



# FDP1050 Tyre Changer

## Operation & Maintenance Manual

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E & O E. The Company reserves the right to introduce improvements in design or specification without prior notice. The sale of this product is subject to our standard terms, conditions and relevant product warranty.

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# 1 Introduction

Thank you for purchasing a Continental Tyre Changer. The equipment has been manufactured in accordance with the very best quality principles. Follow the simple instructions provided in this manual to ensure the correct operation and long life of the machine. Carefully read each section of this manual before using the machine. The manufacturer is not responsible for damages and/or injury caused by failure to follow the instructions of this manual.

We also recommend:

- Keep the manual near the equipment for easy access;
- Keep the manual in a place protected from dirt;
- Do not damage the manual.

We reserve the right to make any change to products and documentation without notice.

## 1.1 Identification Data

A complete description of the “Tyre Changer Model” and the “Serial number” will make it easier for our technical assistance to provide service and will facilitate delivery of any required spare parts. This information can be found on the product serial plate.

## 1.2 Warranty

Continental standard terms of warranty apply to this product, in addition the terms below are also in effect.

### 1.2.1 Warranty Duration

From the date of shipment from Continental 36 months

### 1.2.2 Who gives this warranty

Continental Automotive Trading UK Ltd, Unit 36, Gravelly Industrial Park, Birmingham, B24 8TA.

### 1.2.3 Who receives this warranty

The original Purchaser (other than for purpose of resale)

### 1.2.4 What products are covered by this warranty

Any Continental branded tire changer or wheel balancer.

### 1.2.5 What is covered under this warranty

Manufacturer defects due to material and/or workmanship with the exceptions noted below.

### 1.2.6 What is not covered under this warranty

1.2.6.1 Any failure that results from Purchaser's abuse, neglect or failure to operate, maintain or service product in accordance with instructions provided in the owner's manual(s) supplied

1.2.6.2 Any damage caused by using equipment beyond rated capacity and/or capability

1.2.6.3 Items or service normally required to maintain the product, i.e. lubricants, oil, etc.

1.2.6.4 Items considered general wear parts such as rubber or plastic pads/protectors, cutting tips, plastic trays, etc. unless wear or failure is a direct result of manufacturer defect due to material and/or workmanship

1.2.6.5 Any component damaged in shipment or any failure caused by installing or operating equipment under conditions not in accordance with installation and operation guidelines or damaged by contact with tools or surroundings

1.2.6.6 Motor or other component failure caused by rain, excessive humidity, corrosive environments or other contaminants

1.2.6.7 Rusted components due to improper maintenance or corrosive environments

1.2.6.8 Cosmetic defects that do not interfere with product functionality

1.2.6.9 Damage due to incorrect voltage or improper wiring

1.2.6.10 Any incidental, indirect, or consequential loss, damage, or expense that may result from any defect, failure, or malfunction of a product.

1.2.6.11 All electrical components are guaranteed for one year against defects in workmanship and/or materials when the lift is installed and used according to specifications

## 1.3 Responsibilities of Warrantor

Repair or replace with either new or reconditioned unit at Warrantor's option, component and/or unit which is defective, has malfunctioned and/or failed to conform within duration of the warranty period.

## 1.4 Responsibilities of Purchaser

1.4.1 Provide dated proof of purchase and maintenance records.

1.4.2 Use reasonable care in the operation and maintenance of the products as described in the owner's manual.

### 1.5 Repair & Replacement

The Warrantor will perform repair or replacement under this warranty: Repair or replacement will be scheduled and serviced according to the normal work flow at the servicing location, and depending on the availability of replacement parts.

## 2 Intended Use

This manual is an integral part of the product.

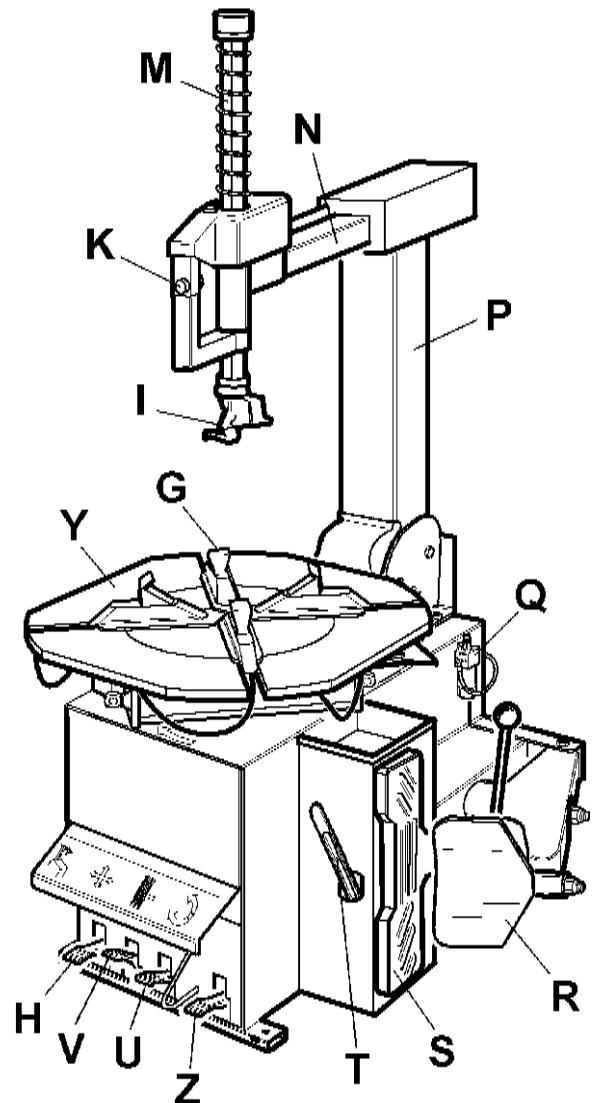
Before using the tire changer, read carefully the warnings and instructions contained in this manual since they provide important information on operating safety and maintenance.

KEEP WITH CARE THIS MANUAL NEAR THE MACHINE TO FACILITATE ANY CONSULTATION BY OPERATORS.

