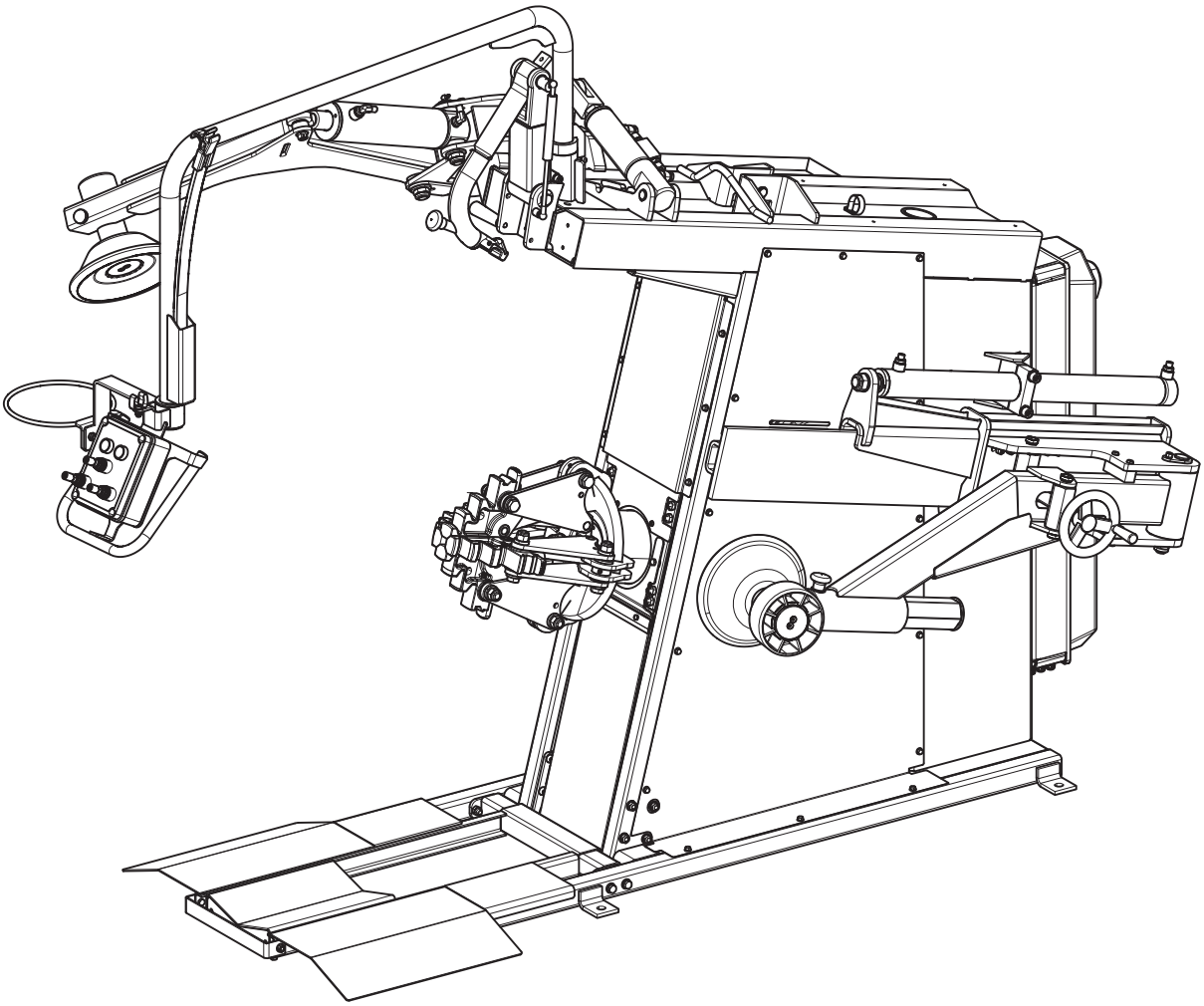
RWC101 (R501Plus) Tire Changer



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.**

CO11823.8

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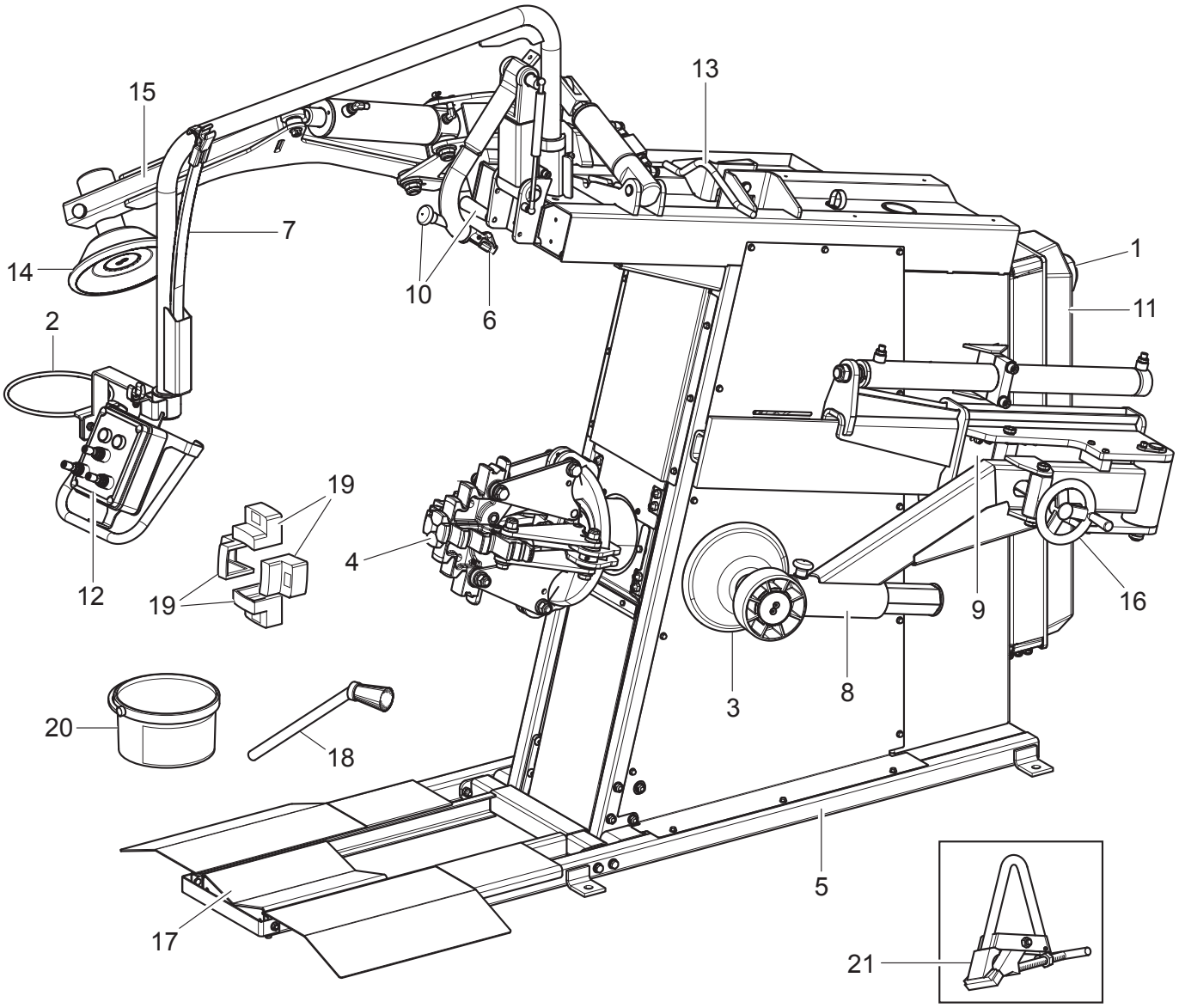
Rev. n. 01 (05/2022)

SUMMARY

GENERAL DESCRIPTION

FIG. 1



KEY

1 - Main switch
2 - Grease-holder ring
3 - Rear bead breaker roller
4 - Self-centering chuck
5 - Chassis
6 - Tool
7 - Bead lever
8 - Rear bead breaker roller holder arm
9 - Rear bead breaker roller movement carriage
10 - Tool positioning handgrip
11 - Electric cabinet
12 - Control unit
13 - Lifting hook
14 - Front bead breaker roller
15 - Front bead breaker roller holder arm
16 - Handwheel for adjustment of rear bead breaker roller working position
17 - Tire loading platform
18 - Brush
19 - Standard clamp protections for alloy rims
20 - Mounting grease
21 - Clamp for alloy rims (optional)

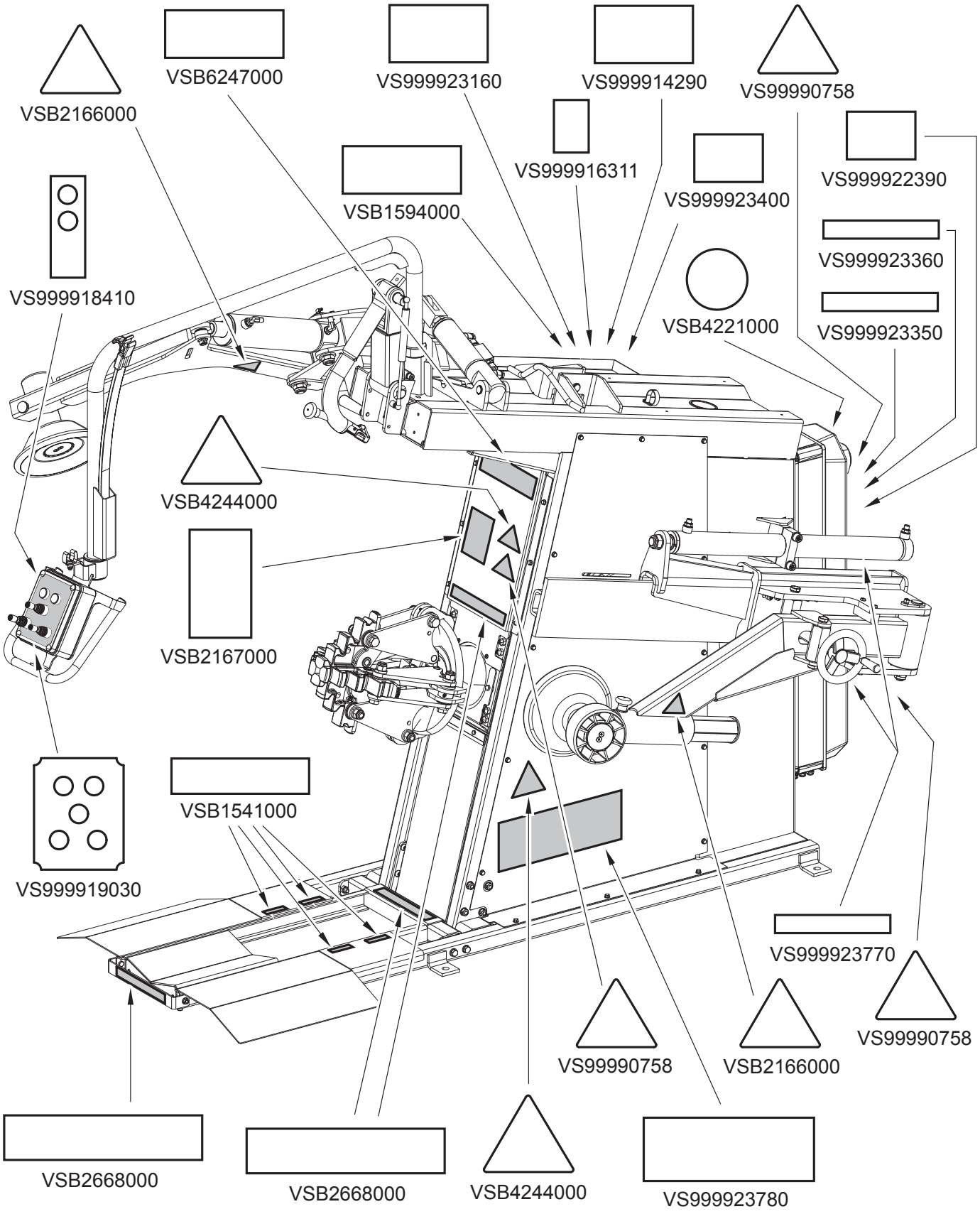
SYMBOLS USED IN THE MANUAL

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).

Symbols	Description
	Move with fork lift truck or pallet truck.
	Lift from above.
	Note. Indication and/or useful information.
	Technical assistance necessary. Do not perform any intervention.
	Caution: hanging loads.
	Danger: tires could drop.

PLATES LOCATION DRAWING

FIG. 2



Code numbers of plates	
VSB1541000	Danger plate
VSB1594000	Date indicating plate
VSB2166000	Bead breaker danger plate
VSB2167000	Protective clothing plate
VSB2668000	Wheel lifting device danger plate
VSB4221000	Grounding plate
VSB4244000	Rotating parts danger plate
VSB6247000	“Deflate tire…” plate
VS99990758	Electricity danger plate
VS999914290	Serial number plate
VS999916311	Rubbish skip plate
VS999918410	Self-centering chuck plate
VS999919030	Plate for joysticks
VS999922390	Overload protection plate
VS999923160	Prop 65 Attention plate
VS999923350	For indoor use plate only
VS999923360	Disconnect power supply plate
VS999923400	UL-CSA ready plate
VS999923770	220 V - 3 Ph - 60 Hz - 25 A plate
VS999923780	Rotary plate

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 MACHINES 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 R501Plus tire changer! The R501Plus 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.

All the machines are equipped with:

- hold-to-run controls (immediate stop of operation when the control is released);
- controls logic disposition to prevent the operator from dangerous mistakes;
- thermal switch on the supply line of the power unit motor: avoids the motor overheating in case of intensive use;

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 self-centering chuck jaws,
  - lifting of self-centering chuck.

  These valves will stop unintended movement of the jaws and of wheel clamping self-centering unit.
- Fuses on the electric supply line of self-centering chuck motor;
- automatic power supply disconnect with the opening of the electric cabinet.
- fixed protections and guards.

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 "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.
- The equipment may be used only in areas free from the danger of explosion or fire.
- The use of only original accessories and spare parts is advised. Our machine is designed to function only with original accessories.
- The installation must be performed by qualified personnel in full compliance with the instructions given below.
- Ensure that there are no dangerous situations during the 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.
- 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.

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

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

- The equipment handles and operating grips must be kept clean and free from oil.
- The workshop must be kept clean and dry and not in an out doors location. Make sure that the working premises are properly lit. The equipment can be operated by a single operator at a time. Unauthorized personnel must remain outside the working area, as shown in Fig. 5.
  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.

