

7503-M002-10

**VSC26HW
VSC26HWS
RWC26HWSB**

INSTRUCTION MANUAL

GB

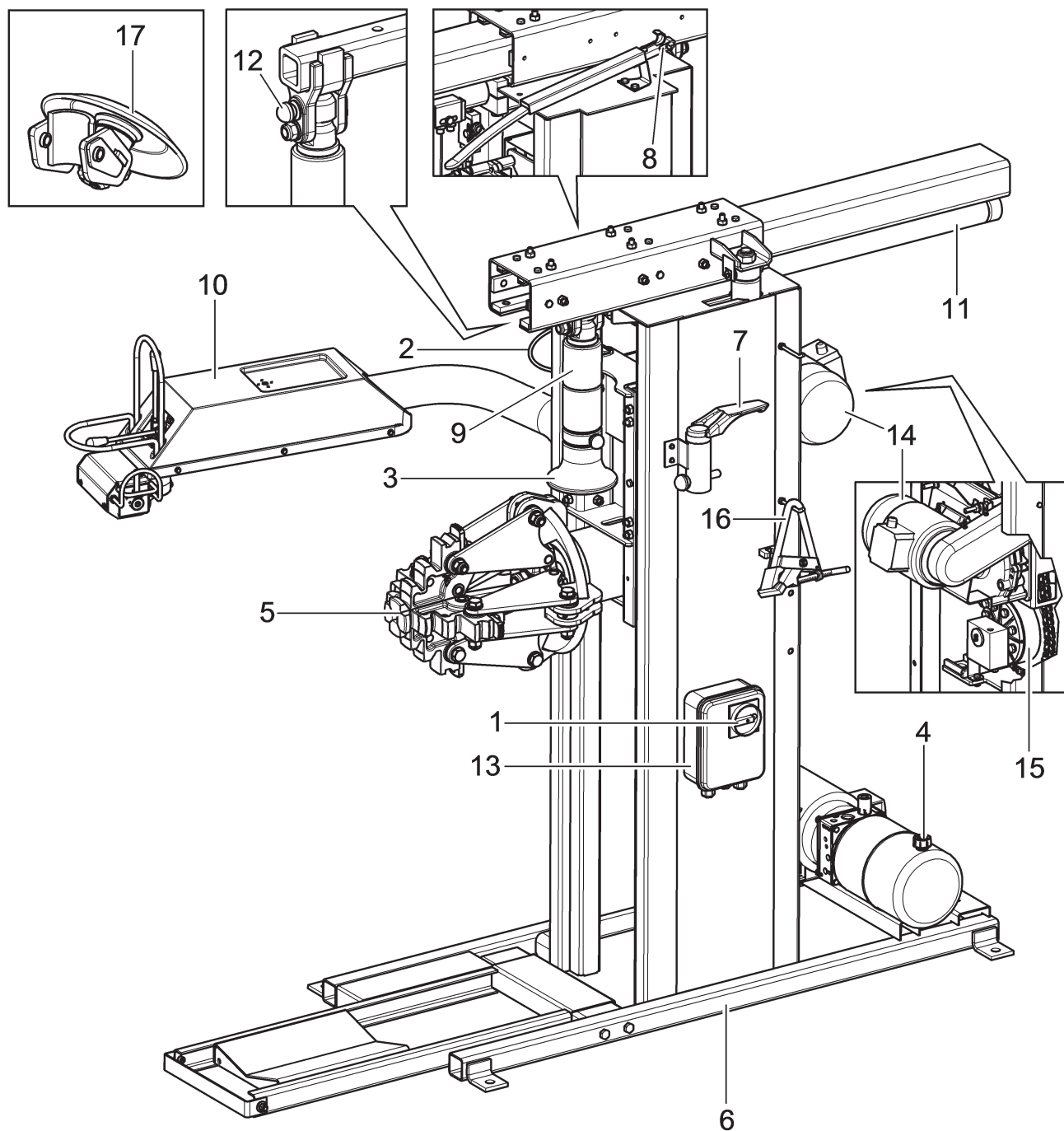
TRANSLATION FROM THE
ORIGINAL INSTRUCTIONS

For spare parts drawings refer to “LIST OF COMPONENTS” section.

- For any further information please contact your local dealer.

SUMMARY

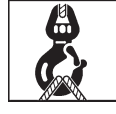
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FIG. 1**KEY**

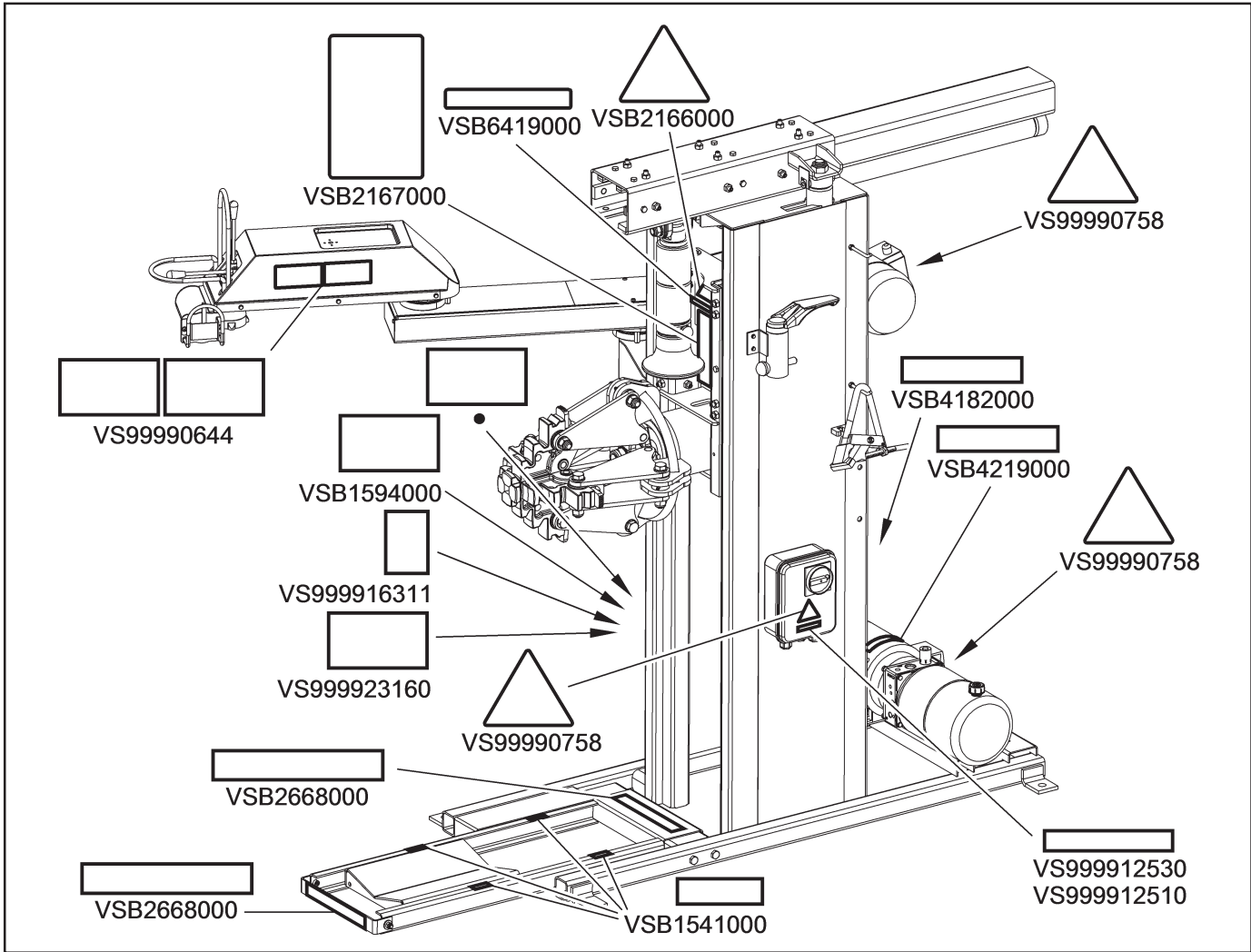
- | | |
|----------------------------------|--|
| 1 - Main switch | 11 - Bead breaker tool/roll translation cylinder |
| 2 - Grease holder ring | 12 - Tool holder arm locking pin |
| 3 - Bead breaker roll | 13 - Electric panel |
| 4 - Oil-pressure power unit | 14 - Mandrel rotation motor |
| 5 - Self-centring chuck | 15 - Mandrel opening/closing cylinder |
| 6 - Frame | 16 - VSG90A6 (optional) - Clamp for alloy rims |
| 7 - Bead breaker hook tool | 17 - VSG108A22 (optional) - Bead wire wheel beading disc |
| 8 - Demounting/mounting lever | |
| 9 - Bead breaker roll holder arm | |
| 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.
	Warning. Be particularly careful (possible material damages).
	Danger! Be particularly careful.

Symbols	Description
	Note. Indication and/or useful information.
	Move with fork lift truck or pallet truck.
	Lift from above.
	Technical assistance necessary. Do not perform any intervention.
	Caution: hanging loads.
	Danger: tyres could drop.
	Risk of crushing and collisions (tools holder shaft).

INFORMATION PLATE LOCATION TABLE



Codifica delle targhe	
VS B 1 5 4 1 0 0	<i>Danger indicating plate</i>
VS B 1 5 9 4 0 0	<i>Date indicating plate</i>
VS B 2 1 6 6 0 0	<i>Bead breaker hand danger indicating plate</i>
VS B 2 1 6 7 0 0	<i>Gloove-glasses indicating plate</i>
VS B 2 6 6 8 0 0	<i>Wheel lifting device danger indicating plate</i>
VS B 4 1 8 2 0 0	<i>Electric motor specifications plate</i>
VS B 4 2 1 9 0 0	<i>Rotation direction indicating plate</i>
VS B 6 4 1 9 0 0	<i>Rotation indicating plate</i>
VS 9 9 9 9 0 6 4 4	<i>Rotation index plate</i>
VS 9 9 9 9 0 7 5 8	<i>Electricity danger plate</i>
VS 9 9 9 9 1 2 5 3 0	<i>Monophase voltage plate (only for 26HWS models)</i>
VS 9 9 9 9 1 2 5 1 0	<i>220/60/3 voltage table (only for 26HW model)</i>
VS 9 9 9 9 1 6 3 1 1	<i>Rubbish skip label</i>
VS 9 9 9 9 2 3 1 6 0	<i>Warning Prop 65 plate</i>
.	<i>Serial number plate</i>



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

1.0 GENERAL INTRODUCTION

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

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



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



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

1.1 Introduction

Thank you for preferring this electro-hydraulic tyre changer. We feel sure you will not regret your decision. The machine has been designed for use in professional workshops and in particular it stands out for its reliability, safe and rapid operation: with just a small degree of maintenance and care, this will give you many years of trouble-free service and lots of satisfaction. This manual contains all operating instructions and details on how to service and use the machine correctly.

2.0 INTENDED USE

The machines described in this manual are tyre changers with electro-hydraulic working, to be used only for the mounting and demounting of any type of wheel with whole rim (with groove and bead wire), with maximum dimensions of 1300 mm and maximum weight of 1200 kg. The machines are NOT to be used for tyre inflation.



THESE MACHINES MUST ONLY BE USED FOR THE PURPOSE FOR WHICH THEY ARE SPECIFICALLY DESIGNED. ANY OTHER USE IS CONSIDERED IMPROPER AND THEREFORE UN-ACCEPTABLE.



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



AN INTENSIVE USE OF THE EQUIPMENT IN INDUSTRIAL ENVIRONMENT IS NOT RECOMMENDED.

2.1 Training of personnel

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

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



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

3.0 SAFETY DEVICES



PERIODICALLY, AT LEAST MONTHLY, CHECK THE INTEGRITY AND THE FUNCTIONALITY OF THE SAFETY AND PROTECTION DEVICES ON THE MACHINE.

All the machines are equipped with:

- “man-operated” controls (immediate stop of operation when the control is released).
- **Controls 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 clamping unit jaws,
 - mandrel lifting,
 - tool roll translation,

These valves have been fit in order to avoid unexpected movements of the jaws (and, as a consequence, the wheel fall), of the tool roll and wheel locking mandrel, caused by accidental oil drippings;

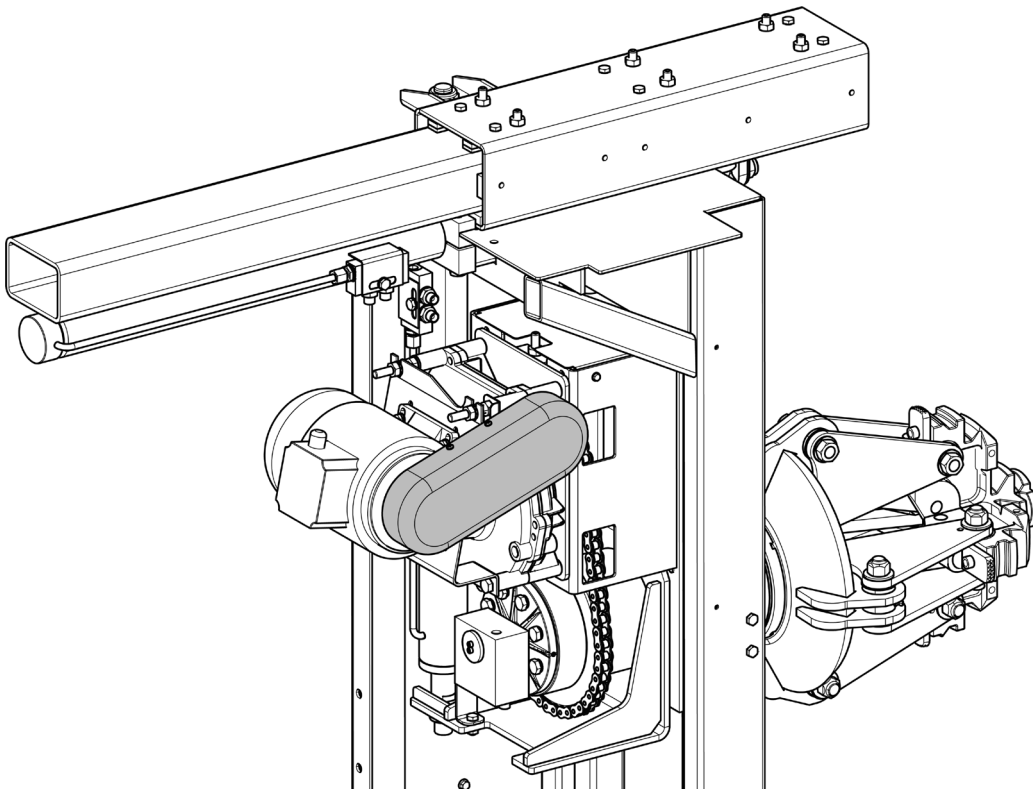
- fuses on the electric supply line of the mandrel motor;

- **Fixed guards and shelters**

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

These protections can be located in the figure below.

Fig. 2



3.1 Residual risks

The machine was subjected to a complete analysis of risks according to reference standard EN ISO 12100.

Risks are as reduced as possible in relation with technology and product functionality.

This manual stresses possible residual risks, also highlighted in pictograms on the present manual and adhesive warning signals placed on the machine: their location is represented in “PLATE LOCATION ON MACHINE INFORMATION TABLE” on page 5.

4.0 GENERAL SAFETY RULES



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



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

- Installation must be conducted only by qualified personnel exactly according to the instructions that are given below.
- Ensure that there are no dangerous situations during the machine operating manoeuvres. Immediately stop the machine if it miss-functions and contact the assistance service of an authorized dealer.
- In emergency situations and before carrying out any maintenance or repairs, disconnect all supplies to the machine by using the main switch.
- The machine electrical supply system must be equipped with an appropriate earthing, to which the yellow-green machine protection wire must be connected.
- Ensure that the work area around the machine is free of potentially dangerous objects and that there is no oil since this could damage the tyre. Oil on the floor is also a potential danger for the operator.



