



7503-M001-08

GRS926.MOVI

INSTRUCTION MANUAL

EN

TRANSLATION FROM THE
ORIGINAL INSTRUCTIONS

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

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

Technical services: **RAVAGLIOLI S.p.A.** - Via 1° Maggio, 3 - 40037 Pontecchio Marconi - Bologna Italy
Phone (+39) 051 6781511 - Telex 510697 RAV I - Fax (+39) 051 846349 - e-mail: aftersales@ravaglioli.com

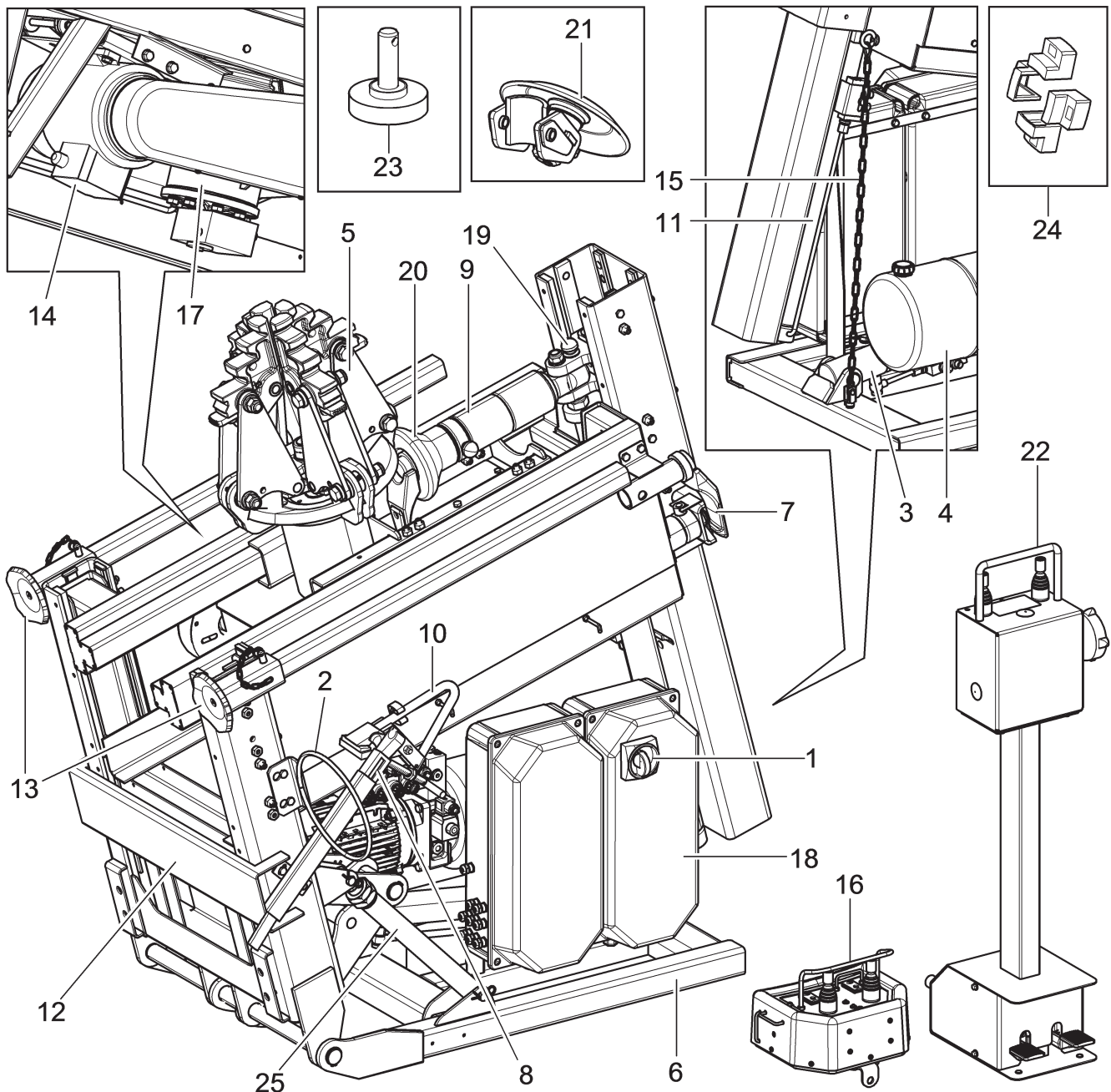
7503-M001-08 - Rev. n. 08 (12/2021)

**SUMMARY**

GENERAL DESCRIPTION _____	3	12.0 USE OF THE EQUIPMENT _____	18
SYMBOLS USED IN THE MANUAL _____	4	12.1 Bring the equipment in working position _____	18
INFORMATION PLATE LOCATION DRAWING _____	5	12.2 Precaution measures during tyre removal and fitting _____	19
1.0 GENERAL INTRODUCTION _____	7	12.3 Preliminary operations _____	19
1.1 Introduction _____	7	12.4 Preparing the wheel _____	19
2.0 INTENDED USE _____	7	12.5 Wheel clamping _____	19
2.1 Training of personnel _____	7	12.6 Functioning of roller holder arm _____	21
3.0 SAFETY DEVICES _____	8	12.7 Tubeless tyres _____	21
4.0 GENERAL SAFETY RULES _____	9	12.7.1 Bead breaking _____	21
5.0 PACKING AND MOBILIZATION FOR TRANSPORT _____	10	12.7.2 Demounting _____	23
6.0 UNPACKING _____	10	12.7.3 Mounting _____	25
7.0 MOBILIZATION _____	11	12.8 Tyres with inner pipe _____	27
8.0 WORKING ENVIRONMENT CONDITIONS _____	11	12.8.1 Bead breaking _____	27
8.1 Working position _____	11	12.8.2 Demounting _____	27
8.2 Working area _____	11	12.8.3 Mounting _____	29
8.3 Lighting _____	12	12.9 Wheels with bead wire _____	31
9.0 EQUIPMENT ASSEMBLY _____	12	12.9.1 Beading and demounting _____	31
9.1 Anchoring system _____	12	12.9.2 Mounting _____	33
9.2 Functioning and Setting of the limit switch _____	13	13.0 ROUTINE MAINTENANCE _____	34
10.0 ELECTRICAL CONNECTIONS _____	14	14.0 TROUBLESHOOTING TABLE _____	36
10.1 Check of motor rotation direction _____	15	15.0 TECHNICAL DATA _____	38
10.2 Electrical checks _____	15	15.1 Technical electrical data _____	38
10.3 Oil check on oil-pressure power unit _____	16	15.2 Technical mechanical data _____	38
11.0 CONTROLS _____	16	15.3 Dimensions _____	39
11.1 Ground control device _____	16	16.0 STORING _____	40
11.2 Bluetooth control device (applies to units with Bluetooth controls) _____	17	17.0 SCRAPPING _____	40
11.3 Use of the emergency cable (applies to units with Bluetooth controls) _____	17	18.0 REGISTRATION PLATE DATA _____	40
		19.0 FUNCTIONAL DIAGRAMS _____	40
		Drawing A - Wiring diagram _____	41
		Drawing B - Wiring diagram (Bluetooth controls version) _____	46
		Drawing C - Oil-pressure diagram _____	62

GENERAL DESCRIPTION








Fig. 1










KEY

- | | |
|---|--|
| 1 - Main switch | 15 - Locking chain in closed position |
| 2 - Grease-holder ring | 16 - Control unit (applies to units with Bluetooth controls) |
| 3 - Equipment opening/closing cylinder | 17 - Chuck opening/closing cylinder |
| 4 - Hydraulic power unit | 18 - Electric cabinet |
| 5 - Self-centring chuck | 19 - Tool holder arm locking pin |
| 6 - Fixing structure on motor vehicle | 20 - Bead breaker roller |
| 7 - Bead breaker hook tool | 21 - Bead breaking disc (optional) |
| 8 - Demounting/mounting lever | 22 - Control pedalboard |
| 9 - Bead breaker roller holder arm | 23 - Roller assembly with bead wires (optional) |
| 10 - Clamp for alloy rims (optional) | 24 - Standard clamp protections for alloy rims (optional) |
| 11 - Bead breaker tool/roller movement cylinder | 25 - Stopping rod |
| 12 - Mobile support structure | |
| 13 - Support feet | |
| 14 - Chuck rotation motor | |

SYMBOLS USED IN THE MANUAL

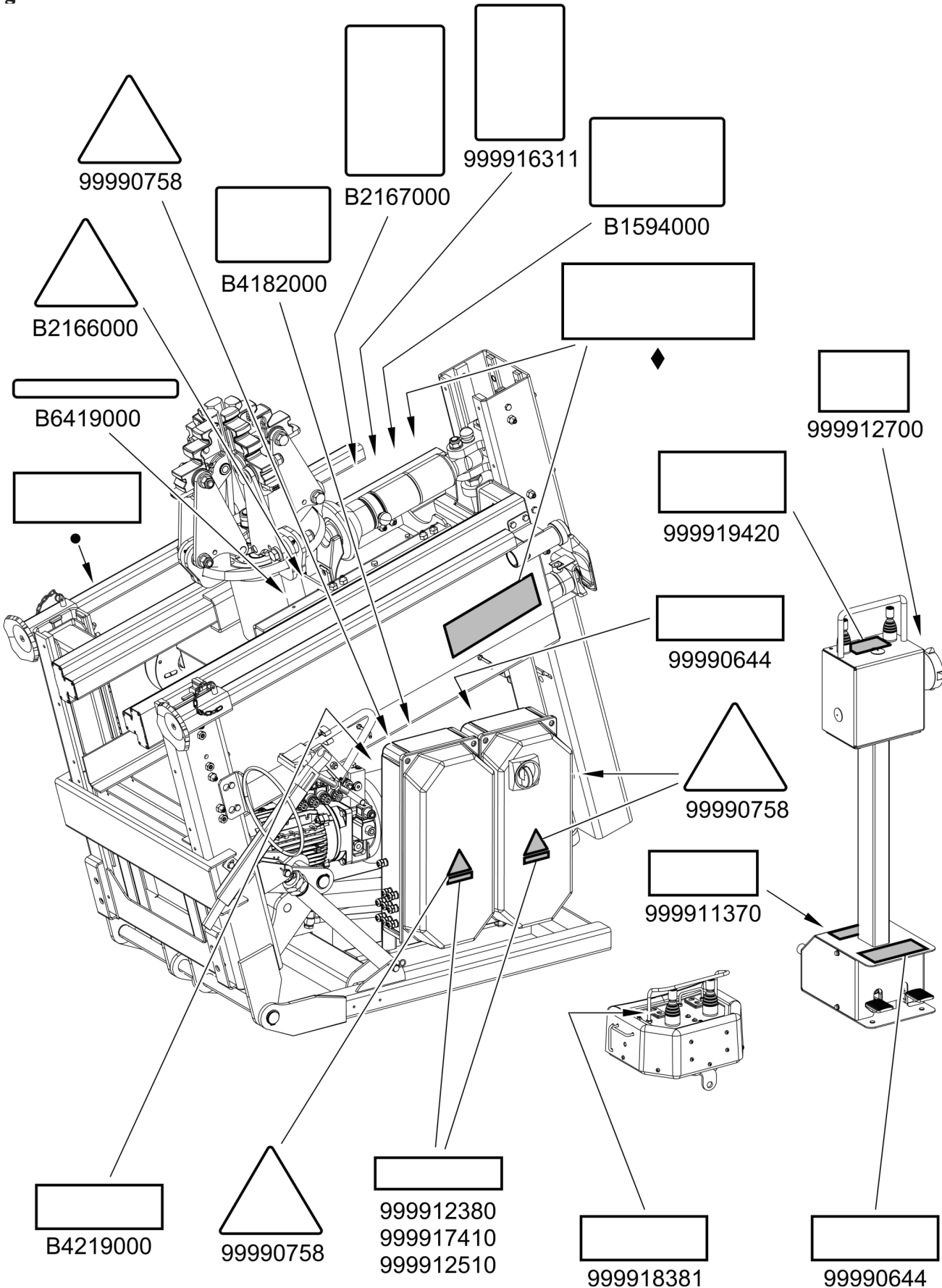
Symbols	Description
	Read instruction manual.
	Wear work gloves.
	Wear work shoes.
	Wear safety goggles.
	Mandatory. Operations or jobs to be performed compulsorily.
	Warning. Be particularly careful (possible material damages).
	Danger! Be particularly careful.

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: tyre could fall.
	Risk of crushing and collisions.



INFORMATION PLATE LOCATION DRAWING

Fig. 2



**Code numbers of plates**

B1594000	<i>Date indicating plate</i>
B2166000	<i>Bead breaker danger plate</i>
B2167000	<i>Obligation to wear protective clothing plate</i>
B4182000	<i>Electric motor specifications plate</i>
B4219000	<i>Rotation indicating plate</i>
B6419000	<i>Rotation plate</i>
99990644	<i>Chuck rotation index plate</i>
99990758	<i>Electric shock danger plate</i>
999911370	<i>Pedalboard plate</i>
999912380	<i>3Ph 400V 50Hz voltage plate</i>
999912510	<i>Voltage plate (applies to units 3Ph 230V 60Hz)</i>
999912700	<i>1 lever distributor plate</i>
999916311	<i>Rubbish skip plate</i>
999917410	<i>Voltage plate (applies to units 3Ph 200V 50/60Hz)</i>
999918381	<i>Control plate without turnover (applies to units with Bluetooth controls)</i>
999919420	<i>Control plate</i>
•	<i>Machine nameplate</i>
♦	<i>Manufacturer plate</i>



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



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 equipment and must be retained for the whole operating life of the equipment.

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



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



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

1.1 Introduction

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

This manual contains all operating instructions and details on how to service and use the machine correctly.

2.0 INTENDED USE

The equipment described in this manual is a tyre changer with electro-hydraulic working, to be used only for mobile service for mounting and demounting any type of wheel with whole rim (drop centre and with bead wire) with dimension and weight values mentioned in "Technical specifications" chapter. The equipment is NOT to be used for tyre 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 machine may be operated only by suitably trained and authorized personnel.

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



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

3.0 SAFETY DEVICES



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

All the machines are equipped with:

- **“man-operated” controls** (immediate stop of operation when the control is released).
- **Control logic disposition**
To prevent the operator from making dangerous mistakes;
- **thermal magnetic switch** on the supply line of the oil-pressure 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 chuck jaws,
 - chuck lifting,
 - tool roller movement.

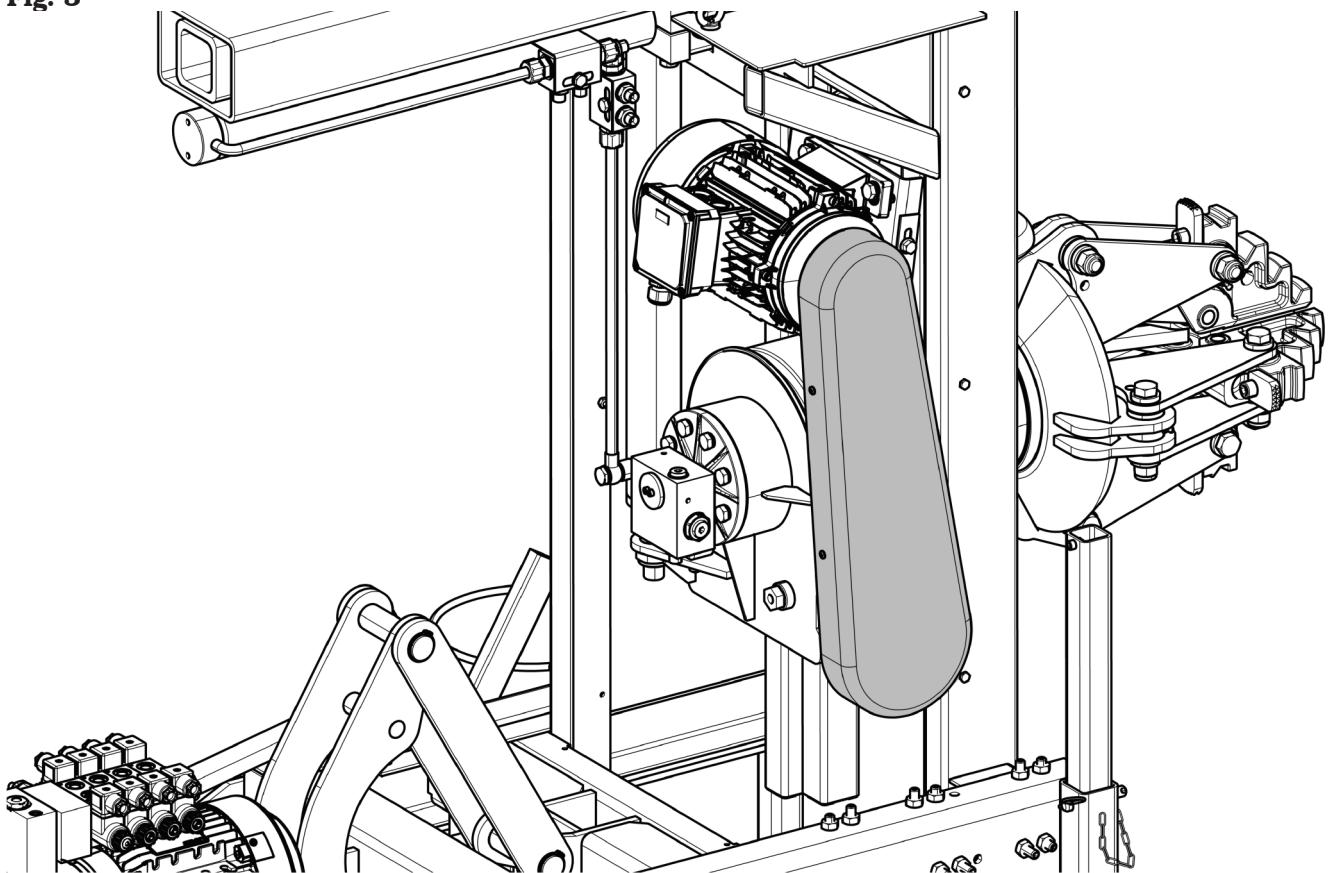
Such valves are installed to avoid that accidental oil leakages provoke unwelcome movements of the jaws (and as a consequence the fall of the wheel) and the tool roller;

- **fuses** on the power supply line of the chuck motor;
- **automatic power supply disconnection** with the opening of the electric cabinet.
- **Fixed protections and guards**

On the equipment are present some permanent protections that are supposed to avoid potential risks of getting crushed, cut or pressed.

These protections can be identified in **Fig. 3** below.

Fig. 3





3.1 Residual risks

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

This manual stresses possible residual risks, also highlighted in pictograms on the present manual and adhesive warning signals placed on the equipment: their location is represented in "PLATE LOCATION" (see Fig. 2).

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 equipment leads to serious dangers and represents a transgression of European safety standards.
- Use of the equipment is only permitted in places free from **explosion** or **fire** hazard and in **dry places under cover**.
- Original spare parts and accessories should be used.



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

- The installation must be performed by qualified and authorized personnel in full compliance with the instructions given below.
- Ensure that there are no dangerous situations during the machine operating manoeuvres. Immediately stop the equipment if it miss-functions and contact the customer service of an authorized dealer.
- In emergency situations and before carrying out any maintenance or repairs, isolate the equipment from energy sources by disconnecting the power supply using the main switch.
- The equipment power supply system must be equipped with an appropriate earthing, to which the yellow-green equipment protection wire must be connected.
- Ensure that the work area around the equipment 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 equipment 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 equipment can be operated by a single operator at a time. Unauthorized personnel must remain outside the working area, as shown in Fig. 6. Avoid any hazardous situations. Do not use 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 equipment, carefully follow all in force safety and accident-prevention precautions. The equipment must not be operated by untrained personnel.



THE EQUIPMENT 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

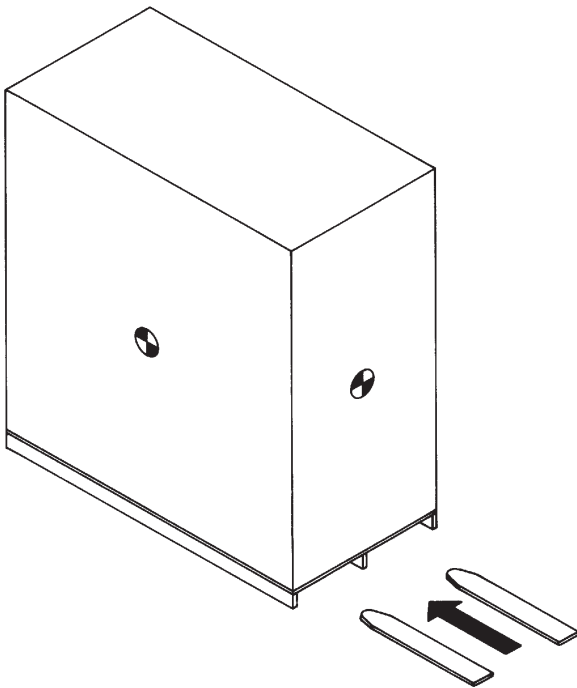


HAVE THE MACHINE HANDLED BY SKILLED PERSONNEL ONLY.

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

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

Fig. 4



6.0 UNPACKING



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

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

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

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

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



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

7.0 MOBILIZATION

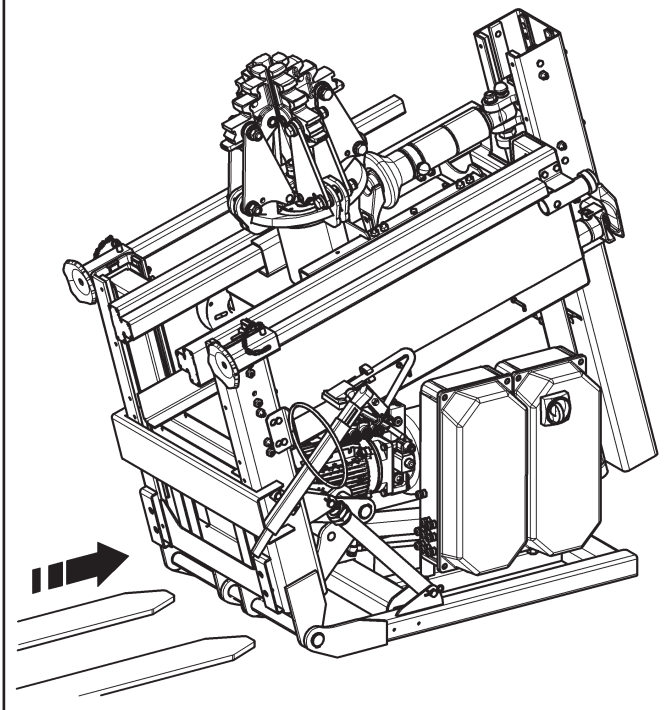


THE LIFTING EQUIPMENT MUST WITHSTAND A MINIMUM RATED LOAD EQUAL TO THE WEIGHT OF THE EQUIPMENT (SEE PARAGRAPH TECHNICAL SPECIFICATIONS). NON FAR ALLOW THE LIFTED EQUIPMENT TO SWING.

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

- Protect the exposed corners with suitable material (Pluribol/cardboard).
- Do not use metallic cables for lifting.
- Keep the equipment closed to guarantee the correct load balance.
- Make sure that the equipment power supply is not connected.
- Lift and transport with suitable device as indicated in **Fig. 5** (forks introduced in the middle to ensure a correct loads distribution).

Fig. 5



8.0 WORKING ENVIRONMENT CONDITIONS

The machine must be operated under proper conditions as follows:

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

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

8.1 Working position

In **Fig. 6** it's possible to define working positions **A**, **B**, **C** which will be referred to in the description of equipment operative phases.

Positions **A** and **B** must be considered as main positions for tyre mounting and demounting and for wheel clamping on the chuck, while position **C** is the best position 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

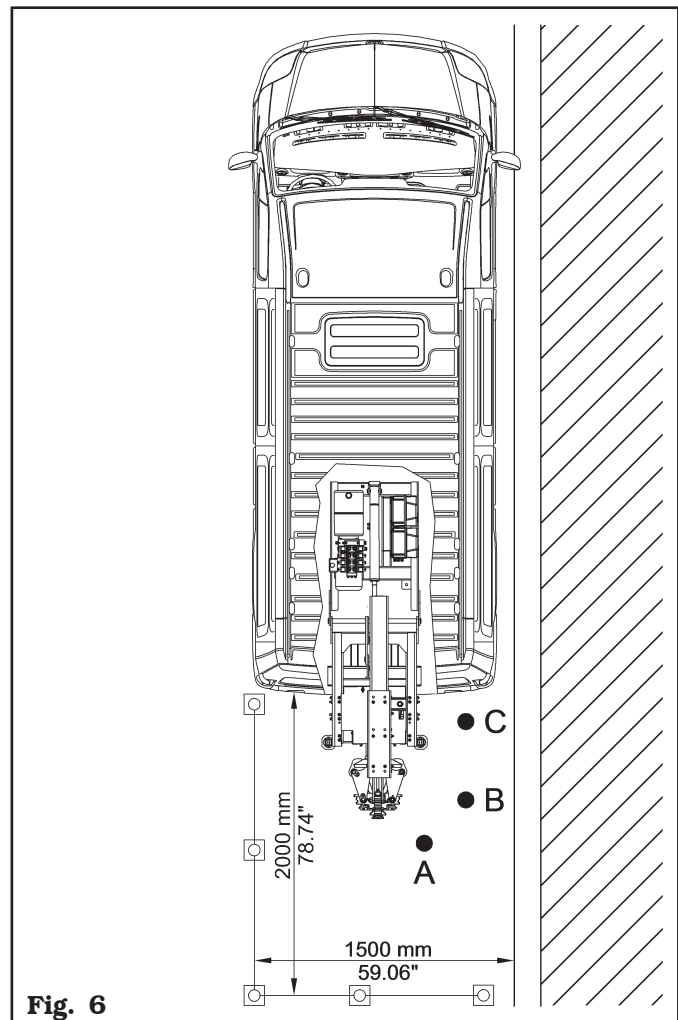


Fig. 6



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

The use of the equipment requires a usable space as indicated in **Fig. 6**. The use of the equipment must respect the shown distances. From the control position the operator is able to observe all the equipment and surrounding area. He must prevent unauthorized personnel or objects that could be dangerous from entering the area.

The equipment must be preferably used on an horizontal floor. Avoid yielding or irregular surfaces.

