

# Artiglio 50

Cod. 4-103676A - 02/06



Italiano

Manuale d'uso

English

Operator's manual

Français

Manuel d'utilisation

Deutsch

Betriebsanleitung

Español

Manual de uso

I diritti di traduzione, di memorizzazione elettronica, di riproduzione e di adattamento totale o parziale con qualsiasi mezzo (compresi microfilm e copie fotostatiche) sono riservati. Le informazioni contenute in questo manuale sono soggette a variazioni senza preavviso.

Italiano

All rights reserved. No part of this publication may be translated, stored in an electronic retrieval system, reproduced, or partially or totally adapted by any means (including microfilm and photostats) without prior permission. The information contained herein may be subject to modifications without prior notice.

English

Les droits de traduction, de mémorisation électronique, de reproduction et d'adaptation complète ou partielle par tout type de moyen (y compris microfilms et copies photostatiques) sont réservés. Les informations fournies dans ce manuel peuvent être modifiées à tout moment et sans préavis.

Français

Alle Rechte der Übersetzung, der Speicherung, Reproduktion sowie der gesamten oder teilweisen Anpassung durch ein beliebiges Mittel (einschließlich Mikrofilm und Fotokopien) sind vorbehalten. Die in diesem Handbuch enthaltenen Informationen können ohne Vorbescheid geändert werden.

Deutsch

Reservados los derechos de traducción, grabación electrónica, reproducción y adaptación total o parcial con cualquier medio (incluidos microfilmes y copias fotostáticas). Las informaciones contenidas en el presente manual pueden sufrir variaciones sin aviso previo.

Español

Elaborazione grafica e impaginazione

**Ufficio Pubblicazioni Tecniche**

# CONTENTS

INTRODUCTION .....	43
TRANSPORT, STORAGE AND HANDLING .....	44
Conditions for transporting the machine .....	44
Ambient conditions for transport and storage of the machine .....	44
Handling .....	44
UNPACKING/ASSEMBLY .....	45
LIFTING/HANDLING .....	45
INSTALLATION AREA .....	46
Ambient working conditions .....	46
ELECTRICAL AND PNEUMATIC HOOK-UPS .....	46
SAFETY REGULATIONS .....	48
DESCRIPTION OF ARTIGLIO 50 .....	49
TECHNICAL DATA.....	50
OPTIONAL ACCESSORIES .....	51
RIM CENTRING/CLAMPING ACCESSORIES AND THEIR USE.....	51
SPECIFIED CONDITIONS OF USE .....	52
MAIN OPERATING PARTS .....	52
DESCRIPTION OF CONTROLS .....	53
Key to danger warning decals.....	55
How to decide the side of the wheel from which to demount the tyre ..	56
Special instructions.....	56
PRACTICAL HINTS, RECOMMENDATIONS AND IMPORTANT	
INFORMATION .....	57
Practical Hints .....	57
Recommendations .....	58
Information .....	58
GUIDE TO CORRECT USE OF THE ARTIGLIO 50.....	58
DEMOUNTING .....	58
MOUNTING.....	60
Instructions for choosing the tyre .....	60
Mounting the tyre .....	61
“EXTRAORDINARY” MOUNTING PROCEDURE .....	62
CORRECT PROCEDURE FOR DEMOUNTING/MOUNTING RUN FLAT	
TYRES WITH VALVE SENSOR.....	63
TYRE DEMOUNTING.....	63
MOUNTING .....	63
CORRECT PROCEDURE FOR DEMOUNTING/MOUNTING RUN FLAT	
TYRES WITH STRAP-ON SENSOR .....	64
TYRE DEMOUNTING.....	64
MOUNTING .....	64

**GB**

INFLATION ..... 65

    Inflating tubeless tyres ..... 65

    Inflating tube-type tyres ..... 66

    Inflation pressure ..... 66

MAINTENANCE ..... 67

INFORMATION AND WARNINGS ABOUT OIL ..... 68

    Disposing of old oil ..... 68

    Oil spills or leaks ..... 68

    Precautions for the use of oil ..... 68

    Mineral oil: first aid procedures ..... 69

FIREFIGHTING EQUIPMENT TO BE USED ..... 69

GLOSSARY ..... 70

TROUBLE SHOOTING ..... 74

ELECTRICAL DIAGRAM ..... 76

PNEUMATIC SYSTEM DIAGRAM ..... 77

    General Pneumatic System Diagram ..... 77

# INTRODUCTION

The purpose of this manual is to furnish the owner and operator with a set of practical, safe instructions for the use and maintenance of the ARTIGLIO Master tyre changer. Follow all the instructions carefully and your tyre changer will assist you in your work and give lasting, efficient service in keeping with CORGHI traditions. The following points define the levels of danger regarding the machine, associated with the warning captions found in this manual:

## **DANGER**

**Refers to immediate danger with the risk of serious injury or death.**

## **WARNING**

**Dangers or unsafe procedures that can cause serious injury or death.**

## **ATTENTION**

**Dangers or unsafe procedures that can cause minor injuries or damage to property.**

Read these instructions carefully before powering up the machine. Conserve this manual and all illustrative material supplied with the machine in a folder near the tyre changer where it is readily accessible for consultation by the machine operators.

The technical documentation supplied is considered an integral part of the machine; in the event of sale all relative documentation must remain with the tyre changer.

The manual is only to be considered valid for the machine of the model and with the serial number indicated on the nameplate applied to it.



## **WARNING**

**Adhere to the contents of this manual: Corghi declines all liability in the case of uses of the machine not specifically described.**



## **WARNING**

**This machine can only be used properly by a skilled, authorised operator capable of understanding the written instructions provided by its producer and those of the tyres and wheel rims. Operators must also be trained and familiar with the safety rules. Use of the machine by inappropriate staff may involve serious risks for the operator and for the final user of the product processed (the wheel rim and tyre assembly).**

## **NOTE**

Some of the illustrations in this manual have been taken from photographs of prototypes: standard production machines may vary in some respects.

These instructions are for the attention of persons with basic mechanical skills. We have therefore omitted detailed descriptions of procedures such as how to loosen or tighten the fixing devices on the machine. Do not attempt to perform operations unless properly qualified and with suitable experience. In case of need, contact an authorised Service Centre for assistance.

**GB**

# TRANSPORT, STORAGE AND HANDLING

## Conditions for transporting the machine

The tyre changer must be transported in its original packing and maintained in the position shown on the packing itself.

- Packaging dimensions:

- width ..... 1320 mm
- depth ..... 760 mm
- height ..... 1830 mm

- Weight of wooden packaging:

- version with wheel lift ..... 320 kg
- version with wheel lift + T.I. .... 335 kg

## Ambient conditions for transport and storage of the machine

Temperature:  $-25^{\circ} \div +55^{\circ}\text{C}$ .



**WARNING**

To avoid damage, never place other items on top of the packaging.

## Handling

To move the packaging, insert the forks of a pallet truck in the channels provided in the base of the pallet (1 fig. 1).

For instructions on moving the machine, refer to the LIFTING/HANDLING section.



**ATTENTION**

Keep the original packaging for use if the equipment has to be transported again in the future.

# UNPACKING/ASSEMBLY



## WARNING

**Carry out the unpacking, assembly, lifting and installation operations described below with care.**

**Failure to comply with these recommendations may damage the machine and put the operator's safety at risk.**

- Remove the top part of the cardboard packaging. Make sure that the machine has not been damaged in transit, and identify the points at which it is anchored to the pallet (2 fig. 1), ready to remove the machine.
- The machine comprises five main sections (fig.2a):
  1. Body with pedal unit and turntable.
  2. Column with bead breaking unit and tool arm.
  3. Air tank (T.I. version only).
  4. Wheel lift (Optional).
  5. Bead presser (Optional).
- Remove the packaging from the air tank and/or any optional units, and place them in a position where they cannot fall over and be damaged.
- Reassemble the tool drive cylinder D.20x400 as shown in figure 7a; the cylinder is shipped strapped to the arm.
- Screw back on the bracket which supports the bead breaker drive unit (fig. 7b).
- Fit the wheel lift (fig. 7d) using the three screws.
- Connect the tank union to the air connection pipeline provided, securing it with a band clamp. Secure the air tank to the machine using the bracket provided, with screws (A) and nuts (B) (fig.2a) (T.I. version only).
- Position the drawer units and rear tool tray using the screws as shown in figure 7c.

## LIFTING/HANDLING

To remove the machine from the pallet connect to it by means of the lifting bracket 1 provided, as shown in fig. 2.

This lifting point must be used whenever you need to change the installation position of the machine. Do not attempt to move the machine until it has been disconnected from the electricity and compressed air supply systems.

**GB**

# INSTALLATION AREA



## WARNING

The installation site must be chosen in strict compliance with the relevant regulations regarding safety in the workplace.

**IMPORTANT:** for correct, safe use of the equipment, users must ensure a lighting level of at least 300 lux in the place of use.



## ATTENTION

If the machine is installed outdoors, it must be protected by a roof.

Place the tyre changer in the chosen work position, complying with the minimum clearances shown in fig 3.

The machine must be placed on a horizontal surface, preferably concrete or tiled. Do not install on unstable or damaged surfaces.

The surface on which the machine rests must withstand the loads transmitted during operation. The surface must have a load-carrying capacity of at least 400 kg/m<sup>2</sup>.

### Ambient working conditions

- Relative humidity 30% - 95% without condensation.
- Temperature 0°C ÷ 50°C.



## WARNING

Use of the machine in a potentially explosive atmosphere is not permitted.

# ELECTRICAL AND PNEUMATIC HOOK-UPS



## WARNING

All operations required for the electrical hook-up of the equipment must be carried out exclusively by a qualified electrician.

- The electrical supply must be suitably sized in relation to:
  - the machine's electrical power absorption, specified on the machine's dataplate -19 fig. 5;
  - the distance between the machine and the power supply hook-up point, so that voltage drops under full load do not exceed 4% (10% during start-up) below the rated voltage specified on the dataplate.

- The user must:
  - fit a power plug in compliance with the relevant safety standards on the power supply lead;
  - connect the machine to its own electrical connection - A fig. 6 - having a differential safety circuit-breaker with sensitivity 30 mA;
  - fit fuses to protect the power supply line, rated as indicated on the general electrical system diagram enclosed with this manual;
  - provide the workshop's electrical system with a protective earth connection circuit in good working order.
- To prevent unauthorised use of the machine, always disconnect the mains plug when the machine is out of use (switched off) for lengthy periods.
- If the machine is connected directly to the power supply by means of the main electrical panel without the use of a plug, a key-switch or device with padlock fixture must be provided to restrict use of the machine to authorised personnel only.



### **WARNING**

**A good earth connection is essential for correct operation of the machine.  
NEVER connect the earth wire to a gas or water pipe, telephone wire or any other unsuitable objects.**

Check that the pressure and flow-rate provided by the compressed air system are compatible with those required for proper operation of the machine - see "Technical Data" section. For correct operation of the machine the compressed air supply line must provide a pressure range from no less than 8 bar to no more than 16 bar.

Make the connection to the compressed air system by means of a supply line connected to the intake of the air treatment unit on the side of the base of the machine - A fig. 7. Check that the Lubricator unit B fig. 7 contains air lubricating oil; top up if necessary. Use SAE20 oil.

The customer must provide an air cut-off valve upstream of the air treatment and regulator device supplied with the machine B fig. 6.

# SAFETY REGULATIONS

The equipment is intended for professional use only.



## WARNING

**Only one operator may work on the equipment at a time.**



## WARNING

**Failure to comply with the instructions and danger warnings may cause serious injury to operators and to others in the vicinity. Before powering up the machine, read and ensure you understand all the danger, warning and attention notices in this manual.**

This machine must be used only by qualified and authorised personnel. A qualified operator is construed as a person who has read and understood the manufacturer's instructions, is suitably trained, and is conversant with safety and adjustment procedures to be adhered to during operations. Operators must not use the machine under the influence of alcohol or drugs which may affect their capacity.

The operator must, in all cases:

- Be able to read and understand all the information in this manual.
- Have a thorough knowledge of the capabilities of this machine.
- Keep unauthorised persons well clear of the area of operations.
- Make sure the machine has been installed in compliance with all relevant regulations and legislation.
- Make sure that all machine operators are suitably trained, that they are capable of using the equipment correctly and that they are adequately supervised.
- Never leave nuts, bolts, tools or other equipment on the equipment; they may become entrapped between moving parts.
- Not touch power lines or the inside of electric motors or other electrical equipment until the power supply has been disconnected.
- Read this manual carefully and learn how to use the machine correctly and safely.
- Always keep this operator's manual in an easily accessible place and consult it whenever necessary.



## WARNING

**Do not remove or deface the Danger, Warning or Instruction decals. Replace any missing or illegible decals. If one or more decals have been detached or damaged, replacements can be obtained from your nearest dealer.**

- When using and carrying out maintenance on the machine, observe the standardised industrial accident prevention regulations for high voltages.
- Unauthorised alterations or changes to the machine relieve the constructor of all liability for any consequent damage or accidents. Specifically, tampering with or removing the safety devices is a breach of the regulations for safety in the workplace.
- The user must wear personal protection equipment such as gloves, safety footwear and goggles.



## WARNING

**When operating or servicing equipment tie back long hair and do not wear loose-fitting clothes, ties, necklaces, rings or wristwatches which could become entrapped by moving parts.**

## DESCRIPTION OF ARTIGLIO 50

The ARTIGLIO 50 is a universal electro-pneumatic tyre changer for car, off-road vehicle and van wheels.

It is designed to work effectively on:

- Conventional wheels;
- Reverse rim wheels or wheels without central well - (using optional kit);
- Runflat tyres with reinforced sidewall - runflat tyres with internal support.

*N.B. Clamping and/or demounting wheels in the vintage car category (cars out of production for more than 30 years) and some types of rally wheels and wheels of cars approved only for off-road use may be difficult and occasionally even impossible.*

The ARTIGLIO 50 allows extremely easy bead breaking, demounting and mounting of any type of tyre in the aforesaid categories having rim diameter from 12" to 30 ".

In all stages, the ARTIGLIO 50 works with the wheel horizontal, clamped and perfectly centred on the turntable.

Wheel loading and unloading operations are simplified by an ergonomic wheel lift (optional kit) which reduces the operator effort required.

The key feature of the ARTIGLIO 50 is the elimination of the bead lifter lever.

Its absolutely innovative operating principle comprises:

- An effective system which clamps the wheel by means of its central well (an optional clamping kit is available for closed centre rims). This clamping system, manual in the basic version or pneumatic in the optional versions, allows the wheel to be centred and clamped using a simple handle, supporting a cone. Moreover, since the wheel rests on the contact zone only, breaking the bead on the underside with the wheel in the horizontal working position becomes much easier.
- A pneumatic bead breaker unit comprising a single arm fitted with the tilting bead breaker disc. This arm, with vertical travel, has two-way swing. The disc is placed on the top edge of the rim by hand, and once it has been clamped in position the 180° swinging movement also allows perfect positioning on the bottom edge. Bead breaking is assured and simplified by the manually operated controlled-penetration disc movement.
- A mount/demount head installed on a mobile arm which swings out to the side. The mount/demount head consists of one fixed supporting element used for mounting and another, mobile element, hinged onto the fixed part, which allows optimal demounting of the tyre without the use of the bead lifter lever\*

**GB**

*\* In a very few cases, a manual "help" accessory supplied as standard may be of use in simplifying demounting where excessive lubricant has been applied and/or where tyres are combined with unusual rims (see fig. 34).*

- A pedal-controlled pneumatically operated wheel lift (optional) which loads and unloads the wheel to and from the working position
- The ARTIGLIO 50 also achieves the following:
- Reduced physical effort on the part of the operator
  - No risk of damage to rim and tyre

Each machine carries a nameplate 19 fig. 5 with its identification data and some technical data.

As well as the manufacturer's details, it carries: Mod. - *Machine model*; V - *power supply voltage in Volts*; A - *Current absorption in Amps*; kW - *Power absorption in kW*; Hz - *Frequency in Hz*; Ph - *Number of phases*; bar - *Operating pressure in bar*; Serial N. - *Machine serial number*; ISO 9001 - *Guarantee of certification of the company Quality System*; CE - *CE mark*.



## WARNING

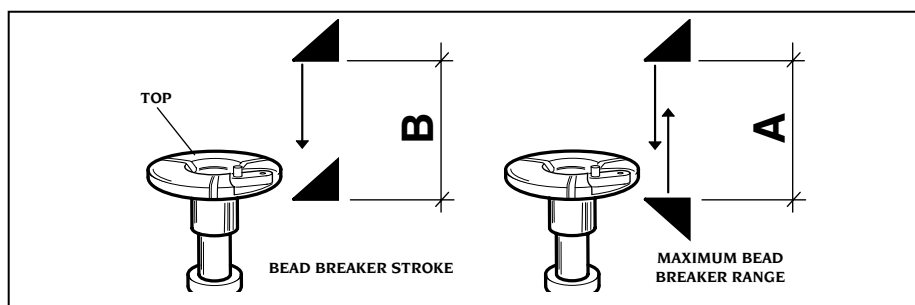
The data on the nameplate may never be altered or defaced for any reason.

# TECHNICAL DATA

- Overall dimensions (see fig. 4):
  - Length ..... A = 1500 mm
  - Length ..... A1 = 1565 mm
  - Width ..... B = 955 mm
  - Width (with wheel lift) ..... B1 = 1290 mm
  - Max width when fully open ..... B2 = 1580 mm
  - Height ..... H = 1810 mm
- Tyre types processed ..... conventional runflat with reinforced sidewall and/or with internal support
- Wheel dimension range:
  - rim diameter ..... from 12" to 30"
  - maximum tyre diameter ..... 1200 mm (47")
  - maximum tyre width ..... 15" (from wheel support surface)
- Turntable:
  - rest ..... flanged
  - centring ..... on cone
  - clamping ..... mechanical-manual
  - drive system ..... 2-speed motor-inverter unit
  - rotation torque ..... 1100 Nm
  - rotation speed ..... 7 - 18 rpm
- Bead Breaker Unit:
  - tool .. disc
  - positioning in relation to rim ..... manual with mechanical clamping
  - penetration ..... guided
  - maximum bead breaking range ..... A = 670 mm (see diagram page 13)
  - bead breaker stroke ..... B = 540 mm (see diagram page 13)
  - bead breaking cylinder force ..... 7600 N
- Wheel lift:
  - operation ..... automatic lifting/manual tilting

- drive ..... pneumatic
- lifting capacity ..... 85 Kg
- Power supply:
  - electric 1 Phase ..... 230V-0.98 kW 50Hz/60 Hz
  - electrical 1 Phase (alternative) ..... 110V-0.98 kW 50Hz/60 Hz
  - pneumatic operating pressure ..... 8÷9.5 bar
- Weight ..... 310 kg (with wheel lift)
- Noise level
  - Weighted noise level A (LpA) in working position ..... < 70 dB (A)

The stated noise levels are emission levels and do not necessarily represent safe operating levels. Although there is a relationship between emission levels and exposure levels, this cannot be used reliably to establish whether or not further precautions are necessary. The factors which determine the level of exposure to which the operator is subjected include the duration of the exposure, the characteristics of the workplace, other sources of noise, etc. The permitted exposure levels may also vary from country to country. However, this information will enable the machine's user to make a more accurate evaluation of the hazard and risk.