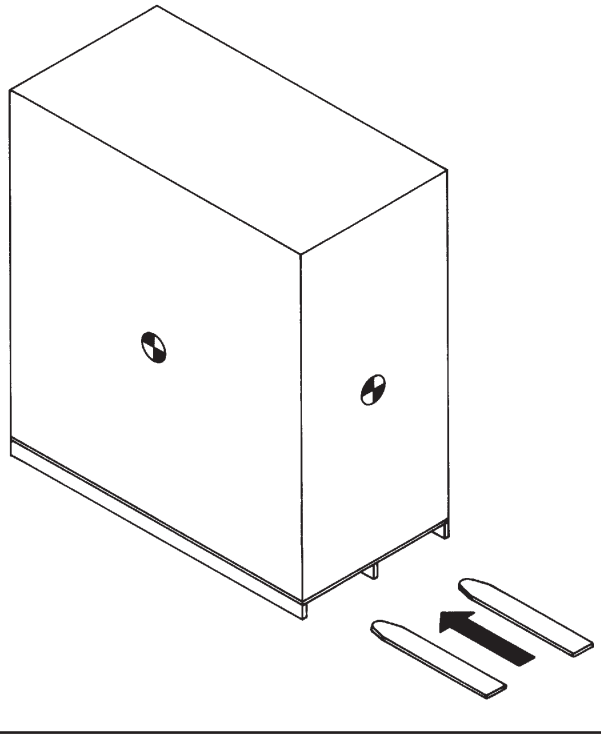
ALWAYS KEEP THE HYDRAULIC CONTROLS IN THE NEUTRAL POSITION.

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 supplied completely assembled, packed in a cardboard box.
Handling must be by pallet-lift or fork-lift trolley, Fig. 3.
The fork lifting points are indicated on the packing.

Fig. 3



6.0 UNPACKING

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

The cardboard box is supported with plastic strapping. Cut the strapping with suitable scissors. Use a small knife to cut along the lateral axis of the box and open it like a fan.
It is also possible to unnail the cardboard box from the pallet it is fixed to. After removing the packing, and in the case of the equipment packed fully assembled, check that the 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.

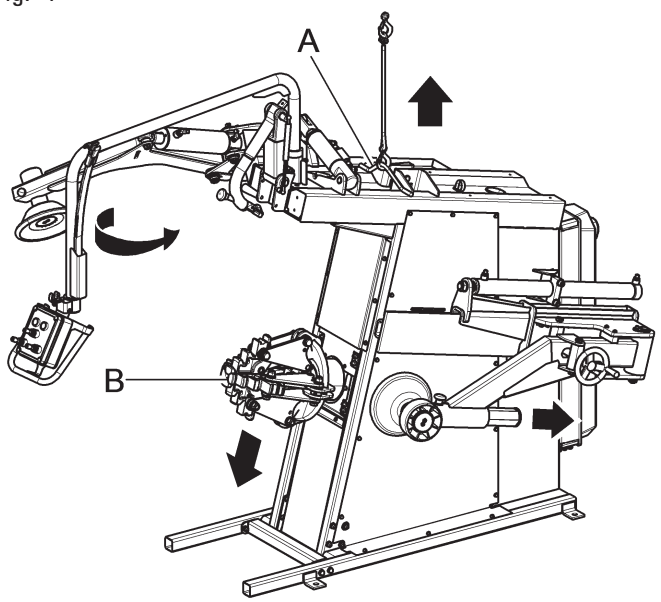
7.0 MOBILIZATION

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.

If the equipment has to be moved from its normal work post the transport must be conducted by following 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.
- To perform lifting, use the bracket "A", pictured in Fig. 4, place the bead breaking arms as close as possible to the equipment, and the self-centering chuck (Fig. 4 ref. B) as low as possible to ensure a correct load balancing.

Fig. 4



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).

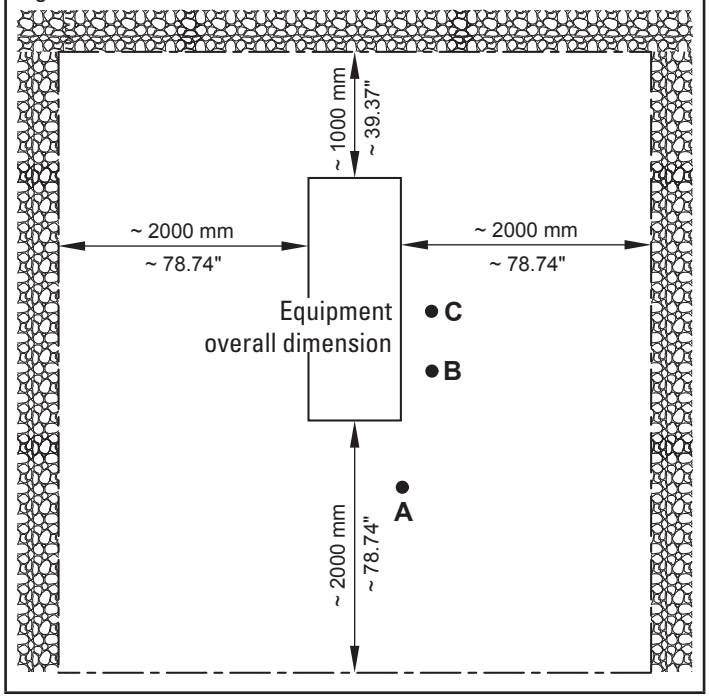
The use of the equipment in ambient conditions other than those specified above is only allowed after prior agreement with and approval of the manufacturer.

8.1 Working position

In Fig. 5 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 the main positions for tire mounting and demounting and for wheel clamping on self-centering 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

Fig. 5



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 location of the equipment requires a usable space as indicated in Fig. 5. The positioning of the equipment must be executed according to the distances shown. From the control position the operator is able to observe all the equipment and surrounding area.
He must prevent unauthorized personnel or objects that could be dangerous from entering the area.
The equipment must be secured on a flat floor surface, preferably of cement or tiled. Avoid yielding or irregular surfaces.
The base floor must be able to support the loads transmitted during operation. This surface must have a capacity load of at least 500 Kg\m² (100 lb/ft²).
The depth of the solid floor must be sufficient to guarantee that the anchors hold.

8.3 Lighting

The equipment must be located in an adequately lit environment.

9.0 EQUIPMENT ASSEMBLY

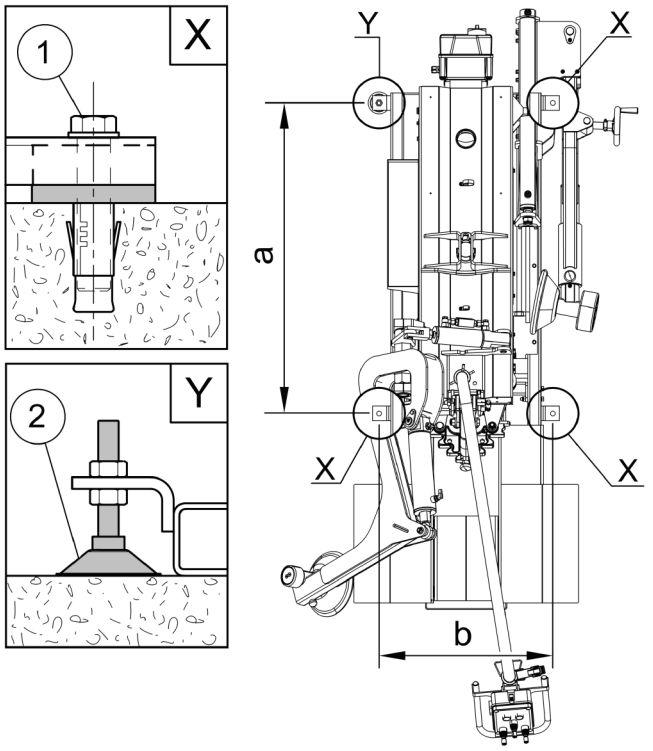
ALL EQUIPMENT ASSEMBLY OR ADJUSTMENTS MUST BE CARRIED OUT BY PROFESSIONALLY QUALIFIED STAFF.

After removing the various components from the packing, check that they are complete, and that there are no missing or damaged parts, then comply with 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. Shim between the equipment and the floor, as indicated in Fig. 6.

Fig. 6



a = 1180 mm / 46.46”
b = 660 mm / 25.98”

- To secure the equipment to the ground, use anchoring bolts/studs (Fig. 6 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.

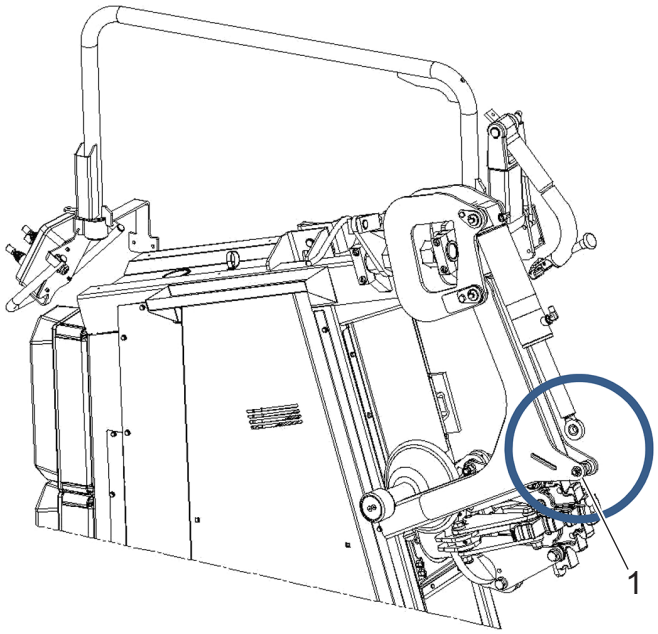
BEFORE SECURING TO THE FLOOR, SWIVEL FOOT AND LEVEL TO FLOOR (FIG. 6 REF. 2).

9.2 Assembly procedures

Assemble the equipment as per the illustrations represented and described hereafter.

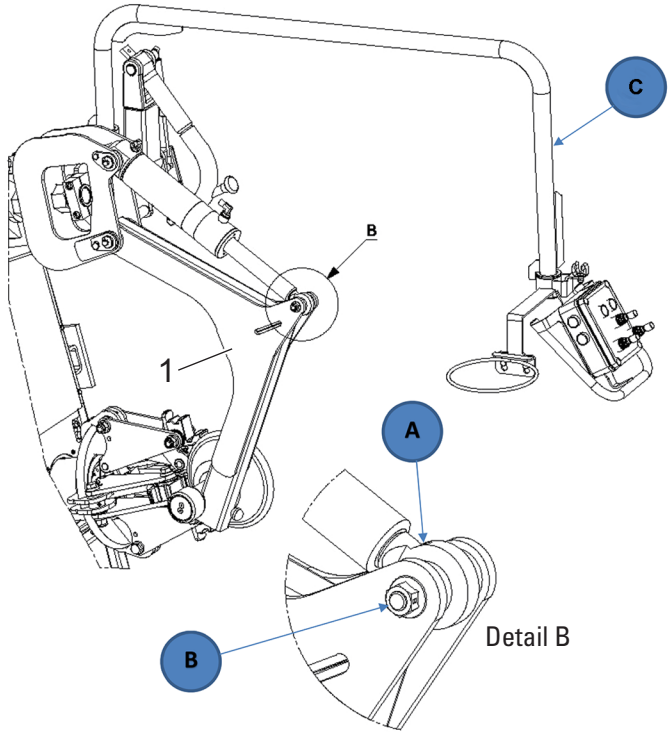
1. Remove the packaging and the equipment from the wrapping, lift it and place it on the floor.
   The articulated end (Fig. 7 ref. 1) appears as illustrated in Fig. 7;

Fig. 7



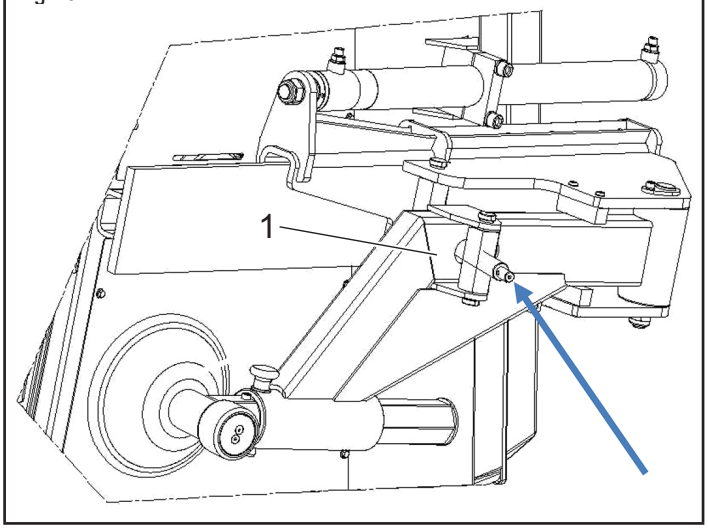
2. hook the articulated end (Fig. 8 ref. 1) onto the cylinder A to pin B, as shown by detail B.
   Turn the control unit C, as shown by Fig. 8. In order to perform such operation, lift the control unit along axis "A" at approximately 50 mm (1.97") up to position "2", rotate through 90° towards equipment front side and lower it always along axis "A" up to working position "3" (see Fig. 11);

Fig. 8



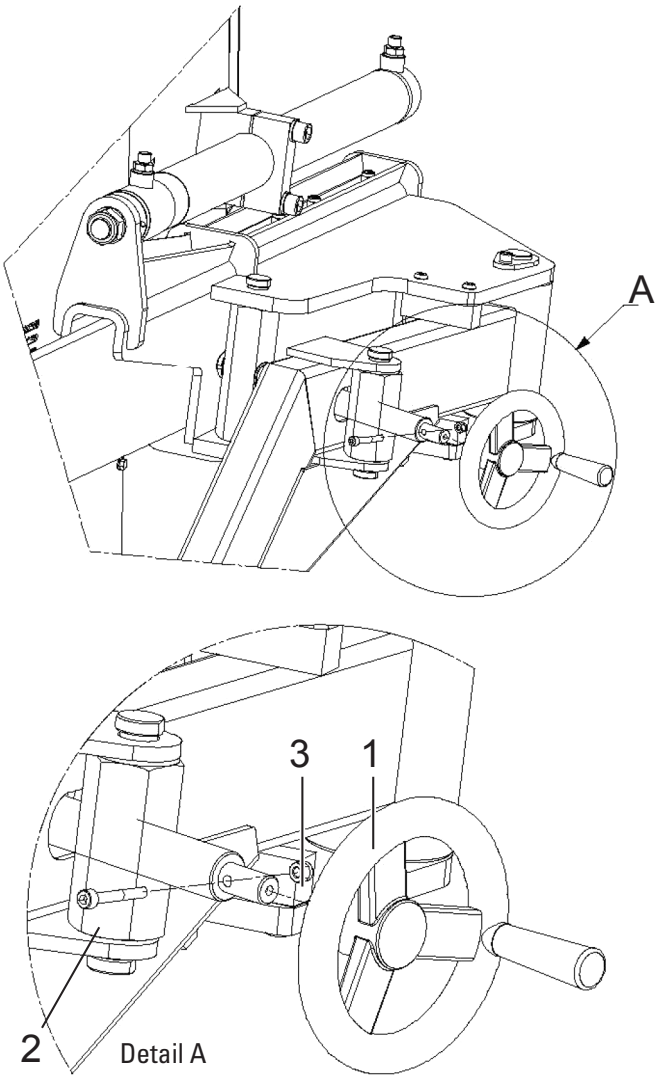
3. during the installation, the lower bead breaker arm (Fig. 9 ref. 1) appears without handwheel.