The equipment base floor must be able to support the loads transmitted during operation. This surface must have a capacity load of at least 500 Kg/m² (100 lb/ft²). The depth of the solid floor must be sufficient to guarantee that the support feet rest safely.

The working area must be cordoned off, as indicated in **Fig. 6**, in order to avoid the presence of unauthorised personnel in the immediate vicinity of equipment during working phases.

8.3 Lighting

The equipment must be used in an adequately lit environment.

9.0 EQUIPMENT ASSEMBLY

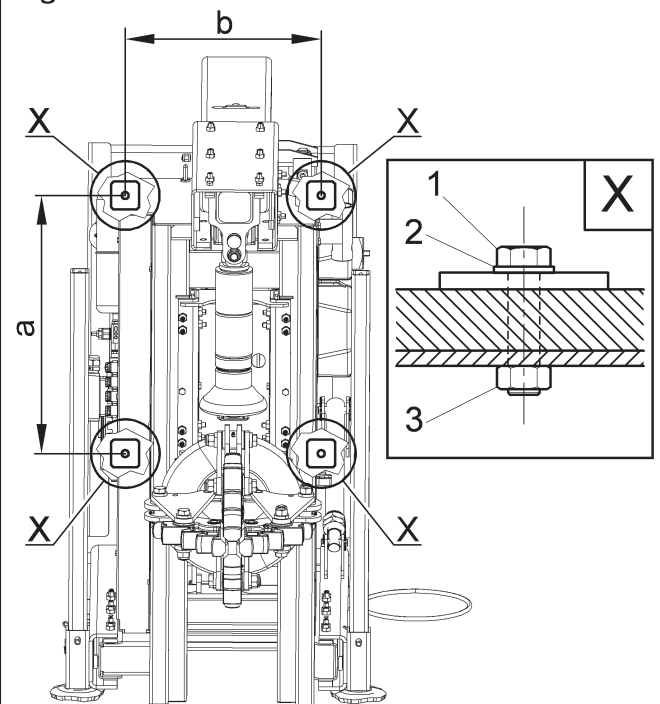


EACH MECHANICAL INTERVENTION MUST BE CARRIED OUT BY PROFESSIONALLY QUALIFIED STAFF.

9.1 Anchoring system

The packed equipment is fixed to the support pallet through the holes prearranged on the chassis and indicated in the figure below. These holes must also be used for securing it to the vehicle floor using bolts (excluded from supply), as indicated in **Fig. 7**.

Fig. 7



a = 556 mm / 21.89"

b = 422 mm / 16.61"

- Drill four holes with 14 mm diameter on the deck beside the holes on the bottom floor;
- fit the bolts in the provided holes (excluded from supply) (**Fig. 7 ref. 1**);
- Secure the equipment to the deck, using four M14x120 mm bolts (excluded from supply) (**Fig. 7 ref. 1**), washers (excluded from supply) (**Fig. 7 ref. 2**) and nuts (excluded from supply) (**Fig. 7 ref. 3**). Tighten the bolts with an approximate tightening torque of 70 Nm (52 ft-lbs).

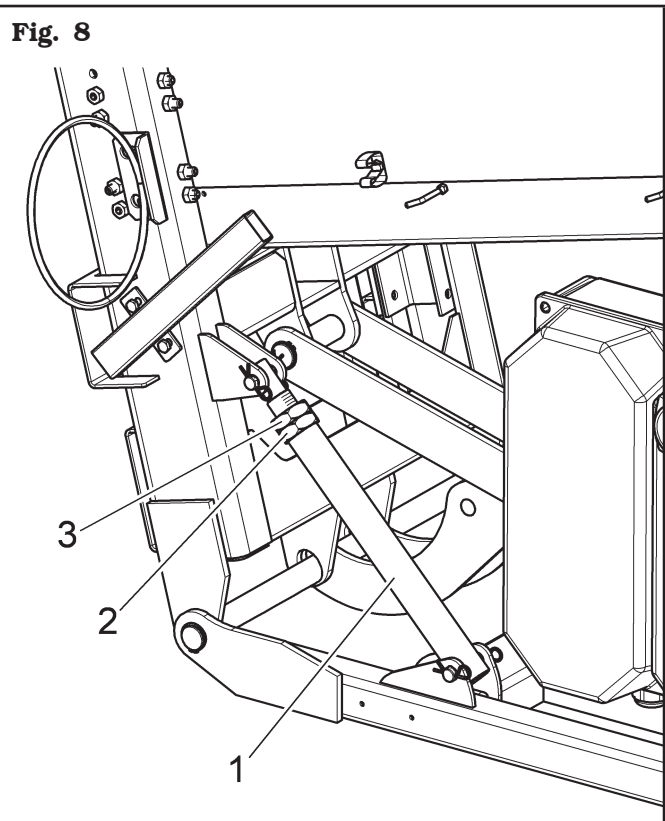


AFTER POSITIONING THE EQUIPMENT ON THE VAN (FOLLOWING THE INSTRUCTIONS IN PAR. 9.1), PERFORM THE DRILLING ON THE ADJUSTABLE FEET DEPENDING ON THE VEHICLE DECK HEIGHT.

9.2 Functioning and Setting of the limit switch

To avoid damage to the equipment during transport it is necessary to adjust the limit switch as described below:

- with the equipment tipped backwards (closed), adjust the nut (**Fig. 8 ref. 2**) in order to bring it in contact with the tubular (**Fig. 8 ref. 1**).
- At the end of the adjustment tighten the lock nut (**Fig. 8 ref. 3**) against the nut (**Fig. 8 ref. 2**) to lock the performed adjustment.



10.0 ELECTRICAL CONNECTIONS



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



BEFORE CONNECTING THE EQUIPMENT MAKE SURE THAT:

- **POWER LINE SPECIFICATIONS CORRESPOND TO EQUIPMENT 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.**

For any other type of power supply, ask the manufacturer at the time of purchase who will prepare the equipment to operate in the desired voltage conditions.



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



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



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

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

Models	Conformity standard	Voltage	Amperage	Poles	Minimum IP rating
1-speed	IEC 309	230/400V	16A	3 Poles + Ground	IP 44
Unit with Bluetooth controls					
Version 3Ph 220V 50/60Hz		200V			
Version 3Ph 230V 60Hz		230V			

10.1 Check of motor rotation direction

Once the last electrical connection has been terminated, power the equipment with the main switch (**Fig. 9 ref. A**). Make sure the motor of the hydraulic power unit rotates in the direction indicated by the arrow (**Fig. 9 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.

10.2 Electrical checks



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



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

Once the plug/socket connection has been made, turn on the equipment using the main switch (**Fig. 9 ref. A**).

Applies to units with Bluetooth controls

Then move the lever (**Fig. 11 ref. H**) horizontally or vertically: the red LED (**Fig. 11 ref. B**) will be flashing. Wait a few seconds for the green LED turning on (**Fig. 11 ref. A**) and then release the lever (**Fig. 11 ref. H**). In the end, the green LED (**Fig. 11 ref. A**) flashes to indicate that the equipment is ready for operation.



WHEN A CONTROL IS OPERATED, THE GREEN LED (FIG. 11 REF. A) LIGHT IS FIXED: IT FLASHES AGAIN WHEN IT IS RELEASED.

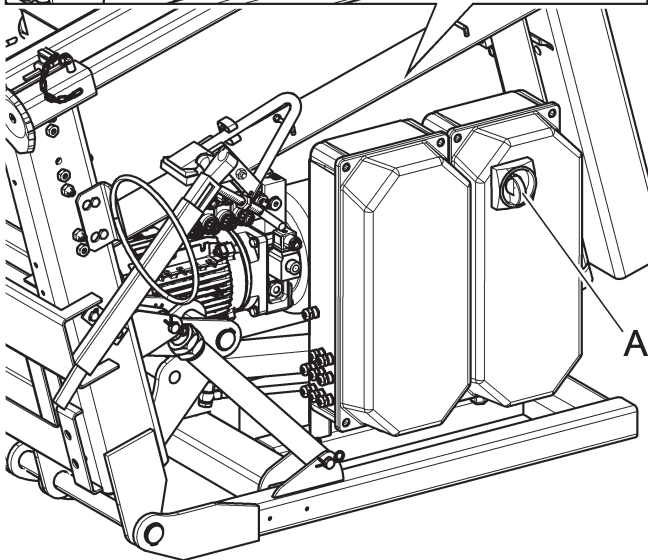
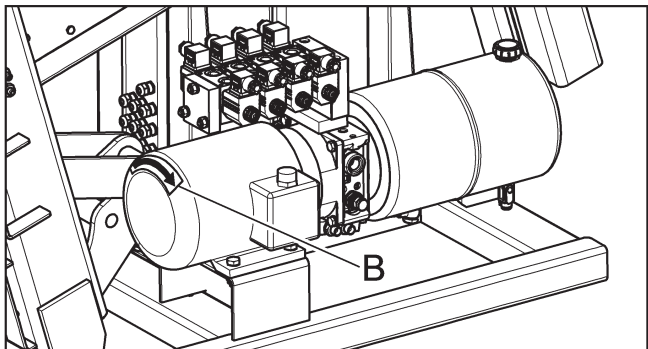


ONCE THE ASSEMBLY OPERATIONS HAVE BEEN ENDED, CHECK ALL EQUIPMENT FUNCTIONS.

If during the operations the red LED (**Fig. 11 ref. B**) and the green LED (**Fig. 11 ref. A**) turn on at the same time, charge the control batteries with the provided socket for battery charger, located on the control side (**Fig. 11 ref. G**).

The equipment is equipped with a device for the interruption of the communication between the control and the electrical cabinet, when more than 6 hours have passed after the last executed control. In this case, just repeat the turning on operations described in the "Electrical checks" chapter.

Fig. 9



KEY

A – Main switch

B – Rotation direction of power unit motor

10.3 Oil check on oil-pressure power unit



THE OIL-PRESSURE POWER UNIT IS DELIVERED WITHOUT HYDRAULIC OIL, THEREFORE MAKE SURE THE TANK PROVIDED IS FILLED WITH AN APPROXIMATE AMOUNT OF OIL OF 3 LITRES (0.8 GALLONS), 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 (OR COUNTRIES WITH ROOM TEMPERATURE FROM 0 °C ÷ +30 °C (+32 °F ÷ +86 °F));
- VISCOSITY 46 (FOR COUNTRIES WITH ROOM TEMPERATURE ABOVE +30 °C degrees (+86 °F)).

11.0 CONTROLS



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 HANDLE MUST NOT BE PLACED WHERE WATER STAGNATES.

11.1 Ground control device

The control (handle control) can be moved according to the positioning necessities of the operator. The operator should place the control in a zone free from obstacles in order to see clearly and completely the operative zone.

The "lever **A**" has two maintained action positions: the lever goes back and forth and operates respectively the opening or closing of the self-centring chuck.

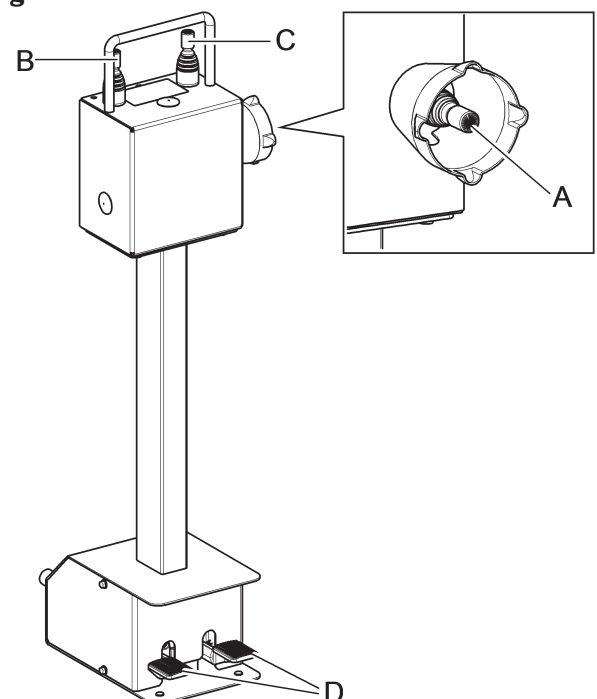
The "lever **B**" has two maintained action positions: the lever goes up and down and operates respectively the forward overturning (opening) or the backward overturning (closing) of the equipment.

"Lever **C**" has four maintained action positions:

- Lever to the right or left: it starts the travel of the bead breaking roller/tool to the right or left respectively (from "C" working position, **Fig. 6**).
- Upwards or downwards lever: it respectively lifts or lowers the chuck.

The "pedals **D**" operate the cw and ccw chuck rotation.

Fig. 10



11.2 Bluetooth control device (applies to units with Bluetooth controls)

The control unit (handle control), thanks to special belts, can be secured to the operator's body, so that it follows him and stays within reach throughout the production phases.

It is advisable for the operator to place himself in a zone free from obstacles in order to have a clear and complete vision of the working area.

The flashing green LED "A", indicates the equipment stand-by position. When any control is operated, the equipment is started and it is ready for operation. During functioning, the green LED "A" is turned on with a fixed light.

The simultaneously turned on and flashing LED "B" and led "A" indicate that the manipulator batteries are exhausted: in order to carry on the functioning, they must be charged.

When the red LED "B" lights up indicates that there is a fault in the bluetooth connection with the equipment. "Push button C" has a maintained action position, and when pressed, it operates the forward overturning (opening) of the equipment.

"Push button D" has a maintained action position, and when pressed, it operates the backward overturning (closing) of the equipment.

"Push button E" has a maintained action position and when pressed, it operates the self-centring chuck opening.

"Push button F" has a maintained action position, and when pressed it operates the self-centring chuck closing.

"Lever H" has four maintained action positions:

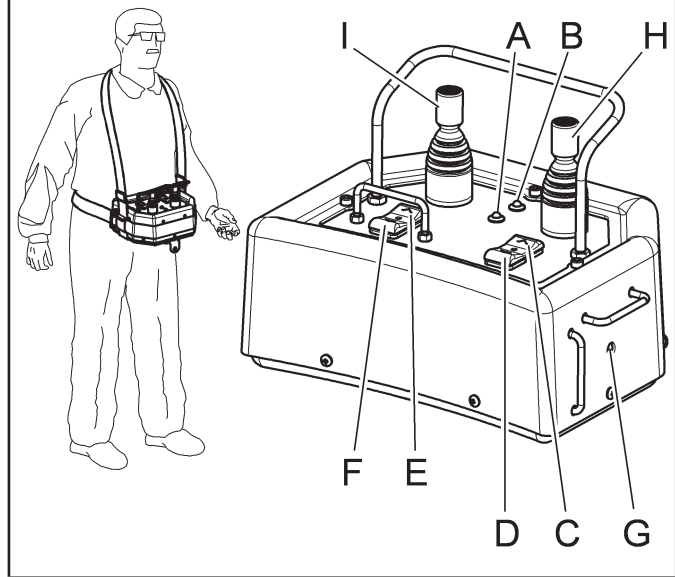
- Lever to the right or left: it starts the travel of the bead breaking roller/tool to the right or left respectively (from "C" working position, **Fig. 6**).
- Upwards or downwards lever: it respectively lifts or lowers the chuck.

"Lever I" has two maintained action positions:

- Lever to the right or left, operates the clockwise or counterclockwise rotation of the chuck (from working position "A" **Fig. 6**).

When any control is operated, the equipment is started again, ready for operation: LED "A" flashes.

Fig. 11

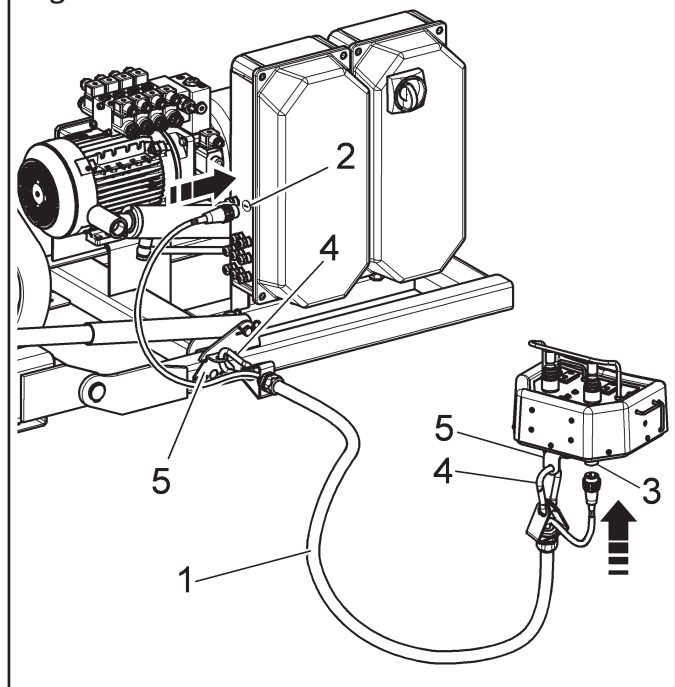


11.3 Use of the emergency cable (applies to units with Bluetooth controls)

In case of malfunction of the Bluetooth transmission between the special control device and the equipment, it is possible to continue using it using the emergency cable (**Fig. 12 ref. 1**).

Connect the emergency cable to the appropriate connectors on the equipment (**Fig. 12 ref. 2**) and on the control device (**Fig. 12 ref. 3**), as shown in the picture. Once the interconnection cable has been connected (**Fig. 12 ref. 1**), hook the carabiners (**Fig. 12 ref. 4**) to the 2 brackets (**Fig. 12 ref. 5**) specially prepared in such a way as to avoid that the cable, if put under tension, will force the connectors.

Fig. 12



12.0 USE OF THE EQUIPMENT

12.1 Bring the equipment in working position

After reaching the equipment location, and check that all the conditions mentioned in Chapter 8.0 "Working environment" are fulfilled.

Turn the motor vehicle off, put it into gear and pull the handbrake to avoid any movement during tyre fitting/removal operations.

Remove the ignition key and always keep it with you until the procedure is over (operations are over when the equipment has been closed, it is 'at rest' position inside the motor vehicle, and it is disconnected from mains supply).

- Open up completely the motor vehicle rear doors and lock them in the reached position;
- connect the plug to a power outlet, complying with the requirements described in Chapter 10.0 "Electrical connections".
- turn the main switch on "1" (ON) (**Fig. 13 ref. 1**);
- remove the safety chain (**Fig. 13 ref. 2**);
- place the handle control in an obstacle-free area and push the lever (**Fig. 10 ref. B**) upwards to open the equipment outwards. Keep the lever pushed to bring the equipment in horizontal position.

Applies to units with Bluetooth controls

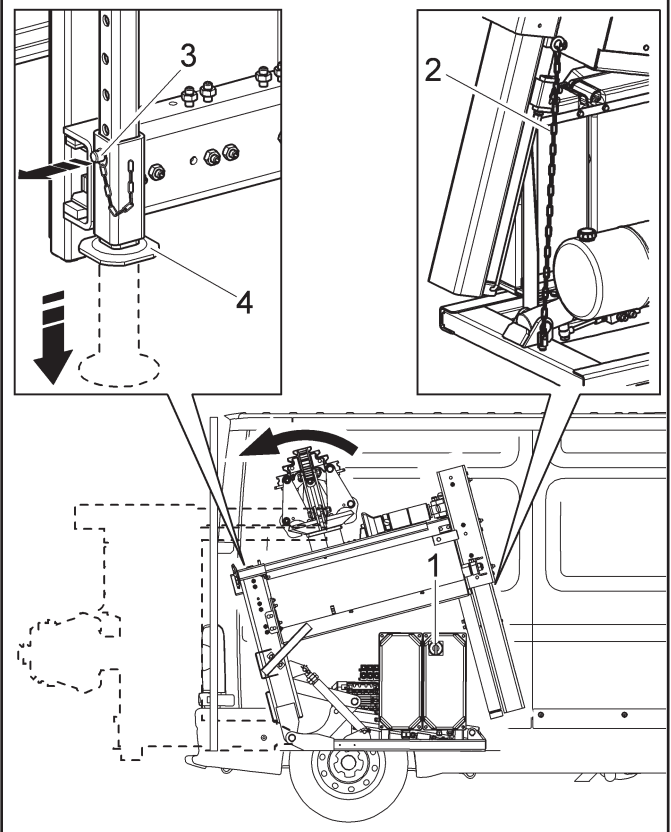
- Wear the control device, making sure that the belts have the suitable length for the operator;
- press the button (**Fig. 11 ref. C**) until the green LED starts flashing, meaning that the control device is ready to work;
- press the button (**Fig. 11 ref. C**) to make the equipment open outwards. Keep the button pressed to bring the equipment in horizontal position.

For all versions



BEFORE REACHING HORIZONTAL POSITION, WITH THE EQUIPMENT STOPPED, ADJUST THE FEET HEIGHT (FIG. 13 REF. 4) USING THE SPECIAL LOCKING PIN (FIG. 13 REF. 3).

Fig. 13



- Continue with equipment positioning until the feet are resting on the ground.



12.2 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 old 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 the tyre beads, using specific tyre lubricants only;
- replace the inner pipe valve with a new valve, if the tyre pipe has a metal valve, replace the grommet;
- always make sure that tyre and rim sizes are correct for their coupling; on the contrary, never fit a tyre unless you are sure it is of the right size (the rated size of rim and tyre is usually printed directly on them);
- do not use compressed air or water jets to clean the wheels on the equipment.

12.3 Preliminary operations

In view of the tyre changer structure and of its intended use, the operator must work with wheels with large diameter and with remarkable weight.

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

12.4 Preparing the wheel

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



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

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

12.5 Wheel clamping



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.



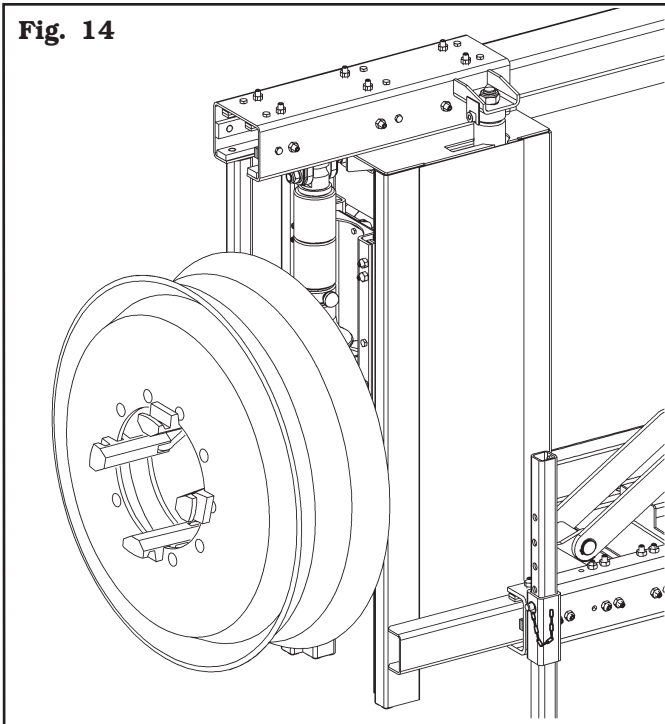
WHEN HANDLING WHEELS WEIGHING MORE THAN 500 KG A FORK-LIFT TRUCK OR A CRANE SHOULD BE USED.



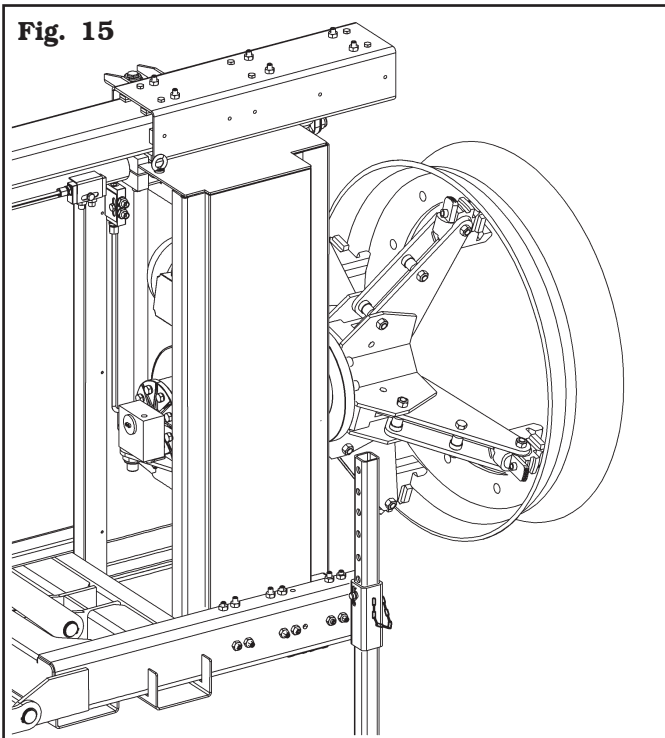
MAKE SURE THAT RIM CLAMPING IS DONE PROPERLY AND THAT THE GRIP IS SAFE, TO PREVENT THE WHEEL FROM FALLING DURING MOUNTING OR REMOVAL OPERATIONS.



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.

Fig. 14


Clamping on the central hole

Fig. 15


Clamping on bead seat



OPENING/CLOSING MOVEMENT OF THE SELF-CENTRING CHUCK 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 DROP CENTRE RIMS SECURE THE WHEEL SO THAT THE DROP CENTRE IS FACING OUTWARDS COMPARED TO THE CHUCK.



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



TO SECURE WHEELS WITH ALLOY RIMS ADDITIONAL PROTECTIVE JAWS ARE AVAILABLE. THEY ALLOW YOU TO WORK ON THE RIMS WITHOUT DAMAGING THEM. THE PROTECTIVE CLAMPS ARE FITTED ONTO THE CHUCK'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 chuck;
- use the lever (**Fig. 10 ref. C and Fig. 11 ref. H**) to position the coaxial chuck with the wheel centre, in order to make jaws edges skim the wheel edge;
- adjust self-centring chuck opening to suit the type of rim to be clamped by means of the "open/close" control (**Fig. 10 ref. A and Fig. 11 ref. E/F**);
- operate the control (**Fig. 10 ref. A and Fig. 11 ref. E**) 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 MAX. OPERATING PRESSURE (130 BAR - 1885 PSI).