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

- The machine handles and operating grips must be kept clean and free from oil.
- The workshop must be kept clean and dry. Make sure that the working premises are properly lit. The machine can be operated by a single operator. Unauthorised personnel must remain outside the working area, as shown in **Fig. 5**. Avoid any hazardous situations. Do not use air-operated or electrical equipment when the shop is damp or the floor slippery and do not expose such tools to atmospheric agents.
- When operating and servicing this machine, carefully follow all applicable safety and accident-prevention precautions. The machine must not be operated by professionally unskilled persons.



THE MACHINE OPERATES WITH PRESSURIZED HYDRAULIC FLUID. MAKE SURE EVERY COMPONENT OF THE HYDRAULIC CIRCUIT IS ALWAYS PROPERLY LOCKED, ANY PRESSURIZED LEAKS MAY CAUSE SERIOUS INJURIES OR WOUNDS.



IN CASE OF A CHANCE SUPPLY FAILURE MOVE THE CONTROLS TO THE NEUTRAL POSITION.

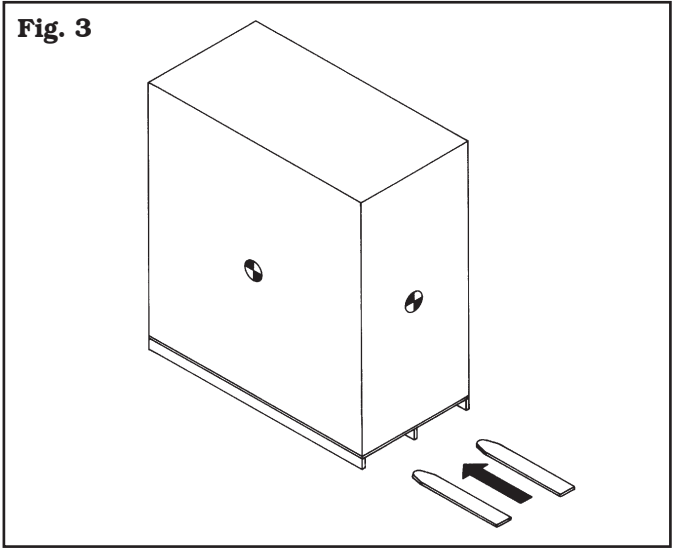
5.0 PACKING AND MOBILIZATION FOR TRANSPORT






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

The machine is packed completely assembled. The displacement must be performed through adequate lifting device (fork lift truck). Lift the packaging as indicated in **Fig. 3** (forks introduced in the middle to ensure a correct loads distribution).



6.0 UNPACKING




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

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

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

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

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



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

7.0 MOBILIZATION

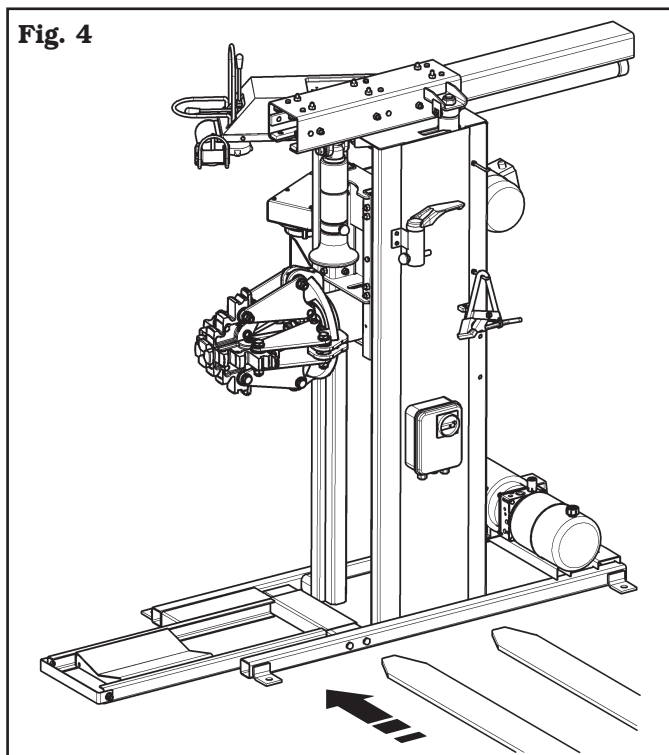


THE LIFTING EQUIPMENT MUST WITHSTAND A MINIMUM RATED LOAD EQUAL TO THE WEIGHT OF THE MACHINE (SEE PARAGRAPH TECHNICAL SPECIFICATIONS). DO NOT ALLOW THE LIFTED MACHINE TO SWING.

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

- Protect the exposed corners with suitable material (Pluribol/cardboard).
- Do not use metallic cables for lifting.
- Make sure that the electricity supply is not connected.
- Lift and transport with suitable device as indicated in **Fig. 4** (forks introduced in the middle to ensure a correct loads distribution).

Fig. 4



8.0 WORKING ENVIRONMENT CONDITIONS

The machine must be operated under proper conditions as follows:

- temperature: $0^{\circ} + 55^{\circ} \text{C}$
- relative humidity: 30 - 95% (dew-free)
- atmospheric pressure: 860 - 1060 hPa (mbar).

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

8.1 Working position

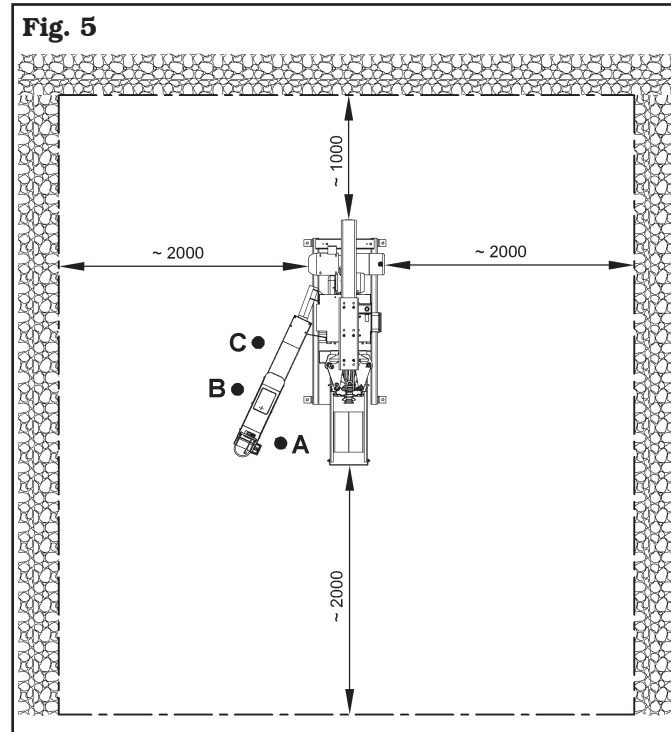
In **Fig. 5** it's possible to define working positions **A**, **B**, **C** which will be referred to in the description of machine operative phases.

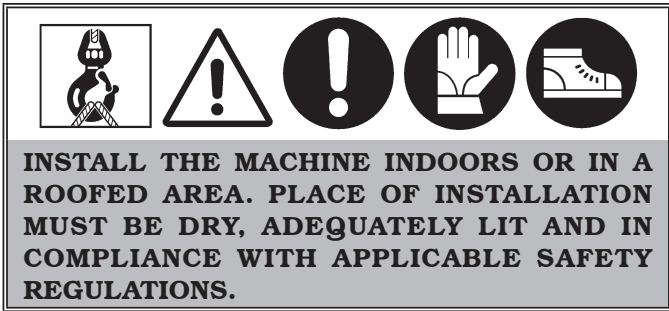
Positions **A** and **B** must be considered as main positions for tyre mounting and demounting and for wheel clamping on the mandrel, while positions **A** and **C** are the best positions to follow tyre bead breaking and demounting operations.

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

8.2 Working area

Fig. 5





The use of the machine requires a usable space as indicated in **Fig. 5**. The use of the machine must respect the shown distances. From the control position the operator is able to observe all the machine and surrounding area. He must prevent unauthorized personnel or objects that could be dangerous from entering the area.

The machine must be 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/m².

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

8.3 Lighting

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

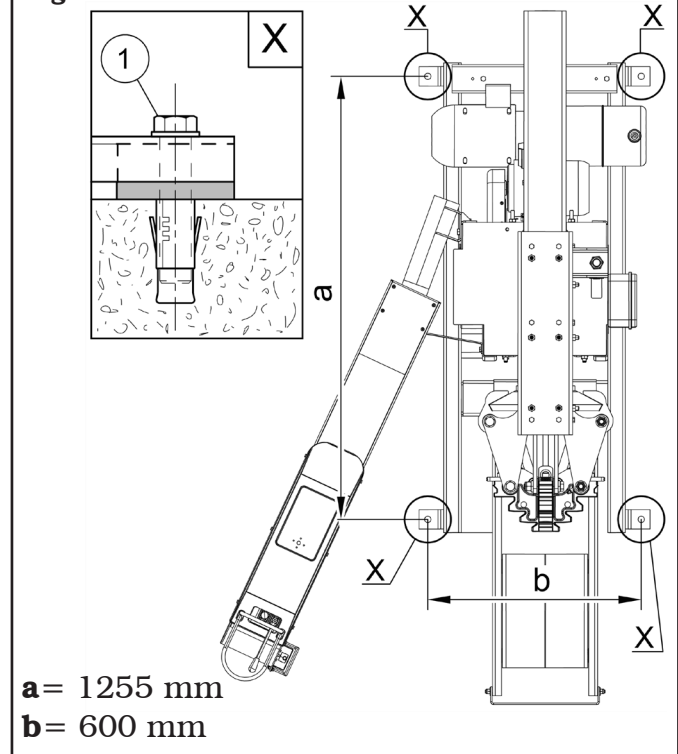
In case of poor lighting use lamps having total power of 800/1200 Watt.

9.0 MACHINE ASSEMBLY

9.1 Anchoring system

The packed machine is fixed to the support pallet through the holes prearranged on the frame. Such holes can be used also to fix the machine to the ground, through floor anchor small blocks (excluded from supply). Before carrying out the definitive fixing, check that all the anchor points are laid down flat and correctly in contact with the fixing surface itself. If not so, insert shimming profiles between the machine and the fixing lower surface, as indicated in **Fig. 6**.

Fig. 6



- Execute 4 holes with 12 mm diameter on the floor by the holes on the bottom floor;
- insert the small blocks (excluded from supply) into the holes;
- fix the machine to the ground with 4 M12x120 mm screws (excluded from supply) (**Fig. 6 ref. 1**) (or with 4 12x80 mm stud bolts (excluded from supply)). Tighten the screws with an approximate tightening torque of 70 Nm.

9.2 Fixtures contained in the packing

The packing case contains also the fixtures box. Check that all the parts listed are there.

Code	Description	N.
VSG108A3	Head with lever	1
VSG800A37	Mounting grease	1
VSG108A16	Brush	1
VSG108A2	Alloy rim protection	1

10.0 ELECTRICAL CONNECTIONS



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



BEFORE CONNECTING THE MACHINE MAKE SURE THAT:

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

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

MACHINE	VOLTAGE	PHASE	FREQUENCY	AMP
26HW	230/400V	3ph	50-60Hz	16/10A
26HWS	220V	1ph	50-60Hz	25A

On delivery, the machine is preset to operate at a voltage of 230/400V - 50-60Hz three-phase (only for 26HW model) and with a monophasic voltage of 200V - 50-60Hz (only for 26HWS models).



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



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



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

10.1 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 AN APPROXIMATE AMOUNT OF OIL OF 3 LITRES, ALWAYS 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 TO 30 DEGREES);**
- **VISCOSITY 46 (FOR COUNTRIES WITH ROOM TEMPERATURE ABOVE 30 DEGREES).**

10.2 Check of motor rotation direction

Once the last electrical connection has been terminated, power the machine with the main switch.

Make sure the motor of the hydraulic power unit rotates in the direction indicated by the arrow (**Fig. 7 ref. B**) visible on the electric motor cap.

If rotation should occur in the opposite direction, the machine 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.

10.3 Electrical checks

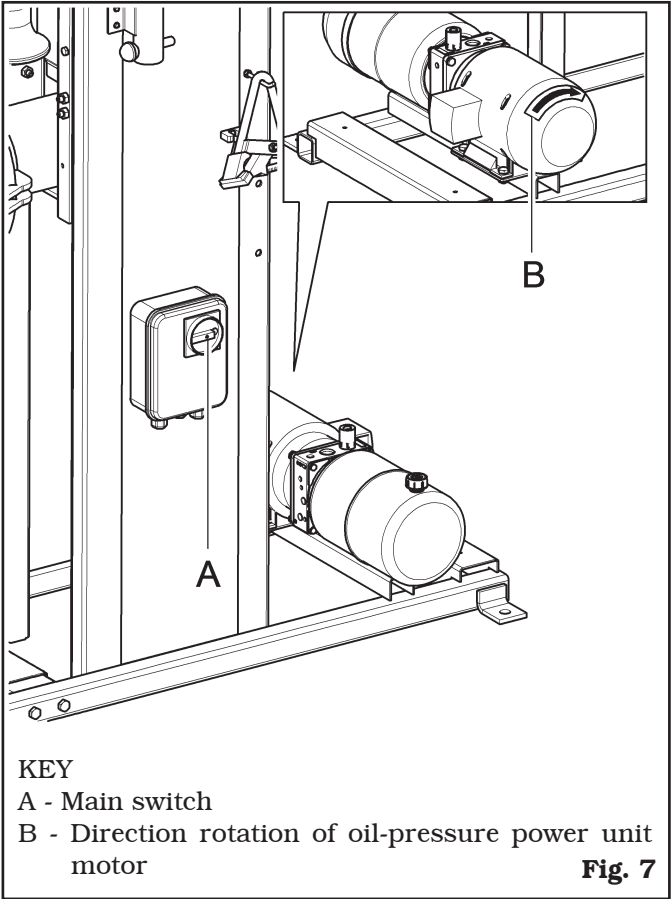


BEFORE STARTING UP THE TYRE-CHANGER, BE SURE TO BECOME FAMILIAR WITH THE LOCATION AND OPERATION OF ALL CONTROLS AND CHECK THEIR PROPER OPERATION (SEE PAR. "CONTROLS").



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

Once the plug/socket connection has been made, turn the machine on using the master switch (**Fig. 7 ref. A**).





ONCE THE ASSEMBLY OPERATIONS HAVE BEEN ENDED, CHECK ALL MACHINE FUNCTIONS.

11.0 CONTROLS

11.1 Control device

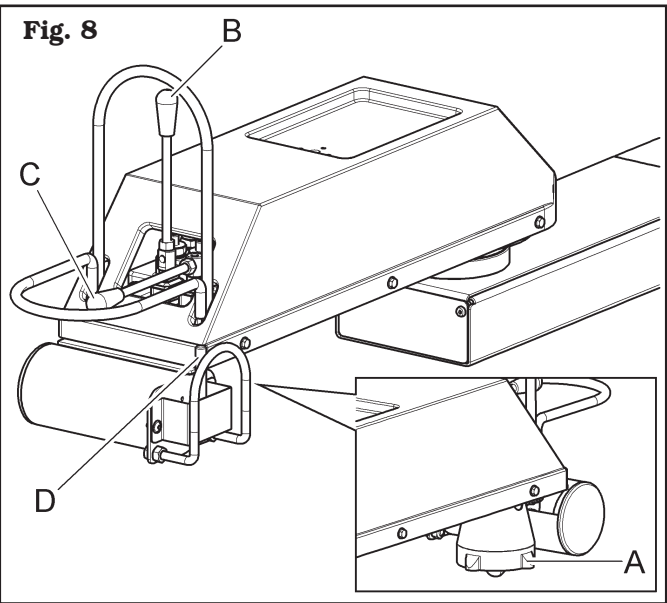
The control (handle control) can be moved according to the positioning necessities of the operator.



