ensure that the area around the equipment is free of potentially dangerous objects and that the area is oil free since this could damage the tire. Oil on the floor is also a slipping hazard 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. 6. 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.
- When operating and servicing this equipment, carefully follow all applicable safety and accident-prevention precautions. The equipment must not be operated by untrained personnel.



THE EQUIPMENT OPERATES WITH PRESSURIZED HYDRAULIC FLUID. MAKE SURE ALL FITTINGS AND HOSES ARE LEAK FREE AND IN GOOD CONDITION. ANY PRESSURIZED LEAKS MAY CAUSE SERIOUS INJURIES.



ALWAYS KEEP THE HYDRAULIC CONTROLS IN THE NEUTRAL POSITION.

## 5.0 PACKING AND MOBILIZATION FOR TRANSPORT

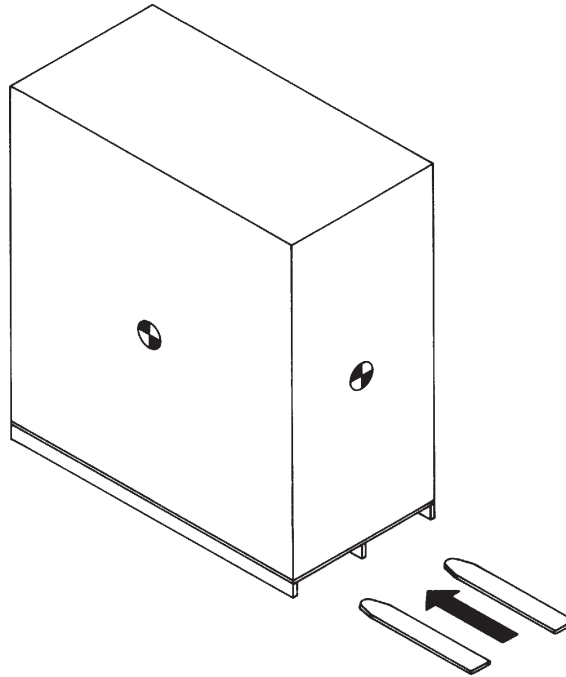


HAVE THE EQUIPMENT HANDLED BY SKILLED PERSONNEL ONLY.  
THE LIFTING EQUIPMENT MUST WITHSTAND A MINIMUM RATED LOAD EQUAL TO THE WEIGHT OF THE PACKED EQUIPMENT (SEE PARAGRAPH "TECHNICAL SPECIFICATIONS").

The equipment is packed completely assembled.

The displacement must be performed through adequate lifting device (fork lift truck). Lift the packaging as indicated in Fig. 4 (forks introduced in the middle to ensure a correct loads distribution).

Fig. 4



## 6.0 UNPACKING



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

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

It is also possible to unnailed the cardboard box from the pallet it is fixed to. After removing the packing, and in the case of the equipment packed fully assembled, check that the equipment 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

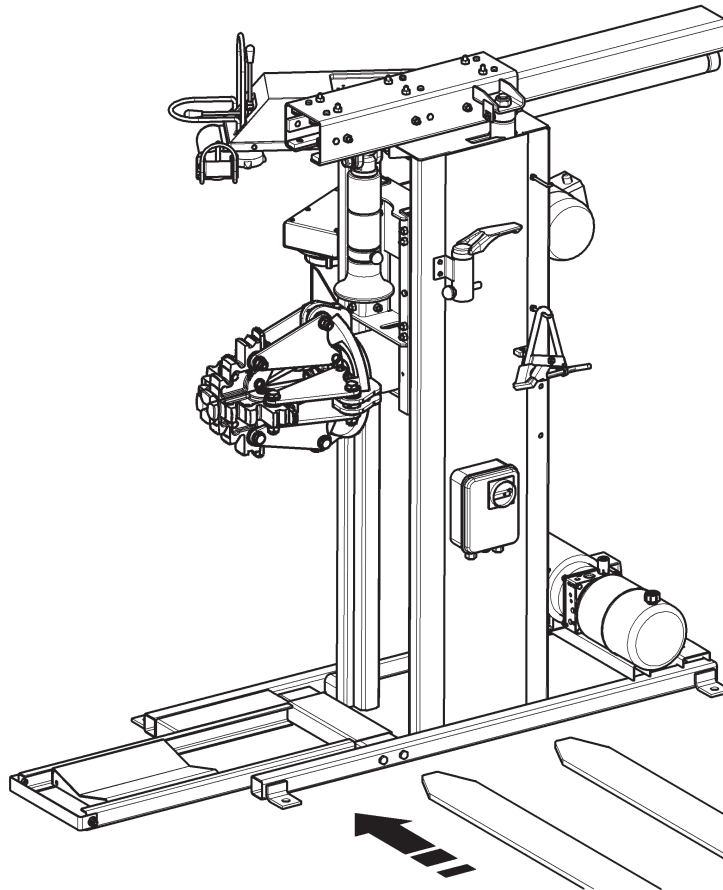


THE LIFTING EQUIPMENT MUST WITHSTAND A MINIMUM RATED LOAD EQUAL TO THE WEIGHT OF THE EQUIPMENT (SEE PARAGRAPH TECHNICAL SPECIFICATIONS). DO NOT ALLOW THE LIFTED EQUIPMENT TO SWING.

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

- protect the exposed corners with suitable material (Pluribol/cardboard);
- do not use metallic cables for lifting;
- make sure that the power supply of the equipment is not connected;
- lift and transport with suitable device as indicated in Fig. 5 (forks introduced in the middle to ensure a correct loads distribution).

Fig. 5



## 8.0 WORKING ENVIRONMENT CONDITIONS

The equipment must be operated under proper conditions as follows:

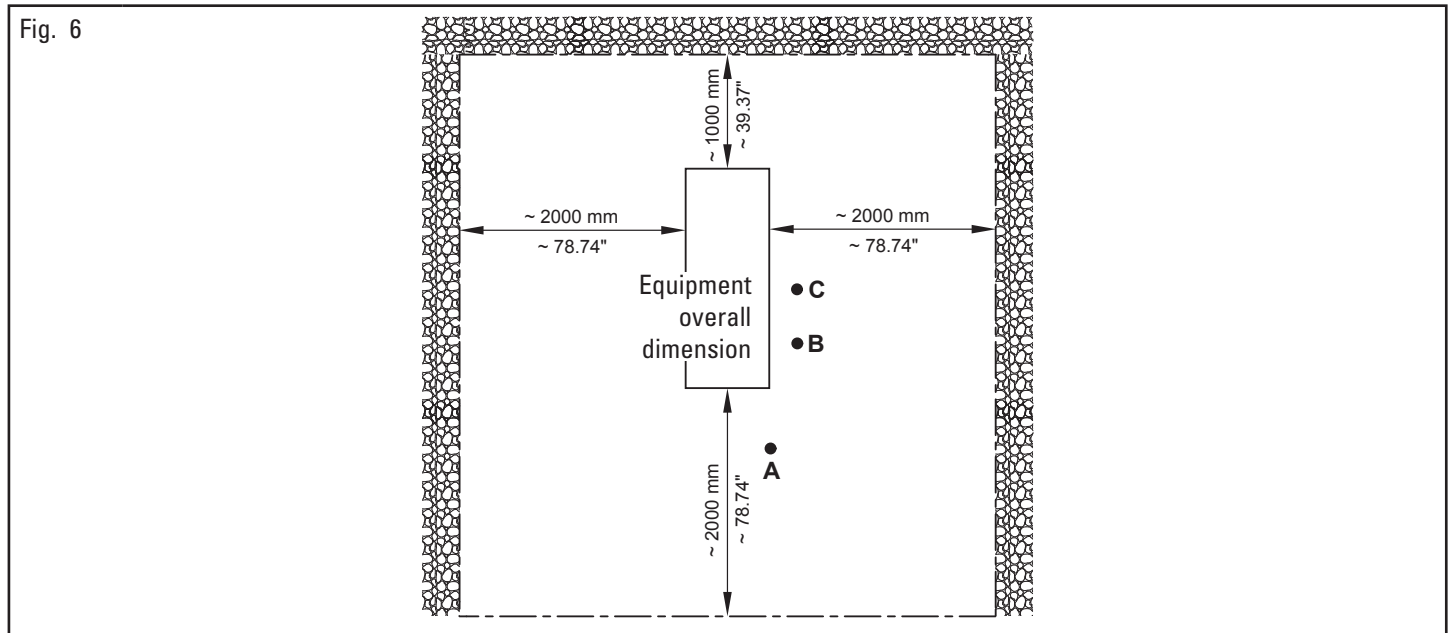
- temperature: +5 °C - +40 °C (+41 °F - +104 °F);
- relative humidity: 30 - 95% (dew-free);
- atmospheric pressure: 860 - 1060 hPa (mbar) (12.5 - 15.4 psi).

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 Working position

In Fig. 6 it's possible to define working positions A, B, C which will be referred to in the description of equipment operative phases. Positions A and B must be considered as main positions for tire mounting and demounting and for wheel clamping on the chuck, while positions A and C are the best positions to follow tire bead breaking and demounting 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



USE THE EQUIPMENT IN A DRY AND ADEQUATELY LIT PLACE, PROTECTED FROM ALL WEATHER CONDITIONS, THIS PLACE MUST BE IN COMPLIANCE WITH APPLICABLE SAFETY REGULATIONS.

The use of the equipment requires a usable space as indicated in Fig. 6. The use of the equipment must respect the shown distances. 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 preferably used on an horizontal floor. Avoid yielding or irregular surfaces.

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

The depth of the solid floor must be sufficient to guarantee that the support feet rest safely.

### 8.3 Lighting

The equipment must be located in an adequately lit environment.

## 9.0 EQUIPMENT ASSEMBLY



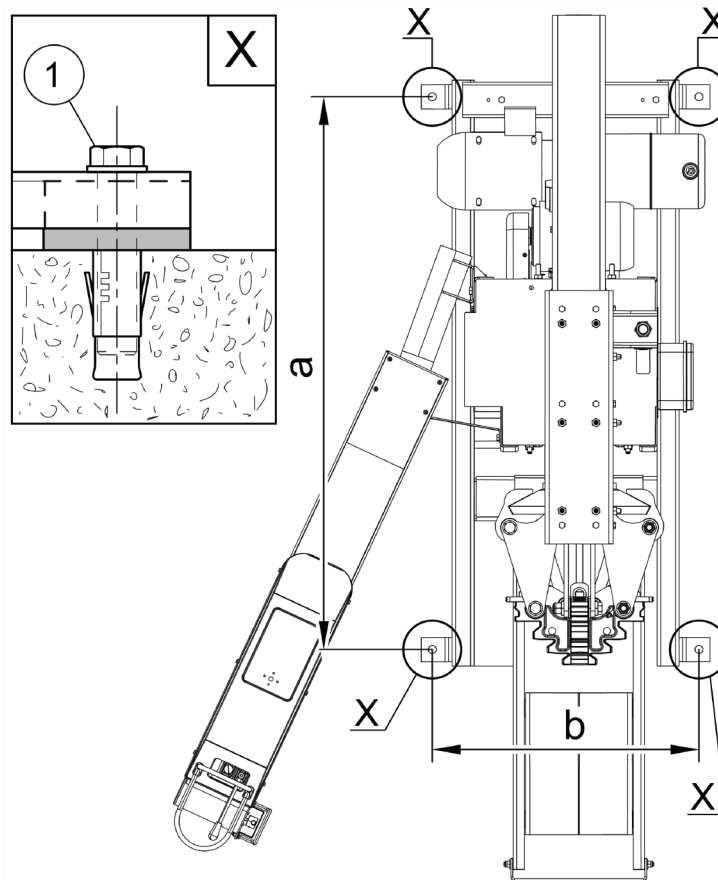
ALL EQUIPMENT ASSEMBLY OR ADJUSTMENTS MUST BE CARRIED OUT BY PROFESSIONALLY QUALIFIED STAFF.

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 chassis and indicated in the figure below. Such holes can be used also 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. 7.

Fig. 7



a = 1255 mm / 49.41"  
b = 600 mm / 23.62"

- To secure the equipment to the floor, use anchoring bolts/studs (Fig. 7 ref. 1) with a threaded shank M8 (UNC 5/16) suitable for the floor on which the tire changer will be secured and in a number equal to the number of mounting holes on the bottom chassis;
- drill holes in the floor, suitable for inserting the chosen anchors, in correspondence with the holes on the bottom chassis;
- insert the anchors into the holes drilled in the floor through the holes on the bottom chassis and tighten the anchors;
- tighten the anchors on the base chassis and torque as indicated by the manufacturer of the anchors.

## 9.2 Electrical connections



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



BEFORE CONNECTING THE EQUIPMENT MAKE SURE THAT:

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

The equipment is supplied with a cable. A plug corresponding to the following requirements must be connected to the cable:  
On delivery, the equipment is pre-set to operate at a 3 Ph voltage of 220 V.



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



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.

| Type         | Voltage   | Amperage | Poles            | Minimum IP rating |
|--------------|-----------|----------|------------------|-------------------|
| 3 Ph version | 220/400 V | 15 A     | 3 Poles + Ground | IP 44             |
| 1 Ph version | 220 V     | 30 A     | 2 Poles + Ground |                   |

## 9.3 Oil check on oil-pressure power unit



THE OIL-PRESSURE POWER UNIT IS DELIVERED WITHOUT HYDRAULIC OIL, THEREFORE MAKE SURE THE TANK PROVIDED IS FILLED WITH APPROX. 0.8 GALLONS (3 LITERS), BEING CAREFUL NOT TO SPILL IT OUTSIDE THE TANK. USE HYDRAULIC OIL WITH A VISCOSITY DEGREE APPROPRIATE TO THE AVERAGE TEMPERATURES IN THE INSTALLATION COUNTRY AND IN PARTICULAR:

- VISCOSITY 32 (FOR COUNTRIES WITH ROOM TEMPERATURE FROM 0 °C - +30 °C (+32 °F - +86 °F));
- VISCOSITY 46 (FOR COUNTRIES WITH ROOM TEMPERATURE ABOVE +30 °C (+86 °F)).

#### 9.4 ***Check of motor rotation direction***

Once the last electrical connection has been completed, power the equipment with the main switch. Make sure the motor of the hydraulic unit rotates in the direction indicated by the arrow (Fig. 8 ref. B) visible on the electric motor cap. If rotation should occur in the opposite direction, the equipment must be immediately stopped and phase inversion must be executed inside the plug connection in order to reset the correct rotation direction.



