

WARNINGS

The present instructions booklet is an integral part of the product. Carefully study the warnings and instructions contained in it. This information is important for safe use and maintenance. Conserve this booklet carefully for further consultation.

THE MACHINE IS A TYRE CHANGING MACHINE DESIGNED AND CONSTRUCTED TO BE USED FOR MOUNTING AND DEMOUNTING TYRES ON THE WHEEL RIMS OF TRUCKS, INDUSTRIAL VEHICLES, AGRICULTURAL VEHICLES AND EARTH MOVING VEHICLES (Max. wheel diameter 2300mm, Max wheel width 1300mm).

THE MACHINE HAS BEEN DESIGNED TO OPERATE WITHIN THE LIMITS DESCRIBED IN THIS BOOKLET AND IN ACCORDANCE WITH THE MAKER'S INSTRUCTIONS.

The machine must be used only for the purpose for which it was expressly designed. Any other use is considered wrong and therefore unacceptable. The maker cannot be held responsible for eventual damage caused by improper, erroneous, or unacceptable use.

IMPORTANT: The machine (on request) may be operated only by suitably trained personnel. Any work on the electrical, hydraulic, or pneumatic systems must be conducted only by professionally qualified personnel.

It is absolutely prohibited to carry out tyre inflation procedures while the wheel is still on the machine!

At least two people are required for the movement of particularly heavy wheels!

It may be operated only by suitably trained personnel. Any work on the electrical, hydraulic, or pneumatic system must be conducted only by professionally qualified personnel.

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TECHNICAL CHARACTERISTICS

TECHNICAL DATA

DIMENSIONS

Height min/max 870~1750mm
Depth 1900mm
Width min/max 2100~2600mm

WEIGHT

Net weight 984kg
Gross weight 1150kg

REDUCTION MOTOR

Power 2.2/3kW
Phases 3 ~
Electrical supply AC 380V

NOISE LEVEL ≤ 75 db

HYDRAULIC UNIT MOTOR

Power 1.1kW
Electrical supply AC 380V

PNEUMATIC SUPPLY

Service pressure min/max 8-12 bar 800-1200 kPa

RANGE OF APPLICATIONS

The machine can operate on wheels having the following minimum and maximum dimensions:

	min/max
Work on wheels of.....	14" ~42"
With jaw extensions (optional).....	42" ~52"
Max.wheel diameter.....	2300mm
Max.wheel width.....	1085mm

TECHNICAL CHARACTERISTICS

Illustrations of the principal component parts

1 FOUR-JAW UNIVERSAL CHUCK

With two rotation speeds in both directions. Pressure adjustable hydraulic opening and closing.

2 LOCKING JAW

The jaw was designed to give different gripping possibilities (See illustrations pg.14-20)

3 MOBILE CONTROL UNIT

The controls are combined on a remote mobile control unit with which the operations are coordinated.

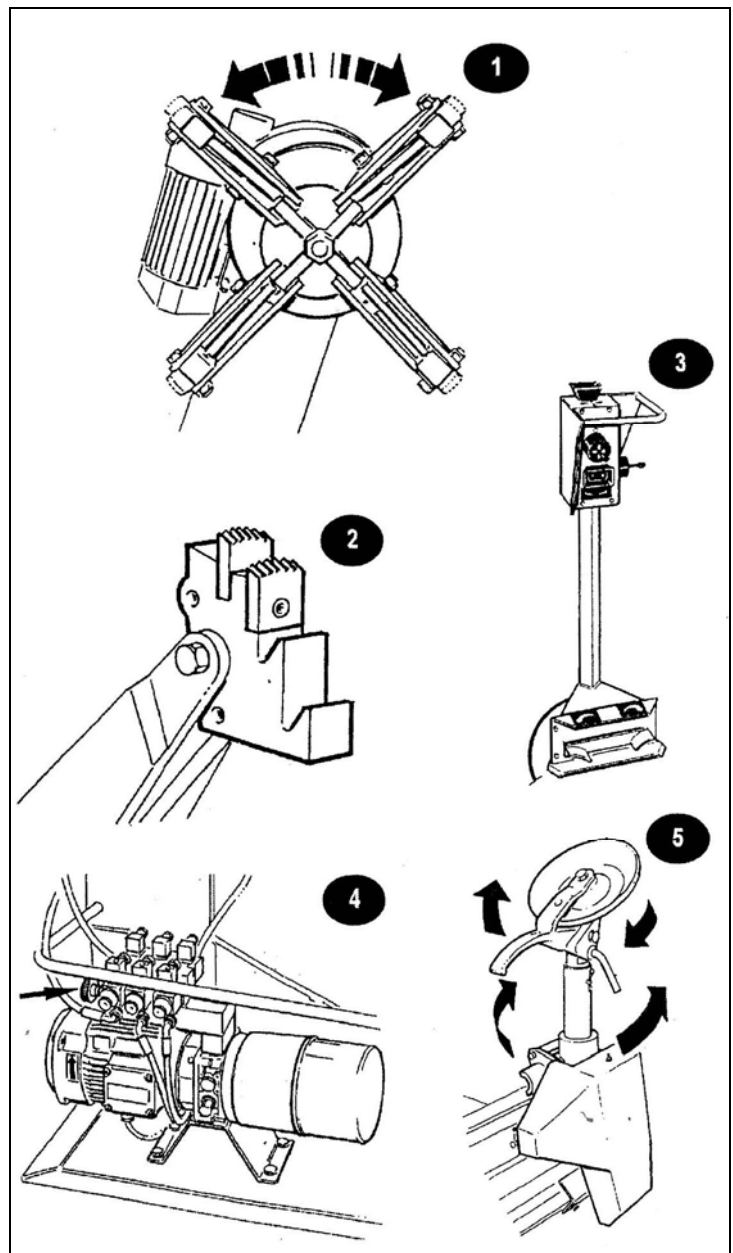
4 HYDRAULIC UNIT

By regulating the operating pressure of the chuck, the unit allows safe working conditions even on the various types of alloy rim.

5 WORKING ARM

A quick rotation system helps changes in operation

during the various stages of bead-breaking. Tool-assisted extraction of tyre, etc.



ACCESSORIES PROVIDED

BEAD LIFTING LEVER (fig.6)

A tool necessary for lifting the tyre bead onto the head during demounting (see instructions on pg. 24)

RIM PINCERS (fig. 7)

These are used when mounting tubeless and supersingle tyres.

N.B

The box containing the accessories supplied is Contained in the machine packing(fig.8)

ACCESSORIES ON REQUEST

1.NYLON PROTECTORS (fig.9)

These are special protector for aluminum(and light alloy)rims for mounting on the jaws (series of 4 parts).

2.CLAMPS (2 parts) (fig.10)

Serve for clamping bead rings onto the wheel rim.