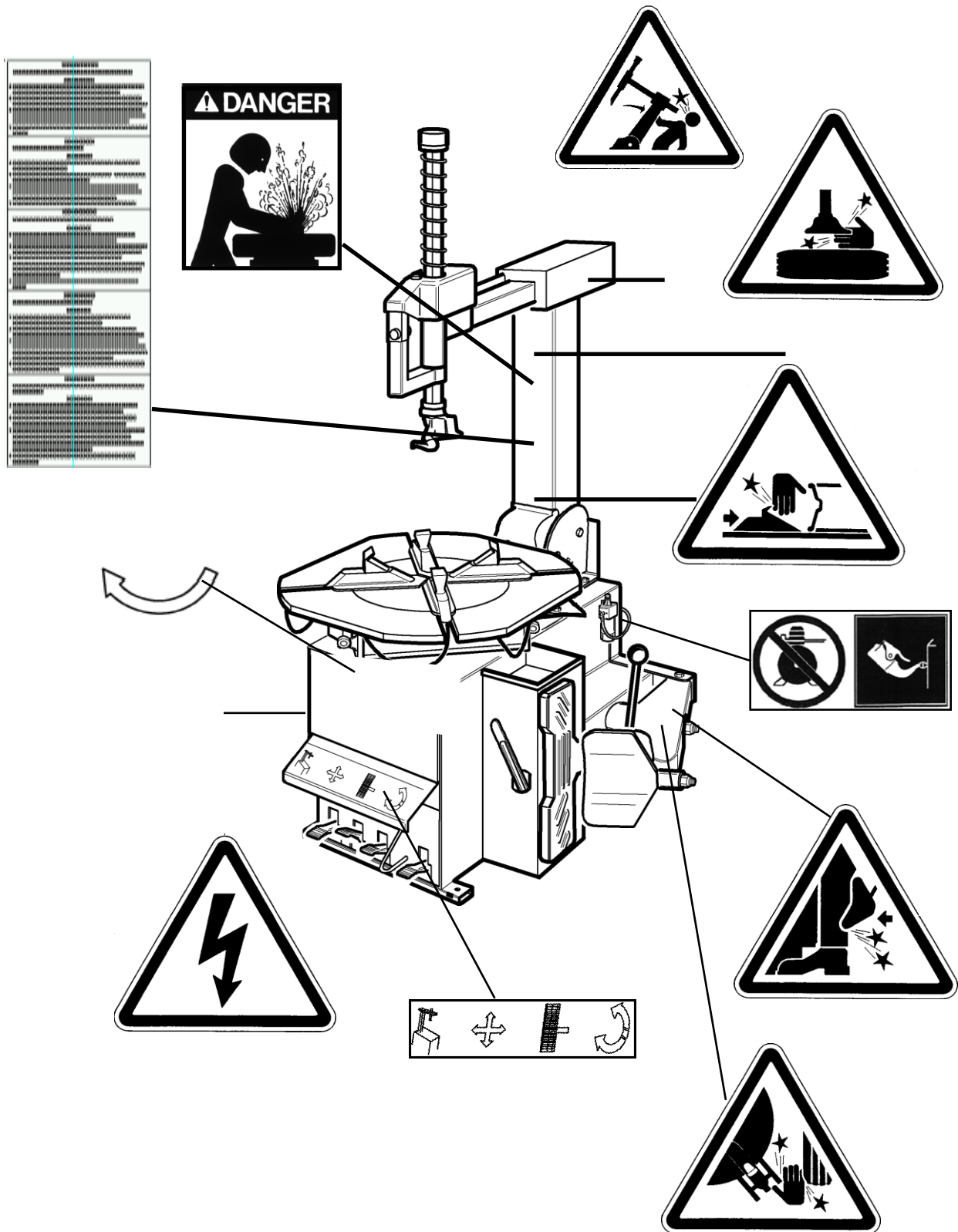
Note: part of the illustrations have been made out of prototypes pictures. It is therefore possible that some parts or components of standard production differ from those represented in the pictures.

## 3 Description of the Machine

- G) Clamps
- I) Mounting head
- M) Mounting bar
- N) Horizontal arm
- P) Vertical arm
- Q) Air supply
- R) Bead breaker
- S) Wheel support
- T) Bead lifting lever
- U) Bead breaker control pedal
- V) Clamp control pedal
- Z) Reverser control pedal
- H) Tilting arm pedal
- Y) Turntable
- K) Locking button



### 3.1 Danger Warning Signs



## 4 General

### 4.1 Intended Use

This automatic tyre changer has been designed and manufactured exclusively for removing and mounting tyres from/onto rims from 10" to 24" and a maximum diameter of 1000 mm.



Any other use is to be considered incorrect and unreasonable.

In particular THE MANUFACTURER cannot be held responsible for any damage caused through the use of this tyre changer for purposes other than those specified in this manual, and therefore inappropriate, incorrect and unreasonable.

### 4.2 General Safety Precautions



The tyre changer may only be used by specially trained and authorized expert personnel.

- Any tampering or modification to the equipment carried out without the manufacturer's prior authorization will free him from all responsibility for damage caused directly or indirectly by the above actions.
- Removing or tampering with safety devices immediately invalidates the guarantee and is in contravention of European Safety Standards.
- The tyre changer comes complete with instruction and warning transfers which are designed to be long-lasting. If they should for any reason be damaged or destroyed, please ask immediately for replacements from the manufacturer using the codes given on page 8.

### 4.3 Transport

- The tyre changer must be transported in its original packaging and kept in the position shown on the package itself.
- The packaged machine may be moved by means of a fork lift truck of suitable capacity. Insert the forks at the points shown in figure 3.

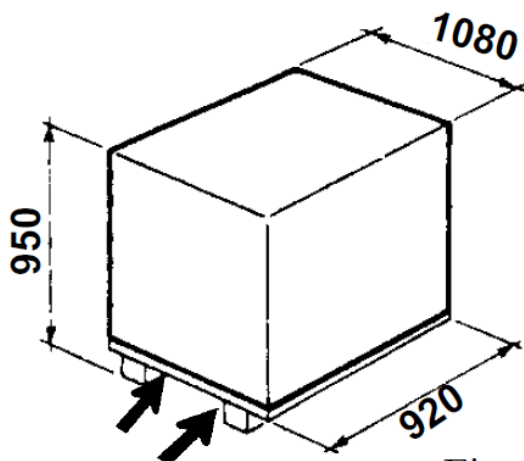


Fig. 3



## 4.4 Unpacking

Check that the equipment is in perfect condition, making sure that no parts are damaged or missing. Use fig. 1 for reference.

If in doubt do not use the machine and contact your retailer.

Remove the protective cardboard and the nylon bag.

## 5 Installation

### 5.1 Space Required

When choosing the place of installation be sure that it complies with current safety at work regulations.

- The semi-automatic tyre changer must be connected to the mains electric power supply and the compressed air system.

It is therefore advisable to install the machine near these power sources.

- The place of installation must also provide at least the space shown in pictures 4 - 4/A so as to allow all parts of the machine to operate correctly and without any restriction.

The tyre changer with electric motor cannot be used in explosive atmospheres, unless it is a proper version.

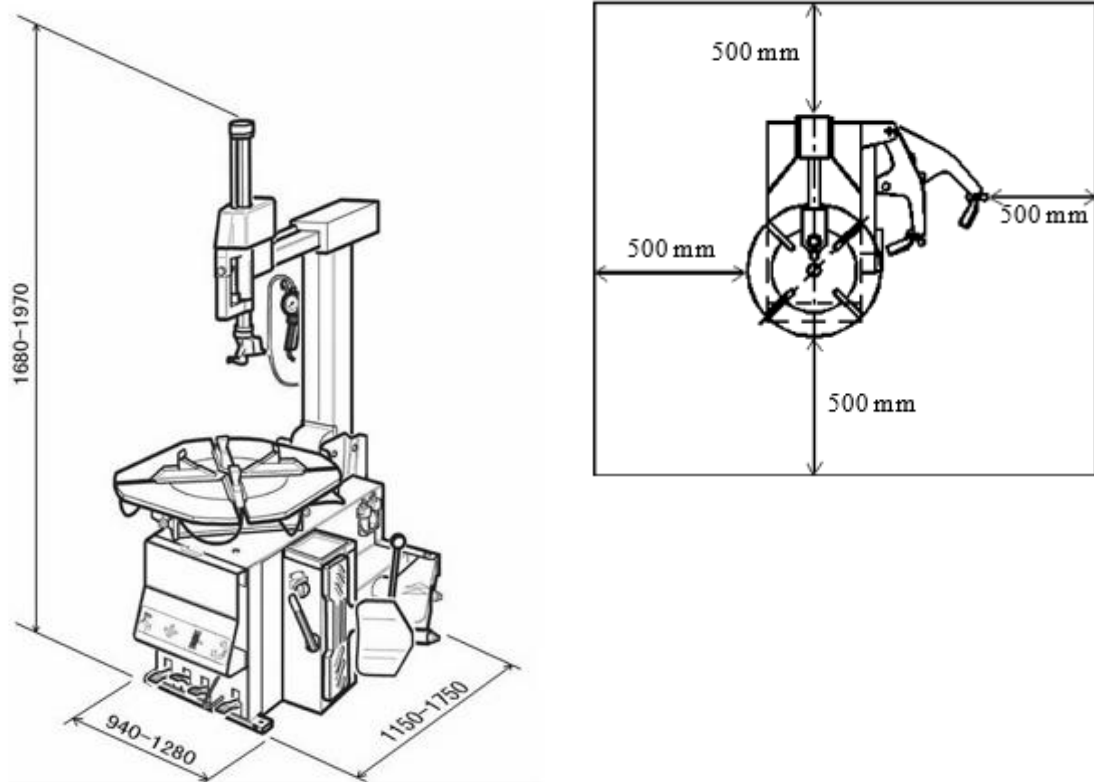


Fig. 4

## 5.2 Parts Assembly

### 5.2.1 Arms assembly

Set the vertical arm into its housing on the machine body, as shown in picture 5.