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

#### 9.5 ***Electrical checks***



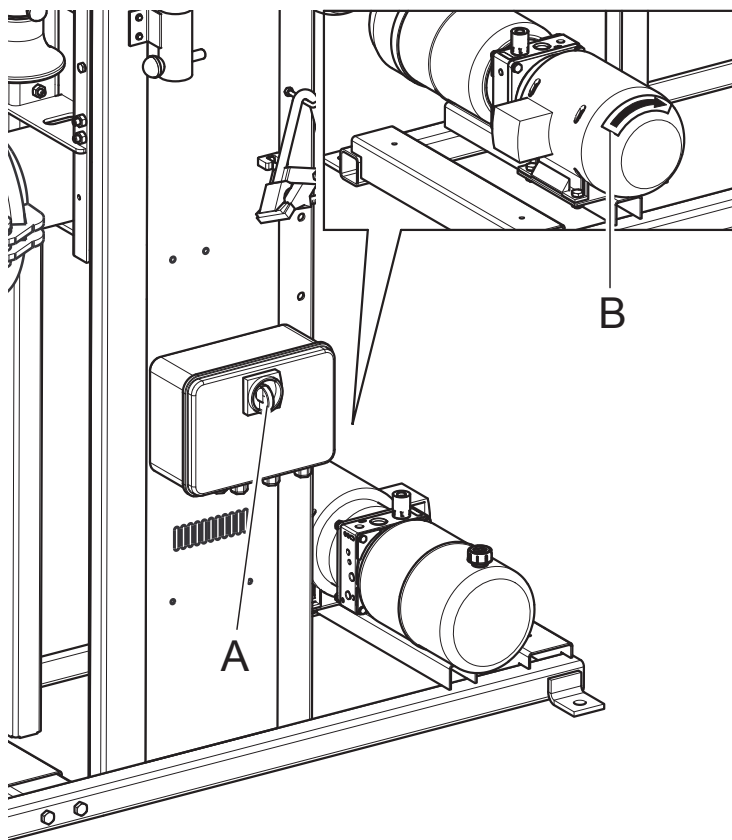
BEFORE STARTING UP THE TIRE-CHANGER, BE SURE TO BECOME FAMILIAR WITH THE LOCATION AND OPERATION OF ALL CONTROLS AND CHECK THEIR PROPER OPERATION (SEE PAR. "CONTROLS").



CARRY OUT A DAILY CHECK OF MAINTAINED-TYPE CONTROLS FOR PROPER FUNCTIONING, BEFORE STARTING EQUIPMENT OPERATION.

Once the plug/socket connection has been made, turn on the equipment using the main switch (Fig. 8 ref. A).

Fig. 8



KEY  
A – Main switch  
B – Direction rotation of oil-pressure power unit motor



ONCE THE ASSEMBLY OPERATIONS HAVE BEEN COMPLETED, CHECK ALL EQUIPMENT FUNCTIONS.

## 10.0 CONTROLS

### 10.1 Control device

The control (handle control) can be moved according to the positioning necessities of the operator.

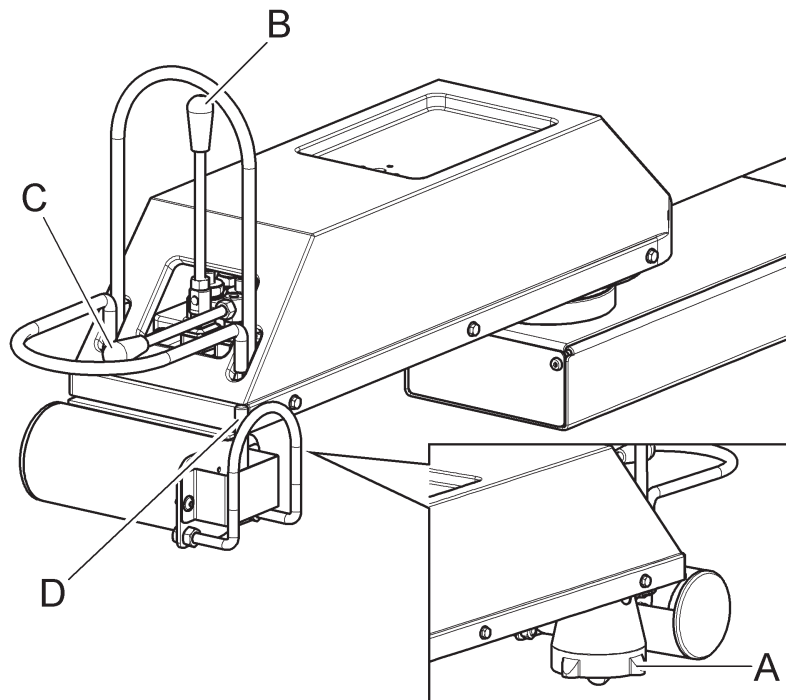


MAKE SURE THERE ARE NO PERSONS OR OBJECTS HIDDEN TO THE OPERATOR VISUAL FIELD BY THE WHEEL SIDE (ESPECIALLY IN CASE OF WHEELS WITH LARGE DIMENSIONS).

The control (Fig. 9) consists of:

- “A” lower selector (with protection) three-positions control for opening and closing of wheel holder chuck: a central “firm” position for stop of chuck opening/closing movement and two “hold activation” positions for chuck jaws opening/closing;
- “B” lever for tool holder tool/bead breaker roller movement control with three-positions: one central position “stable” to stop movement and two positions “with maintained control” for tool/bead breaking roll support movement towards the right or towards the left (from working position “C” Fig. 6);
- “C” lever three-positions control for vertical movement of chuck arm: central “firm” position for movement stop and two “hold activation” positions for arm up and down movement;
- “D” lever control chuck anticlockwise/clockwise rotation.

Fig. 9



## 11.0 USE OF THE EQUIPMENT

### 11.1 *Precaution measures during tire removal and fitting*



Before fitting a tire, observe the following safety rules:

- rim and tire must always be clean, dry and in good condition; if necessary, clean the rims and check that:
  - neither the bead nor the tread of the tire 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 tire beads, using specific tire lubricants only;
- replace the inner tube valve with a new valve, if the tire tube has a metal valve, replace the grommet;
- always make sure that tire and rim sizes are correct for their coupling; never fit a tire unless you are sure it is of the right size (the rated size of rim and tire is usually printed directly on them);
- do not use compressed air or water jets to clean the wheels on the equipment.

### 11.2 *Preliminary operations*

In view of the tire changer structure and of its intended use, the operator must work with large diameter and heavy wheels/tires. The utmost care while moving the wheels is recommended: make use of other operators, properly trained and with suitable clothes.



THE CAREFUL LUBRICATION OF THE TIRES BEADS IS RECOMMENDED, IN ORDER TO PROTECT THEM FROM POSSIBLE DAMAGES AND TO FACILITATE MOUNTING AND DEMOUNTING OPERATIONS.

### 11.3 *Preparing the wheel*

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



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

- Establish from which side the tire should be demounted, checking the position of the drop center.
- Find the rim locking type.

### 11.4 *Wheel clamping with self-centering chuck*



DUE TO THE SIZE AND WEIGHT OF THE WHEEL/TIRE, MAKE USE OF A SECOND OPERATOR TO HOLD THE WHEEL INTO VERTICAL POSITION, IN ORDER TO ENSURE SAFE OPERATIVE CONDITIONS.



WHEN HANDLING WHEELS WEIGHING MORE THAN 500 kg (1102 lbs). A FORK-LIFT TRUCK OR A CRANE SHOULD BE USED.

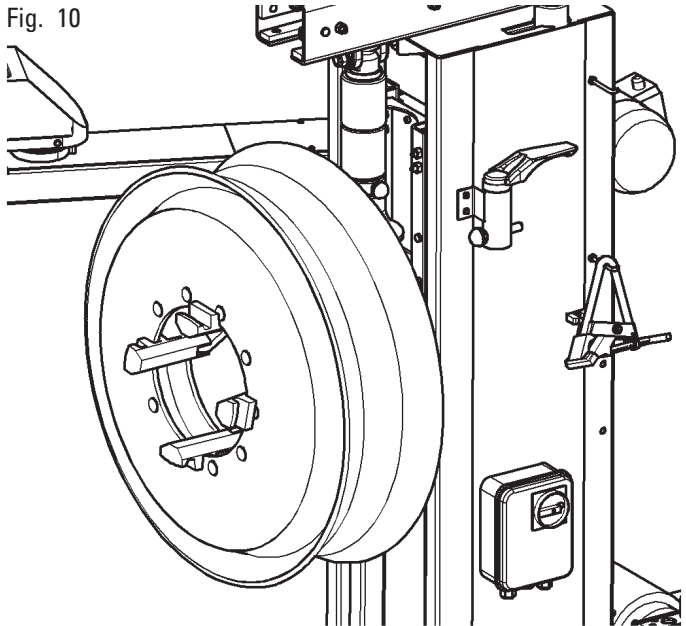


MAKE SURE THAT RIM CLAMPING IS DONE PROPERLY AND THAT THE GRIP IS SECURE, TO PREVENT THE WHEEL FROM FALLING DURING MOUNTING OR REMOVAL OPERATIONS.



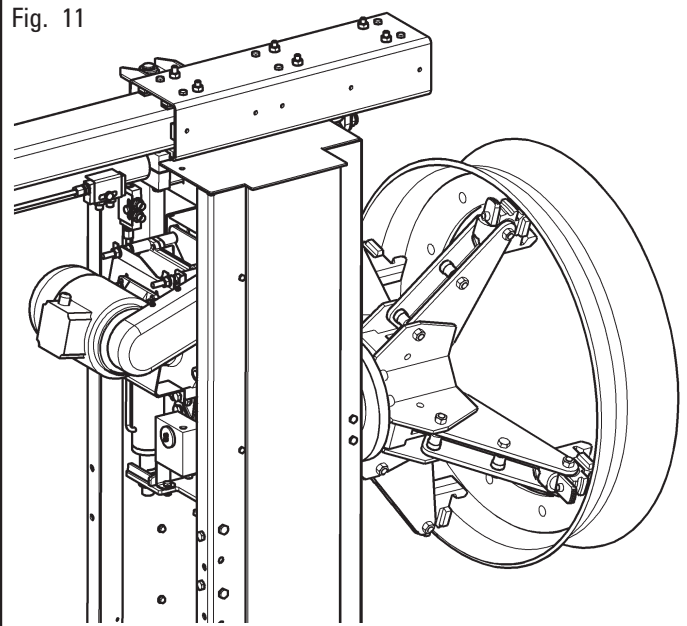
DO NOT CHANGE THE SET OPERATING PRESSURE VALUE BY MEANS OF THE MAXIMUM PRESSURE VALVES. THE MANUFACTURER SHALL NOT BE RESPONSIBLE FOR INJURY OR DAMAGE ARISING FROM UNAUTHORISED CHANGES.

Fig. 10



Clamping on the central hole

Fig. 11



Clamping on bead seat



THE OPENING/CLOSING MOVEMENT OF THE SELF CENTERING CHUCK GENERATES A GREAT DEAL OF COMPRESSIVE FORCE DURING THE WHEEL LOCKING/UNLOCKING PHASE. KEEP HANDS/FINGERS OR ANY PART OF THE BODY AWAY FROM MOVING CLAMPS AT ALL TIMES.

All wheels must be clamped from the inside.



CLAMPING ON THE CENTRAL FLANGE IS ALWAYS SAFEST.



FOR WHEELS WITH DROP CENTER RIMS SECURE THE WHEEL SO THAT THE DROP CENTER IS FACING OUTWARDS COMPARED TO THE CHUCK.



IF IT IS NOT POSSIBLE TO CLAMP THE RIM IN THE HOLE OF THE DISC, CLAMP ON THE BEAD SEAT CLOSE TO THE DISC.



TO SECURE WHEELS WITH ALLOY RIMS ADDITIONAL PROTECTIVE JAWS ARE AVAILABLE. THEY ALLOW YOU TO WORK ON THE RIMS WITHOUT DAMAGING THEM. THE PROTECTIVE JAWS ARE FITTED ONTO THE CHUCK NORMAL JAWS BY MEANS OF A BAYONET CONNECTION.

To clamp the wheel proceed as follows:

1. place the wheel in vertical position not far from the chuck;
2. the lever (Fig. 9 ref. C) to position the coaxial chuck with the wheel center, in order to make jaw edges skim the wheel edge;
3. adjust the opening of the self-centering chuck through the corresponding control (Fig. 9 ref. A) according to the type of rim to be locked;
4. operate the control (Fig. 9 ref. A) until the wheel is completely clamped;
5. check both that the rim is clamped and centered correctly, and that the wheel has been raised above from the floor, so that it does not slip during the following operations.



KEEP ON OPERATING RIM CLAMPING CONTROL, UNTIL REACHING THE MAXIMUM OPERATING PRESSURE (130 bar / 1885 psi).



THE CAREFUL LUBRICATION OF THE TIRES BEADS IS RECOMMENDED, IN ORDER TO PROTECT THEM FROM POSSIBLE DAMAGES AND TO FACILITATE MOUNTING AND DEMOUNTING OPERATIONS.



AFTER COMPLETION OF TIRE MOUNT/DEMOUNT OPERATIONS DO NOT LEAVE THE WHEEL CLAMPED ON THE SELF-CENTERING CHUCK AND NEVER LEAVE IT UNATTENDED.

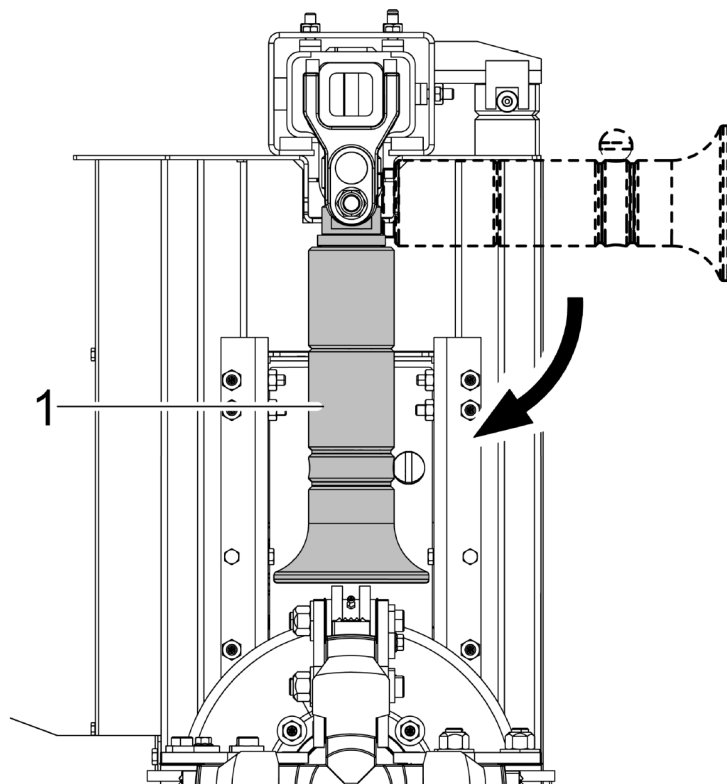
### ***11.5 Functioning of tool holder arm***

During the working phases, the tool holder arm can maintain two positions, that is:

1. "working" position;
2. "off-work" position.