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

The control (**Fig. 8**) consists of:

- **"A" lower selector** (with protection) three-positions control for opening and closing of wheel holder mandrel: a central "firm" position for stop of mandrel opening/closing movement and two "hold activation" positions for mandrel jaws opening/closing;
- **"B" lever** for tool holder tool/bead breaking roll translation control with three-positions: one central position "stable" to stop translation and two positions "with maintained control" for tool/bead breaking roll support translation rightwards or leftwards (from working position "C" **Fig. 5**);
- **"C" lever** three-positions control for vertical translation of mandrel arm: central "firm" position for movement stop and two "hold activation" positions for arm up and down translation;
- **"D" lever** control mandrel anticlockwise/clockwise rotation.



12.0 USING THE MACHINE

12.1 Precaution measures during tyre removal and fitting



Before fitting a tyre, observe the following safety rules:

- always use clean, dry and in good condition rims and tyres; in particular, if necessary, clean the rims after all the balancing weights (as well as the adhesive weights on the inner side) have been removed, and make sure that:
 - neither the bead nor the tread of the tyre are damaged;
 - the rim does not produce dents and/or deformation (especially for alloy rims, dents can cause internal micro-fractures, that pass unobserved at visual inspection, and can compromise the solidity of the rim and constitute danger even during inflation);
- adequately lubricate the contact surface of rim and tyre bead, using specific tyre lubricants only;
- replace the inner tube valve with a new valve, if the tyre tube has a metal valve, replace the grommet;
- make sure that the tyre is the right size for the rim; on the contrary, never fit a tyre unless you are sure it is the right size (the rated size of the rim and tyre is usually printed directly on each of them);
- do not use compressed air or water jets to clean the wheels on the machine.

12.2 Preliminary operations

In view of the tyre changer structure and of its intended use, the operator must work with wheels with large diameter (up to 2550 mm) and with remarkable weight (up to 2300 kg).

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 TYRES BEADS IS RECOMMENDED, IN ORDER TO PROTECT THEM FROM POSSIBLE DAMAGES AND TO FACILITATE MOUNTING AND DEMOUNTING OPERATIONS.

12.3 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 groove.
- Find the rim locking type.

12.4 Wheel clamping with self-centring mandrel



FOR WHAT CONCERNS THE DIMENSIONS AND WEIGHT OF THE WHEEL TO BE LOCKED, MAKE USE OF A SECOND OPERATOR WHO MUST HOLD THE WHEEL INTO VERTICAL POSITION, IN ORDER TO ENSURE SAFE OPERATIVE CONDITIONS.



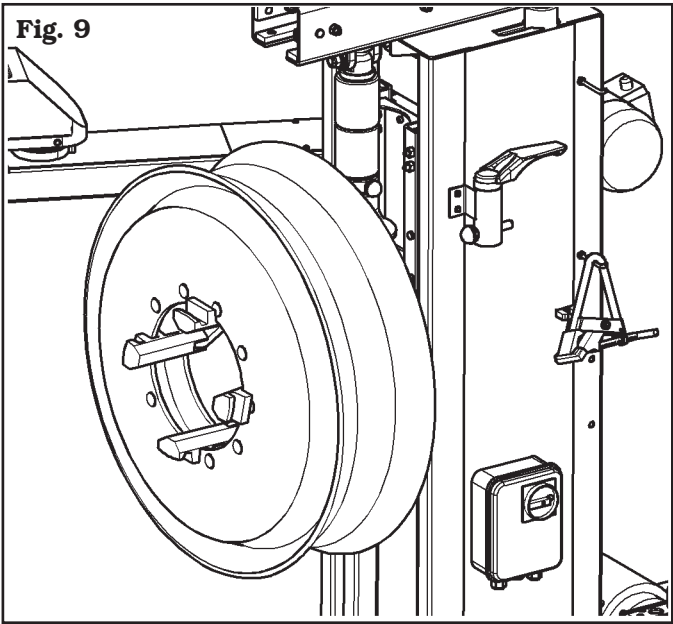
WHEN HANDLING WHEELS WEIGHING MORE THAN 500 KG A FORK-LIFT TRUCK OR A CRANE SHOULD BE USED.



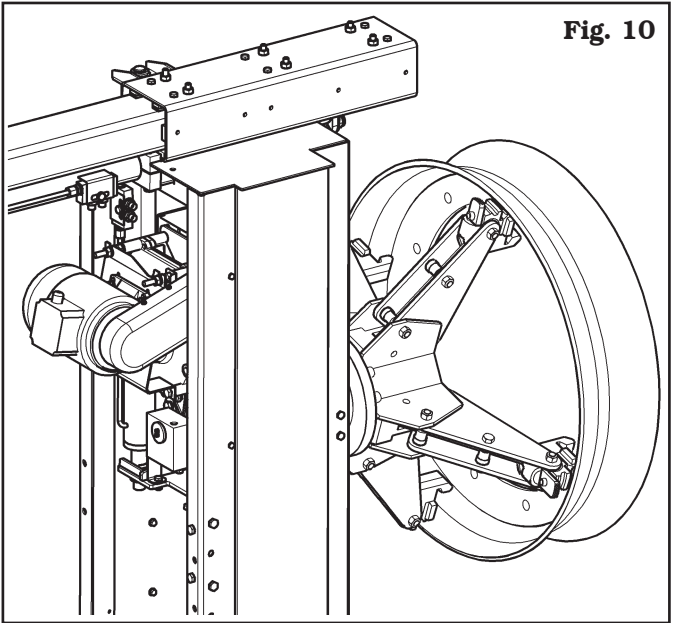
MAKE SURE THAT RIM CLAMPING IS DONE PROPERLY AND THAT THE GRIP IS SAFE, TO PREVENT THE WHEEL FROM FALLING DURING MOUNTING OR REMOVAL OPERATIONS.



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.



Clamping on the central hole



Clamping on bead seat



OPENING/CLOSING MOVEMENT OF THE SELF-CENTRING MANDREL CAN GENERATE DANGER OF SQUASHING, CUTTING, COMPRESSING. DURING WHEEL LOCKING/UNLOCKING PHASE, AVOID THAT PARTS OF HUMAN BODY COME INTO CONTACT WITH MOVING PARTS OF THE MACHINE.

All wheels must be clamped from the inside.



CLAMPING ON THE CENTRAL FLANGE IS ALWAYS SAFEST.



FOR WHEELS WITH GROOVED RIMS SECURE THE WHEEL SO THAT THE GROOVE IS FACING OUTWARDS COMPARED TO THE MANDREL.

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 MANDREL'S NORMAL JAWS BY MEANS OF A BAYONET CONNECTION.

To clamp the wheel proceed as follows:

- Place the wheel in vertical position not far from the mandrel;
- Use the lever (**Fig. 8 ref. C**) to position the coaxial mandrel with the wheel centre, in order to make jaws' edges skim wheel's edge;
- Adjust the opening of the self-centring unit through the corresponding control (**Fig. 8 ref. A**) according to the type of rim to be locked;
- Operate the control (**Fig. 8 ref. A**) until the wheel is completely clamped;
- Check both that the rim is clamped and centred 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).



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



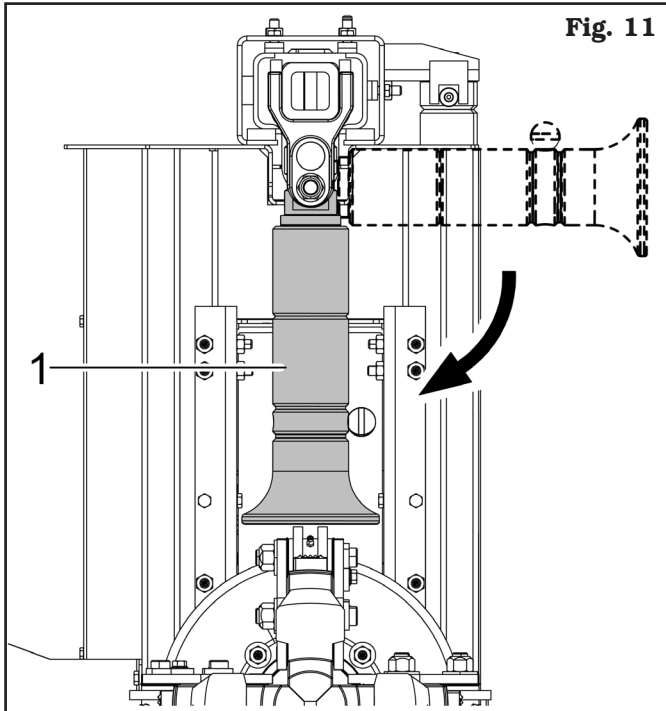
AFTER COMPLETION OF TYRE MOUNT/DEMOUNT OPERATIONS DO NOT LEAVE THE WHEEL CLAMPED ON THE SELF-CENTRING CHUCK AND NEVER LEAVE IT UNATTENDED ANYWAY.

12.5 Functioning of roll holder arm

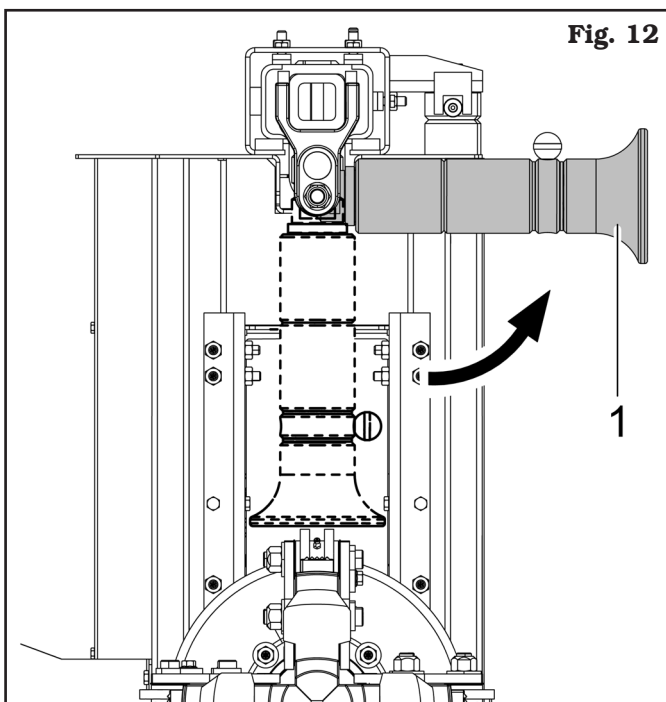
During the working phases, the roll holder arm can maintain two firm positions, that is:

- 1) "Working" position;
- 2) "Out of work" position.

In "working" position (**Fig. 11 ref. 1**) the tool holder arm is lowered towards the mandrel and from this position it executes the various tyre bead breaking, demounting and mounting operations.



In "out of work" position (**Fig. 12 ref. 1**) the roll 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 tyre bead side to another, during working phases.



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



IN "WORKING POSITION" OR "OUT OF WORK POSITION", THE SAFETY PIN (FIG. 1 REF. 12) HAS TO BE INSERTED INTO THE APPROPRIATE HOUSING.

12.6 Tubeless tyres

12.6.1 Bead breaking



NEVER PLACE ANY PART OF YOUR BODY BETWEEN THE BEAD BREAKER ROLL AND THE TYRE.



THROUGHOUT TYRE MOUNTING/DEMOUNTING OPERATIONS, CHECK THAT THE SELF-CENTRING CHUCK CLAMPING PRESSURE IS CLOSE TO THE MAXIMUM OPERATING VALUE (130 BAR).

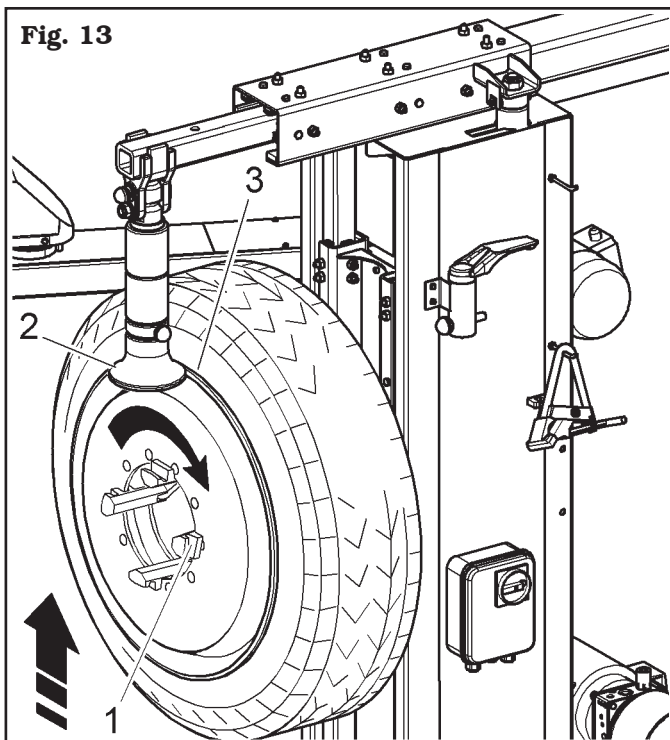
- A.** Lock the wheel on the mandrel as described in the previous paragraph.
- B.** Remove all balancing weights from the rim. Extract the valve and let air out of tyre.
- C.** Move to work position **A** (**Fig. 5**).
- D.** Position the beading disc on the external side of the tyre.



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

- E.** Lift the mandrel (**Fig. 13 ref. 1**) by using the appropriate handle control, until bringing the beading disc (**Fig. 13 ref. 2**) next to the tyre brim (**Fig. 13 ref. 3**), in contact with the external bead.

Fig. 13



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

G. Once external beading has been carried out, unhook and lift the roll holder arm placing it in “off-work” position (**Fig. 12 ref. 1**); use the handle control to position the roll holder arm on the inner side of the wheel, then place it in “work position” (**Fig. 11 ref. 1**) and secure it with the special safety pin.



FOR WHEELS WITH MAX. DIAMETER LOWER THAN 1100 MM, IT IS POSSIBLE TO SHIFT THE BEADING ROLL INTO THE SAME REAR BEADING POSITION BY LOWERING THE WHEEL (SEE FIG. 15) IN ORDER TO BRING IT BACK TO BEADING POSITION (SEE FIG. 16).



THE BEADING ROLL MUST NOT EXERT PRESSURE ON THE RIM BUT ON THE TYRE BEAD.

F. Turn the mandrel counterclockwise and, at the same time, gradually move the roll (**Fig. 14 ref. 1**) inwards to bead the tyre. Continue to turn the mandrel while generously lubricating the tyre rim and bead with a suitable lubricant. The more the wheel adheres to the rim, the slower should the beading roll advance.