## OPTIONAL ACCESSORIES

For the full list of optional accessories for the ARTIGLIO 50 TYRE CHANGER, refer to the "ORIGINAL ACCESSORIES" handbook supplied with the machine.

**GB**

## RIM CENTRING/CLAMPING ACCESSORIES AND THEIR USE

For the diagram concerning optimal use of the centring and clamping accessories depending on rim type, see fig. 37 onward.

# SPECIFIED CONDITIONS OF USE

ARTIGLIO 50 tyre changers are designed solely for mounting and demounting tyres using the tools with which they are equipped as described in this manual.



## WARNING

**Any use other than that described is regarded as unsuitable and rash.**

The machines are equipped with an inflation system independent of the other functions described above. Take great care when using it (read the INFLATION section).



## WARNING

**The use of equipment other than genuine CORGHI accessories when operating the machine is not recommended.**



## WARNING

**Keep hands well away from moving parts of the machine.**



## WARNING

**To stop the machine in an emergency:**

- **disconnect the power supply plug;**
- **cut off the compressed air supply network by disconnecting the shut-off valve (snap coupling).**

# MAIN OPERATING PARTS



## WARNING

**Learn all about your machine: the best way to prevent accidents and obtain top performance is to get to know exactly how it works. Learn the function and layout of all the controls. Check carefully that each of the controls operates as it should. To avoid any risk of accident and injury, the machine must be installed and operated correctly, and serviced regularly.**

The machine's main operating parts are shown in fig. 5.

- 1 Body
- 2 Wheel lift (optional accessory) - F fig.9 - .
- 3 Motor guard.
- 4 Centring handle (device for clamping the wheel to the turntable).
- 5 Mobile mount/demount head.
- 6 Side-swinging tool head arm.
- 7 Demount tool control cylinder.
- 7a Tool head descent cylinder.
- 8 Supporting column.
- 9 Panel with arm swing control and pressure gauge (fig. 9).

- 10 Bead breaker unit disengagement control (fig. 12).
- 11 Wheel rest and centring unit.
- 12 Bead breaker unit control console (see fig.13).
- 13 Bead breaker disc.
- 14 Tilting bead breaker unit.
- 15 Pedal control unit.
- 16 Grease container.
- 17 Wheel lift control.
- 18 Filter Regulator + Lubricator unit (unit which regulates, filters, dehumidifies and lubricates the compressed air supplied), (fig.7).
- 19 Dataplate.
- 20 Relief valve (fig. 5a).
- 21 Air tank (fig. 5a).
- 22 Doyfe union.



### **WARNING**

**For technical characteristics, warning notices, maintenance and all other information regarding the air tank, refer to the air tank operator's manual supplied with the machine documentation.**

## **DESCRIPTION OF CONTROLS**

- see figure 9 -

### **A - Arm swing control and wheel pressure display panel**

#### *A1 - Air pressure display gauge*

Pressure gauge which displays the air pressure set with the pedal E1.  
Displays the tyre pressure in bar.

#### *A2 - Tool arm swing control*

The control swings the tool arm into the working position and locks it there.  
The same control releases the tool arm and swings it outwards.

#### *A3 - Deflation button*

Press this button to discharge excess air from inside the tyre. This button can only be used during inflation of the tyre with the Doyfe union of the inflation line connected to the stem of the valve.

**GB**

## B - Bead breaker disc unit functional controls

### B1 - *Bead breaker disc penetration control*


At the start of the bead breaking process, when the bead breaker disc comes into contact with the tyre, activate this “hold-to-run” control for radial movement of the bead breaker disc.


This allows controlled disc penetration during bead breaking. The bead breaker disc will now work around the profile of the rim, simplifying bead breaking.

### B2- *Bead breaker disc positioning locking/release control*

Locks the bead breaker disc in the position required.

The control has two positions:

In position  : the bead breaker disc arm travels freely to allow optimal radial positioning on the edge of the rim.

In position  : the bead breaker disc arm is pneumatically locked in place, allowing the start of the bead breaking operations.

### B3 - *Lever controlling vertical movement of the bead breaker unit*

### B4 - *Bead breaker unit release control*

## C - Demounting/mounting unit functional control

### C1- *Demount head control*

As a diagram beside the control indicates, this lever is used to engage the bead before demounting, both for the first and then for the second bead.

### C2 - *Control for locking the demount head in the ideal position*

Once the head has been placed in the ideal position, operating this control locks it in place.

## D - Bead breaker unit tilting control

### D1-

The control on the bead breaking unit tilting handle provides pneumatic release of the unit.

As long as the button is pressed the bead breaker unit is released and can be tilted using the handle.

## E - Turntable and deflation pedal control unit

### E1 - Tyre inflation pedal

Press with the Doyfe union of the inflation line fitted to the valve to deliver air into the tyre and inflate it.

### E2 - Turntable rotation pedal

This pedal starts rotation of the turntable to which the wheel is fixed. The pedal has 4 different positions, providing 4 different rotation speeds.

1. Pedal raised (without detent): slow anti-clockwise rotation.
2. Pedal in rest position (with detent): turntable at a standstill.
3. Pedal pressed slightly down (without detent): slow clockwise rotation.
4. Pedal pressed right down (without detent): fast clockwise rotation.

## F - Wheel lift (optional) pedal control unit

### F1 -

Pedal pressed (without detent): wheel lifting, operation on "hold-to-run" principle.

### F2 -

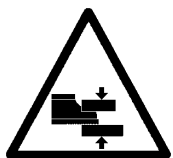
Pedal pressed (without detent): wheel descent, operation on "hold-to-run" principle.

## Key to danger warning decals



Risk of crushing.

Never insert any part of the body, and in particular hands, between the bead breaker disc or demount/mount tools and the wheel.  
Never insert a hand between the turntable and the wheel.



Risk of crushing.

Never insert any part of the body between the wheel lift and other components with which it comes into contact.



NEVER stand behind the machine. Only one operator may operate and use the machine.

NEVER stand or pass beside the machine when in operation.  
The tool arm and bead breaking unit swing sideways

**GB**



Impact hazard.  
Take care not to knock your head against the bead breaking arm.



Impact hazard.  
Take care not to knock your head or any other part of your body against the arm during extension.



Risk of crushing.  
Never insert any part of the body, and in particular hands, between the demount/mount tool and the wheel.

### **Preliminary checks**

Check on the pressure gauge of the filter regulator + lubricator unit that there is a pressure of at least 8 bar.

Check that the machine has been hooked up to the electrical mains correctly.

### **How to decide the side of the wheel from which to demount the tyre**

See fig.8

Find the position of the drop centre A on the wheel rim. Find the largest width B and the smallest width C.

The tyre must be demounted or mounted with the wheel positioned on the turntable with the side with the smallest width C facing upward.

### **Special instructions**

Some types of wheels on the market require special procedures and precautions which differ from the standard procedure.

This applies in particular to the following types of wheels:

**Alloy rim wheels:** some wheels have alloy rims where the drop centre A is very small or non-existent - fig. 8a. These rims are not approved to DOT (Department of Transportation) criteria - the marking which certifies the tyre's conformity to the safety standards adopted by the United States and Canada (these wheels cannot be sold on these markets).



**DANGER**

**Take great care when mounting the tyre. The rim and/or the tyre may be damaged accidentally, with the risk of the tyre exploding during the inflation stage.**

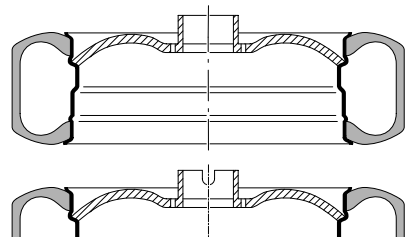
**European style high-performance wheels (asymmetric curvature)** - fig. 8b: some European wheels have rims with very pronounced curves C, except in the area of the valve hole A where the curvature is less pronounced B. On these wheels the bead must first be broken in correspondence with the valve hole, on both the top and bottom sides of the wheel.

**Wheels with low pressure indicator system** - fig. 10c: see "Procedure for wheels with valve or band-type sensors"



**N.B.:**

When working on weak rims (i.e. with central well with thin, projecting edges - see side), or rims with gaps, we recommend use of the universal closed centre rim flange accessory.



## PRACTICAL HINTS, RECOMMENDATIONS AND IMPORTANT INFORMATION



**WARNING**

**Must be read before using the ARTIGLIO 50**

**The following information is very important. It will simplify the operator's job and/or clear up any doubts which might arise**

### Practical Hints

- During demounting, over-lubrication and/or an unusually shaped rim edge may cause the tyre to slip on the rim, making demounting difficult. First, try using the bead breaker disc in an upward direction to raise the tyre. Otherwise, to speed up the procedure simply place the manual Help accessory between the tyre and the edge of the rim. This will allow the bead to be lifted quickly off the rim so that it can be demounted (fig.34).
- During demounting, if the tool is unable to completely overturn the tyre bead to allow demounting to start, the tyre bead may still be, or just have been, inserted at 180° to the demounting zone. In this case it is essential to restore the ideal condition, with the tyre bead inside the well of the rim. This operation can be assisted with any tool you wish (clamp provided, pliers, bead presser or lever) (fig.34A).
- During demounting, if the tool is unable to keep the tyre bead engaged to allow demounting to start, the tyre bead may still be inserted on the underside. Use the bead breaker disc in an upward direction both to break the tyre bead again and to help to maintain a grip on it (fig. 34B).

**GB**

## Recommendations

To prevent absolutely all rim damage, the plastic insert underneath the tool head must be replaced every 2 months, or sooner if excessively worn (fig.36A). Spare insert is supplied with the machine.

## Information

Any noise heard when the tool head engages with the tyre is normal. The noise is made by the mechanical return of the tool and not because the tool has hit the rim. Even if the tool does touch the rim as the tyre is engaged, this will not damage the rim in any way. The pressure applied is very low.

If you wish to prevent this noise, simply press the bead breaker disc harder against the bead when picking it up.



### WARNING

**Bead breaking is well known to be a dangerous operation. It must be carried out in accordance with the instructions below.**

**Car, off-road vehicle and van wheels**

# GUIDE TO CORRECT USE OF THE ARTIGLIO 50



### WARNING

**Read the “PRACTICAL HINTS, RECOMMENDATIONS AND USEFUL INFORMATION” section above with great care.**

## DEMOUNTING

### 1 • Loading the wheel (fig.9a)

- Place the wheel on the lift (A).
- Lift the wheel by operating the pedal 1 (B).
- Transfer the wheel to the turntable (C) by hand and lower the lift by operating the pedal 2.
- When positioning the wheel on the turntable, also take care to align the mobile pin, on the edge of the turntable, in one of the fixing bolt holes in the rim (D).

### 2 • Clamping the wheel on the turntable (fig.10)

- Fit the clamping device into the drop centre of the wheel (A).
- Turn the device for correct engagement with the turntable (B).
- By hand, move the centring cone into pos. on the rim by moving the retainers 1 (C).
- Tighten the clamping device by turning the handles 2 clockwise (D).

### 3 • Deflating the tyre (fig.11)

- Undo the valve and fully deflate the tyre.

#### 4 • Positioning the bead breaker (fig. 12)

- Move the bead breaker unit from the rest position to the working position by moving using the handle 3 (A).
- Move the disc towards the rim:
  - swing horizontally by hand (B)
  - move vertically using control 1 (C)
- When the chosen distance is reached (a gap of **2-3 mm** should be left between the edge of the rim and the bead breaker disc), operate the control 2 to prevent further horizontal movement (D).

#### 5 • Breaking the top bead (fig. 13)

- Preload the bead breaker disc using control 2 (the tyre should be pressed down by about 5 mm).
- Start disc penetration (control 1) and then start wheel rotation (pedal 3), while at the same time lowering the bead breaker disc a little at a time (control 2).
- Perform at least one complete revolution to break the bead. The rim bead should be greased during rotation.
- Release the penetration control 1.

#### 6 • Tilting the bead breaker unit (fig. 14)

- Move the bead breaker unit to the rest position (A).
- Press the button 1 and guide the bead breaker unit during rotation through 180° until it engages again (B).
- Return the bead breaker unit to the working position.

#### 7 • Breaking the bottom bead (fig. 15)

- Apply pressure to the tyre with the disc using control 1 (A) (the tyre should be pressed down by about 5 mm).
- Obtain disc penetration by keeping button 2 pressed, start to rotate the wheel (pedal 3) and at the same time raise the bead breaker disc a little at a time (control 1) until the bead is completely broken (B). The rim bead should be greased during rotation.
- Release the penetration button (2) and lower the disc using control 1 (C).

#### 7a • Tilting the bead breaker unit (fig. 15a)

- Move the bead breaker unit to the rest position (A).
- Press the button 1 and guide the bead breaker unit during rotation through 180° until it engages again (B).
- Return the bead breaker unit to the working position.

#### 8 • Positioning the tool (fig. 16/17)

- Move the tool head into the working position (control 1).
- It may be useful to press the tyre down to make room for the tool.
- Release the tool by pulling block 2 towards you (A).
- For correct tool positioning, the insert 3 must be against the edge of the rim in the point where the vertical wall starts (C).
- Press the block 2 to fix the tool position (D).

#### 9 • Engaging the top bead (fig. 18) A-B-C-D

- Maintaining the pressure of the bead breaker disc on the tyre, create enough space to allow the demount tool to be rocked.
- Using control 1, rock the demount tool (A-B-C-D).
- It is important to rotate the turntable slightly to facilitate engagement of the bead.

- For easier bead engagement, it might be very helpful to use the bead breaker disc on the underside of the tyre (D).
- To do this, repeat the steps up to point **7a**.

#### **10 • Demounting the top bead (fig.19)**

- Check that the tool has engaged with the tyre bead.
- Operate control 1 to prepare for the subsequent demounting (A) (this must be done with the wheel at a standstill and **not** rotating).
- Check that the bead of the tyre has not slipped back into the rim on the upper side. If necessary, use a clamp and/or bead presser for assistance (fig.34A).
- Now, and only now, operate the pedal 2 until the bead is completely demounted (B).
- Here again, it might be helpful to use the bead breaker disc on the underside of the tyre (fig.20).
- During demounting, if the tyre should tend to slip on the edge of the rim, the HELP accessory supplied can be used (see "PRACTICAL HINTS, RECOMMENDATIONS AND USEFUL INFORMATION").

#### **11 • Engaging the bottom bead (fig.20)**

##### **(Demounting using the tool head)**

- Place the tool on the edge of the rim (A).
- Push the bead breaker disc against the bottom bead (B) using control 1.
- Using control 2, operate the hook and engage the bottom bead of the tyre (C-D).
- Operate the pedal 3 to rotate the wheel until the tyre is completely demounted from the rim (E).

#### **12 • Demounting the bottom bead (fig.20a)**

##### **(Rapid system when possible)**

- Operate control 1 and raise the bottom bead of the tyre (A) until it is level with the top bead of the rim (B).
- Obtain disc penetration by keeping button 2 pressed (C).
- Keep button 2 pressed, start to rotate the wheel (pedal 3) and at the same time raise the disc a little at a time (control 1). Rotate until the tyre is completely demounted.

#### **12a • Demounting the bottom bead (fig.20b)**

- For reverse rims the disc stroke range can be increased by turning the bead breaker and tipping the disc over. (fig.3 - 4).

#### **13 • Demounting completed (fig. 21)**

- When demounting is completed (A) release the penetration button (2) and lower the bead breaker disc (control 1) (B).
- Bring the bead breaker unit to the rest position (C) by pressing button 3.

## **MOUNTING**

### **Instructions for choosing the tyre**

To make full use of all a tyre's characteristics and have the necessary guarantees of safety in use, a series of precautions must be taken when choosing and fitting tyres.

The tyre's dimensional, construction and service characteristics are provided by the markings on its sidewall.

Once the appropriate tyre has been chosen from those approved for use on the vehicle, the mounting procedure can begin.



## ATTENTION

When mounting a new tyre, replace the inner tube in tube type tyres and the valve in tubeless types.



## ATTENTION

Always check that the tyre/rim combination is correct in terms of compatibility (tubeless tyre on tubeless rim, tube type tyre on tube type rim) and geometrical size (keying diameter, cross-section width, Off-Set and shoulder profile) before mounting.

Also check that rims are not deformed, that their fixing holes have not become oval, that they are not encrusted or rusty and that they do not have sharp burrs on the valve holes.

Check that the tyre is in good condition with no signs of damage.

## Mounting the tyre

### 1 • Preparing the tyre (fig.22)

- Grease both the tyre beads (A).
- Place the tyre on the rim (B)

### 2 • Positioning the tool head (fig.23)

- Operate control 1 to move the tool head into the working position (A).

N.B.: The tool is already in the correct position for mounting the tyre, unless the type of rim has been changed.

### 3 • Mounting the bottom bead (fig.24)

- Place the bottom bead of the tyre underneath the tool (A) and at the same time apply a little pressure to the tyre by hand while starting to rotate the wheel (pedal 1) for easier bead insertion.
- Rotate until tyre mounting is complete.

### 4 • Positioning the top bead (fig.25)

- Position the top bead of the tyre as clearly shown in fig. 25.



Take care that the tyre does not slip underneath the tool.

### 5 • Tilting the bead breaker unit (fig.26)

- Press the button 1 and move the bead breaker unit into the top working position.

### 6 • Return the bead breaker unit to the working position (fig.27)

### 7 • Positioning the bead breaker disc (fig.28)

- Lower the bead breaker disc (control 1) (A) until it is level with the well of the rim and make enough room for the clamp to be inserted.

### 8 • Mounting the top bead (fig.29)

- Fit the clamp 1 in the space created by the bead breaker disc (A).
- Start rotation (pedal 2) to mount the bead until the clamp is close to the tool (B-C).
- For large (over 19") or particularly tough wheels a second clamp may be useful.
- Apply more pressure to the tyre (control 3) and move the tool head to the rest position (control 4) (D).

GB

- Start rotation again (pedal 2) until the clamp 1 is close to the bead breaker disc and remove the clamp 1 (E).
- When mounting is complete, raise the bead breaker disc (control 5).

#### **9 • Move the bead breaker unit to the rest position (fig.30)**

#### **10 • Tyre inflation**

- For inflation, see "INFLATION" section

#### **11 • Releasing the wheel from the turntable (fig.32)**

- Undo the device by turning the handles 1 anti-clockwise (A).
- Press the retainers 2 and move the centring cone away from the rim by hand (B).
- Turn the clamping device anti-clockwise to release it from the turntable (C).
- Remove the device from the rim (D).

#### **12 • Unloading the tyre (fig.33)**

- Lower the wheel lift (pedal 1) and position the wheel on it by hand (A).
- Lower the lift (pedal 2) (B).
- Remove the wheel from the lift (C).