3.TUBELESS ROLLER (fig. 11)

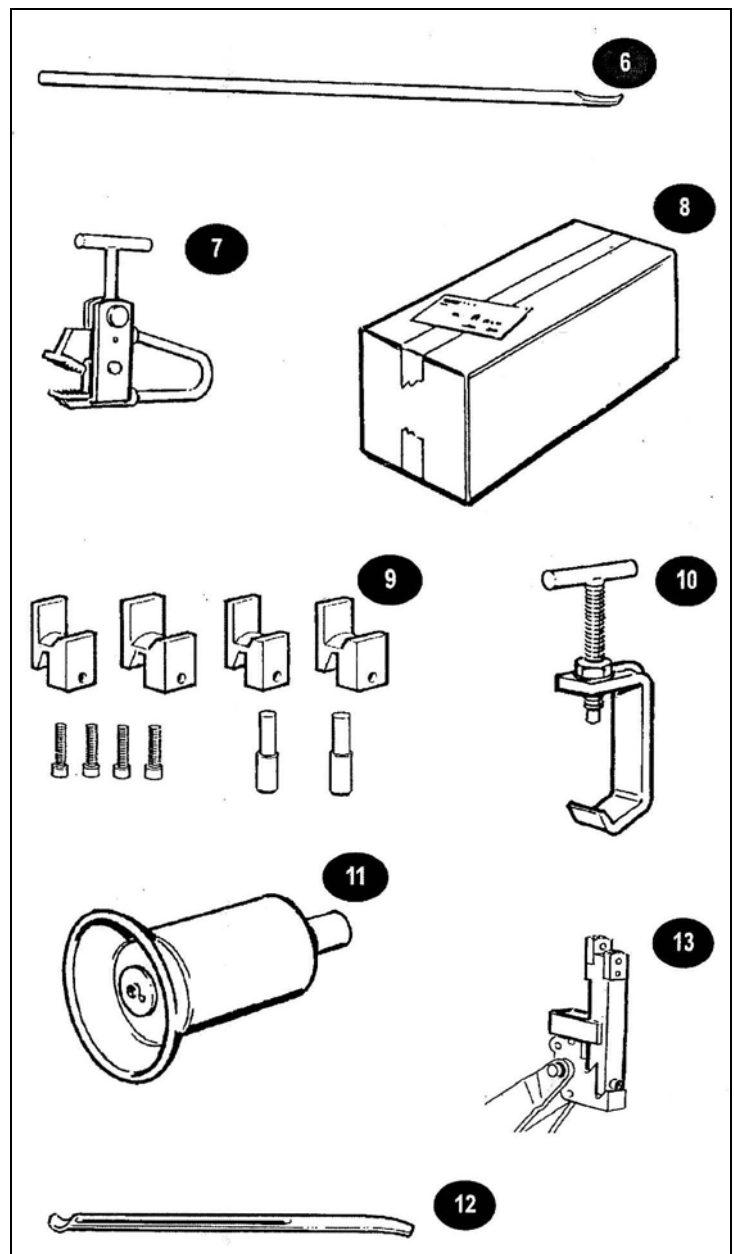
To assist in bead-breaking of tubeless tyres.

4.BEAD RING LEVERS AND CLAMPS (fig. 12)

Used for freeing bead locking rings.

5.52 " EXTENSIONS (fig.13)

These are special extensions required when working on wheels of 52 " (see pg. 20)



INSTALLATION

Unpacking, movement and location operations.

UNPACKING (fig. 14)

On receipt of the machine, (fig. 14) remove the packing(taking care when removing the straps) and check the machine visually for missing or damaged parts. If indoubt do not use the machine and refer to professionally qualified personnel and/or to the seller.

!.The packing materials (timber, plastic bags, pluriball.polythene, nails, staples, etc) must not be left within reach of children since they are potentially dangerous.

Deposit the above mentioned materials at the relevant collection points if they are pollutants or are non biodegradable.

MOVEMENT (fig. 15)

For installation and ulterior movement of the machine, follow the following instructions:harness with cables (one of 1.5m and one of 2m) at the two points indicated in fig. 15,maintaining the distance shown (450 mm) in fig. 15.lift with a hoist of suitable strength.

Net weight.....984 kg

N.B: Whenever it is necessary to move the machine take all precautions necessary to guarantee safe conditions.

LOCATION (fig.16)

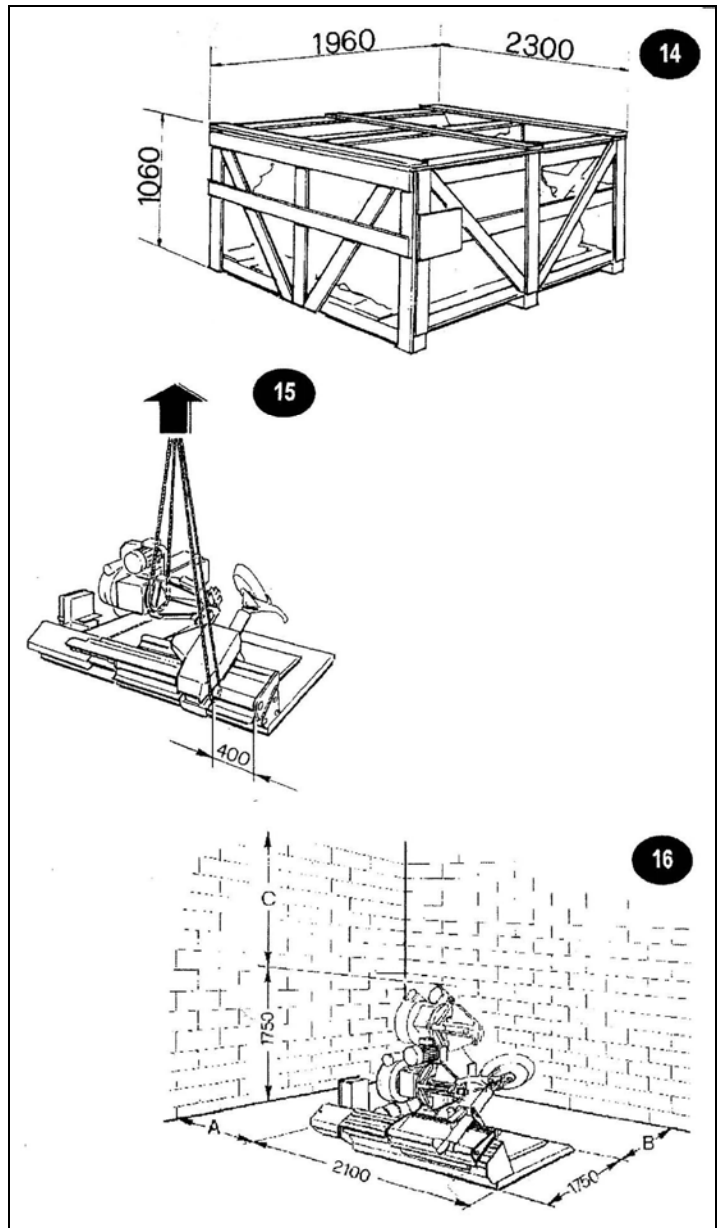
OVERALL DIMENSIONS:

Max height.....1750mm
depth.....1900mm.
max.width.....2600 mm

SAFE DISTANCE:

For the safe and ergonomic use of the machine, it is advisable to locate it so as to allow work, using the remote control, in conditions of complete safety.