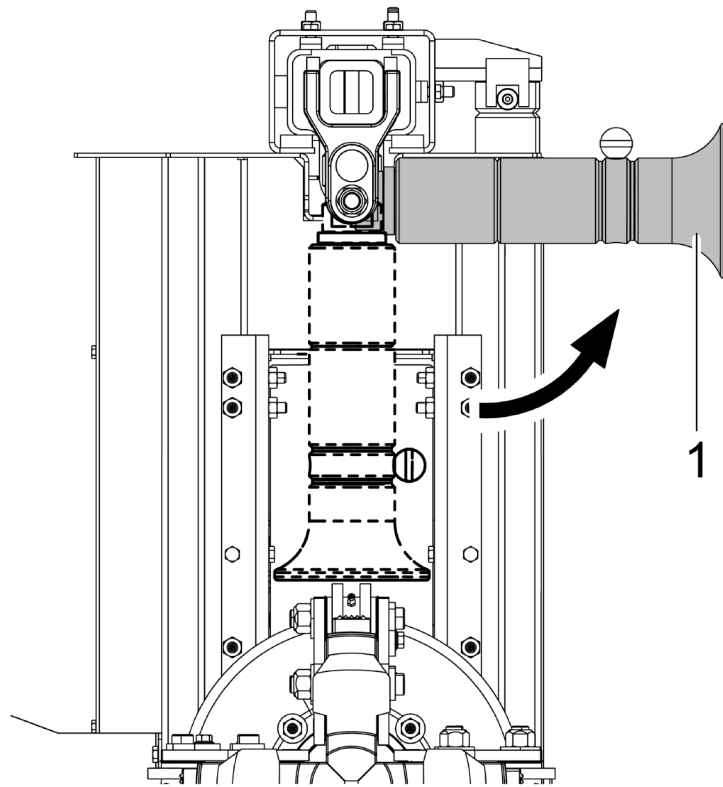
In "working" position (Fig. 12 ref. 1) the tool holder arm is lowered towards the chuck and from this position it executes the various tire bead breaking, demounting and mounting operations.

Fig. 12



In "off-work" position (Fig. 13 ref. 1): roller holder arm is in horizontal position and has to be brought in this position every time it is not in use and in order to be shifted from one tire side to another, during the different working phases.

Fig. 13



The roller holder arm, shifts from "off-work" position to "working" position and vice versa manually.



**IN "WORKING POSITION" OR "OFF-WORK POSITION", THE SAFETY PIN (FIG. 1 REF. 13) HAS TO BE INSERTED INTO THE APPROPRIATE HOUSING.**

## 11.6 Tubeless tires

### 11.6.1 Bead breaking



NEVER PLACE ANY PART OF YOUR BODY BETWEEN THE BEAD BREAKER ROLLER AND THE TIRE.



THROUGHOUT TIRE MOUNTING/DEMOUNTING OPERATIONS, CHECK THAT THE WHEEL IS FIRMLY CLAMPED BY THE EQUIPMENT CHUCK.

1. Lock the wheel on the chuck as described in the previous paragraph;
2. remove all balancing weights from the rim. Extract the valve and let air out of tire;
3. move to work position A (Fig. 6);
4. position the bead breaker roller on the external side of the tire;



ALWAYS VERIFY THAT THE ARM IS CORRECTLY LOCKED TO THE SHIFTING BEAM.

5. lift the chuck (Fig. 14 ref. 1) by using the appropriate handle control, until bringing the bead breaker roller (Fig. 14 ref. 2) next to the tire brim (Fig. 14 ref. 3), in contact with the external bead;



THE BEAD BREAKER ROLLER MUST NOT EXERT PRESSURE ON THE RIM BUT ON THE TIRE BEAD.

6. turn the chuck counterclockwise and, at the same time, gradually move the roller (Fig. 15 ref. 1) inwards to bead the tire. Continue to turn the chuck while generously lubricating the tire rim and bead with a suitable lubricant. The more the wheel adheres to the rim; the slower should the beading roller advance;

Fig. 14

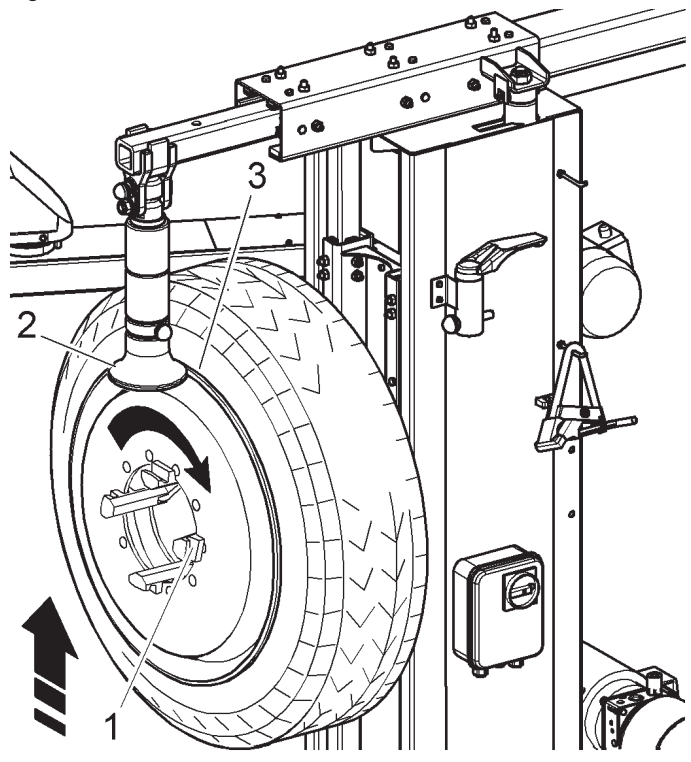
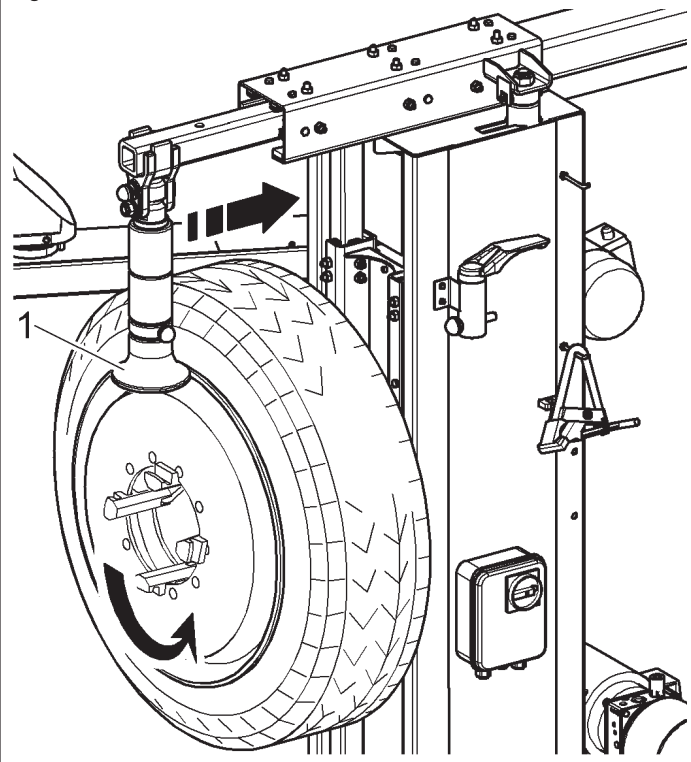


Fig. 15





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

- once external beading has been carried out, unhook and lift the roller holder arm placing it to "off-work" position (Fig. 13 ref. 1); use the handle control to position the roller holder arm on the inner side of the wheel, then place it to "working position" (Fig. 12 ref. 1) and secure it with the special safety pin.



FOR WHEELS WITH MAX. DIAMETER LOWER THAN 1100 mm (43"), IT IS POSSIBLE TO SHIFT THE BEAD BREAKER ROLLER INTO THE SAME REAR BEADING POSITION BY LOWERING THE WHEEL (SEE FIG. 16) IN ORDER TO BRING IT BACK TO BEADING POSITION (SEE FIG. 17).

Fig. 16

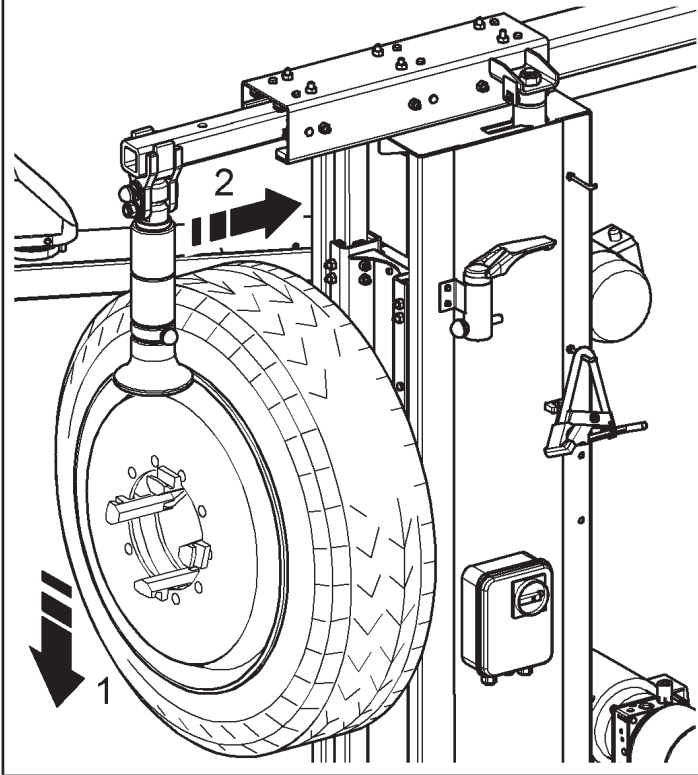
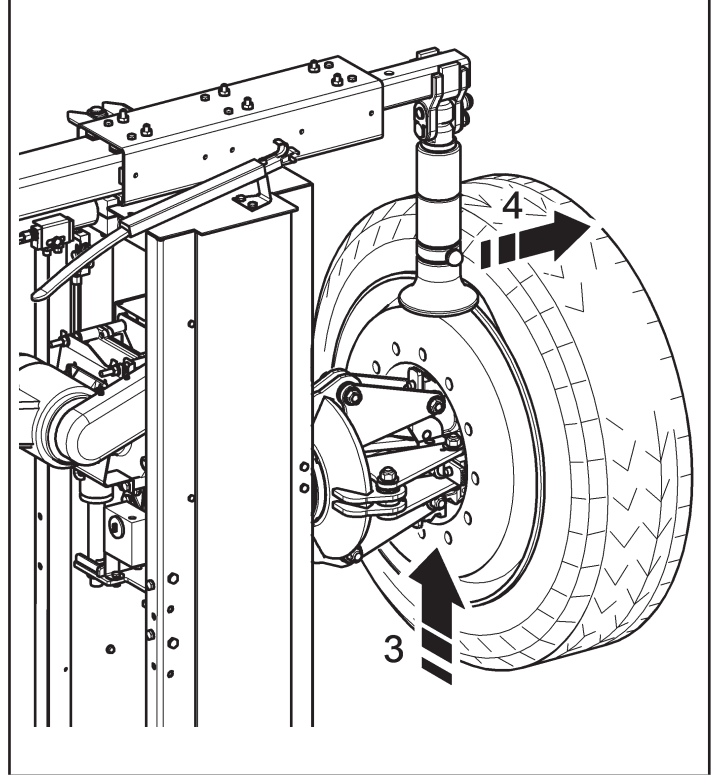


Fig. 17



PAY ATTENTION WHEN REPOSITIONING THE ROLLER HOLDER ARM TO AVOID HAND CRUSHING.

- move to work position C (Fig. 6) and repeat the operations described in point 6 until the tire has been completely beaded.

## 11.6.2 Demounting

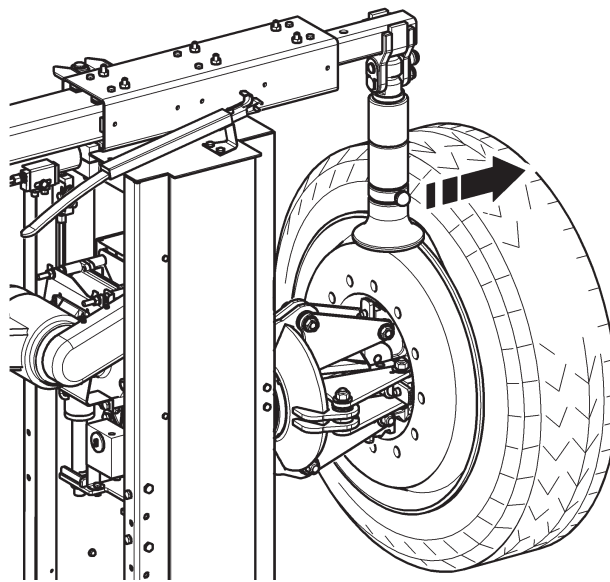


THROUGHOUT TIRE MOUNTING/DEMOUNTING OPERATIONS, CHECK THAT THE WHEEL IS FIRMLY CLAMPED BY THE EQUIPMENT CHUCK.

Tubeless tires can be removed in two ways:

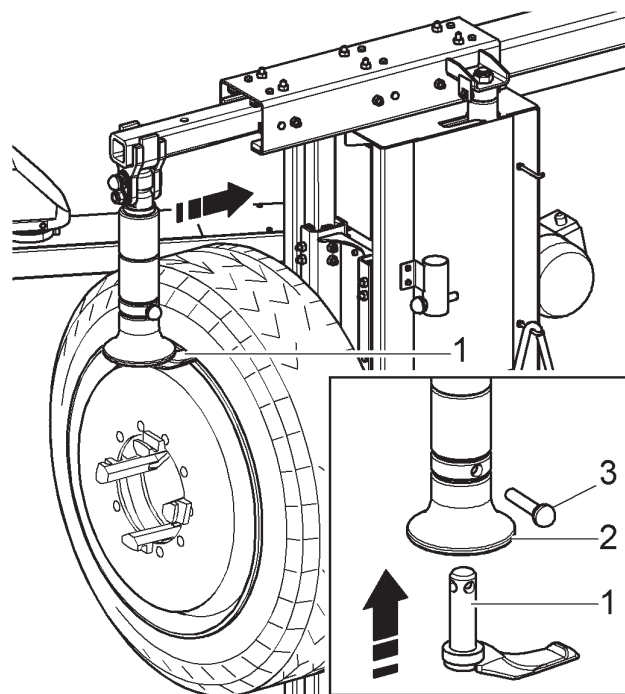
1. If the wheel does not present particular problems, continuing beading operation will completely dislodge the beads from the rim. The inner bead, pushed by the roller, presses against the outer one till it has been completely removed (see Fig. 18).