Fig. 14

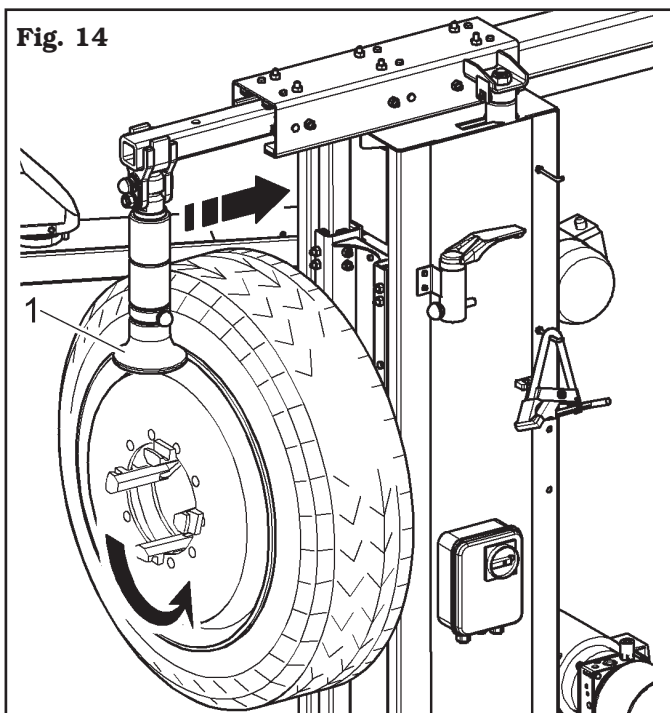


Fig. 15

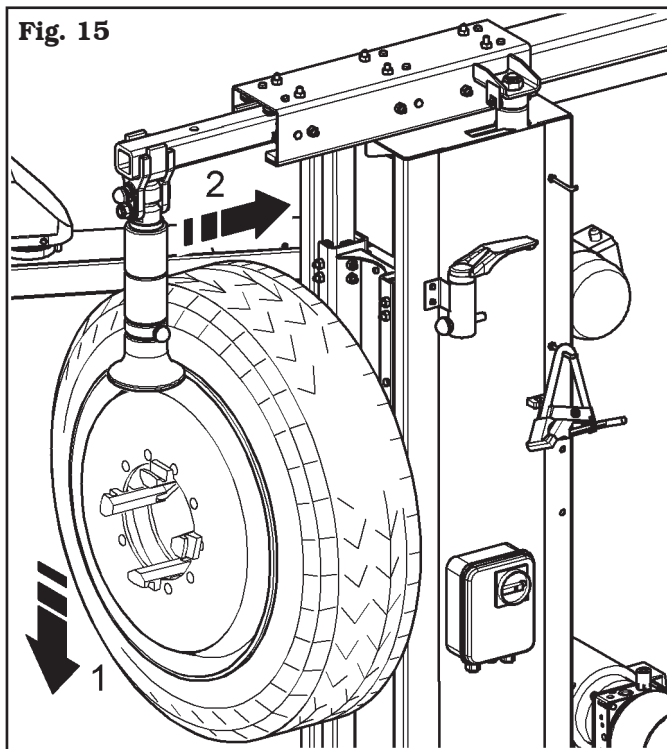
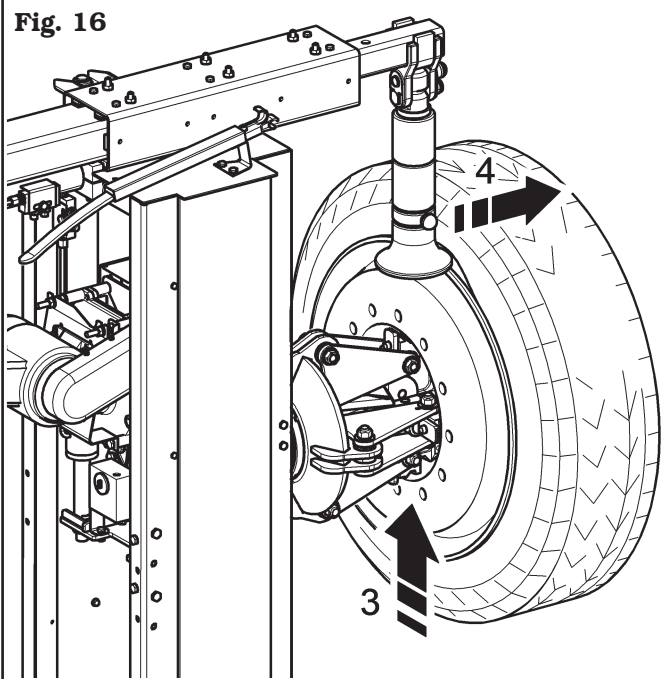


Fig. 16



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

H. Move to work position **C** (Fig. 5) and repeat the operations described in points **F** until the tyre has been completely beaded.

12.6.2 Demounting

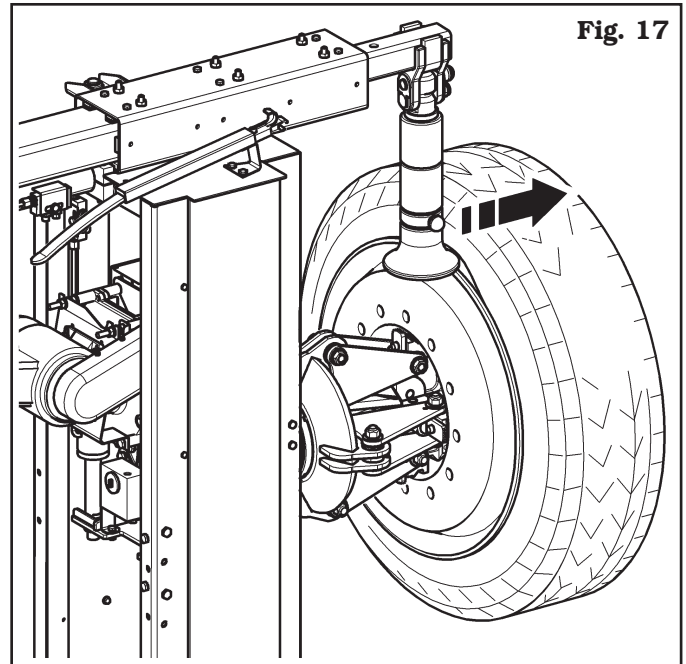


THROUGHOUT TYRE MOUNTING/DEMOUNTING OPERATIONS, CHECK THAT THE SELF-CENTRING CHUCK CLAMPING PRESSURE IS CLOSE TO THE MAXIMUM OPERATING VALUE (130 BAR).

Tubeless tyres can be removed in two ways:

A. 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 roll, presses against the outer one till it has been completely removed (see Figure 17).

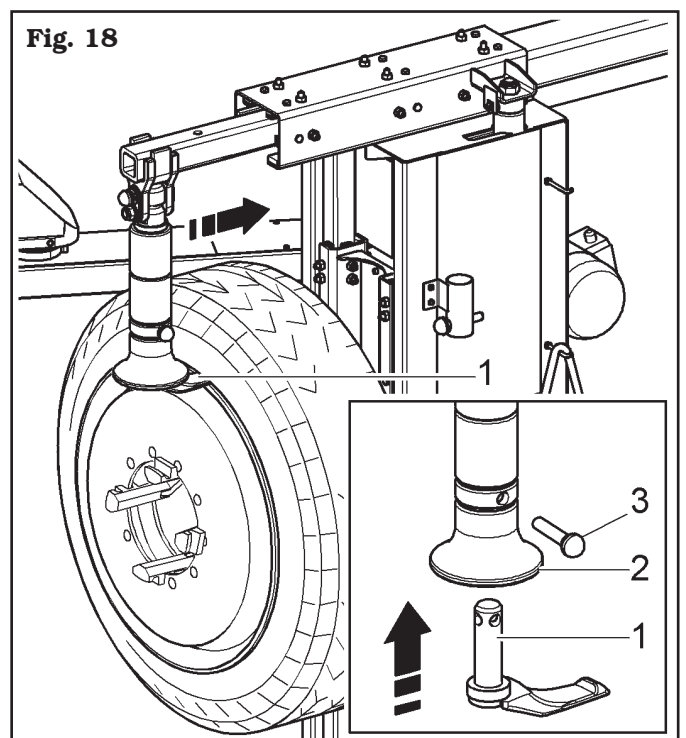
Fig. 17



B. If the wheel is especially hard, it is not possible to carry out the procedure described in point **A**. A different procedure will be necessary: use the hook tool and follow this sequence of operations:

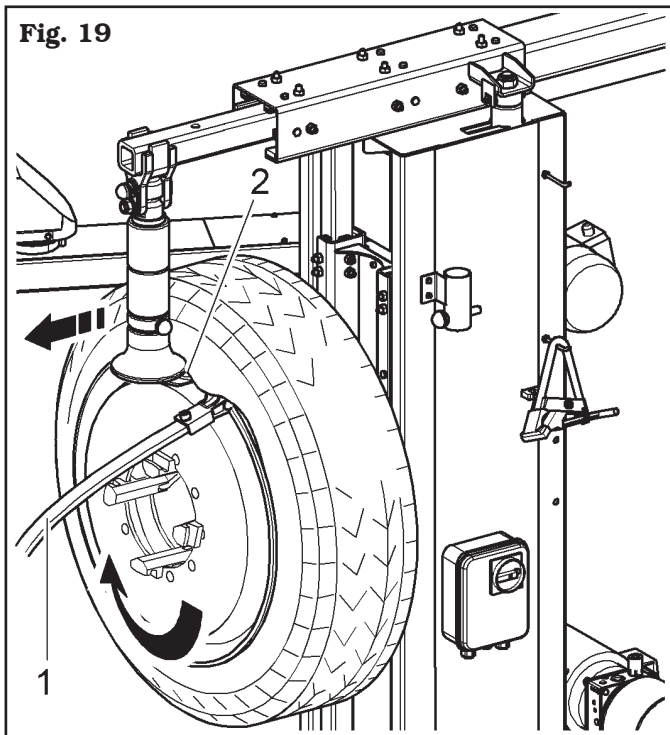
- Move to working station **A** (Fig. 5).
- Position the roll holder arm on the outer side of the wheel.
- Put the hook tool (Fig. 18 ref. 1) into the roll (Fig. 18 ref. 2), as shown in Figure 18, and block it in position by inserting the pin (Fig. 18 ref. 3).
- Bring forward the hook, inserting it between the rim and the bead until it is secured to the bead itself (see Fig. 18).

Fig. 18



- Move the rim away downwards from the tool by about 4-5 cm to avoid possible unhooking of the bead from the same tool.
- Translate the tool outwards (**Fig. 19 ref. 2**) to allow easy insertion of lever (**Fig. 19 ref. 1**) between the rim and the bead; insert lever (**Fig. 19 ref. 1**) between the rim and the bead on the right-hand side of the tool (**Fig. 19 ref. 2**).

Fig. 19



- Keeping the lever pressed, lift the wheel until the edge of the rim is 5 mm distant from the hook tool.
- Rotate the wheel clockwise until the bead has completely gone out.
- Once the external bead has been removed, move roll holder arm away from the wheel, unhook it and lift it bringing it in "off-work" position (**Fig. 12 ref. 1**); use the handle control to position the tool holder arm on the inner side of the wheel then place it in "work position" again (**Fig. 11 ref. 1**) and secure with the safety pin provided.



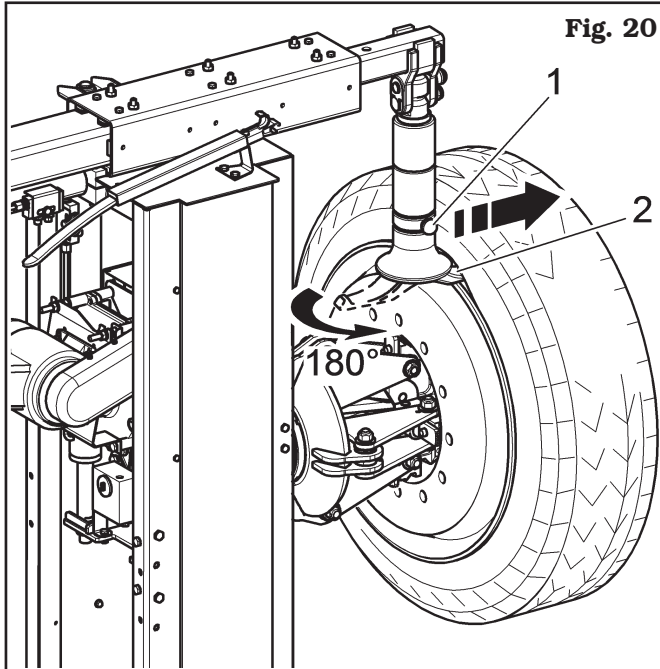
PAY ATTENTION WHEN REPOSITIONING THE ROLL HOLDER ARM TO AVOID HAND CRUSHING.



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

- Move to work position **C** (**Fig. 5**).
- Take off the pin (**Fig. 20 ref. 1**), turn the tool (**Fig. 20 ref. 2**) of 180° and block it again with the pin (**Fig. 20 ref. 1**) in order to be able to insert the tool itself (**Fig. 20 ref. 2**) between the rim edge and the bead of the tyre.

Fig. 20



- Move the rim away downwards from the tool by about 4-5 cm to avoid possible unhooking of the bead of the same tool.
- Move to work position **B** (**Fig. 5**).
- Translate the hook outwards towards the external rim edge, then turn the mandrel clockwise until the tyre has been completely removed.



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



WHEN DEMOUNTING VERY HEAVY TYRES IT IS ADVISABLE TO PAY CAREFUL ATTENTION BEFORE COMPLETING THE OPERATION.

12.6.3 Mounting



THROUGHOUT TYRE MOUNTING/DEMOUNTING OPERATIONS, CHECK THAT THE SELF-CENTRING CHUCK CLAMPING PRESSURE IS CLOSE TO THE MAXIMUM OPERATING VALUE (130 BAR).

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

With bead breaker roll

Proceed as follows:

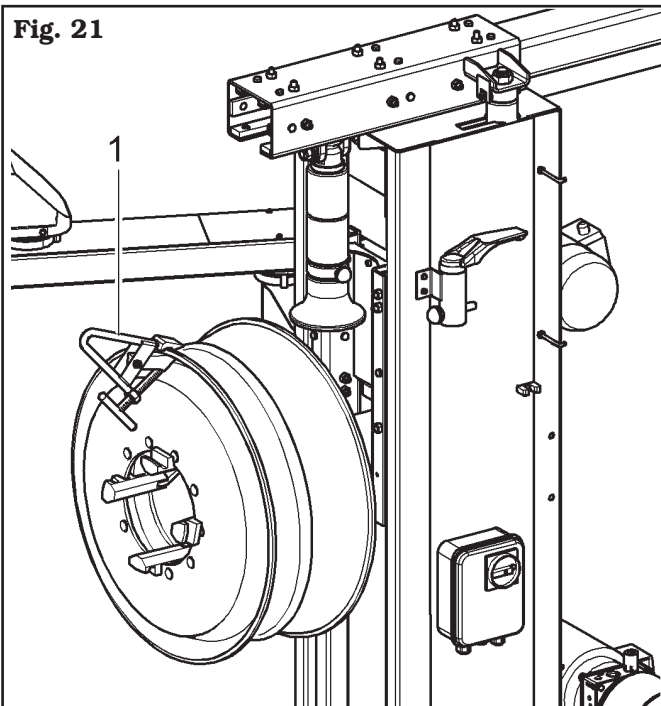
- Secure the rim to the mandrel according to the procedure described in paragraph "WHEEL CLAMPING".
- Adequately lubricate the tyre beads and the rim bead seat with a suitable lubricant using the provided brush.



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

- Mount clamp (on demand) (**Fig. 21 ref. 1**) on the external edge of the rim in the highest point as shown in **Fig. 21**.