See Fig. 16 dimensions A-B-C



INSTALLATION

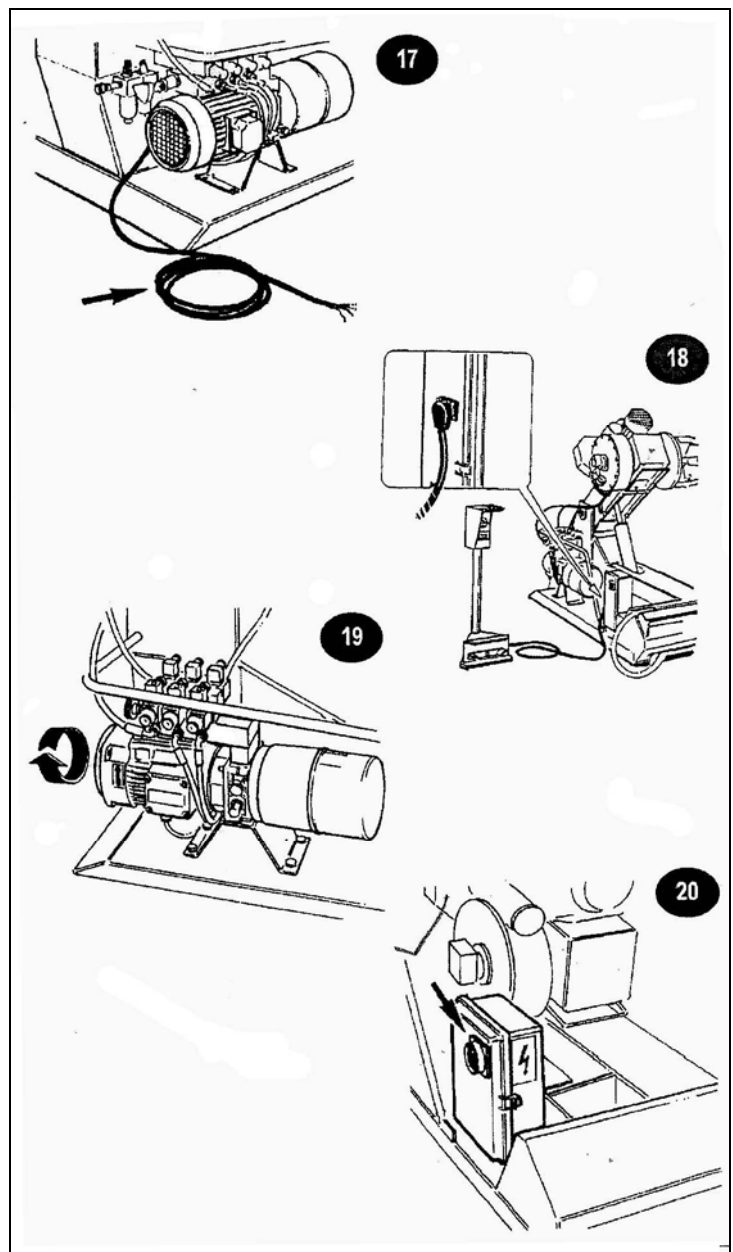
Connection and functional checks

ELECTRICAL CONNECTION(fig.17)

! ALL WORK ON THE ELECTRICAL SYSTEM, INCLUDING MINOR OPERATIONS, MUST BE CARRIED OUT BY PROFESSIONALLY QUALIFIED PERSONNEL.

check that the mains supply is the same as that shown on the registration plate.

- connect the cable to a plug that conforms with European norms or to the norms of the country in which the machine is used. The plug must have an earth terminal (fig.17).
- check that the earth connection is effective.
- The machine must be connected to the mains through a multipole isolating switch which conforms with European norms and with contact openings of at least 3 mm
- Check that the multipole connector on the electrical board (fig.18) is correctly connected.
- When the machine is connected, switch it on and check the correct direction of rotation, this should be as shown by the arrow on the motor unit (see fig.19).
- If the rotation is reversed, reverse the two wires in the connection plug
- If the machine behaves abnormally, immediately switch off the main switch (fig.20)and check the section “Malfunctions: causes and possible remedies” in the instructions Manual (pg. 28).



INSTRUCTIONS.

N.B: Switch no 2 (fig. 20) is for the second speed.

THE MANUFACTURER DOES NOT ACCEPT ANY RESPONSIBILITY FOR THE FAILURE TO OBSERVE THE ABOVE MENTIONED

SAFETY PROTECTORS

! Always pay attention to the WARNING SIGNS displayed on adhesives on the machine (fig. 21).

- (A) “wheel release: label (code. No. 300913)
- (B) “tool arm coupling” label (code. No. 300914)
- (C) “working arm” label (code. No. 300915)
- (D) electrical tension adhesive (code. No. 100789)

If one or more of the adhesives on the machine disappears or deteriorates, you are requested to order the missing label from the machine’s “spare parts” service quoting the relevant code number.

The machine is fitted with the following safety devices:

- 1) Chuck protectors (see fig. 21a)
- 2) Chuck arm protector (see fig.21b)
- 3) Safety micro (see fig.21c)

Fig. 21a – Chuck protectors

These are 4 plate metal protectors used on the chuck to protect the sliding disc when opening the chuck.

Their function is to prevent the accidental insertion of limbs or tools when the chuck is opening.