## **"EXTRAORDINARY" MOUNTING PROCEDURE**

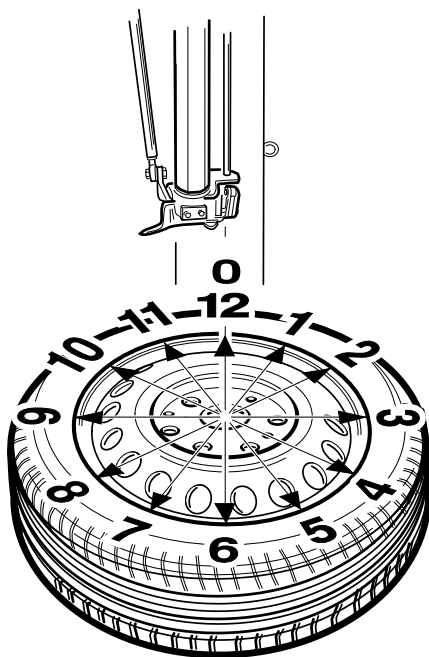
- One variation of the mounting procedure explained above may be adopted in case of rims with very small or non-existent drop centre (fig.8a). In these exceptional cases, the mounting procedure can be facilitated by using a variant of the normal procedure.
- The first bead is mounted in the usual way. To mount the second bead, position the mobile tool as during the demounting search stage (fig.18d).
- This reduces the stresses, leaving more space for the tyre. The following operations illustrated from fig.29 onward remain unchanged.

# **CORRECT PROCEDURE FOR DEMOUNTING/MOUNTING RUN FLAT TYRES WITH VALVE SENSOR**

N.B.: if the sensor is on the tyre valve.

## **TYRE DEMOUNTING**

- Remove the valve plunger and allow all the air to discharge from the tyre.
- N.B.: If necessary, remove the valve fixing nut and allow the sensor to drop into the tyre.
- Place the sensor at 3 o'clock.
- Lower the bead breaker disc and start the rotational bead breaking stage.
- Lubricating the bead, continue rotational upper bead breaking until the sensor is at 12 o'clock and not beyond.
- Apply plenty of lubricant and then break the lower bead.
- Place the sensor at 11 o'clock.
- Pressing on the tyre with the bead breaker disc, insert a RunFlat gripper at 2 o'clock.
- Rotate to bring the sensor to 3 o'clock and thus the RunFlat gripper to 6 o'clock.
- Pressing on the tyre with the bead breaker disc, engage the tyre with the demounting tool, without proceeding with demounting.
- Position the bead breaker disc on the underside of the tyre.
- Pressing upward, start demounting the tyre while rotating.
- Then demount the underside of the tyre, taking care not to damage the sensor.



## **MOUNTING**

- Reinstall the valve sensor (if removed).
- Lubricate both tyre beads.
- Place the sensor at 5 or 6 o'clock.
- Set the tyre at an angle of about 45 degrees.
- Turn the tyre so that it is touching the tyre mounting head and is starting to be mounted on the rim.
- Turn the tyre until the lower bead is mounted.
- Turn the sensor to 4 or 5 o'clock.
- Lower the bead breaker to allow a bead presser gripper to be inserted at 3 o'clock.
- Lower the bead breaking arm by about 5 cm (2 or 3 inches) to keep the upper bead of the tyre inside the open centre during rotation.

**GB**

- Rotate the tyre and make the necessary adjustments until the upper bead has been mounted.
- It may be useful to assist the operation with a second RunFlat gripper and/or the bead presser accessory, if available.
- Using the bead breaker disc, remove the RunFlat grippers used.
- Connect the inflation line to the valve for bead insertion.

## **CORRECT PROCEDURE FOR DEMOUNTING/MOUNTING RUN FLAT TYRES WITH STRAP-ON SENSOR**

NOTE: THE SENSOR IS AT 180° TO THE TYRE VALVE

### **TYRE DEMOUNTING**

- Remove the valve plunger and allow all the air to discharge from the tyre.
- Make a visual check on the sensor's real position; if it is at 180°:
- Place the sensor at 3 o'clock (valve at 9 o'clock)
- Lower the bead breaker disc and start the rotational bead breaking stage.
- Lubricating the bead, continue rotational upper bead breaking until the sensor is at 12 o'clock (valve at 6 o'clock) and not beyond.
- Apply plenty of lubricant and break the lower bead using the same positioning as in the previous stages.
- Place the sensor at 11 o'clock (valve at 5 o'clock).
- Pressing on the tyre with the bead breaker disc, insert a RunFlat gripper at 2 o'clock.
- Rotate to bring the sensor to 3 o'clock (valve at 9 o'clock) and thus the RunFlat gripper to 6 o'clock.
- Pressing on the tyre with the bead breaker disc, engage the tyre with the demounting tool, without proceeding with demounting.
- Position the bead breaker disc on the underside of the tyre.
- Pressing upward, start demounting the tyre while rotating.
- Then demount the underside of the tyre, taking care not to damage the sensor.

### **MOUNTING**

- Lubricate both tyre beads.
- Place the sensor at 2 or 3 o'clock (valve at 8 o'clock).
- Set the tyre at an angle of about 45 degrees.
- Turn the tyre so that it is touching the tyre mounting head and is starting to be mounted on the rim.
- Turn the tyre until the lower bead is mounted.
- Turn the sensor to 4 or 5 o'clock (valve at 10 o'clock).
- Lower the bead breaker to allow a bead presser gripper to be inserted at 3 o'clock.
- Lower the bead breaking arm by about 5 cm (2 or 3 inches) to keep the upper bead of the tyre inside the open centre during rotation.
- Rotate the tyre and make the necessary adjustments until the upper bead has been mounted.
- It may be useful to assist the operation with a second RunFlat gripper and/or the bead presser accessory, if available.

- Using the bead breaker disc, remove the RunFlat grippers used.
- Connect the inflation line to the valve for bead insertion.

## INFLATION



### WARNING

Inflation is well known to be a dangerous operation. It must be carried out in accordance with the instructions below. Safety goggles with plain lenses and safety footwear must be worn.



### ATTENTION

During this operation, noise levels assessed at 85 dB(A) may occur. We therefore recommend that the operator wears ear protectors.



### DANGER

Although the machine limits the pressure, it does not provide sufficient protection if the tyre bursts during inflation.

Failure to comply with the instructions below will make tyre inflation dangerous.



### DANGER

**NEVER** exceed the pressure recommended by the tyre manufacturer. Tyres may burst if they are inflated beyond these limits or their structures may incur serious damage not visible at the time. **KEEP THE HANDS AND THE WHOLE BODY WELL AWAY FROM THE TYRE DURING INFLATION.** Make sure you are concentrated during this operation and check the tyre pressure continuously to avoid excess inflation. A bursting tyre can cause serious injury or even death.

### Inflating tubeless tyres

- Make sure that the wheel on which the tyre has been mounted is firmly clamped to the turntable using the clamping device 1 fig. 31. Also make sure that the tool head and the bead breaker unit are well clear of the working area, if possible in the rest position.
- Fix a new valve to the rim.
- Connect the Doyfe union of the inflation line 2 fig. 31 to the stem of the valve, after removing the cap. Inflate the tyre by pressing *Pedal* 3 fig. 31. The tyre expands, bringing the beads into the position where they create a seal.
- Continue inflating up to the maximum value of 3.5 bar to position the tyre correctly on the rim. Make sure you are concentrated during this operation and check the tyre pressure on the *Air pressure display pressure gauge* 4 fig. 31 continuously to avoid over-inflating. Inflation of tubeless tyres requires a higher air flow-rate to allow the beads to pass over the humps in the rim - see types of profiles of tubeless tyre rims in fig. 31; to provide this, the internal mechanism of the valve should be removed. In terms of anchoring of the bead in its seat, the *hump* (H) and *double hump* (H2) versions provide greater safety in use, even if the inflation pressure is slightly lower than recommended.

**GB**

- Check from the position of the centring ridges that the beads are properly positioned on the rim, and otherwise deflate, break the beads as described in the relevant section, lubricate and turn the tyre on the rim. Repeat the mounting operation described previously and check again.
- Replace the internal mechanism of the valve.
- Bring the pressure to the operating value by pressing the *Inflation button* 5 fig. 31.
- Fit the cap on the valve to protect its internal mechanism from dust and ensure an airtight seal.
- Remove and unload the wheel as described in steps 11-12 of the "MOUNTING" section.

### **Inflating tube-type tyres**

- Make sure that the wheel on which the tyre has been mounted is firmly clamped to the turntable using the centring handle 1 fig. 31. Also make sure that the tool head and the bead breaker unit are well clear of the working area, if possible in the rest position.
- Connect the Doyfe union of the inflation line 2 fig. 31 to the stem of the inner tube valve, after removing the cap. Inflate the tyre by pressing the relative *Pedal* 3 fig. 31 in short bursts.

The inner tube gradually expands inside the tyre. As this happens, push the inner tube valve inward to allow the air left between the tube and the tyre to escape; this prevents deflation and possible damage to the tube.

- Inflate, taking great care that the pressure shown on the *Air pressure display gauge* 4 fig. 31 NEVER exceeds the pressure levels recommended by the tyre producer.
- Fit the cap on the valve to protect its internal mechanism from dust and ensure an airtight seal.
- Remove and unload the wheel as described in steps 11-12 of the "MOUNTING" section.

### **Inflation pressure**

Maintaining correct pressure values is of the greatest importance for safe use of the vehicle.

Insufficient pressure causes overheating and may drastically shorten the life of the tyre; it reduces roadholding and may cause uneven wear (tread wear concentrated on the shoulders of the tyre) and internal damage, and the tyre may even collapse. It also increases the vehicle's fuel consumption.

Excessive pressure makes the tyre more liable to damage in case of knocks and causes uneven wear (wear concentrated along the centre of the tread).

The inflation pressure must be checked regularly, at least every two weeks and before long journeys, not forgetting the spare wheel.

The pressure must only be checked with the tyres cold, since the pressure increases when the tyres heat up during use.

Never reduce the pressure of tyres when they are hot.

Tyres which have not been used for at least one hour, or have travelled not more than 2 or 3 kilometres at low speed, can be considered cold.

The inflation pressures when cold must be those specified for the car by the car or tyre producer.

For heavy-duty operating conditions (e.g. continuous high speeds, towing trailers, etc.),

where this is not already specified by the car's handbook, the recommended cold pressures should be increased by 0.3 bar.

## MAINTENANCE



### ATTENTION

The "Spare Parts" manual does not authorise the user to do any work on the machine except for that specifically described in the operator's manual, but does enable the user to provide accurate information to the after-sales service, in order to reduce service times.



### WARNING

CORGHI declines all liability for claims deriving from the use of non-original spares or accessories.



### ATTENTION

Any operation intended to modify the setting value of the relief valves or pressure limiter is forbidden.

The manufacturer declines all liability for damage resulting from tampering with these valves.



### WARNING

Before making any adjustments or carrying out maintenance, disconnect the electricity and compressed air supplies from the equipment and make sure that all moving parts are suitably immobilised.



### ATTENTION

Do not remove or modify any parts of this equipment except in the case of service interventions.



### DANGER

When the machine is disconnected from the air supply system, the devices marked with the warning sign shown above may remain pressurised.

- The filter+regulator+lubricator is equipped with a semiautomatic condensation drain device. This device operates automatically whenever the compressed air supply to the machine is cut off. Drain the condensation by hand (button C, fig. 7) when the level rises above the mark X fig. 7.
- Check daily that the travel screws of the tool head and each bead breaker unit are operating correctly. The build-up of dirt in this area may impair operation and cause a hazard.
- Clean the top plate of the turntable every week: remove any accumulated dirt and clean with environment-friendly solvents.

**GB**

- Monthly checks:

- Clean the arms of the tool head and the bead breaker unit, and the relative travel screws, and lubricate, using environment-friendly solvents only.
- Check the oil level in the air lubricator (fig. 7) and top up if necessary with SAE 20 non-detergent oil to the level Z marked.
- Clean with a dry cloth. Avoid contact with solvents.
- Check the oil flow-rate through the transparent cap K (correct flow-rate: 1 drop of oil every 4 bead breaking cycles). Adjust if necessary by turning the adjuster screw Y fig. 7.



#### **ATTENTION**

**Keep the working area clean.**

**Never use compressed air, jets of water or solvent to remove dirt or residues from the machine.**

**When cleaning, take care to avoid creating and raising dust as far as possible.**

## **INFORMATION ABOUT SCRAPPING**

If the machine is to be scrapped, first separate the electrical, electronic, plastic and ferrous parts.

Then dispose of them separately as prescribed by law.

## **INFORMATION AND WARNINGS ABOUT OIL**

### **Disposing of old oil**

Do not dispose of spent oil in sewers, storm drains, rivers or streams; collect it and consign it to an authorised disposal company.

### **Oil spills or leaks**

Prevent the spilt product from spreading using soil, sand or another absorbent material.

The contaminated area must be degreased with solvents, taking care to disperse solvent fumes, and the residual cleaning material must be disposed of as prescribed by law.

### **Precautions for the use of oil**

- Avoid contact with the skin.
- Do not allow oil mists to form or spread in the atmosphere.
- Apply the following elementary health precautions:
  - protect against oil splashes (appropriate clothing, protective guards on machines);
  - wash frequently with soap and water; do not use cleaners or solvents which irritate the skin or remove its natural protective oil;
  - do not dry hands with dirty or greasy rags;
  - change clothing if impregnated with oil, and in any case at the end of every working shift;

- do not smoke or eat with greasy hands.
- Also apply the following preventive and protective measures:
  - gloves resistant to mineral oils, with lining;
  - goggles, in case of splashes;
  - aprons resistant to mineral oils;
  - screens to protect against oil splashes.

### **Mineral oil: first aid procedures**

- **Swallowing:** seek medical attention, providing the characteristics of the type of oil swallowed.
- **Inhalation:** in case of exposure to high concentrations of fumes or mists, move the affected person into the open air and seek medical attention immediately.
- **Eyes:** bathe with plenty of running water and seek medical attention as soon as possible.
- **Skin:** wash with soap and water.

## **FIREFIGHTING EQUIPMENT TO BE USED**

For guidance on the most suitable type of extinguisher, refer to the table below:

	<b>Dry materials</b>	<b>Inflammable liquids</b>	<b>Electrical equipment</b>
Water	YES	NO	NO
Foam	YES	YES	NO
Powder	YES*	YES	YES
CO2	YES*	YES	YES
YES*	<i>Use only if more appropriate extinguishers are not on hand or when the fire is small.</i>		



### **ATTENTION**

The information in this table is of a general nature and is intended to provide users with general guidance. Contact the manufacturer for details of the applications of each type of extinguisher.

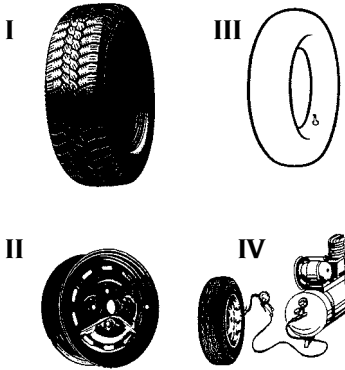
# GLOSSARY

## Tyre

The tyre is a combination of: **I-tyre**, **II-rim** (wheel), **III-inner tube** (in tube-type tyres), **IV-pressurised air**

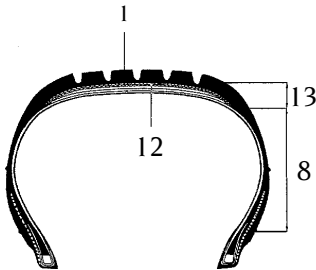
The tyre must:

- support the load,
- ensure the transmission of the drive forces,
- steer the vehicle,
- contribute to roadholding and braking,
- contribute to the vehicle's suspension.



**I - Tyre.** The tyre is the main element of the wheel-tyre combination which is in contact with the road and is therefore required to withstand the internal air pressure and all the other stresses generated by use.

A cross-section view of the tyre shows all its constituent parts:



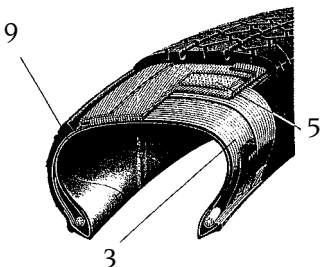
**1 - Tread.** It is so-called because it comes into contact with the ground as the wheel turns. It consists of a rubber blend and of a "pattern" designed to ensure both good resistance to abrasion and a good grip on the ground in wet and dry conditions, as well as low running noise.

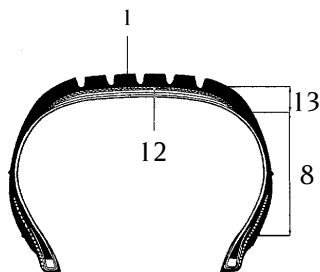
**2 - Edge or reinforcement.** A woven metal or fabric insert on the outside of the bead; it protects the carcass plies from rubbing against the rim.

**3 - Carcass.** It provides the resistant body of the tyre and consists of one or more layers of rubber-coated fabric, or plies. The way in which the plies which make up the carcass are arranged gives the name to the tyre's structure. There are the following different structural types:

**Bias ply.** The plies are laid at angles and arranged so that the strands in one ply form a criss-cross pattern with those of the next ply. The tread, which is the part of the tyre touching the ground, is in a single piece with the sidewalls and so as the wheel turns any flexural movements of the sidewall are transmitted to the tread.

**Radial.** The carcass consists of one or more plies with the cords arranged in a radial direction.

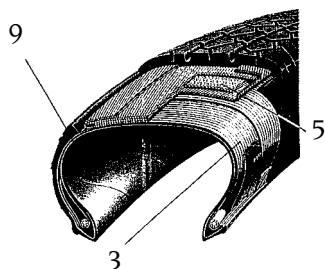




A radial carcass in the purest sense is relatively unstable; to make it stable and prevent stray movements of the tread in the footprint, on the carcass and underneath the tread an annular reinforcing structure generally known as a belt is used. The tread and the sidewall work with different rigidities and independently, so as the wheel turns flexural movements of the sidewall are not transmitted to the tread.

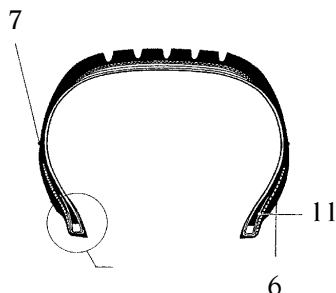
4 - *Loop*. This is a loop of metal consisting of several steel wires. The carcass plies are anchored to the loop.

5 - *Belt*. This is a non-extensible circumferential structure consisting of plies criss-crossed at very narrow angles, located underneath the tread, in order to stabilise the carcass in the footprint area.



6 - *Centring ridge*. This is a small ridge running around the circumference of the top of the bead groove, which serves as reference to ensure that the tyre is centred exactly on the rim after mounting.

7 - *Guard ridge*. This is a ridge running around the circumference of the part of the sidewall most at risk of accidental rubbing.

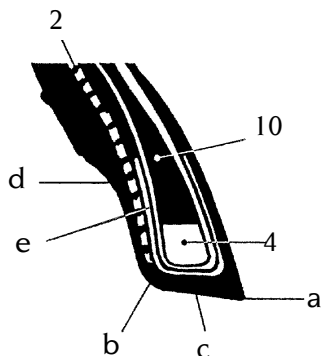


8 - *Sidewall*. This is the zone between the shoulder and the centring ridge. It consists of a layer of rubber of varying thickness, intended to protect the carcass plies against knocks from the side.

9 - *Liner*. This is a sheet of airtight rubber blend, vulcanised onto the inside of tubeless tyres.

10 - *Filling*. A rubber profile, generally triangular in cross-section, above the loop; it ensures the rigidity of the bead and provides a gradual compensation of the sudden change in thickness caused by the loop.