Set the back screws (1), the bushes (2), the washers (3) and tighten the nuts (4). Picture 6

Set pin (5) and washer (6) to join the tilting control cylinder to the arm, as shown in picture 7.

Screw up nut (7) taking care not to tighten too much to enable cylinder to operate correctly so tilting the arm without frictions.

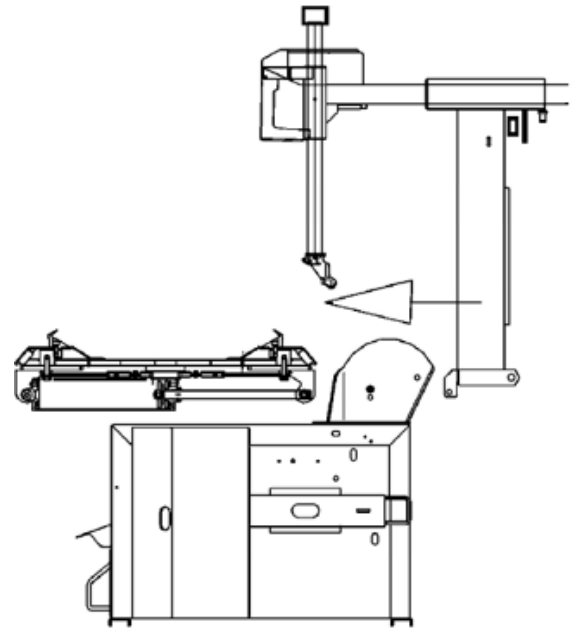
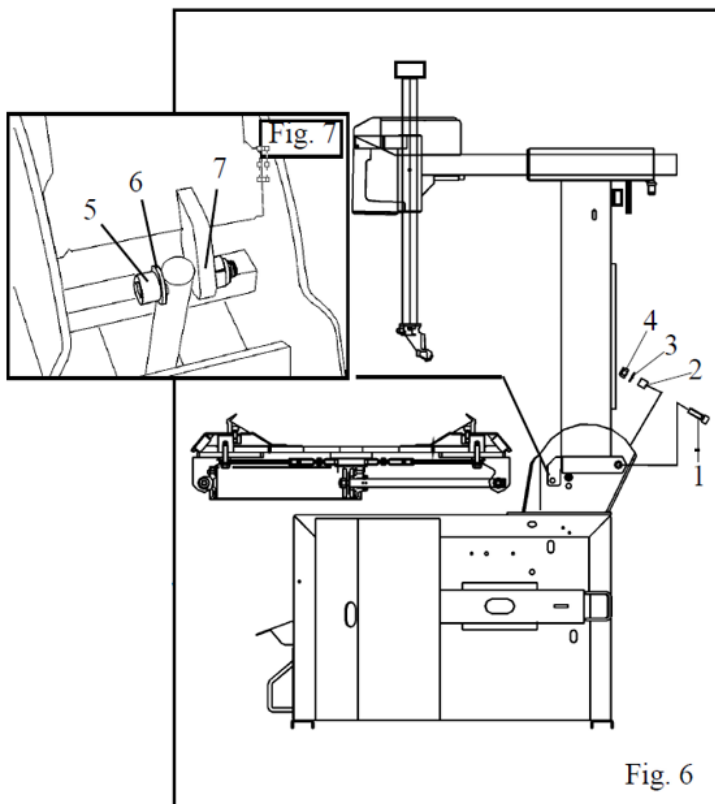


Fig. 5

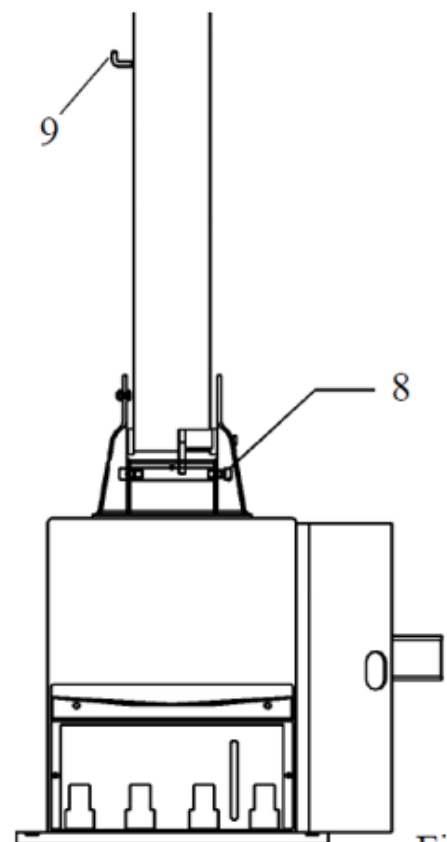


Fig. 8

Tighten screw (8) shown in picture 8

Fix the inflating gauge hook (9) on the vertical arm

Tighten screw and washer (10) to fix the plastic cover as shown in picture 9.

Fix the wheel rubber support (S) by means of washers (12) and screws (13), as shown in picture 9/A.

Fig. 9

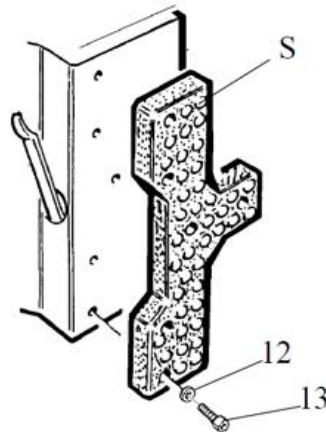
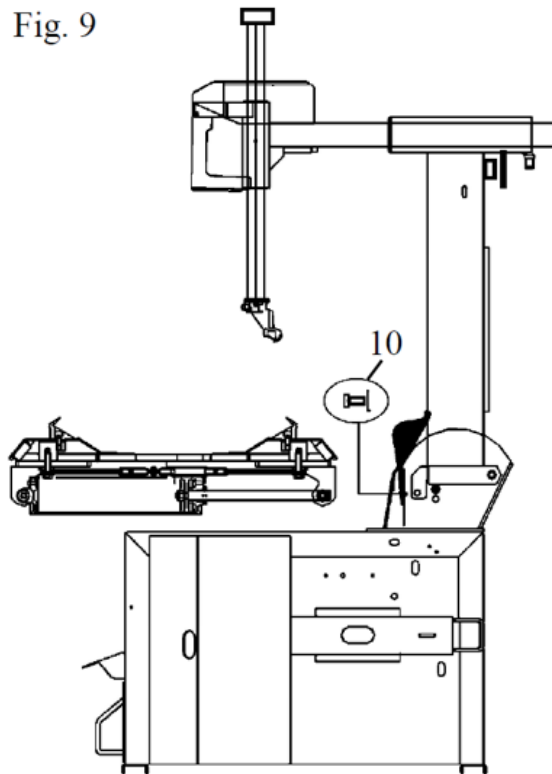


Fig. 9/A

- Connect the machine to the compressed air network (Fig. 9/b)
- Press the bead breaker's pedal in order to release the hook from the cylinder's shaft (Fig. 9/c)
- Mount the bead breaker arm as shown by fig. 9/d:
  - Set the arm "a" into the proper seat, set the screw into the hole and screw the nut WITHOUT TIGHTENING.
  - Set the pivot pin "b" into the hole on the arm and let the cylinder's shaft pass through the pin's hole. Screw the two nuts WITHOUT TIGHTENING.
  - Set the spring by hooking it at the indicated points
- 
- Screw the bead breaker arm's screw as indicated in Fig. 9/e
- Screw the nut as indicated in Fig. 5/9/f.