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



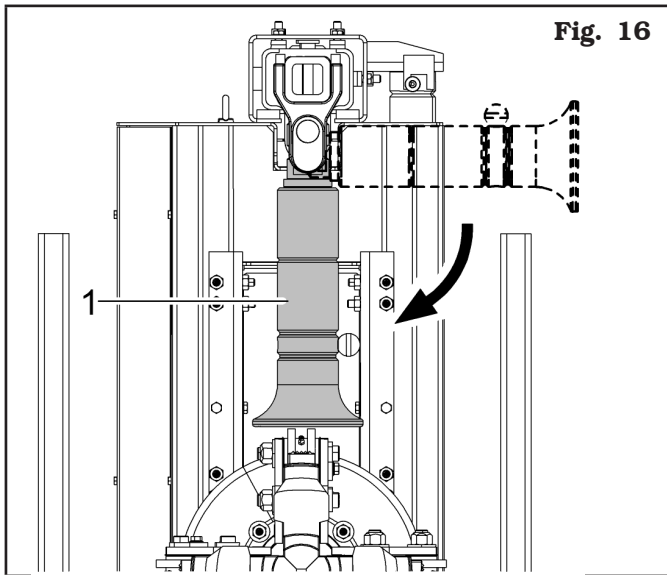
AFTER COMPLETION OF TYRE MOUNT/DEMOUNT OPERATIONS DO NOT LEAVE THE WHEEL CLAMPED ON THE SELF-CENTRING CHUCK AND NEVER LEAVE IT UNATTENDED ANYWAY.

12.6 Functioning of roller holder arm

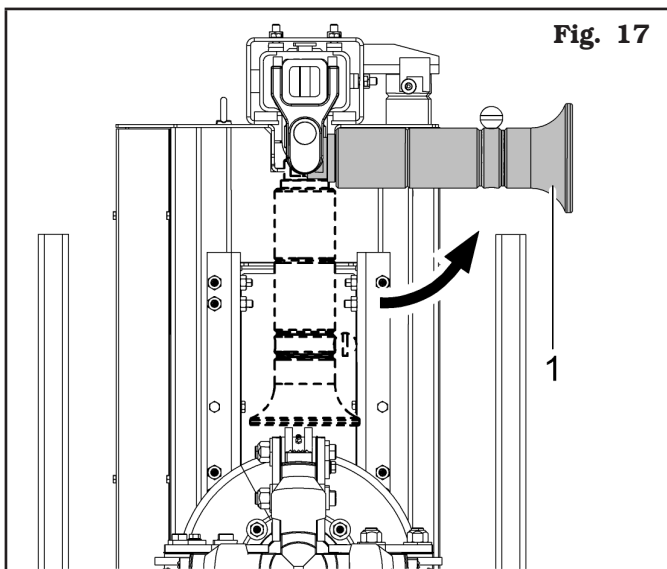
During the working phases, the roller holder arm can maintain two firm positions, that is:

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

In "working" position (**Fig. 16 ref. 1**) the roller holder arm is lowered towards the chuck and from this position it executes the various tyre bead breaking, demounting and mounting operations.



In "out of work" position (**Fig. 17 ref. 1**): the roller holder arm is in horizontal position and has to be brought in this position every time it is not in use and in order to be shifted from one tyre side to another, during the different working phases.



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



IN "WORKING POSITION" OR "OUT OF WORK POSITION", THE LOCKING PIN (FIG. 1 REF. 19) HAS TO BE INSERTED INTO THE APPROPRIATE HOUSING.

12.7 Tubeless tyres

12.7.1 Bead breaking



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



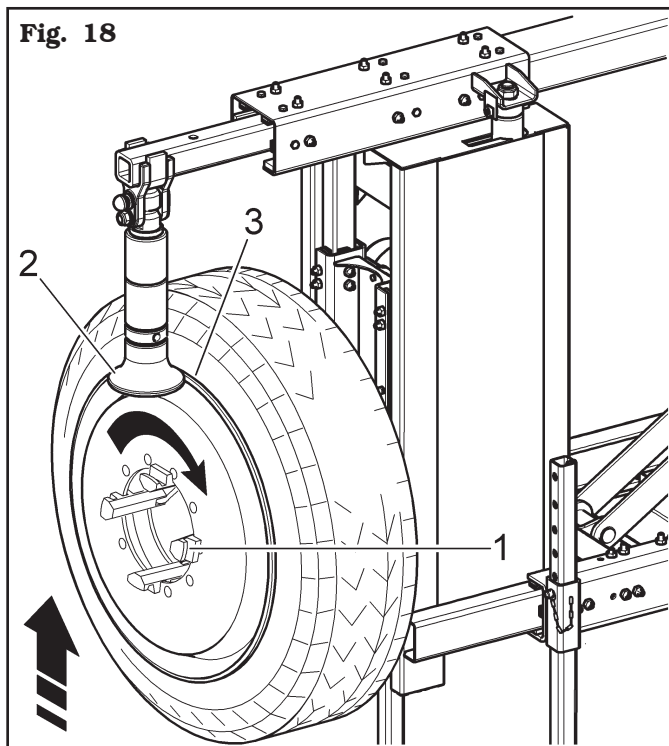
THROUGHOUT TYRE MOUNTING/DEMOUNTING OPERATIONS, CHECK THAT THE SELF-CENTRING CHUCK CLAMPING PRESSURE IS CLOSE TO THE MAX. OPERATING VALUE (130 BAR - 1885 PSI).

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



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

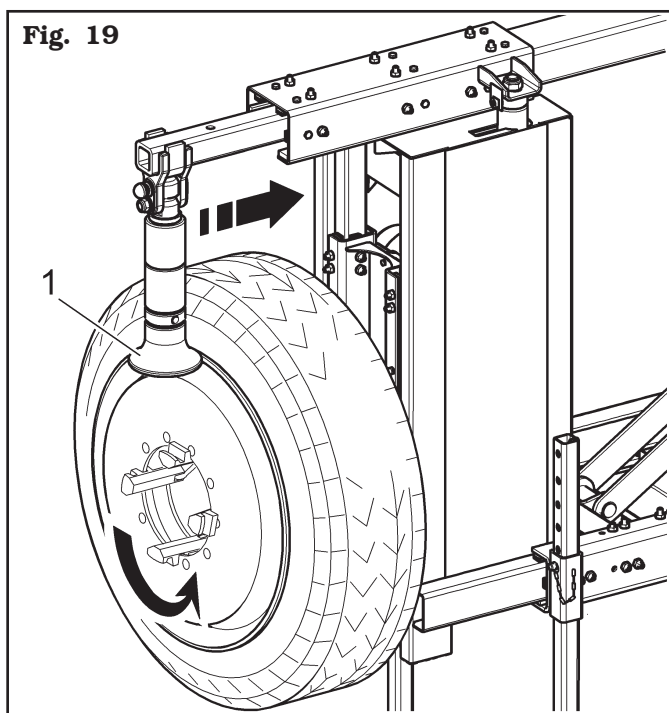
5. lift the chuck (**Fig. 18 ref. 1**) by using the appropriate handle control, until bringing the beading disc (**Fig. 18 ref. 2**) next to the tyre brim (**Fig. 18 ref. 3**), in contact with the external bead;



THE BEAD BREAKING ROLLER MUST NOT EXERT PRESSURE ON THE RIM BUT ON THE TYRE BEAD.

6. Turn the chuck counterclockwise and, at the same time, gradually move the roller (**Fig. 19 ref. 1**) inwards to bead the tyre. Keep turning the chuck while generously lubricating the tyre rim and bead with a suitable lubricant.

The more the tyre adheres to the rim; the slower should the beading roller advance.



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

7. once external beading has been carried out, unhook and lift the roller holder arm placing it in "off-work" position (**Fig. 17 ref. 1**); use the handle control to position the roller holder arm on the inner side of the wheel, then place it in "work position" (**Fig. 16 ref. 1**) and secure it with the special locking pin;



FOR WHEELS WITH MAX. DIAMETER LOWER THAN 1100 MM, IT IS POSSIBLE TO SHIFT THE BEADING ROLLER INTO THE SAME REAR BEADING POSITION BY LOWERING THE WHEEL (SEE FIG. 20) IN ORDER TO BRING IT BACK TO BEADING POSITION (SEE FIG. 21).

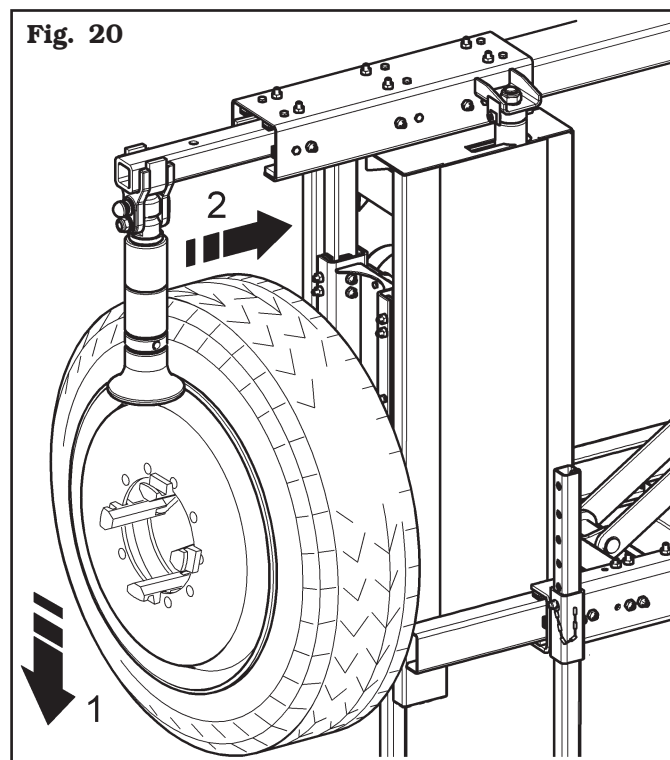
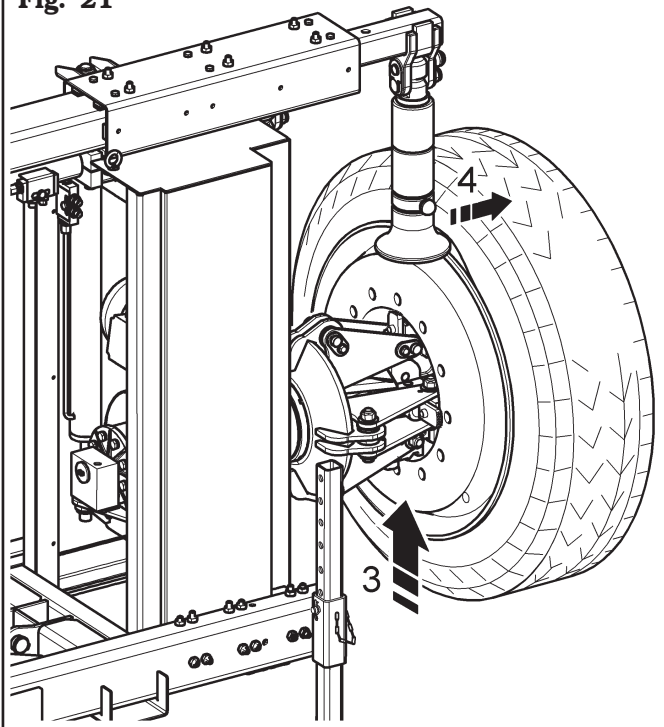


Fig. 21



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

8. Move to work position **C** (Fig. 6) and repeat the operations described in point **6** until the tyre has been completely beaded.

12.7.2 Demounting

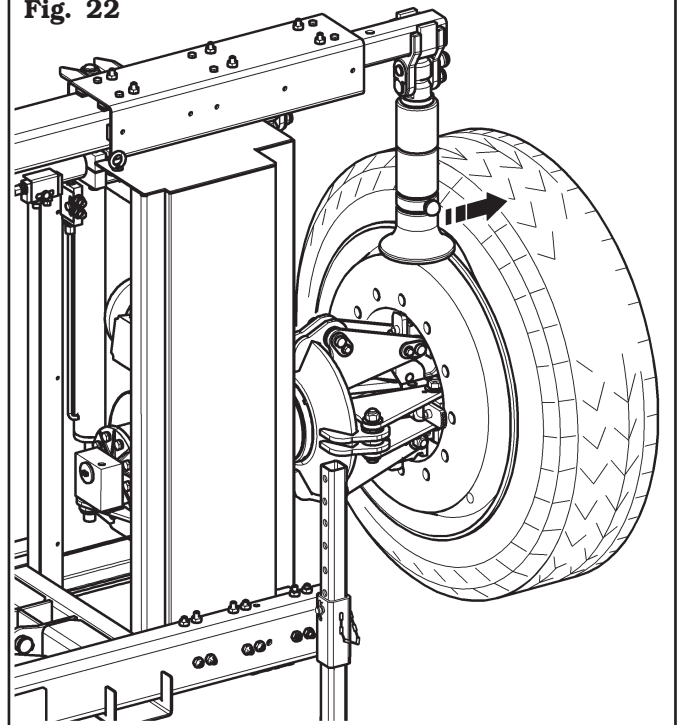


THROUGHOUT TYRE MOUNTING/DEMOUNTING OPERATIONS, CHECK THAT THE SELF-CENTRING CHUCK CLAMPING PRESSURE IS CLOSE TO THE MAX. OPERATING VALUE (130 BAR - 1885 PSI).

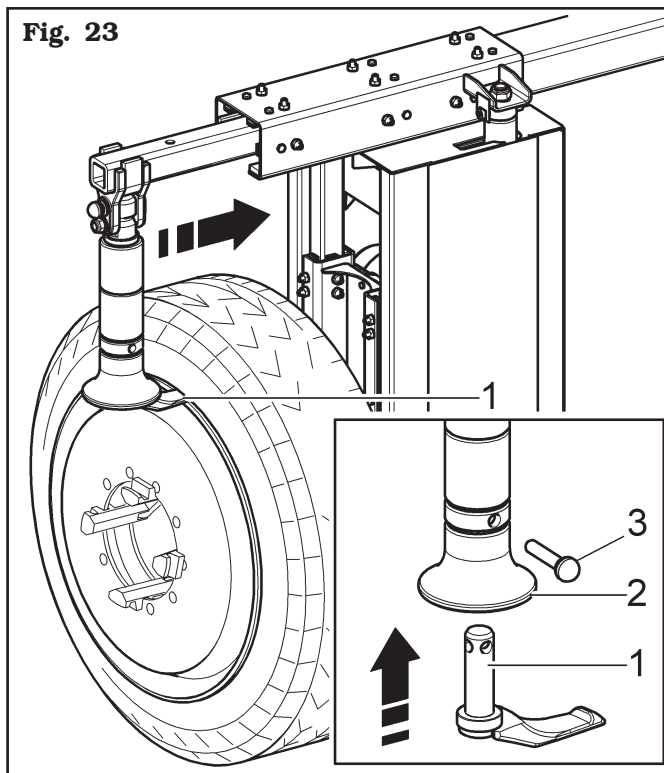
Tubeless tyres can be removed in two ways:

1. if the wheel does not present particular problems, continuing beading operation will completely dislodge the beads from the rim. The inner bead, pushed by the roller, presses against the outer one till it has been completely removed (see Fig. 22);

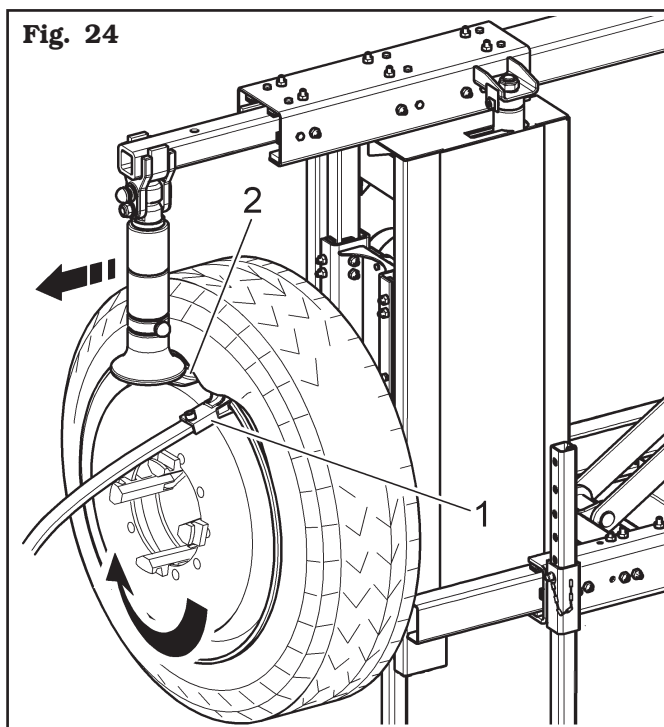
Fig. 22



2. if the wheel is especially hard, it is not possible to carry out the procedure described in point 1. A different procedure will be necessary: use the hook tool and follow this sequence of operations:
 - move to work station **A** (Fig. 6);
 - position the roller holder arm on the outer side of the wheel;
 - put the hook tool (Fig. 23 ref. 1) into the roller (Fig. 23 ref. 2), as shown in Fig. 23, and block it in position by inserting the pin (Fig. 23 ref. 3);
 - bring forward the hook, inserting it between the rim and the bead until it is secured to the bead itself (see Fig. 23);



- move the rim away downwards from the tool by about 4-5 cm (1.57"-1.97") to avoid possible unhooking of the bead from the same tool.
- translate the tool outwards (**Fig. 24 ref. 2**) to allow easy insertion of lever (**Fig. 24 ref. 1**) between the rim and the bead; insert lever (**Fig. 24 ref. 1**) between the rim and the bead on the right-hand side of the tool (**Fig. 24 ref. 2**);



- keeping the lever pressed, lift the wheel until the edge of the rim is 5 mm distant (0.2") from the hook tool.

- rotate the wheel clockwise until the bead has completely gone out;
- once the external bead has been removed, move roller holder arm away from the wheel, unhook it and lift it bringing it in "off-work" position (**Fig. 17 ref. 1**); use the handle control to position the roller holder arm on the inner side of the wheel then place it in work position again (**Fig. 16 ref. 1**) and secure with the locking pin;

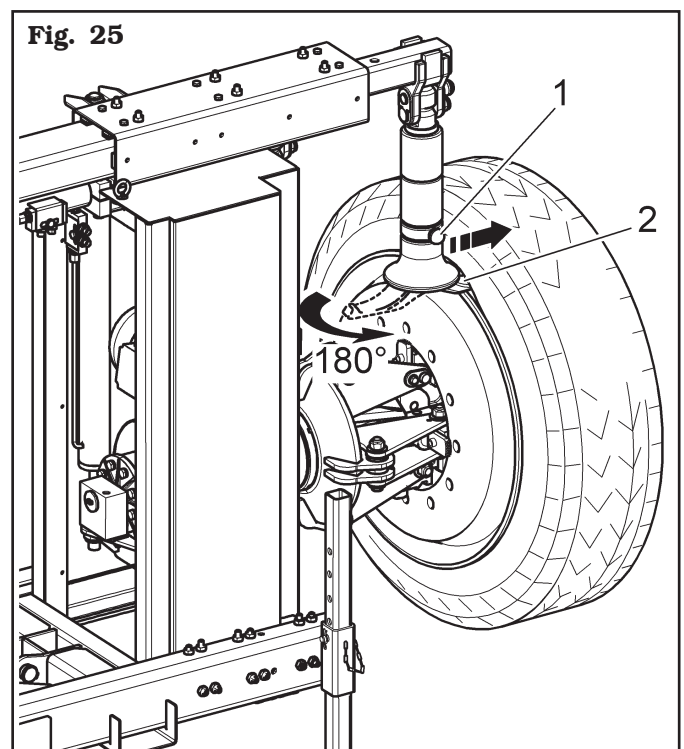


PAY ATTENTION WHEN REPOSITIONING THE ROLLER HOLDER ARM TO AVOID HAND CRUSHING.



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

- move to work position **C** (**Fig. 6**);
- take the pin off (**Fig. 25 ref. 1**), turn the tool (**Fig. 25 ref. 2**) 180° and block it again with the pin (**Fig. 25 ref. 1**) in order to be able to insert the tool itself (**Fig. 23 ref. 2**) between the rim edge and the bead of the tyre;



- move the rim away downwards from the tool by about 4-5 cm (1.57"-1.97") to avoid possible unhooking of the bead from the same tool.
- move to work position **B** (**Fig. 6**);
- translate the hook tool towards the external rim edge, then turn the chuck 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.

12.7.3 Mounting



THROUGHOUT TYRE MOUNTING/DEMOUNTING OPERATIONS, CHECK THAT THE SELF-CENTRING CHUCK CLAMPING PRESSURE IS CLOSE TO THE MAX. OPERATING VALUE (130 BAR - 1885 PSI).

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

With bead breaker roller

Proceed as follows:

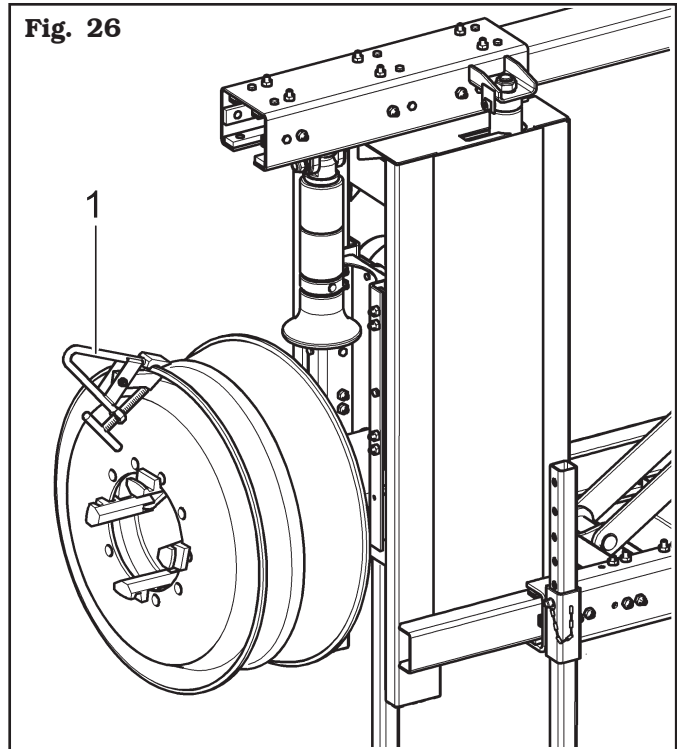
- secure the rim to the chuck according to the procedure described in paragraph "WHEEL CLAMPING";
- lubricate tyre beads and rim bead seats generously with a suitable lubricant using a brush (optional);



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

- mount clamp (optional) (**Fig. 26 ref. 1**) on the external edge of the rim in the highest point as shown in **Fig. 26**;

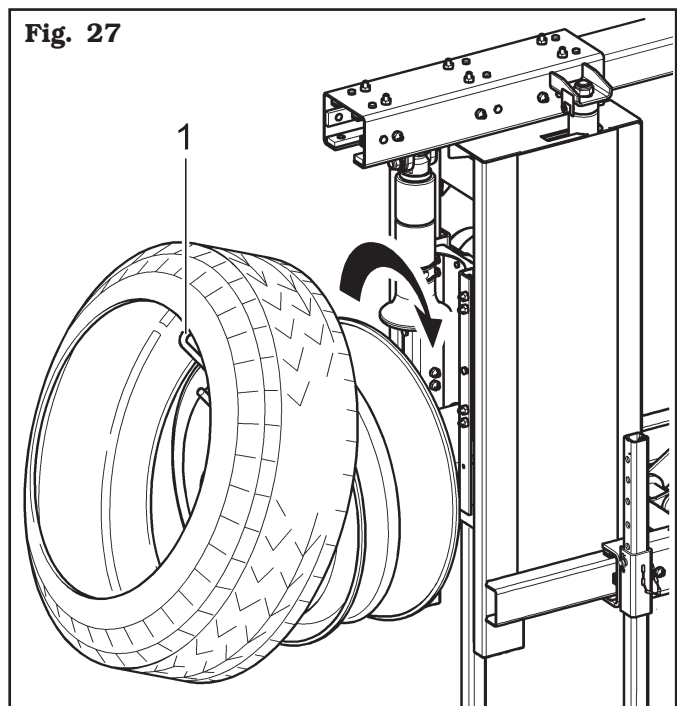
Fig. 26



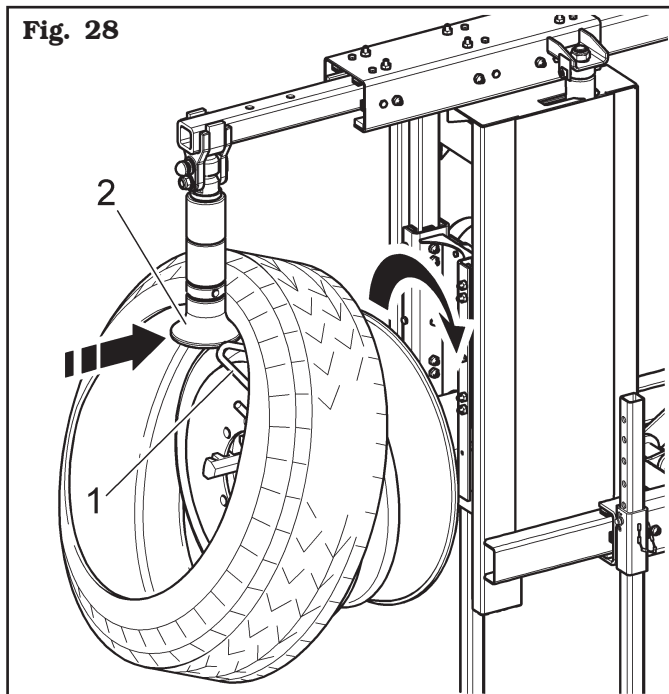
THE CLAMP MUST BE TIGHTLY SECURED TO THE EDGE OF THE RIM.