**GB**

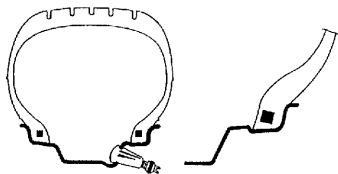
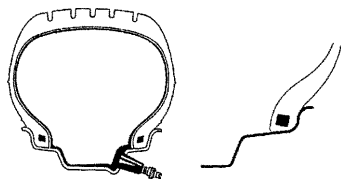


**11 - Turn-up.** This is the edge of the carcass ply which is wrapped around the loop and placed against the carcass in order to fix the ply in place and prevent it from fraying.

**12 - Sole or foot.** This is the innermost layer of the tread, in contact with the belt or, where there is no belt (bias ply tyres), with the last ply of the carcass.

**13 - Shoulder.** The outermost part of the tread, between the edge and the start of the sidewall.

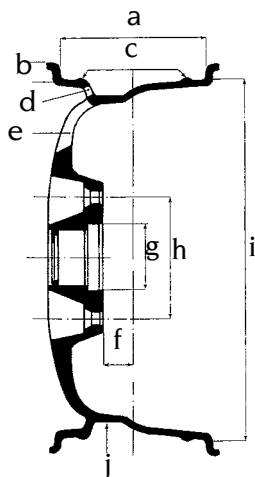
**14 - Bead.** The part where the tyre fits onto the rim. The tip of the bead (a) is its inner edge, while the spur (b) is the outermost part of the bead. The base (c) is the zone in contact with the rim. The cavity (d) is the concave part on which the shoulder of the rim rests.



**Tube type tyres.** Since the tyre must be able to contain the pressurised air for a relatively long time, an inner tube is used inside the tyre. In this case, the valve used to insert, retain, check and top up the pressurised air forms part of the inner tube itself.

**Tubeless tyres.** The tubeless tyre consists of a tyre the inside of which is coated with a thin layer of airtight rubber known as a liner. This helps to ensure that the pressurised air inside the carcass is retained. This type of tyre has to be mounted on a special rim, to which the valve is fixed directly.

**II - Rim (Wheel).** The wheel is the rigid metal element which provides the fixed but not permanent connection between the hub of the vehicle and the tyre.

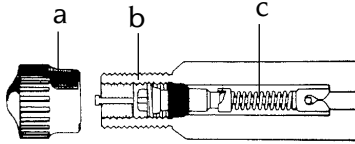


**Rim profile.** The profile of the rim is the shape of the section of it which comes into contact with the tyre. It may have various geometrical shapes intended to ensure: ease of mounting of the tyre (insertion of the bead into the drop centre); and safety in operation, terms of anchoring of the bead into its seat.

A cross-section view of the rim shows a number of its constituent parts: a) rim width - b) shoulder

height - c) humps for anchoring tubeless tyres - d) valve hole - e) ventilation openings - f) off set - g) open centre diameter - h) distance between fixing holes - i) keying diameter - j) drop centre.

**III - Inner tube (in tube type tyres).** The inner tube is a rubber casing in an endless loop, fitted with a valve, which contains the pressurised air.



**Valve.** The valve is a mechanical device which allows inflation/deflation and retention of the pressurised air inside an inner tube (or a tyre in the case of tubeless tyres). It consists of three parts: the valve cap (a) (to protect the internal mechanism from dust and ensure an airtight seal), an internal mechanism (b) and the base (c) (outer coating).

**Tubeless Inflator.** An inflation system which simplifies the inflation of tubeless tyres.

**Bead insertion.** Operation which takes place during inflation and ensures perfect centring between the bead and the edge of the rim.

**Bead pressing gripper.** A tool intended for use during mounting of the top bead. It is fitted so that it grips the shoulder of the rim and holds the tyre's top bead inside the drop centre. It is generally used for mounting low profile tyres.

**Discharge regulator.** Union allowing regulation of the air flow.

**Bead breaking.** Operation in which the bead of the tyre is detached from the edge of the rim.

**GB**

# TROUBLE SHOOTING

## Table top will not rotate

**Power cord conductor shorting to ground.**

- ➡ Check the wiring.

**Motor shorted.**

- ➡ Renew the motor.
- ➡ Replace motor-inverter unit circuit board.
- ➡ Check pedal unit microswitch.

**Belt broken.**

- ➡ Replace belt.

## Rotation control pedal fails to return to the central position

**Control spring broken.**

- Renew the spring.

## Bead breaker unit not working

**No vertical travel**

- ➡ Check for bent hoses.
- ➡ Check operation of raising-lowering valve.
- ➡ Check for jammed rollers.

## Bead breaker unit is underpowered, it does not break the bead and is leaking air

Perform the checks in the previous point: "Bead breaker unit not working".

**Cylinder seals worn.**

- ➡ Renew seals.
- ➡ Renew bead breaker cylinder.

## Bead breaker cylinder leaks air around the rod

**Air seal worn.**

- ➡ Renew seals.
- ➡ Renew bead breaker cylinder.

## Gear unit noisy. The table top makes 1/3 of a revolution and then stops

**Gear unit seizing.**

- ➡ Renew gear unit.

## Table top fails to clamp wheels

**Handle engagement unit faulty.**

- Check that it is synchronised properly.
- Replace the plate in the turntable.
- Check that there are no burrs.
- Replace the clamping handle.

## **Table top mounts or demounts tyres with difficulty**

**Insufficient belt tension.**

- Adjust belt tension or renew it.

## **Vertical slide lifts too little or too far from rim**

**Clamping plate not adjusted.**

- Adjust plate.
- Recalibrate.

## **The vertical slide has difficulty rising**

**Defective clamping plate.**

- Renew plate.

**Clamping plate not adjusted.**

- Adjust plate.

## **Vertical and horizontal limit stops do not operate**

**No air passing through clamping handle / valve.**

- Check the hose circuit.
- Replace handle / valve.

## **Column does not tilt**

**Column tilting cylinder faulty.**

- Replace column tilting cylinder.

**No air supply to cylinder.**

- Bends in hoses.
- Replace valve.
- Check tightness of slide pivot.

## **Locking arm cylinders leak air**

**Faulty piston or seals.**

- Replace pistons and seals.

## **The column tilts violently or too slowly**

**Incorrect release valve setting.**

- Adjust vent regulators on control valve.

## **Tyre pressure gauge needle fails to return to 0**

**Pressure gauge faulty or damaged.**

- Renew pressure gauge.

## **The wheel lift is not working**

**Control out of operation.**

- Check pedal unit.

**Rises slowly or has insufficient force.**

- Check for bent hoses.
- Adjust vents on pedal unit.
- Replace the valve on the wheel lift control unit control device.

### **Cylinder leaking air.**

- ➔ Replace cylinder gasket.
- ➔ Replace cylinder.



### **WARNING**

The “Spare parts” handbook does not authorise the user to carry out work on the machine with the exception of those operations explicitly described in the user's manual, but enables the user to provide the technical assistance service with precise information, in order to reduce delay.

## **ELECTRICAL DIAGRAM**

**Table N° 4-102882 Fig. 39**

AP1	Single / two-speed motor circuit board
M1	Motor
SQ1	Two-speed microswitch
SQ2	Microswitch (CLOCKWISE rotation)
SQ3	Microswitch (ANTI-CLOCKWISE rotation)
XB1	Connector
Z1	Mains filter

# PNEUMATIC SYSTEM DIAGRAM

## General Pneumatic System Diagram

Table N° 4-104134A Fig. 38

### A - BEAD BREAKER CONTROL

- 1 Bead breaker cylinder
- 2 Valve 5/3 NC
- 3 Silencer filter

### B - BEAD BREAKER DISC PENETRATION CYLINDER CONTROL

- 4 Valve 3/2 NO
- 5 Penetration cylinder

### C - HORIZONTAL LOCKING PLATE CYLINDER CONTROL

- 6 Valve 3/2 NC
- 7 Locking plate cylinder

### D - BEAD BREAKER ARM RELEASE CYLINDER CONTROL

- 8 Valve 3/2 NC
- 9 Release cylinder

### E - COLUMN TILTING CYLINDER CONTROL

- 10 Valve 5/2 NO
- 11 Tilting cylinder

### F - TOOL DRIVE CYLINDER CONTROL

- 12 Valve 5/2 NO
- 13 Tool drive cylinder

### G - PEDAL UNIT

- 14 Valve 3/2 NC
- 15 Pedal

### H - TOOL ARM CLAMPING HANDLE CONTROL

- 16 Valve 5/3
- 27 Regulator valve

### I - INFLATION

### L - MANUAL DEFLATION

- 17 Pressure gauge
- 18 Manual deflation valve 2/2 NC

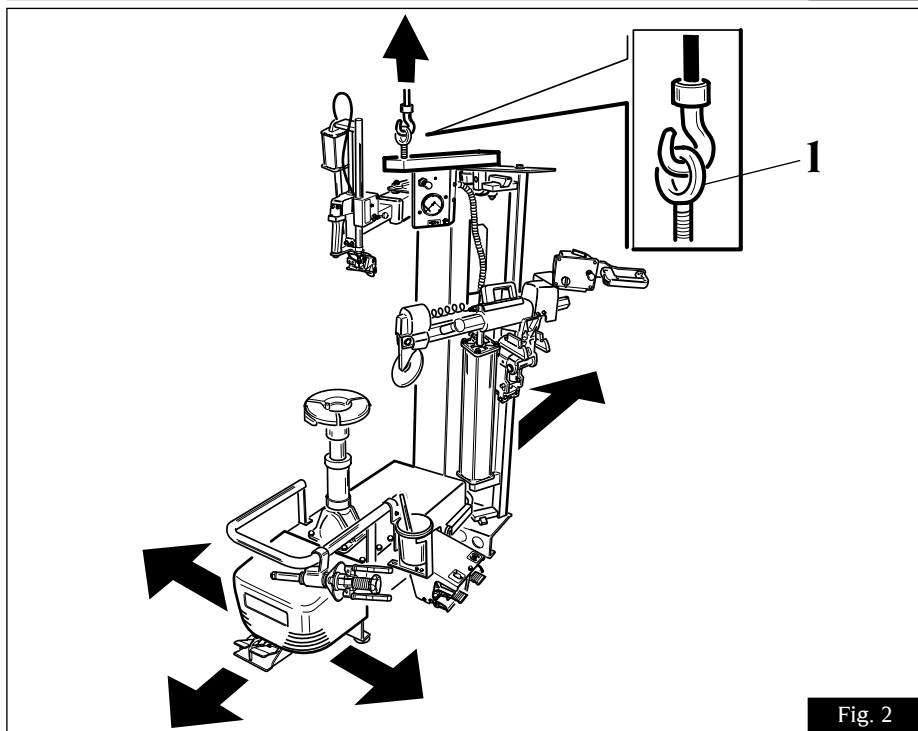
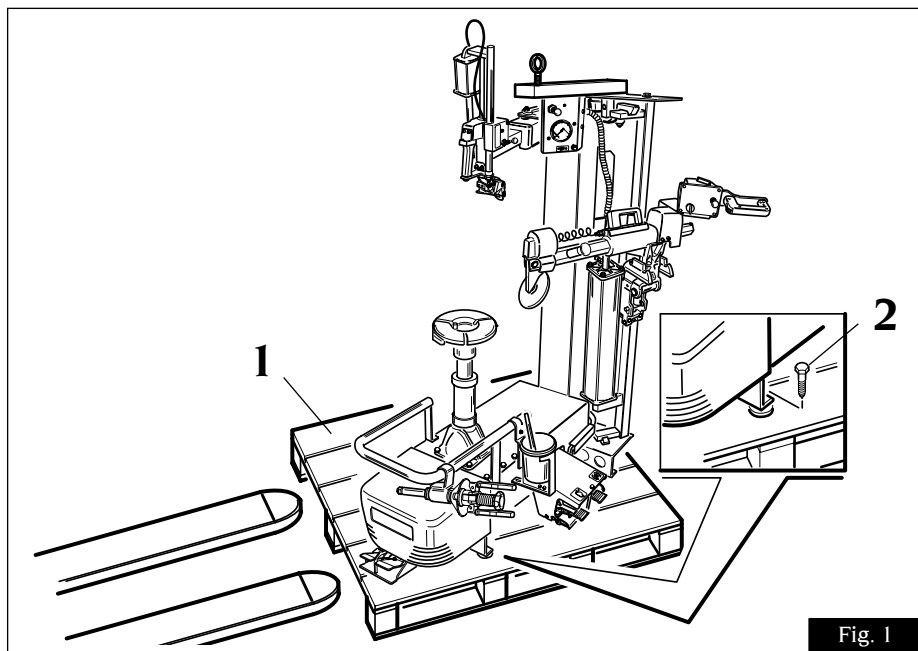
### M - FILTER REGULATOR UNIT

- 19 FEMALE SNAP COUPLING
- 20 FILTER REGULATOR UNIT
- 21 LUBRICATOR
- 22 PRESSURE GAUGE
- 23 PEDAL CONTROL UNIT INFLATION LIMITER