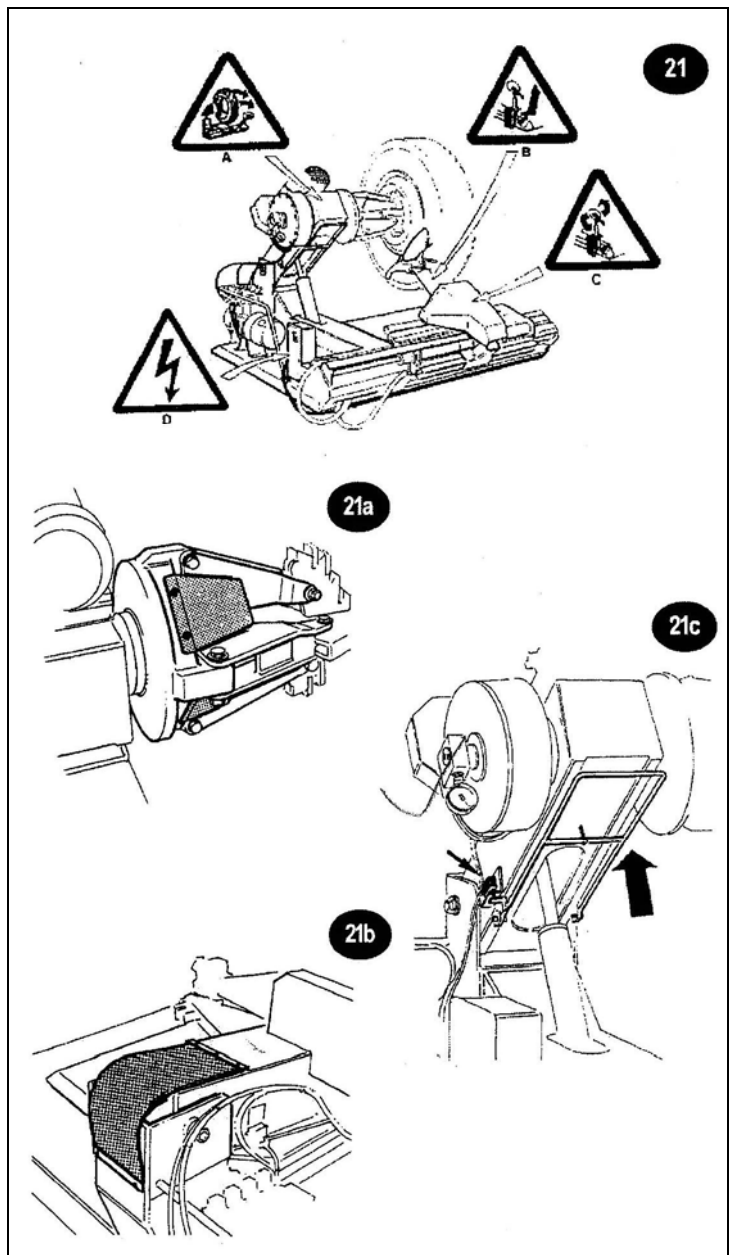
Fig.21b- Chuck arm protector

This is a rubber protector fitted to the back of the chuck arm to prevent the accidental insertion of limbs or tools.

Fig.21c – Safety micro

This is an electrical device which instantly stops the descent of the chuck arm.

! WARNING! In the case of malfunction, deterioration, of any of the safety devices illustrated above, you are advised to immediately refer to the machine’s spare parts department (see “Technical assistance and spare parts “section on pg.32).



INSTRUCTIONS FOR USE

Illustrations of important component parts for use

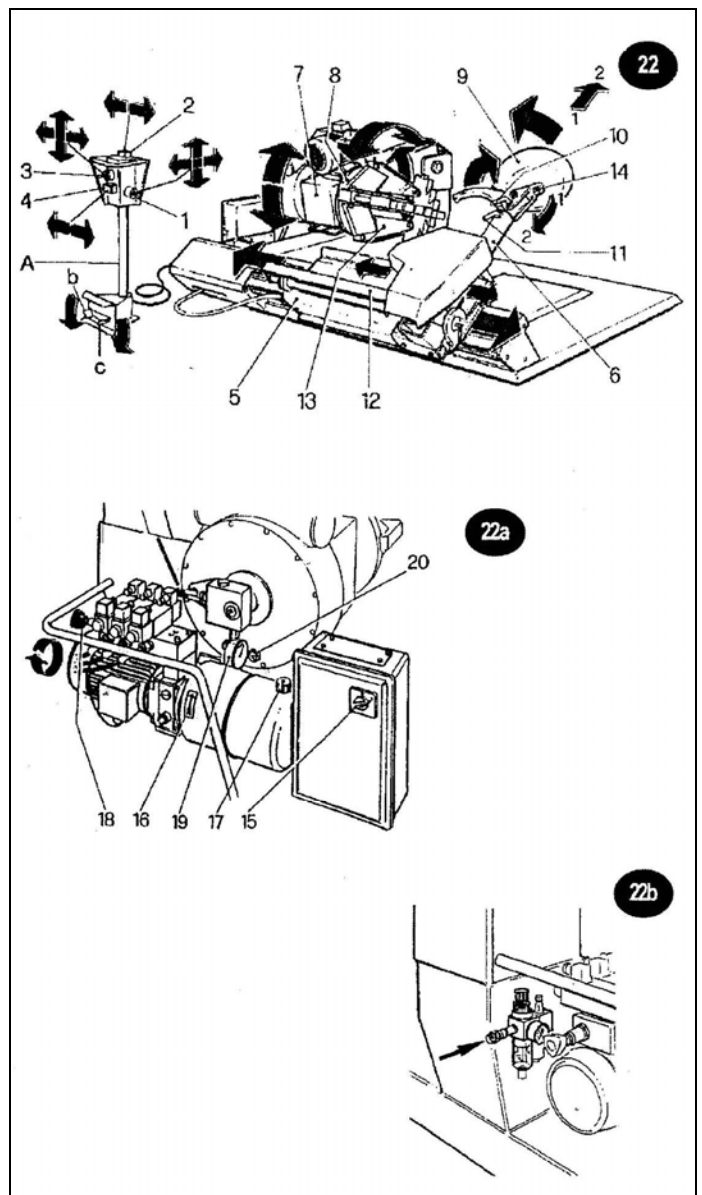
KEY

MANUAL CONTROLS (HAND CONTROLS)

1. WORKING ARM AND TOOL MOVEMENT CONTROL
2. WORKING ARM SHIFT CONTROL
3. TROLLEY AND CHUCK ARM MOVEMENT CONTROL
4. CHUCK OPEN/CLOSE CONTROL

PEDAL CONTROLS

- b. CHUCK ROTATION PEDAL. (CLICKWISE)
- c. CHUCK ROTATION PEDAL (ANTI-CLOCKWISE)
5. TROLLEY
6. TOOL ARM
7. SPINDLE ARM
8. CHUCK
9. BEAD-BREAKER
10. TOOL POSITION LEVER
11. ARM POSITION LEVER
12. CYLINDER OF TRASLATION OF TOOL-HOLDER ARM
13. CHUCK ARM
14. TOOL
15. MAIN SWITCH
16. ROTATION DIRECTION INDICATOR
17. OIL LEVEL INDICATOR
18. HYDRAULIC PRESSURE REGULATION CONTROL
19. HYDRAULIC MANOMETER
20. REDUCER OIL LEVEL WARNING LIGHT



The machine is a universal tyre changing machine for car, agricultural vehicle, earth moving and industrial vehicle wheels. It can handle wheels from 14 " to 52". It has a Working arm (6) and a completely automated Trolley (5) all the movements of the Working arm and the trolley are guided by remote control.

INSTALLATION

For installation methods refer to the general instructions on pgs.7.8.