Fig. 18



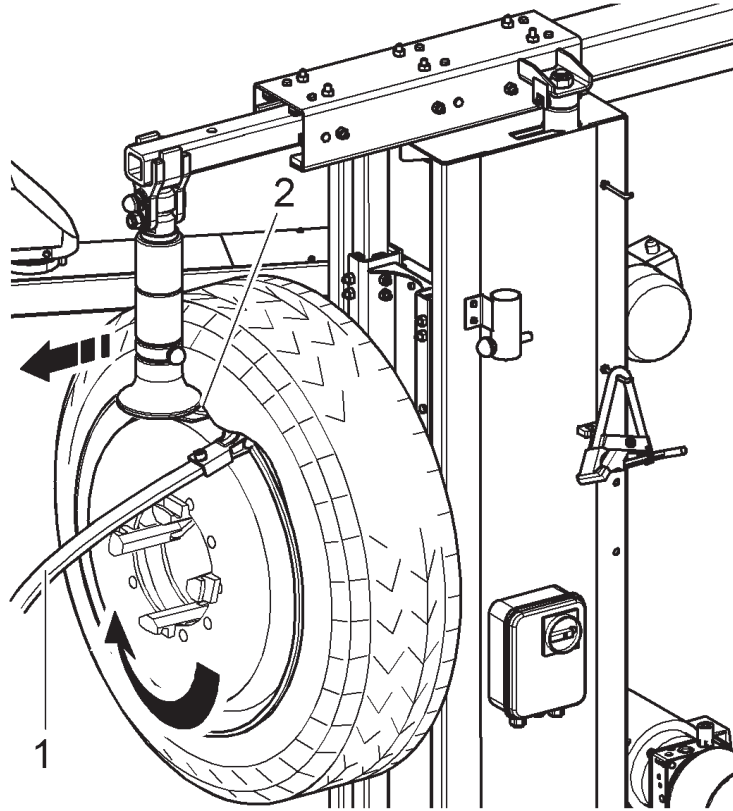
2. If the wheel is especially hard, it is not possible to carry out the procedure described in point 1. A different procedure will be necessary: use the hook tool and follow this sequence of operations:
  - move to work position A (Fig. 6);
  - position the roller holder arm on the outer side of the wheel;
  - put the hook tool (Fig. 19 ref. 1) into the roller (Fig. 19 ref. 2), as shown in Figure 19, and block it in position by inserting the pin (Fig. 19 ref. 3);
  - bring forward the hook, inserting it between the rim and the bead until it is secured to the bead itself (see Fig. 19);

Fig. 19



- move the rim away downwards from the tool by about 4-5 cm (1.6"-2") to avoid possible unhooking of the bead of the same tool;
- translate the tool outwards (Fig. 20 ref. 2) to allow easy insertion of lever (Fig. 20 ref. 1) between the rim and the bead; insert lever (Fig. 20 ref. 1) between the rim and the bead on the right-hand side of the tool (Fig. 20 ref. 2);

Fig. 20



- keeping the lever pressed, lift the wheel until the edge of the rim is 5 mm (0.2") distant from the hook tool;
- rotate the wheel clockwise until the bead has completely gone out;
- once the external bead has been removed, move roller holder arm away from the wheel, unhook it and lift it bringing it to "off-work" position (Fig. 13 ref. 1); use the handle control to position the roller holder arm on the inner side of the wheel then place it in work position again (Fig. 12 ref. 1) and secure with the safety pin provided;



PAY ATTENTION WHEN REPOSITIONING THE ROLLER HOLDER ARM TO AVOID HAND CRUSHING.

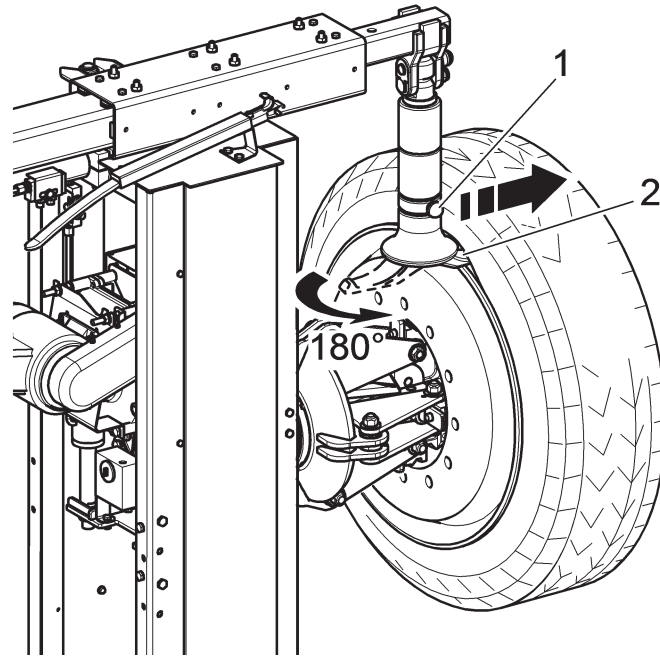


ALWAYS MAKE SURE THAT THE ARM IS CORRECTLY LOCKED TO THE SHIFTING BEAM.

- move to work position C (Fig. 6);

- take the pin off (Fig. 21 ref. 1), turn the tool (Fig. 21 ref. 2) 180° and block it again with the pin (Fig. 21 ref. 1) in order to be able to insert the tool itself (Fig. 21 ref. 2) between the rim edge and the bead of the tire;

Fig. 21



- move the rim away downwards from the tool by about 4-5 cm (1.6"-2") to avoid possible unhooking of the bead of the same tool;
- move to work position B (Fig. 6);
- translate the hook outwards towards the external rim edge, then turn the chuck clockwise until the tire has been completely removed.



THE REMOVAL OF THE BEADS FROM THE RIM CAUSES THE TIRE TO FALL. ALWAYS MAKE SURE THAT NO ONE IS STANDING IN THE WORK AREA.



WHEN DEMOUNTING VERY HEAVY TIRES LOOK AT THE PROCESS AND AREA AROUND THE CHANGER CLOSELY BEFORE COMPLETING THE OPERATION.

### 11.6.3 Mounting



THROUGHOUT TIRE MOUNTING/DEMOUNTING OPERATIONS, CHECK THAT THE WHEEL IS FIRMLY CLAMPED BY THE EQUIPMENT CHUCK.

Tubeless tire fitting is normally done with the roller tool; if the wheel is especially hard to fit, use the hook tool.

#### With bead breaker roller

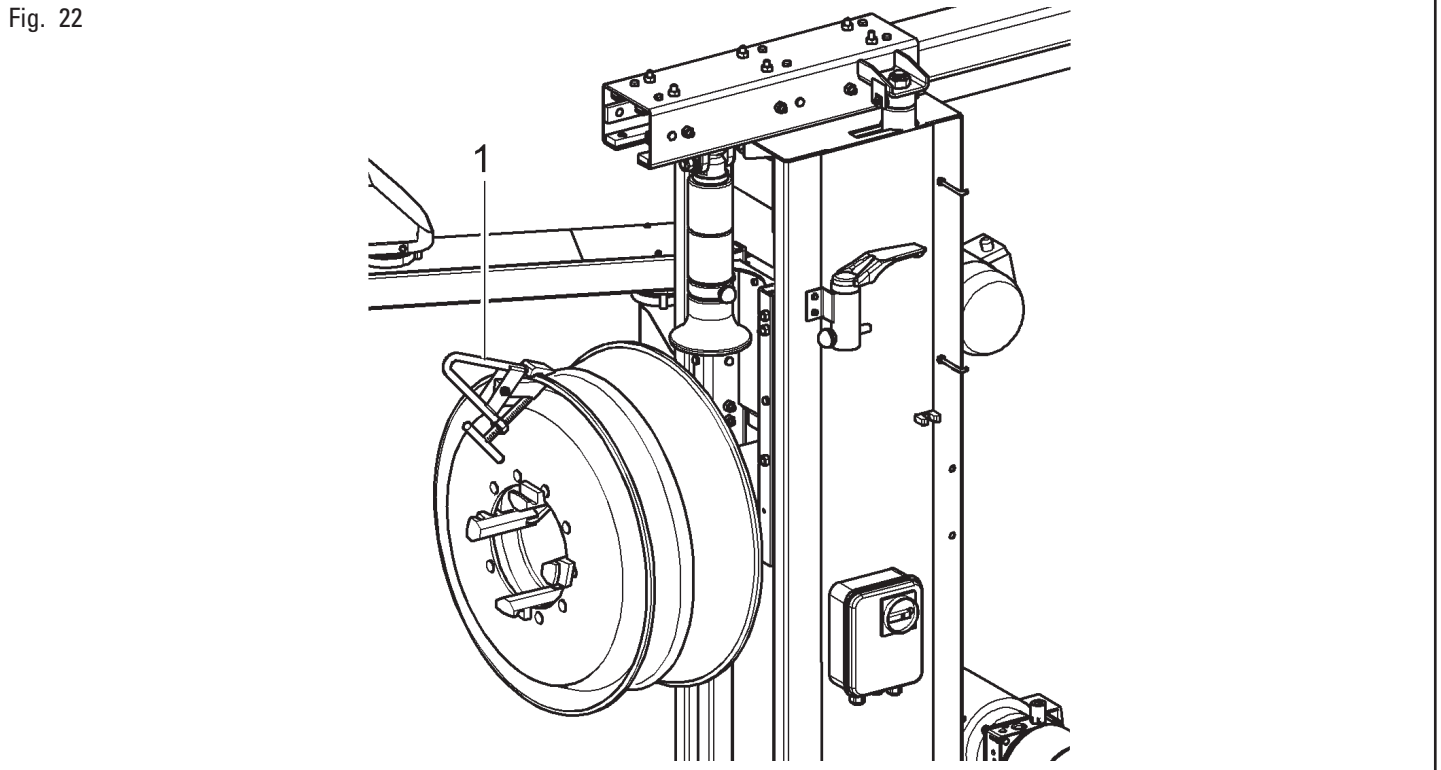
Proceed as follows:

1. secure the rim to the chuck according to the procedure described in paragraph "WHEEL CLAMPING".
2. adequately lubricate tire beads and rim bead seats with a suitable lubricant using the supplied brush.



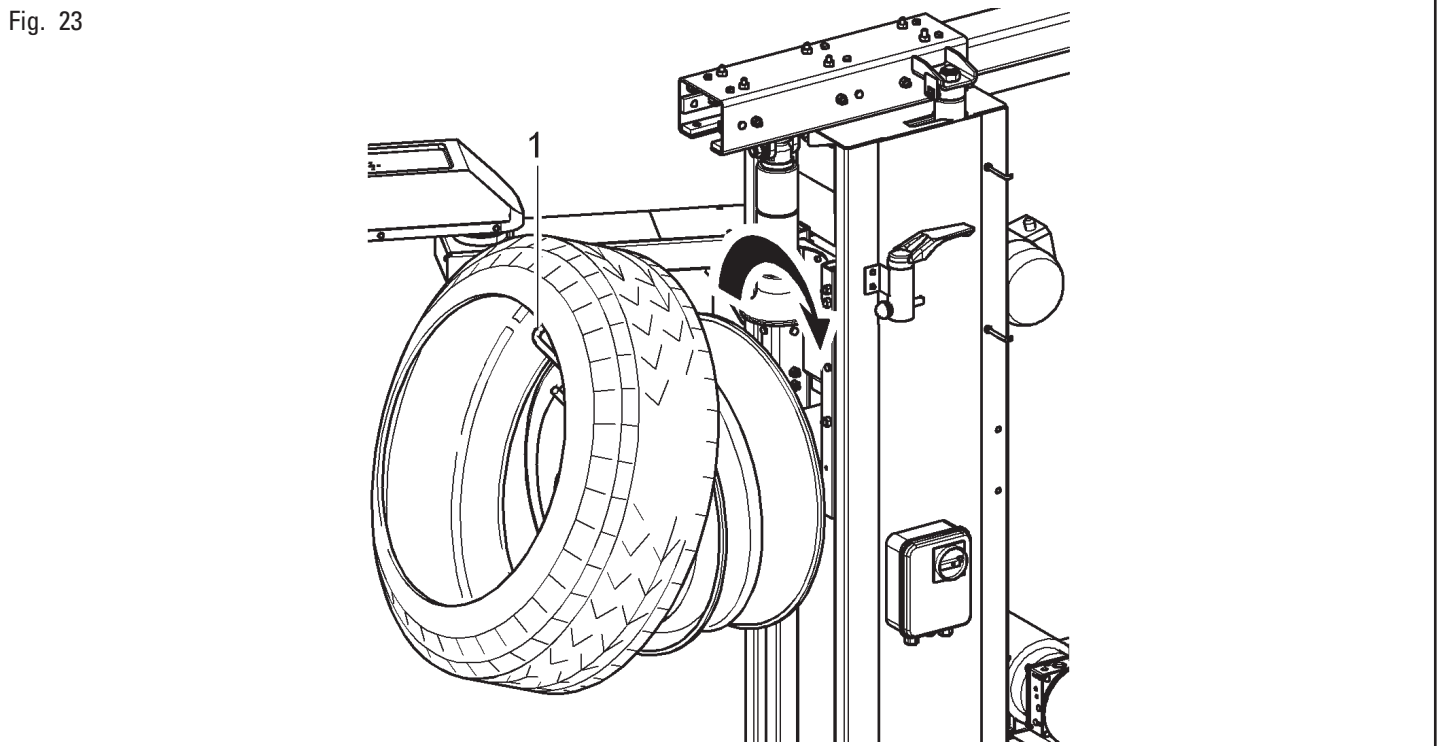
USE ONLY TIRE LUBRICANTS. SUITABLE LUBRICANTS CONTAIN NO WATER, HYDROCARBONS, OR SILICON.

3. mount clamp (optional) (Fig. 22 ref. 1) on the external edge of the rim at the highest point as shown in Fig. 22;



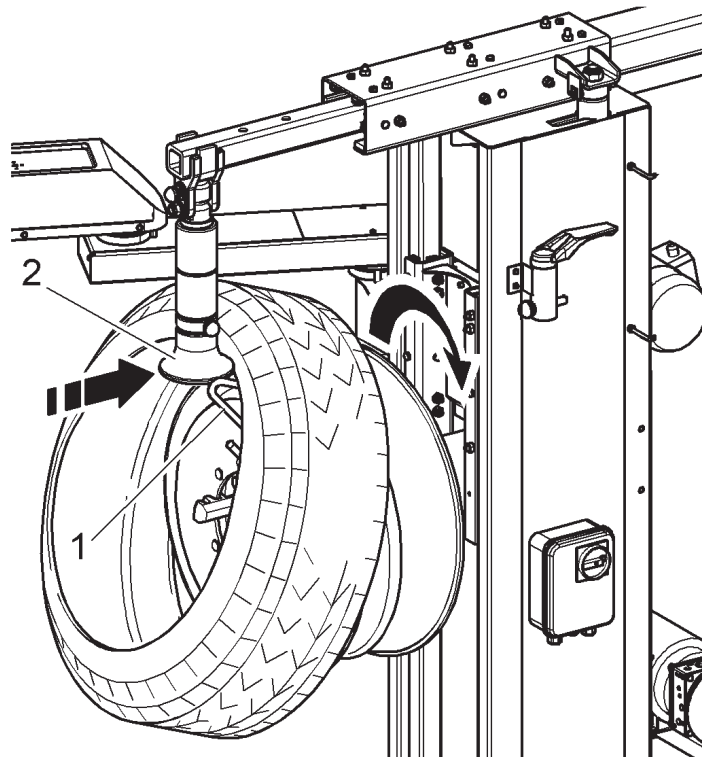
THE CLAMP MUST BE TIGHTLY SECURED TO THE EDGE OF THE RIM.

4. move to work position B (Fig. 6);
5. lower the chuck completely. Roll the tire on the floor and hook it to clamp (Fig. 23 ref. 1);
6. lift the chuck with the tire hooked and turn it clockwise 15-20 cm (5.9"-7.9"); the tire will position itself sideways in relation to the rim (see Fig. 23);



- position the bead breaker roller (Fig. 24 ref. 2) so that it is at approximately 1.5 cm (0.6") from the edge of the rim. Fitting clamp (Fig. 24 ref. 1) is at "1 o'clock". Turn the chuck clockwise until bringing the clamp to the closest point to the bead breaker roller ("11 o'clock");

Fig. 24



- move the bead breaker roller away from the wheel;
- remove the clamp and fit it in position ("6 o'clock") outside the second bead;
- turn the chuck counterclockwise until clamp is at "1 o'clock";
- move the bead breaker roller forward until it is inside the edge of the rim by about 1-2 cm (0.04"-0.08"), making sure it is approximately 5 mm (0.2") from rim edge. Start clockwise rotation making sure that, after a 90° turn, the second bead begins sliding in the rim drop center;
- once insertion is completed, move the roller away from the wheel, turn it over to "off-work" position and remove clamp;
- lower the chuck until the wheel rests on the floor;
- move to work position A (Fig. 6);
- close the chuck jaws completely, making sure the wheel is held up to avoid dropping;



MAKE SURE THAT THE WHEEL IS SECURELY CLAMPED TO AVOID IT FALLING DURING REMOVAL. FOR HEAVY AND/OR VERY LARGE WHEELS USE AN ADEQUATE LIFTING DEVICE.