Fig. 9



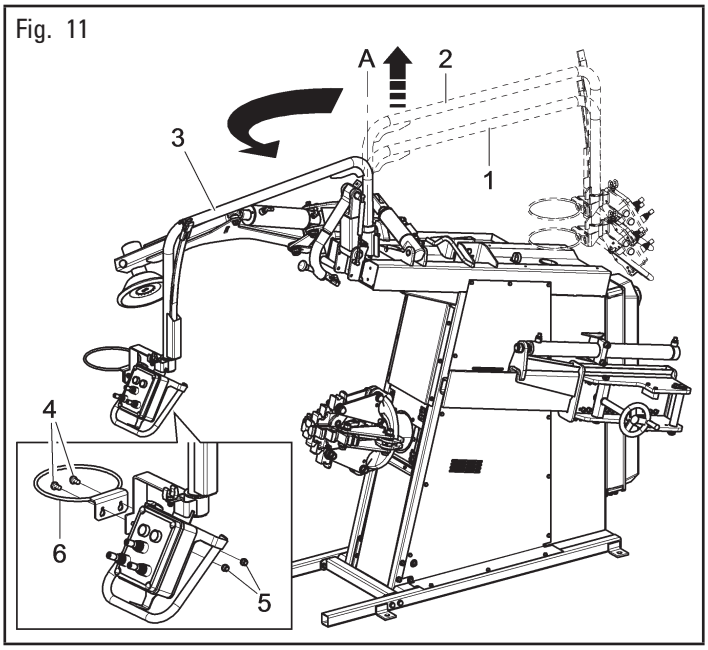
4. mount the handwheel (Fig. 10 ref. 1) using the supplied bolt (Fig. 10 ref. 2) and nut (Fig. 10 ref. 3), (see detail A);

Fig. 10



5. mount the grease-holder ring (Fig. 11 ref. 6) on the control unit, through bolts (Fig. 11 ref. 4) and nuts (Fig. 11 ref. 5), as shown in Fig. 11.

Fig. 11



9.3 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 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 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.

Model	Conformity standard	Voltage	Amperage	Poles	Minimum IP rating
3 Ph 2-speed	IEC 309	220 V	25 A	3 Poles + Ground	IP 44

9.4 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. 0.7 GALLONS (2.5 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).

9.5 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. 12 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.

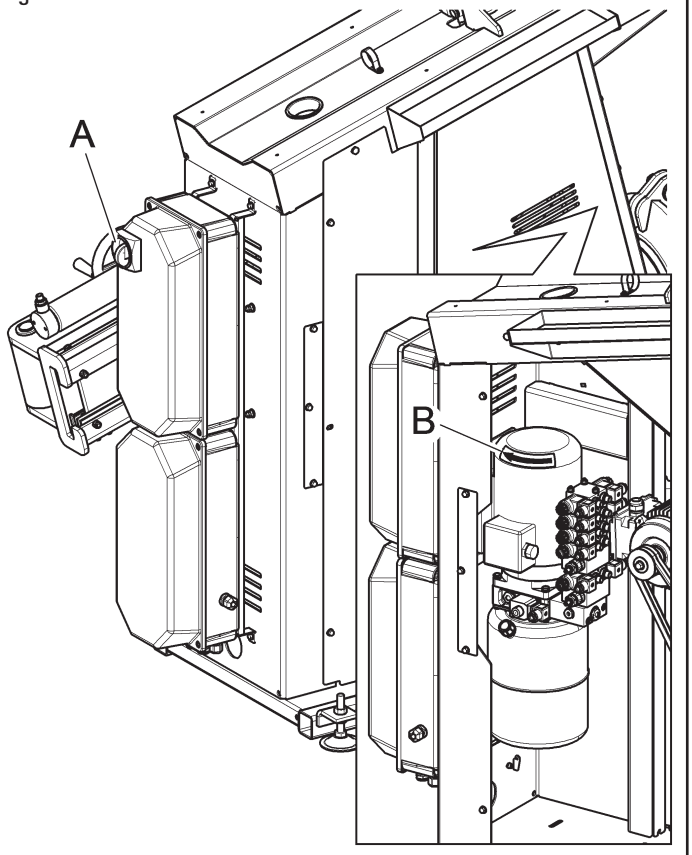
9.6 Electrical checks

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. 12 ref. A).

Fig. 12



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

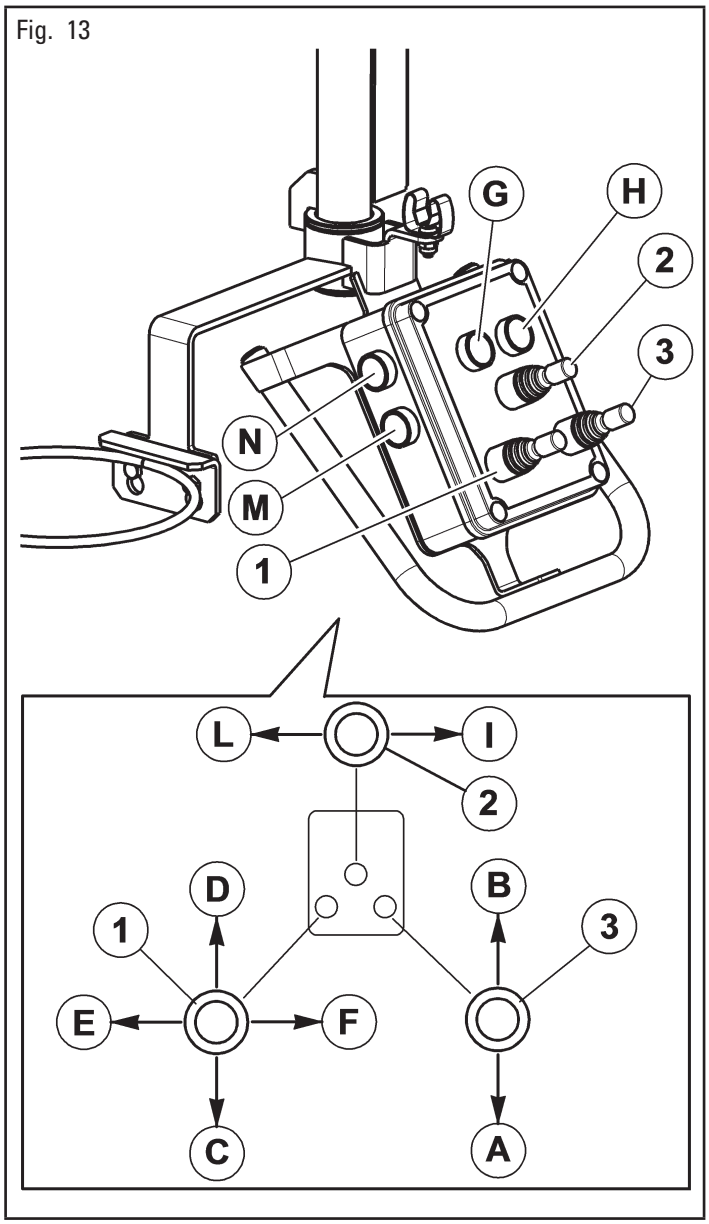
10.1 Control device

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 movement of the lever (Fig. 13 ref. 3) in position A, with hold-to-run control, operates the bead breaking of rear bead breaker roller.
- The movement of the lever (Fig. 13 ref. 3) in position B, with hold-to-run control, operates the return action of rear bead breaker roller.
- The movement of the lever (Fig. 13 ref. 1) in position C with hold-to-run control, operates the return action of front bead breaker roller.
- The movement of the lever (Fig. 13 ref. 1) in position D with hold-to-run control, operates the bead breaking of rear bead breaker roller.
- The movement of the lever (Fig. 13 ref. 1) in position F with hold-to-run control, brings the front bead breaker arm to working position.
- The movement of the lever (Fig. 13 ref. 1) in position E with hold-to-run control, operates the opening of the front bead breaker arm.
- Push button “G” has a hold-to-run control position, and when pressed, it operates self-centering chuck raising.
- Push button “H” has a hold-to-run control position, and when pressed, it operates self-centering chuck lowering.
- The movement of the lever (Fig. 13 ref. 2) in position L with hold-to-run control, operates the self-centering chuck clockwise rotation.
- The movement of the lever (Fig. 13 ref. 2) in position I with hold-to-run control, operates the self-centering chuck counterclockwise rotation.
- Push button “M” has one hold-to-run control position, and when pressed, it opens the self-centering chuck.
- Push button “N” has one hold-to-run control position, and when pressed, it closes the self-centering chuck.

Fig. 13



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.

WHEN HANDLING WHEELS WEIGHING MORE THAN 500 KG (1102.5 LBS) A FORK-LIFT TRUCK OR A CRANE SHOULD BE USED.

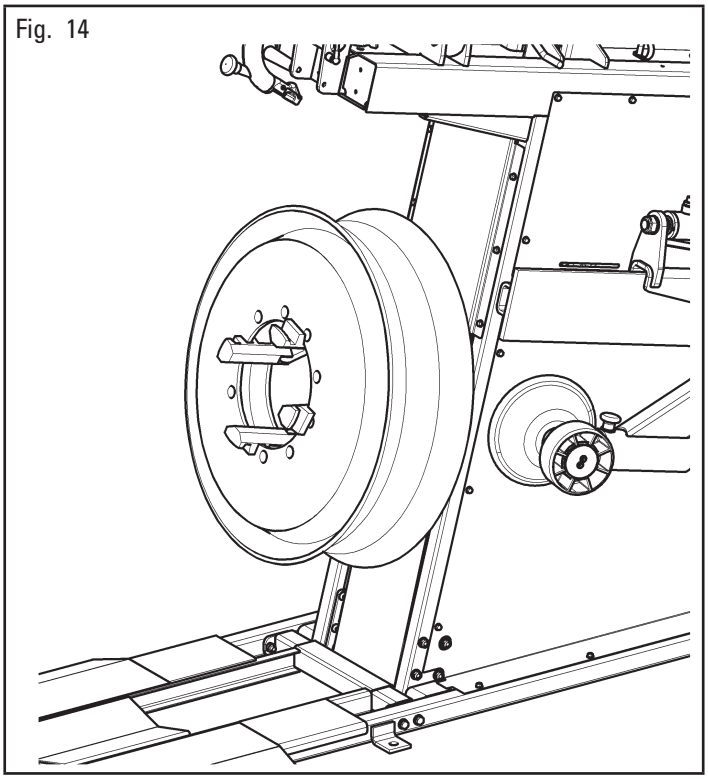
11.4 Wheel clamping

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.

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.

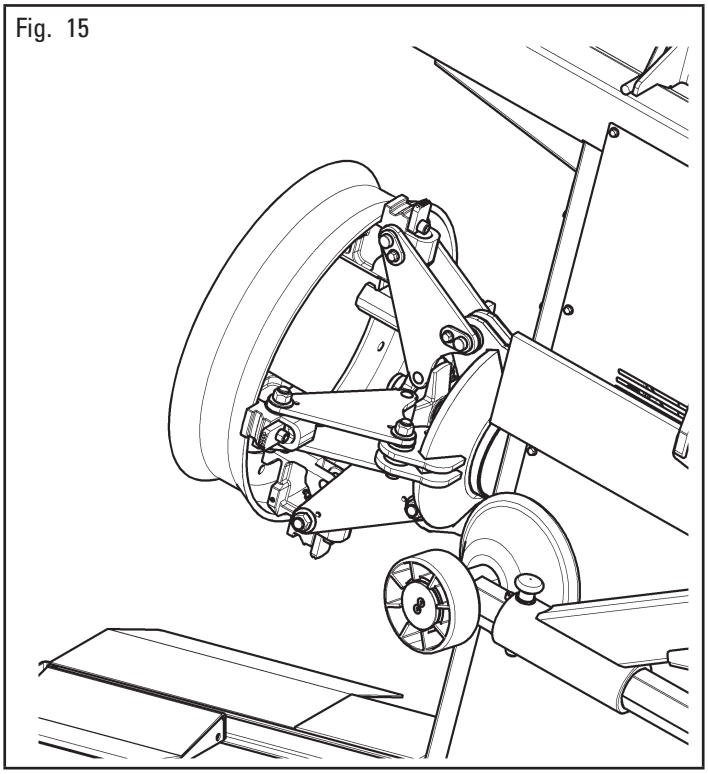
DO NOT CHANGE THE SET OPERATING PRESSURE VALUE BY MEANS OF THE MAXIMUM PRESSURE VALVES. THE MANUFACTURER SHALL NOT BE RESPONSIBLE FOR INJURY OR DAMAGE ARISING FROM UNAUTHORISED CHANGES.

Fig. 14



Clamping on the central hole

Fig. 15



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 SELF-CENTERING 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 SELF-CENTERING CHUCK NORMAL JAWS BY MEANS OF A BAYONET CONNECTION.

To clamp the wheel proceed as follows:

- make sure the front bead breaker arm is in open position (Fig. 16 ref. 2);
- place the wheel in vertical position onto the platform;
- move the wheel close, by keeping it in vertical position, until grazing self-centering chuck jaws;
- use the corresponding control (Fig. 13 ref. G-H) to position the coaxial self-centering chuck with the wheel center, in order to make jaws edges skim wheel edge;
- adjust the opening of the self-centering chuck through the corresponding control (Fig. 13 ref. M-N) according to the type of rim to be locked;
- tilt the wheel at approximately 15° towards the self-centering unit;
- operate the control (Fig. 13 ref. M) until the wheel is completely clamped;
- check both that the rim is clamped and centered correctly, and that the wheel has been raised above from the floor (Fig. 13 ref. G), 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.

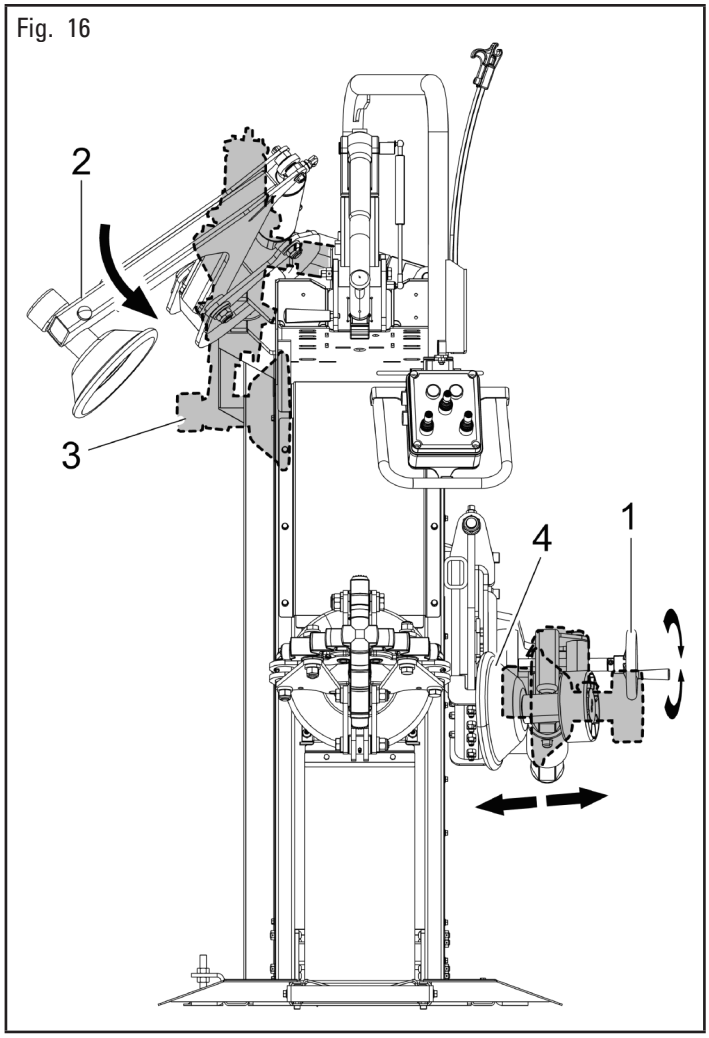
11.5 Bead breaker arms' functioning

During the working phases, the the front bead breaker arm (Fig. 16 ref. 2) can maintain two firm positions, that is:

1. "working" position (wheel front side) (Fig. 16 ref. 3);
2. "off-work" position (Fig. 16 ref. 2).