In addition, connect the machine to the pneumatic supply as in fig. 24.

! Before using the tyre changing machine it is essential to check the correct functioning of the machine (see "Functional checks on the following page.

FUNCTIONAL CHECKS

1) Checks for the correct movement of the Working Arm (6) and the Tool (9). (see fig. 22 and fig. 23)

- Moving control 1 upwards (1a) must move the working arm upwards.
- Moving control 1 downwards (1b) must move the working arm downwards.
- Moving control 1 towards the right (1c) must rotate the tool 180° in an anti >> clockwise direction.
- Moving control 1 towards the left (1d) must rotate the tool 180° in a clockwise direction.
- Moving control 2 towards the left must shift the working arm towards the left.
- Moving control 2 towards the right must shift the working arm towards the right.

2) Checks for the correct movement of the Trolley (5) and the Chuck arm (7) (see fig. 22)

- Moving control 3 towards the left must move the trolley towards the left.
- Moving control 3 towards the right must move the trolley towards the right.
- Moving control 3 upwards must move the chuck arm upwards.
- Moving control 3 downwards must move the chuck arm downwards.

3) Checks for the correct functioning of the Self >> centring chuck (A) (see fig. 22).

- Moving control 4 towards the left must open the chuck.
- Moving control 4 towards the right must close the chuck.
- Pressing pedal b must rotate the chuck in a clockwise direction.
- Pressing pedal c must rotate the chuck in an anti >> clockwise direction.

Fig. 23a

By adjusting the flow regulator X>>Y the raising speed of the working arm is increased or decreased

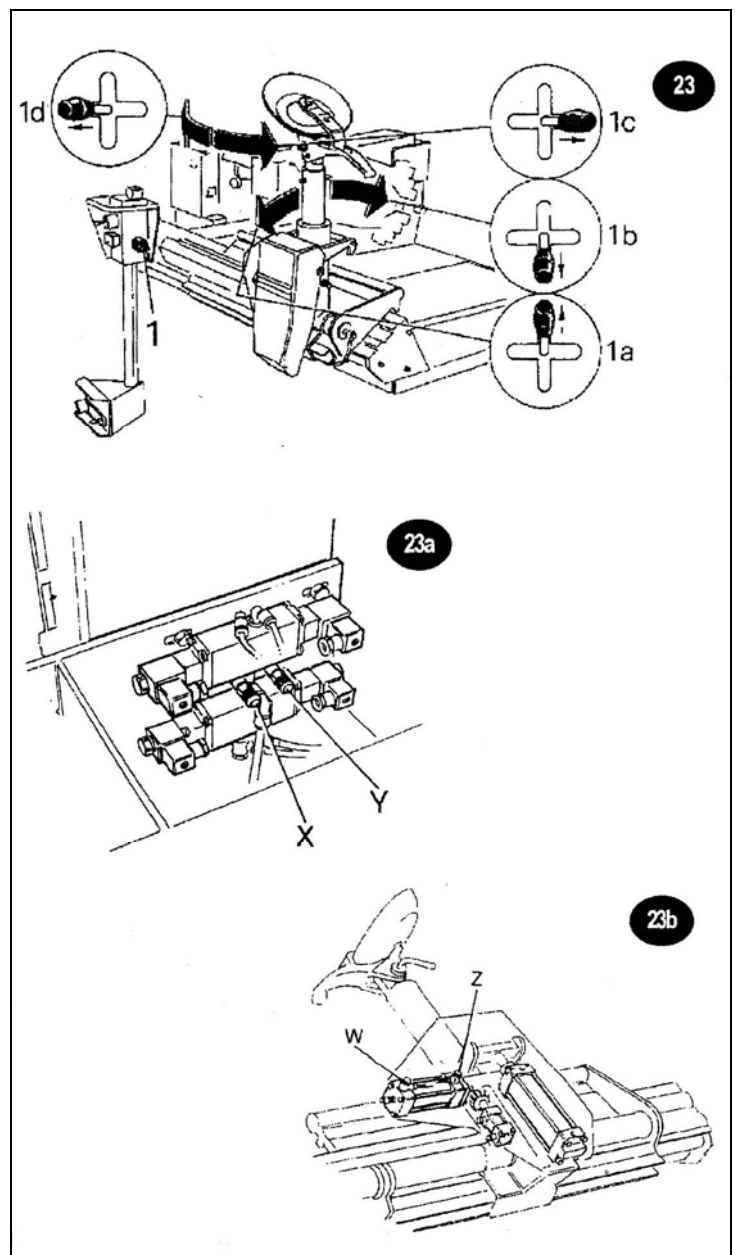


Fig. 23b

By adjusting the flow regulator W>>X the rotation speed of the tool is increased or decreased.

WHEEL LOCKING

WHEEL LOCKING FUNCTION

The self-centering chuck operates by means of a high pressure hydraulic circuit (fig. 24) adjustable from 20 to 130 bar. The handle (18). (Fig.23 pg.16) is turned and the pressure read on the manometer (19).

Standard working pressure is 130 bar, but for weak or particularly thin rims it is necessary to reduce this pressure.

The chuck has four jaws that can lock any type of RIM FROM 14 " to 42".see example 1.2.3.4.5.6(fig 25)

FOR RIMS FROM 42 " to 52" we supply on demand 4 extensions to mount on the jaws (see fig. 26a).

For wheels of less than 800 mm and more than 1500 mm in diameter it is advisable to remove the tool arm and position it in the second hole with the special pin (See 11. fig.23)