- remove the wheel from the equipment by making it roller. By using particularly soft tires, it is possible to put on the rim both the beads at the same time, in order to operate only one time on the tire.

With hook tool

Proceed as follows:

- secure the rim to the chuck according to the procedure described in paragraph "WHEEL CLAMPING";
- adequately lubricate tire beads and rim bead seats with a suitable lubricant using the supplied brush;



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

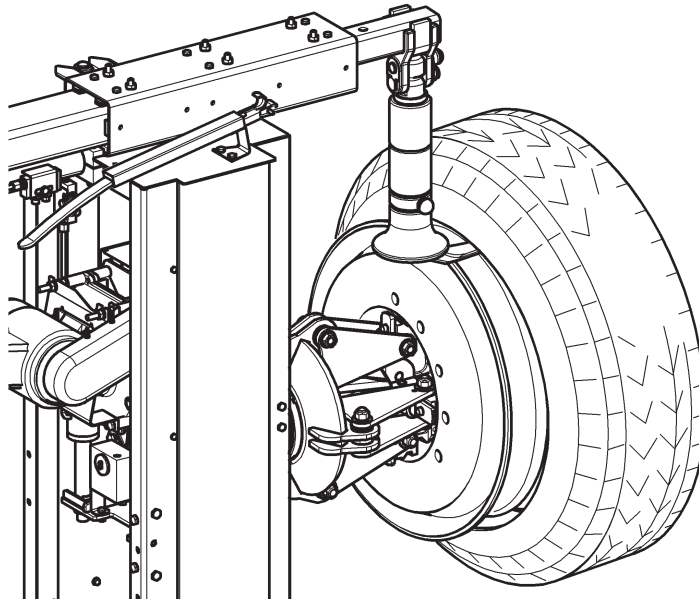
- mount the clamp (Fig. 22 ref. 1) on the external edge of the rim at the highest point;



THE CLAMP MUST BE TIGHTLY SECURED TO THE EDGE OF THE RIM.

4. move to work position B (Fig. 6);
5. lower the chuck completely. Roll the tire next to the chuck and hook it to clamp (Fig. 23 ref. 1);
6. lift the chuck with the tire hooked and turn it clockwise 15-20 cm (5.9"-7.9"); the tire will position itself sideways in relation to the rim (see Fig. 23);
7. place the roller holder arm in "off-work" position (Fig. 13 ref. 1); translate it to the inner side of the tire and hook it again into "working position" (Fig. 12 ref. 1);
8. mount the hook roller on the roll, by positioning it on the side of the tire (see Fig. 25);

Fig. 25



9. move to work position C (Fig. 6);
10. move the tool forward until the reference notch matches the external edge of the rim coincide at about 5 mm (0.2") from the rim itself;
11. move to work position B (Fig. 6);
12. from the external side of the wheel, check the exact position of the tool and, if necessary, correct it. Then, turn the chuck clockwise until clamp reaches the closest point to the tool ("11 o'clock"). The first bead should now be inserted in the rim;
13. remove clamp;
14. move to work position C (Fig. 6);
15. extract the tool from the tire;
16. place the roller holder arm in "off-work" position (Fig. 13 ref. 1); translate it to the outer side of the tire and hook it again into "working position" (Fig. 12 ref. 1);
17. mount the tool head again at 180° until the hook tool is moved onto the tire side (see Fig. 19);
18. mount clamp in the lowest point ("6 o'clock") outside the second bead;
19. move to work position B (Fig. 6);
20. turn the chuck counterclockwise placing clamp at "1 o'clock";
21. move the tool forward until the axis of the reference notch matches that of the external edge of the rim at about 5 mm (0.2") from the rim itself (Fig. 19). Begin clockwise rotation making sure that, after a 90° turn, the second bead begins to slide in the rim drop center. Turn until clamp reaches the closest point to the tool ("11 o'clock"). The second bead should now be inserted in the rim;
22. move the tool away from the wheel, turn it over into "off-work" position and remove the clamp;
23. lower the chuck until the wheel rests on the floor;

24. move to work position A (Fig. 6);
25. close the chuck jaws completely, making sure the wheel is held up to avoid dropping;



MAKE SURE THAT THE WHEEL IS SECURELY CLAMPED TO AVOID IT FALLING DURING REMOVAL. FOR HEAVY AND/OR VERY LARGE WHEELS USE AN ADEQUATE LIFTING DEVICE.

26. remove the wheel from the equipment by making it roller.

## **11.7 Tires with inner tube**

### **11.7.1 Bead breaking**



REMOVE THE LOCK NUT OF THE INNER TUBE VALVE TO ALLOW ITS EXTRACTION DURING TIRE REMOVAL PHASES; REMOVE THE NUT WHEN DEFLATING THE TIRE.

The beading procedure is the same one described for tubeless tires.



WHEN BEADING WHEELS WITH INNER TUBES, INTERRUPT THE FORWARD MOVEMENT OF THE BEAD BREAKER ROLLER AS SOON AS THE BEADS HAVE BEEN DISLODGED TO AVOID DAMAGE TO THE INNER TUBE OR TO THE VALVE.

### **11.7.2 Demounting**



THROUGHOUT TIRE MOUNTING/DEMOUNTING OPERATIONS, CHECK THAT THE WHEEL IS FIRMLY CLAMPED BY THE EQUIPMENT CHUCK.

1. Bring roller holder arm to "off-work" position (Fig. 13 ref. 1); use the handle control to position the roller holder arm on the outer side of the wheel then place it in working position (Fig. 12 ref. 1) and secure with the safety pin provided (Fig. 1 ref. 12);



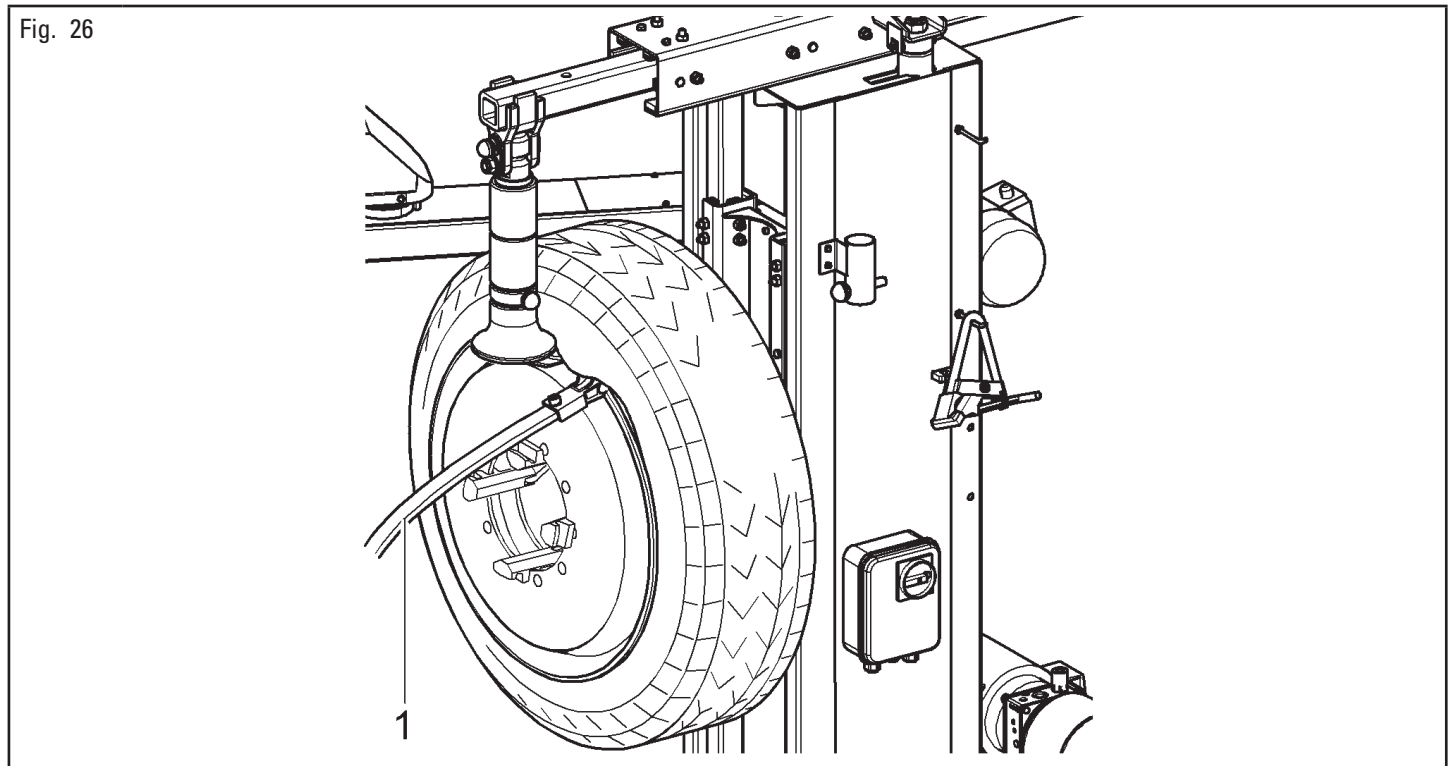
PAY ATTENTION WHEN REPOSITIONING THE ROLLER HOLDER ARM TO AVOID HAND CRUSHING.



ALWAYS MAKE SURE THAT THE ARM IS CORRECTLY LOCKED TO THE SHIFTING BEAM.

2. mount the hook tool turned towards the tire in order to insert the same hook between the rim edge and the tire bead; the operation must be carried out during the chuck rotation;
3. move the rim away downwards from the tool by about 4-5 cm (1.6"-2") to avoid possible unhooking of the bead of the same tool;
4. translate the hook tool outwards until the reference notch matches the external edge of the rim;
5. move to work position A (Fig. 6);

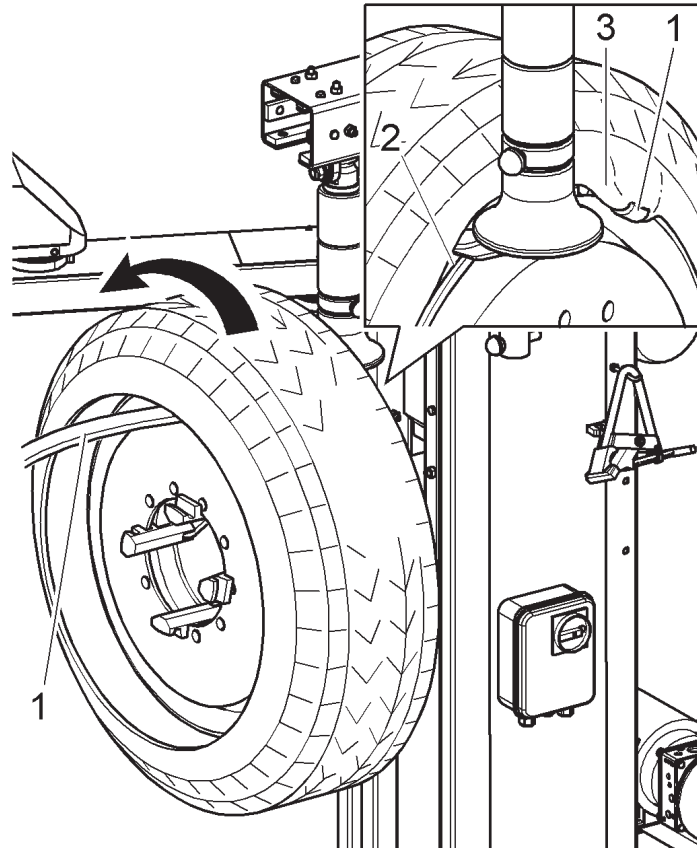
6. insert lever (Fig. 26 ref. 1) between the rim and the bead on the right-hand side of the tool;



7. keeping the lever pressed lift the wheel until the edge of the rim is 5 mm (0.2") distant from the hook tool;
8. turn the wheel clockwise by keeping lever pressed until the bead has gone completely out;
9. move the roller holder arm away to "off-work" position (Fig. 13 ref. 1); lower the chuck until placing the tire on the ground; exert a certain pressure on it; this will create the space required to extract the inner tube;
10. extract the inner tube and lift the wheel again;
11. move to work position C (Fig. 6);
12. unhook and lift the roller holder arm placing it to "off-work" position (Fig. 13 ref. 1); use the handle control to position the roller holder arm on the inner side of the wheel then place it to working position (Fig. 12 ref. 1) and secure with the safety pin provided (Fig. 1 ref. 12);
13. mount the hook tool again, turned by 180°, according to the descriptions in the relevant paragraph, in order to insert the hook between the rim edge and the tire bead; the operation must be carried out during the chuck rotation;
14. move the rim away downwards from the tool by about 4-5 cm (1.6"-2") to avoid possible unhooking of the bead of the same tool;
15. move to work position A (Fig. 6);
16. translate the hook tool outwards until the reference notch is 3 cm (1.2") inside the rim;

17. insert the lever (Fig. 27 ref. 1) between rim (Fig. 27 ref. 2) and bead (Fig. 27 ref. 3) on the tool left;
18. keeping the lever pressed, lift the wheel until the edge of the rim is approximately 5 mm (0.2") distant from the hook tool then turn the chuck counterclockwise keeping the lever (Fig. 27 ref. 1) pressed until the tire has been completely dislodged from the rim.

Fig. 27



THE REMOVAL OF THE BEADS FROM THE RIM CAUSES THE TIRE TO FALL. ALWAYS MAKE SURE THAT NO ONE IS STANDING IN THE WORK AREA.



WHEN DEMOUNTING VERY HEAVY TIRES LOOK AT THE PROCESS AND AREA AROUND THE CHANGER CLOSELY BEFORE COMPLETING THE OPERATION.

### 12.7.3 Mounting



THROUGHOUT TIRE MOUNTING/DEMOUNTING OPERATIONS, CHECK THAT THE WHEEL IS FIRMLY CLAMPED BY THE EQUIPMENT CHUCK.

1. Secure the rim to the chuck according to the procedure described in paragraph "WHEEL CLAMPING";
2. adequately lubricate tire beads and rim bead seats with a suitable lubricant using the supplied brush;



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

3. mount clamp (optional) (Fig. 22 ref. 1) on the external edge of the rim at the highest point as shown in Fig. 22;



THE CLAMP MUST BE TIGHTLY SECURED TO THE EDGE OF THE RIM.