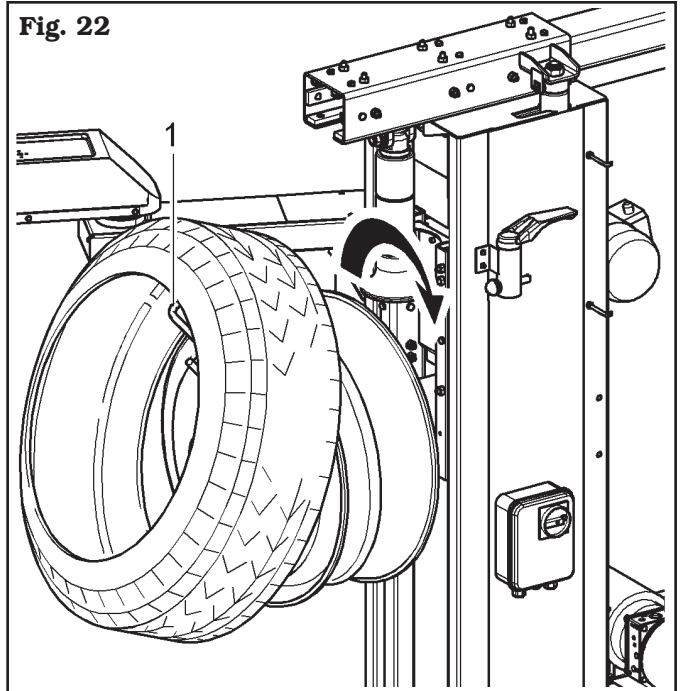
Fig. 21



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

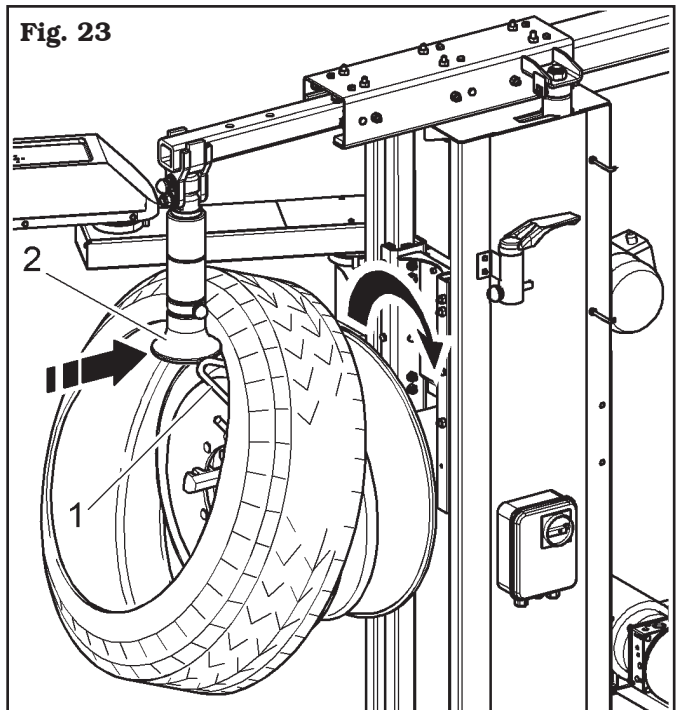
- Move to work position **B** (**Fig. 5**).
- Lower the mandrel completely. Roll the tyre on the floor and hook it to clamp (**Fig. 22 ref. 1**).
- Lift the mandrel with the tyre hooked and turn it clockwise by about 15-20 cm; the tyre will position itself sideways with respect to the rim (see **Fig. 22**).

Fig. 22



- Position bead breaker roll (**Fig. 23 ref. 2**) so that it is at approximately 1.5 cm (1/2") from the edge of the rim. Fitting clamp (**Fig. 23 ref. 1**) is at 1 o'clock. Turn the mandrel clockwise until bringing the clamp to the closest point to the beading roll (11 o'clock).

Fig. 23



- Move the beading roll away from the wheel.
- Remove the clamp and fit it in position (6 o'clock) outside the second bead.
- Turn the mandrel counterclockwise until Clamp are at 1 o'clock.
- Move the beading roll forward until it is inside the edge of the rim by about 1-2 cm, making sure it is approximately 5 mm from rim's edge. Start clockwise rotation making sure that, after a 90° turn, the second bead begins sliding in the rim groove.
- Once insertion is completed, move the roll away from the wheel, turn it over to "out of work" position and remove clamp.
- Lower the mandrel until the wheel rests on the floor.
- Move to work position **A** (**Fig. 5**).
- Close the mandrel jaws completely, making sure the wheel is held up to avoid dropping.



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

- Remove the wheel from the machine by making it roll. By using particularly soft tyres, it is possible to put on the rim both the beads at the same time, in order to operate only one time on the tyre.

With hook tool

Proceed as follows:

- Secure the rim to the mandrel according to the procedure described in paragraph "WHEEL CLAMPING".
- Adequately lubricate the tyre beads and the rim bead seat with a suitable lubricant using the provided brush.



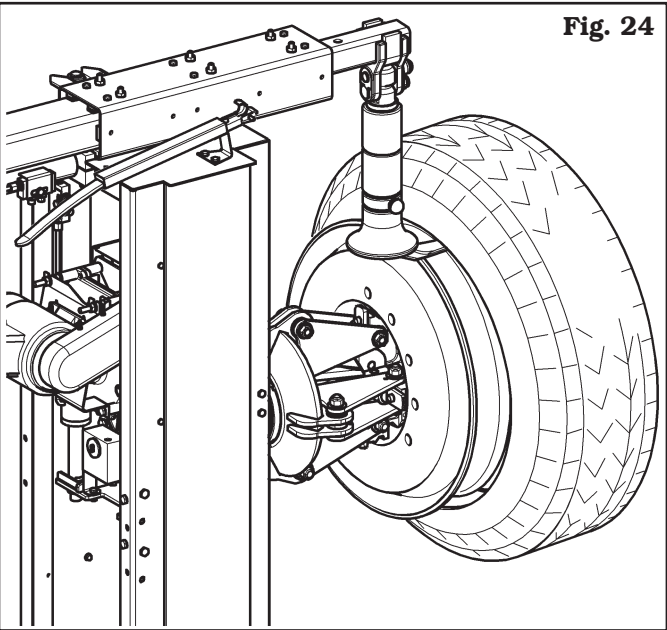
USE ONLY TYRE LUBRICANTS. SUITABLE LUBRICANTS CONTAIN NO WATER, HYDROCARBONS, OR SILICON.

- Mount clamps (**Fig. 21 ref. 1**) on the external edge of the rim in the highest point.



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

- Move to work position **B** (**Fig. 5**).
- Lower the mandrel completely. Roll the tyre next to the mandrel and hook it to clamp (**Fig. 22 ref. 1**).
- Lift the mandrel with the tyre hooked and turn it clockwise by about 15-20 cm; the tyre will position itself sideways with respect to the rim (see **Fig. 22**).
- Place the roll holder arm in "off-work" position (**Fig. 12 ref. 1**); translate it to the inner side of the tyre and hook it again into "work position" (**Fig. 11 ref. 1**).
- Mount the hook tool on the roll, by positioning it on the side of the tyre (see **Fig. 24**).



- Move to work position **C** (**Fig. 5**).
- Move the tool forward until the reference notch matches the external edge of the rim coincide at about 5 mm from the rim itself.
- Move to work position **B** (**Fig. 5**).
- From the external side of the wheel, check the exact position of the tool and, if necessary, correct it. Then, turn the mandrel clockwise until clamp reaches the closest point to the tool (11 o'clock). The first bead should now be inserted in the rim.
- Remove clamp.
- Move to work position **C** (**Fig. 5**).
- Extract the tool from the tyre.
- Place the roll holder arm in "off-work" position (**Fig. 12 ref. 1**); translate it to the outer side of the tyre and hook it again into "work position" (**Fig. 11 ref. 1**).
- Remount the tool holder head at 180° until the hook tool is moved onto the tyre side (see **Fig. 18**).

- Mount clamp in the lowest point (6 o'clock) outside the second bead.
- Move to work position **B** (**Fig. 5**).
- Turn the mandrel counterclockwise placing clamp at 1 o'clock.
- Move the tool forward until the the axis of the reference notch matches the external edge of the rim coincide at about 5 mm from the rim itself (**Fig. 18**). Begin clockwise rotation making sure that, after a 90° turn, the second bead begins to slide in the rim groove. Turn until clamp reaches the closest point to the tool (11 o'clock). The second bead should now be inserted in the rim.
- Move the tool away from the wheel, turn it over into "out of work" position and remove the clamp.
- Lower the mandrel until the wheel rests on the floor.
- Move to work position **A** (**Fig. 5**).
- Close the mandrel jaws completely, making sure the wheel is held up to avoid dropping.



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

- Remove the wheel from the machine by making it roll.

12.7 Tyres with inner tube

12.7.1 Bead breaking



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

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



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

12.7.2 Demounting



THROUGHOUT TYRE MOUNTING/DEMOUNTING OPERATIONS, CHECK THAT THE SELF-CENTRING CHUCK CLAMPING PRESSURE IS CLOSE TO THE MAXIMUM OPERATING VALUE (130 BAR).

- Bring roll holder arm in "out of work" position (**Fig. 12 ref. 1**); by operating on the handle control position the roll holder arm on the external side of the wheel then bring it back into "working" position (**Fig. 11 ref. 1**) and lock it with the special safety pin (**Fig. 1 ref. 12**).



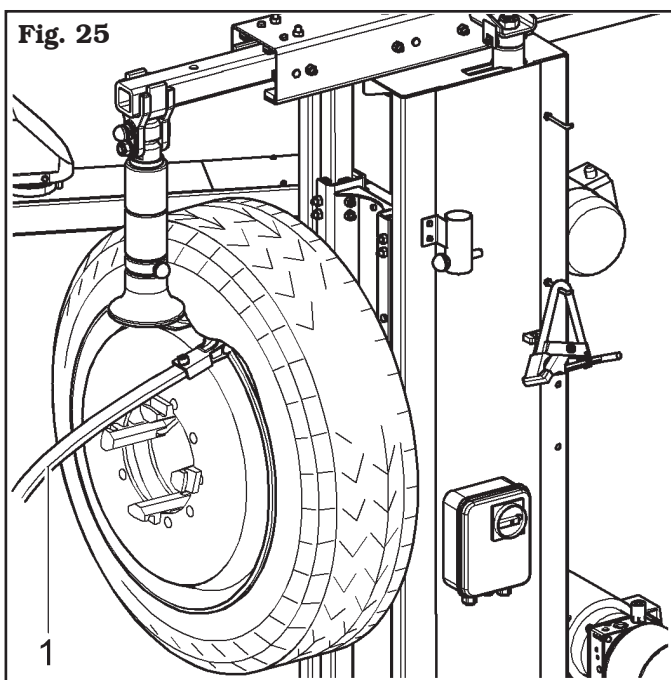
PAY ATTENTION WHEN REPOSITIONING THE ROLL HOLDER ARM TO AVOID HAND CRUSHING.



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

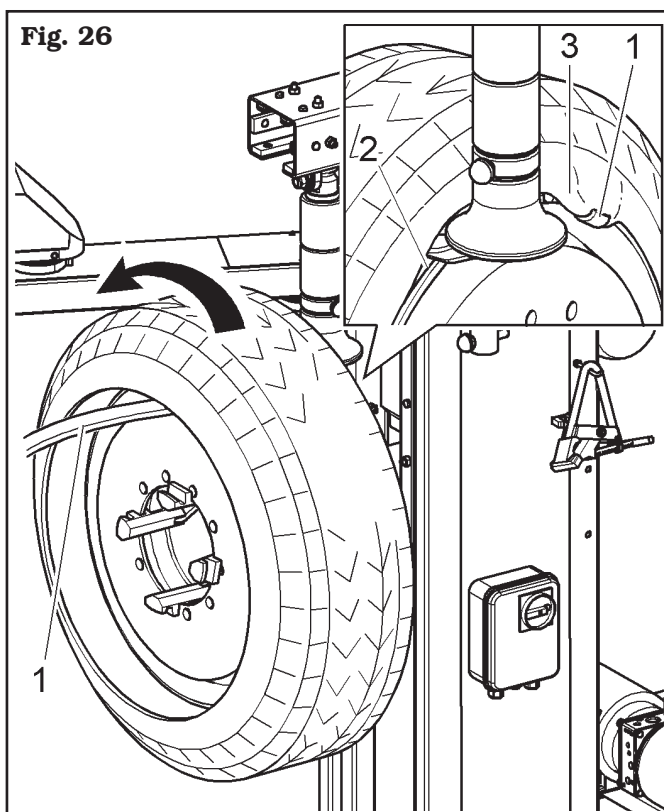
- Mount the hook tool turned towards the tyre in order to insert the same hook between the rim edge and the tyre bead; the operation must be carried out during the mandrel rotation.
- Move the rim away downwards from the tool by about 4-5 cm to avoid possible unhooking of the bead of the same tool.
- Translate the hook tool outwards until the reference notch matches the external edge of the rim.
- Move to work position **A** (**Fig. 5**).
- Insert lever (**Fig. 25 ref. 1**) between rim and bead on the right-hand side of the tool.

Fig. 25



- Keeping the lever pressed, lift the wheel until the edge of the rim is approximately 5 mm distant from the hook tool.
- Turn the wheel clockwise keeping lever pressed until the bead has gone completely out.
- Move away the roll holder arm in "off-work" position (**Fig. 12 ref. 1**); lower the mandrel until the tyre rests on the floor; exert a certain pressure on it; this will create enough space to extract the inner tube.
- Extract the inner tube and lift the wheel again.
- Move to work position **C** (**Fig. 5**).
- Unhook roll holder arm moving it to "out of work" position (**Fig. 12 ref. 1**); by operating on the handle control position roll holder arm on the internal side of the wheel then bring it back into "working" position (**Fig. 11 ref. 1**) and lock it with the special safety pin (**Fig. 1 ref. 12**).
- Remount the hook tool with 180° rotation, according to the descriptions in the relevant paragraph, in order to insert the hook between the rim edge and the tyre bead; the operation must be carried out during the mandrel rotation.
- Move the rim away downwards from the tool by about 4-5 cm to avoid possible unhooking of the bead of the same tool.
- Move to work position **A** (**Fig. 5**).
- Translate the hook tool outwards until the reference notch is 3 cm inside the rim.
- Insert lever (**Fig. 26 ref. 1**) between rim (**Fig. 26 ref. 2**) and bead (**Fig. 26 ref. 3**) on the left-hand side of the tool.

Fig. 26



- Keeping the lever pressed, lift the wheel until the edge of the rim is approximately 5 mm distant from the hook tool then turn the mandrel counterclockwise keeping the lever (**Fig. 26 ref. 1**) pressed until the tyre has been completely dislodged from the rim.



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



WHEN DEMOUNTING VERY HEAVY TYRES IT IS ADVISABLE TO PAY CAREFUL ATTENTION BEFORE COMPLETING THE OPERATION.

12.7.3 Mounting



THROUGHOUT TYRE MOUNTING/DEMOUNTING OPERATIONS, CHECK THAT THE SELF-CENTRING CHUCK CLAMPING PRESSURE IS CLOSE TO THE MAXIMUM OPERATING VALUE (130 BAR).

- Secure the rim to the mandrel according to the procedure described in paragraph "WHEEL CLAMPING".
- Adequately lubricate the tyre beads and the rim bead seat with a suitable lubricant using the provided brush.



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

- Mount clamp (on demand) (**Fig. 21 ref. 1**) on the external edge of the rim in the highest point as shown in **Fig. 21**.



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

- Move to work position **B** (**Fig. 5**).
- Position the tyre near the machine and lower the mandrel (make sure the clamp is in the highest point) to hook the first tyre bead (internal bead).
- Lift the mandrel with the tyre hooked and turn it clockwise by about 15-20 cm; the tyre will position itself sideways with respect to the rim.
- Bring the roll holder arm in the "out of work" position (**Fig. 12 ref. 1**); by operating on the handle control position the roll holder arm on the internal side of the wheel then bring it back into "working" position (**Fig. 11 ref. 1**) and lock it with the special safety pin.



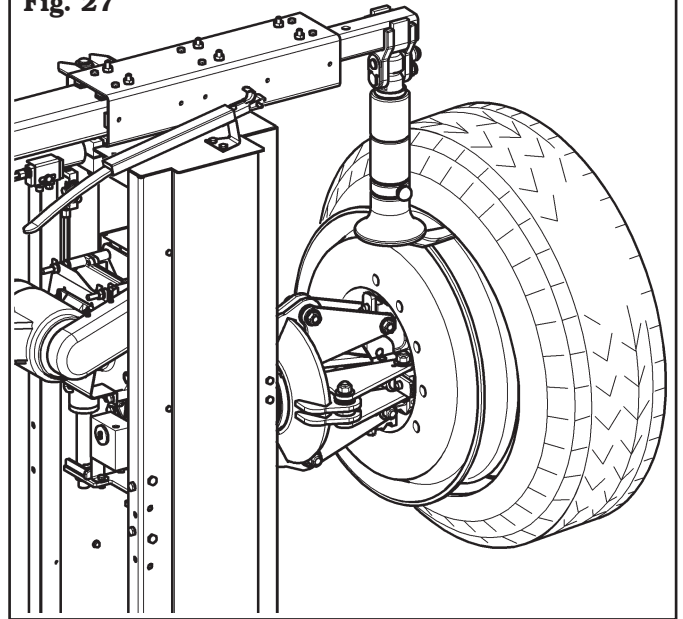
PAY ATTENTION WHEN REPOSITIONING THE ROLL HOLDER ARM TO AVOID HAND CRUSHING.