In "working" position" (Fig. 16 ref. 3) the front bead breaker arm is in front of the tire, just next the rim. From this position it can perform the different tire bead breaking and mounting-demounting operations.
The adjustment of the correct "working" position of the rear bead breaker arm (Fig. 16 ref. 4) is performed through handle's rotation (Fig. 16 ref. 1).

Fig. 16



11.6 Tubeless tires

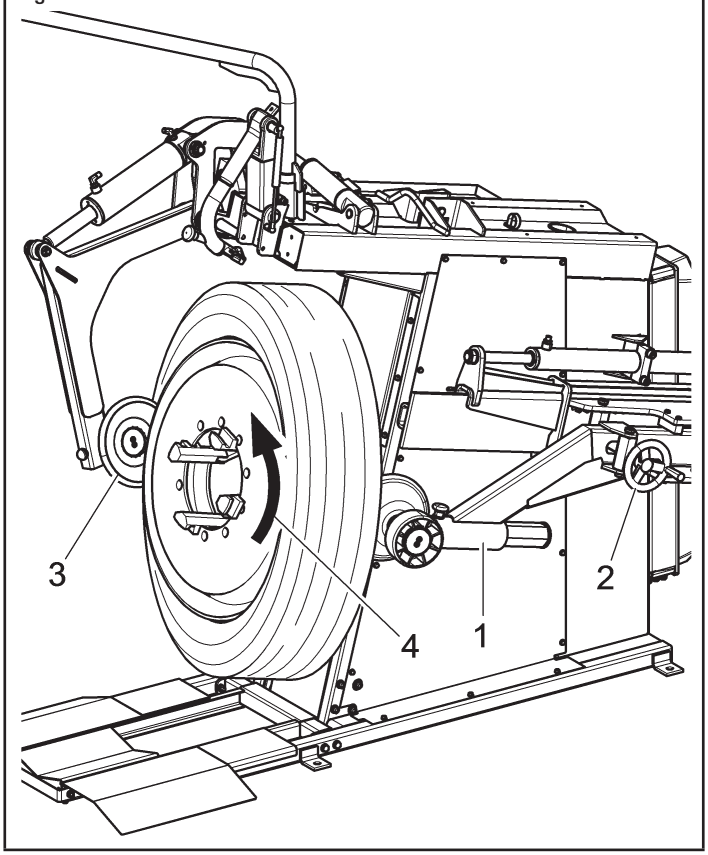
11.6.1 Bead breaking

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. Clamp the wheel on the self-centering chuck as described in "WHEEL CLAMPING" paragraph;
2. move the self-centering chuck to working position (rise fully home) (Fig. 13 ref. G);
3. move to work position A (Fig. 5);
4. move rear bead breaker arm (Fig. 17 ref. 1) to work position with the roller at approximately 5 mm (0.2") form rim's edge, using the lateral handwheel (Fig. 17 ref. 2).
5. move front bead breaker arm (Fig. 17 ref. 3) to work position, using lever (Fig. 13 ref. 1-F).
6. carry out bead breaking of front bead first, then bead-break rear bead, by turning self-centering chuck counter-clockwise (Fig. 17 ref. 4);

Fig. 17



7. carry on turning self-centering chuck while generously lubricating tire rim and bead with a suitable lubricant. The more the tire adheres to the rim, the slower should bead breaking rollers advance.

THE BEAD BREAKING ROLLERS MUST NOT EXERT PRESSURE ON THE RIM BUT ON TIRE BEAD.

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

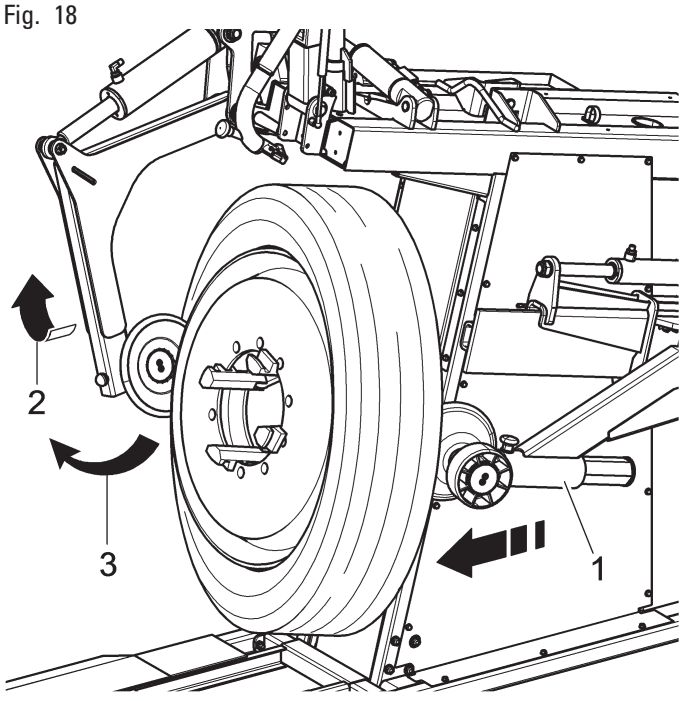
11.6.2 Demounting

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

Tubeless tires can be removed in two ways:

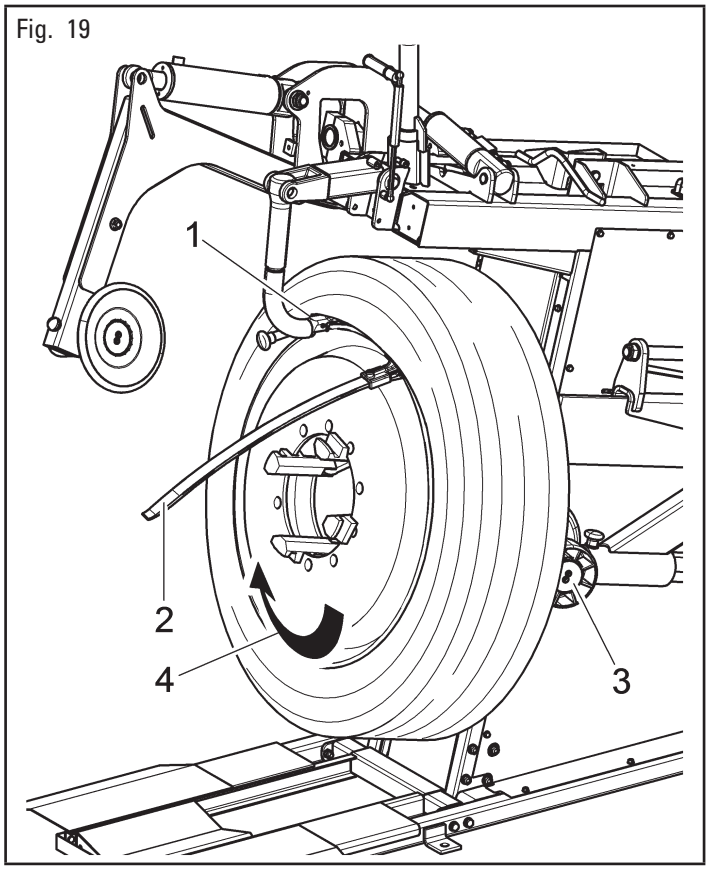
1. Lubricate both rim and tire.
   Move the lower bead into rim drop center and start pushing with rear bead breaker arm (Fig. 18 ref. 1), when the tire is tilted activate front bead breaker arm's return movement (Fig. 18 ref. 3) and its shift to rest position (Fig. 18 ref. 2). Move the rear one forward (Fig. 18 ref. 1) until the tire comes out.
   Move rear bead breaker arm (Fig. 18 ref. 1) to rest position.

Fig. 18



2. When working with very hard and low-profile (supersingle) or with very wide tires, after the bead breaking of the two beads and after rim and tire lubrication, the first bead can be removed by using the tool (Fig. 19 ref. 1). After the bead has been loaded onto the tool (Fig. 19 ref. 1) through lever (Fig. 19 ref. 2), turn the self-centering chuck CLOCKWISE (Fig. 19 ref. 4); the second bead is removed by using rear bead breaker arm (Fig. 19 ref. 3).

Fig. 19



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 front bead breaker roller; if the wheel is especially hard to fit, use the tool.

With bead breaker roller

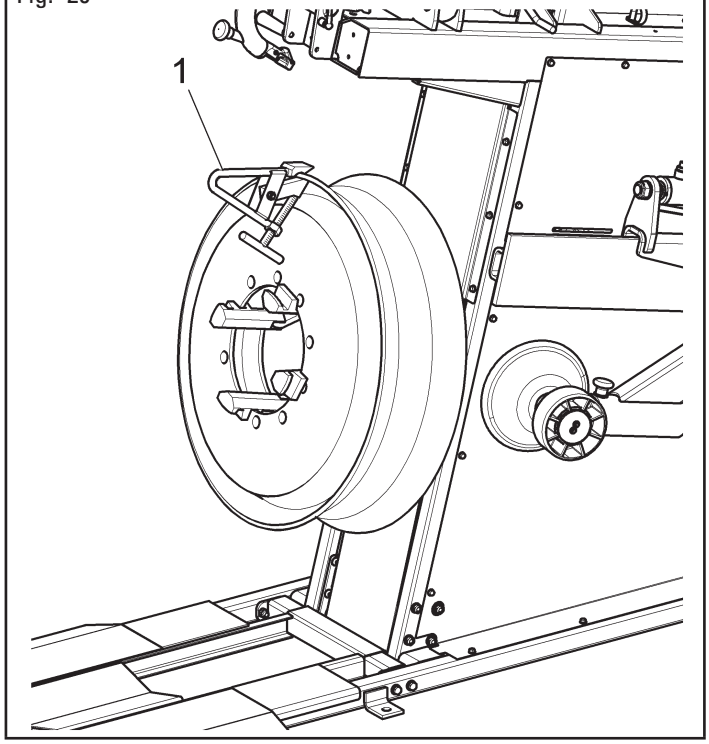
Proceed as follows:

1. secure the rim to the self-centering chuck according to the procedure described in "WHEEL CLAMPING" paragraph;
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. 20 ref. 1) on the external edge of the rim in the highest point as shown in Fig. 20;

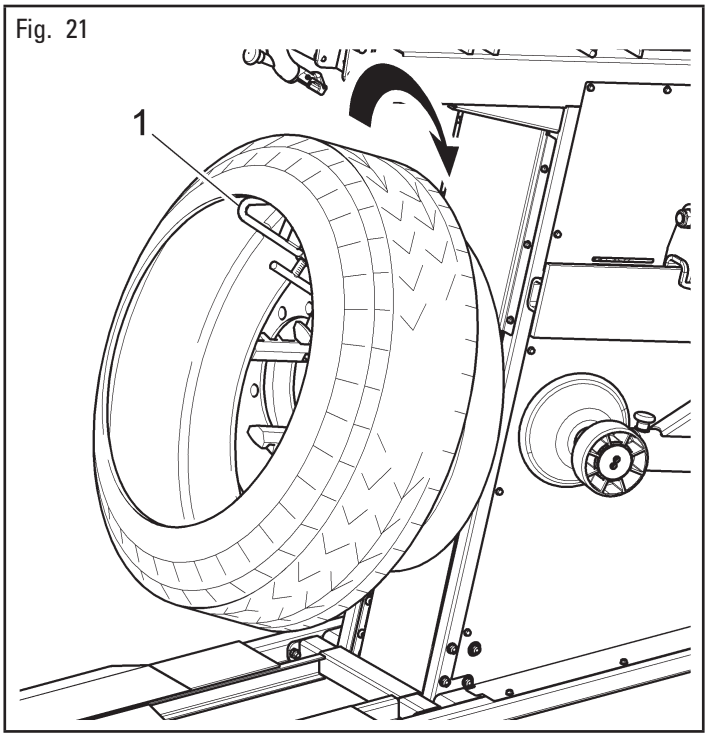
Fig. 20



THE CLAMP (OPTIONAL) MUST BE TIGHTLY SECURED TO THE EDGE OF THE RIM.

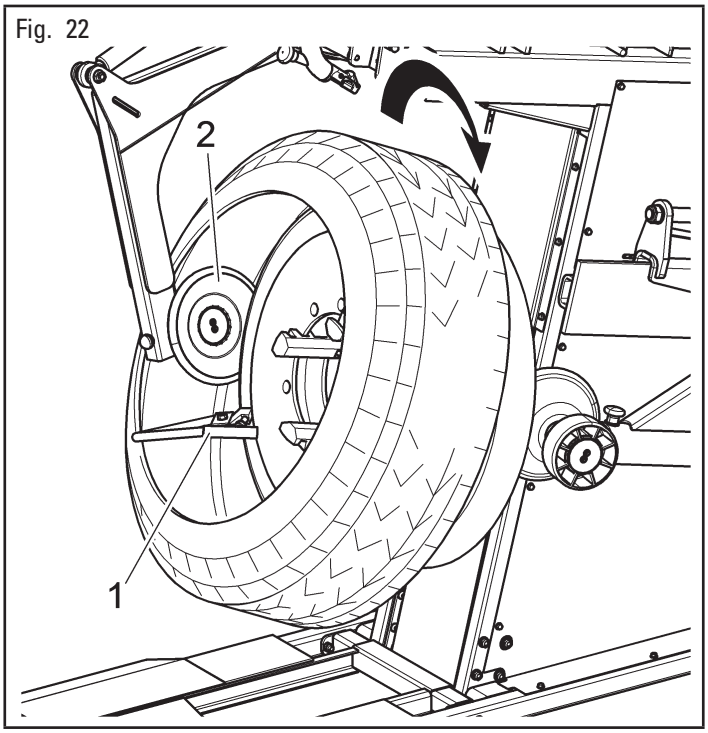
4. move to work position B (Fig. 5);
5. completely lower self-centering chuck. Roll the tire on the platform and hook it to clamp (Fig. 21 ref. 1) (optional).
6. lift the self-centering chuck with the tire hooked and turn it clockwise 15-20 cm (5.9"-7.9"); the tire will position itself sideways in relation to the rim (see Fig. 21);

Fig. 21



7. move front bead breaker roller to work position (Fig. 16 ref. 3);
8. position the front bead breaker roller (Fig. 22 ref. 2) so that it is at approximately 1.5 cm (0.6") from the edge of the rim. Fitting clamp (optional) (Fig. 22 ref. 1) is at "12 o'clock". Turn self-centering chuck clockwise until bringing the clamp to the closest point to the front bead breaker roller ("8 o'clock") (Fig. 22 ref. 1);

Fig. 22



9. move bead breaker roller away from the wheel;

10. remove the clamp (optional) and fit it in position (3 o'clock) outside the second bead;
11. turn self-centering chuck counterclockwise until clamp (optional) is at "12 o'clock";
12. move the bead breaker roller forward until it is inside the edge of the rim by about 1-2 cm (0.4"-0.8"), 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;
13. once insertion is completed, move the roller away from the wheel, move it to "off-work" position and remove clamp (optional);
14. lower self-centering chuck until the wheel rests on the floor;
15. move to work position A (Fig. 5);
16. close self-centering 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.