4. move to work position B (Fig. 6);
5. position the tire near the equipment and lower the chuck (make sure the clamp is at the highest point) to hook the first tire bead (internal bead);
6. lift the chuck with the tire hooked and turn it clockwise about 15-20 cm (5.9"-7.9"); the tire will position itself sideways in relation to the rim;
7. place the roller holder arm to "off-work" position (Fig. 13 ref. 1); operate the handle control in order to position the roller holder arm on the wheel inner side, then place it to "working position" (Fig. 12 ref. 1) again and lock it with the safety pin provided;



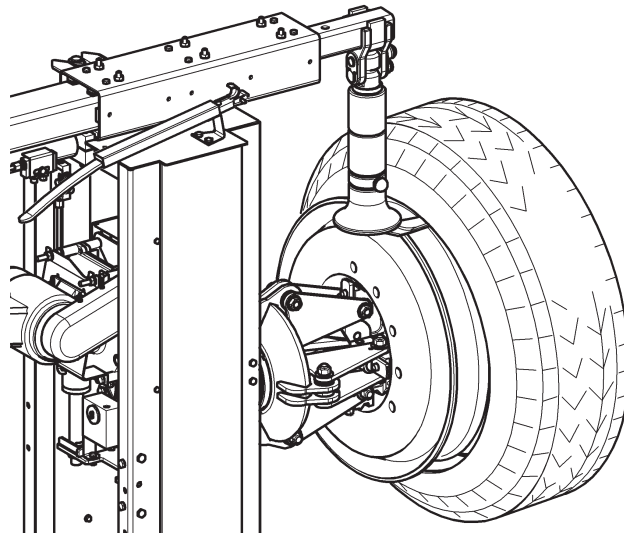
PAY ATTENTION WHEN REPOSITIONING THE ROLLER HOLDER ARM TO AVOID HAND CRUSHING.



ALWAYS MAKE SURE THAT THE ARM IS CORRECTLY LOCKED TO THE SHIFTING BEAM.

8. mount the hook tool turned towards the tire in order to insert the same hook between the rim edge and the tire bead; the operation must be carried out during the chuck rotation;
9. move to work position C (Fig. 6);
10. move the tool forward until the axis of the reference notch matches that of the external edge of the rim at about 5 mm (0.2") from the rim itself (see Fig. 28);

Fig. 28

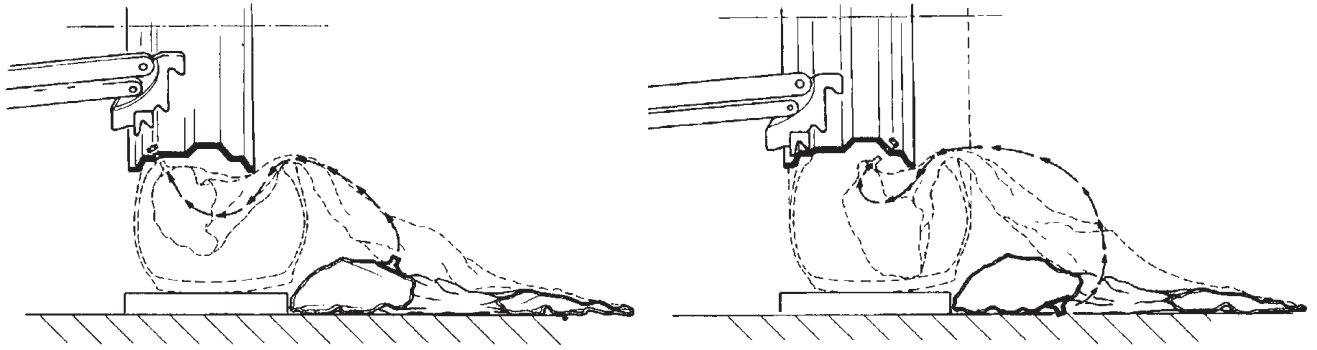


11. move to work position B (Fig. 6);
12. from the external side of the wheel, check the exact position of the tool and, if necessary, correct it. Then, turn the chuck clockwise until clamp reaches the closest point to the tool ("11 o'clock"). The first bead should now be inserted in the rim, then remove clamp;
13. move to work position C (Fig. 6);
14. extract the tool hook from the tire;
15. place the tool holder roll to "off-work" position (Fig. 13 ref. 1) and translate it to the outer side of the tire;
16. mount the hook tool again with a 180° rotation, according to the descriptions in the relevant paragraph;
17. move to work position A (Fig. 6);
18. turn the chuck to position the hole to insert the valve downward ("6 o'clock");
19. the chuck until the wheel is laid down to the ground in order to create the space needed between tire edge and rim for the inner tube introduction.



THE VALVE HOLE COULD BE IN AN ASYMMETRIC POSITION WITH RESPECT TO THE CENTER OF THE RIM. IN THIS CASE IT IS NECESSARY TO POSITION AND INSTALL THE INNER TUBE AS SHOWN IN FIG. 29.

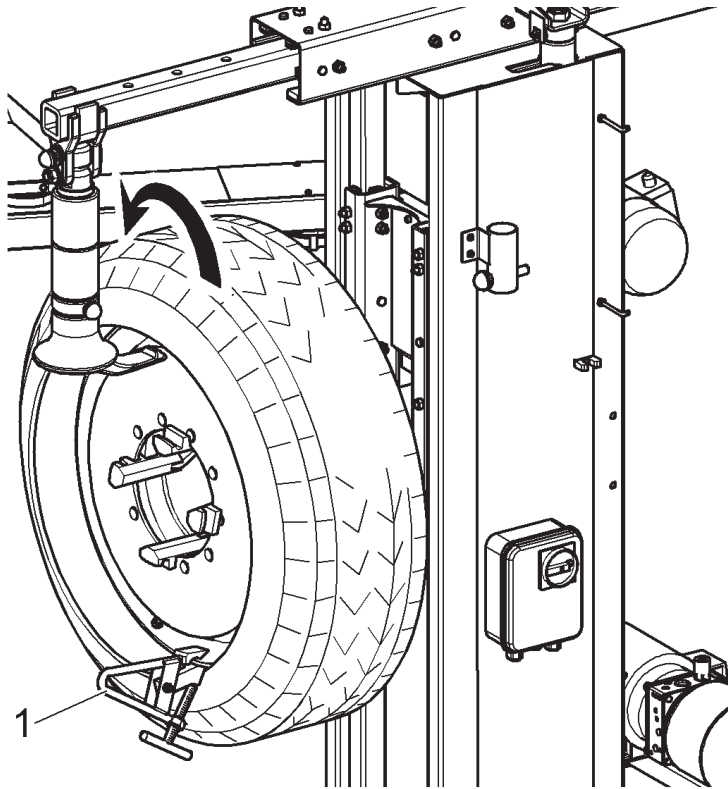
Fig. 29



Install the valve in the hole and secure it with the provided ring nut. Install the inner tube in the drop center of the rim (to make this operation easier, it is advisable to simultaneously turn the chuck clockwise);

20. turn the chuck and position the valve downwards ("6 o'clock");
21. to avoid damaging the inner tube, slightly inflate it when installing the second bead;
22. to avoid damaging the valve when installing the second bead, remove the fixing ring nut and mount an extension on the same valve;
23. move to work position B (Fig. 6);
24. lift the chuck and mount the clamp (Fig. 30 ref. 1) on the rim outside the second bead at about 20 cm (7.9") from the inflating valve on the right;
25. turn the chuck counter-clockwise until clamp (Fig. 30 ref. 1) is positioned at "1 o'clock";

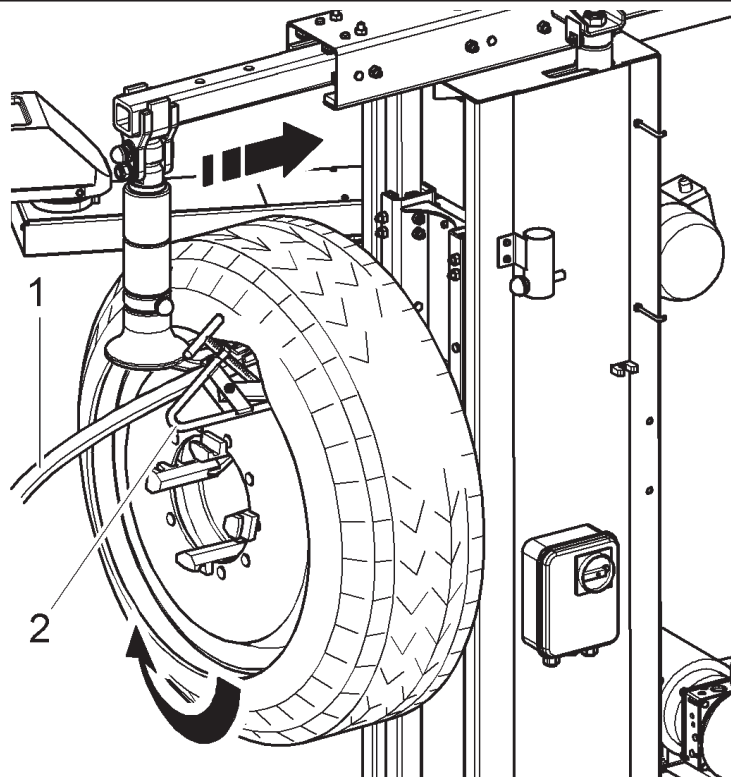
Fig. 30



26. place the roller holder arm to "work position" (Fig. 12 ref. 1) on the outer side of the tire;
27. place the hook tool to working position and bring the roller holder arm forward until the axis of the reference notch matches that of the outer edge of the rim at a distance of 5 mm (0.2");

28. turn the chuck clockwise until lever (Fig. 31 ref. 1) is introduced in the housing obtained on the hook tool;
29. turn the chuck clockwise with lever (Fig. 31 ref. 1) hooked up to the complete insertion of the tire outer bead;
30. remove lever (Fig. 31 ref. 1), clamp (Fig. 31 ref. 2) and extract the hook tool by turning the chuck counterclockwise and translating it outwards;

Fig. 31



31. bring the roller holder arm to "off-work" position (Fig. 13 ref. 1) after it has been unhooked;
32. lower the chuck until the wheel rests on the floor;
33. move to work position A (Fig. 6);
34. check the state of the tire valve and center it, if necessary, in the rim hole by slightly turning the chuck; secure the valve with the supplied ring nut after removing the protective extension;
35. close the chuck jaws completely, making sure the wheel is held up to avoid dropping;



MAKE SURE THAT THE WHEEL IS SECURELY CLAMPED TO AVOID IT FALLING DURING REMOVAL. FOR HEAVY AND/OR VERY LARGE WHEELS USE AN ADEQUATE LIFTING DEVICE.

36. remove the wheel from the equipment.

## 12.0 ROUTINE MAINTENANCE



BEFORE CARRYING OUT ANY ROUTINE MAINTENANCE OR ADJUSTMENT PROCEDURE, DISCONNECT THE EQUIPMENT FROM THE ELECTRICITY SUPPLY USING THE SOCKET/PLUG COMBINATION AND CHECK THAT ALL MOBILE PARTS ARE AT A STANDSTILL.



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



BEFORE REMOVING HYDRAULIC CIRCUIT FITTINGS OR PIPES, MAKE SURE THAT THERE ARE NO PRESSURISED FLUIDS PRESENT. PRESSURISED OIL SPILLS MAY CAUSE SERIOUS WOUNDS OR INJURIES.



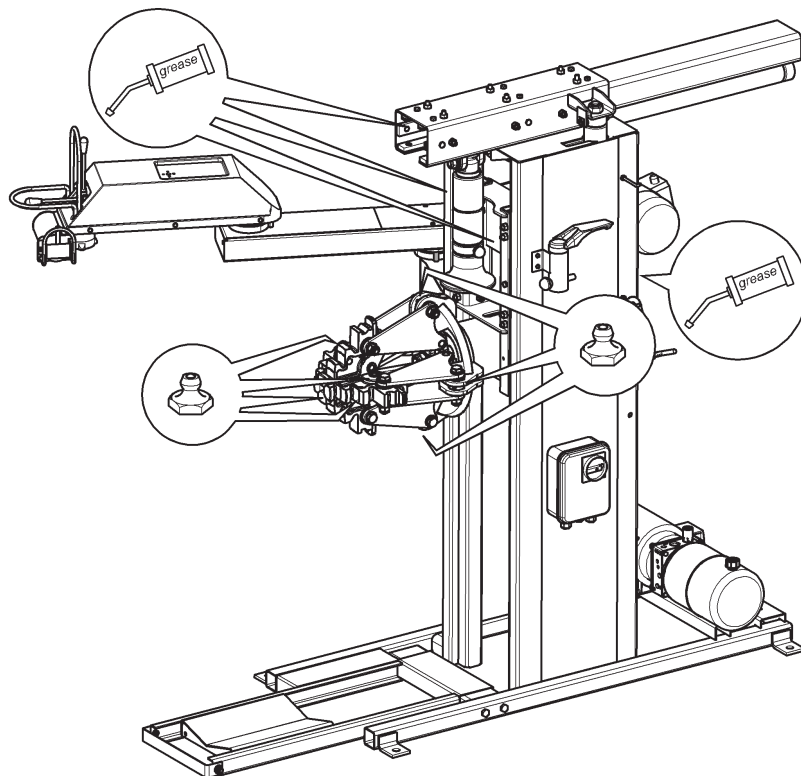
BEFORE CARRYING OUT ANY MAINTENANCE WORK ON THE HYDRAULIC CIRCUIT, SET THE EQUIPMENT IN THE REST CONDITION.

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 tire powder and other waste materials with a vacuum;
- NEVER BLOW WITH COMPRESSED AIR;
- periodically (preferably once a month) make a complete check on the controls, ensuring that they provide the specified actions;
- every 100 working hours lubricate the sliding guides (chuck and roller holder arm);
- periodically (preferably once a month), grease all moving parts of the equipment (see Fig. 32);

Fig. 32



- check periodically the oil level of the oil-pressure unit and, in case, carry out the filling up with hydraulic oil having a viscosity degree suitable for the average temperatures of the country where the equipment is installed and in particular:

- viscosity 32 (for countries with room temperature from 0 °C - +30 °C (+32 °F - +86 °F);

- viscosity 46 (for countries with room temperature above +30 °C (+86 °F).

At least once a year it is advisable to replace the hydraulic oil of the unit.



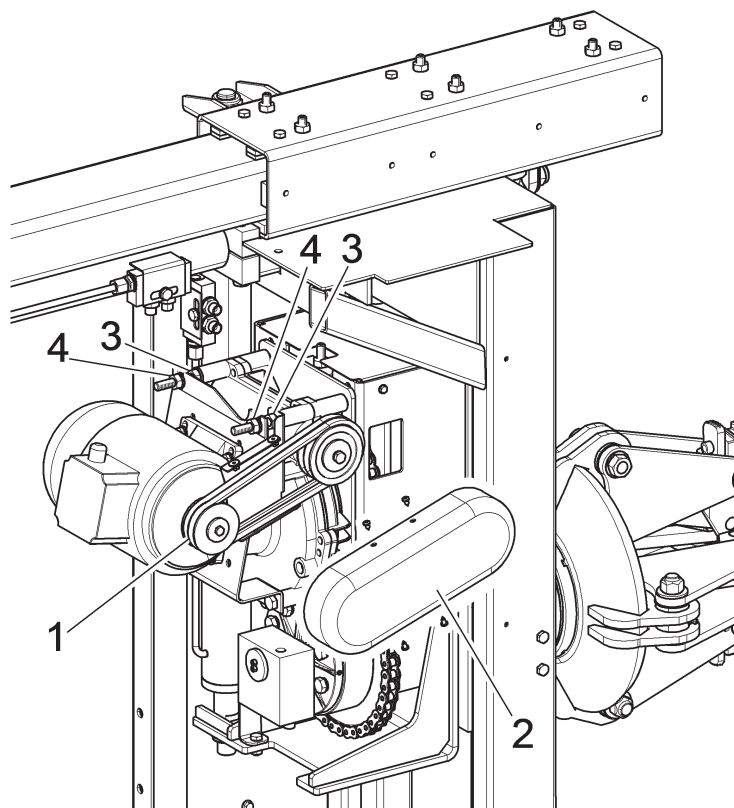
**CARRY OUT THIS PROCEDURE WITH THE HYDRAULIC CYLINDERS COMPLETELY RETRACTED.**

- periodically (about every 100 hours), check the oil level of the reduction gear and eventually reset the level;
- check operation of the safety devices every week.