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

- Mount the hook tool turned towards the tyre in order to insert the same hook between the rim edge and the tyre bead; the operation must be carried out during the mandrel rotation.
- Move to work position **C** (**Fig. 5**).
- Move the tool forward until the axis of the reference notch matches that of the external edge of the rim at about 5 mm from the rim itself (see **Fig. 27**).

Fig. 27

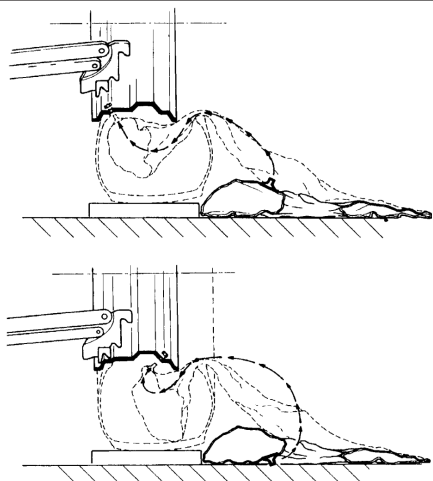


- Move to work position **B** (**Fig. 5**).
- From the external side of the wheel, check the exact position of the tool and, if necessary, correct it. Then, turn the mandrel clockwise until clamp reaches the closest point to the tool (11 o'clock). The first bead should now be inserted in the rim, then remove clamp.
- Move to work position **C** (**Fig. 5**).
- Extract the tool hook from the tyre.
- Place roll holder arm in "out of work" position (**Fig. 12 ref. 1**) and translate it to the outer side of the tyre.
- Remount the hook tool with a 180° rotation, according to the descriptions in the relevant paragraph.
- Move to work position **A** (**Fig. 5**).
- Turn the mandrel to position the hole to insert the valve downward (6 o'clock).
- Lower the mandrel until the wheel is laid down to the ground in order to create the space needed between tyre edge and rim for the air chamber introduction.



THE VALVE HOLE COULD BE IN AN ASYMMETRIC POSITION WITH RESPECT TO THE CENTRE OF THE RIM. IN THIS CASE IT IS NECESSARY TO POSITION AND INTRODUCE THE INNER TUBE AS SHOWN IN FIGURE 28.

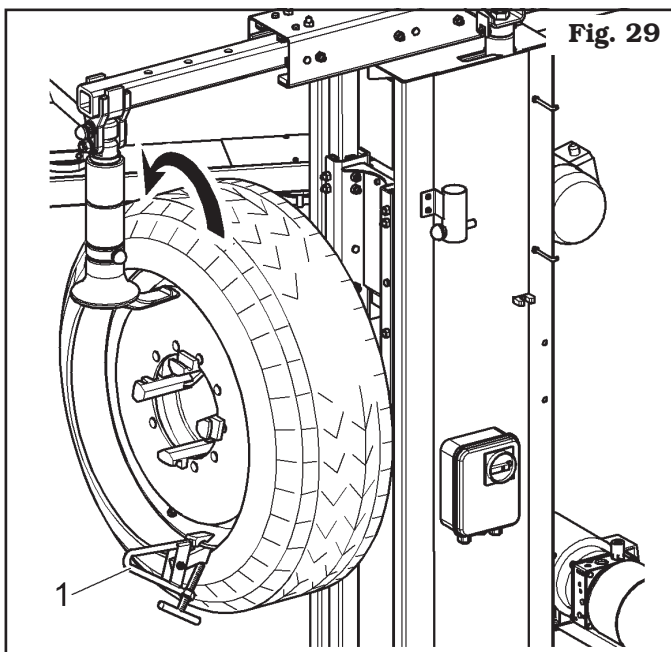
Fig. 28



Introduce the valve in the hole and fix it with the provided ring nut. Introduce the inner tube in the central groove of the rim (to make this operation easier, it is advisable to simultaneously turn the mandrel clockwise).

- Turn the mandrel and position the valve downwards (6 o'clock).
- To avoid damaging the inner tube, slightly inflate it when inserting the second bead.
- To avoid damaging the valve when fitting the second bead, remove the fixing ring nut and mount an extension on the same valve.
- Move to work position B (Fig. 5).
- Lift the mandrel and mount clamp (Fig. 29 ref. 1) on the rim outside the second bead at about 20 cm from the inflating valve on the right.
- Turn the mandrel counterclockwise until clamp (Fig. 29 ref. 1) is positioned at 1 o'clock.

Fig. 29



- Place the roll holder arm in "working position" (Fig. 11 ref. 1) to the outer side of the tyre.

- Place the hook tool in work position and bring the roll 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.
- Turn the mandrel clockwise until lever (Fig. 30 ref. 1) is introduced in the housing obtained on the hook tool.
- Turn the mandrel clockwise with lever (Fig. 30 ref. 1) hooked until complete insertion of the tyre outer bead.
- Remove lever (Fig. 30 ref. 1), clamp (Fig. 30 ref. 2) and extract the hook tool by turning the mandrel counterclockwise and translating it outwards.

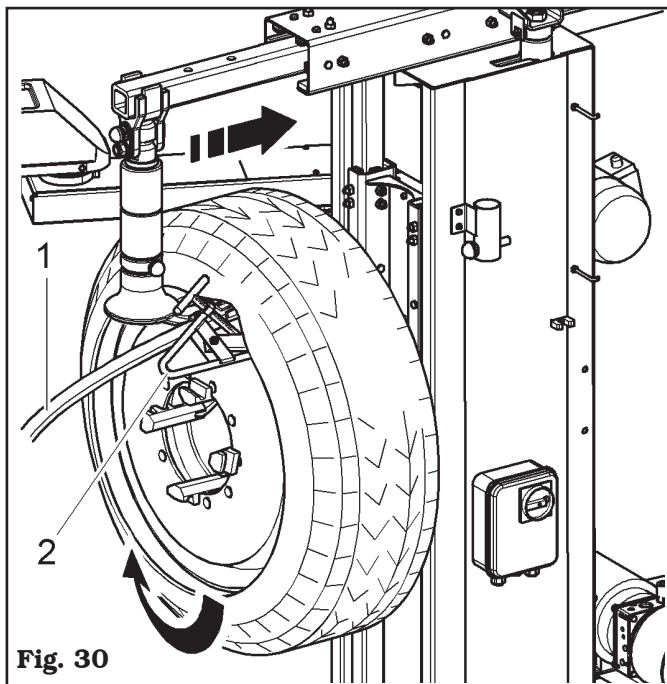


Fig. 30

- Place the roll holder arm in "out of work" position (Fig. 12 ref. 1) after having unhooked it.
- Lower the mandrel until the wheel rests on the floor.
- Move to work position A (Fig. 5).
- Check the state of the tyre valve and centre it, if necessary, in the rim hole by slightly turning the mandrel; fix the valve with the supplied ring nut after having removed the protective extension.
- Close the mandrel jaws completely, making sure the wheel is held up to avoid dropping.



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

- Remove the wheel from the machine by making it roll.

12.8 Wheels with bead wire



FOR WHAT CONCERNS THE BEAD BREAKING, DEMOUNTING AND MOUNTING OF WHEELS WITH BEAD WIRE, USE ACCESSORY VSG108A22 (OPTIONAL).

As an example **Fig. 31** and **32** illustrate sections and compositions of types of wheels with bead wire currently being sold.

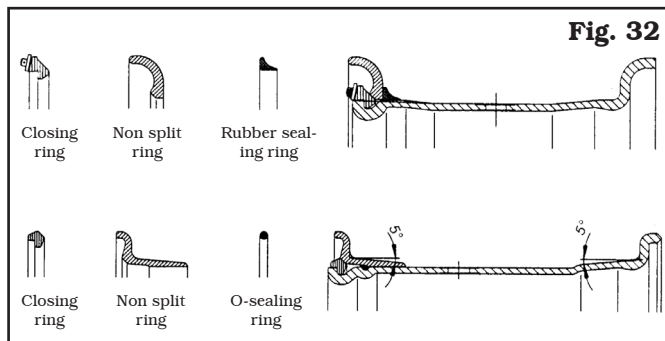
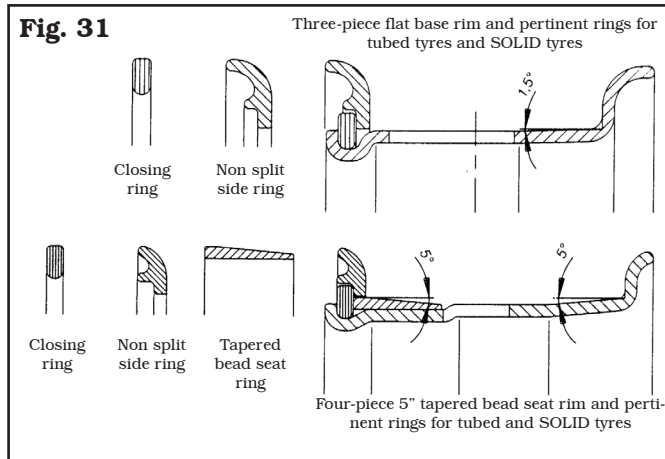


Fig. 32

12.8.1 Beading and demounting



NEVER STAND IN FRONT OF THE WHEEL WHILE THE INFLATION RING IS BEING EXTRACTED FROM THE BEAD WIRE, SINCE IT MAY BE EJECTED VIOLENTLY, CAUSING SERIOUS INJURIES OR WOUNDS.



THROUGHOUT TYRE MOUNTING/DEMOUNTING OPERATIONS, CHECK THAT THE SELF-CENTRING CHUCK CLAMPING PRESSURE IS CLOSE TO THE MAXIMUM OPERATING VALUE (130 BAR).

- Mount the wheel on the mandrel as described in "WHEEL CLAMPING" and make sure it is deflated.
- Move to work position **C** (**Fig. 5**) with VSG108A22 fixture (optional).

- Place roll holder arm in "working position" (**Fig. 11 ref. 1**) in the tyre inner side, and make sure it is locked by the provided safety stop (**Fig. 1 ref. 12**).
- Mount the accessory (as shown in **Fig. 33**) and position the beading disc on rim edge (see **Fig. 33**).

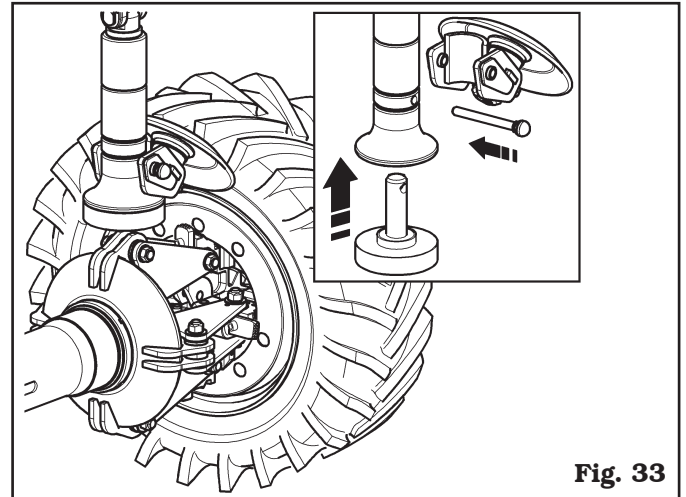


Fig. 33

- Turn the mandrel and smear the entire bead seat of the rim with lubricant. While doing this, jerk the beading disc forward until the first bead is removed (as these wheels feature inner tubes, carry out the operation carefully, paying special attention to when the bead dislodges, trying to stop disc advancement immediately to avoid compromising the integrity of the inner tube and valve).
- Bring the roll holder arm in "out of work" position (**Fig. 12 ref. 1**); by operating on the handle control position the roll holder arm on the external side of the wheel then bring it back into "working" position (**Fig. 11 ref. 1**) and lock it with the special safety pin.
- Remove the pin (**Fig. 34 ref. 1**), turn the beading disc (**Fig. 34 ref. 2**) with 180° rotation and lock it again with the pin (**Fig. 34 ref. 1**) in order to be able to bring the beading disc itself in contact with the external side of the tyre (see **Fig. 34**).

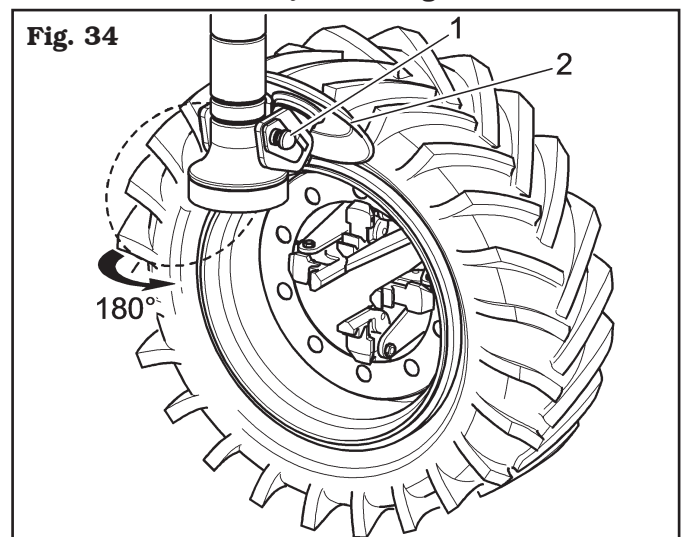
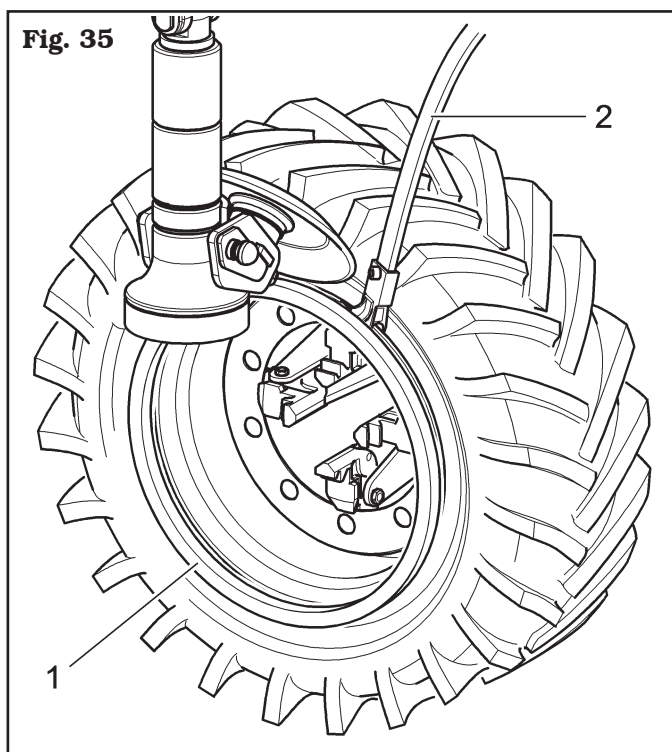


Fig. 34

- Turn the mandrel and smear the entire bead seat of the rim with lubricant.
- While doing this, jerk the beading disc forward until bead is removed.
- Repeat the operation, making the beading disc move forward against the bead wire (see **Fig. 35**) until the stop ring is released (**Fig. 35 ref. 1**). It will be then extracted through lever (**Fig. 35 ref. 2**).