17. 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.

<u>With tool</u>

Proceed as follows:

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

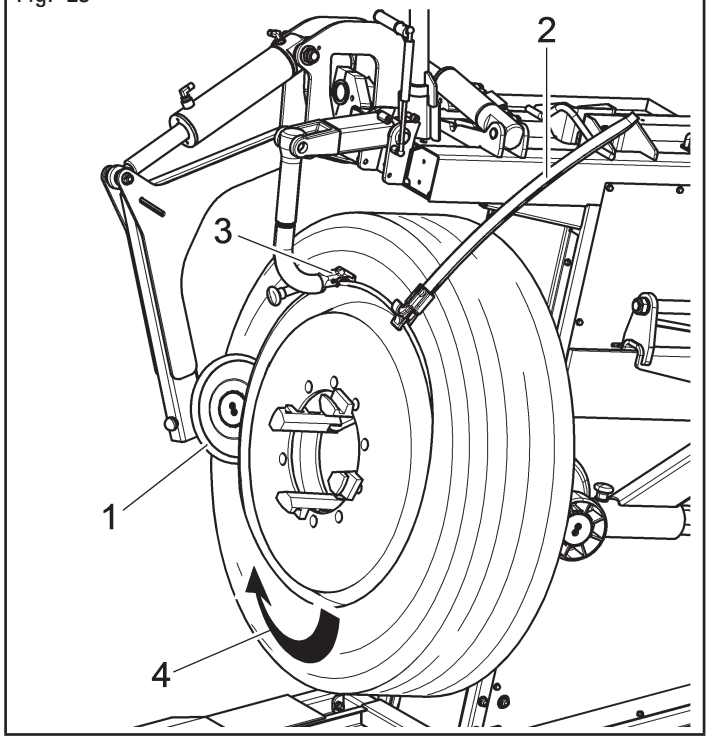
USE ONLY TIRE LUBRICANTS. SUITABLE LUBRICANTS CONTAIN NO WATER, HYDROCARBONS, OR SILICON.

3. mount the clamp (optional) (Fig. 20 ref. 1) on the external edge of the rim in the highest point.

THE CLAMP (OPTIONAL) MUST BE TIGHTLY SECURED TO THE EDGE OF THE RIM.

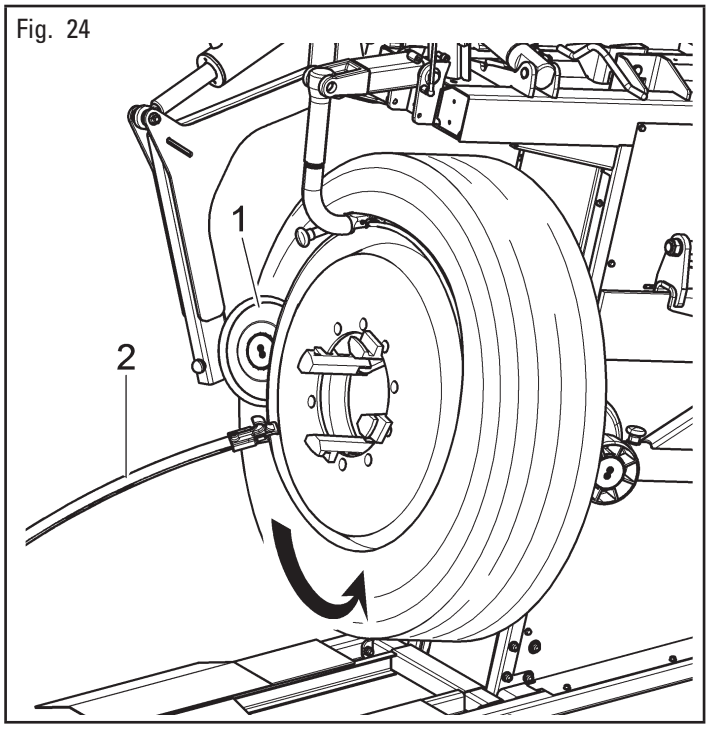
4. move to work position B (Fig. 5);
5. completely lower self-centering chuck. Roll the tire on the just next self-centering chuck and hook it to clamp (optional) (Fig. 21 ref. 1);
6. lift the self-centering chuck with the tire hooked and turn it clockwise 15-20 cm (5.9"-7.9"); the tire will position itself sideways in relation to the rim (see Fig. 21);
7. close the front arm into working position (Fig. 16 ref. 3) and move the roller until it almost touches rim's edge (Fig. 13 ref. 1-D); after the entry of the first bead with roller (Fig. 23 ref. 1) and bead lever or clamp (optional) (Fig. 23 ref. 2) there's space enough to lay the tool (Fig. 23 ref. 3) onto the rim by turning the self-centering chuck CLOCKWISE (Fig. 23 ref. 4);
8. lay the tool (Fig. 23 ref. 3) onto rim's edge;

Fig. 23



9. move the front roller (Fig. 24 rif. 1) at the same height of the drop center (Fig. 13 rif. 1-D), place the bead lever or clamp (optional) (Fig. 24 rif. 2) under the same roller and turn self-centering chuck counter-clockwise until the second bead is applied;
10. move the front arm to rest position (Fig. 16 ref. 2);

Fig. 24



11. lower self-centering chuck until the wheel rests on the floor;
12. move to work position A (Fig. 5);
13. close self-centering 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.

14. 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.

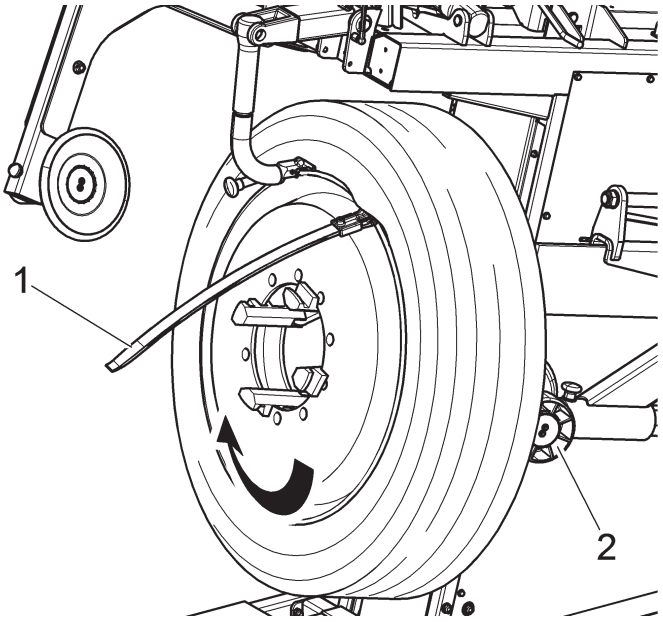
WHEN BEADING WHEELS WITH INNER TUBES, INTERRUPT THE FORWARD MOVEMENT OF THE BEAD BREAKER ROLLER AS SOON AS THE BEADS HAVE BEEN DISLODGED TO AVOID DAMAGE TO THE INNER TUBE OR TO THE VALVE.

11.7.2 Demounting

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

1. Introduce the tool between rim edge and tire bead;
2. move to work position A (Fig. 5);
3. insert bead lever (Fig. 25 ref. 1) between the rim and the bead on the right-hand side of the tool;
4. turn the wheel clockwise by keeping lever pressed until the bead has gone completely out;
5. lower self-centering chuck until the tire rests on the floor; exert a certain pressure on it; this will create enough space to extract the inner tube;
6. extract the inner tube and lift the wheel again;
7. the second bead is removed by using rear bead breaker arm (Fig. 25 ref. 2).

Fig. 25



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.

11.7.3 Mounting

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

1. Secure the rim to the self-centering chuck according to the procedure described in "WHEEL CLAMPING" paragraph;
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. 20 ref. 1) on the external edge of the rim in the highest point as shown in Fig. 20;

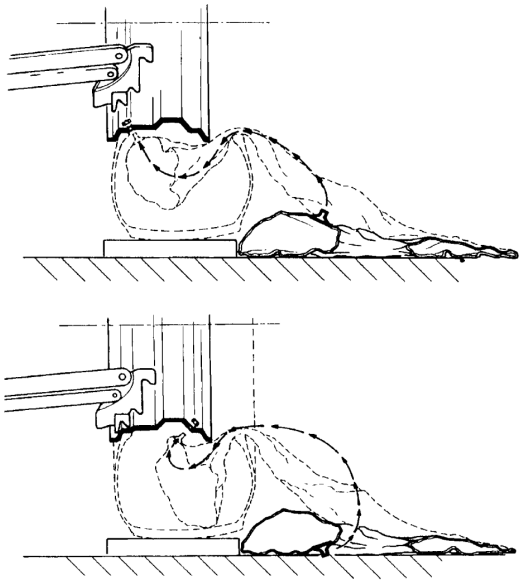
THE CLAMP (OPTIONAL) MUST BE TIGHTLY SECURED TO THE EDGE OF THE RIM.

4. move to work position B (Fig. 5);
5. position the tire near the equipment and lower self-centering chuck (make sure the clamp is in the highest point) to hook the first tire bead (internal bead);
6. lift the self-centering 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. move front bead breaker roller to work position (Fig. 16 ref. 3);
8. position the front bead breaker roller (Fig. 22 ref. 2) so that it is at approximately 1.5 cm (0.6") from the edge of the rim. The assembly clamp is at "12 o'clock" position. Turn self-centering chuck clockwise until bringing the clamp (optional) to the closest point to the bead breaker roller ("8 o'clock") (Fig. 22 ref. 1).
9. move bead breaker roller away from the wheel;
10. remove clamp (optional) from the rim;
11. turn self-centering chuck until the hole for valve introduction is downwards ("6 o'clock");
12. lower self-centering 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. 26.

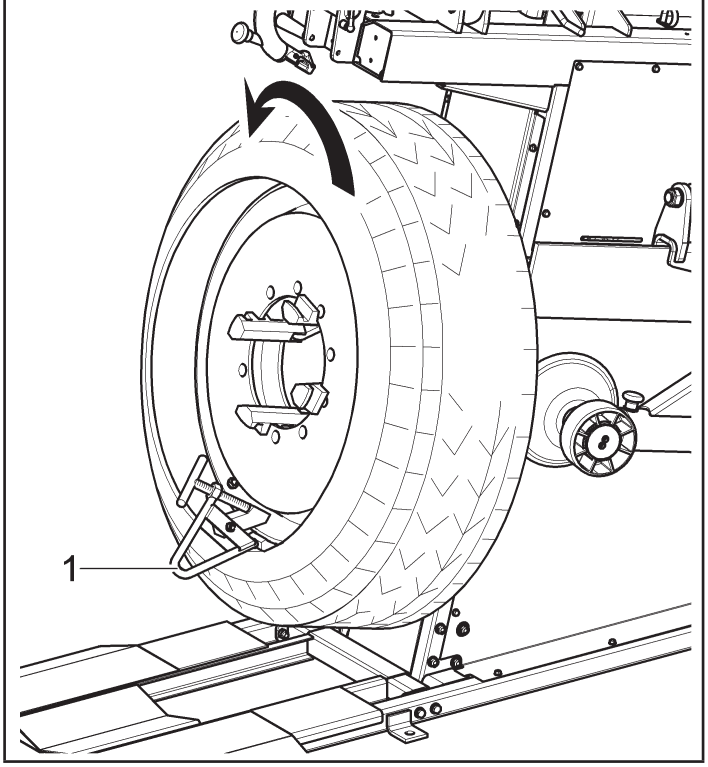
Install the valve in the hole and secure it with the provided ring nut. Install the inner tube in the drop center of the rim (to make this operation easier, it is advisable to simultaneously turn self-centering chuck clockwise);

Fig. 26



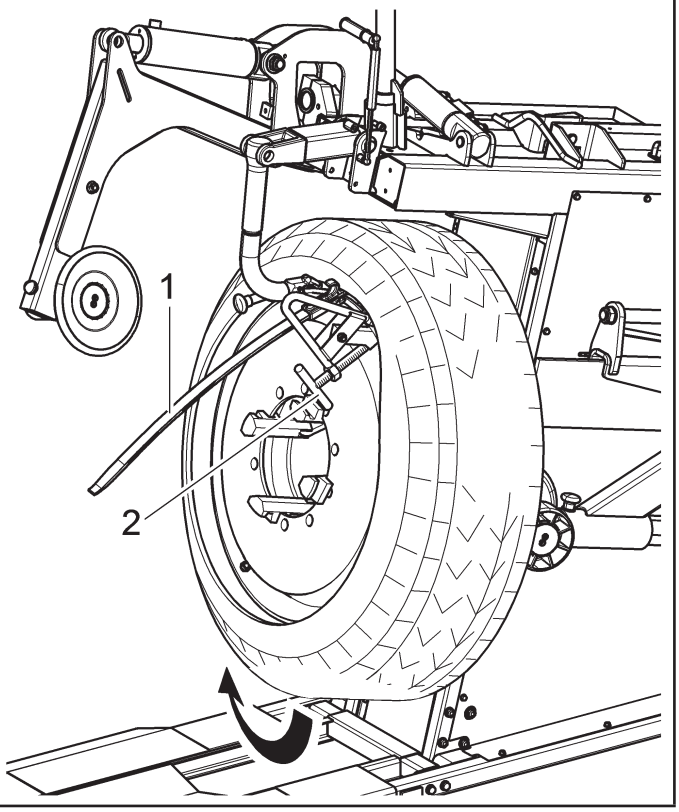
13. turn self-centering chuck and position the valve downwards ("6 o'clock");
14. to avoid damaging the inner tube, slightly inflate it when installing the second bead;
15. to avoid damaging the valve when installing the second bead, remove the fixing ring nut and mount an extension on the same valve;
16. move to work position B (Fig. 5);
17. lift the self-centering chuck and mount the clamp (Fig. 27 ref. 1) (optional) on the rim outside the second bead at about 20 cm (7.87") from the inflating valve on the right.
18. turn self-centering chuck counterclockwise until clamp (optional) is at "12 o'clock";

Fig. 27



19. arrange tool in working position;
20. turn self-centering chuck clockwise until lever (Fig. 28 ref. 1) is introduced in the housing obtained on the tool;
21. turn the self-centering chuck clockwise with lever (Fig. 28 ref. 1) hooked until complete insertion of the tire outer bead;
22. remove lever (Fig. 28 ref. 1), clamp (optional) (Fig. 28 ref. 2) and extract the tool by turning the self-centering chuck counterclockwise;

Fig. 28



23. lower self-centering chuck until the wheel rests on the floor;
24. move to work position A (Fig. 5);
25. check the state of the tire valve and center it, if necessary, in the rim hole by slightly turning self-centering chuck; secure the valve with the supplied ring nut after removing the protective extension;
26. close self-centering 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.

27. 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.