- move to work position **B** (**Fig. 6**);
- lower the chuck completely. Roll the tyre on the floor and hook it to clamp (**Fig. 27 ref. 1**);
- lift the chuck with the tyre hooked and turn it clockwise 15-20 cm (5.91" - 7.87"); the tyre will position itself sideways in relation to the rim (see **Fig. 27**);

Fig. 27



- position the beading roll (**Fig. 28 ref. 2**) so that it is at approximately 1,5 cm (0.59") from the edge of the rim. Fitting clamp (**Fig. 28 ref. 1**) is at "1 o'clock". Turn the chuck clockwise until bringing the clamp to the closest point to the beading roller ("11 o'clock");



- move the beading roller away from the wheel;
- remove the clamp and fit it in position ("6 o'clock") outside the second bead;
- turn the chuck counterclockwise until clamp is at "1 o'clock".
- move the beading roll forward until it is inside the edge of the rim by about 1-2 cm (0.39"- 0.79") , 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;
- once insertion is completed, move the roller away from the wheel, turn it over to "out of work" position and remove clamp;
- lower the chuck until the wheel rests on the floor;
- move to work position **A** (**Fig. 6**);
- close the chuck jaws completely, making sure the wheel is held up to avoid;



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 equipment by making it roll. By using particularly soft tyres, it is possible to put on the rim both 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 chuck according to the procedure described in paragraph "WHEEL CLAMPING";
- lubricate tyre beads and rim bead seats generously with a suitable lubricant using a brush (optional);



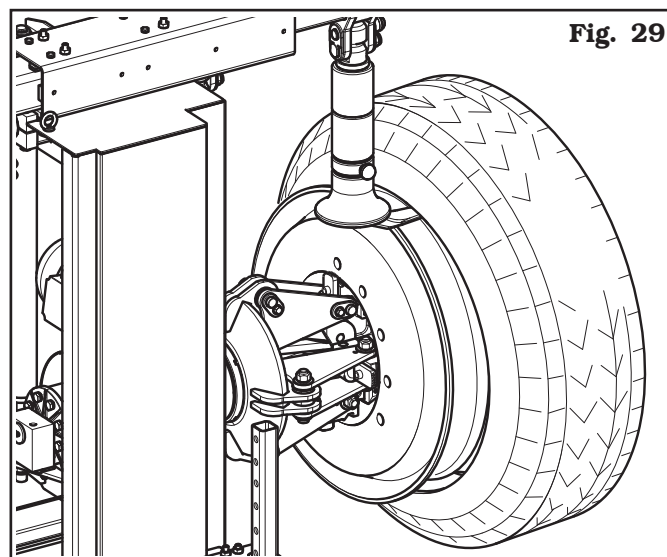
USE ONLY TYRE LUBRICANTS. SUITABLE LUBRICANTS CONTAIN NO WATER, HYDROCARBONS, OR SILICON.

- mount the clamp (**Fig. 26 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. 6**);
- lower the chuck completely. Roll the tyre next to the chuck and hook it to the clamp (**Fig. 27 ref. 1**);
- lift the chuck with the tyre hooked and turn it clockwise 15-20 cm (5.91"- 7.87"); the tyre will position itself sideways in relation to the rim (see **Fig. 27**);
- place the roller holder arm in "off-work" position (**Fig. 17 ref. 1**); translate it to the inner side of the tyre and hook it again into "work position" (**Fig. 16 ref. 1**);
- mount the hook tool on the roller, by positioning it on the side of the tyre (see **Fig. 29**);



- move to work position **C** (**Fig. 6**);
- move the tool forward until the reference notch matches the external edge of the rim coincide at about 5 mm (0.2") from the rim itself;
- move to work position **B** (**Fig. 6**);
- from the external side of the wheel, check the exact position of the tool and, if necessary, correct it. Then, turn the chuck clockwise until clamp reaches the closest point to the tool ("11 o'clock"). The first bead should now be inserted in the rim;

- remove clamp;
- move to work position **C** (**Fig. 6**);
- extract the tool from the tyre;
- place the roller holder arm in “off-work” position (**Fig. 17 ref. 1**); translate it to the outer side of the tyre and hook it again into “work position” (**Fig. 16 ref. 1**);
- mount the tool head again at 180° until the hook tool is moved onto the tyre side (see **Fig. 23**);
- mount clamp in the lowest point (6 o'clock) outside the second bead;
- move to work position **B** (**Fig. 6**);
- turn the chuck counterclockwise placing clamp at “1 o'clock”;
- move the tool forward until the axis of the reference notch matches that of the external edge of the rim at about 5 mm (0.2") from the rim itself (**Fig. 23**). Begin clockwise rotation making sure that, after a 90° turn, the second bead begins to slide in the rim drop centre. 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 chuck until the wheel rests on the floor;
- move to work position **A** (**Fig. 6**);
- close the chuck jaws completely, making sure the wheel is held up to avoid;



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 equipment by making it roll.

12.8 Tyres with inner pipe

12.8.1 Bead breaking



REMOVE THE LOCK NUT OF THE INNER PIPE 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 PIPES, INTERRUPT THE FORWARD MOVEMENT OF THE BEADING ROLLER AS SOON AS THE BEADS HAVE BEEN DISLODGED TO AVOID DAMAGE TO THE INNER PIPE OR TO THE VALVE.

12.8.2 Demounting



THROUGHOUT TYRE MOUNTING/DEMOUNTING OPERATIONS, CHECK THAT THE SELF-CENTRING CHUCK CLAMPING PRESSURE IS CLOSE TO THE MAX. OPERATING VALUE (130 BAR - 1885 PSI).

- Bring roller holder arm in “off-work” position (**Fig. 17 ref. 1**); use the handle control to position the roller holder arm on the outer side of the wheel then place it in work position (**Fig. 16 ref. 1**) and secure with the locking pin provided (**Fig. 1 ref. 19**);



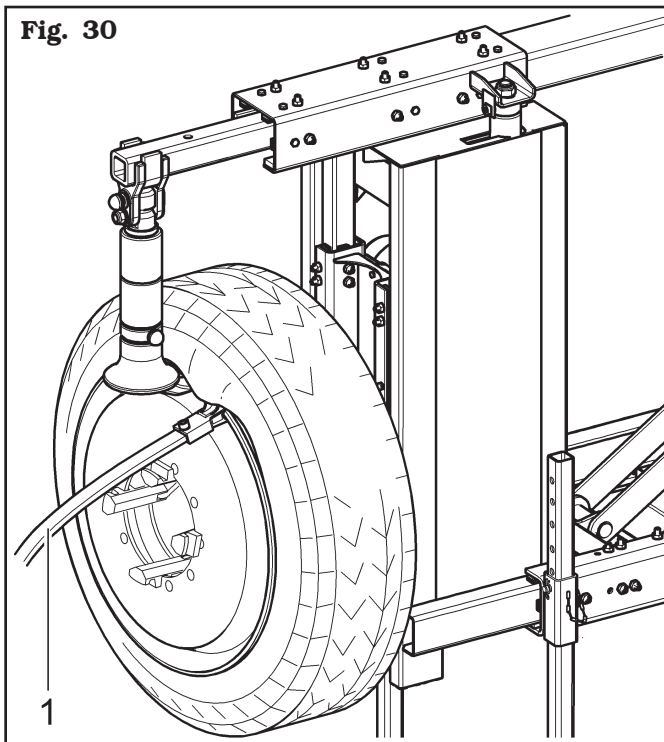
PAY ATTENTION WHEN REPOSITIONING THE ROLLER HOLDER ARM TO AVOID HAND CRUSHING.



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

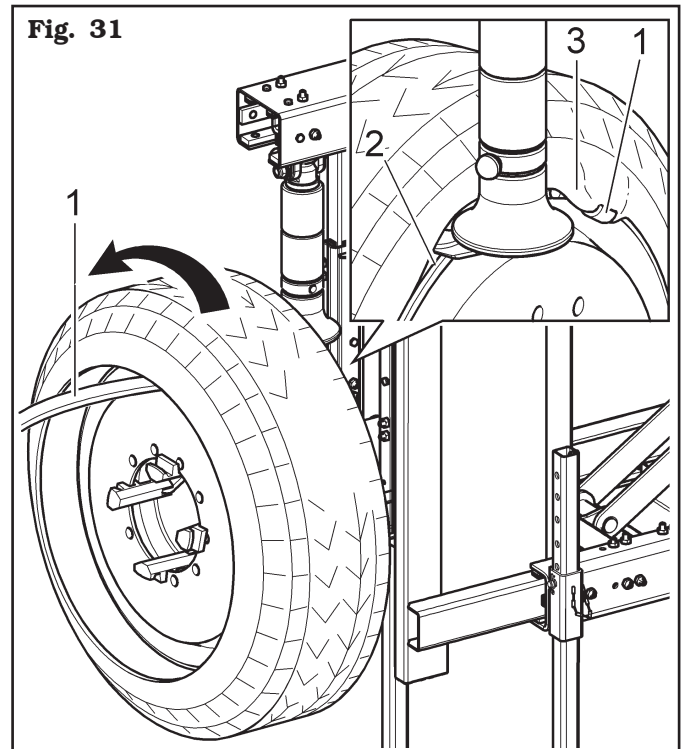
- mount the hook tool turned towards the tyre in order to insert the same hook between rim edge and tyre bead; the operation must be carried out during the chuck rotation;

- move the rim away downwards from the tool by about 4-5 cm (1.57" - 1.97") to avoid possible unhooking of the bead from 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. 6**);
- insert lever (**Fig. 30 ref. 1**) between the rim and the bead on the right-hand side of the tool;



- keeping the lever pressed lift the wheel until the edge of the rim is 5 mm (0.2") distant from the hook tool.
- turn the wheel clockwise by keeping lever pressed until the bead has gone completely out;
- move the roller holder arm away in "off-work" position (**Fig. 17 ref. 1**); lower the chuck until placing the tyre on the ground; exert a certain pressure on it; this will create the space required to extract the inner pipe;
- extract the inner pipe and lift the wheel again;
- move to work position **C** (**Fig. 6**);
- unhook and lift the roller holder arm placing it in "off-work" position (**Fig. 17 ref. 1**); use the handle control to position the roller holder arm on the inner side of the wheel then place it in work position (**Fig. 16 ref. 1**) and secure with the locking pin provided (**Fig. 1 ref. 19**);
- mount the hook tool again with a 180° rotation, according to the descriptions in the relevant paragraph, in order to insert the hook between rim edge and tyre bead; the operation must be carried out during chuck rotation;

- move the rim away downwards from the tool by about 4-5 cm (1.57" - 1.97") to avoid possible unhooking of the bead from the same tool.
- move to work position **A** (**Fig. 6**);
- translate the hook tool outwards until the reference notch is 3 cm (1.18") inside the rim;
- insert the lever (**Fig. 31 ref. 1**) between rim (**Fig. 31 ref. 2**) and bead (**Fig. 31 ref. 3**) on the tool left hand side.



- keeping the lever pressed, lift the wheel until the edge of the rim is approximately 5 mm (0.2") distant from the hook tool then turn the chuck counterclockwise keeping the lever (**Fig. 31 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.

12.8.3 Mounting



THROUGHOUT TYRE MOUNTING/DEMOUNTING OPERATIONS, CHECK THAT THE SELF-CENTRING CHUCK CLAMPING PRESSURE IS CLOSE TO THE MAX. OPERATING VALUE (130 BAR - 1885 PSI).

- Secure the rim to the chuck according to the procedure described in paragraph "WHEEL CLAMPING";
- lubricate tyre beads and rim bead seats generously with a suitable lubricant using a brush (optional);



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

- mount clamp (optional) (**Fig. 26 ref. 1**) on the external edge of the rim in the highest point, as shown in **Fig. 26**;



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

- move to work position **B (Fig. 6)**;
- position the tyre near the equipment and lower the chuck (make sure the clamp is at the highest point) to hook the first tyre bead (internal bead).
- lift the chuck with the tyre hooked and turn it clockwise about 15-20 cm (5.91"- 7.87"); the tyre will position itself sideways in relation to the rim;
- place the roller holder arm in "off-work" position (**Fig. 17 ref. 1**); operate the handle control in order to position the roller holder arm on the wheel inner side, then place it in "working position" (**Fig. 16 ref. 1**) again and lock it with the locking pin provided.



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

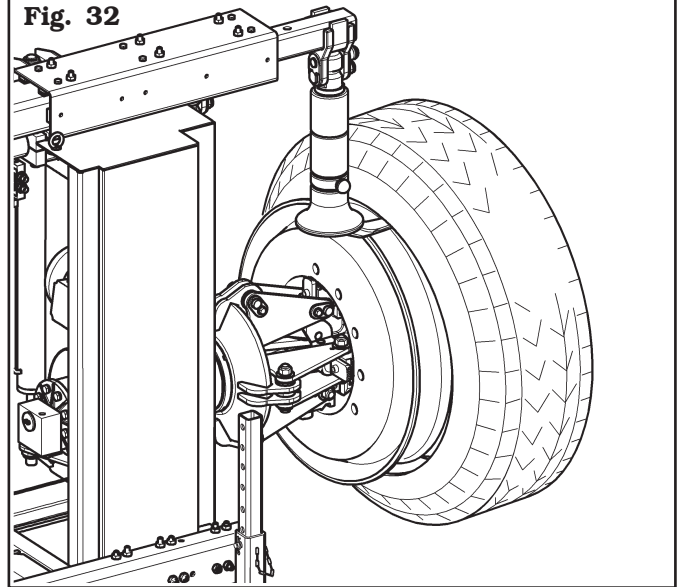


ALWAYS MAKE SURE THAT THE ARM IS CORRECTLY LOCKED TO THE SHIFTING BEAM.

- mount the hook tool turned towards the tyre in order to insert the same hook between rim edge and tyre bead; the operation must be carried out during the chuck rotation;
- move to work position **C (Fig. 6)**;

- move the tool forward until the axis of the reference notch matches that of the external edge of the rim at about 5 mm (0.2") from the rim itself (see **Fig. 32**);

Fig. 32



- move to work position **B (Fig. 6)**;
- from the external side of the wheel, check the exact position of the tool and, if necessary, correct it. Then, turn the chuck clockwise until clamp reaches the closest point to the tool ("11 o'clock"). The first bead should now be inserted in the rim, then remove clamp;
- move to work position **C (Fig. 6)**;
- extract the tool hook from the tyre;
- place the roller holder arm in "out of work" position (**Fig. 17 ref. 1**) and translate it to the outer side of the tyre;
- mount the hook tool again with a 180° rotation, according to the descriptions in the relevant paragraph;
- move to work position **A (Fig. 6)**;
- turn the chuck to position the hole to insert the valve downward ("6 o'clock");
- lower the chuck until the wheel is laid down to the ground in order to create the space needed between tyre edge and rim for the inner pipe 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 PIPE AS SHOWN IN FIG. 33.

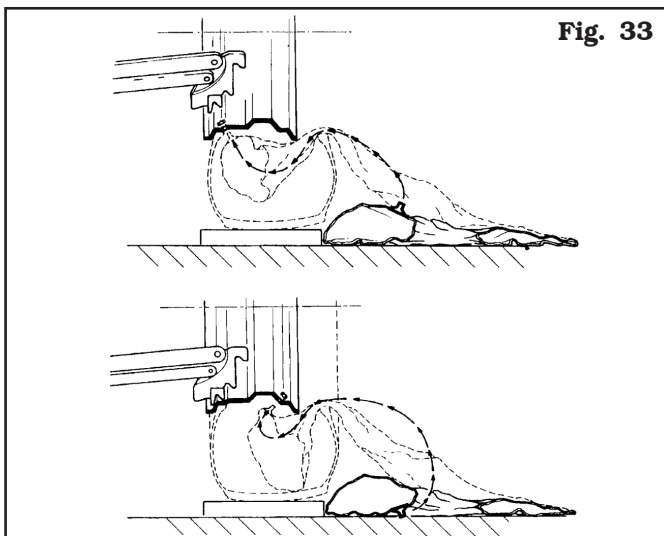


Fig. 33

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

- turn the chuck and position the valve downwards ("6 o'clock");
- to avoid damaging the inner pipe, slightly inflate it when inserting the second bead;
- to avoid damaging the valve when securing the second bead, remove the fixing ring nut and mount an extension on the same valve;
- move to work position **B** (Fig. 6);
- lift the chuck and mount the clamp (Fig. 34 ref. 1) on the rim outside the second bead at about 20 cm (7.87") from the inflating valve on the right;
- turn the chuck counter-clockwise until clamp (Fig. 34 ref. 1) is positioned at "1 o'clock";

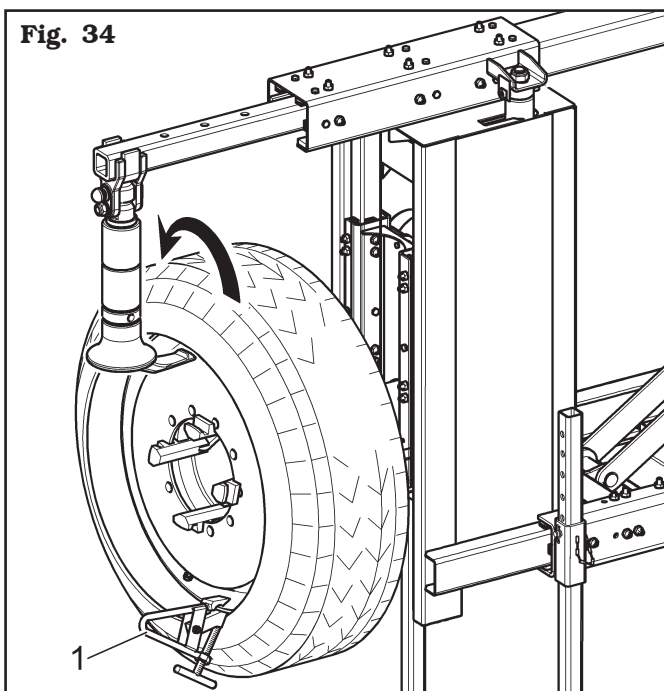


Fig. 34

- place the roller holder arm in "work position" (Fig. 16 ref. 1) on the outer side of the tyre;
- place the hook tool in work position and bring the roller holder arm forward until the axis of the reference notch matches that of the outer edge of the rim at a distance of 5 mm (0.2").
- turn the chuck clockwise until lever (Fig. 35 ref. 1) is introduced in the housing obtained on the hook tool.
- turn the chuck clockwise with lever (Fig. 35 ref. 1) hooked up to the complete insertion of the tyre outer bead.
- remove lever (Fig. 35 ref. 1), clamp (Fig. 35 ref. 2) and extract the hook tool by turning the chuck counterclockwise and translating it outwards.

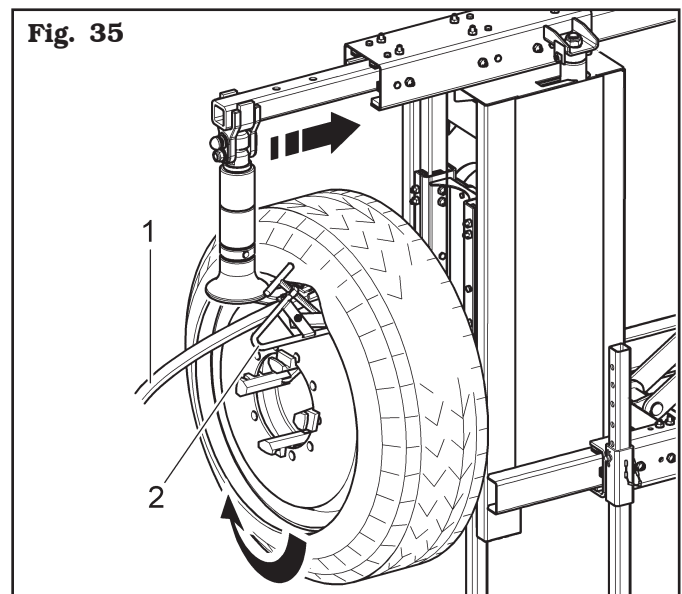


Fig. 35

- bring the roller holder arm in "off-work" position (Fig. 17 ref. 1) after it has been unhooked;
- lower the chuck until the wheel rests on the floor;
- move to work position **A** (Fig. 6);
- check the condition of the tyre valve and centre it in the rim hole if necessary, by slightly turning the chuck; secure the valve with the supplied ring nut after removing the protective extension.
- close the chuck jaws completely, making sure the wheel is held up to avoid;

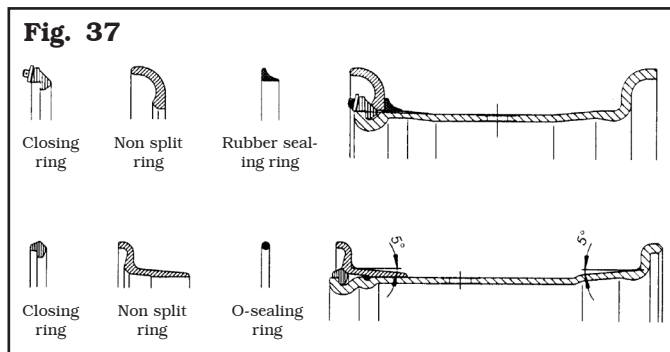
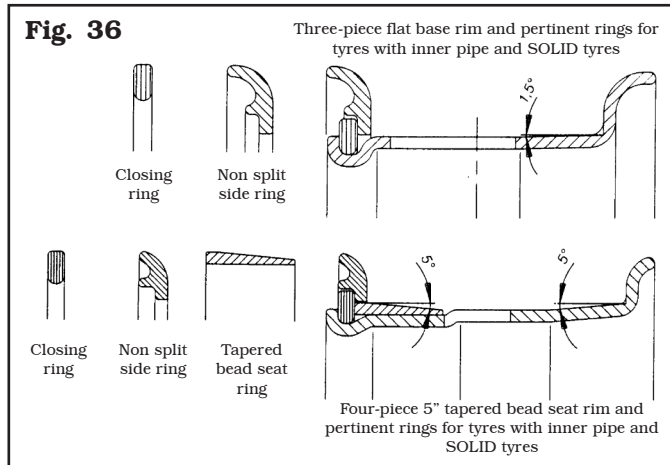


MAKE SURE THAT THE WHEEL'S HOLD IS SECURE TO AVOID IT FALLING DURING REMOVAL. FOR HEAVY AND/OR VERY LARGE WHEELS USE AN ADEQUATE LIFTING DEVICE.

- remove the wheel from the equipment by making it roll.

12.9 Wheels with bead wire

As an example **Fig. 36** and **Fig. 37** illustrate sections and compositions of types of wheels with bead wire currently being sold.



12.9.1 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 MAX. OPERATING VALUE (130 BAR - 1885 PSI).

- Mount the wheel on the chuck as described in “WHEEL CLAMPING” and make sure it is deflated;
- move to work position **C** (**Fig. 6**) with the special accessories (optional);
- place the roller holder arm in “working position” (**Fig. 16 ref. 1**) in the tyre inner side, and make sure it is locked by the provided safety stop (**Fig. 1 ref. 19**);

- mount the accessories (as shown in **Fig. 38**) and position the bead breaking disc on rim edge (see **Fig. 38**);

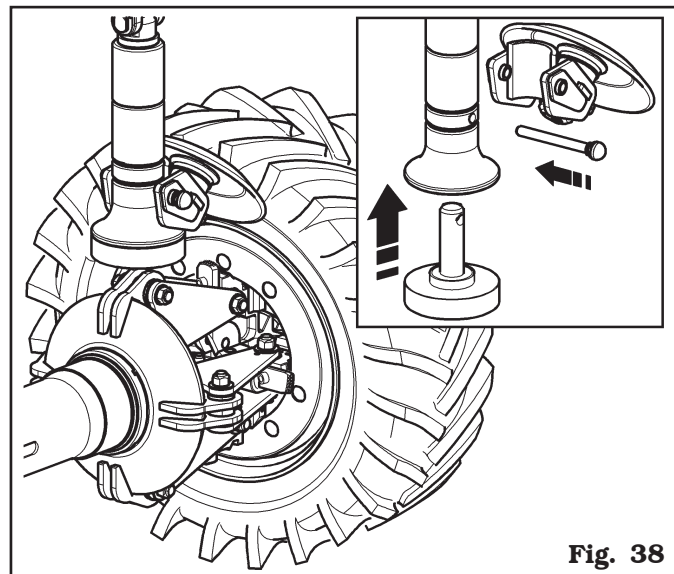
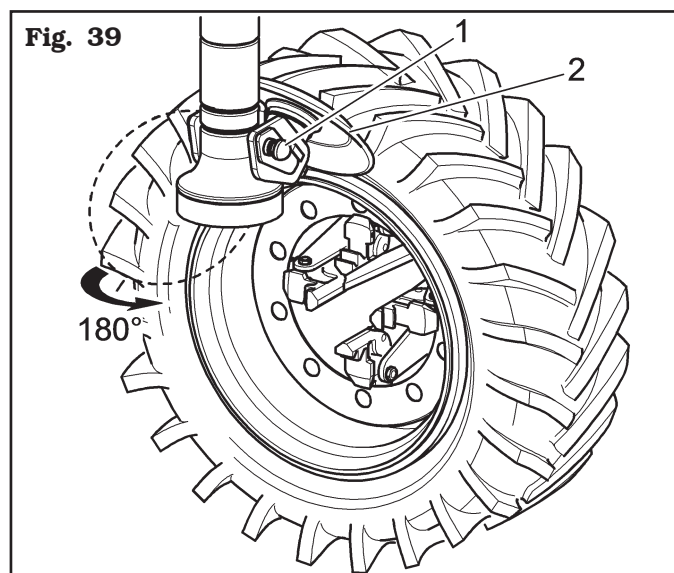
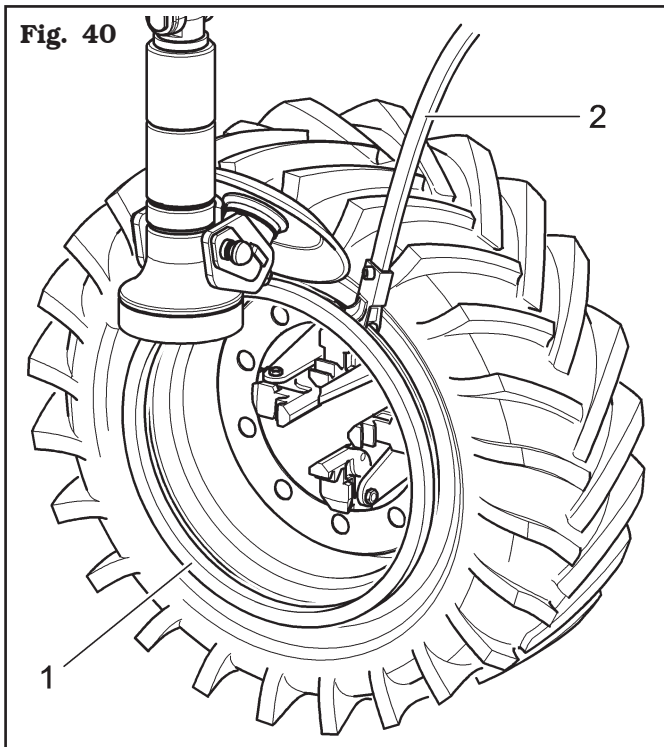


Fig. 38

- turn the chuck and smear the entire bead seat of the rim with lubricant. While doing this, jerk the bead breaking disc forward until the first bead is removed (as these wheels feature inner pipes, carry out the operation carefully, paying special attention to when the bead dislodges, trying to stop disc advance immediately to avoid compromising the integrity of the inner pipe and valve);
- place the roller holder arm in “off-work” position (**Fig. 17 ref. 1**), operate the handle control in order to position the roller holder arm on the wheel outer side, then, place it in “working position” (**Fig. 16 ref. 1**) again and lock it with the locking pin provided.
- remove the pin (**Fig. 39 ref. 1**), turn the bead breaking disc (**Fig. 39 ref. 2**) 180° and lock it again with the pin (**Fig. 39 ref. 1**) in order to be able to bring the same beading disc into contact with the external side of the tyre (see **Fig. 39**);



- turn the chuck and smear the entire bead seat of the rim with lubricant;
- while doing this, jerk the bead breaking disc forward until bead is removed;
- repeat the operation, making the bead breaking disc move forward against the bead wire (see **Fig. 40**) up to the stop ring is released (**Fig. 40 ref. 1**). It will be then extracted through lever (**Fig. 40 ref. 2**);



- remove the bead wire;
- remove the O-Ring, when featured.
- bring the roller holder arm in "off-work" position (**Fig. 17 ref. 1**) after it has been unhooked;
- move to work position **A** (**Fig. 6**);
- bring back the roller holder arm inside the tyre in "work position" (**Fig. 16 ref. 1**). Remove the pin, turn the bead breaking disc with a 180° rotation and lock it again with the pin;
- move the bead breaking disc forward up to the tyre is completely dislodged from the rim (in case of tyres with inner pipe, 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 ROLLER HOLDER ARM TO AVOID HAND CRUSHING.