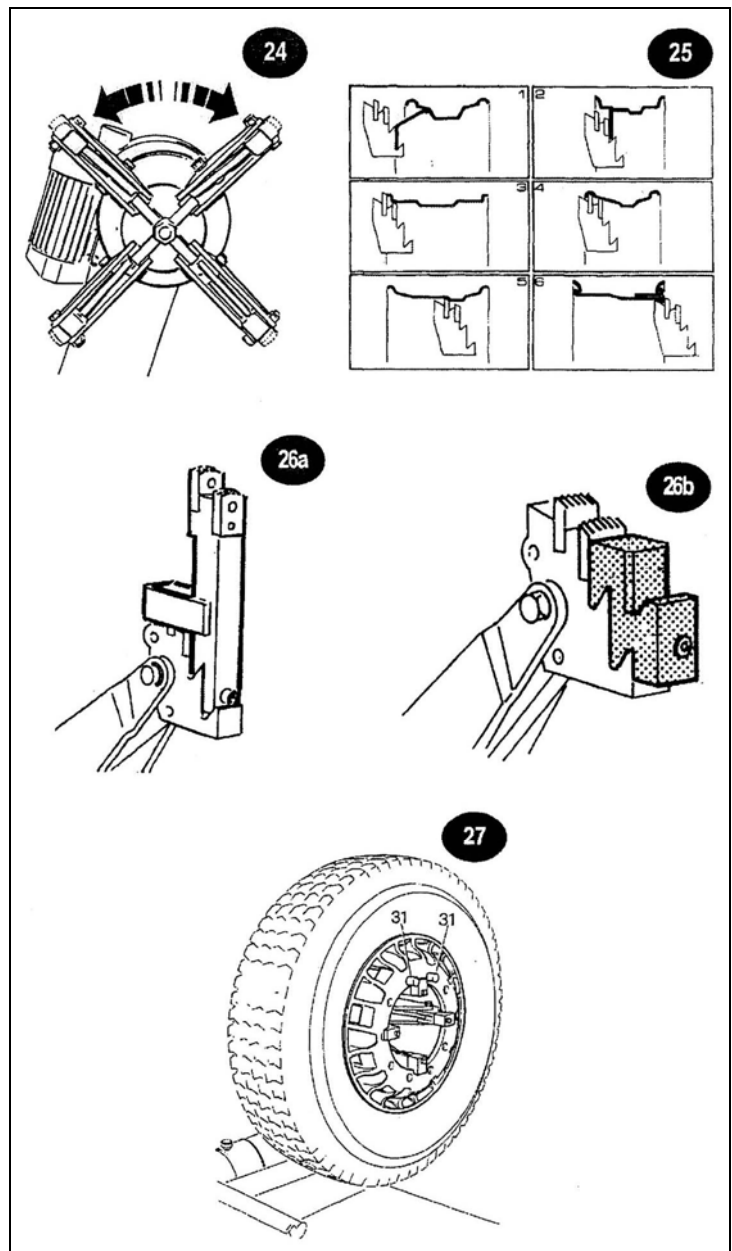
For ALUMINIUM RIMS we can supply on request 4

nylon protectors to be mounted on the jaws (see fig. 26a).

MOUNTING THE NYLON PROTECTORS FOR ALUMINIUM WHEELS ON THE JAWS.

To mount the nylon protectors see fig. 26b and for rim locking follow the instructions in fig. 27.

N.B: When mounting or demounting particularly difficult tyres it is essential to position the two catches(31 fig 27) in the rim holes. This is to avoid the rim slipping on the nylon protectors.



TUBELESS AND SUPER SINGLE TYRES

Mounting and demounting operations (see key and figures 22/23 in pg.16)

DEMOUNTING

Break the bead at the front part of the tyre and, pushing on the bead, lubricate the rim flange and the bead with suitable grease (21, Fig. 28). Repeat the operation on the back (Fig.29)

If it is a "balcony" rim (that is, inclined from 10° to 15°) continue the bead-breaking operation until the tyre has come completely out of the rim.

This operation is easier with the use of the special tubeless roller (22.Fig. 30) which is supplied on request.

N.B. for the demounting of particularly hard textile supersingle tyres or tubeless tyres with a very high rim flange refer to the instructions for the demounting of agricultural wheels (see illustrations on pg. 24).

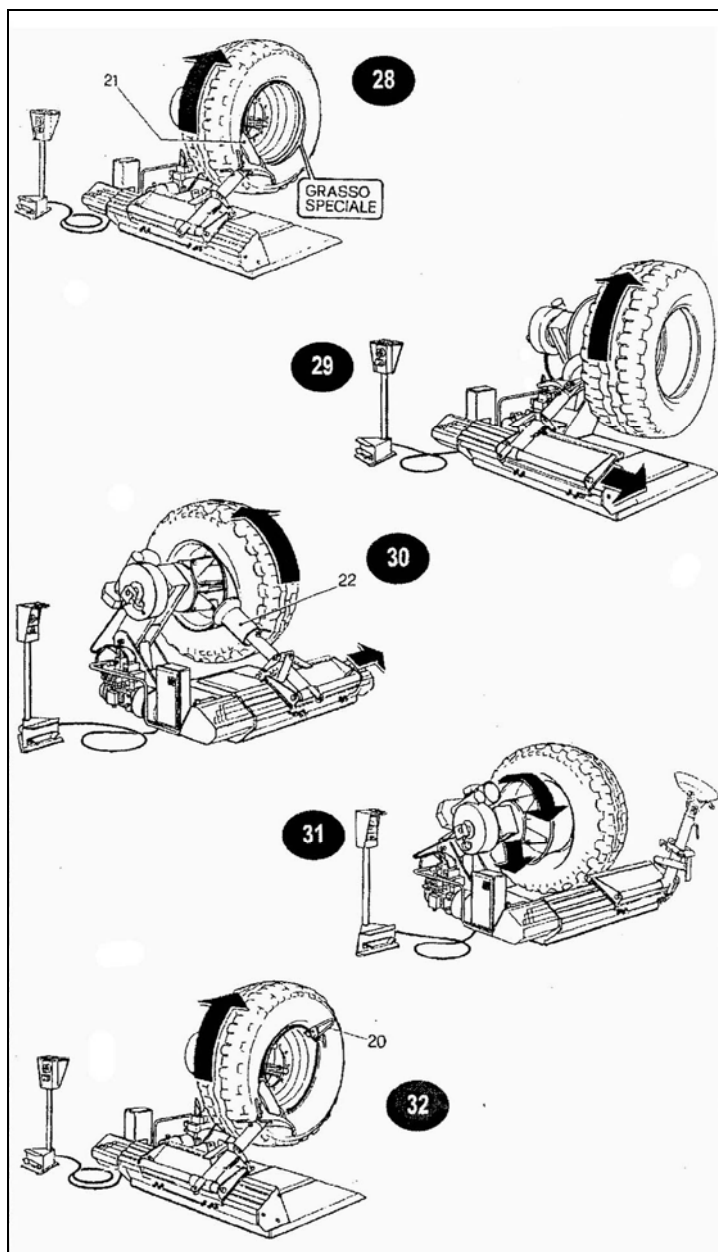
N. B. The bead and the rim flange should be well lubricated.

MOUNTING

For mounting undemanding tubeless tyres, place the tyre on the trolley keeping it tilted as in fig. 31. Then insert and lower the rim, pressing on the tyre to allow the top of the rim to enter the tyre.

If this is not possible use the special pincers supplied (20.fig. 32) and mount the two beads at the same time. To mount the second bead proceed as shown in fig. 32 (20).

N. B. For mounting particularly hard tubeless and supersingle tyres, treat them as agricultural wheels (pg.24)



WARNING! IT IS ABSOLUTELY FORBIDDEN TO INFLATE TYRES WITH THE WHEEL STILL ON THE MACHINE!

WARNING! THE MOVEMENT OF PARTICULARLY HEAVY WHEELS REQUIRES AT LEAST TWO PEOPLE!

THE MANUFACTURER IS NOT LIABLE FOR THE NONOBSERVANCE OF THE ABOVE MENTIONED REGULATIONS!