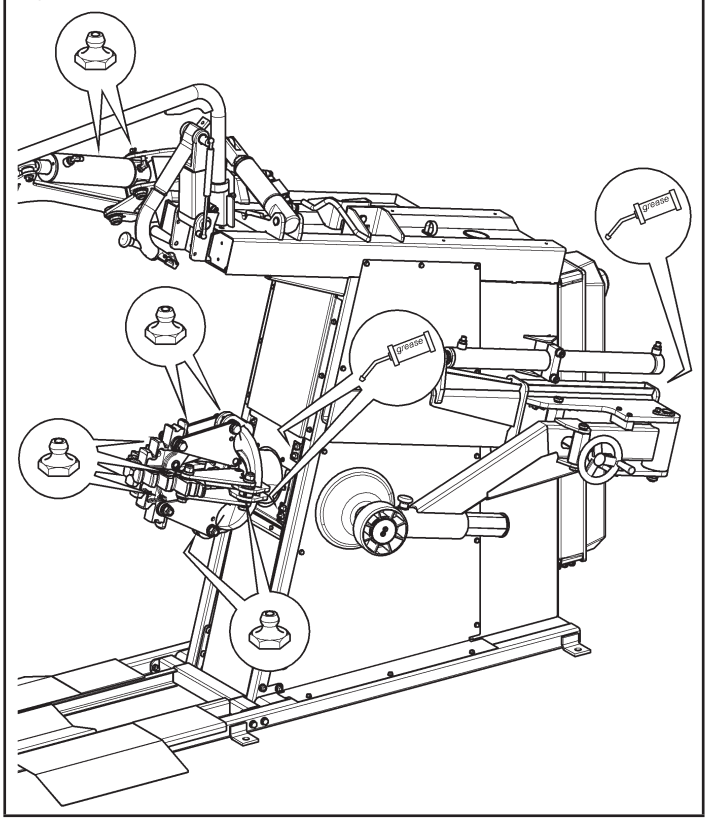
- Disconnect the mains power supply before starting any cleaning or routine maintenance operations.
- Remove deposits of tire powder and other waste materials with a vacuum cleaner.

DO NOT BLOW IT 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 (self-centering chuck and tool holder arm).

- Periodically (preferably once a month), grease all moving parts of the equipment (see Fig. 29).

Fig. 29



- 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).

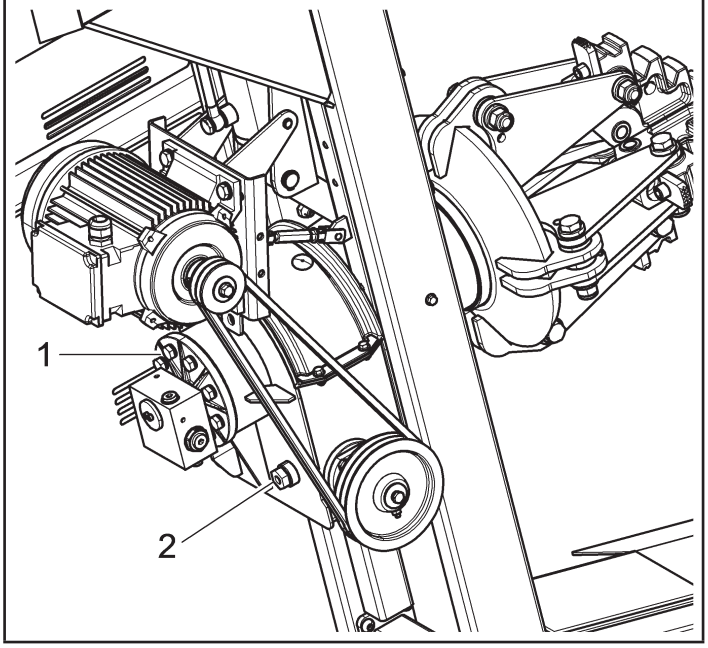
  At least once a year it is advisable to replace the hydraulic oil of the unit.

CARRY OUT THIS PROCEDURE WITH THE HYDRAULIC CYLINDERS COMPLETELY RETRACTED.

- Check operation of the safety devices every week.

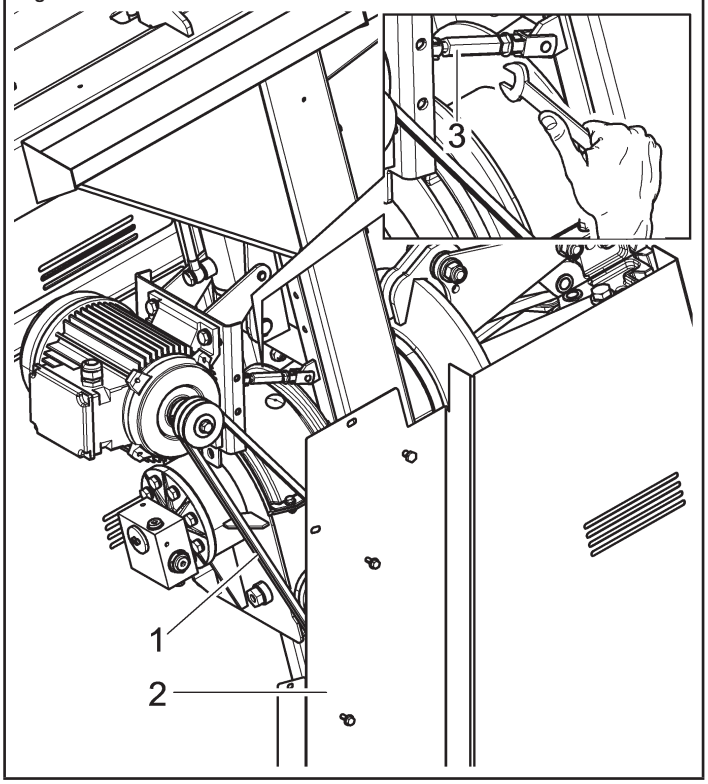
- Periodically (approximately each 100 hours), check the oil level of the reduction gear (Fig. 30 ref. 1); the level indicator window (Fig. 30 ref. 2)must be covered with lubricant, otherwise, remove the plug provided and top up using appropriate lubricants until the level is reset.

Fig. 30



- Check belt tensioning (Fig. 31 ref. 1):
  - remove protection guard (Fig. 31 ref. 2) removing the corresponding bolts;
  - tension up the belt (Fig. 31 ref. 1) turning the screw coupler (Fig. 31 ref. 3);
  - at the end, mount protection guard (Fig. 31 ref. 2) again.

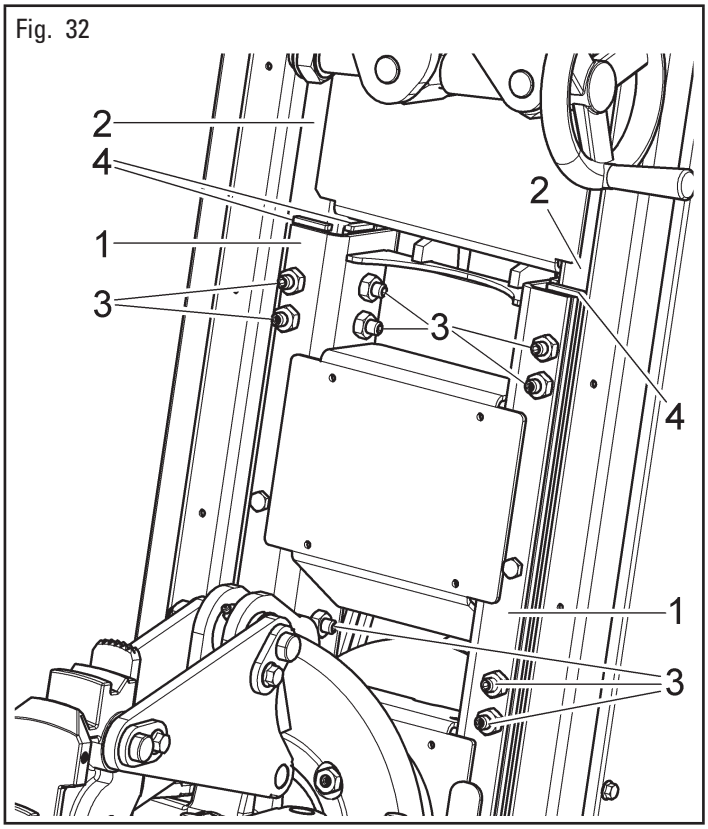
Fig. 31



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

- Check periodically and, if necessary, adjust the play of slide (Fig. 32 ref. 1) on guide plates (Fig. 32 ref. 2) by means of the adjustment bolts (Fig. 32 ref. 3) of sliding blocks (Fig. 32 ref. 4).

Fig. 32



- Periodically, every 50 working hours approximately, clean the (inner and outer) guides of self-centering chuck and of tool 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-unauthorised 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 self-centering chuck motor works perfectly.	Hydraulic control unit damaged.	Call Technical Service Dept.
When main switch is turned on, wheel holder self-centering chuck does not turn whereas pump motor works.	Gearmotor change-over switch damaged.	Call Technical Service Dept.
Power drop during wheel holder self-centering chuck rotation.	Timing belt too loose.	Tension up the belt.
No pressure in the hydraulic system.	Pump damaged.	Replace pump.
The equipment does not start.	a) No power supply. b) Overload cutouts not set. c) Transformer fuse blown.	a) Connect the power supply. b) Set the overload cutouts. c) Change the fuse.
Fluid leaks from fitting or pipeline.	a) fitting not tightened correctly. b) Pipeline cracked.	a) Tighten the fitting. 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-centering 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 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. 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.

Problem	Possible cause	Remedy
Equipment 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. 

14.0 TECHNICAL DATA

14.1 Technical electrical data

Self-centering chuck motor power (Hp)		3 (2.2 kW)
Power supply	Voltage (V)	265/460
	Phases	3
	Frequency (Hz)	60
Hydraulic drive unit motor (Hp)		2 (1.5 kW)
Power supply	Voltage (V)	230/400
	Phases	3
	Frequency (Hz)	60
Typical current draw (A)		16
Self-centering chuck rotation speed (rev/min)		8

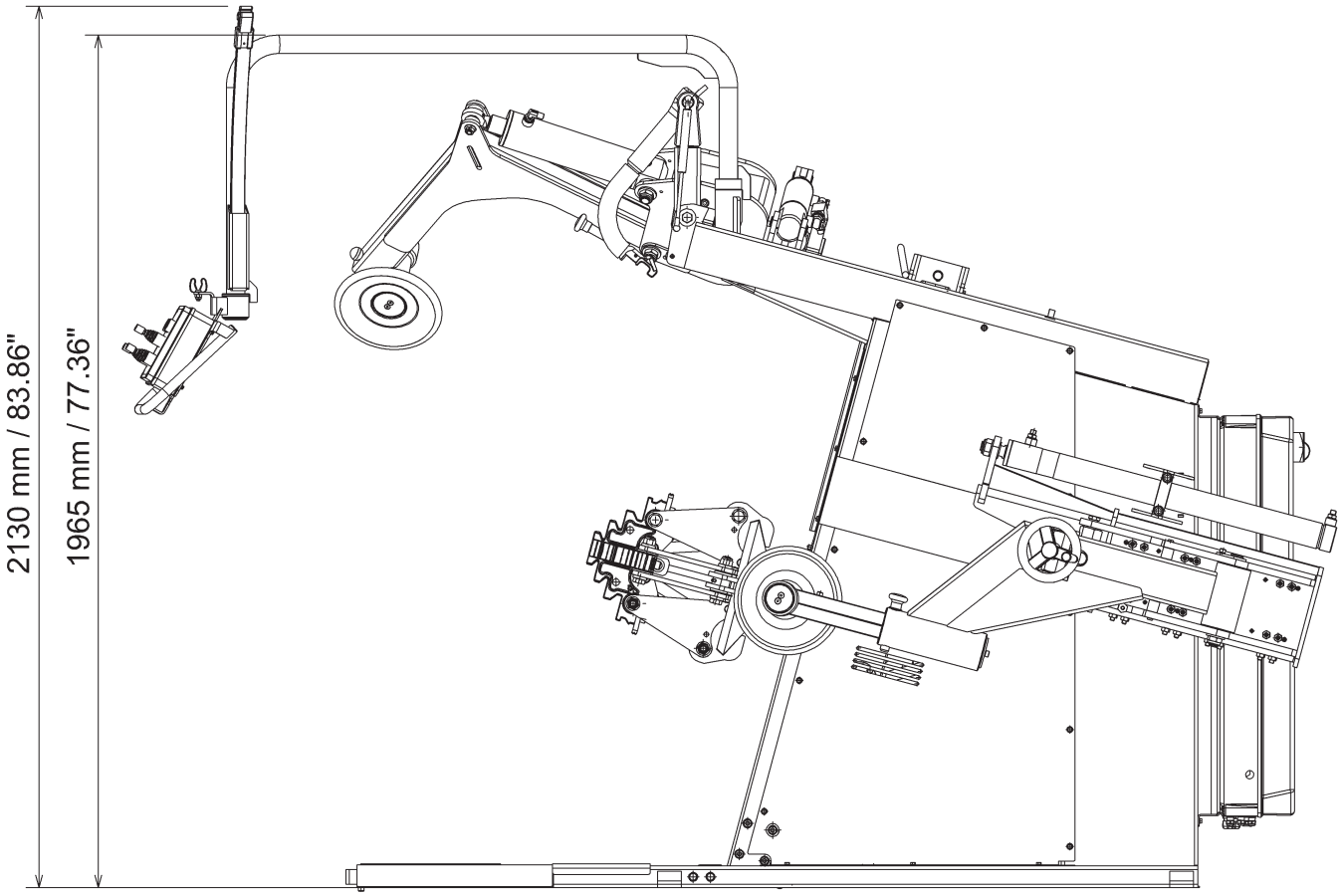
14.2 Technical mechanical data

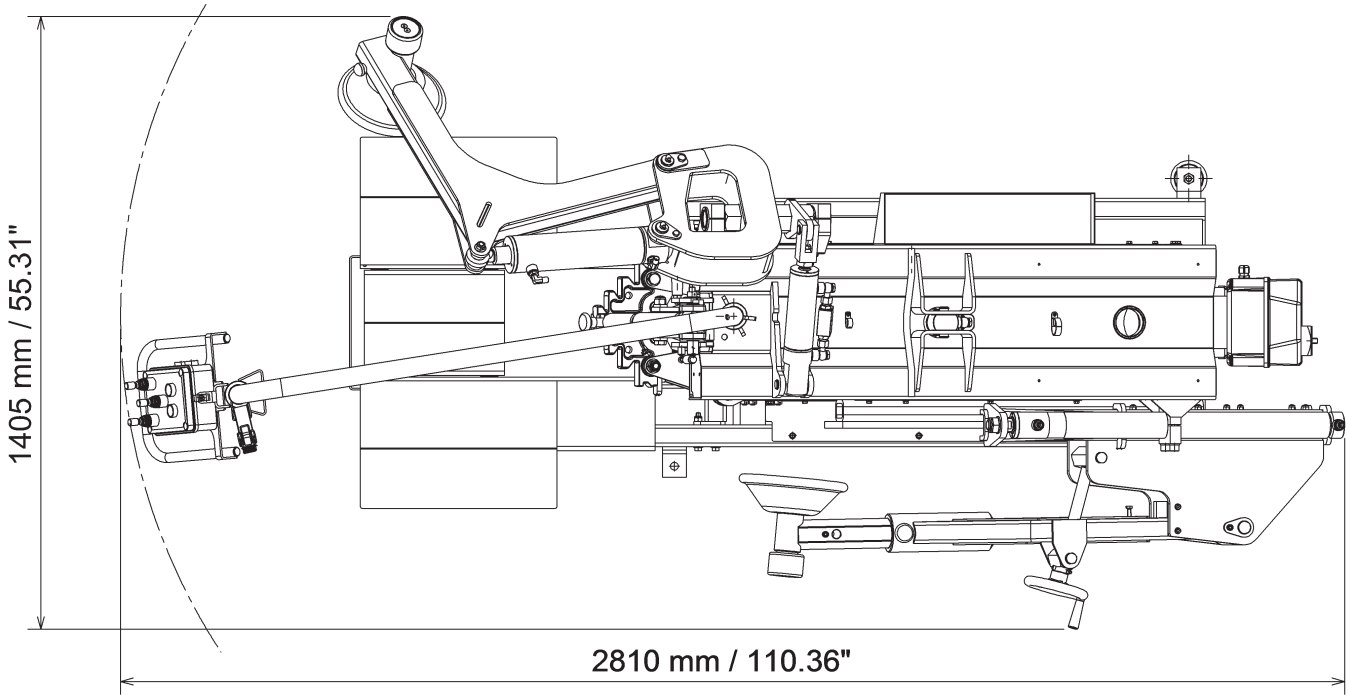
Tire max. diameter (mm)	1320 (52")
Wheel max. width (mm)	540 (21")
Max. rotation torque (Nm)	2600 (1918 ft·lbs)
Wheel max. weight (kg)	1200 (2646 lbs)
Rim diameter (inches)	11-27
Chuck minimum height from the ground (mm)	340 (13”)
Bead-breaking force (N)	12500 (2810 lbf)
Gear noise (dB) (A)	< 80
Operating pressure (bar)	130 (1885 psi)