### N - BEAD BREAKER LOCKING UNIT

- 24 VALVE 2/3 NC
- 25 UPPER RELEASE CYLINDER
- 26 LOWER RELEASE CYLINDER

**GB**



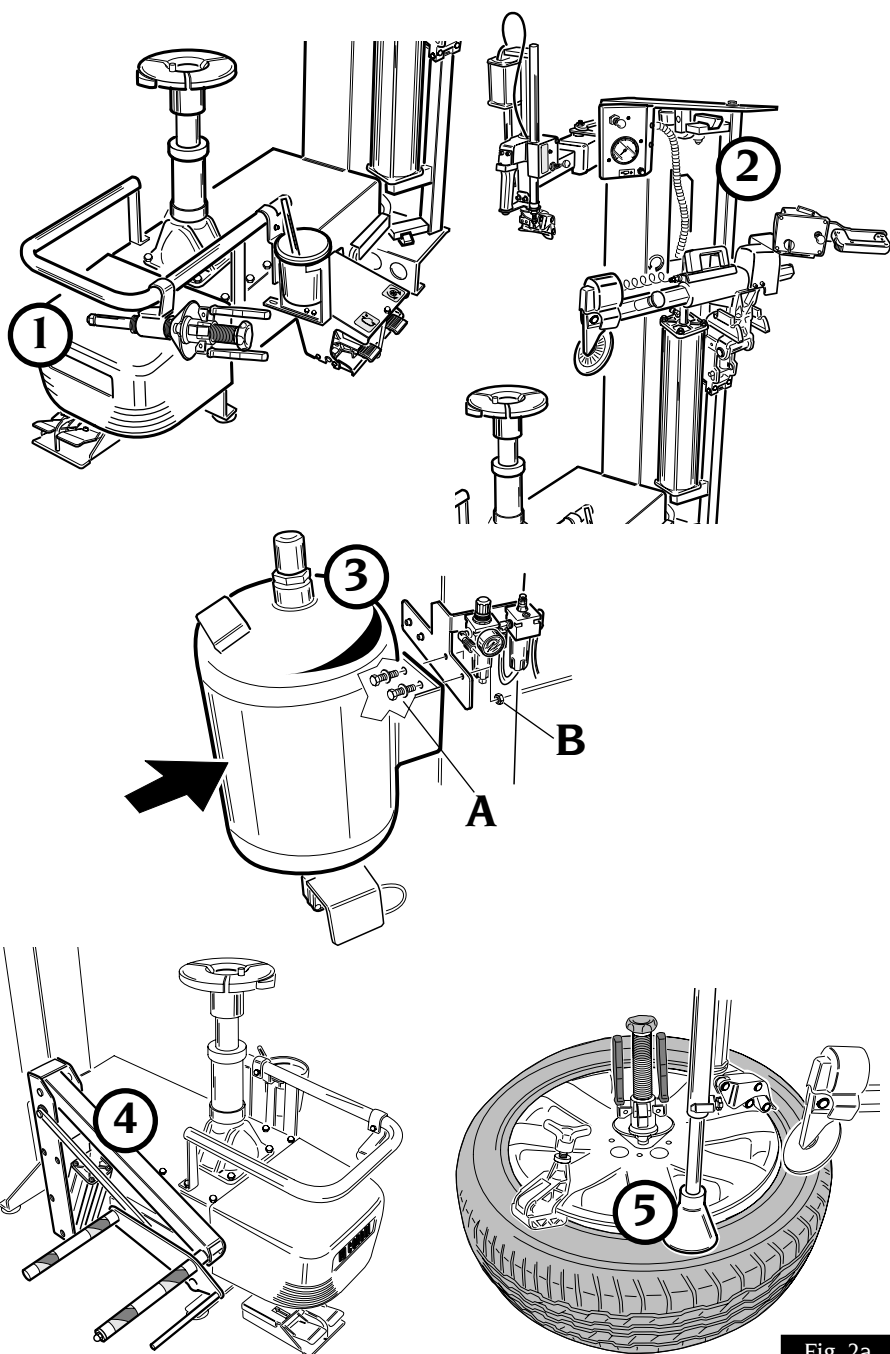


Fig. 2a

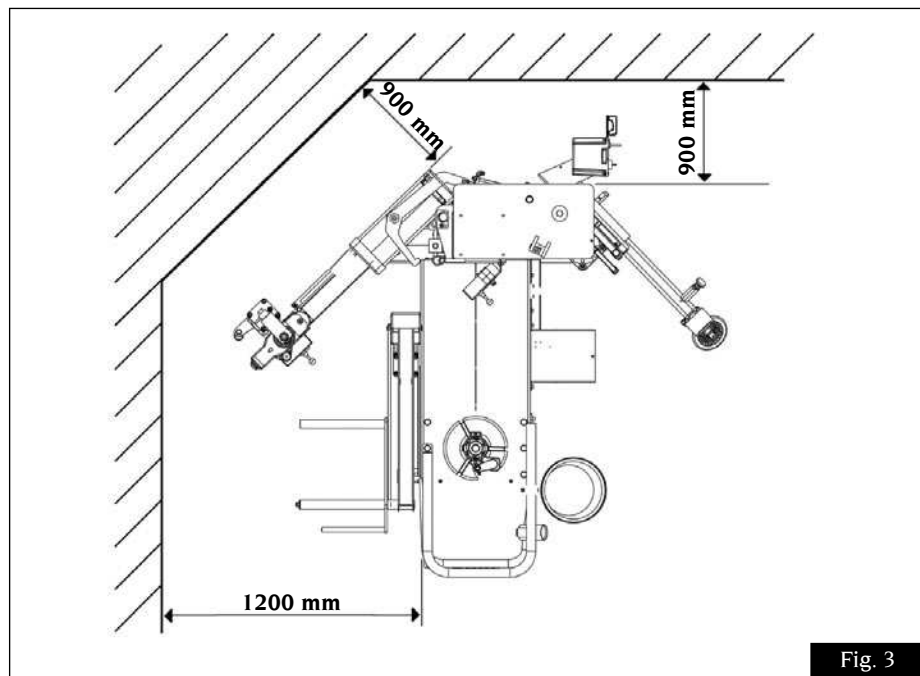


Fig. 3

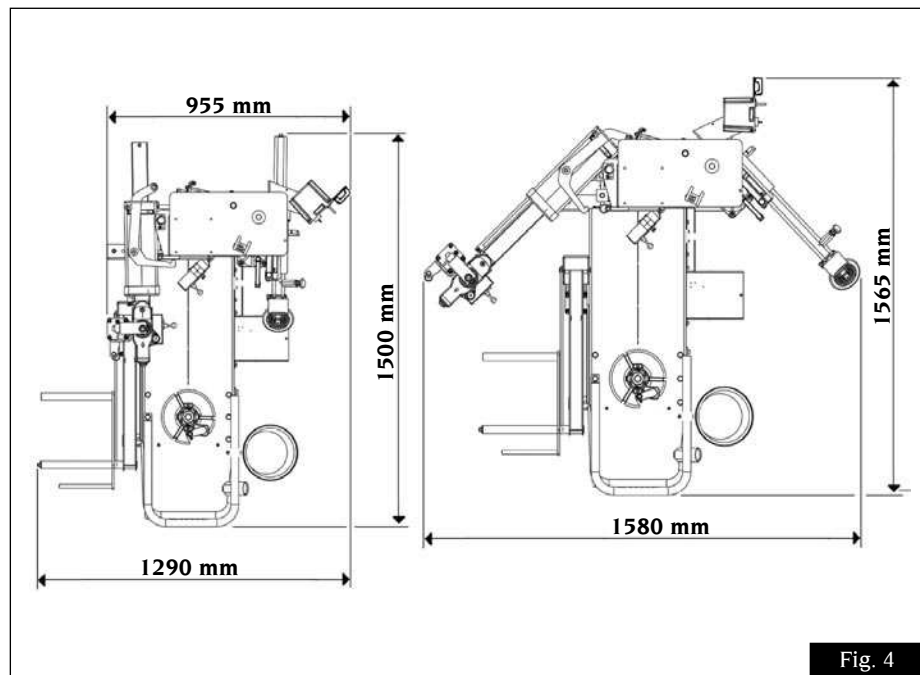


Fig. 4

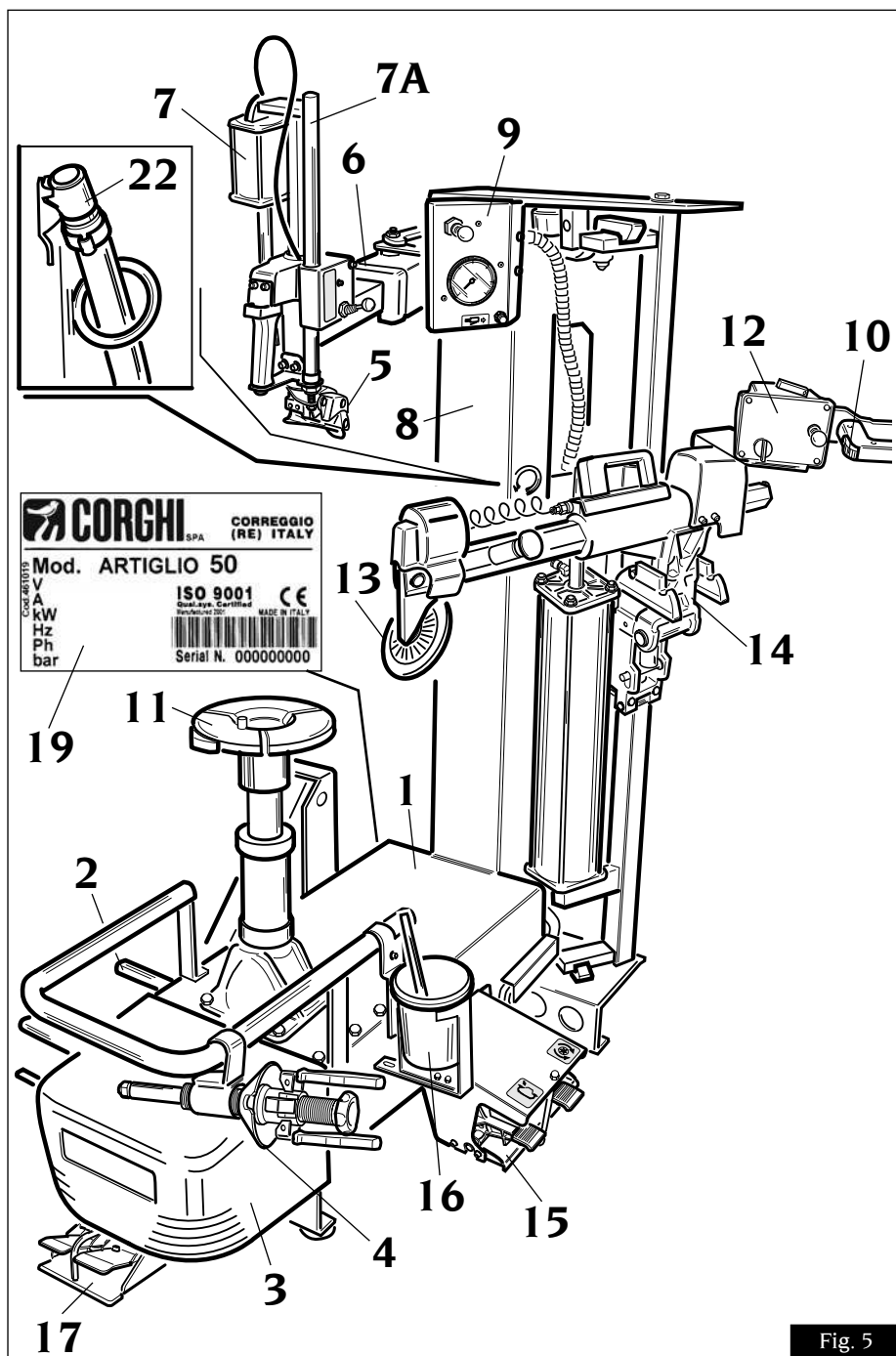
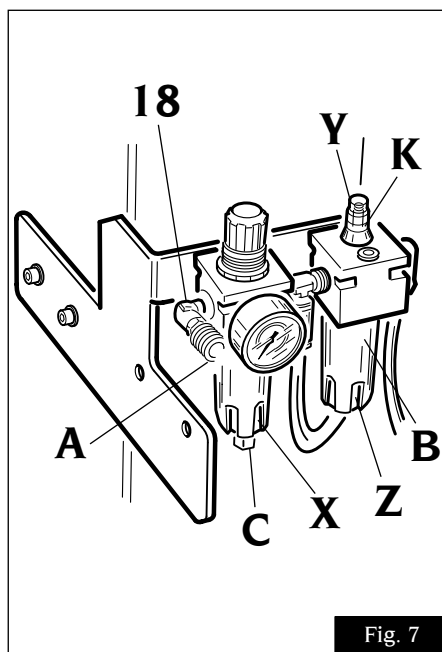
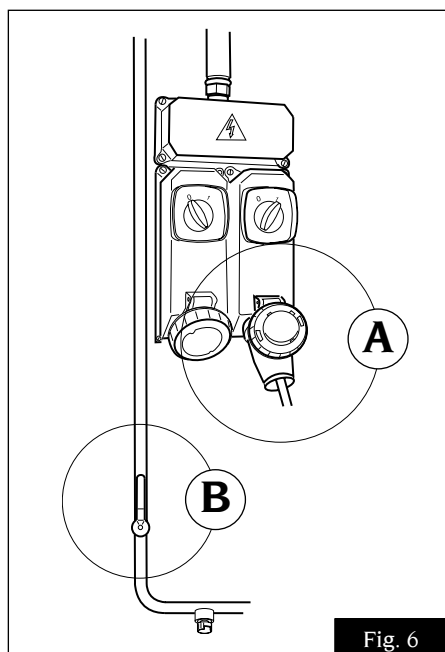
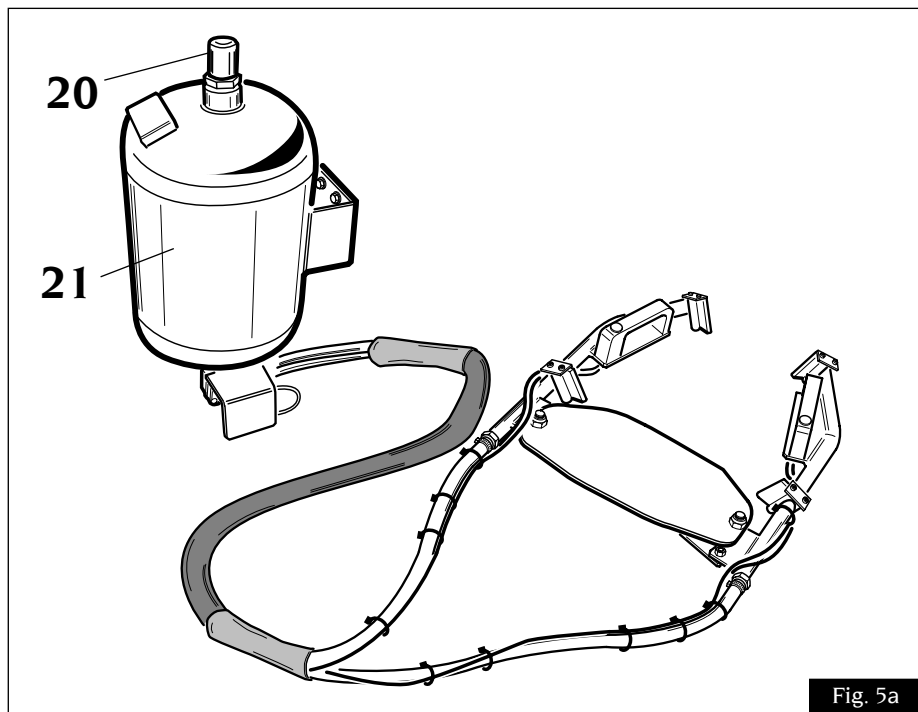
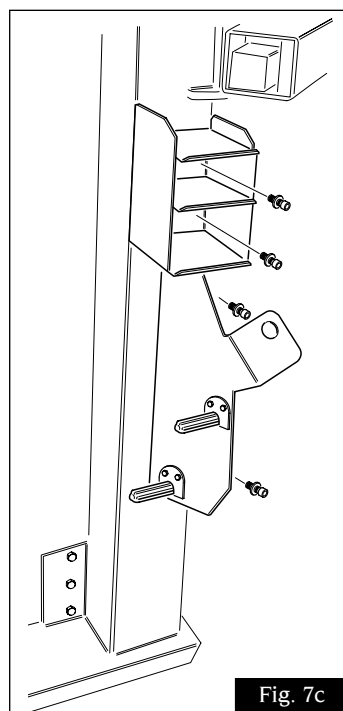
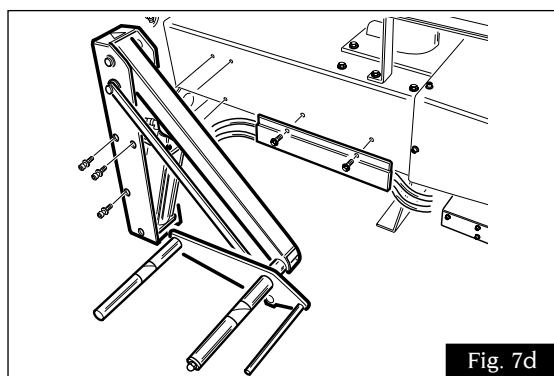
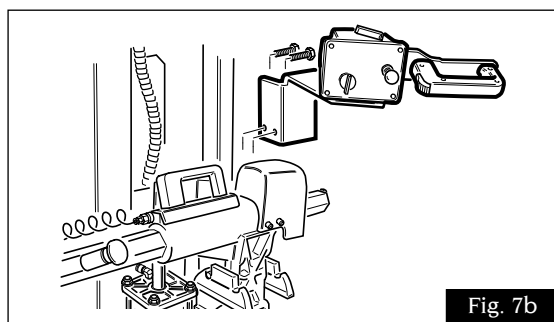
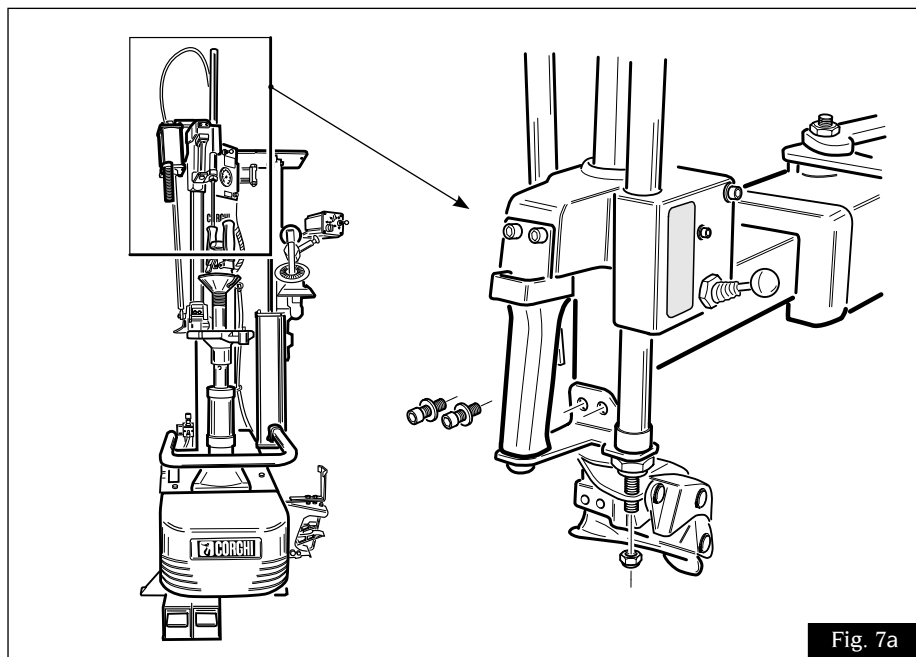
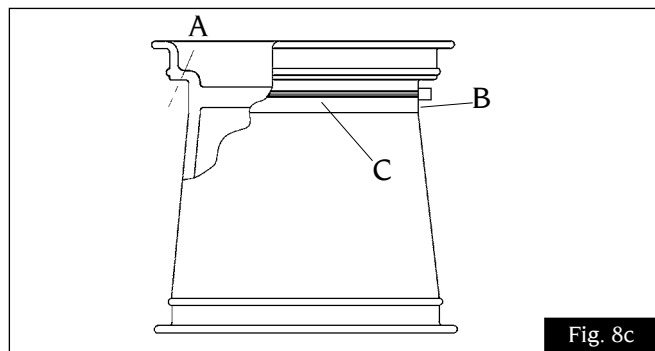
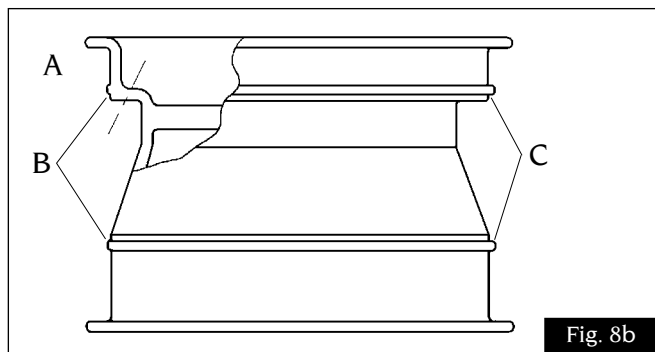
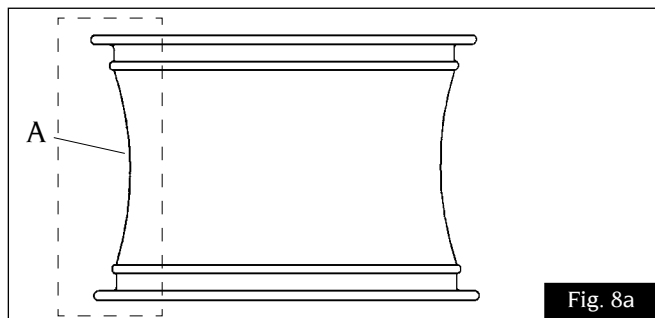
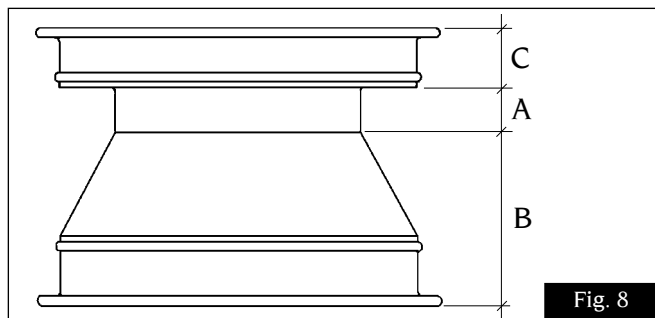