Fig. 35



- Remove the bead wire.
- Remove the O-Ring, when featured.
- Place the roll holder arm in "out of work" position (**Fig. 12 ref. 1**) after having unhooked it.
- Move to work position **A** (**Fig. 5**).
- Bring back the roll holder arm inside the tyre in "work position" (**Fig. 11 ref. 1**). Remove the pin, turn the beading disc with a 180° rotation and lock it again with the pin.
- Move forward the bead breaking disc until the tyre is completely dislodged from the rim (in case of tyres with inner tube, make sure that the valve hasn't been damaged during removal).



WHEN DEMOUNTING VERY HEAVY TYRES IT IS ADVISABLE TO PAY CAREFUL ATTENTION BEFORE COMPLETING THE OPERATION.



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



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

12.8.2 Mounting



THROUGHOUT TYRE MOUNTING/DEMOUNTING OPERATIONS, CHECK THAT THE SELF-CENTRING CHUCK CLAMPING PRESSURE IS CLOSE TO THE MAXIMUM OPERATING VALUE (130 BAR).

- Place the roll holder arm in "out of work" position (**Fig. 12 ref. 1**); if it has been removed, fix the rim to the mandrel as described in "WHEEL CLAMPING" paragraph. If the wheel features an inner tube, position the rim with the valve slot facing downwards (at 6 o'clock).
- Lubricate the entire bead seat of the rim and the tyre beads.
- Move to work position **A** (**Fig. 5**).
- Place the mandrel in order to centre the rim on the tyre.
- Put manually the tyre into the rim (in case of tyres with inner tube, make the valve re-enter not to damage it) until the complete introduction of the tyre has been reached.
- Insert the bead wire on the rim with the stop ring fitted (if the rim and bead wire feature fixing slits, they must be in phase with each other).
- Move to work position **B** (**Fig. 5**).
- Place roll holder arm on the external side then lower it into "work position" (**Fig. 11 ref. 1**). Mount the accessory VSG108A22 with the beading disc facing the wheel. If the outer edge ring is not sufficiently fitted on the rim, position the mandrel until the bead wire is near the beading disc.

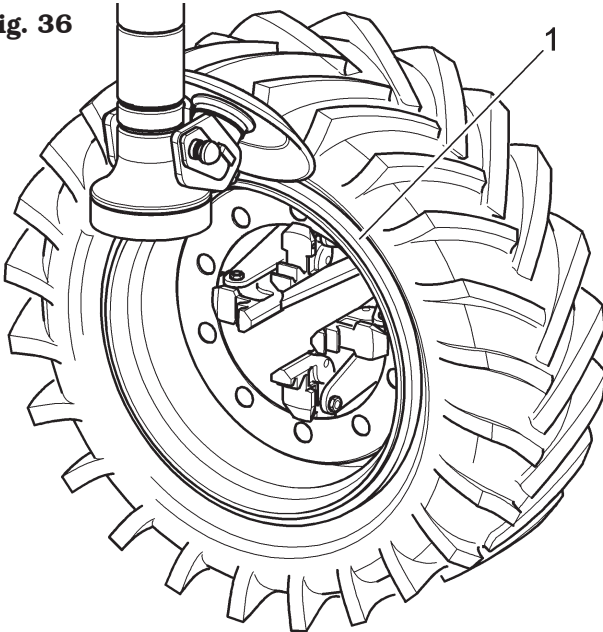


THE REMOVAL OF THE BEADS FROM THE RIM CAUSES THE TYRE TO FALL. ALWAYS MAKE SURE THAT NO ONE IS STANDING BY ACCIDENT IN THE WORK AREA.

Move the beading disc forward and then turn the mandrel until the housing of the O-Ring (if featured) is found.

- Lubricated the O-Ring and place it in its housing.
- Move to work position **A** (Fig. 5).
- Position the bead wire (Fig. 36 ref. 1) on the rim, fit the stop ring with the help of the beading disc as shown in Fig. 36.

Fig. 36



- Place the roll holder arm in “out of work” position (Fig. 12 ref. 1) after having unhooked it.
 - Lower the mandrel until the wheel rests on the floor.
 - Close the mandrel jaws completely, making sure the wheel is held up to avoid dropping.
- Remove the wheel from the machine by making it roll.



CLOSING THE MANDREL CAUSES THE WHEEL TO FALL. ALWAYS MAKE SURE THAT NO ONE IS STANDING BY ACCIDENT IN THE WORK AREA.

13.0 ROUTINE MAINTENANCE



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



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



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



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

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

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

- Disconnect the mains power supply before starting any cleaning or routine maintenance operations.
- Remove deposits of tyre powder and other waste materials with a vacuum cleaner.
- **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 (mandrel and roll holder arm).
- Periodically (preferably once a month), grease all moving parts of the machine (see Fig. 37).

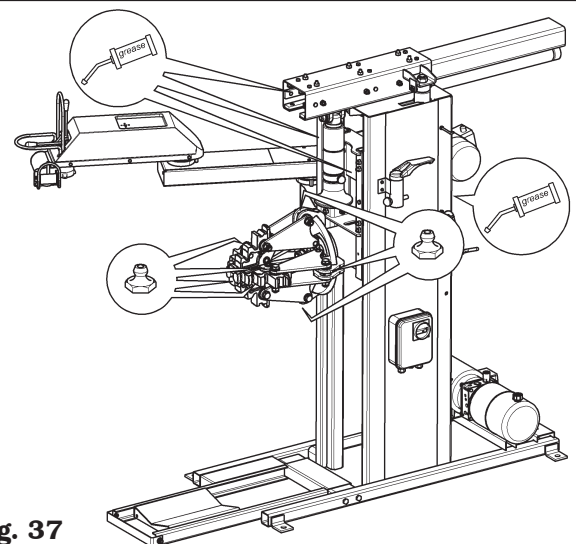


Fig. 37

- 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 machine is installed and in particular:

- viscosity 32 (for countries with room temperature from 0 to 30 degrees);
- viscosity 46 (for countries with room temperature above 30 degrees).

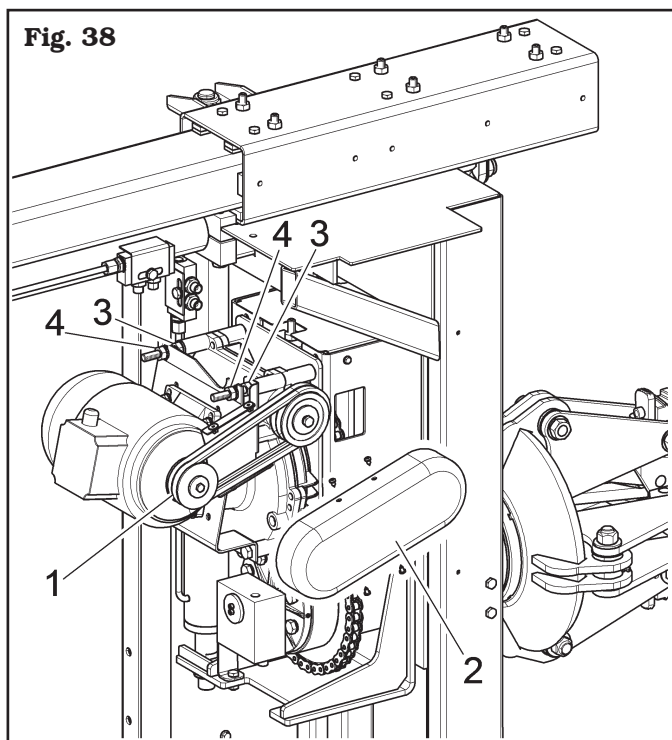
At least once a year it is advisable to proceed anyway to the complete replacement of the hydraulic oil of the same oil-pressure unit.



CARRY OUT THIS CONTROL WITH THE MACHINE COMPLETELY CLOSED (WITH HYDRAULIC PISTONS IN).

- 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.
- Check belt tensioning (**Fig. 38 ref. 1**):
 - Remove protection guard (**Fig. 38 ref. 2**) with a screwdriver.
 - Stretch the belt (**Fig. 38 ref. 1**) using the screw (**Fig. 38 ref. 3**) after the nuts (**Fig. 38 ref. 4**) have been slackened.
 - Tighten the fixing nuts (**Fig. 38 ref. 4**) after the adjustment operations, then assemble the protection guard (**Fig. 38 ref. 2**).

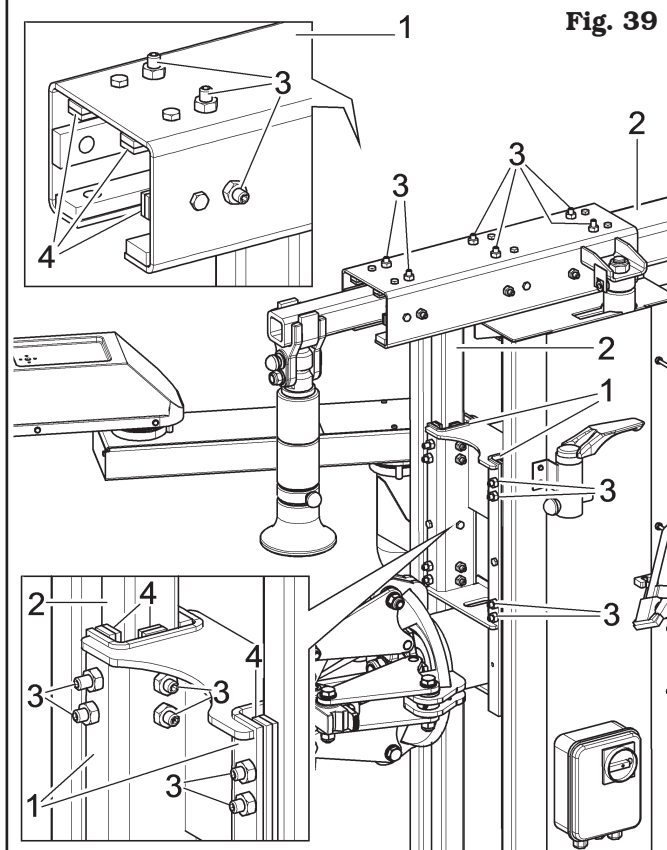
Fig. 38



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

- Check periodically and, if necessary, adjust the play of slides (**Fig. 39 ref. 1**) onto guide plates (**Fig. 39 ref. 2**) by means of the adjustment screws (**Fig. 39 ref. 3**) of sliding blocks (**Fig. 39 ref. 4**).

Fig. 39



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



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!!



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

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
Pump motor does not work but wheel holder mandrel motor works perfectly.	a) Hydraulic control unit damaged.	a) Call Technical Service Dept. 
When main switch is turned on, wheel holder mandrel does not turn whereas the pump motor works.	a) Gearbox change-over switch damaged.	a) Call Technical Service Dept. 
Power drop during wheel holder mandrel rotation.	a) Timing belt too loose.	a) Tension up the belt.
No pressure in the hydraulic system.	a) Pump damaged.	a) Replace pump. 
The mandrel opening pressure does not go down.	a) Pressure limiting valve jammed	a) Download mandrel (remove wheel), completely undo adjusting handle. Perform many opening and closing cycles until jam release. 
The machine does not start.	a) No electricity supply. b) Overload cutouts not set. c) Transformer fuse blown.	a) Connect the electricity supply. b) Set the overload cutouts. c) Change the fuse.
Fluid leaks from union or pipeline.	a) Union not tightened correctly. b) Pipeline cracked.	a) Tighten the union. b) Call the after-sales service. 
A control device is remaining on.	a) The switch has broken. b) A solenoid valve has jammed.	a) Call the after-sales service. b) Call the after-sales service. 
The self-centring chuck cylinder is losing pressure.	a) The directional control valve is leaking. b) The gaskets are worn.	a) Call the after-sales service. b) Call the after-sales service. 
The motor stops during operation.	Overload cutout tripped.	Open the electrical panel and reset the overload cutout tripped.

Problem	Possible cause	Remedy
When a control device is operated the machine does not move at all.	a) Solenoid valve not receiving power. b) Solenoid valve jammed. c) Transformer fuse blown. d) Control unit not set correctly.	a) Call the after-sales service. b) Call the after-sales service. c) Change the fuse. d) Call the after-sales service.
No pressure in hydraulic circuit.	a) Oil-pressure power unit motor turning in wrong direction. b) Oil-pressure power unit pump is broken. c) No oil in oil-pressure power unit tank	a) Restore correct rotation direction by changing socket connection. b) Call the after-sales service. c) Fill oil-pressure power unit tank with oil
Machine operates in jerks.	a) Not enough fluid in oil-pressure power unit tank. b) Control unit switch has failed.	a) Top up with oil. b) Call the after-sales service.

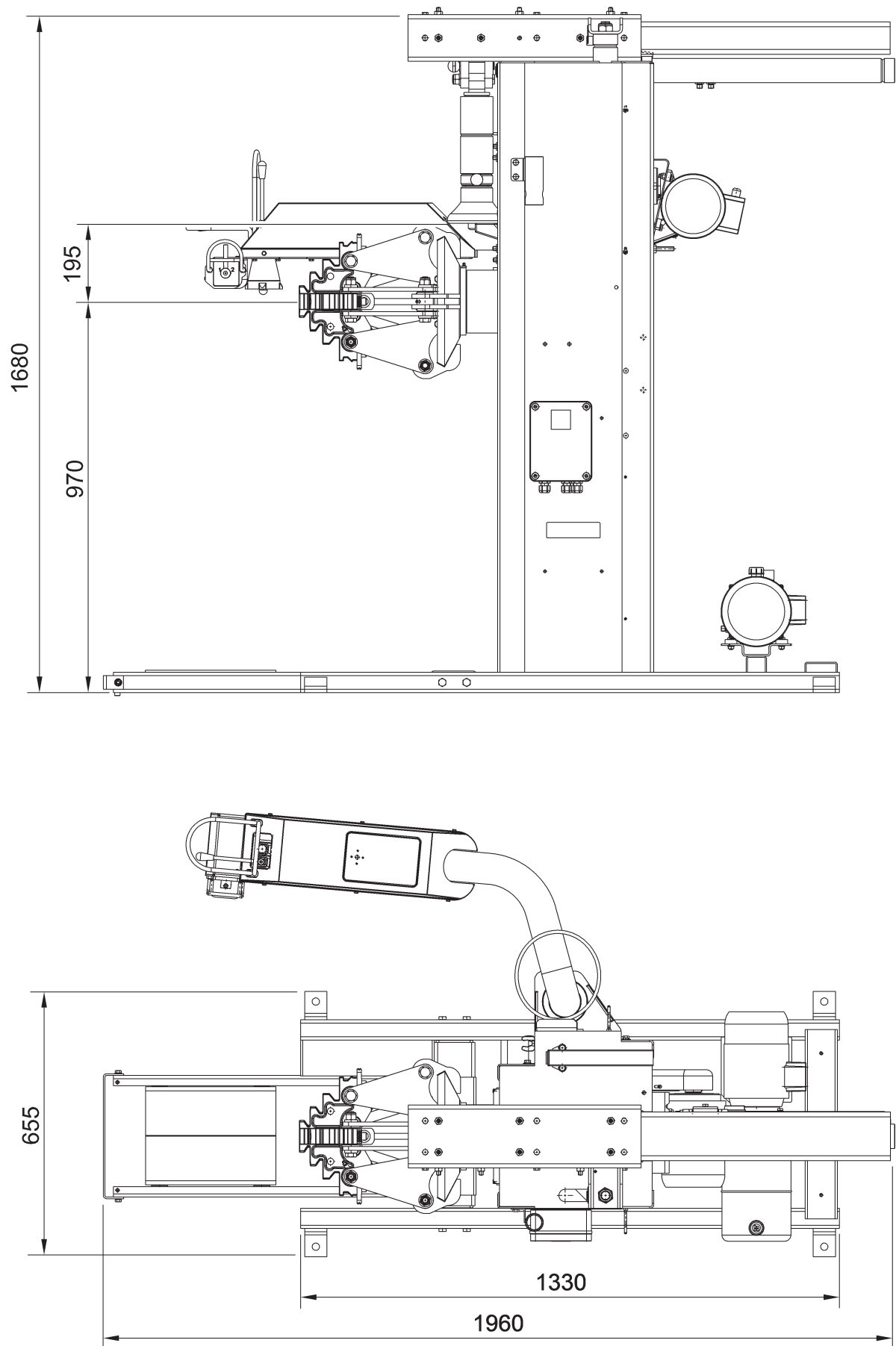
15.0 TECHNICAL DATA

15.1 Technical data

Electric supply (only for 26HW model):three-phase **220/230V - 50/60Hz**
 Electric supply (only for 26HWS models): monophasic **220V - 50/60Hz**
 Mandrel motor (only for 26HW model):power **1,1 kW** three-phase power supply
 Mandrel motor (only for 26HWS models): power **1,5 kW** monophasic power supply
 Mandrel rotation maximum speed: **6,5 rpm**
 Maximum wheel diameter: **1300 mm**
 Wheel maximum width: **950 mm / 37"**
 Wheel maximum weight: **1200 kg**
 Minimum locking hole: **90 mm**
 Oil-pressure unit motor (only for 26HW model):power **0,75 kW** three-phase power supply
 Oil-pressure unit motor (only for 26HWS models): power **1,5 kW** monophasic power supply
 Operating pressure: **130 bar**
 Weight: **396 kg**
 Noise level: **< 80 dB (A)**