Weight (Kg)	650 (1433 lbs)

14.3 Dimensions

Fig. 33





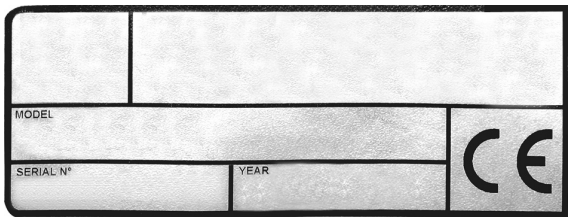
15.0 STORING

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 PLATE DATA



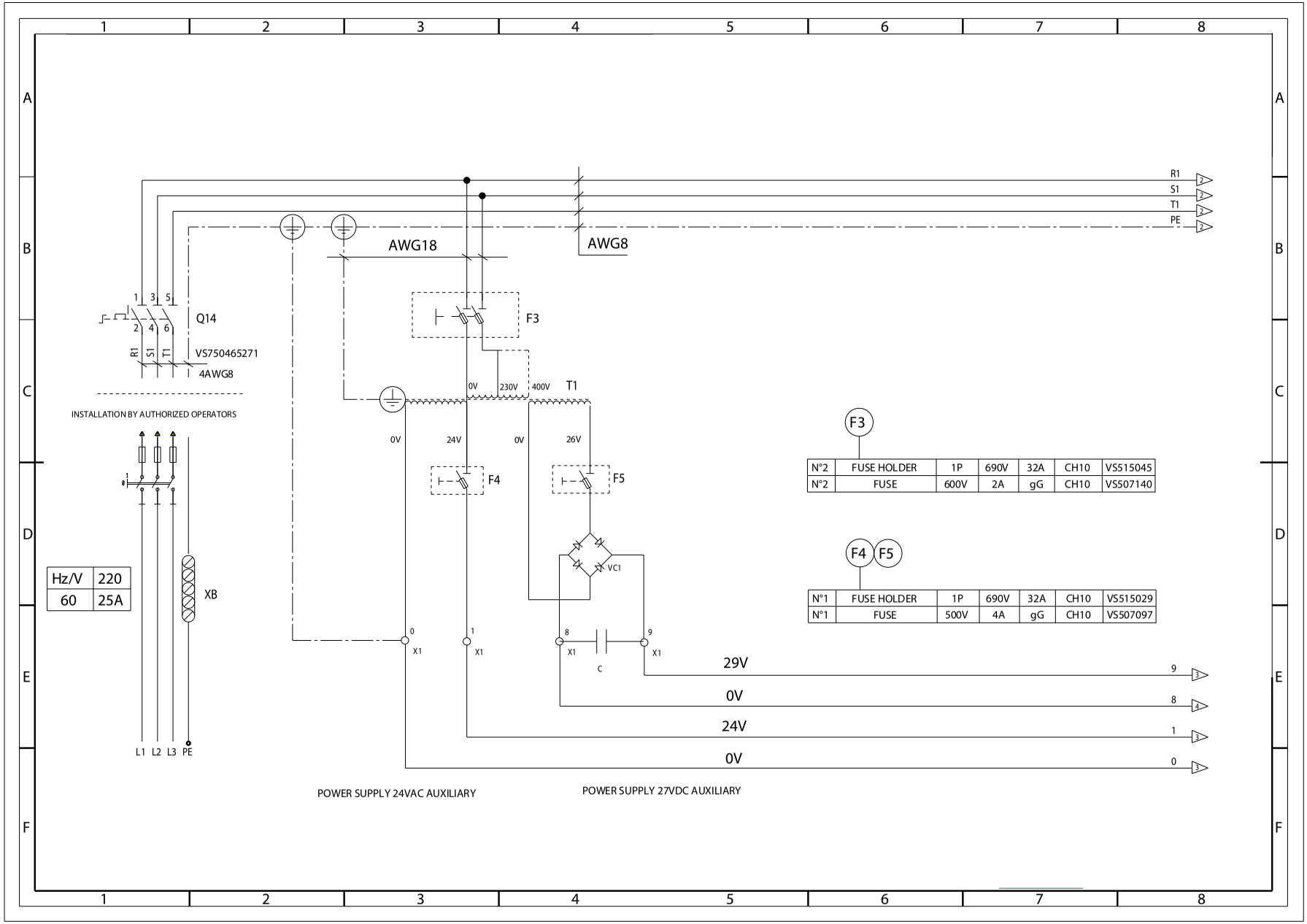
The validity of the Conformity Declaration enclosed to this manual is also extended to products and/or devices the equipment model object of the Conformity Declaration can be equipped with.
Said plate must always be kept clean from grease residues or filth generally.

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

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

18.0 FUNCTIONAL DIAGRAMS

Here follows a list of the equipment functional diagrams.

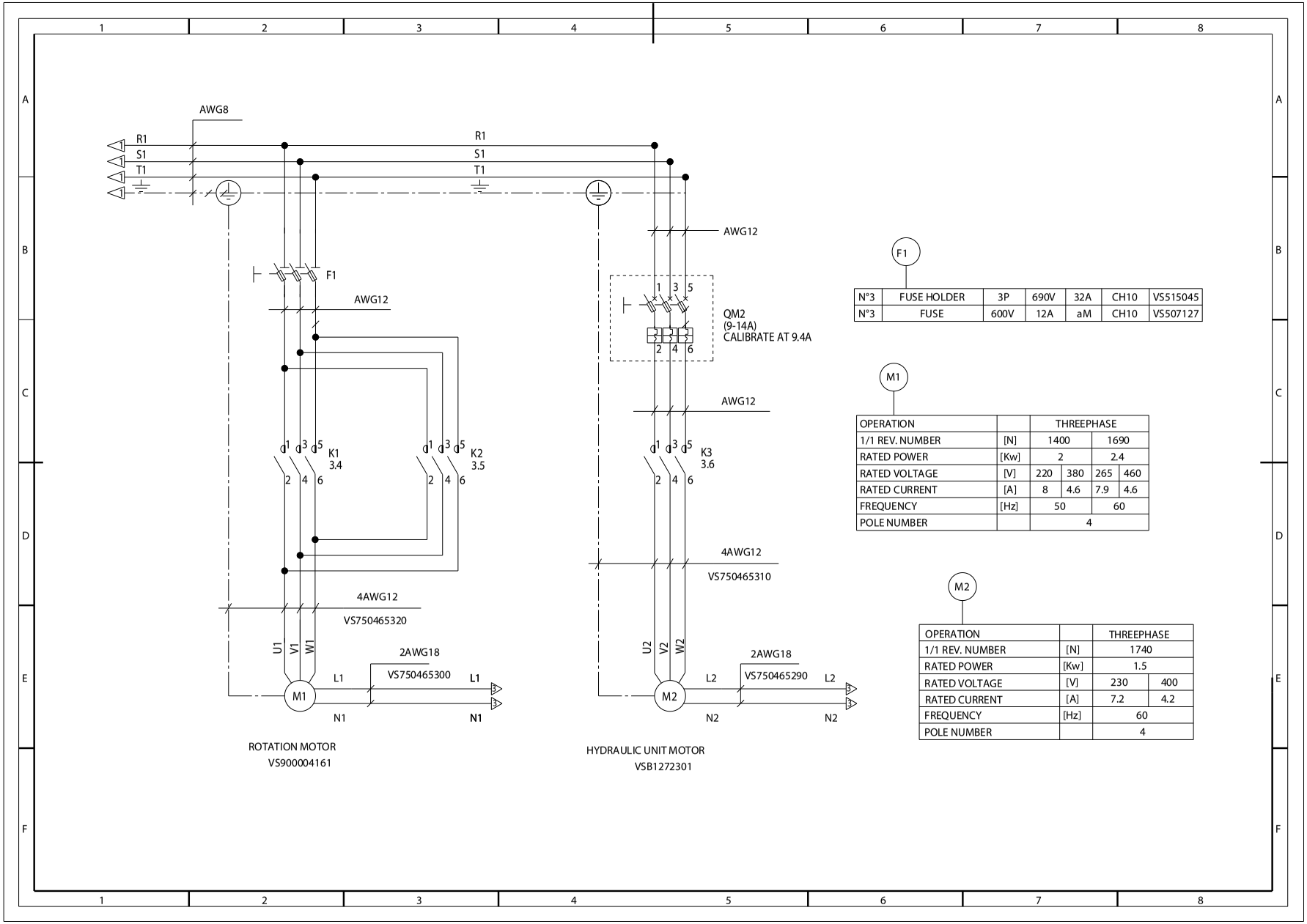


F3

N°2	FUSE HOLDER	1P	690V	32A	CH10	VS515045
N°2	FUSE	600V	2A	gG	CH10	VS507140

F4 F5

N°1	FUSE HOLDER	1P	690V	32A	CH10	VS515029
N°1	FUSE	500V	4A	gG	CH10	VS507097



F1

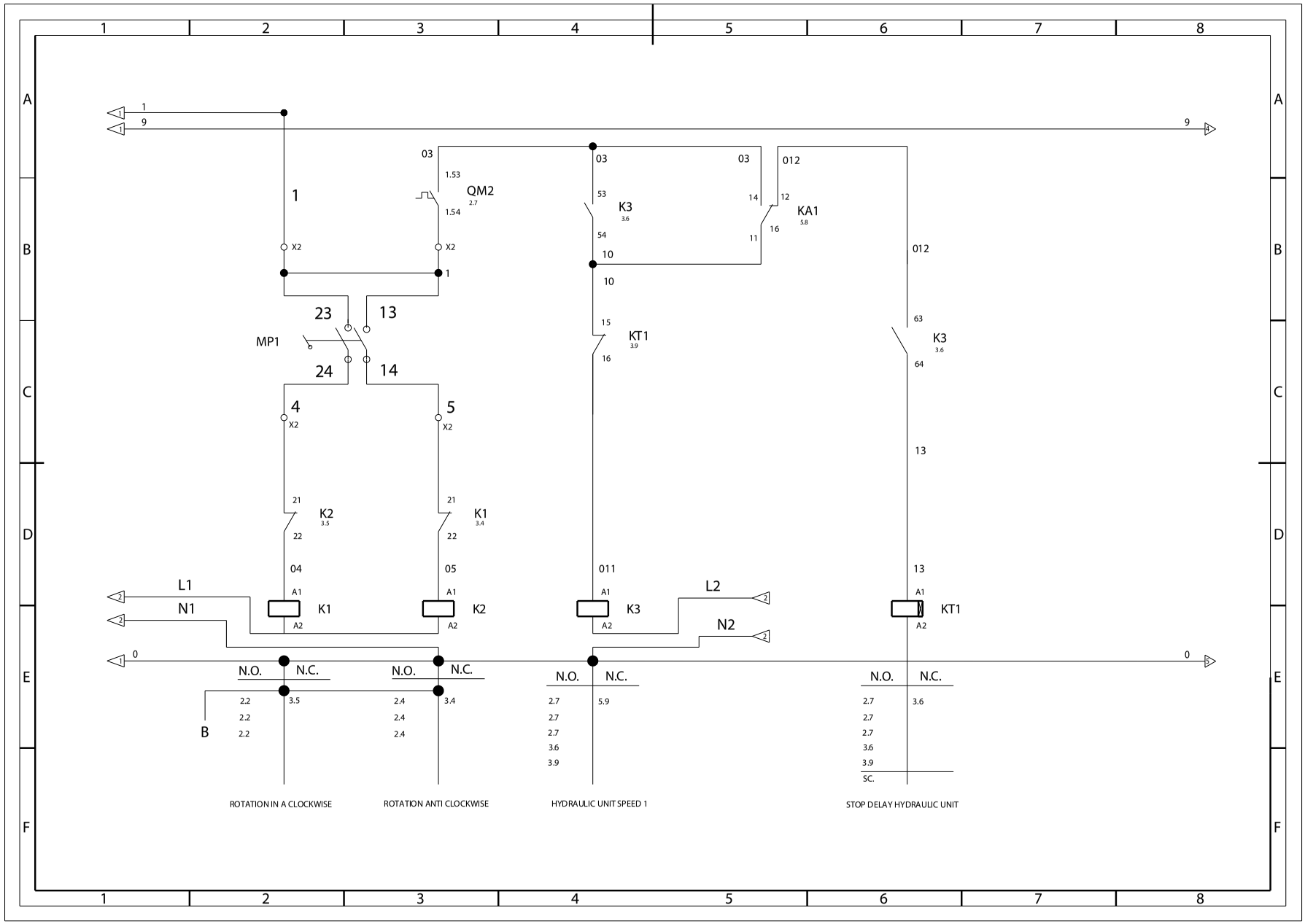
N°3	FUSE HOLDER	3P	690V	32A	CH10	VS515045
N°3	FUSE	600V	12A	aM	CH10	VS507127