Fig. 5







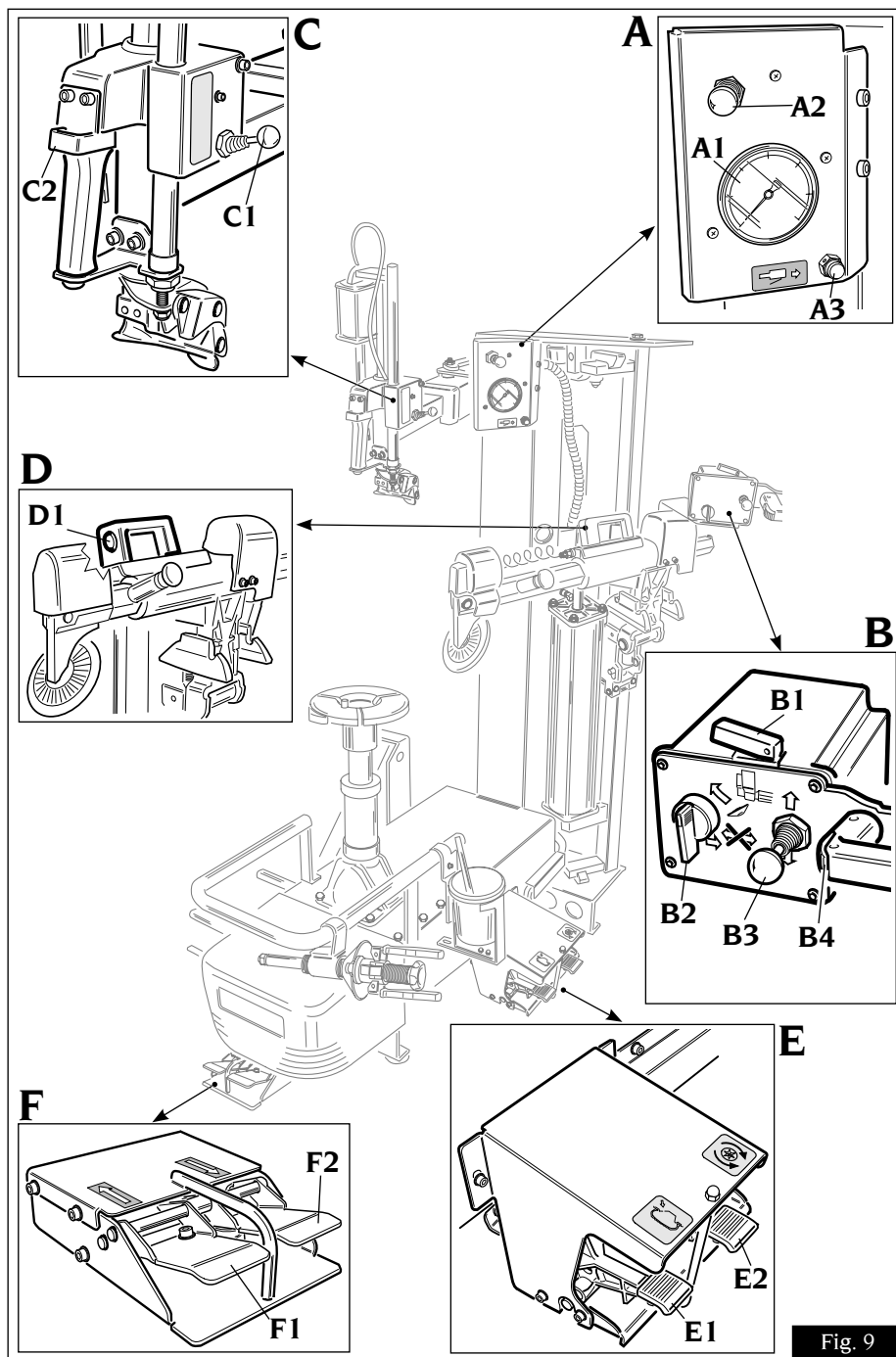
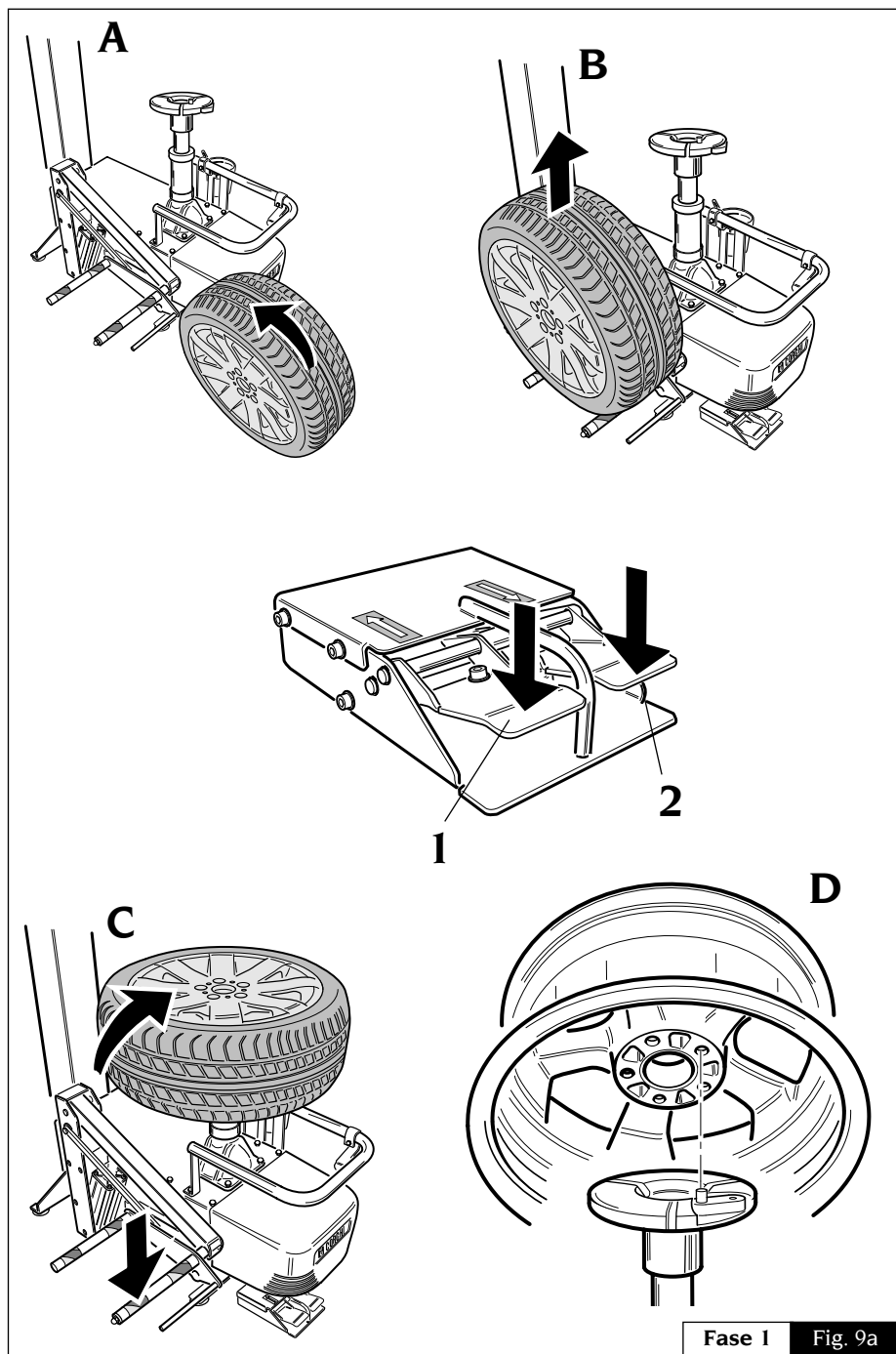
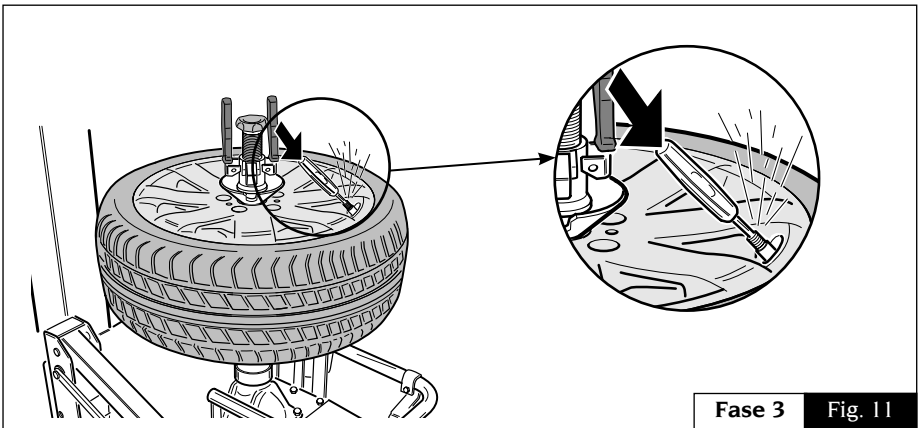
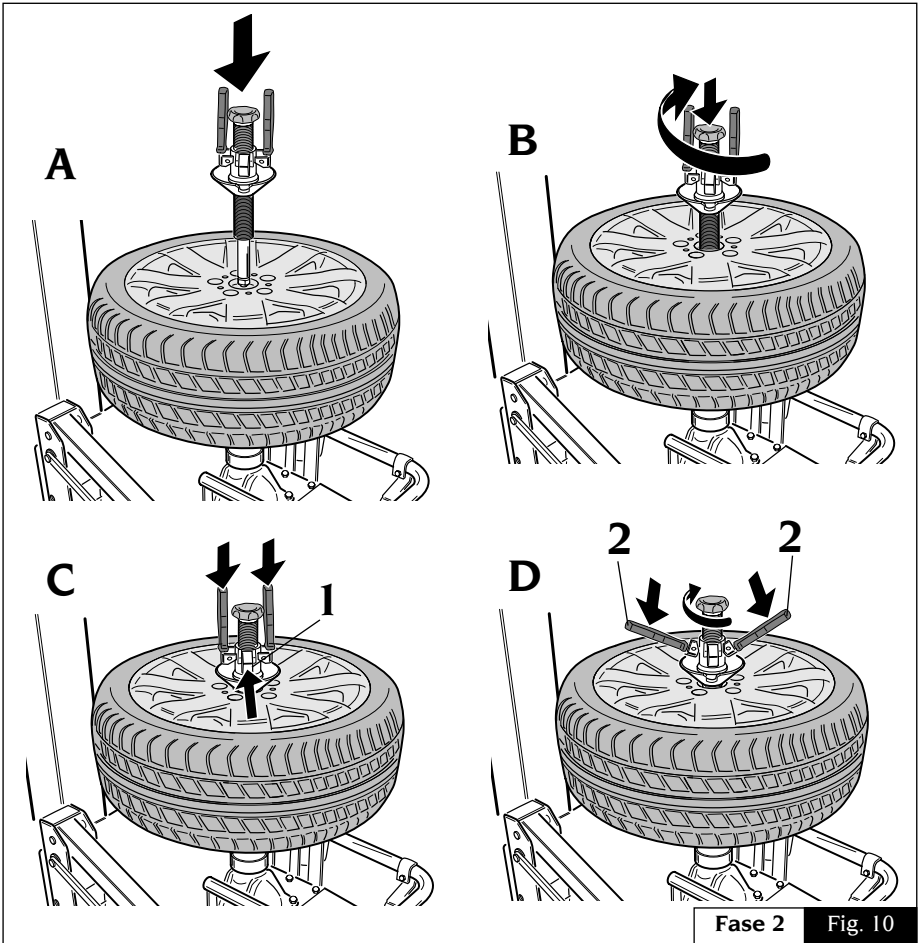
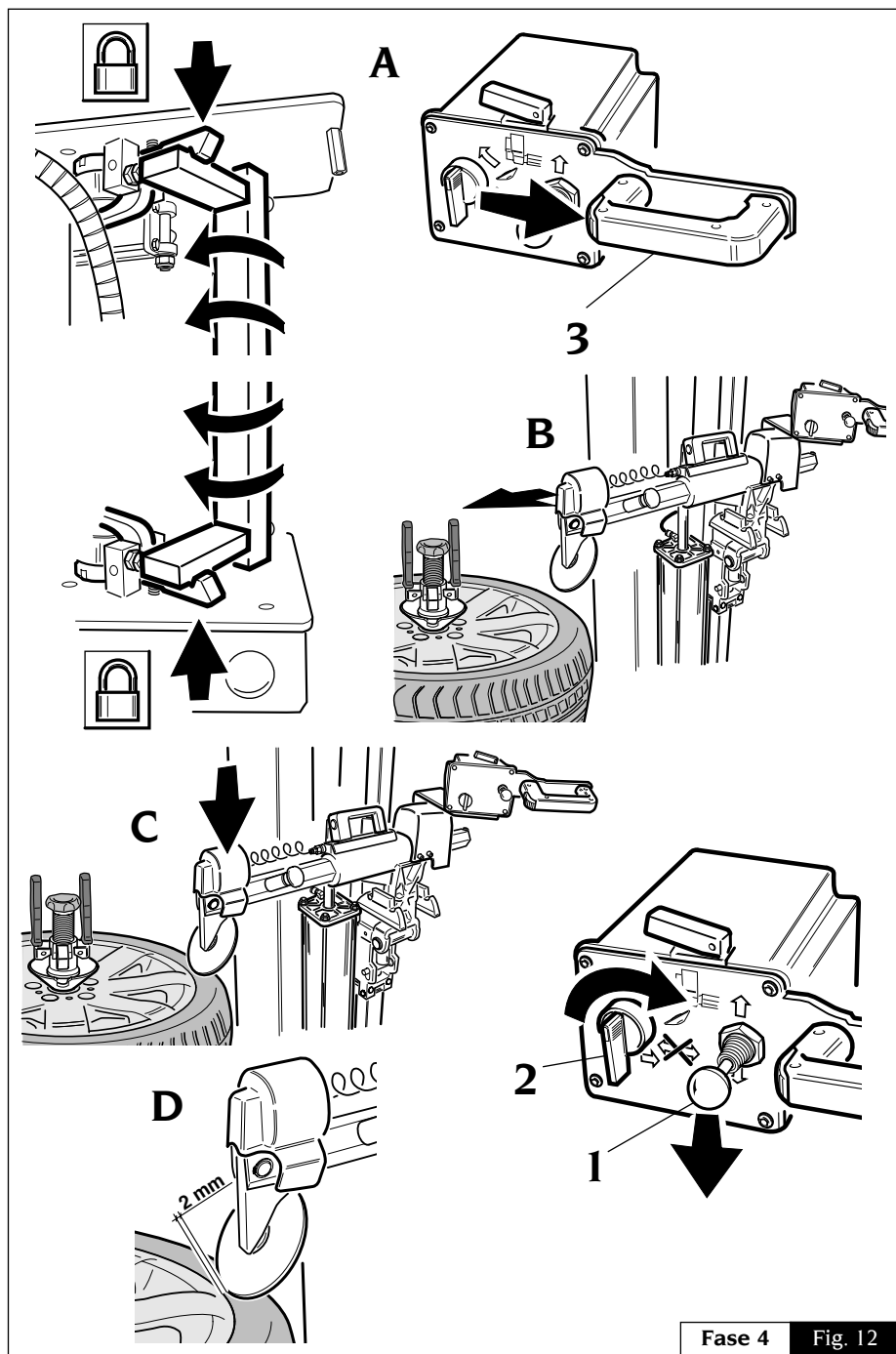


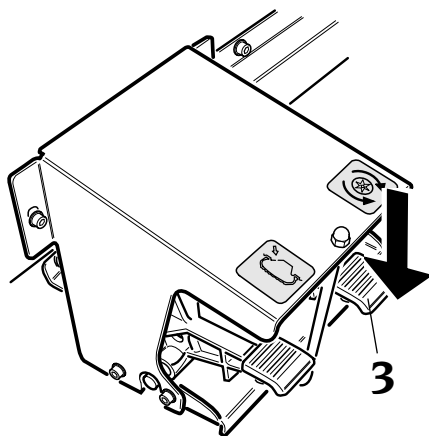
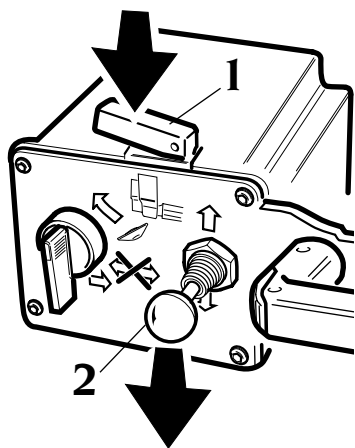
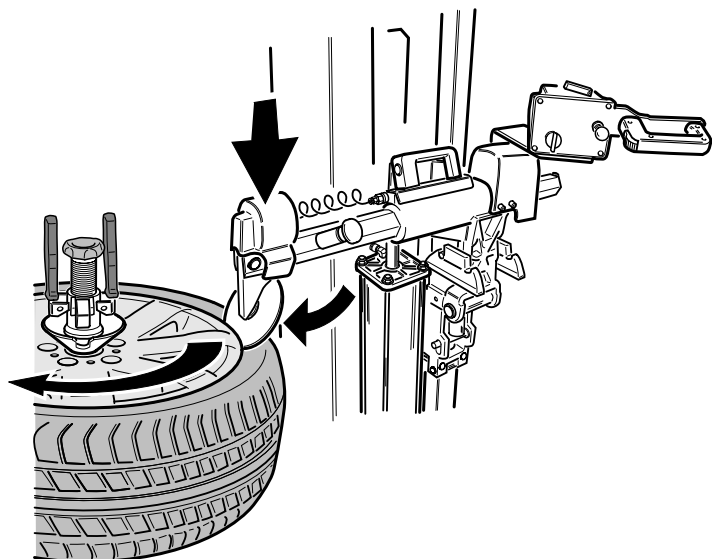
Fig. 9