15.2 Dimensions

Fig. 40



16.0 STORING

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

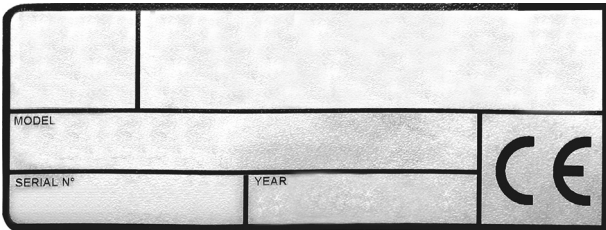
17.0 SCRAPPING

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

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

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

18.0 REGISTRATION PLATE DATA



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

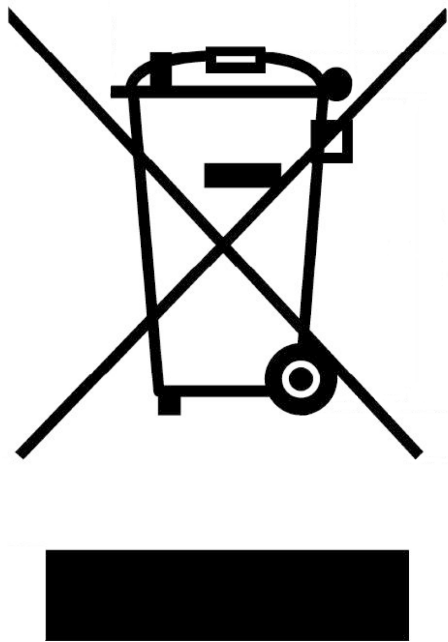
	ATTENTION: TAMPERING WITH, CARVING, CHANGING ANYHOW OR EVEN REMOVING MACHINE IDENTIFICATION PLATE IS ABSOLUTELY FORBIDDEN; DO NOT COVER IT WITH TEMPORARY PANELS, ETC., SINCE IT MUST ALWAYS BE VISIBLE.

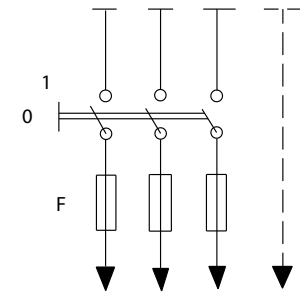
WARNING: Should the plate be accidentally damaged (removed from the machine, damaged or even partially illegible) inform immediately the manufacturer.

19.0 FUNCTIONAL DIAGRAMS

Here follows a list of the machine functional diagrams.

Fig. 41

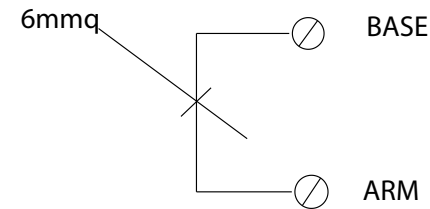
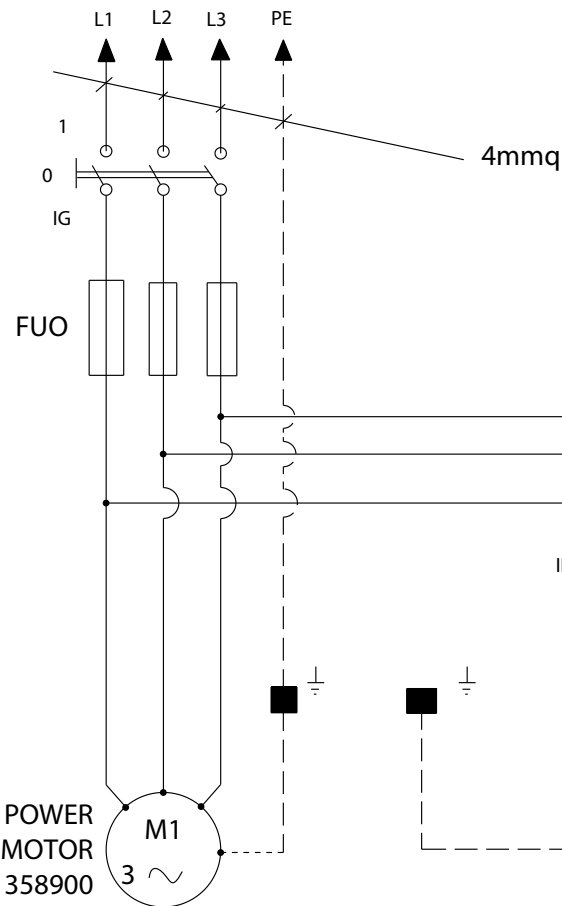




INSTALLATION TO BE MADE BY THE USER

V HZ		230	400
		16A oM	10A oM
F	50	16A oM	10A oM
	60	16A oM	10A oM

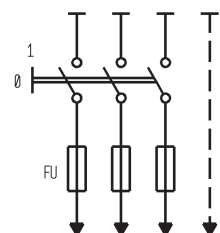
SUPPLY CABLE 3P+GROUND x 4mmQ



IP CLAMPS

11=T/L3
7=S/L2
3=R/L1
12=W
8=V
2=U

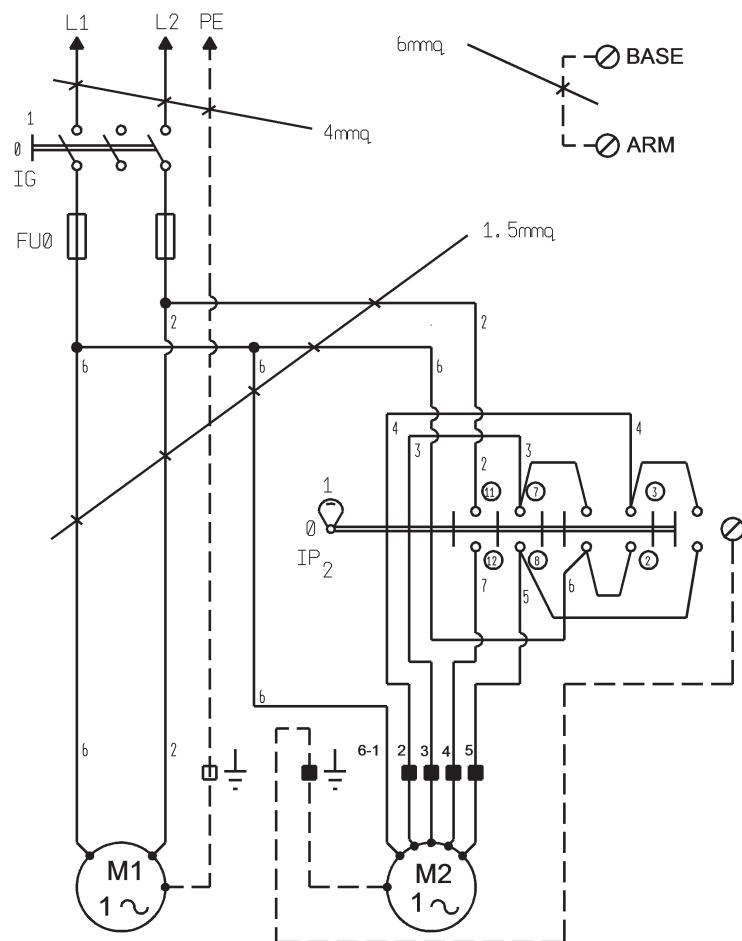
LIST OF COMPONENTS LISTE DES PIECES DETACHEES - LISTA DE PIEZAS		ELECTRICAL SCHEME SCHEMA ELECTRIQUE ESQUEMA ELECTRICO (26HW)	Page 34 of 38
Table N°A - Rev. 2	VS750305130		26HW - 26HWS



INSTALLATION TO BE MADE BY THE USER

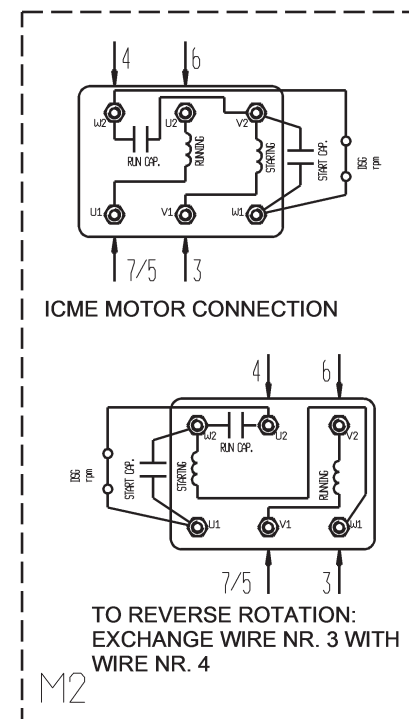
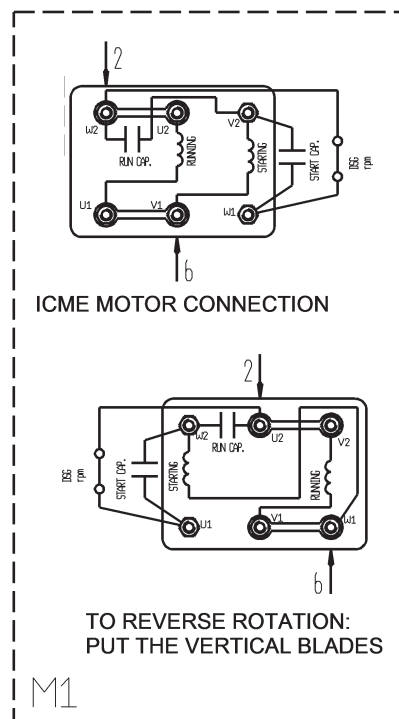
HZ	V	
50	220	
60	254 aM	
	254 aM	

SUPPLY CABLE 2P+GROUND x 4 MMq



IP CLAMPS

- 11 = L2
- 7 = 3
- 3 = 2
- 12 = 4
- 8 = 5
- 2 = 1/6(L1)



LIST OF COMPONENTS
LISTE DES PIECES DETACHEES - LISTA DE PIEZAS

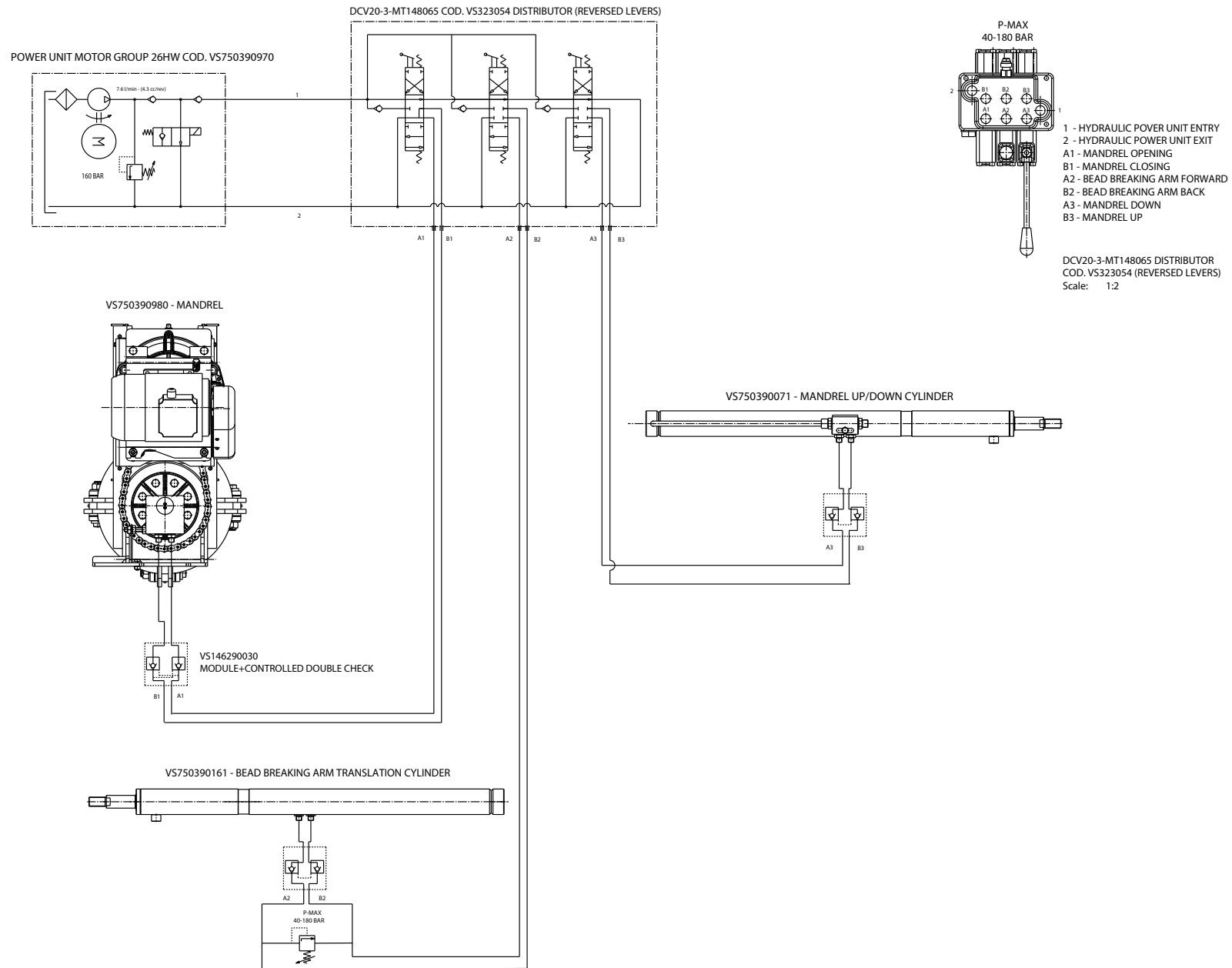
Table N°B - Rev. 1

VS750305100

MONOPHASE ELECTRICAL SCHEME
SCHEMA ELECTRIQUE UNIPHASÉ
ESQUEMA ELECTRICO MONOFÁSICO
(26HWS)

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26HW - 26HWS



**LIST OF COMPONENTS
LISTE DES PIÈCES DÉTACHÉES - LISTA DE PIEZAS**

Table N°C - Rev. 1

VS750305140

HYDRAULIC SCHEME
SCHEMA HYDRAULIQUE
ESQUEMA OLEODINÁMICO

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26HW - 26HWS

7503-M002-9