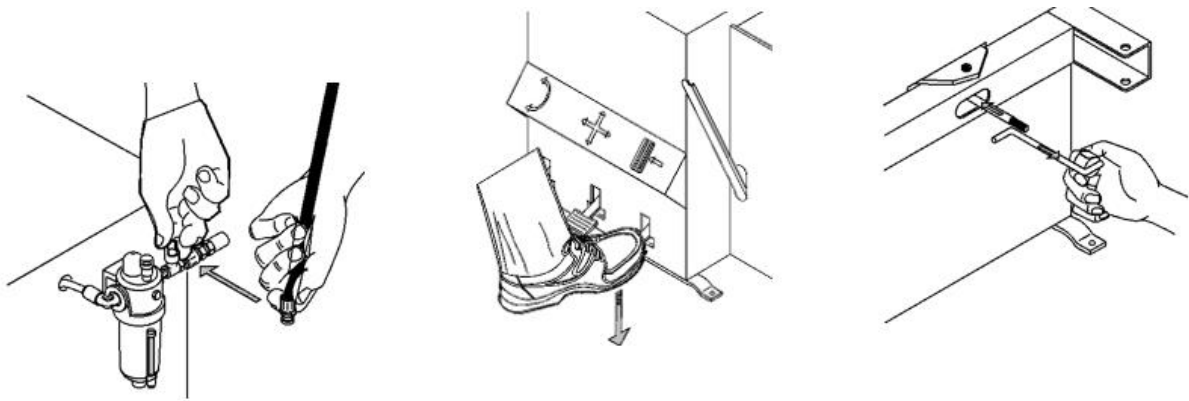


Fig. 9/b - Abb. 9/b

Fig. 9/c - Abb. 9/c

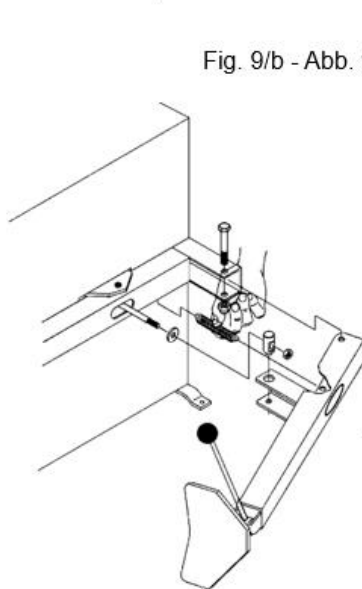


Fig. 9/d - Abb. 9/d

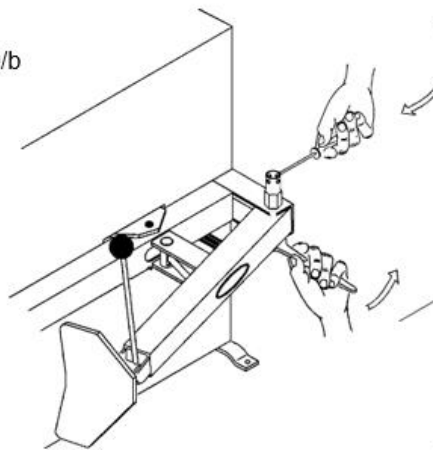


Fig. 9/e - Abb. 9/e



Fig. 9/e - Abb. 9/e

### 5.2.2 Mounting and connecting the manometer

Fix the manometer box to the vertical arm through the proper screws.

Let the connection spiral hose pass through the small hole on the back side of the machine body.

Connect the air hose to the union of the pressure limiting device, situated on the inflating pedal.

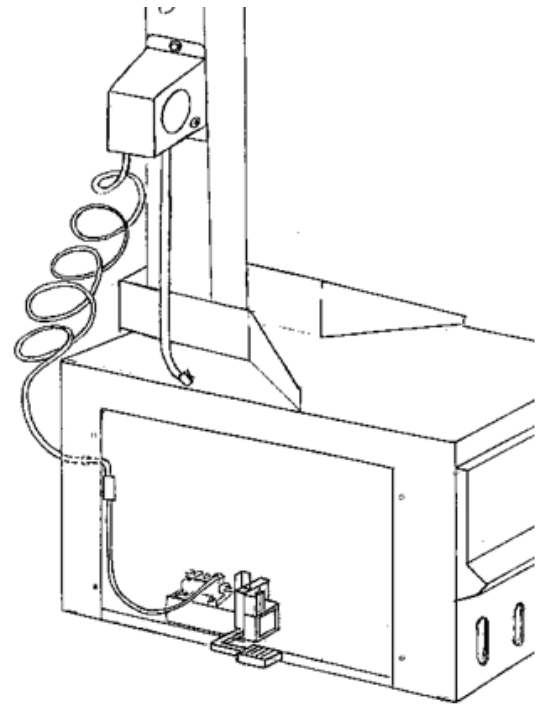


Fig. 11

### 5.3 Commissioning

**⚠** Before making the connections, check that the characteristics of your systems correspond to those required by the machine.

- If you have to change the machine's operating voltage, make the necessary adjustments to the terminal board (Chap.14)

**⚠** Even small jobs done on the electrical system must be carried out by professionally qualified personnel.

- Connect the machine to the compressed air system by means of the air connection (Q) that protrudes from the rear section as shown in the diagram 12.
- Connect the machine to the electric network, which must be provided with line fuses, a good earth plate in compliance with regulations in force. It must also be connected to an automatic circuit breaker (differential) set at 30 mA.

## 5.4 Operating Tests

- When pedal (Z) is pressed down the turntable (Y) should turn in a clockwise direction. When pedal is pulled up the turntable should turn in an anticlockwise direction.

**Note:** If the turntable turns in the opposite direction to that shown, reverse two of the wires in the three-phase plug.

- Pressing the pedal (U) activates the bead breaker (R); when the pedal is released the bead breaker returns to its original position.
- Pressing the pedal (V) opens the four clamps (G); when the pedal is pressed again they close.
- Pressing the pedal (H) tilts the arm (P); when the pedal is pressed again it returns to its working position.
- Position 1 of the locking button (K) locks the mounting bar (N) and the horizontal arm (M). The mounting head positions itself automatically at the correct distance from the rim.
- Position 2 of the locking button (K) unlocks the arms.
- Pressing the trigger on the airline gauge causes air to be released from the head.