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



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.

12.9.2 Mounting

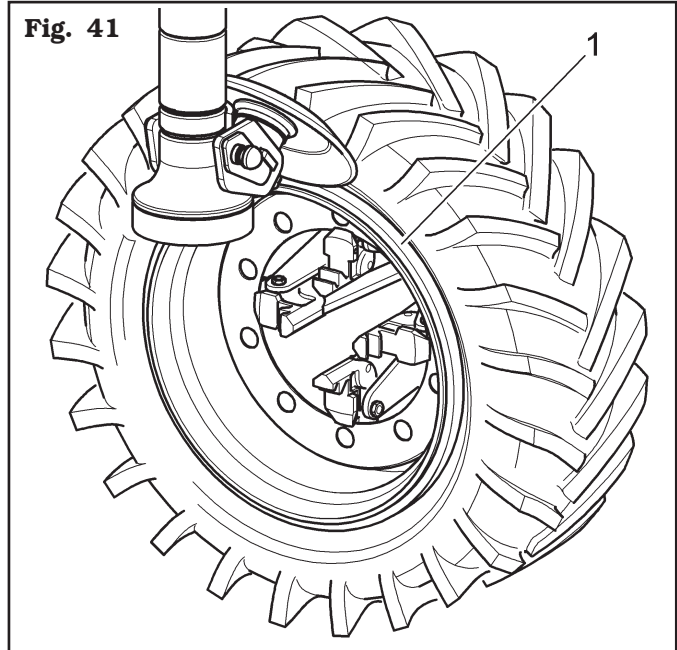


THROUGHOUT TYRE MOUNTING/DEMOUNTING OPERATIONS, CHECK THAT THE SELF-CENTRING CHUCK CLAMPING PRESSURE IS CLOSE TO THE MAX. OPERATING VALUE (130 BAR - 1885 PSI).

- Place the roller holder arm in “off-work” position (**Fig. 17 ref. 1**); if it has been removed, secure the rim to the chuck as described in “WHEEL CLAMPING” paragraph. If the wheel features an inner pipe, 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. 6**);
- place the chuck in order to centre the rim on the tyre;
- put the tyre into the rim manually (in case of tyres with inner pipe, make the valve re-enter, in order not to damage it) up to the tyre has been completely introduced in the rim;
- 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. 6**);
- place roller holder arm on the external side then lower it into “work position” (**Fig. 16 ref. 1**). Mount the special accessories (optional) with the bead breaking disc facing the wheel. If the outer edge ring is not sufficiently fitted on the rim, position the chuck until the bead wire is near the bead breaking disc. Move the bead breaking disc forward and then turn the chuck up to 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. 6**);

- position the bead wire (**Fig. 41 ref. 1**) on the rim, fit the stop ring with the help of the bead breaking disc as shown in **Fig. 41**;

Fig. 41



- bring the roller holder arm in “off-work” position (**Fig. 17 ref. 1**) after it has been unhooked;
- lower the chuck until the wheel rests on the floor;
- close the chuck jaws. Remove the wheel from the equipment by making it roll.



CLOSING THE CHUCK 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 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 CHUCK.



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



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

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

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

- disconnect the equipment from the electrical and hydraulic power supplies before carrying out any cleaning or 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 (chuck and roller holder arm);
- periodically (preferably once a month), grease all moving parts of the equipment (see **Fig. 42**);

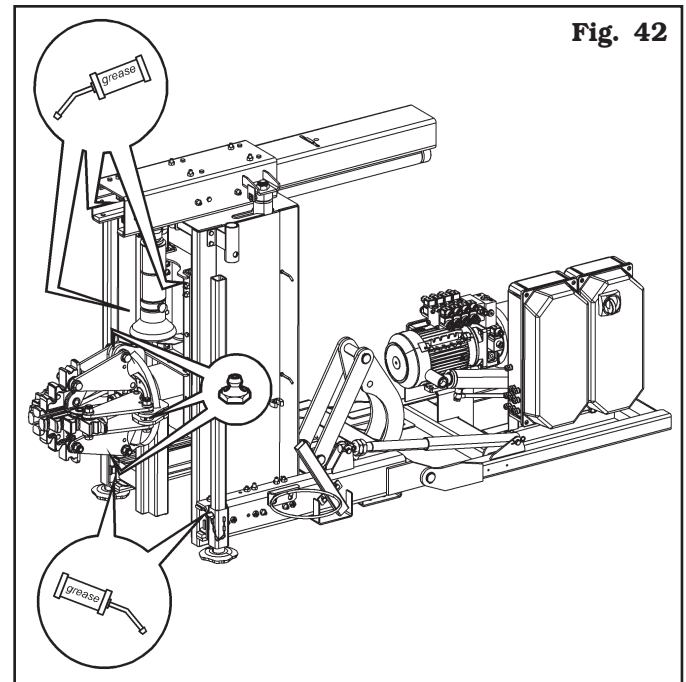


Fig. 42

- check periodically (approximately every 100 hours) the oil level of the oil-pressure unit and of the gearbox; if necessary, 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 (or countries with room temperature from 0 °C ÷ +30 °C (+32 °F ÷ +86 °F));
- viscosity 46 (for countries with room temperature above 30 degrees (+86 °F)).

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 EQUIPMENT COMPLETELY CLOSED (WITH HYDRAULIC PISTONS IN).

- check operation of the safety devices every week.

- A.** Check the reduction gear oil level (**Fig. 43 ref. 1**); the level indicator window (**Fig. 43 ref. 2**) must be covered with lubricant, otherwise, remove the plug provided and top up using appropriate lubricants until the level is reset.

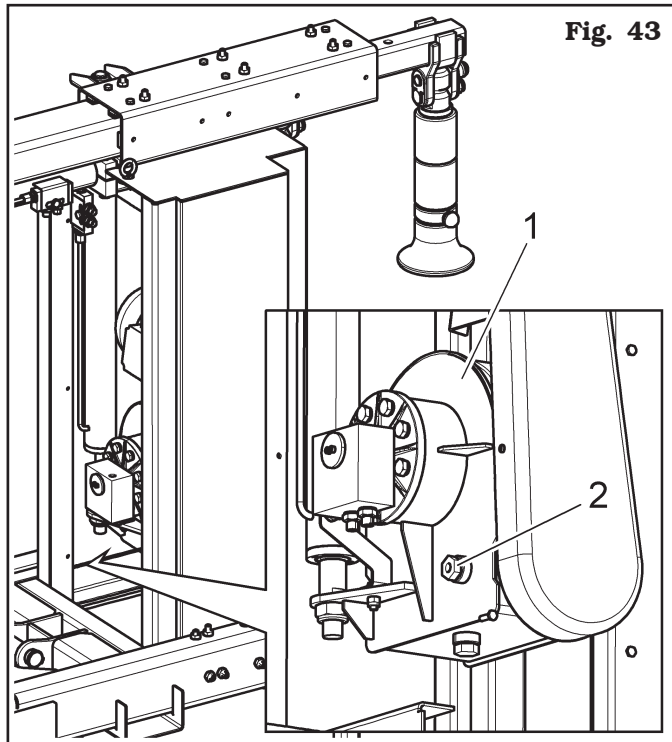


Fig. 43

- B.** Adjust the play of the slides (**Fig. 44 ref. 1**) on guide plates (**Fig. 44 ref. 2**) by means of the adjustment bolts (**Fig. 44 ref. 3**) of the sliding blocks (**Fig. 44 ref. 4**).

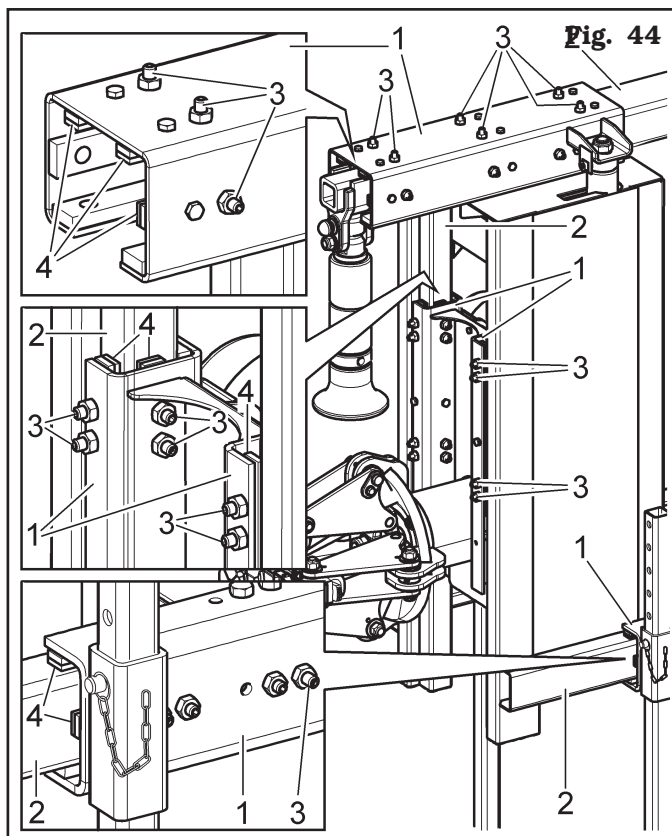


Fig. 44

- C.** Check belt tensioning (**Fig. 45 ref. 1**):

- remove the protection guard (**Fig. 45 ref. 2**) with a screwdriver;
- stretch the belt (**Fig. 45 ref. 1**) using the bolt (**Fig. 45 ref. 3**) after the nuts (**Fig. 45 ref. 4**) have been slackened.
- tighten the fixing nuts (**Fig. 45 ref. 4**) after the adjustment operations, then assemble the protection guard (**Fig. 45 ref. 2**) again.

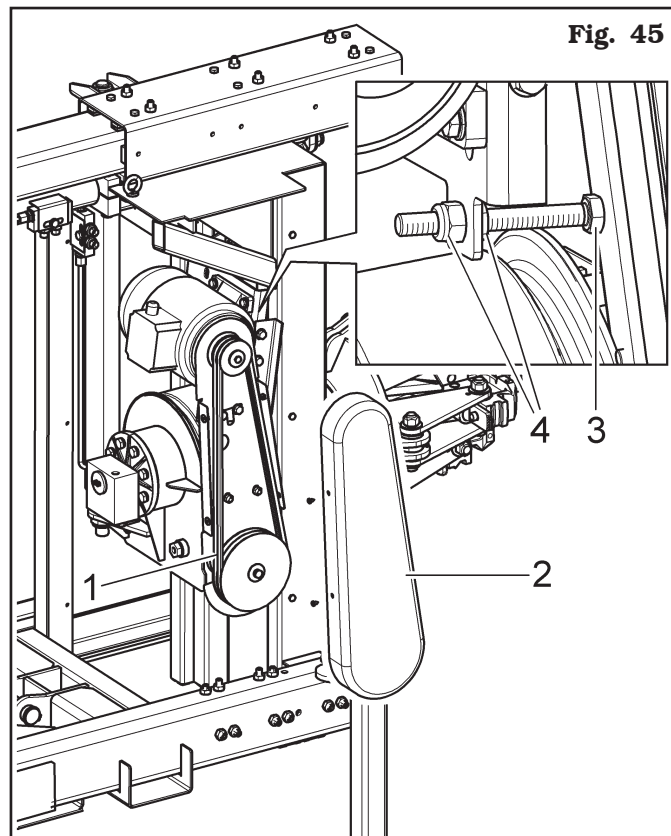


Fig. 45

- Periodically, every 50 working hours approximately, clean the (inner and outer) guides of the chuck and of roller 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 BE CARRIED OUT EXCLUSIVELY BY PROFESSIONALLY QUALIFIED PERSONNEL.








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 chuck motor works perfectly.	a) Hydraulic control unit damaged.	a) Call Technical Service Dept. 
When main switch is turned on, wheel holder chuck does not turn whereas the pump motor works.	a) Gearbox change-over switch damaged.	a) Call Technical Service Dept. 
Power drop during wheel holder chuck rotation.	a) Timing belt too loose.	a) Tension up the belt.
No pressure in the hydraulic system.	a) Pump damaged.	a) Replace pump. 
The chuck opening pressure does not go down.	a) Pressure limiting valve jammed	a) Download chuck (remove wheel), completely undo adjusting handle. Perform many opening and closing cycles up to jam release. 
The equipment does not start.	a) No power supply. 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-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 cabinet and reset the overload cutout tripped.

Problem	Possible cause	Remedy
When a control device is operated the equipment does not move at all.	<ul style="list-style-type: none"> a) Solenoid valve not receiving power. b) Solenoid valve jammed. c) Transformer fuse blown. d) Control unit not set correctly. 	<ul style="list-style-type: none"> 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.	<ul style="list-style-type: none"> a) Power unit motor turning in wrong direction. b) Power unit pump has failed. c) No oil in power unit tank. 	<ul style="list-style-type: none"> a) Restore correct rotation direction by changing socket connection. b) Call the after-sales service. c) Fill power unit tank with oil 
The equipment operates in jerks.	<ul style="list-style-type: none"> a) Not enough fluid in power unit tank. b) Control unit switch has failed. 	<ul style="list-style-type: none"> a) Top up with oil. b) Call the after-sales service. 

**15.0 TECHNICAL DATA****15.1 Technical electrical data**

		Standard and Bluetooth version	Version 3Ph 200V 50/60Hz	Version 3Ph 230V 60Hz
Chuck motor power (kW)		1.35		1.5
Hydraulic drive unit motor (kW)		2.2	2.0	
Power supply	Voltage (V)	400	200	230
	Phases	3		
	Frequency (Hz)	50	50/60	60
Typical current draw (A)		10	20	16
Chuck rotation speed (rev/min)		8		

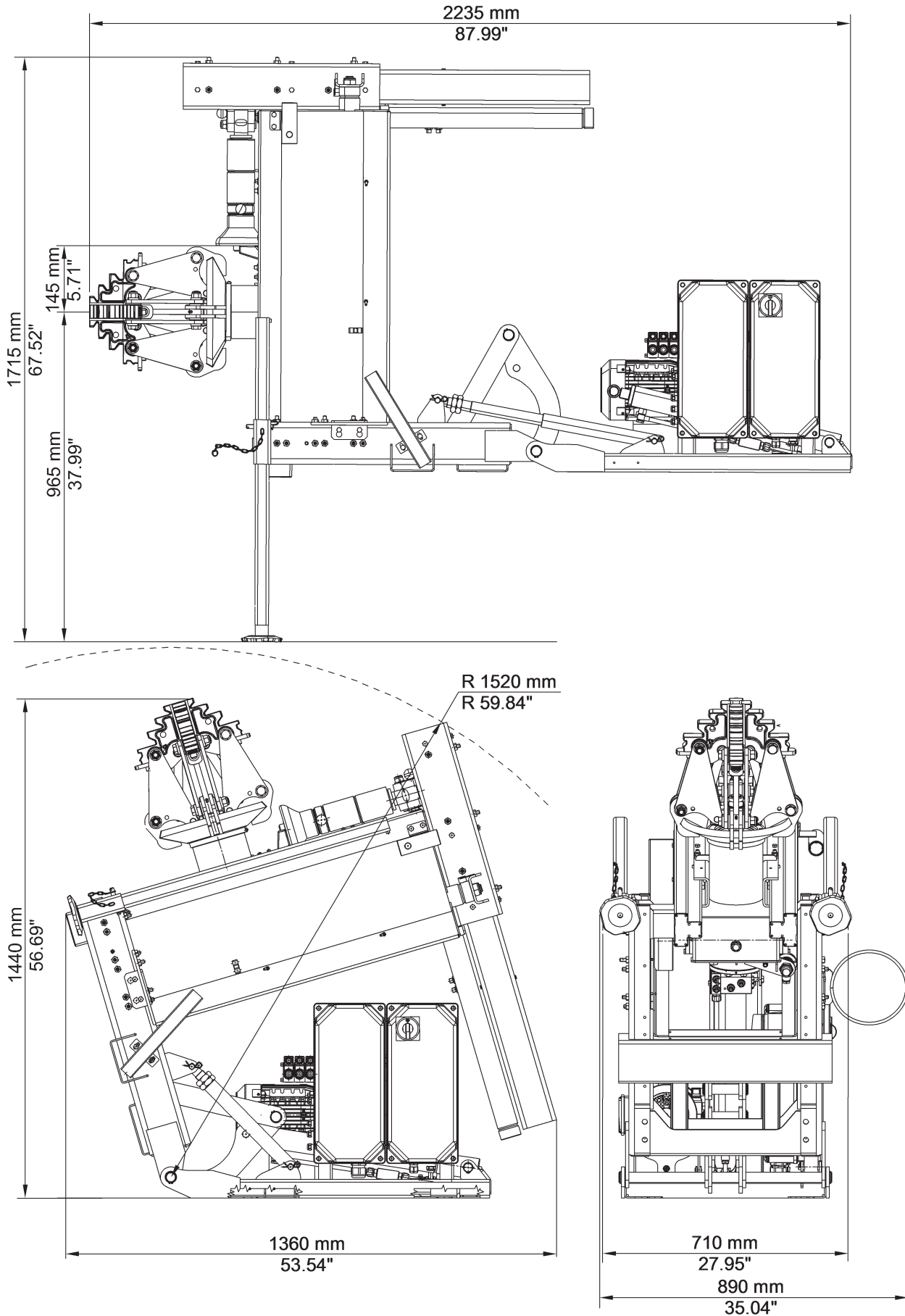
15.2 Technical mechanical data

Max. tyre diameter (mm)	1300 (51")
Max. rim width (inches)	11 ÷ 27
Max. torque to chuck (Nm)	2200 (1622 ft·lbs)
Bead-breaker cylinder power at 10 bar (N)	16000 (3597 lbf)
Max. wheel width (inches)	37.4
Max. wheel weight (kg)	1200 (2646 lbs)
Operating pressure (bar)	130 (1885 psi)
Weight (Kg)	470 (1036 lbs)



15.3 Dimensions

Fig. 46





16.0 STORING

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

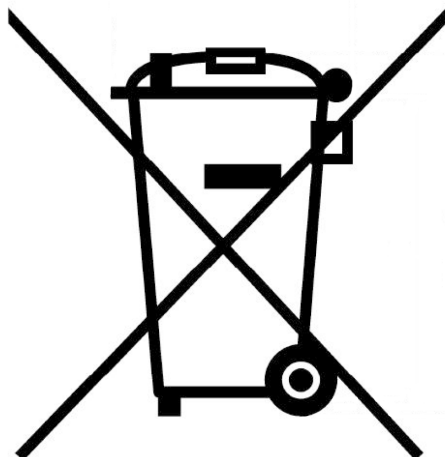
17.0 SCRAPPING

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

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

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

Fig. 47



18.0 REGISTRATION PLATE DATA



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

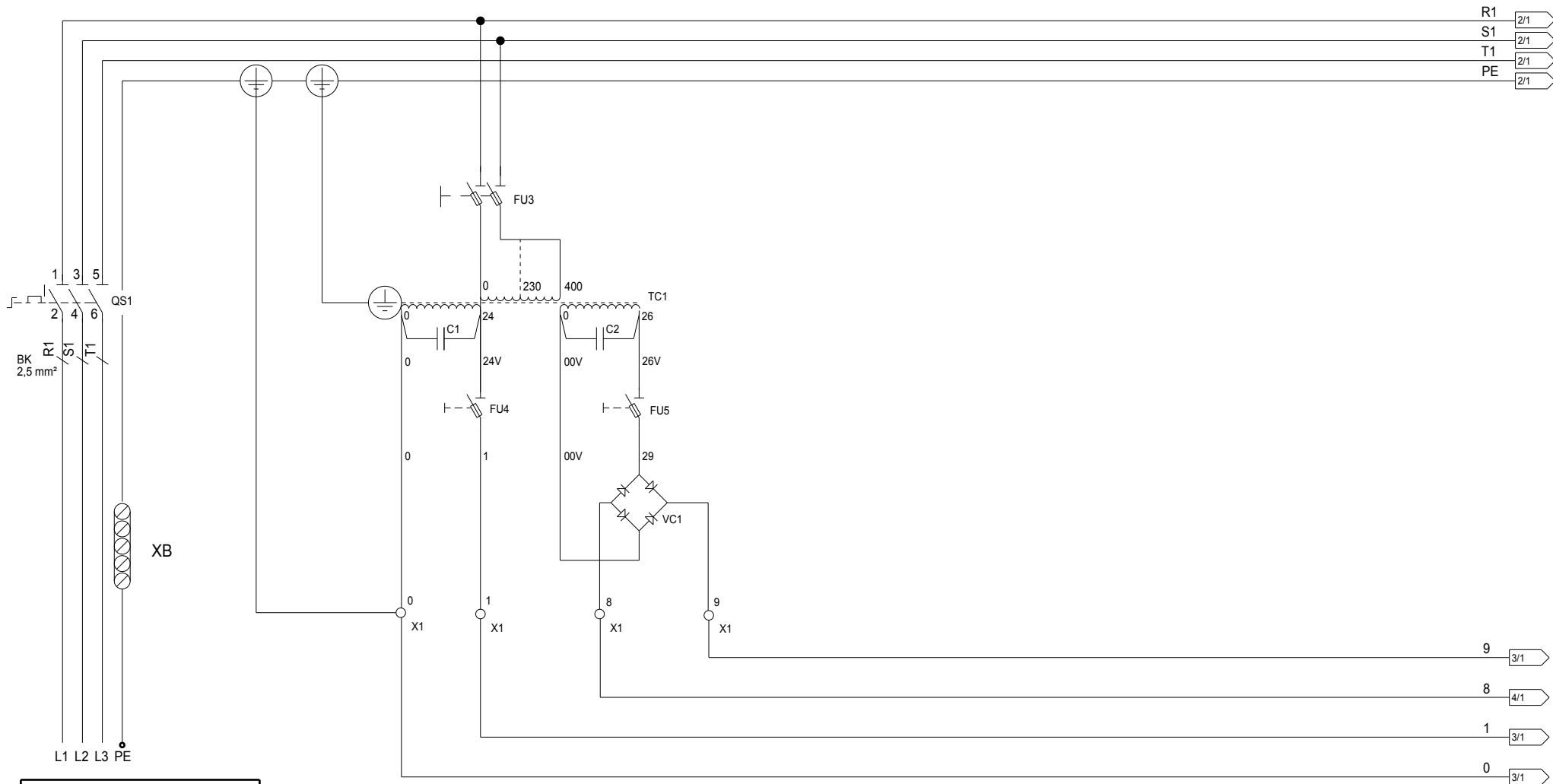


ATTENTION: TAMPERING WITH, CARVING, CHANGING ANYHOW OR EVEN REMOVING EQUIPMENT IDENTIFICATION PLATE IS ABSOLUTELY FORBIDDEN; DO NOT COVER IT WITH TEMPORARY PANELS, ETC., SINCE IT MUST ALWAYS BE VISIBLE.

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

19.0 FUNCTIONAL DIAGRAMS

Here follows a list of the equipment functional diagrams.



LINEA ALIMENTAZIONE
POWER SUPPLY
LIGNE D'ALIMENTATION

V=400 V. F=50 Hz.
I= A P=4.5 Kw.
N°=4 CU Ø=2,5 mm²
A. I₁= kA.