A. Check belt tensioning (Fig. 33 ref. 1):

- remove the protection guard (Fig. 33 ref. 2) with a screwdriver;
- stretch the belt (Fig. 33 ref. 1) using the bolt (Fig. 33 ref. 3) after the nuts (Fig. 33 ref. 4) have been slackened;
- tighten the fixing nuts (Fig. 33 ref. 4) after the adjustment operations, then assemble the protection guard (Fig. 33 ref. 2) again.

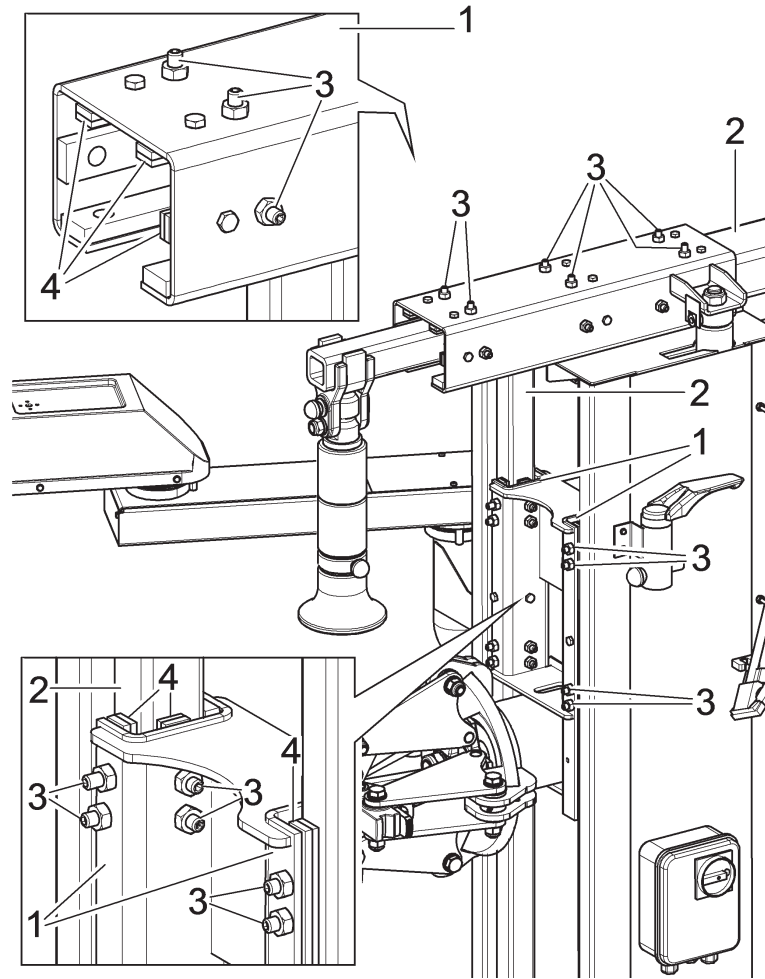
Fig. 33



**OPERATION TO BE CARRIED OUT JUST IN CASE THE TOOL HOLDER ARM AND THE CHUCK CARRIAGE ARE MOVING IN A NOT LINEAR WAY (STICK-SLIP MOTION).**

B. Check periodically and, if necessary, adjust the play of slide (Fig. 34 ref. 1) on guide plates (Fig. 34 ref. 2) by means of the adjustment bolts (Fig. 34 ref. 3) of sliding blocks (Fig. 34 ref. 4).

Fig. 34



- Periodically, every 50 working hours approximately, clean the (inner and outer) guides of the chuck and of roller support arm.



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!!



ANY EXTRAORDINARY MAINTENANCE OPERATION MUST ONLY BE CARRIED OUT BY PROFESSIONALLY QUALIFIED STAFF.

## 13.0 TROUBLESHOOTING TABLE









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



In an emergency and before maintenance on tire-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  |
|---|---|---|
| Pump motor does not work but wheel holder chuck motor works perfectly.                        | a) Hydraulic control unit damaged.  | a) Call Technical Service Dept.    |
| When main switch is turned on, wheel holder chuck does not turn whereas the pump motor works. | a) Gearmotor change-over switch damaged.  | a) Call Technical Service Dept.    |
| Power drop during wheel holder chuck rotation.  | a) Timing belt too loose.   | a) Tension up the belt.   |
| No pressure in the hydraulic system.  | a) Pump damaged.  | a) Replace pump.   |
| The chuck opening pressure does not go down.  | a) Pressure limiting valve jammed   | a) Download chuck (remove wheel), completely undo adjusting handle. Perform many opening and closing cycles up to jam release.    |
| The equipment does not start.   | a) No power supply.<br>b) Overload cutouts not set.<br>c) Transformer fuse blown.   | a) Connect the power supply.<br>b) Set the overload cutouts.<br>c) Change the fuse.   |
| Fluid leaks from fitting or pipeline.   | a) fitting not tightened correctly.<br>b) Pipeline cracked.   | a) Tighten the fitting.<br>b) Call the after-sales service.    |
| A control device is remaining on.   | a) The switch has broken.<br>b) A solenoid valve has jammed.  | a) Call the after-sales service.<br>b) Call the after-sales service.   |
| The self-centering chuck cylinder is losing pressure.   | a) The directional control valve is leaking.<br>b) The gaskets are worn.  | a) Call the after-sales service.<br>b) Call the after-sales service.   |
| The motor stops during operation.   | Overload cutout tripped.  | Open the electric cabinet and reset the overload cutout tripped.  |
| When a control device is operated the equipment does not move at all.                         | a) Solenoid valve not receiving power.<br>b) Solenoid valve jammed.<br>c) Transformer fuse blown.<br>d) Control unit not set correctly. | a) Call the after-sales service.<br>b) Call the after-sales service.<br>c) Change the fuse.<br>d) Call the after-sales service.  |

| Problem                           | Possible cause  | Remedy   |
|-----------------------------------|---|--|
| No pressure in hydraulic circuit. | <ul style="list-style-type: none"> <li>a) Oil-pressure power unit motor turning in wrong direction.</li> <li>b) Oil-pressure power unit pump is broken.</li> <li>c) No oil in oil-pressure power unit tank</li> </ul> | <ul style="list-style-type: none"> <li>a) Restore correct rotation direction by changing socket connection.</li> <li>b) Call the after-sales service.</li> <li>c) Fill oil-pressure power unit tank with oil.</li> </ul>  |
| Equipment operates in jerks.      | <ul style="list-style-type: none"> <li>a) Not enough fluid in oil-pressure power unit tank.</li> <li>b) Control unit switch has failed.</li> </ul>  | <ul style="list-style-type: none"> <li>a) Top up with oil.</li> <li>b) Call the after-sales service.</li> </ul>   |

## 14.0 TECHNICAL DATA

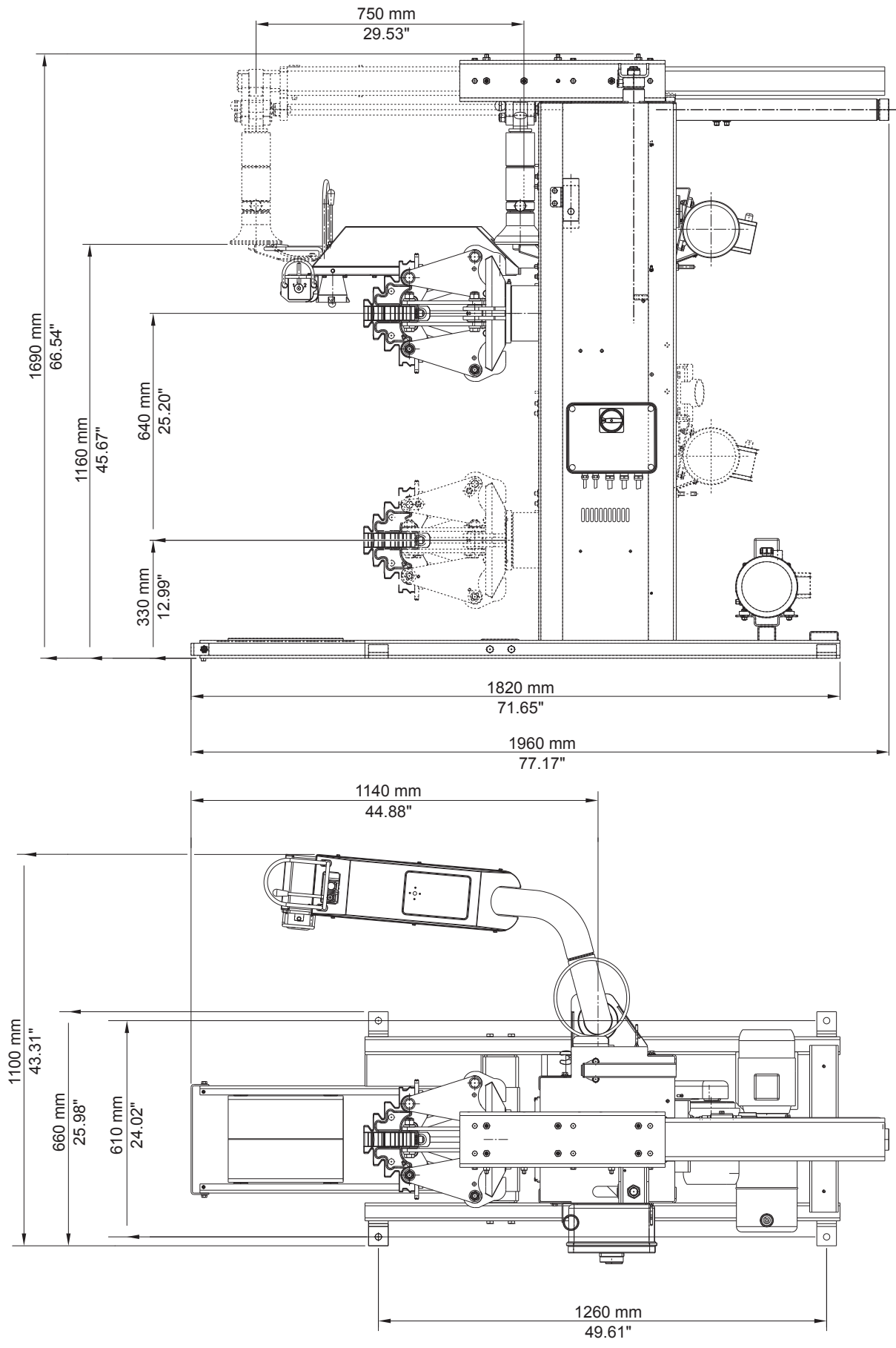
### 14.1 *Technical electrical data*

|   |                | 3 Ph model   | 1 Ph model |
|---|----------------|--------------|------------|
| Motor power (Hp)                              |                | 1.5 (1.1 kW) | 2 (1.5 kW) |
| Power supply                                  | Voltage (V)    | 220/400      | 220        |
|   | Phases         | 3            | 1          |
|   | Frequency (Hz) | 50/60        | 60         |
| Hydraulic drive unit motor (Hp)               |                | 1 (0.75 kW)  | 2 (1.5 kW) |
| Power supply                                  | Voltage (V)    | 230/400      | 220        |
|   | Phases         | 3            | 1          |
|   | Frequency (Hz) | 50/60        | 60         |
| Typical current draw (A)                      |                | 5.5          |            |
| Self-centering chuck rotation speed (rev/min) |                | 6.5          |            |

### 14.2 *Technical mechanical data*

|   |                    |
|---|--------------------|
| Tire max. diameter (mm)                   | 1300 (51")         |
| Rim diameter (inches)                     | 11-27              |
| Wheel max. width (mm)                     | 950 (37")          |
| Bead-breaking force (N)                   | 16000 (3597 lbf)   |
| Operating pressure (bar)                  | 130 (1885 psi)     |
| Max. rotation torque (Nm)                 | 1700 (1255 ft-lbs) |
| Wheel max. weight (kg)                    | 1200 (2646 lbs)    |
| Chuck minimum height from the ground (mm) | 330 (13")          |
| Gear noise (dB) (A)                       | < 80               |
| Weight (kg)                               | 396 (873 lbs)      |

Fig. 35



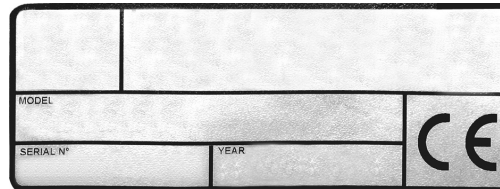
## 15.0 STORING

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.

## 16.0 SCRAPPING

When the decision is taken not to make further use of this equipment, make it inoperative by disconnecting it from the electrical power supply and the compressed air supply. This equipment is to be disposed of in accordance with applicable regulations.

## 17.0 REGISTRATION NAMEPLATE 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 nameplate must always be kept clean from grease residues or filth generally.