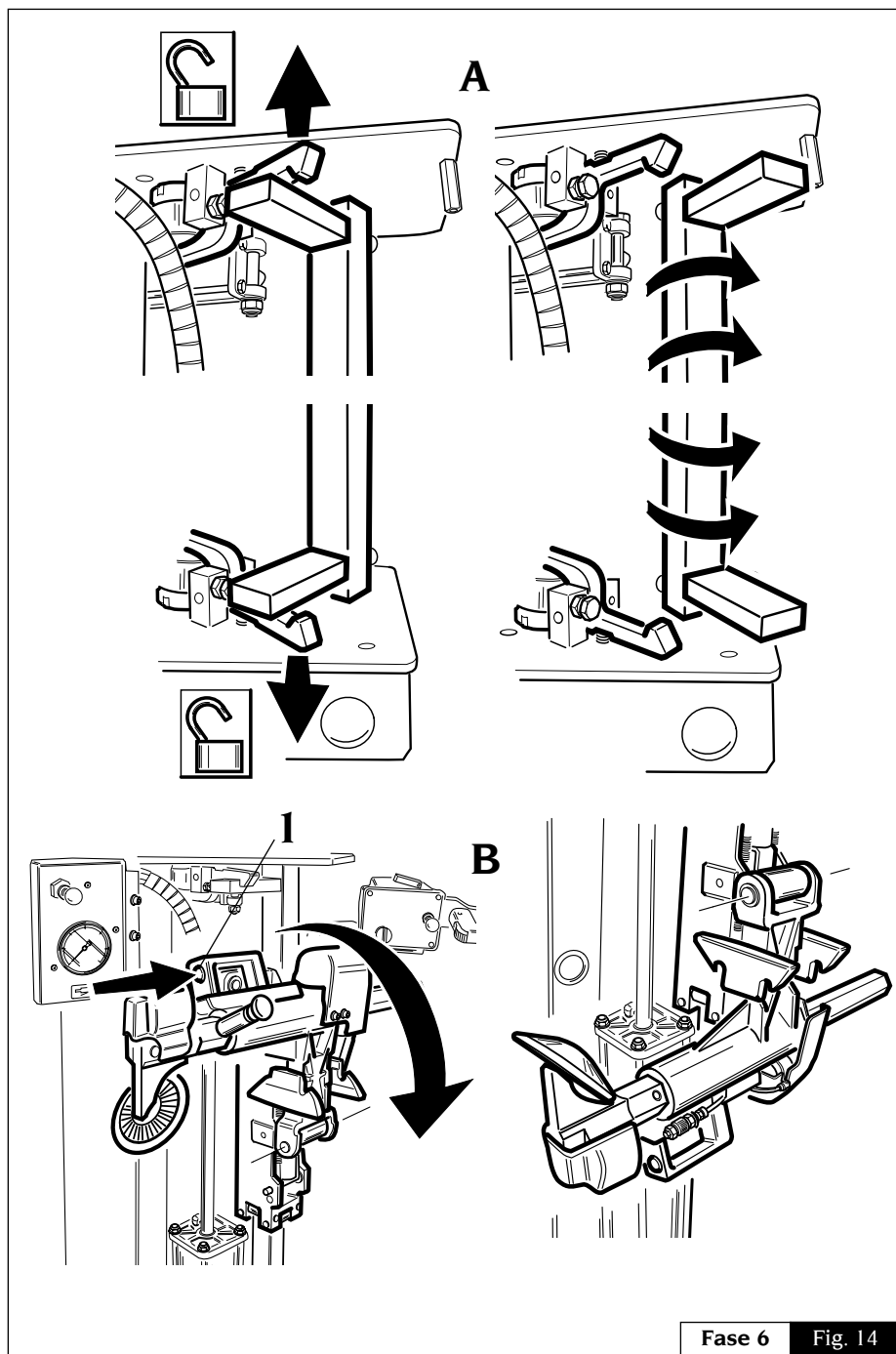




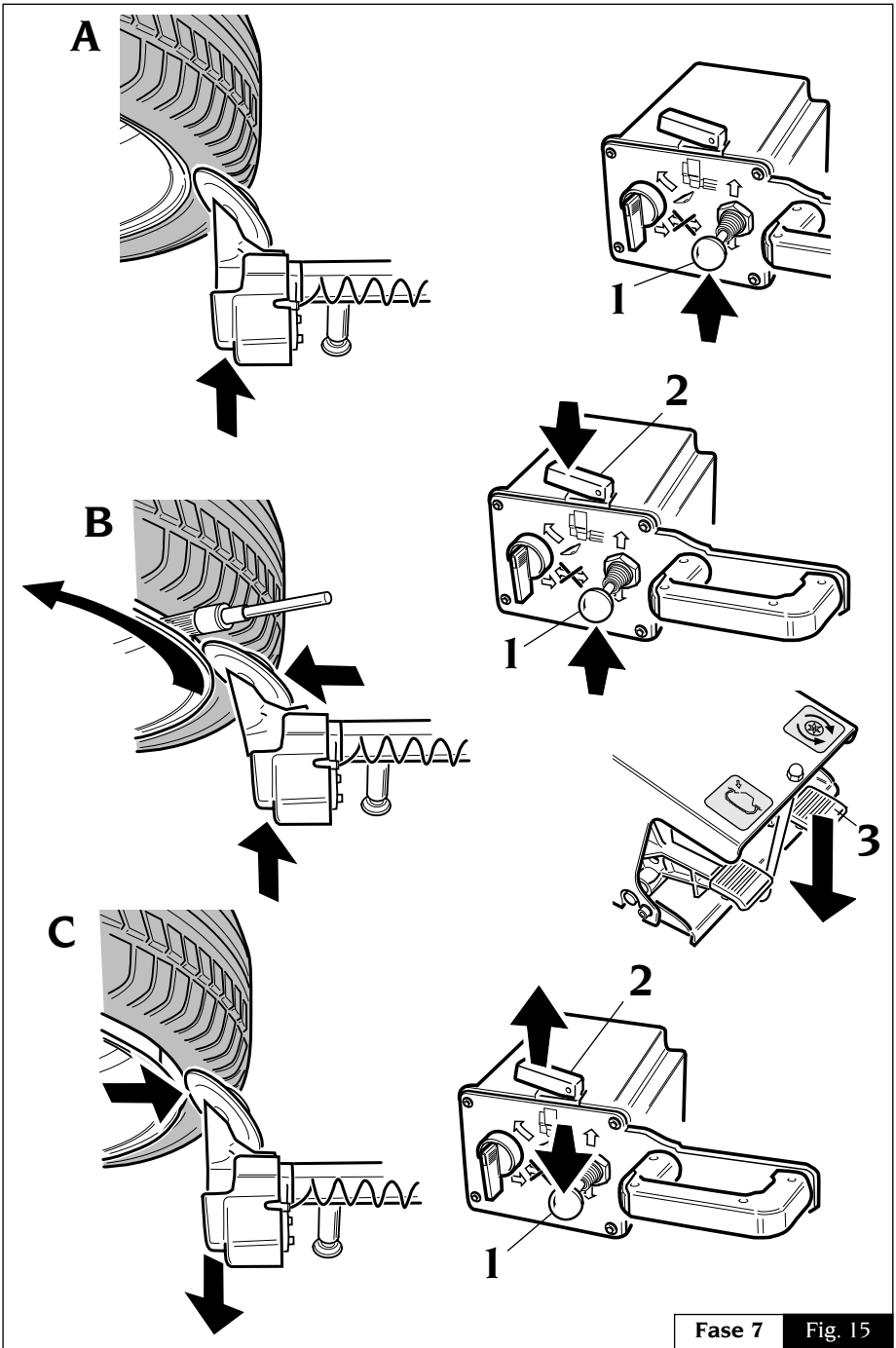
Fase 4 Fig. 12



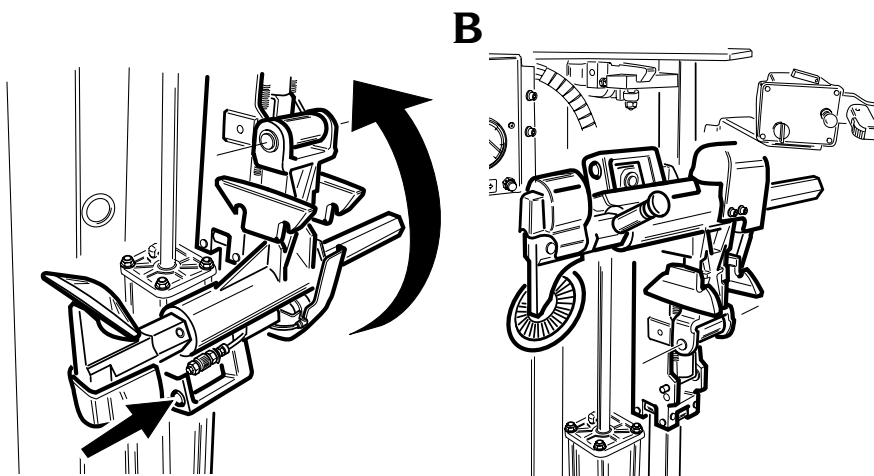
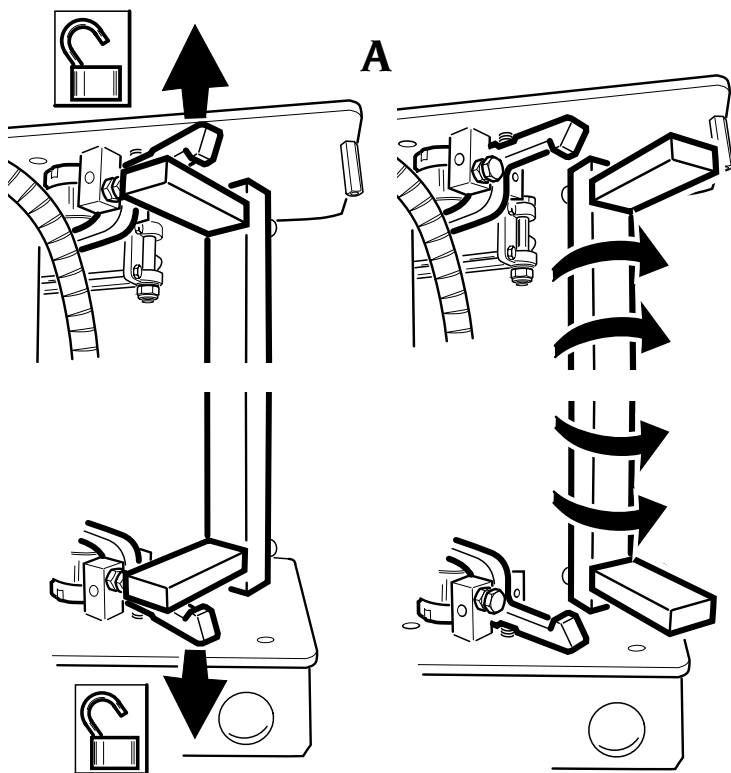
Fase 5 Fig. 13



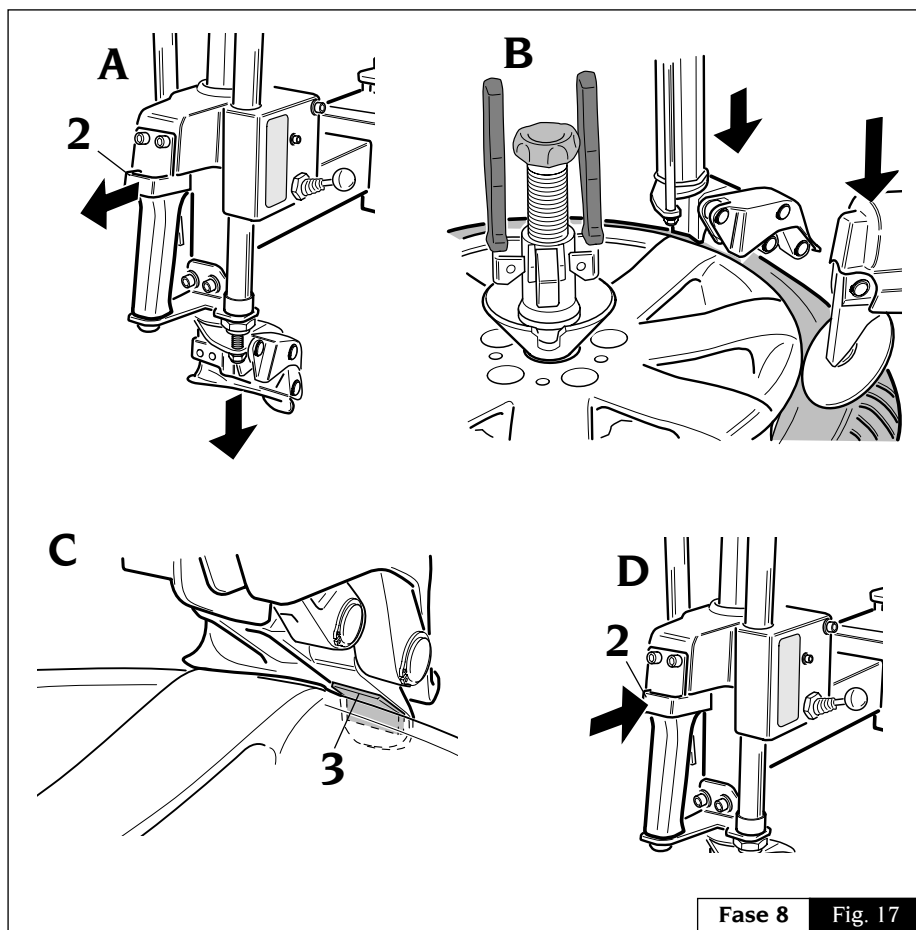
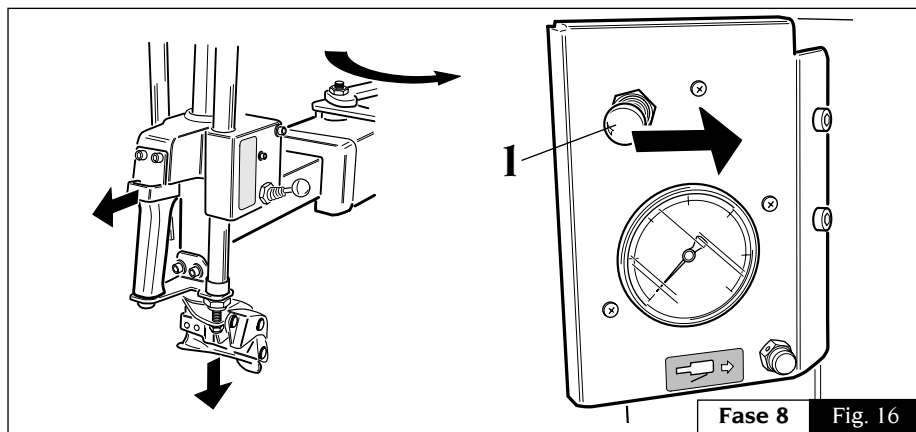
Fase 6 Fig. 14

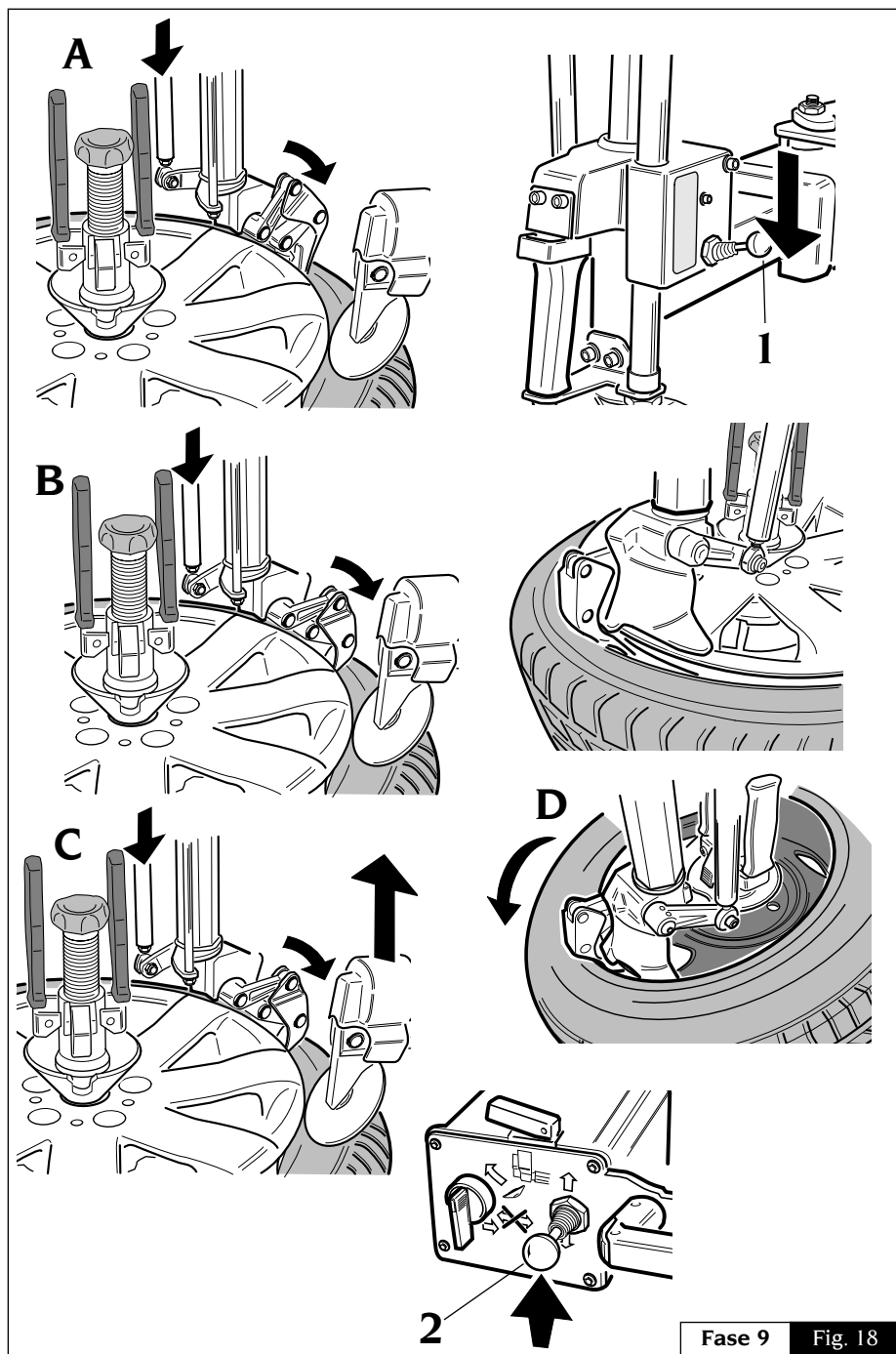


Fase 7 Fig. 15

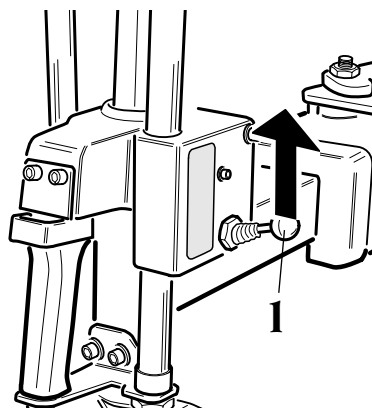
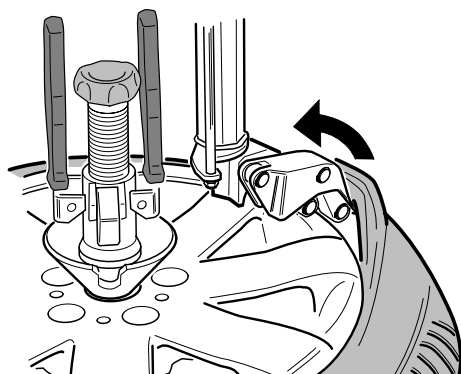


Fase 7a Fig. 15a

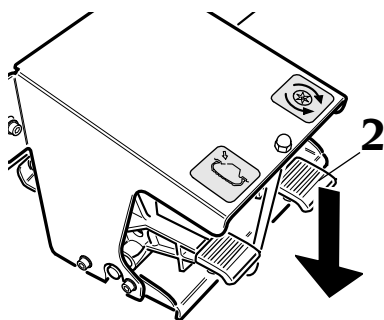
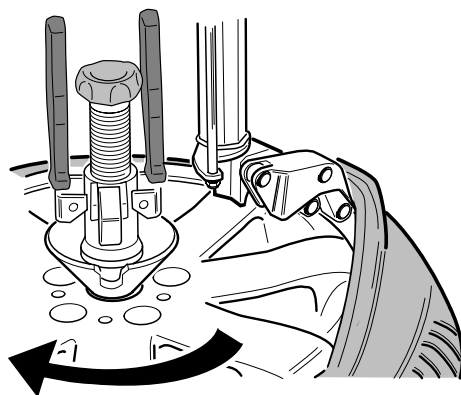