ALIMENTAZIONE AUSILIARI 24VAC
POWER SUPPLY 24VAC AUXILIARY

ALIMENTAZIONE AUSILIARI 27VDC
POWER SUPPLY 27VDC AUXILIARY



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

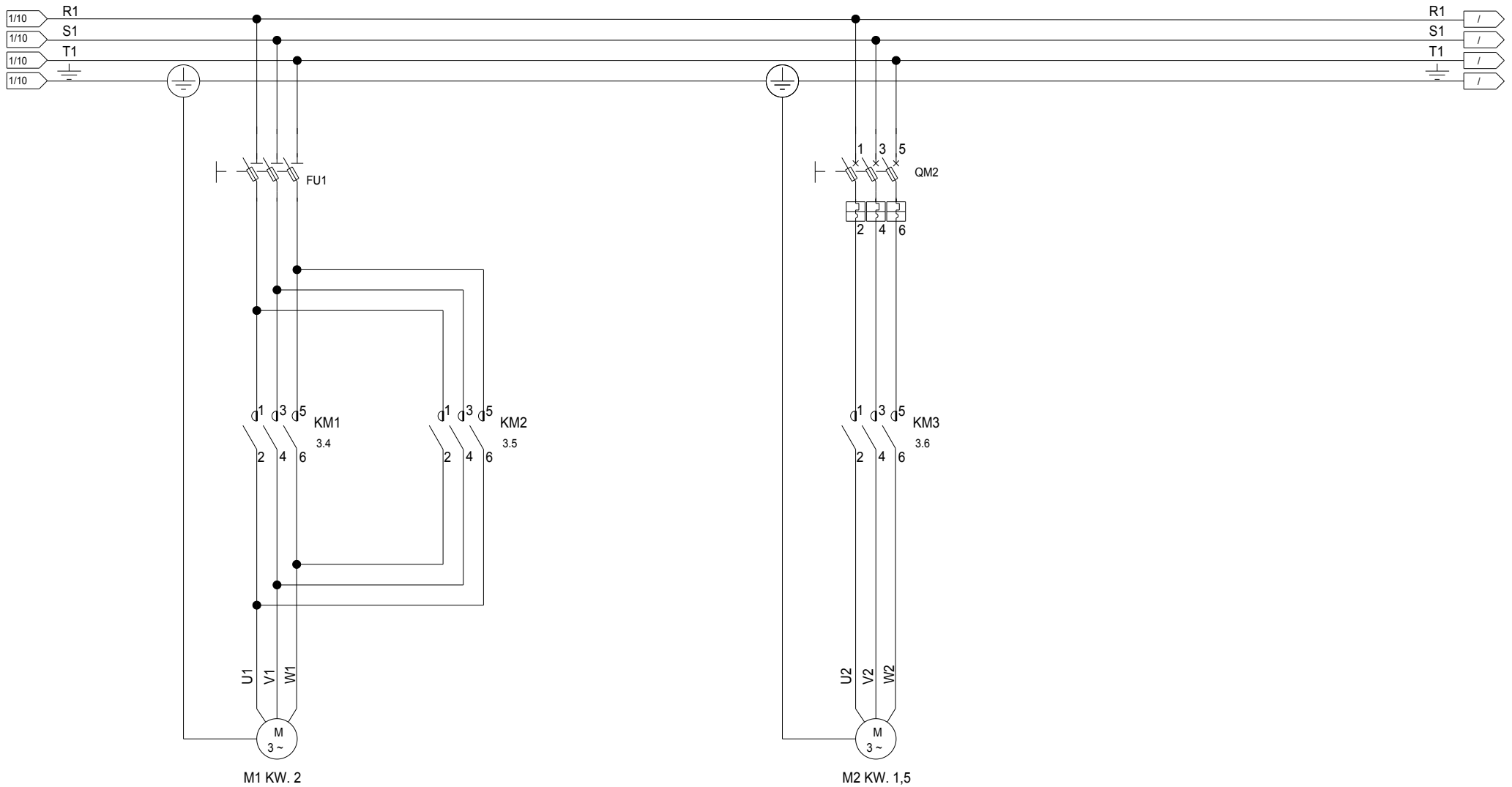
Tavola N°A - Rev. 1

750305071

SCHEMA ELETTRICO 1/5
ELECTRICAL SCHEME 1/5
SCHALTPLAN 1/5
SCHEMA ELECTRIQUE 1/5
ESQUEMA ELECTRICO 1/5

Pag. 41 di 63

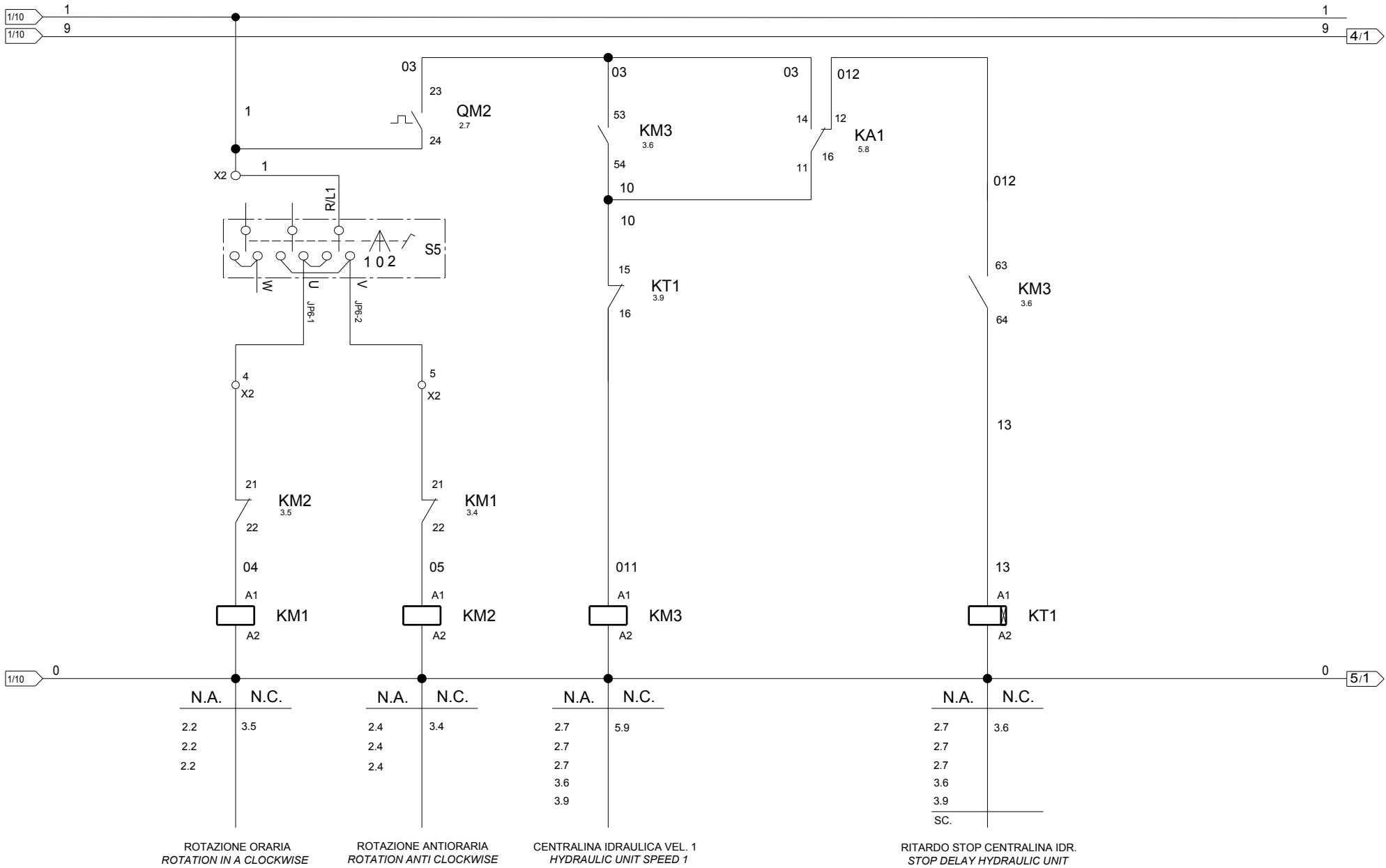
GRS926.MOVI

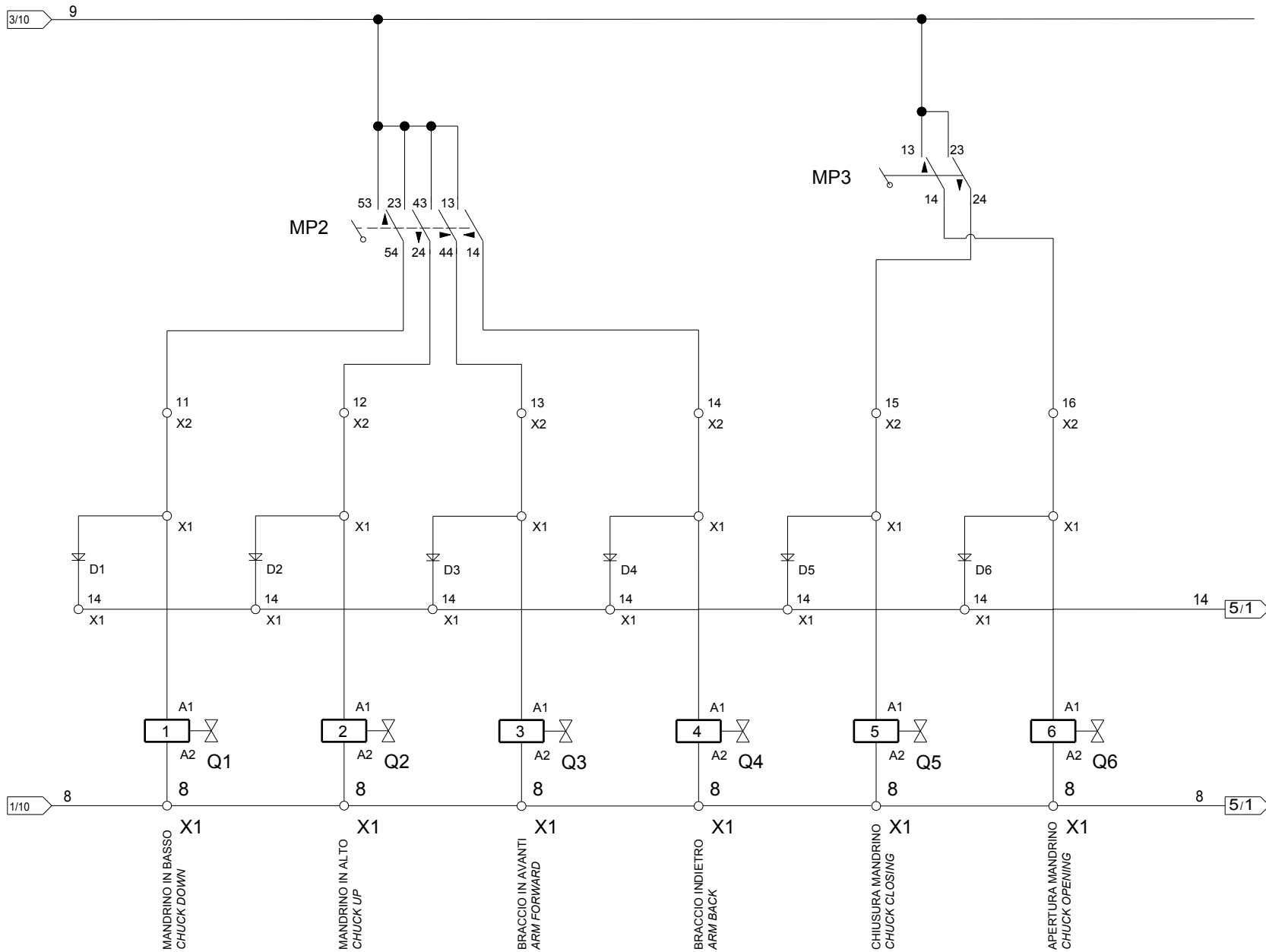


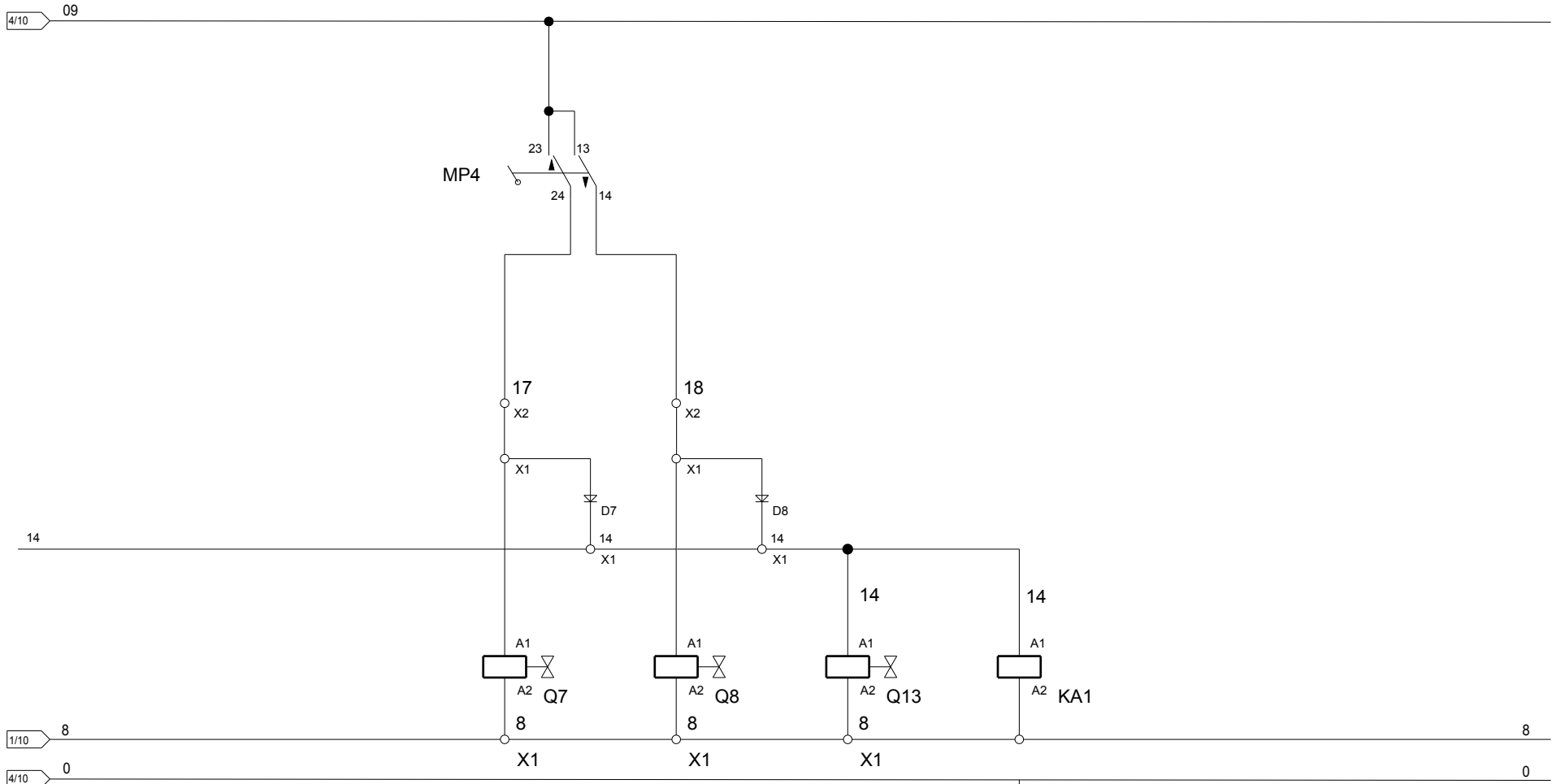
MOTORE ROTAZIONE
ROTATION MOTOR

MOTORE CENTRALINA IDRAULICA
HYDRAULIC UNIT MOTOR

 RAVAGLIOLI S.p.A.	LISTA DEI COMPONENTI - LIST OF COMPONENTS - TEILELISTE LISTE DES PIÈCES DÉTACHÉES - LISTA DE PIEZAS		SCHEMA ELETTRICO 2/5 ELECTRICAL SCHEME 2/5 SCHALTPLAN 2/5 SCHEMA ELECTRIQUE 2/5 ESQUEMA ELECTRICO 2/5	Pag. 42 di 63
	Tavola N°A - Rev. 1	750305071		GRS926.MOVI







CARICAMENTO +
RIBALTAMENTO AVANTI
LOADING + TURNOVER FORWARD

CARICAMENTO +
RIBALTAMENTO INDIETRO
LOADING + TURNOVER BACK

PRESSIONE
PRESSURE

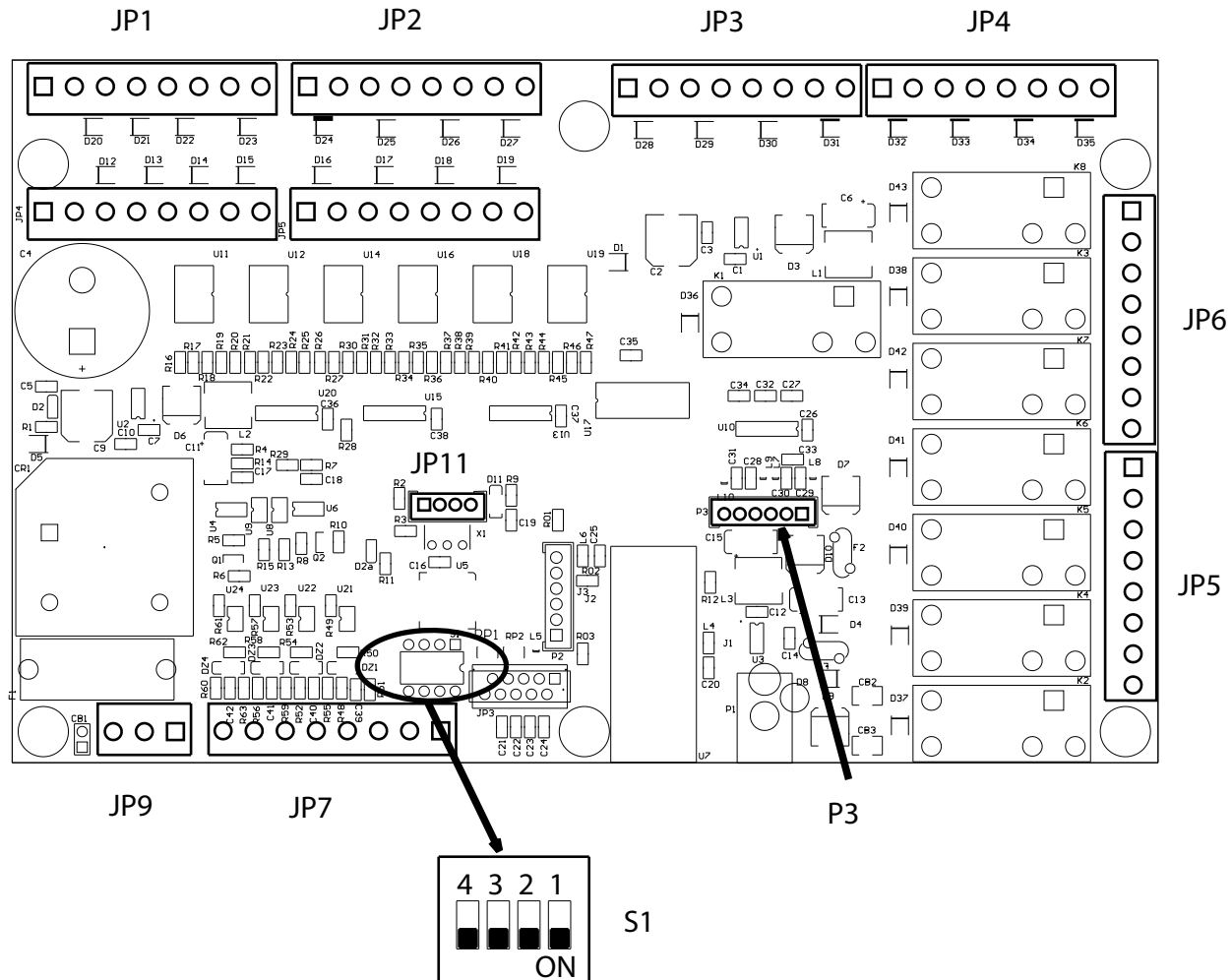
N.A.	N.C.
SC.	3.8

COMANDO CENTRALINA IDR.
CONTROL UNIT HYDRAULIC

 RAVAGLIOLI S.p.A.	LISTA DEI COMPONENTI - LIST OF COMPONENTS - TEILELISTE LISTE DES PIECES DETACHEES - LISTA DE PIEZAS		SCHEMA ELETTRICO 5/5 ELECTRICAL SCHEME 5/5 SCHALTPLAN 5/5 SCHEMA ELECTRIQUE 5/5 ESQUEMA ELECTRICO 5/5	Pag. 45 di 63 GRS926.MOVI
	Tavola N°A - Rev. 1	750305071		

TOPOGRAFICO SCHEDA RICEVENTE 18962

RECEIVING CARD 18962 TOPOGRAPHIC VIEW



IN / OUT SCHEDA RICEVENTE 18962

PIN JP1	NUMERO	FUNZIONE
1	JP1-1	Q1 MANDRINO GIU'
2	JP1-2	0V per Q1
3	JP1-3	Q2 MANDRINO SU
4	JP1-4	0V per Q2
5	JP1-5	Q7 CARICAM.+RIBALTAM. AVANTI
6	JP1-6	0V per Q7
7	JP1-7	Q8 CARICAM.+RIBALTAM.INDIETRO
8	JP1-8	0V per Q4

PIN JP2	NUMERO	FUNZIONE
1	JP2-1	Q5 CHIUSURA MANDRINO
2	JP2-2	0V per Q5
3	JP2-3	Q6 APERTURA MANDRINO
4	JP2-4	N.U.
5	JP2-5	N.U.
6	JP2-6	N.U.
7	JP2-7	N.U.
8	JP2-8	N.U.

PIN JP3	NUMERO	FUNZIONE
1	JP3-1	N.U.
2	JP3-2	N.U.
3	JP3-3	N.U.
4	JP3-4	N.U.
5	JP3-5	Q3 AVANTI BRACCIO
6	JP3-6	0V per Q3
7	JP3-7	Q4 INDIETRO BRACCIO
8	JP3-8	0V pe Q4

PIN JP4	NUMERO	FUNZIONE
1	JP4-1	Q13 RICIRCOLO OLIO
2	JP4-2	0V per Q13
3	JP4-3	N.U.
4	JP4-4	N.U.
5	JP4-5	N.U.
6	JP4-6	N.U.
7	JP4-7	N.U.
8	JP4-8	N.U.

PIN JP5	NUMERO	FUNZIONE
1	JP5-1	N.U.
2	JP5-2	N.U.
3	JP5-3	0 Vac
4	JP5-4	N.U.
5	JP5-5	N.U.
6	JP5-6	KM3 COMANDO ROTAZ. CENTRALINA
7	JP5-7	KM2 COMANDO ROTAZ. ORARIA MANDRINO
8	JP5-8	KM1 COMANDO ROTAZ. ANTIORARIA MANDRINO

PIN JP7	NUMERO	FUNZIONE
1	JP7-1	COLLEGATO A JP7-2
2	JP7-2	COLLEGATO A JP7-1
3	JP7-3	N.U.
4	JP7-4	N.U.
5	JP7-5	N.U.
6	JP7-6	N.U.
7	JP7-7	N.U.
8	JP7-8	N.U.

PIN JP9	NUMERO	FUNZIONE
1	JP9-1	0 Vac
2	JP9-2	N.U.
3	JP9-3	19 Vac

RECEIVING CARD 18962 IN/OUT

PIN JP1	NUMBER	FUNCTION
1	JP1 - 1	Q1 CHUCK DOWN
2	JP1 - 2	OV for Q1
3	JP1 - 3	Q1 CHUCK UP
4	JP1 - 4	OV for Q2
5	JP1 - 5	Q7 LOADING+TILTING FORWARD
6	JP1 - 6	OV for Q7
7	JP1 - 7	Q8 LOADING+TILTING BACKWARD
8	JP1 - 8	OV for Q4

PIN JP2	NUMBER	FUNCTION
1	JP2 - 1	Q5 CHUCK CLOSING
2	JP2 - 2	OV for Q5
3	JP2 - 3	Q6 CHUCK OPENING
4	JP2 - 4	N. U.
5	JP2 - 5	N. U.
6	JP2 - 6	N. U.
7	JP2 - 7	N. U.
8	JP2 - 8	N. U.

PIN JP3	NUMBER	FUNCTION
1	JP3 - 1	N. U.
2	JP3 - 2	N. U.
3	JP3 - 3	N. U.
4	JP3 - 4	N. U.
5	JP3 - 5	Q3 ARM FORWARD
6	JP3 - 6	OV for Q3
7	JP3 - 7	Q4 ARM BACKWARD
8	JP3 - 8	OV for Q4

PIN JP4	NUMBER	FUNCTION
1	JP4 - 1	Q13 OIL RECIRCULATION
2	JP4 - 2	OV for Q13
3	JP4 - 3	N. U.
4	JP4 - 4	N. U.
5	JP4 - 5	N. U.
6	JP4 - 6	N. U.
7	JP4 - 7	N. U.
8	JP4 - 8	N. U.

PIN JP5	NUMBER	FUNCTION
1	JP5 - 1	N. U.
2	JP5 - 2	N. U.
3	JP5 - 3	0 Vac
4	JP5 - 4	N. U.
5	JP5 - 5	N. U.
6	JP5 - 6	KM3 POWER UNIT ROTATION CONTROL
7	JP5 - 7	KM2 CHUCK CLOCKWISE ROTATION CONTROL
8	JP5 - 8	KM1 CHUCK COUNTERCLOCKWISE ROT. CONTROL

PIN JP7	NUMBER	FUNCTION
1	JP7 - 1	CONNECTED TO JP7-2
2	JP7 - 2	CONNECTED TO JP7-1
3	JP7 - 3	N. U.
4	JP7 - 4	N. U.
5	JP7 - 5	N. U.
6	JP7 - 6	N. U.
7	JP7 - 7	N. U.
8	JP7 - 8	N. U.

PIN JP9	NUMBER	FUNCTION
1	JP9 - 1	0 Vac
2	JP9 - 2	N. U.
3	JP9 - 3	19 Vac



RAVAGLIOLI S.p.A.