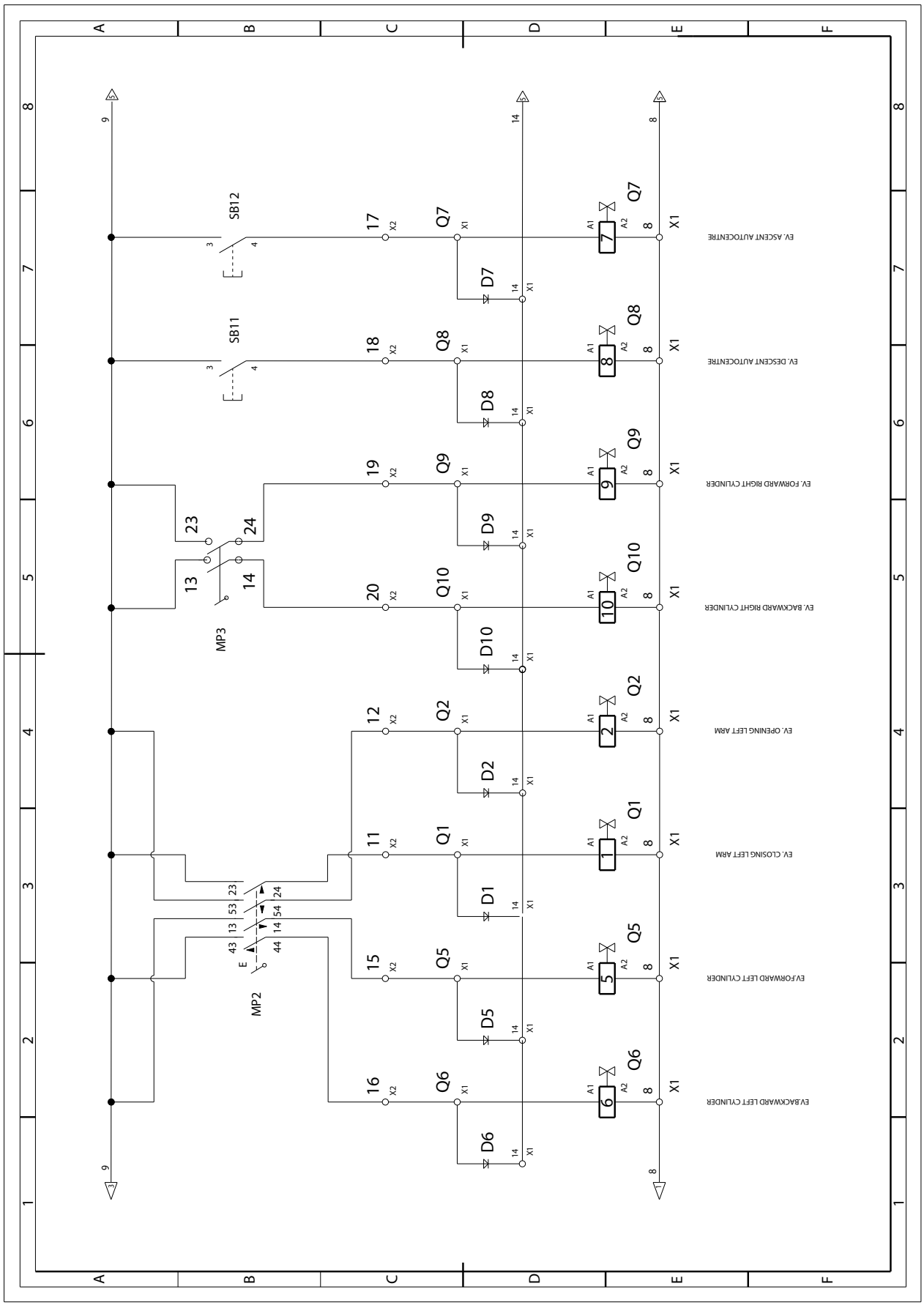
M1

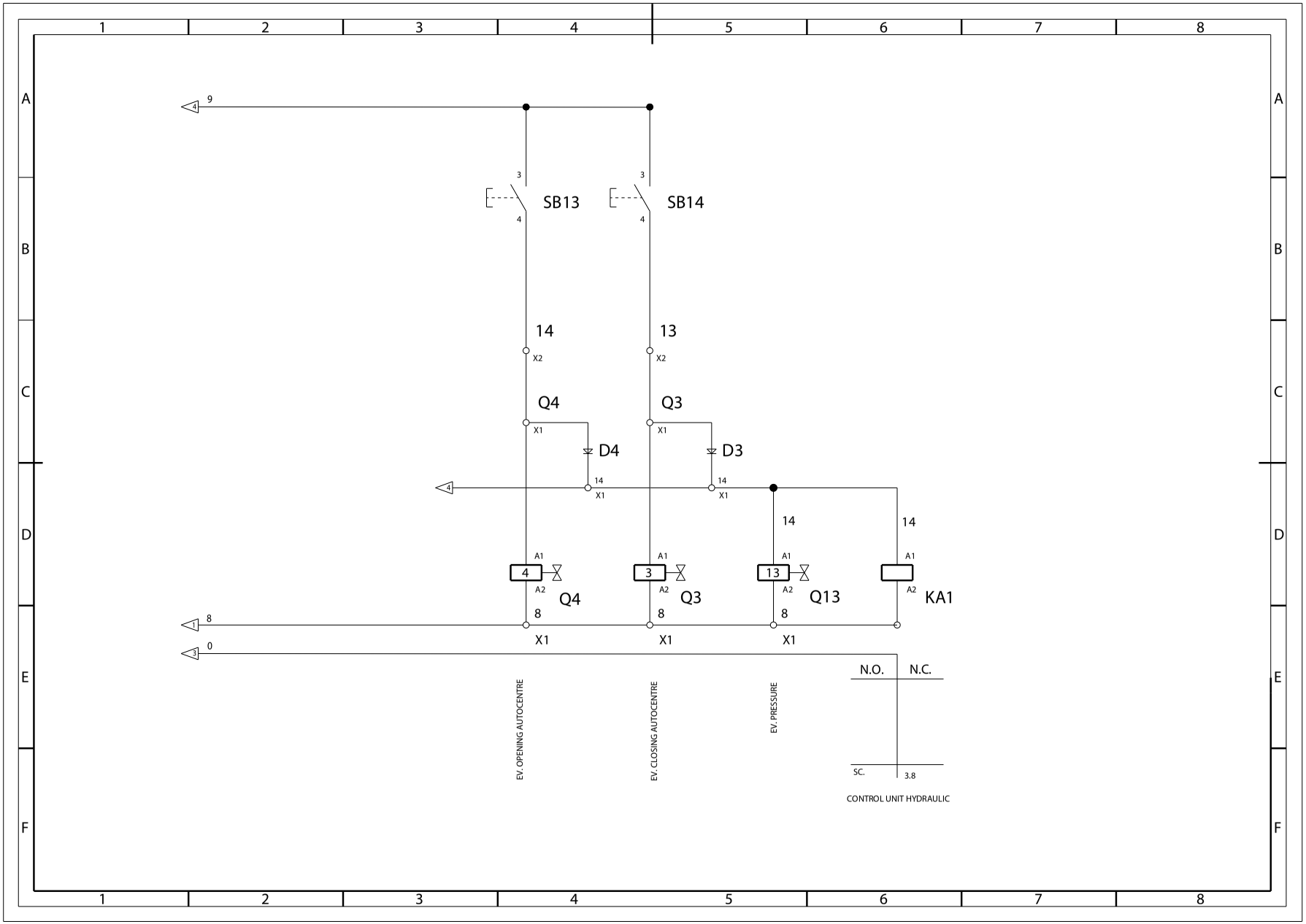
OPERATION		THREEPHASE			
1/1 REV. NUMBER	[N]	1400		1690	
RATED POWER	[Kw]	2		2.4	
RATED VOLTAGE	[V]	220	380	265	460
RATED CURRENT	[A]	8	4.6	7.9	4.6
FREQUENCY	[Hz]	50		60	
POLE NUMBER		4			

M2

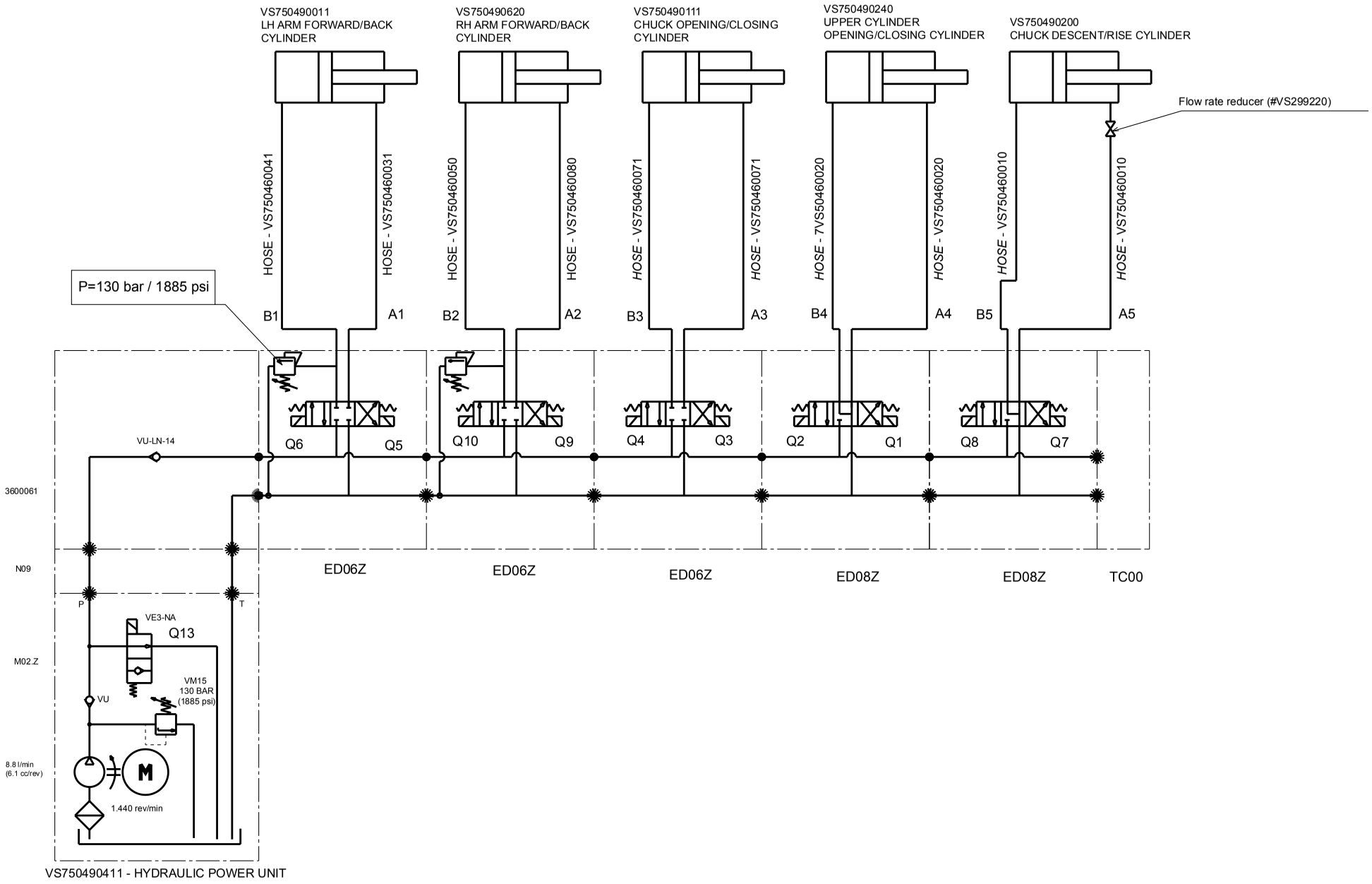
OPERATION		THREEPHASE	
1/1 REV. NUMBER	[N]	1740	
RATED POWER	[Kw]	1.5	
RATED VOLTAGE	[V]	230	400
RATED CURRENT	[A]	7.2	4.2
FREQUENCY	[Hz]	60	
POLE NUMBER		4	


1
2
3
4
5
6
7
8
A
B
C
D
E
F
QM2
MP1
K1
K2
K3
KA1
KT1
L1
N1
L2
N2
N.O.
N.C.
ROTATION IN A CLOCKWISE
ROTATION ANTI CLOCKWISE
HYDRAULIC UNIT SPEED 1
STOP DELAY HYDRAULIC UNIT


SB12
SB11
MP3
MP2
EV. ASCENT AUTOCENTRE
EV. DESCENT AUTOCENTRE
EV. FORWARD RIGHT CYLINDER
EV. BACKWARD RIGHT CYLINDER
EV. OPENING LEFT ARM
EV. CLOSING LEFT ARM
EV. FORWARD LEFT CYLINDER
EV. BACKWARD LEFT CYLINDER


1
2
3
4
5
6
7
8
A
B
C
D
E
F
9
SB13
SB14
3
4
14
13
X2
Q4
Q3
X1
D4
D3
14
A1
A2
4
3
13
Q4
Q3
Q13
KA1
8
0
EV. OPENING AUTOCENTRE
EV. CLOSING AUTOCENTRE
EV. PRESSURE
N.O.
N.C.
SC.
3.8
CONTROL UNIT HYDRAULIC

Abbreviation	Description	Position
Q14	Main switch	Electric cabinet
F1	Chuck rotation motor line protection	Electric cabinet
QM2	Hydraulic power unit motor thermomagnetic circuit breaker	Electric cabinet
K1	Chuck motor cw rotation contactor	Electric cabinet
K2	Chuck motor ccw rotation contactor	Electric cabinet
K3	Hydraulic power unit motor contactor	Electric cabinet
T1	Transformer	Electric cabinet
VC1	VAC/VDC current rectifier	Electric cabinet
F3	Transformer input protection fuses	Electric cabinet
F4	24 VAC line guard fuse	Electric cabinet
F5	24 VDC line guard fuse	Electric cabinet
KA1	Hydraulic power unit control relay	Electric cabinet
KT1	Hydraulic power unit stop delay timer	Electric cabinet
SB11	Self-centring chuck down push-button	Control assembly
SB12	Self-centering chuck up push-button	Control assembly
SB13	Self-centering chuck opening push-button	Control assembly
SB14	Self-centering chuck closing push-button	Control assembly
M1	Self-centering chuck rotation motor	Outside the electric cabinet
M2	Hydraulic power unit motor	Outside the electric cabinet
MP1	Cw/ccw rotation joystick	Control assembly
MP2	Lh arm shifting joystick	Control assembly
MP3	Rh arm shifting joystick	Control assembly
Q1	Solenoid valve	Hydraulic power unit
Q2	Solenoid valve	Hydraulic power unit
Q3	Solenoid valve	Hydraulic power unit
Q4	Solenoid valve	Hydraulic power unit
Q5	Solenoid valve	Hydraulic power unit
Q6	Solenoid valve	Hydraulic power unit
Q7	Solenoid valve	Hydraulic power unit
Q8	Solenoid valve	Hydraulic power unit
Q9	Solenoid valve	Hydraulic power unit
Q10	Solenoid valve	Hydraulic power unit
Q13	Solenoid valve	Hydraulic power unit


VS750490011
LH ARM FORWARD/BACK
CYLINDER
VS750490620
RH ARM FORWARD/BACK
CYLINDER
VS750490111
CHUCK OPENING/CLOSING
CYLINDER
VS750490240
UPPER CYLINDER
OPENING/CLOSING CYLINDER
VS750490200
CHUCK DESCENT/RISE CYLINDER
Flow rate reducer (#VS299220)
HOSE - VS750460041
HOSE - VS750460031
HOSE - VS750460050
HOSE - VS750460080
HOSE - VS750460071
HOSE - VS750460071
HOSE - 7VS50460020
HOSE - VS750460020
HOSE - VS750460010
HOSE - VS750460010
P=130 bar / 1885 psi
B1
A1
B2
A2
B3
A3
B4
A4
B5
A5
VU-LN-14
Q6
Q5
Q10
Q9
Q4
Q3
Q2
Q1
Q8
Q7
3600061
N09
ED06Z
ED06Z
ED06Z
ED08Z
ED08Z
TC00
P
T
VE3-NA
Q13
M02.Z
VM15
130 BAR
(1885 psi)
VU
8.8 l/min
(6.1 cc/rev)
M
1.440 rev/min
VS750490411 - HYDRAULIC POWER UNIT

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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