AGRICULTURAL TYRES

Demounting and mounting procedures (see key and figures 22/23 on pg. 16)

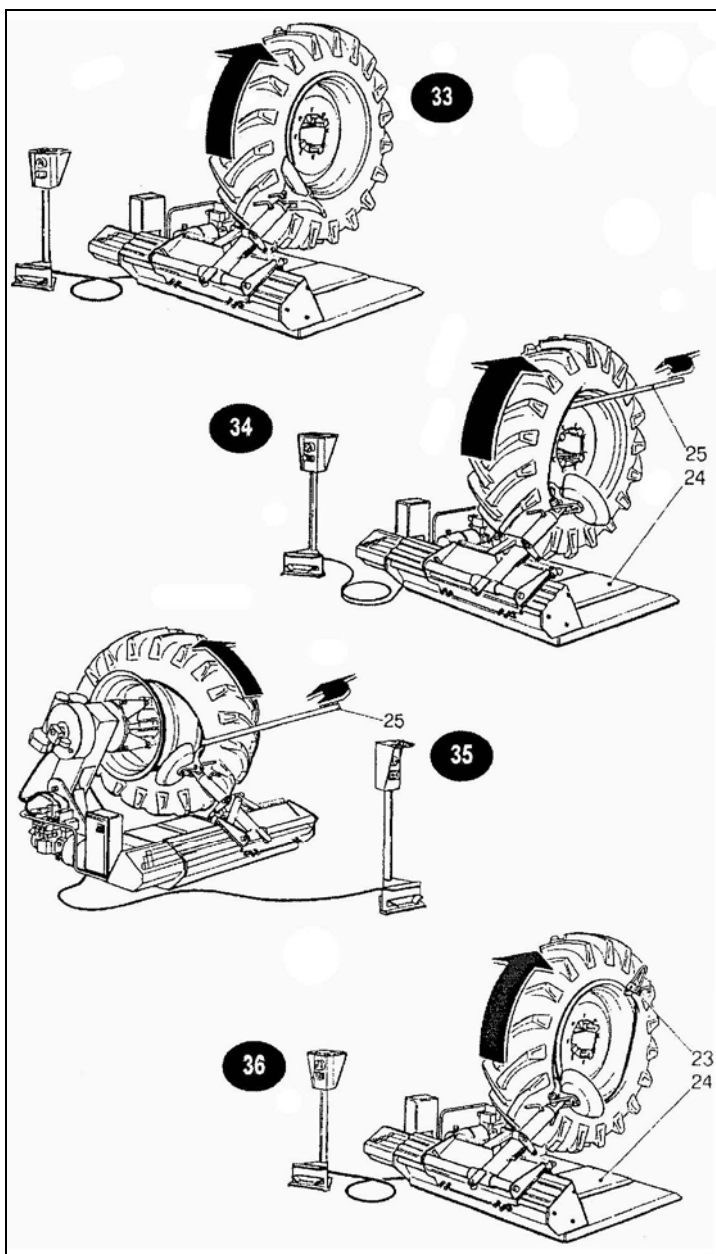
DEMOUNING

● Clamp the wheel on the self-centering chuck and raise it until the rim flange touches the bead breaking tool. Using the control (2) and selector (3) (see fig. 22 on pg. 16) deflate the tyre and begin the bead breaking operation (fig. 33). Use the pedal (4) and selector (3) (fig. 22) to gradually advance the bead breaking roller turning the spindle continuously.

● Lubricate the bead and the rim flange with the special lubricant keeping the wheel in movement. When the operation is finished rotate the tool by 180°, removing the pin (11, fig. 22). Repeat the bead breaking on the other side of the tyre in the same way.

● Tilt the tool arm (6, fig. 22) and move it to the back of the tyre pressing the pedal (12, fig. 22). Using the lever (10, fig. 22) swing the tool (14, fig. 22) into position 2 then re-attach the tool arm to the trolley. Use the control to move the tool against the tyre with the control until the bead is hooked on (fig. 34). Put the tyre into tension moving the rim away from the tool so that the bead enters the channel.

● Insert the special lever (25, fig. 34) between the rim and bead to the right of the tool to ensure that the bead remains on the tool. Move the tool towards the outside with reference to the rim edge. Move the rim towards the tool again (fig. 34) until the front bead has completely come out. Rest the wheel on the trolley platform (24, fig. 34) to obtain working space for the easy removal of the inner tube.



● To demount the back bead proceed as shown in fig. 35. Rotate the tool by 180°, insert it between the rim and the bead, move it against the rim flange and insert the lever (25, fig. 35) and then rotate the spindle in a clockwise direction until the operation is complete.

MOUNTING

- Place the tyre on the rim, clamp the special plncers (23. fig. 36) on the front rim flange and position the tool with reference to the edge of the rim flange.

- Rotate the spindle in a clockwise direction until the back rear bead is fully mounted.

Insert the inner tube (remembering to lower the spindle) and support the wheel on the trolley platform (24. fig. 36) to assist the operation.

- Re-position the tool near to the valve with the relevant reference point on the edge of the rim. Clamp the pincers (23, fig.36) to the left of the tool and rotate the wheel clockwise making sure that the bead is inside the rim channel.

EARTH-MOVING VEHICLE TYRES

Demounting and mounting procedures (see key and figures 22/23 on pg.16)