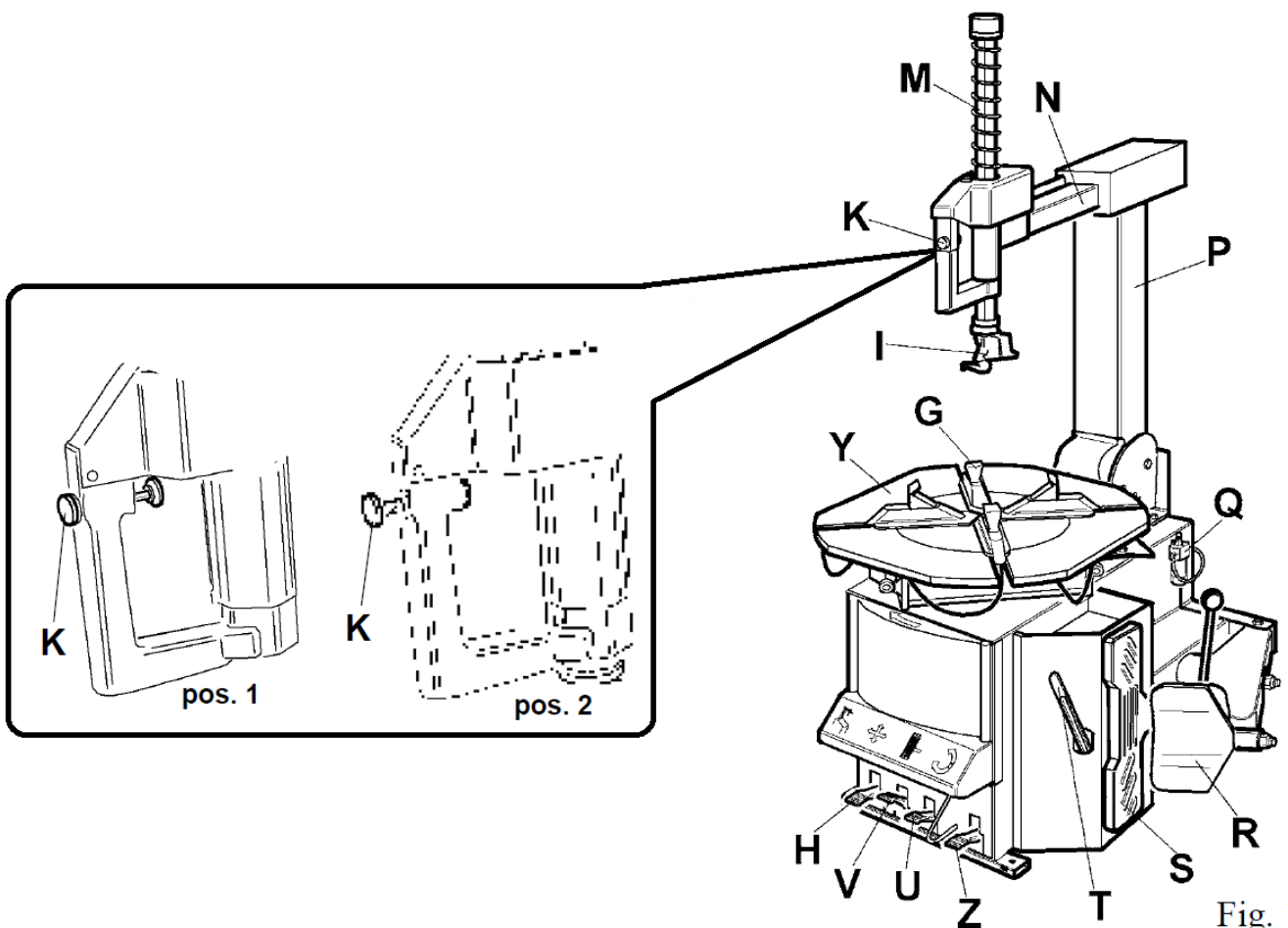


Fig. 12

## 6 Operation

The operation of the tyre changer is divided into three parts:

- a) Breaking the bead
- b) Removing the tyre
- c) Mounting the tyre

Note for use:

The motorcycle rims are more and more frequently constructed by using special alloys or materials like carbon or magnesium. To lock this kind of rims it is necessary to use the optional motorcycle wheels adaptors kit, and to limit the pressure exerted by turntable to 5 bar max., in order to avoid any irreparable damage or deformation. If your tyre-changer is not equipped with pressure regulator, it is advised to add the optional kit.

### 6.1 Breaking the Bead

- Check that the tyre is deflated. If not, deflate it.



**Bead breaking must be done with the utmost care and attention. When the bead breaker pedal is operated the bead breaker arm moves quickly and powerfully. Anything within its range of action can be in danger of being crushed.**

- Close the turntable clamps completely



**Bead breaking with the clamps in open position can be extremely dangerous for operator's hands. During bead breaking operations NEVER touch the side of the tyre.**

- Position the wheel against the rubber stops on the right side of the tyre changer (S).
- Position the bead breaker blade (R) against the tyre bead at a distance of about 1 cm from the rim (fig.15). Pay attention to the blade, which must operate correctly onto the tyre and not onto the rim.
- Press down the pedal (U) to activate the bead breaker and release it when the blade has reached the end of its travel or in any case when the bead is broken.
- Rotate the tyre slightly and repeat the operation around the entire circumference of the rim and from both sides until the bead is completely detached from the rim.
- 

6.2

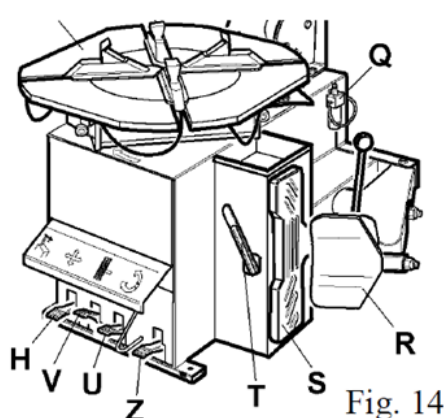


Fig. 14

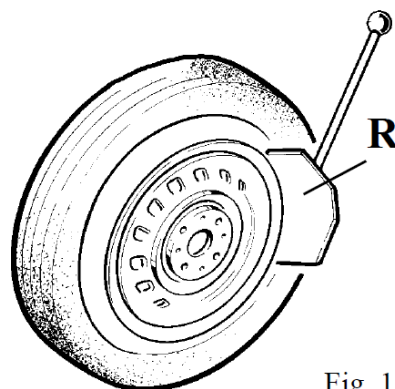



Fig. 15

 Before any operation remove the old wheel balancing weights and check that the tyre is deflated.



**During arm tilting make sure that nobody stays behind the tyre-changer.**

- Press pedal (H) to tilt the arm (P) thereby clearing the turntable.
- Spread the supplied grease (or grease of a similar type) onto the tyre bead.



Failure to use the grease supplied risks causing serious damage to the tyre bead.



**During rim locking NEVER keep your hands under the tyre. For a correct locking operation set the tyre exactly in the middle of turntable.**

#### Outer Locking

- Position the clamps (G) according to the reference mark on the turntable (Y) by pressing pedal (V) down to its intermediate position.
- Place the tyre on the clamps and, keeping the rim pressed down, press the pedal (V) as far as it will go.

#### Inner Locking

- Position the clamps (G) so that they are completely closed.
- Place the tyre on the clamps and press down the pedal (V) to open the clamps and thereby lock the rim.



Make sure that the rim is firmly fixed to the clamps.



**Never keep your hands onto the wheel: the arm recovery to “working position” could set the operator at risk of hand crushing between rim and mounting tool.**

- Return the arm (P) by pressing the pedal (H).
- Unlock the mounting bar (M) by placing the locking button (K) into position "2".
- Lower the mounting bar (M) so that the mounting head (I) rests against the upper edge of the wheel rim and lock the entire assembly by placing the locking button into position "1". This will lock the arm in both vertical and horizontal direction and automatically move the mounting head (I) of about 2 mm from the rim.



**Never keep your hands onto the wheel: the arm recovery to “working position” could set the operator at risk of hand crushing between rim and mounting tool.**

- With the lever (T) inserted between the bead and the front section of the mounting head (I), move the tyre bead over the mounting head. Note: In order to avoid damaging the



inner tube, if there is one, it is advisable to carry out this operation with the valve about 10 cm right of the mounting head. (Fig. 16)



Chains, bracelets, loose clothing or foreign objects in the vicinity of moving parts can represent a danger for the operator.

- With the lever held in this position, let the turntable (Y) rotate in a clockwise direction by pressing pedal (Z) down until the tyre is completely separated from the wheel rim (Fig. 17).
- In order to remove the inner tube, if there is one, without unlocking the mounting bar, tilt the arm (P) by pushing pedal (H) down.
- Repeat the operation for the other bead.