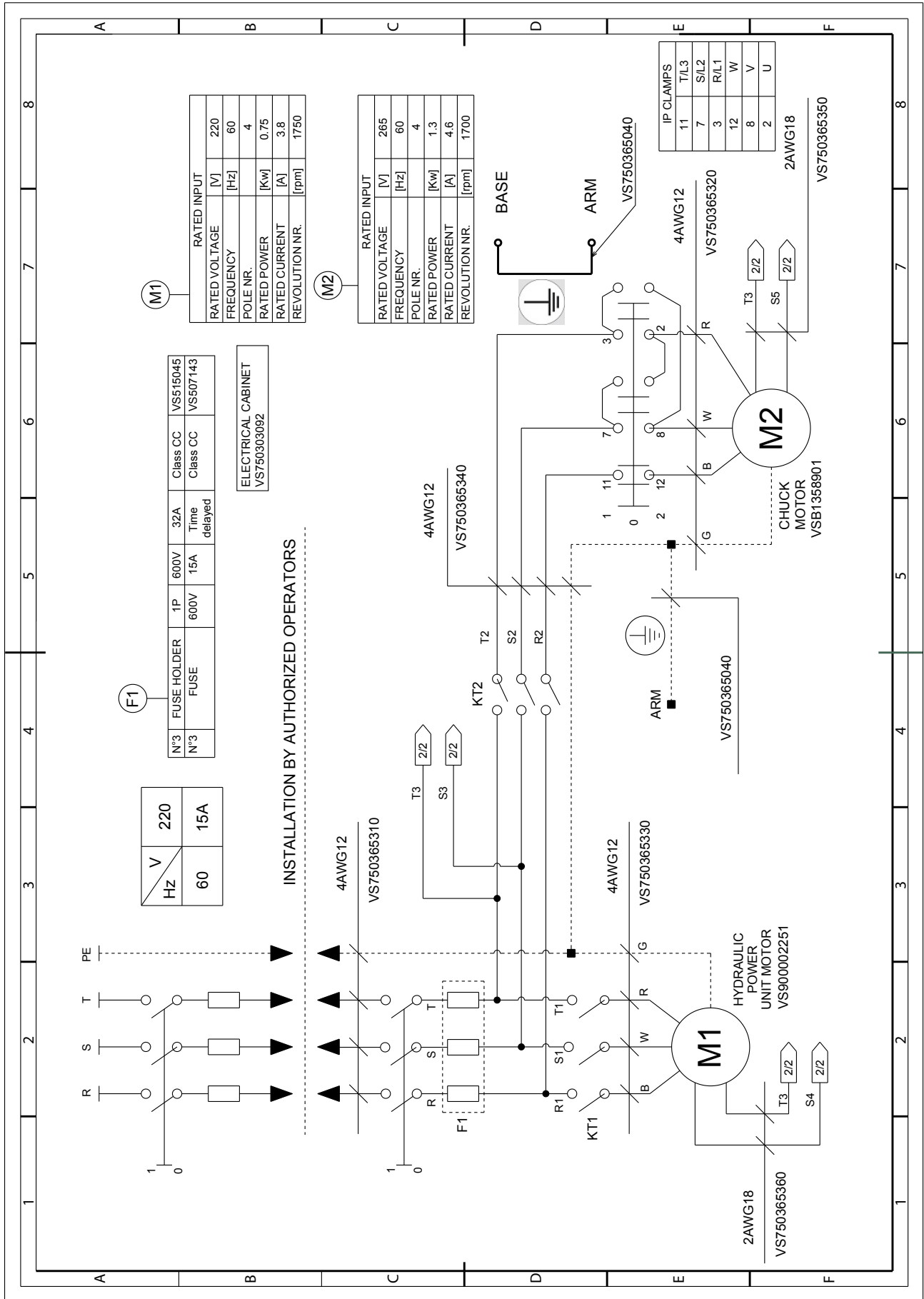


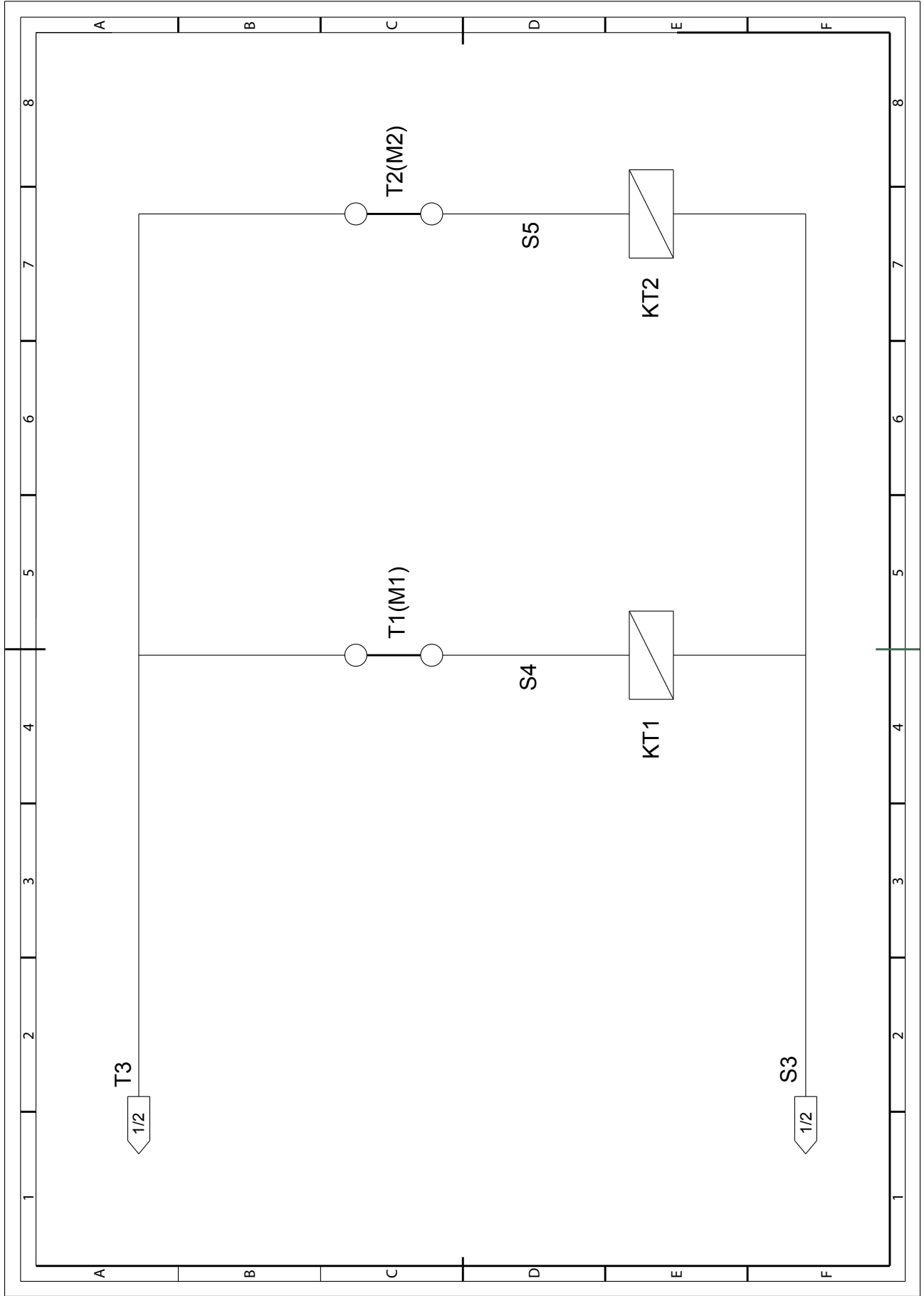
**ATTENTION: TAMPERING WITH, SCRATCHING, CHANGING OR REMOVING EQUIPMENT IDENTIFICATION NAME-PLATE IS ABSOLUTELY FORBIDDEN; DO NOT COVER IT WITH TEMPORARY PANELS, ETC., SINCE IT MUST ALWAYS BE VISIBLE.**

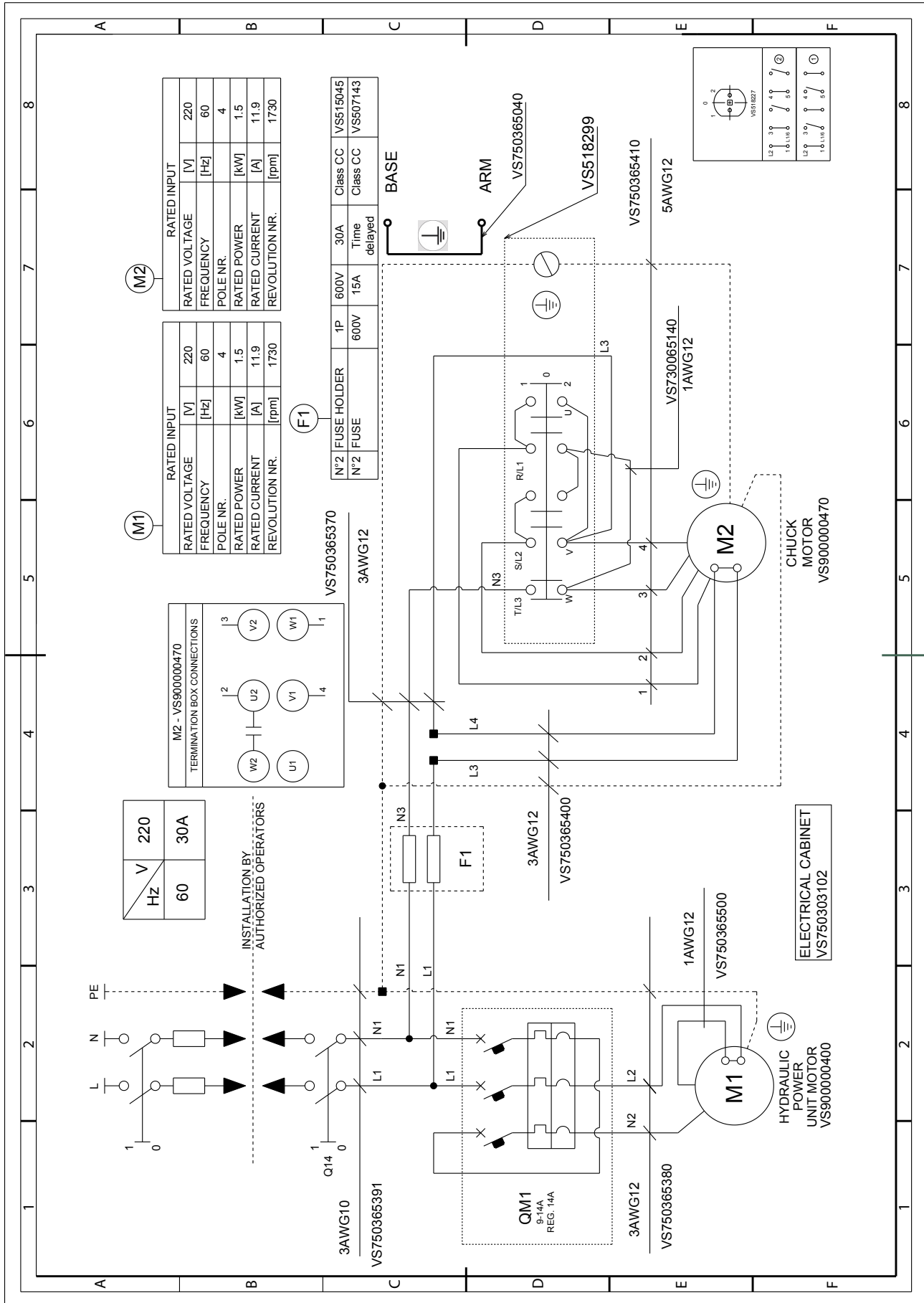
**WARNING:** Should the plate be accidentally damaged (removed from the equipment, damaged or even partially illegible) contact the manufacturer.

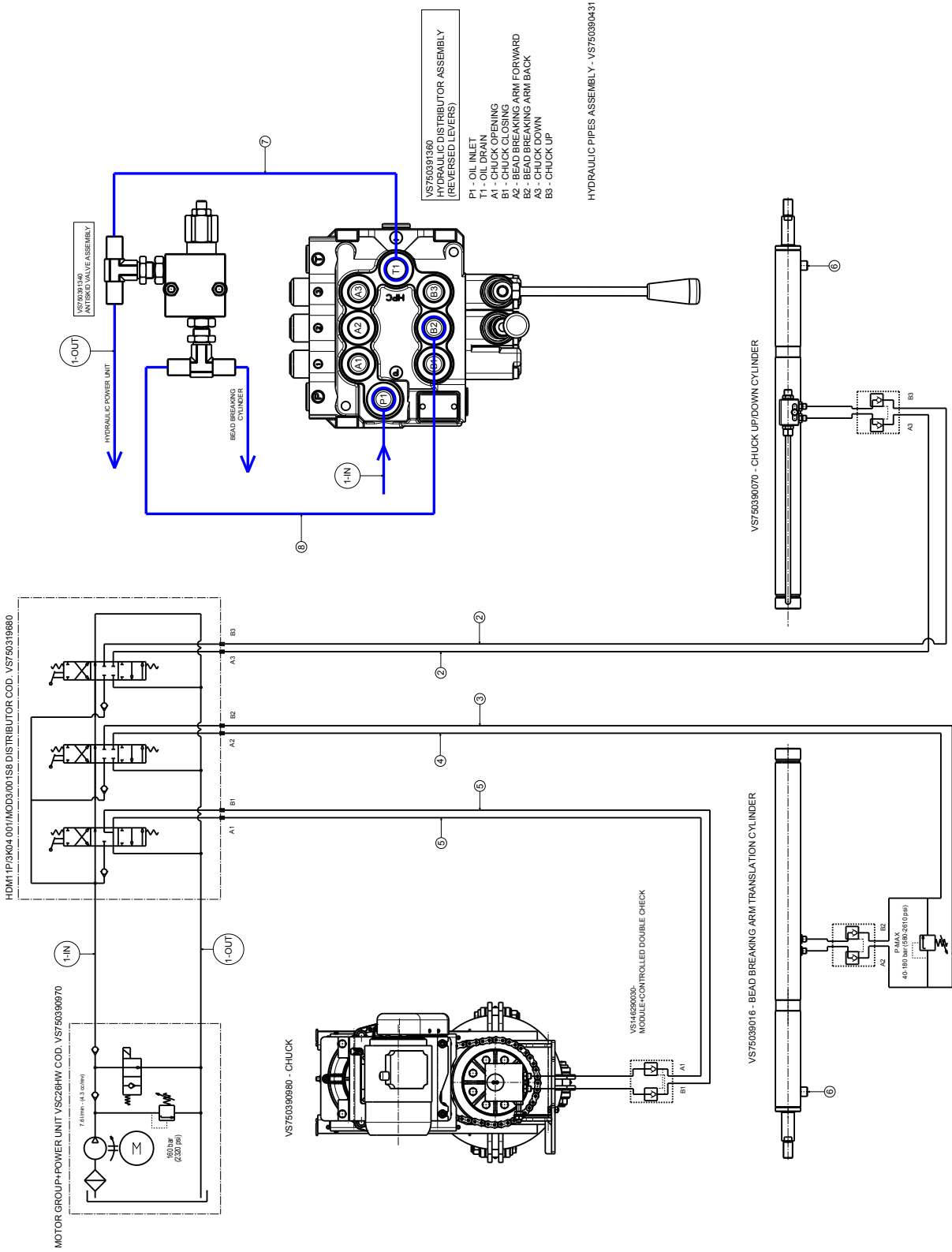
## 18.0 FUNCTIONAL DIAGRAMS

Here follows a list of the equipment functional diagrams.









**Drawing Number C - Rev. 1** **VS750305141** **Hydraulic diagram**

| N° | Code        | Description  | Description | Descripción |
|----|-------------|--|-------------|-------------|
| 1  | VS750360070 | 1/4" L=2500 90 1/4" - 90 1/4" oil-pressure hose        |             |             |
| 2  | VS750360080 | 3/16" L=2650 90 1/4" - 1/4" straight oil-pressure hose |             |             |
| 3  | VS750360100 | 3/16" L=2470 90 1/8" - 90 1/8" oil-pressure hose       |             |             |
| 4  | VS750360220 | 3/16" L=2470 90 1/4" - 90 1/4" oil-pressure hose       |             |             |
| 5  | VS750360120 | 3/16" L=2720 90 1/8" oil-pressure hose                 |             |             |
| 6  | VS750360170 | 1/4" L=380 90 1/4" - 90 1/4" oil-pressure hose         |             |             |
| 7  | VS750360180 | 1/4" L=265 90 1/4" - 90 1/4" oil-pressure hose         |             |             |
| 8  | VS750360200 | 3/16" L=330 90 1/4" - 90 1/8" oil-pressure hose        |             |             |
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**Installer:** please return this booklet to literature package, and give it to the owner/operator.

***Thank You***

Trained Operators and Regular Maintenance Ensures Satisfactory Performance of Your Wheel Service Equipment.

Contact Your Nearest Authorized Rotary Wheel Service Equipment Parts Distributor for Genuine Replacement Parts. See Literature Package for Parts Breakdown.

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