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

Tavola N°B - Rev. 4

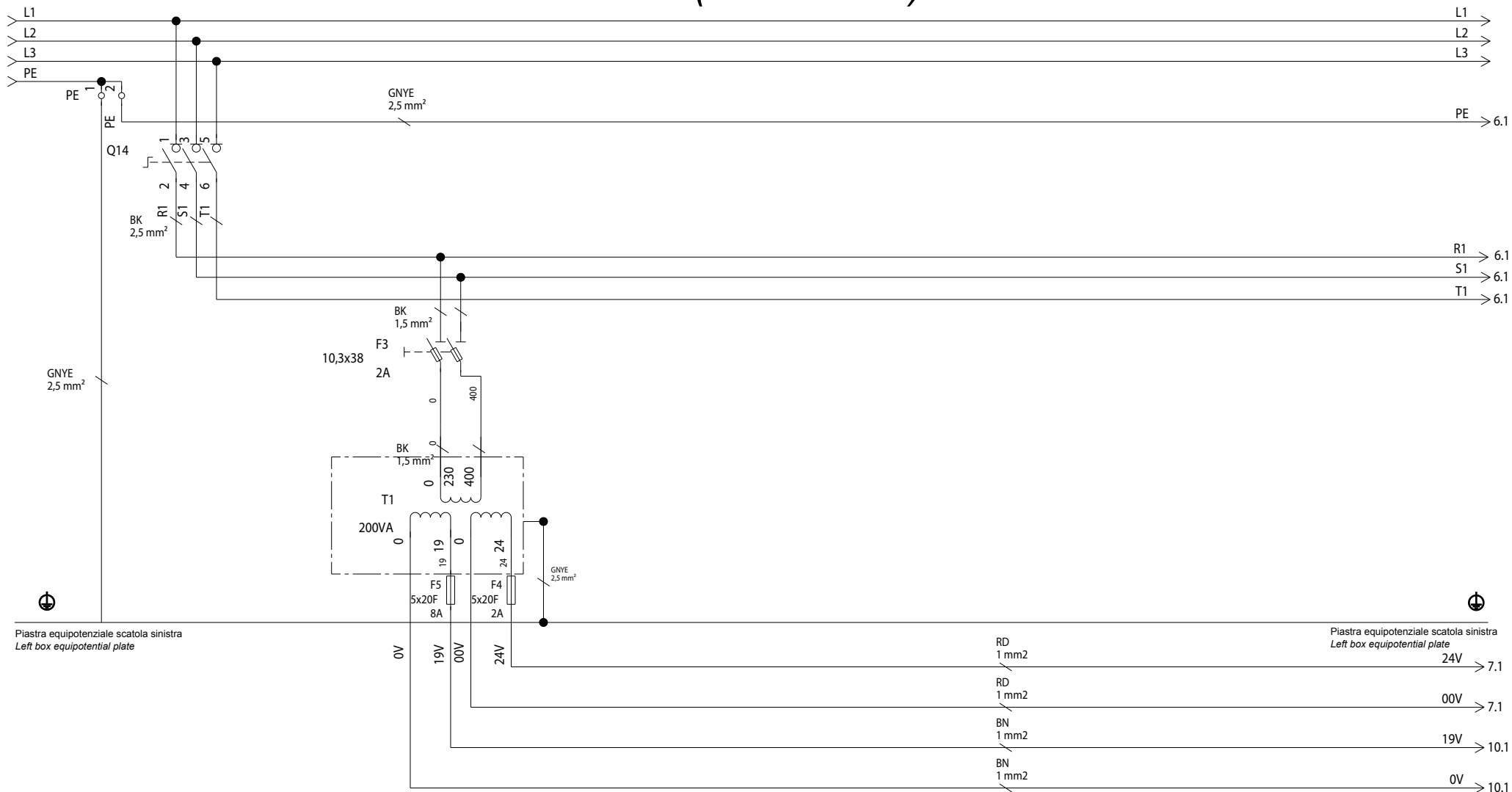
750305013

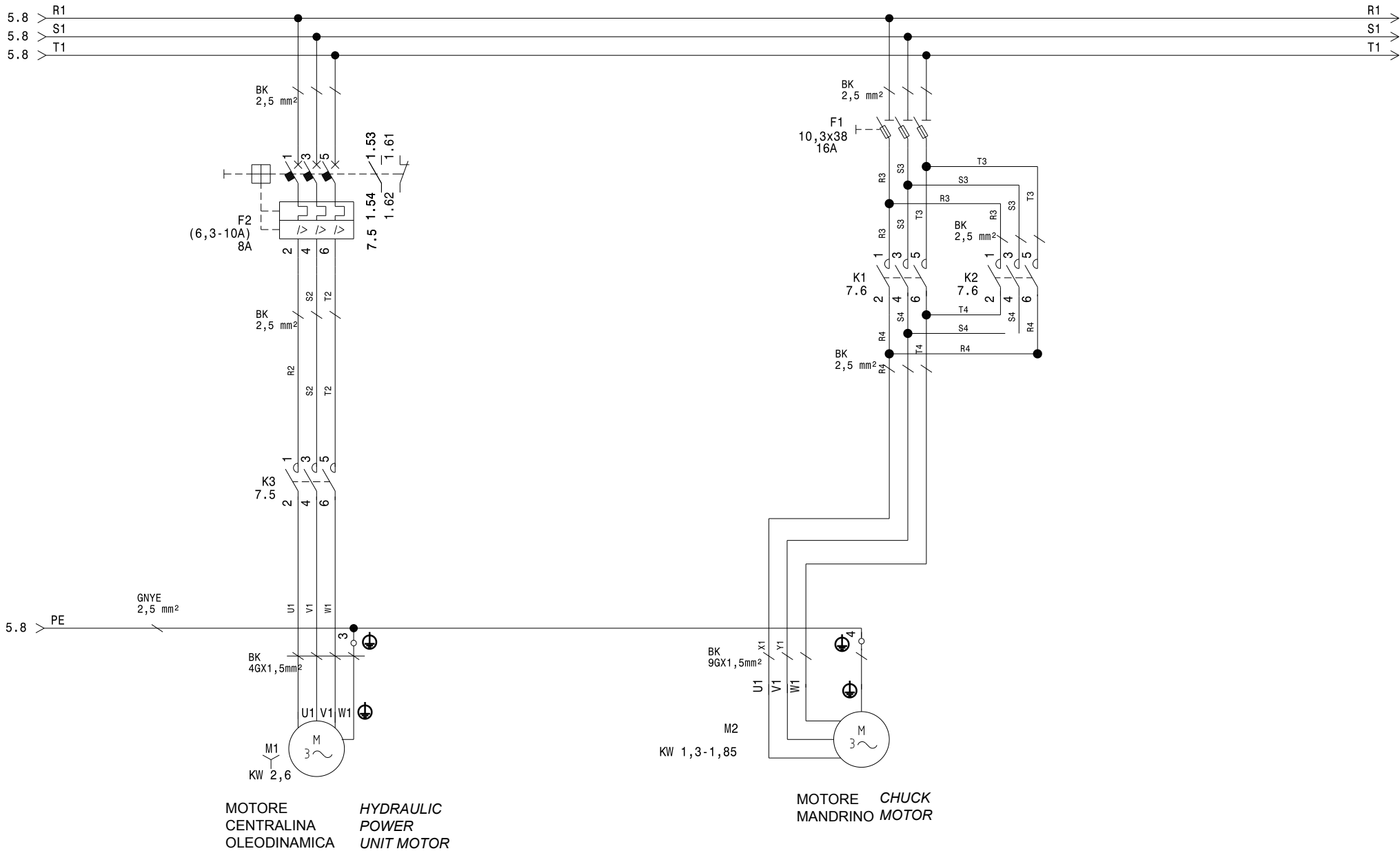
SCHEMA ELETTRICO (VARIANTE CONTROLLO BLUETOOTH) 3/16
ELECTRICAL SCHEME (BLUETOOTH CONTROLS VERSION) 3/16
SCHALTPLAN (BLUETOOTH-BEFEHL VERSION) 3/16
SCHEMA ELECTRIQUE (VERSION COMMANDE BLUETOOTH) 3/16
ESQUEMA ELECTRICO (VERSION CONTROL BLUETOOTH) 3/16

Pag. 48 di 63

GRS926.MOVI

SCHEMA CIRCUITI QUADRO ELETTRICO (RICEVITORE) ELECTRICAL PANEL (RECEIVER) CIRCUITS DIAGRAM



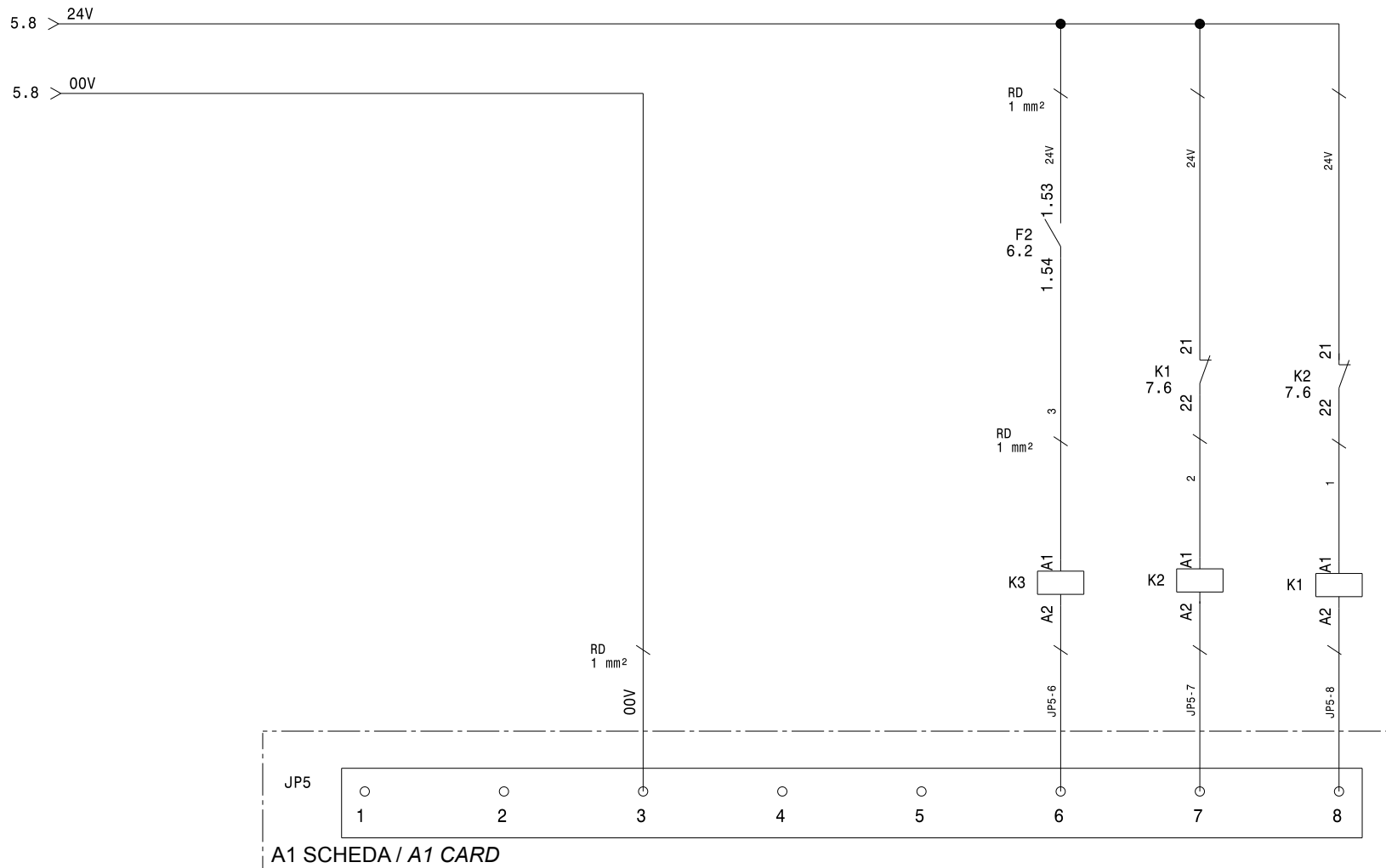


MOTORE
CENTRALINA
OLEODINAMICA

HYDRAULIC
POWER
UNIT MOTOR

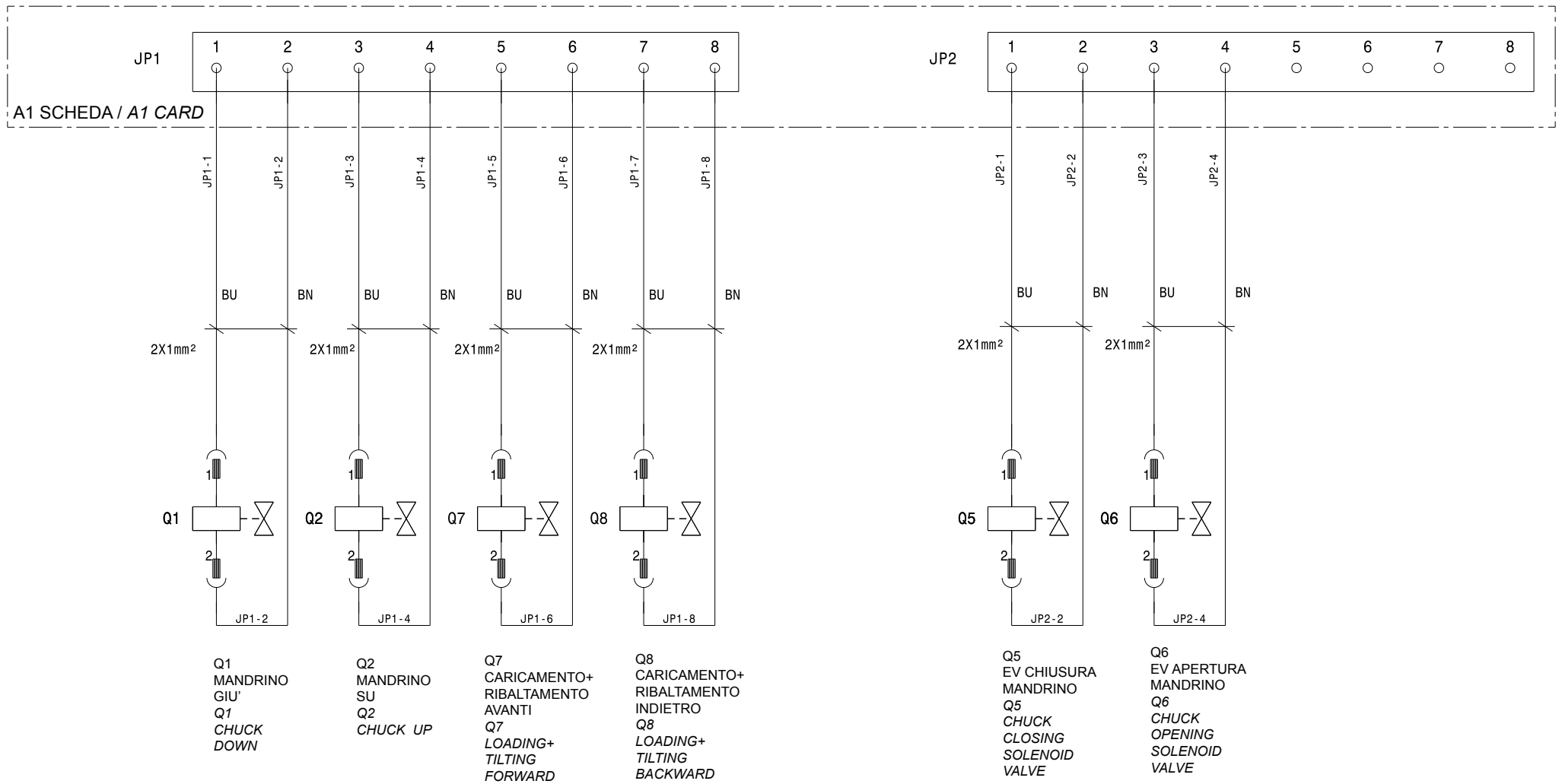
MOTORE CHUCK
MANDRINO MOTOR

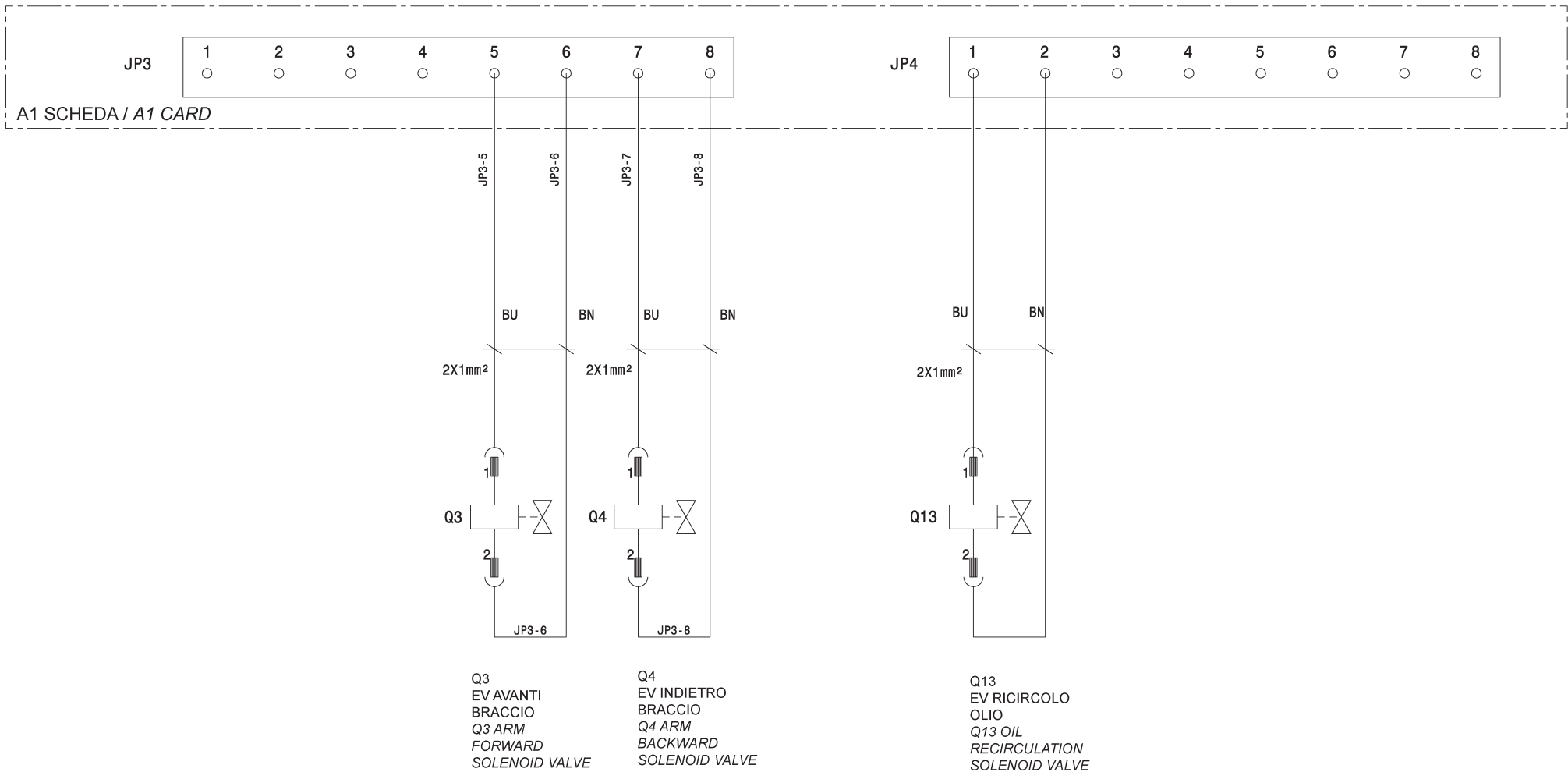
 RAVAGLIOLI S.p.A.	LISTA DEI COMPONENTI - LIST OF COMPONENTS - TEILELISTE LISTE DES PIÈCES DÉTACHÉES - LISTA DE PIEZAS		SCHEMA ELETTRICO (VARIANTE CONTROLLO BLUETOOTH) 5/16 ELECTRICAL SCHEME (BLUETOOTH CONTROLS VERSION) 5/16 SCHALTPLAN (BLUETOOTH-BEFEHL VERSION) 5/16 SCHEMA ELECTRIQUE (VERSION COMMANDE BLUETOOTH) 5/16 ESQUEMA ELECTRICO (VERSION CONTROL BLUETOOTH 5/16)	Pag. 50 di 63
	Tavola N°B - Rev. 4	750305013		GRS926.MOVI

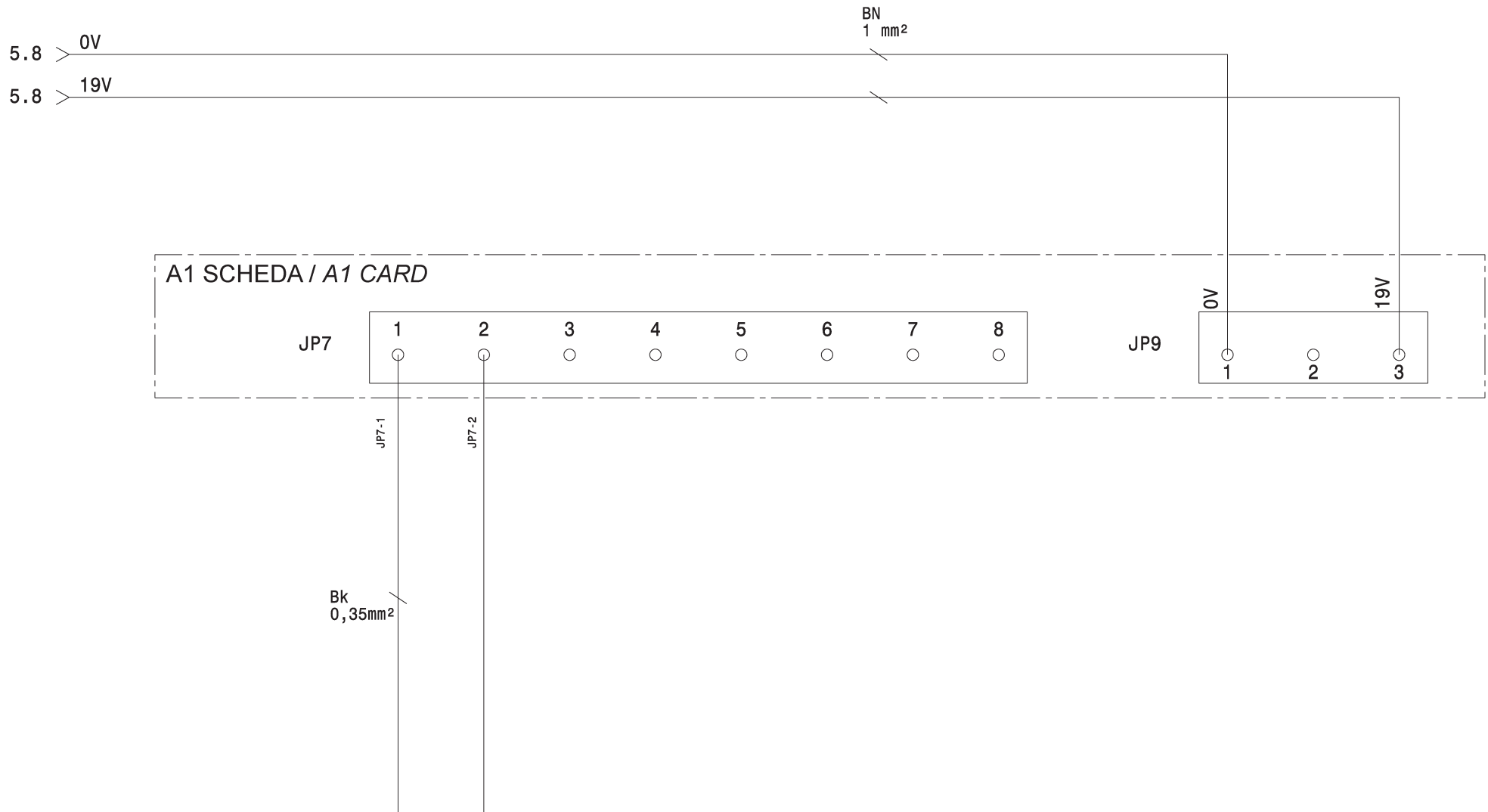


A1 SCHEDA / A1 CARD

COMANDO ROTAZIONE MOTORE CENTRALINA OLEODINAMICA CONTROL ROTATION MOTOR HYDRAULIC POWER UNIT	COMANDO ROTAZIONE ORARIA MANDRINO CHUCK CLOCKWISE ROTATION CONTROL	COMANDO ROTAZIONE ANTIORARIA MANDRINO CHUCK COUNTERCLOCKWISE ROTATION CONTROL
---	---	--







RAVAGLIOLI S.p.A.