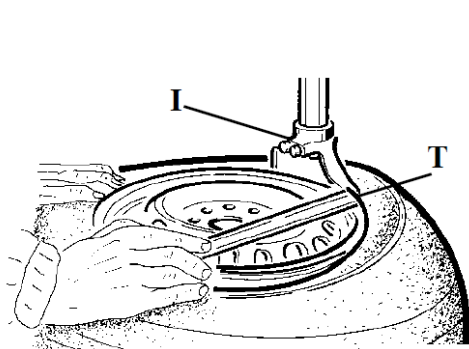


Fig. 16

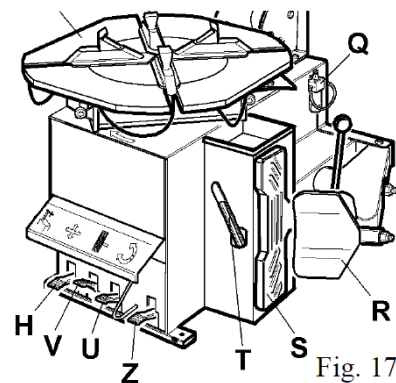
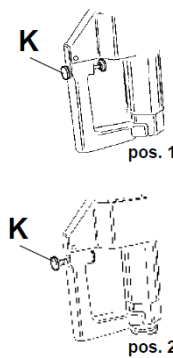


Fig. 17

### 6.3 Mounting the Tyre



**WARNING: This checking of tyre and rim is of the utmost importance to prevent tyre explosion during the inflating operations. Before beginning mounting operation make sure that:**

- The tyre and the cord fabric are not damaged. If you note defects DO NOT mount the tyre.
- The rim is without dents and is not warped. Attention with alloy rims, dents cause internal micro-cracks not visible to the naked eye. This can compromise the rim and can also be a source of danger especially during inflation.
- The diameter of the rim and tyre are exactly the same. NEVER try to mount a tyre on a rim if you cannot identify the diameters of both.

Lubricate the tyre beads with the special grease to avoid damaging them and to facilitate the mounting operations.



**During rim locking NEVER keep your hands under the tyre. For a correct locking operation set the tyre exactly in the middle of turntable.**

For 10 to 24 inch wheels lock the rim using the inner part of the clamps.

For 12 to 24 inch wheels lock the rim using the outer part of the clamps.



During arm tilting make sure that nobody stays behind the tyre-changer

Note: when working with rims of the same size it is not necessary always to lock and unlock the



Never keep your hands onto the wheel: the arm recovery to “working position” could set the operator at risk of hand crushing between rim and mounting tool.

mounting bar; you only need to tilt and return the arm (P) with the arm and the bar locked in their working positions.

Move the tyre so that the bead passes below the front section of the mounting head and is brought up against the edge of the rear section of the mounting head itself.

Keeping the tyre bead pressed down into the wheel rim channel with your hands, press down on the pedal (Z) to rotate the turntable clockwise. Continue until you have covered the entire circumference of the wheel rim (Fig. 19).



To prevent industrial accidents, keep hands and other parts of the body as far as possible from the tool arm when the table top is turning.

- Insert the inner tube (if there is one) and repeat the same operations to mount the upper side of the tyre.

NOTE: Demounting and mounting are always done with the clockwise turntable rotation. Anticlockwise rotation is used only to correct operator's errors or if the turntable stalls.

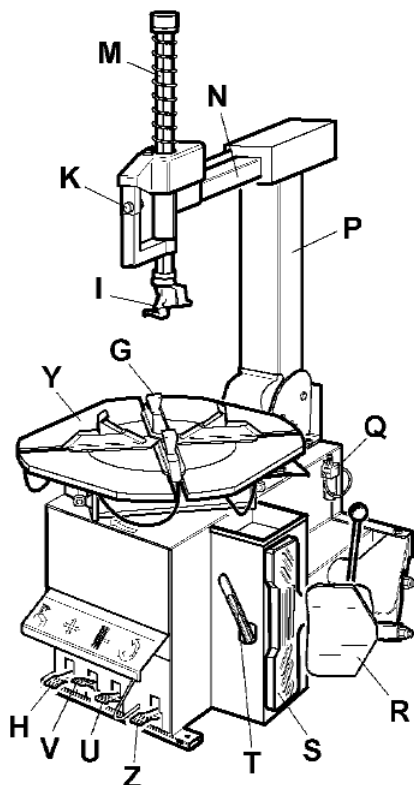


Fig. 18

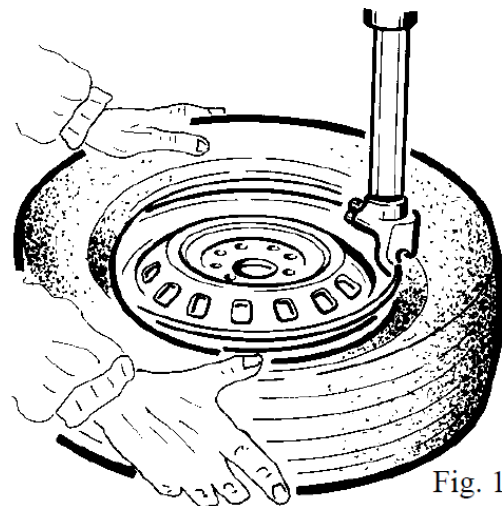


Fig. 19

## 7 Inflating



The greatest attention is called for when inflating the tyres. Keep strictly to the following instructions since the tyre changer is NOT designed and built to protect the user (or anyone else in the vicinity of the machine) if the tyre bursts accidentally.

### **▲ DANGER**

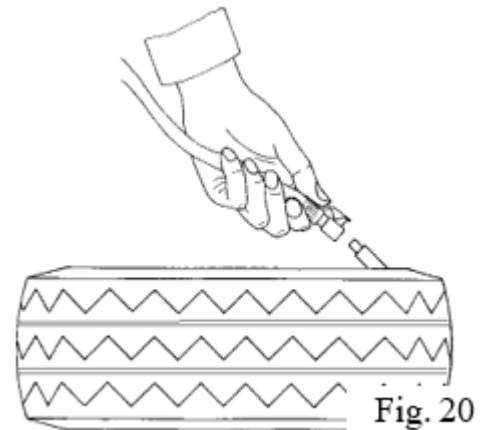


*A burst tyre can cause serious injury or even death of the operator.*

- Check carefully that the wheel rim and the tyre are of the same size.
- Check the state of wear of the tyre and that it has no defects before beginning the inflation stage.
- Inflate the tyre with brief jets of air, checking the pressure after every jet.
- All our tyre changers are automatically limited to a maximum inflating pressure of 3.5 bar (51 psi). In any case **NEVER EXCEED THE PRESSURE RECOMMENDED BY THE MANUFACTURER.**
- Keep your hands and body as far away as possible from the tyre.

Inflating tyre using airline gauge:

- Connect the airline gauge fitting to the tyre valve.
- Make a last check to be certain that tyre and rim diameter correspond.
- Check to be certain that rim and beads are sufficiently lubricated.  
If necessary lubricate some more.
- Seat the beads with short jets of air. Between air jets, check the air pressure on the inflator gauge.
- Continue to inflate the tyre with short jets of air and constantly checking the pressure between air jets until the required pressure has been reached.



### **▲ DANGER**



#### **EXPLOSION HAZARD!**

- **Never exceed 3.5 bar (51 PSI) when seating beads or inflating tyres.**
- **If a higher inflating pressure is required remove the wheel from turntable and continue the inflation procedure inside a special protection cage (commercially available)**
- **NEVER exceed the max. inflating pressure given by the tyre manufacturer ALWAYS keep hands and body back from inflating tyre.**
- **ONLY specially trained personnel are allowed to perform these operations. Do not allow other persons to operate or to stay near the tyre changer.**

## 8 Moving

To move the tyre changer you will need a fork-lift truck.