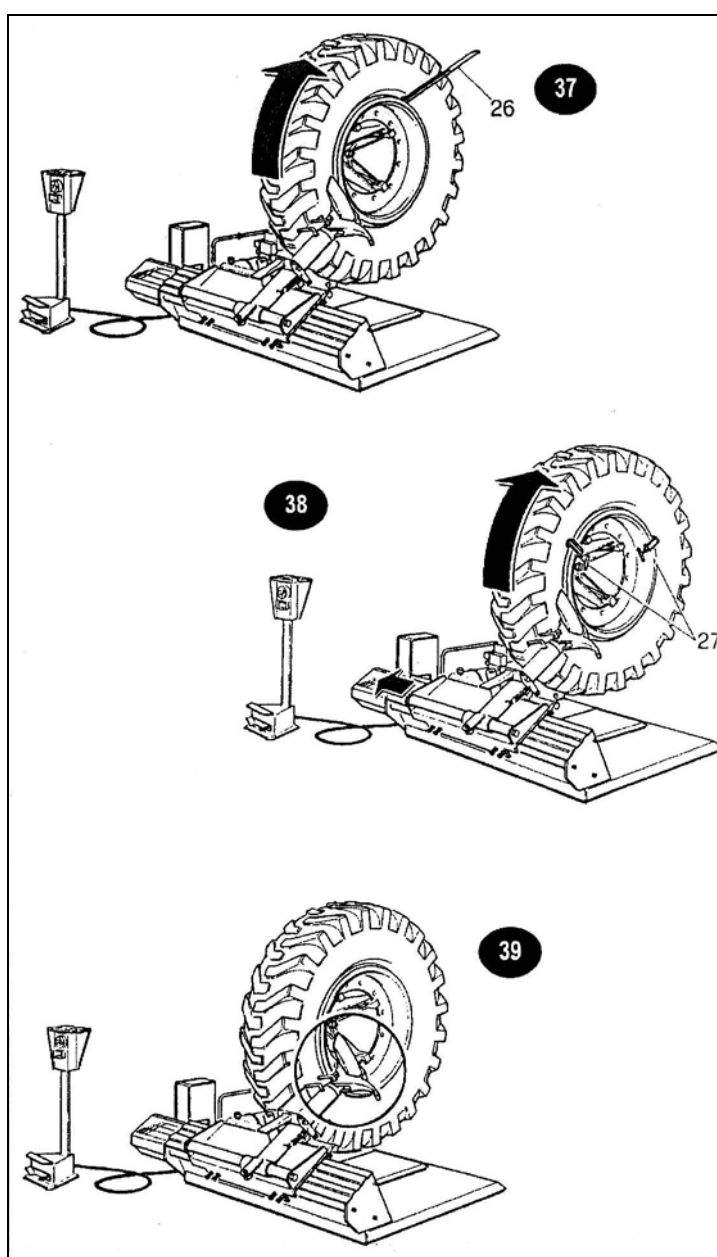
DEMOUNTING

- Position the bead breaking tool along the edge of the rim. While rotating the tyre, press on the bead to free the locking ring, which is then removed with the lever (26, fig. 37).
- Then repeat the bead breaking on the back and move the bead breaker forward until the tyre comes out.

N.B.: For particularly hard tyres and those tightly locked on the ring it is advisable to use the two special fixing clamps supplied on request (27, fig. 38). Their function is to lock the ring onto the rim so that during the bead breaking of the rear edge the ring is also freed from the tyre. In the case that the special clamps cannot free the ring from the tyre, remove the tyre with the ring attached. To remove it, fix it to the spindle as if it was a normal rim and bead break it from behind.

MOUNTING

- Move the tyre to the rim, centering it carefully. Mount the second bead using the bead breaking tool.
- Insert the ring and lock it with the tightening device.
- If the tyre is tubeless it is necessary to insert the sealing ring between the rim and the ring.



- If the wheel has an inner tube it must be inserted into the tyre before mounting. It is deflated so as to make it spread uniformly inside the tyre. During mounting, position the valve in the rim hole.

N. B. When deflating tyres position the bead breaking tool in front of the wheel (fig. 39) to avoid possible damage caused by the accidental slipping of the locking ring.

! Warning!

It is absolutely forbidden to inflate tyres with the wheel still on the machine!

! Warning!

The movement of particularly heavy wheels requires at least two people!

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MALFUNCTIONS: CAUSES AND POSSIBLE REMEDIES

malfunctions	causes	Possible remedies
The chuck does not rotate in any direction	1.the mains connection is not plugged in 2.the plug is not correctly wired 3.The mains tension is not suitable for the machine. 4.The mains switch is not on 5.Faulty fuse	1.Check the correct insertion of the plug and its connections 2~3. See 1 above 4.Switch on the mains 5.Replace the fuse
The chuck turns but only weakly	1.Mains tension is incorrect 2.Loose belt 3.Fuse blown	1.Check the compatibility of mains tension and that shown on the machine registration plate 2.Adjust the belt tightener 3.Replace the fuse
The chuck does not lock the wheel correctly	1.The thermomagnetic switch is not on 2.Insufficient pressure in the hydraulic circuit 3.Loss of pressure in the hydraulic circuit	1.Check that the motor in the hydraulic unit turns in the correct direction. 2.Adjust the pressure in the hydraulic circuit 3.Eliminate the pressure loss
The machine (trolley,arm,or chuck) does not make any hydraulic powered movements	1.The motor in the hydraulic unit is not turning in the correct direction 2.The thermomagnetic switch is not on 3.The fuse on the 24V supply is blown	1.Reverse the phases in the mains plug 2.Switch on the thermomagnetic switch 3.Replace the fuse

! Other possible malfunctions are principally technical in nature and must be checked and resolved by PROFESSIONALLY QUALIFIED TECHNICIANS.

ROUTINE MAINTENANCE

Cleaning and maintenance of the machine by the user

To guarantee the efficiency of the machine and for its correct functioning is essential to carry out routine cleaning and maintenance.

Routine maintenance must be carried out by the user according to the maker's instructions given below.

! Before starting any cleaning or maintenance switch off the main switch and remove the mains plug from the socket!

MECHANICAL PARTS

It is advisable to clean the chuck and the trolley guide periodically and to carefully lubricate the moving parts with grease guns.

Check the oil level in the hydraulic unit and the reducer and if necessary top up as indicated by the information adhesive.

MOVEMENT AND TRANSPORT

For the handling and lifting methods refer to the instructions on pg. 10, figure 15.

STORING AND SCRAPPING

PERIODS OF INACTIVITY

During the times when the machine is temporarily stored or whenever the machine is not in use, remove the plug from the mains!

PERMANENT STORAGE

If it is decided to store the machine long-term, it is advisable to make it inoperative by removing the mains cable after having unplugged it from the mains.

SCRAPPING

Since the tyre changing machine is considered as special waste, break it down into homogeneous parts and dispose of them according to the laws in force.

TECHNICAL ASSISTANCE AND SPARE PARTS

- WHENEVER THE MACHINE MALFUNCTIONS, CONSULT THE TROUBLESHOOTING SECTION (PG. 28) ANY OTHER FAULTS MUST BE CHECKED BY PROFESSIONALLY QUALIFIED TECHNICIANS.
- IN ALL CASES REFER TO THE ASSISTANCE SERVICE OF YOUR AUTHORISED THE MACHINE RETAILER.

FOR PROMPT INTERVENTION IT IS IMPORTANT, WHEN CALLING, TO SPECIFY THE MACHINE MODEL. THE SERIAL NUMBER (FOUND ON THE MACHINE IDENTIFICATION PLATE) AND THE TYPE OF FAULT.

! WATRINING!

ALL WORK ON ELECTRICAL, PNEUMATIC, AND HYDRAULIC SYSTEMS MUST BE CONDUCTED BY PROFESSIONALLY QUALIFIED PERSONNEL.

- THE EXPLODED DIAGRAMS ON THE FOLLOWING PAGES SHOW THE COMPONENT PARTS OF THE BASIC MACHINE, SPECIAL VERSIONS, AND ACCESSORY PARTS.

! WARNING

SPARE PARTS MUST BE PURCHASED EXCLUSIVELY FROM AN AUTHORISED LC590 RETAILER

THE MANUFACTURER DOES NOT ACCEPT RESPONSIBILITY FOR DAMAGE RESULTING FROM THE USE OF NON OPIGINAL SPARE PARTS.