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

Tavola N°B - Rev. 4

750305013

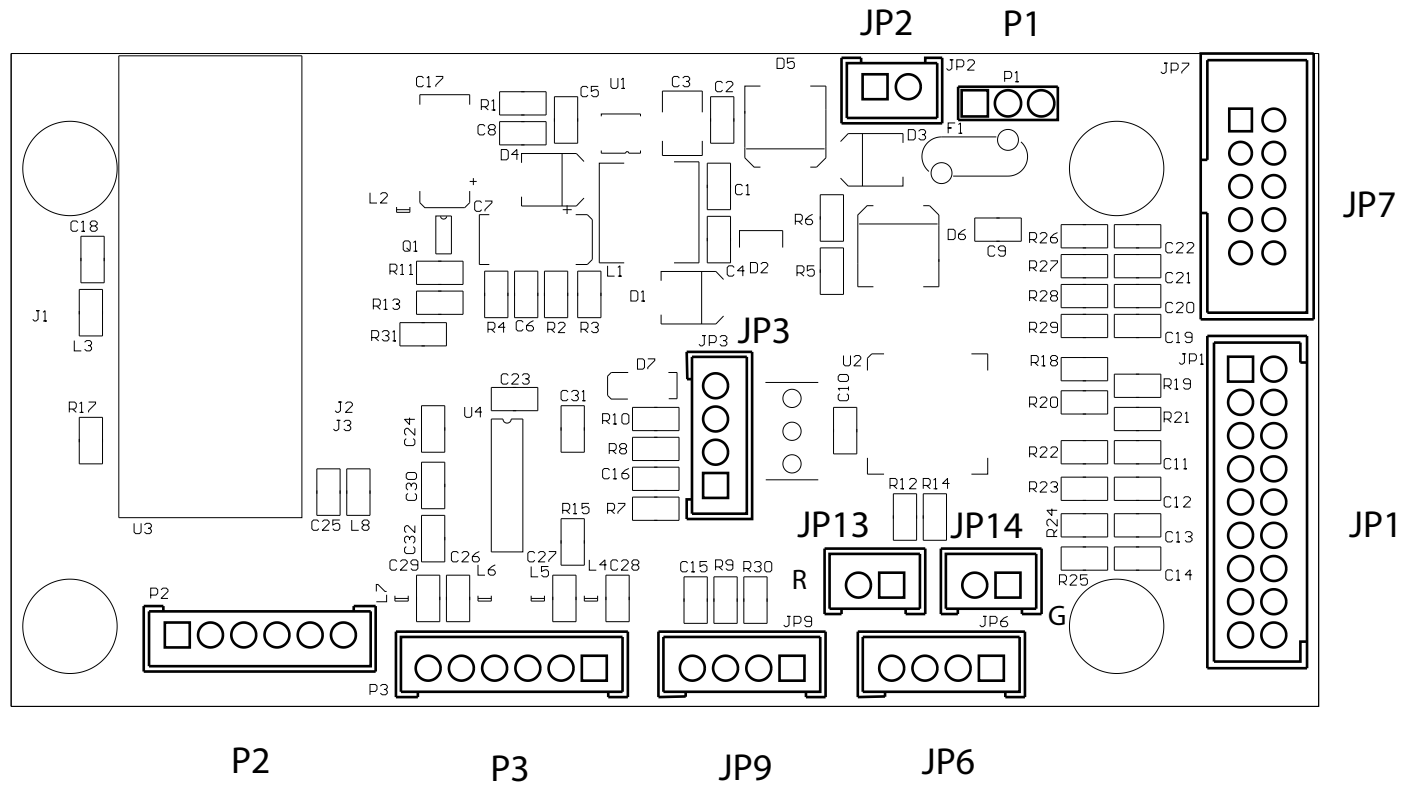
SCHEMA ELETTRICO (VARIANTE CONTROLLO BLUETOOTH) 9/16
ELECTRICAL SCHEME (BLUETOOTH CONTROLS VERSION) 9/16
SCHALTPLAN (BLUETOOTH-BEFEHL VERSION) 9/16
SCHEMA ELECTRIQUE (VERSION COMMANDE BLUETOOTH) 9/16
ESQUEMA ELECTRICO (VERSION CONTROL BLUETOOTH) 9/16

Pag. 54 di 63

GRS926.MOVI

TOPOGRAFICO SCHEDA TRASMITTENTE 18961

TRANSMITTING CARD 18961 TOPOGRAPHIC VIEW



 RAVAGLIOLI S.p.A.	LISTA DEI COMPONENTI - LIST OF COMPONENTS - TEILELISTE LISTE DES PIÈCES DÉTACHÉES - LISTA DE PIEZAS		SCHEMA ELETTRICO (VARIANTE CONTROLLO BLUETOOTH) 10/16 ELECTRICAL SCHEME (BLUETOOTH CONTROLS VERSION) 10/16 SCHALTPLAN (BLUETOOTH-BEFEHL VERSION) 10/16 SCHEMA ELECTRIQUE (VERSION COMMANDE BLUETOOTH) 10/16 ESQUEMA ELECTRICO (VERSION CONTROL BLUETOOTH 10/16)	Pag. 55 di 63
	Tavola N°B - Rev. 4	750305013		GRS926.MOVI

IN / OUT SCHEDA TRASMITTENTE 18961

TRANSMITTING CARD 18961 IN / OUT

PIN JP1	NUMERO	FUNZIONE
1	JP1-1	S3 CARIC.+RIB. AVANTI
2	JP1-2	S2 DISCESA MANDRINO
3	JP1-3	S3 CARIC.+RIB. INDIETRO
4	JP1-4	S2 SALITA MANDRINO
5	JP1-5	N.U.
6	JP1-6	S2 AVANTI BRACCIO UTENSILE
7	JP1-7	N.U.
8	JP1-8	S2 INDIETRO BRACCIO UTENSILE
9	JP1-9	S3 (COMUNE)
10	JP1-10	S2 (COMUNE)
11	JP1-11	S4 (COMUNE)
12	JP1-12	N.U.
13	JP1-13	S4 APERTURA MANDRINO MANDRINO
14	JP1-14	N.U.
15	JP1-15	S4 CHIUSURA MANDRINO
16	JP1-16	N.U.
17	JP1-17	N.U.
18	JP1-18	N.U.

PIN JP1	NUMBER	FUNCTION
1	JP1-1	S3 LOADING+TILTING FORWARD
2	JP1-2	S2 CHUCK DESCENT
3	JP1-3	S3 LOADING+TILTING BACKWARD
4	JP1-4	S2 CHUCK RISE
5	JP1-5	N.U.
6	JP1-6	S2 TOOL ARM FORWARD
7	JP1-7	N.U.
8	JP1-8	S2 TOOL ARM BACKWARD
9	JP1-9	S3 (COMMON)
10	JP1-10	S2 (COMMON)
11	JP1-11	S4 (COMMON)
12	JP1-12	N.U.
13	JP1-13	S4 CHUCK OPENING
14	JP1-14	N.U.
15	JP1-15	S4 CHUCK CLOSING
16	JP1-16	N.U.
17	JP1-17	N.U.
18	JP1-18	N.U.

PIN JP6	NUMERO	FUNZIONE
1	JP6-1	S1 ROTAZ.ANTIOR. MANDRINO
2	JP6-2	S1 ROTAZ.ORARIA MANDRINO
3	JP6-3	N.U.
4	JP6-4	S5 COMUNE

PIN JP6	NUMBER	FUNCTION
1	JP6-1	S1 CHUCK COUNTERCLOCKWISE ROT.
2	JP6-2	S1 CHUCK CLOCKWISE ROTATION
3	JP6-3	N.U.
4	JP6-4	S5 COMMON

PIN JP2	NUMERO	FUNZIONE
1	JP2-1	G2 BATTERIA -
2	JP2-2	G2 BATTERIA +

PIN JP2	NUMBER	FUNCTION
1	JP2-1	G2 BATTERY -
2	JP2-2	G2 BATTERY +

P1	NUMERO	FUNZIONE
X1		0-12Vdc

P1	NUMBER	FUNCTION
X1		0-12Vdc

PIN JP9	NUMERO	FUNZIONE
1	JP9-1	N.U.
2	JP9-2	N.U.
3	JP9-3	S3 (COMUNE)
4	JP9-4	N.U.

PIN JP9	NUMBER	FUNCTION
1	JP9-1	N.U.
2	JP9-2	N.U.
3	JP9-3	S3 (COMMON)
4	JP9-4	N.U.

PIN JP13	NUMERO	FUNZIONE
1	JP13-1	P2 LED ROSSO +
2	JP13-2	P2 LED ROSSO -

PIN JP13	NUMBER	FUNCTION
1	JP13-1	P2 RED LED +
2	JP13-2	P2 RED LED -

PIN JP14	NUMERO	FUNZIONE
1	JP14-1	P3 LED VERDE +
2	JP14-2	P3 LED VERDE -

PIN JP14	NUMBER	FUNCTION
1	JP14-1	P2 GREEN LED +
2	JP14-2	P2 GREEN LED -



RAVAGLIOLI S.p.A.

LISTA DEI COMPONENTI - LIST OF COMPONENTS - TEILELISTE
LISTE DES PIECES DETACHEES - LISTA DE PIEZAS

Tavola N°B - Rev. 4

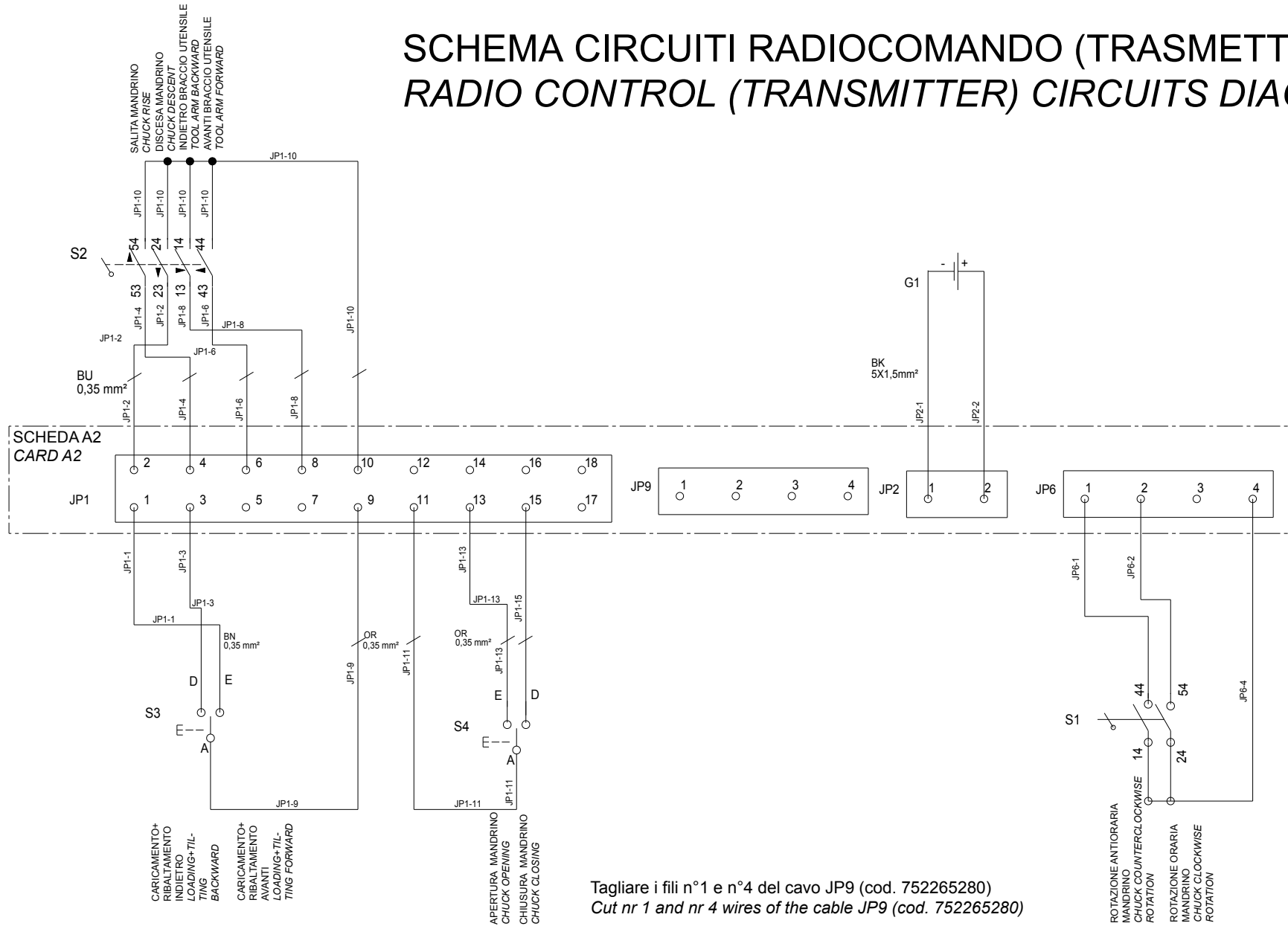
750305013

SCHEMA ELETTRICO (VARIANTE CONTROLLO BLUETOOTH) 11/16
ELECTRICAL SCHEME (BLUETOOTH CONTROLS VERSION) 11/16
SCHALTPLAN (BLUETOOTH-BEFEHL VERSION) 11/16
SCHEMA ELECTRIQUE (VERSION COMMANDE BLUETOOTH) 11/16
ESQUEMA ELECTRICO (VERSION CONTROL BLUETOOTH) 11/16

Pag. 56 di 63

GRS926.MOVI

SCHEMA CIRCUITI RADIOCOMANDO (TRASMETTITORE) RADIO CONTROL (TRANSMITTER) CIRCUITS DIAGRAM



Tagliare i fili n°1 e n°4 del cavo JP9 (cod. 752265280)
Cut nr 1 and nr 4 wires of the cable JP9 (cod. 752265280)

SCHEDA A2
CARD A2

JP13

1 2

JP14

1 2

X1

RD
0,35 mm²

BK
0,35 mm²

P2
RD

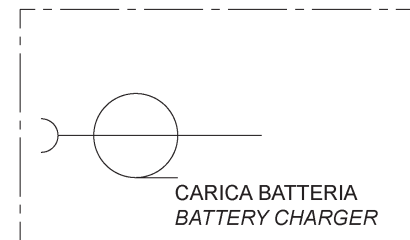
INDICATORE BATTERY
STATO CONDITION
BATTERIA INDICATOR

RD
0,35 mm²

BK
0,35 mm²

P3
GN

INDICATORE COMMUNICATION
STATO CONDITION
COMUNICAZIONE INDICATOR



RAVAGLIOLI S.p.A.

LISTA DEI COMPONENTI - LIST OF COMPONENTS - TEILELISTE
LISTE DES PIECES DETACHEES - LISTA DE PIEZAS

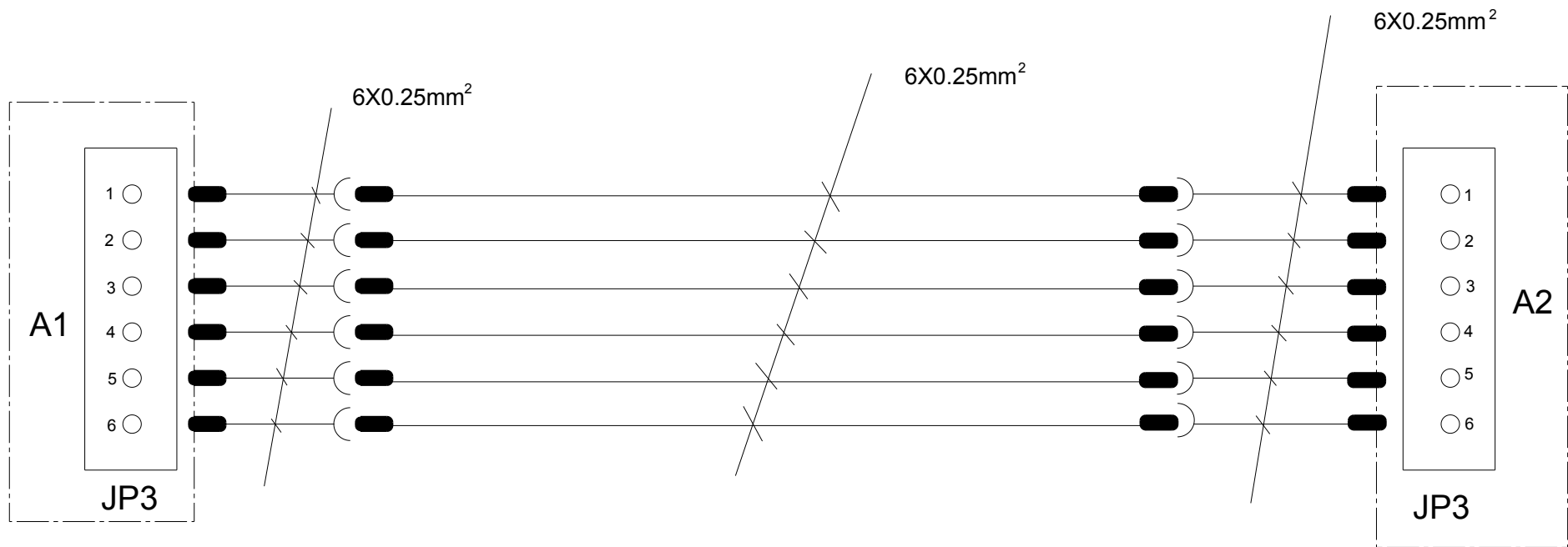
Tavola N°B - Rev. 4

750305013

SCHEMA ELETTRICO (VARIANTE CONTROLLO BLUETOOTH) 13/16
ELECTRICAL SCHEME (BLUETOOTH CONTROLS VERSION) 13/16
SCHALTPLAN (BLUETOOTH-BEFEHL VERSION) 13/16
SCHEMA ELECTRIQUE (VERSION COMMANDE BLUETOOTH) 13/16
ESQUEMA ELECTRICO (VERSION CONTROL BLUETOOTH) 13/16

Pag. 58 di 63

GRS926.MOVI



 RAVAGLIOLI S.p.A.	LISTA DEI COMPONENTI - LIST OF COMPONENTS - TEILELISTE LISTE DES PIÈCES DÉTACHÉES - LISTA DE PIEZAS		SCHEMA ELETTRICO (VARIANTE CONTROLLO BLUETOOTH) 14/16 ELECTRICAL SCHEME (BLUETOOTH CONTROLS VERSION) 14/16 SCHALTPLAN (BLUETOOTH-BEFEHL VERSION) 14/16 SCHEMA ELECTRIQUE (VERSION COMMANDE BLUETOOTH) 14/16 ESQUEMA ELECTRICO (VERSION CONTROL BLUETOOTH 14/16)	Pag. 59 di 63
	Tavola N°B - Rev. 4	750305013	GRS926.MOVI	

LISTA COMPONENTI

RIFERIMENTO	DESCRIZIONE	DATI TECNICI	QUANTITA
A1	SCHEDA ELETT. RICEVENTE	-	1
A2	SCHEDA ELETT. TRASMITTENTE		1
F1	PORTAFUSIBILE	3 POLI SEZIONABILE 10,3x38 32A 690V	1
	FUSIBILE	10,3x38 16A 500V aM RITARDATO	3
F2	INTERRUTT. 4-6.3A art.GV2 ME10	4-6.3A AC 400V 0.06-37KW	1
	CONTATTI AUX	1NO+1NC ATTACCO FRONTALE	1
F3	PORTAFUSIBILE	2 POLI SEZIONABILE 10,3x38 32A 690V	1
	FUSIBILE	10,3X38 2A 500V RAPIDO	2
F4	FUSIBILE	5x20F 250V 2A RAPIDO	1
F5	FUSIBILE	5x20F 250V 8A RAPIDO	1
F6	FUSIBILE	5X20 T 8A 250V	1
G1	BATTERIA	6V 3,3AH/20HR Lead	1
K1	CONTATTORE TRIPOLARE	9A AC3 400V 4,2KW 1NC 24Vac 50/60Hz	1
K2	CONTATTORE TRIPOLARE	9A AC3 400V 4,2KW 1NC 24Vac 50/60Hz	1
K3	CONTATTORE TRIPOLARE	9A AC3 400V 4,2KW 1NC 24Vac 50/60Hz	1
P2	INDICATORE LUMINOSO (LED)	ROSSO	1
P3	INDICATORE LUMINOSO (LED)	VERDE	1
Q1...Q13	ELETTROVALVOLE	-	13
Q14	SEZIONATORE TRIPOLARE	1th 32A Ui 690V-50Hz Uimp 4KW	1
S1	MANIPOLATORE	4 POS.+CENTR.TEMPORANEE Ø22	1
S2	MANIPOLATORE	2 POS.+CENTR.TEMPORANEE Ø22	1
S3	PULSANTE BASCULANTE	-	1
S4	PULSANTE BASCULANTE	-	1
T1	TRASFORMATORE	200 VA 50/60 Hz PRI: 0/230/400V SEC: 0/19V 8,95A 0/24V 1,25A	1
-	-	-	-
T3	CARICABATTERIA	21.6W 7.2V 3A Lithium ion	1
M1	MOTORE CENTRALINA	90S4 B3DX B14 KW 2.2 230/400V 50HZ S3 30% CL.F IP54	1
M2	MOTORE MANDRINO	KW 2 T400/50 B3 G90L 450 1410 RPM	1
	GR. CAVO DI COLLEGAMENTO 750390730		1
			1

COMPONENTS LIST

REFERENCE	DESCRIPTION	TECHNICAL SPECIFICATIONS	QUANTITY
A1	RECEIVING ELECTRICAL CARD	-	1
A2	TRANSMITTING ELECTRICAL CARD		1
F1	FUSE HOLDER	10,3x38 32A 690V SECTIONABLE 3 POLES	1
	FUSE	10,3x38 16A 500V aM DELAYED	3
F2	4-6.3A art.GV2 ME10 SWITCH	4-6.3A AC 400V 0.06-37KW	1
	AUXILIARY CONTACTS	1NO+1NC FRONT COUPLING	1
F3	FUSE HOLDER	10,3x38 32A 690V 2 POLES SECTIONABLE	1
	FUSE	10,3x38 2A 500V RAPID	2
F4	FUSE	5x20F 250V 2A RAPID	1
F5	FUSE	5x20F 250V 8A RAPID	1
F6	FUSE	5X20 T 8A 250V	1
G1	BATTERY	6V 3,3AH/20HR Lead	1
K1	TRIPOLAR CONTACTOR	9A AC3 400V 4,2KW 1NC 24Vac 50/60Hz	1
K2	TRIPOLAR CONTACTOR	9A AC3 400V 4,2KW 1NC 24Vac 50/60Hz	1
K3	TRIPOLAR CONTACTOR	9A AC3 400V 4,2KW 1NC 24Vac 50/60Hz	1
P2	BACKLIGHTED INDICATOR (LED)	RED	1
P3	BACKLIGHTED INDICATOR (LED)	GREEN	1
Q1...Q13	SOLENOID VALVES	-	13
Q14	TRIPOLAR KNIFE SWITCH	Ith 32A Ui 690V-50Hz Uimp 4KW	1
S1	HANDLE CONTROL	4 POS.+ CENTRAL POS. TEMPORARY Ø22	1
S2	HANDLE CONTROL	2 POS.+ CENTRAL POS. TEMPORARY Ø 22	1
S3	BALANCING PUSHBUTTON	-	1
S4	BALANCING PUSHBUTTON	-	1
T1	TRANSFORMER	200 VA 50/60 Hz PRI: 0/230/400V SEC: 0/19V 8,95A 0/24V 1,25A	1
-	-	-	-
T3	BATTERY CHARGER	21.6W 7.2V 3A Lithium ion	1
M1	HYDRAULIC POWER UNIT MOTOR	90S4 B3DX B14 KW 2.2 230/400V 50HZ S3 30% CL.F IP54	1
M2	MANDREL MOTOR	KW 2 T400/50 B3 G90L 450 1410 RPM	1
	CONNECTION CABLE UNIT 750390730		1
			1



RAVAGLIOLI S.p.A.

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

Tavola N°B - Rev. 4

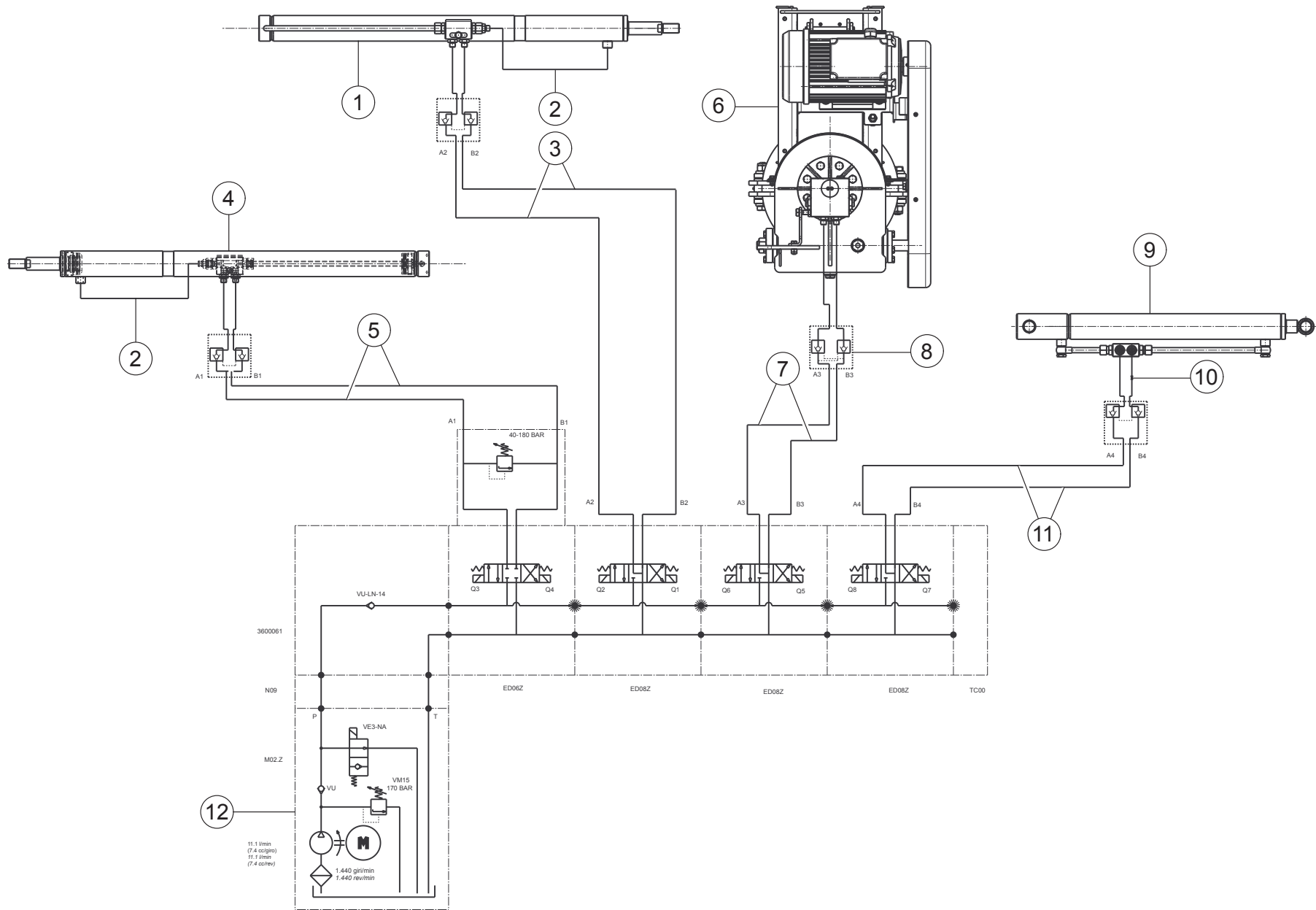
750305013

SCHEMA ELETTRICO (VARIANTE CONTROLLO BLUETOOTH) 16/16
ELECTRICAL SCHEME (BLUETOOTH CONTROLS VERSION) 16/16
SCHALTPLAN (BLUETOOTH-BEFEHL VERSION) 16/16
SCHEMA ELECTRIQUE (VERSION COMMANDE BLUETOOTH) 16/16
ESQUEMA ELECTRICO (VERSION CONTROL BLUETOOTH) 16/16

Pag. 61 di 63

GRS926.MOVI

7503-M001-08





Dichiarazione di Conformità

Declaration of Conformity
Konformitätserklärung
Déclaration de Conformité
Declaración de Conformidad



Noi
We / Wir / Nous / Nosotros

RAVAGLIOLI S.p.A.
via 1° Maggio , 3
40037 Pontecchio Marconi (Bologna) – ITALIA

dichiariamo sotto la nostra esclusiva responsabilità che il prodotto

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

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

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

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

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

Per la conformità alle suddette direttive sono state seguite le seguenti norme armonizzate:

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

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

La persona preposta a costituire il fascicolo tecnico è RAVAGLIOLI S.p.A.

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

Pontecchio Marconi,

Il modello della presente dichiarazione è conforme alla norma

The version of this declaration conforms to the regulation
Das Modell der vorliegenden Erklärung entspricht der Norm
Le modèle de la présente déclaration est conforme à la norme
El modelo de la presente declaración cumple la norma

UNI CEI EN ISO/IEC 17050-1