- Disconnect the pneumatic and electric power supplies.
- Apply leverage to one side of the base so as to raise it slightly from the floor, insert the forks of the truck under the base and slide the tyre changer onto them.
- Set the tyre changer down in its new position.

**Note:** The place chosen for repositioning the tyre changer must comply with European safety at work standards.

## 9 Storage

In the event of storage for long periods of time, be sure to:

Disconnect all sources of power and grease the clamp sliding guides on the turntable to prevent them from oxidising.

## 10 Scrapping

If you decide to scrap the machine, be sure to make it inoperative by disconnecting it from all sources of power.

- Remove all Non-ferrous materials and dispose of them as prescribed by national law.
- Collect the oil and dispose of it at an authorized point as prescribed by national law.
- Scrap the rest as ferrous material.

## 11 Maintenance

### 11.1 General warnings

Unauthorized personnel may not carry out maintenance work.

- Regular maintenance as described in the instructions is essential for correct operation and long lifetime of the tyre changer.
- If maintenance is not carried out regularly, the operation and reliability of the machine may be compromised, thus placing the operator and anyone else in the vicinity at risk.



Before carrying out any maintenance work, disconnect the electric and pneumatic supplies. Moreover, it is necessary to break the bead loadless 3-4 times to let the air pressure go out of the circuit.

Defective parts must be replaced exclusively by expert personnel using the manufacturer's spare parts .

Removing or tampering with safety devices (pressure limiting and regulating valves) represents a contravention of European Safety Standards.



**The MANUFACTURER shall not be held responsible for complaints deriving from the use of spare parts made by other manufacturers or for damage caused by tampering or removal of safety systems.**

When attaining 23.000 working cycles, and in any case not later than 10 years from installation and setting at work date, the tyre-changer must be checked in all its parts by authorized staff.

## 11.2 Maintenance Operations

Clean the turntable once a week with diesel fuel so as to prevent the formation of dirt, and grease the clamp sliding guides.

Carry out the following operations at least once every 30 days:

Check the oil level in the lubricator tank. If necessary, fill up by unscrewing the reservoir F. Only use ISO VG viscosity ISOHG class oil for compressed air circuit (such as ESSO Febis K32; Mobil Vacouline Oil 1045; KLUBER Airpress 32).(Fig. 22)

Check that a drop of oil is injected into the reservoir F every 3-4 times the pedal U is pressed down. If not, regulate using the screw D (Fig. 22).

**Note:** After the first 20 days of work, retighten the clamp tightening screws and the screws on the turntable slides (Fig.23).

**Note:** In the event of a loss of power, check that the drive belt is tight as follows:

Before any operation disconnect the electric power supplies.

- Remove the left side body panel of the tyre changer by unscrewing the four fixing screws.
- Tighten the drive belt by means of the special adjusting screw X on the motor support (Fig. 24).

Note:If it is necessary to adjust the vertical arm locking plate because the tool doesn't lock or it doesn't rise from the rim of 2mm necessary for working, adjust nuts as shown in figure 25.

Note:For cleaning or replacing the silencer for opening/closing clamps, see fig.26 and proceed as follows:

- 1) Remove the left side panel of the machine body by unscrewing the four fixing screws.
- 2) Unscrew the silencer put on the pedal system, on the clamp opening/closing pedal.
- 3) Clean by a jet of compressed air or, if damaged, replace by referring to the spare parts catalogue.

For cleaning or replacing the silencer of bead breaker, see fig.27 and proceed as shown on previous point 1 and 3.

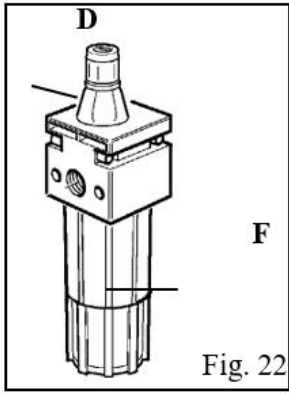


Fig. 22

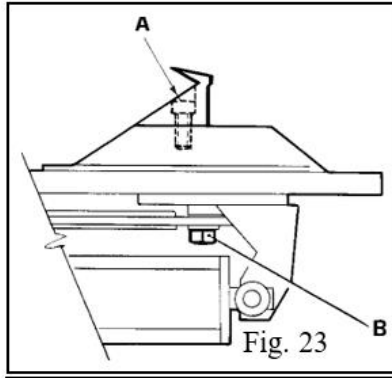


Fig. 23

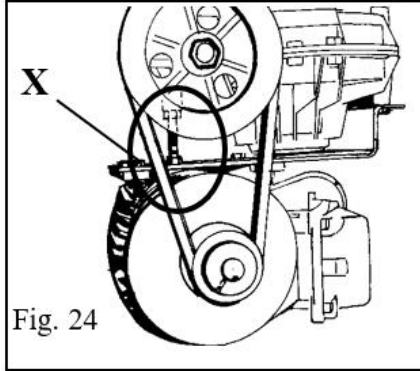


Fig. 24

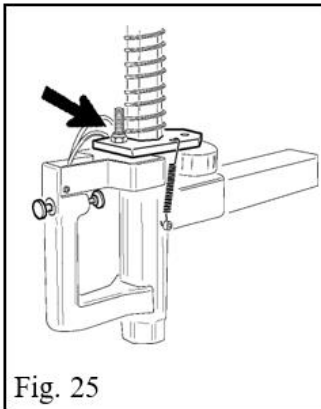


Fig. 25

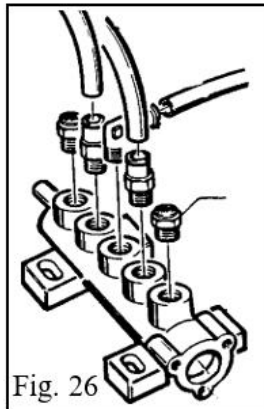


Fig. 26

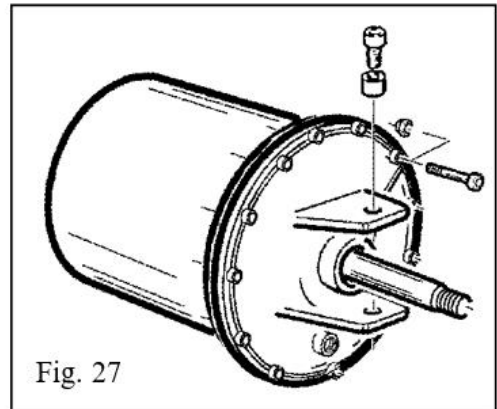


Fig. 27



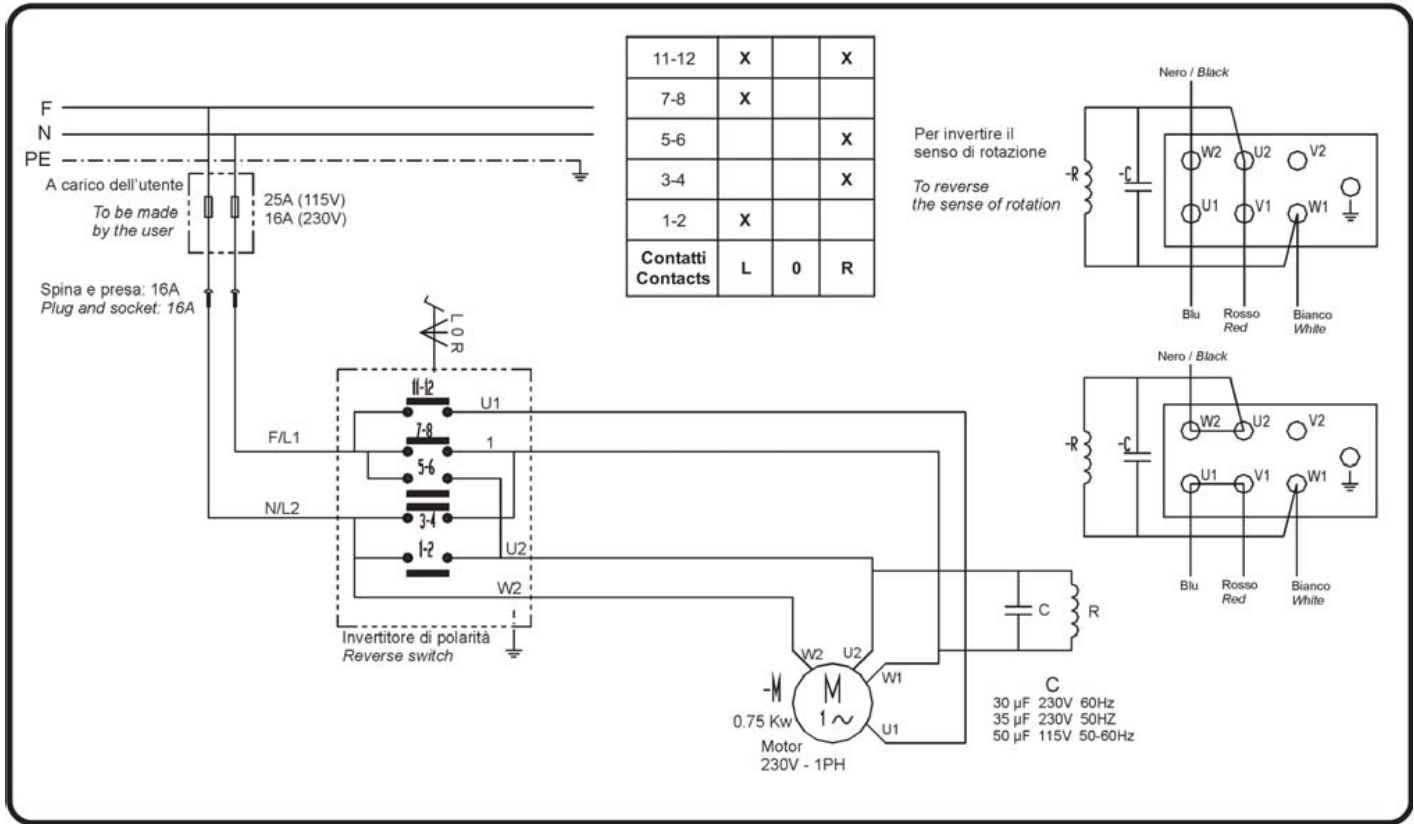
## 13 Technical Data

External locking rim dimension	10" - 20" 11" - 21" 12" - 22"
Internal locking rim dimension	12"- 22" 13" - 23" 14" - 24"
Max. tire diameter	1000mm (39")
Max tire width	350mm (15")
Force on bead breaker blade (10 bar)	2500 kg
Working pressure	10 bar (145 psi)
Inflating pressure device max.	3.5 bar (50 psi)
Power supply voltage	230V 50-60 Hz 1Ph
Motor power	0.75 kw (1ph)
Rotating speed	7 - 14 rpm
Max. rotation torque of turn table	1200 NM
Packing dimension	1080 x950 x 920
Net weight	279 kg
Noise level in working condition	< 70 dB (A)

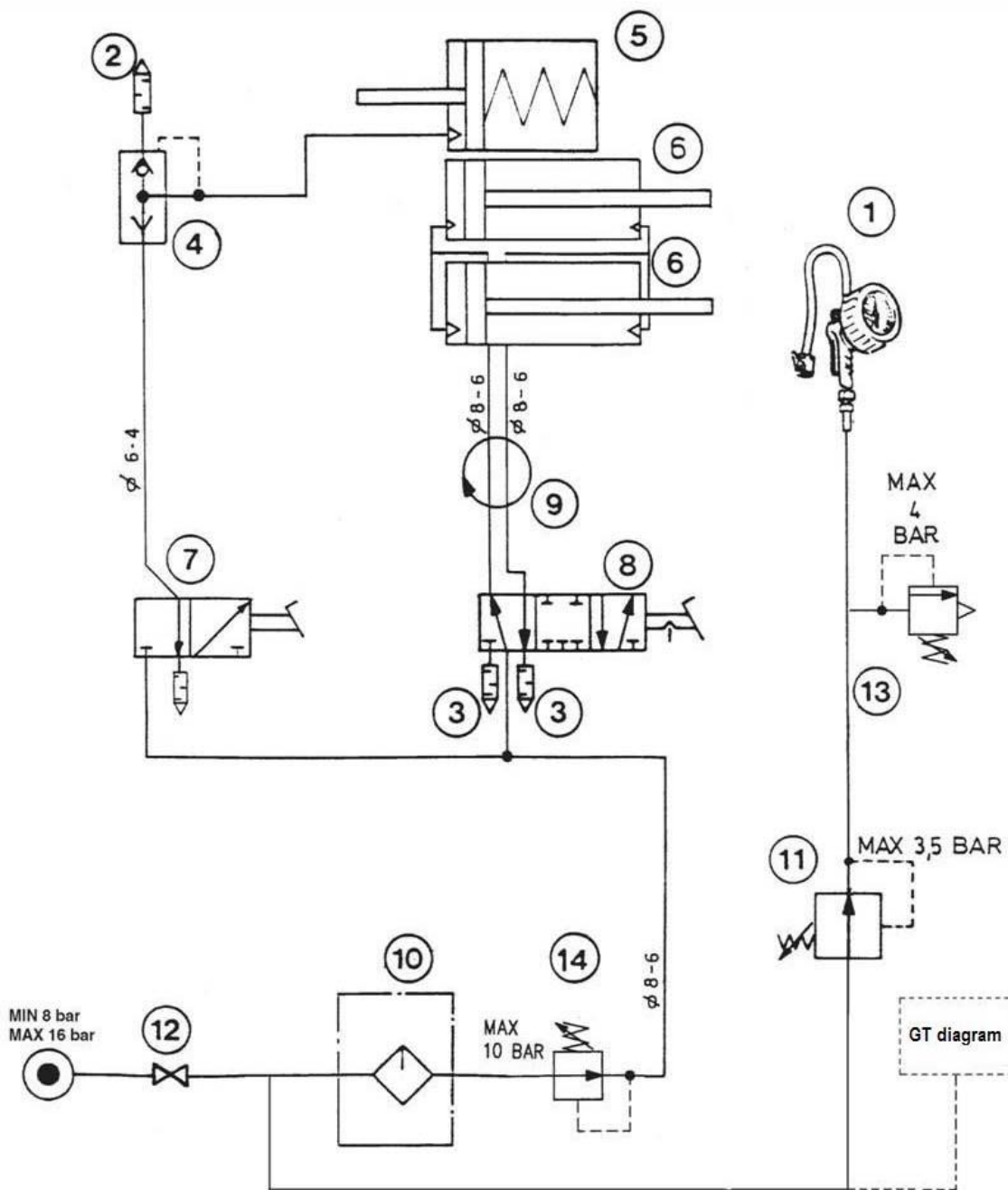


# 14 Electrical Diagram

230V - 1PH



# 15 Pneumatic Diagram



1	Inflating gauge	8	Turntable valve
2	Silencer 1/4"	9	Rotation union
3	Silencer 1/8"	10	Lubricator
4	Quick relief valve	11	Pressure regulator
5	Bead breaker cylinder	12	Air intake cock
6	Turntable cylinder	13	Safety valve
7	Bead breaking valve	14	Pressure regulator

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An obligation to provide the respective characteristics shall only exist if expressly agreed in the terms of contract. We reserve the right to make changes in availability as well as technical changes.