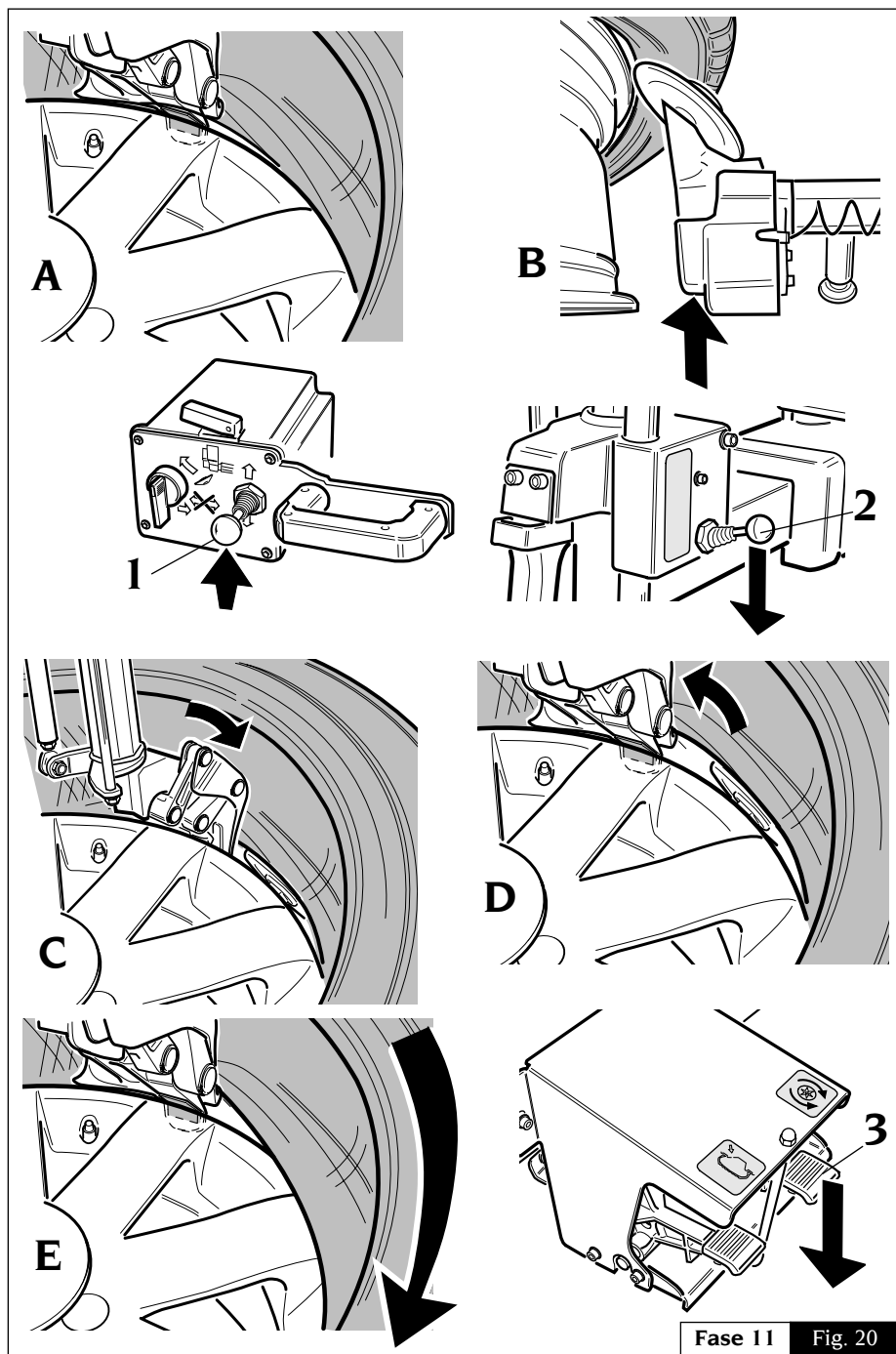
**A**

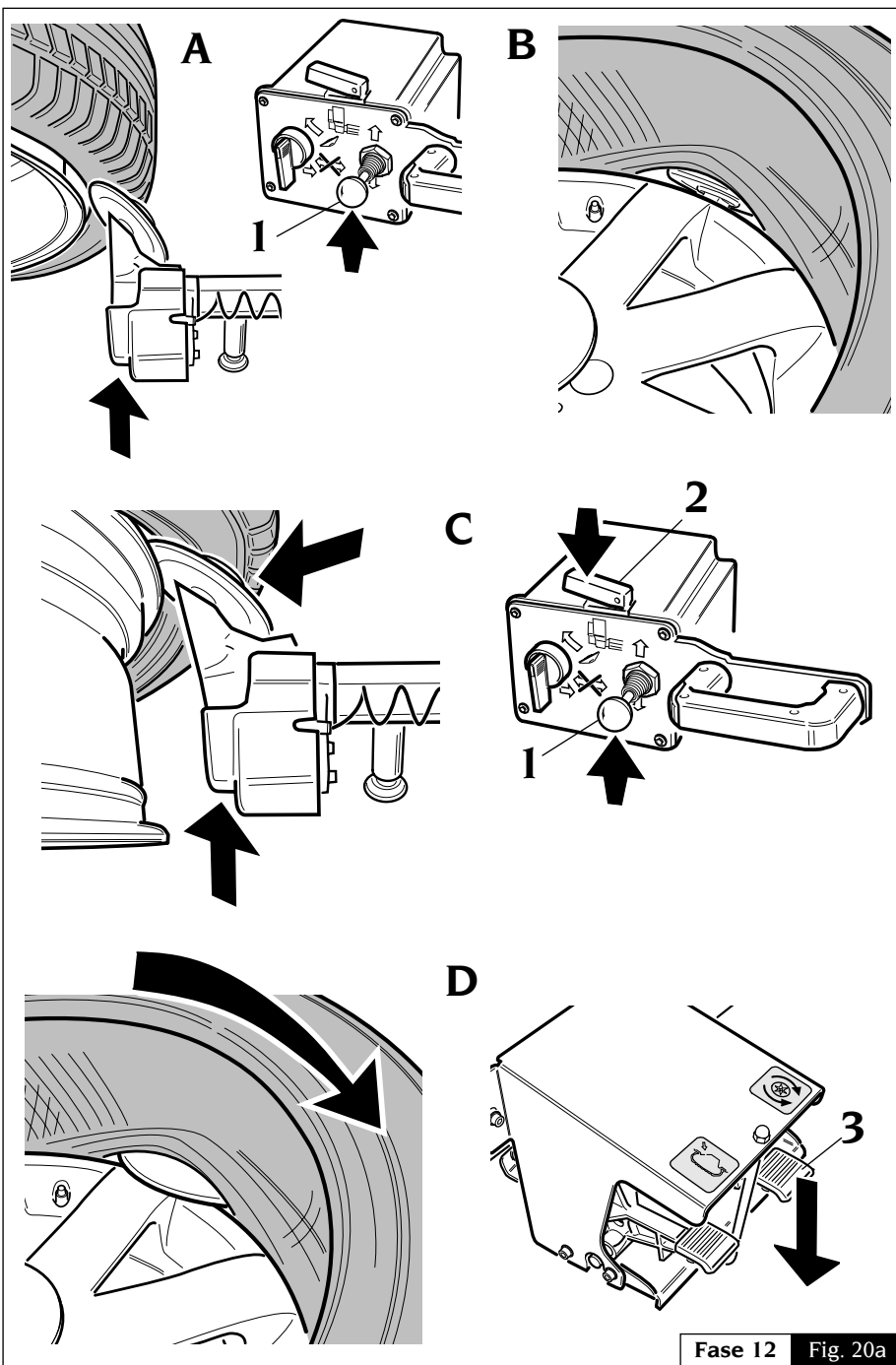


**B**

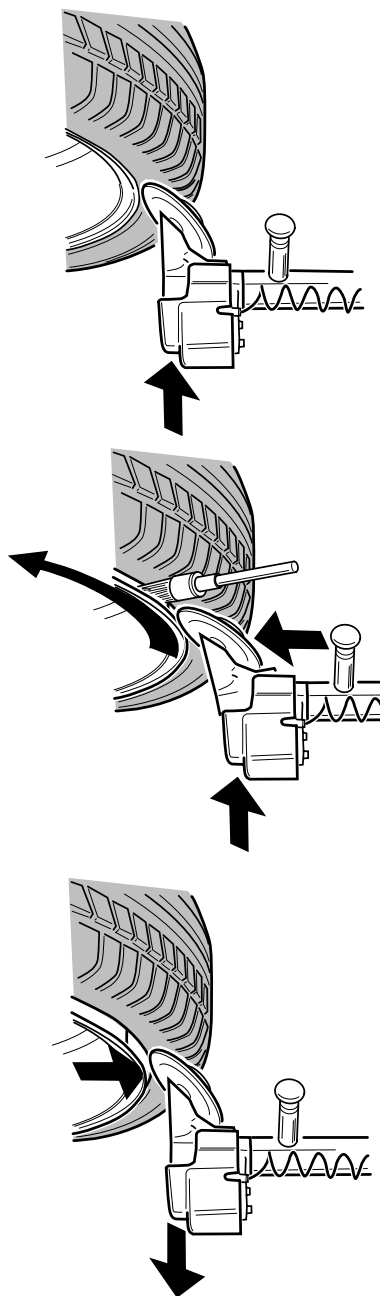
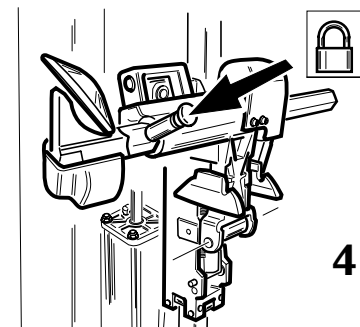
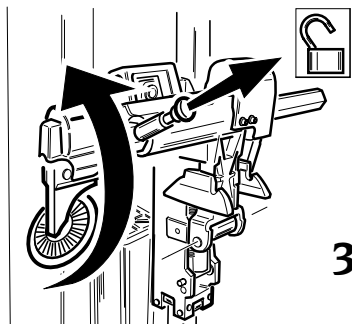
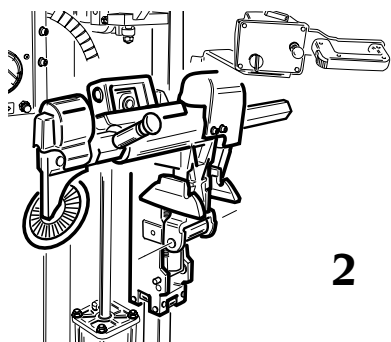
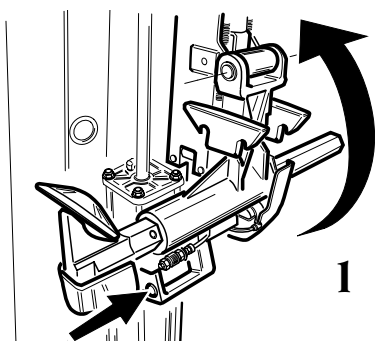


**Fase 10** **Fig. 19**

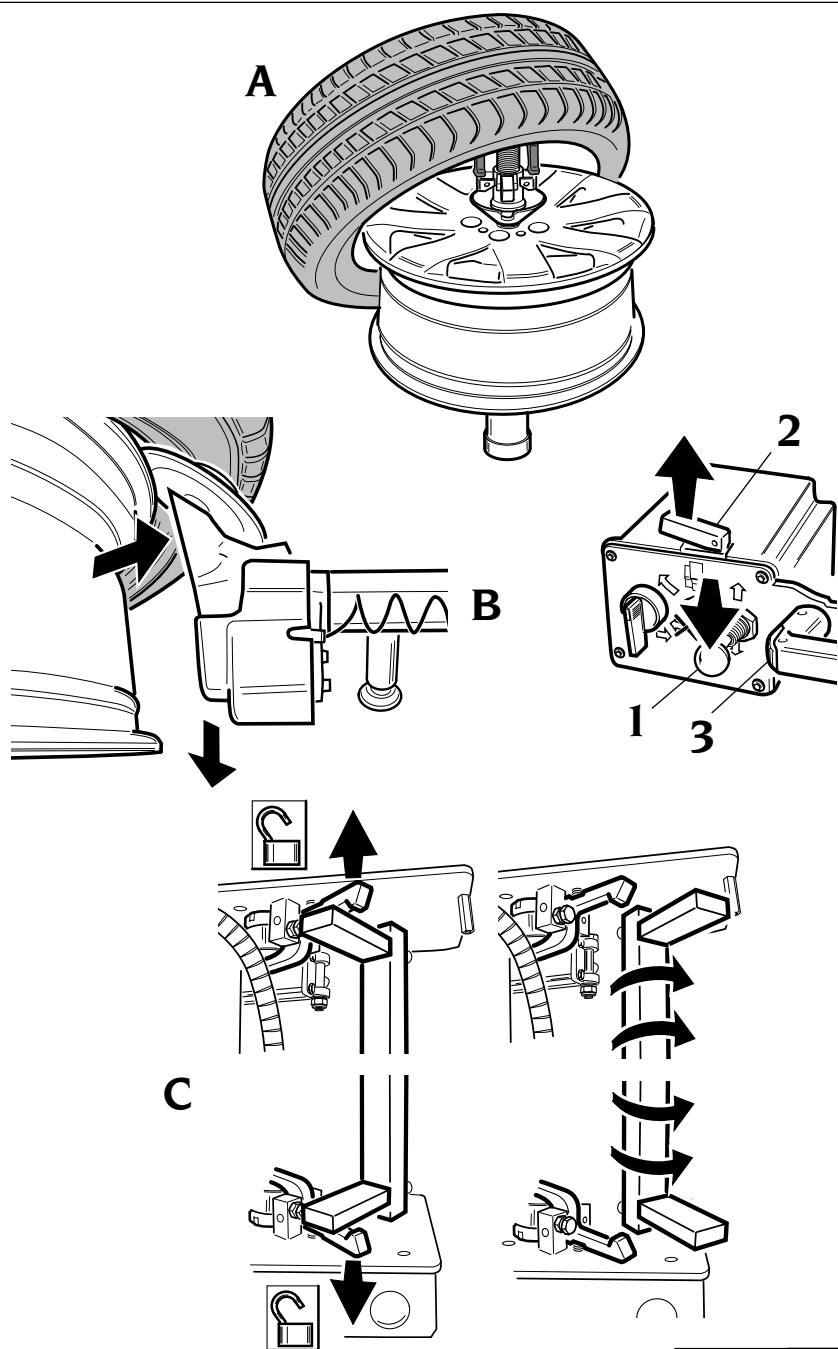




Fase 12 Fig. 20a



Fase 12a Fig. 20b



Fase 13 Fig. 21

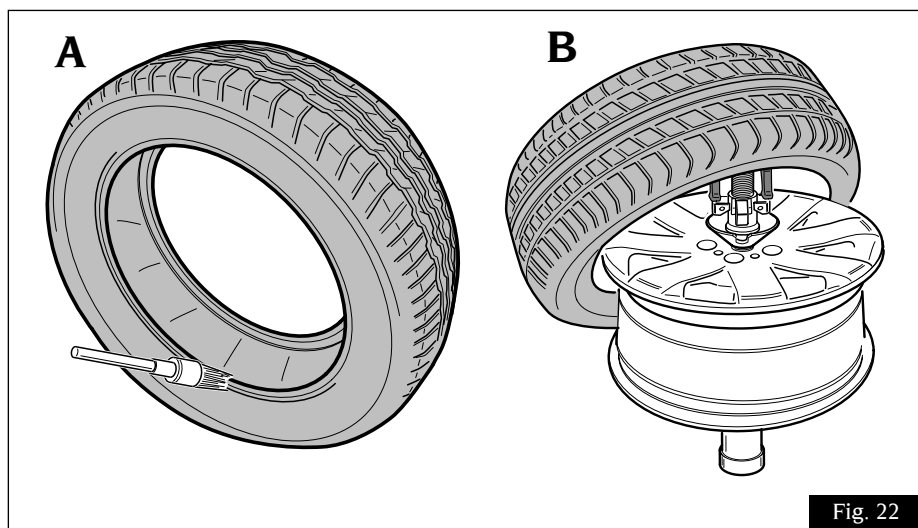


Fig. 22

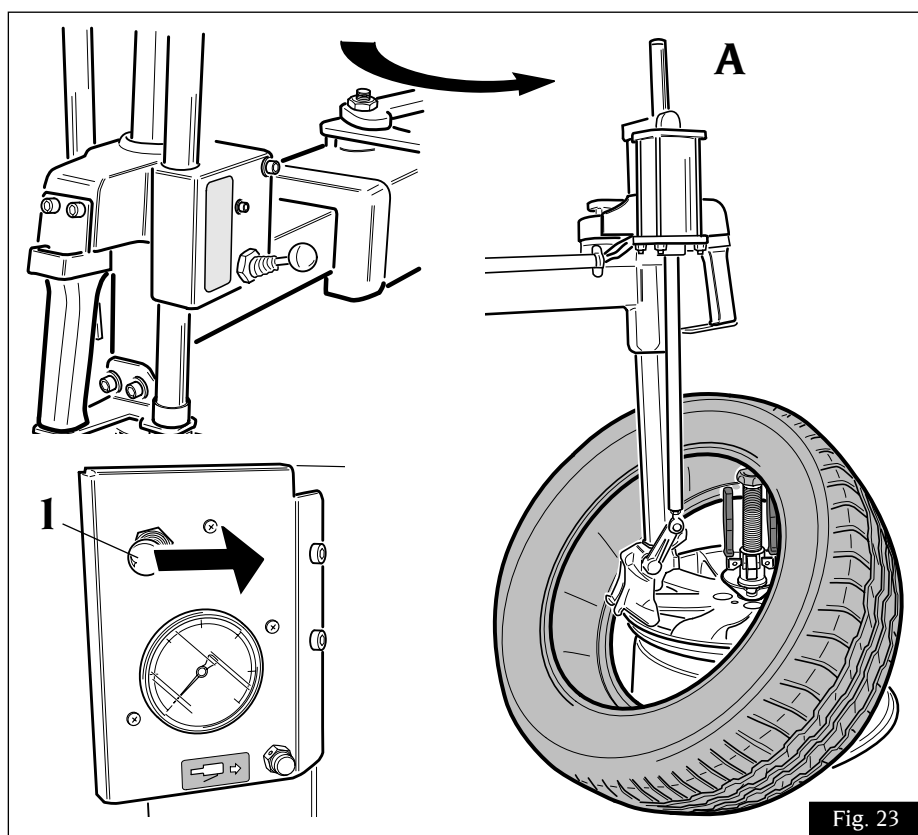


Fig. 23

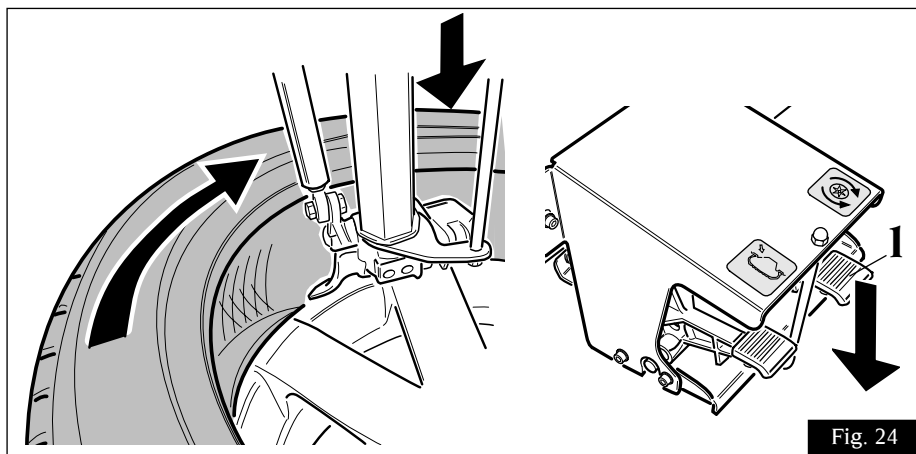


Fig. 24

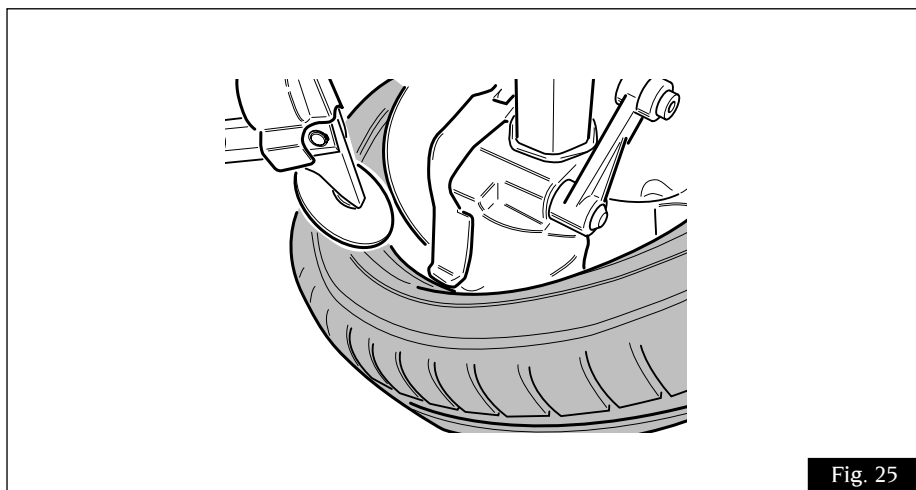


Fig. 25

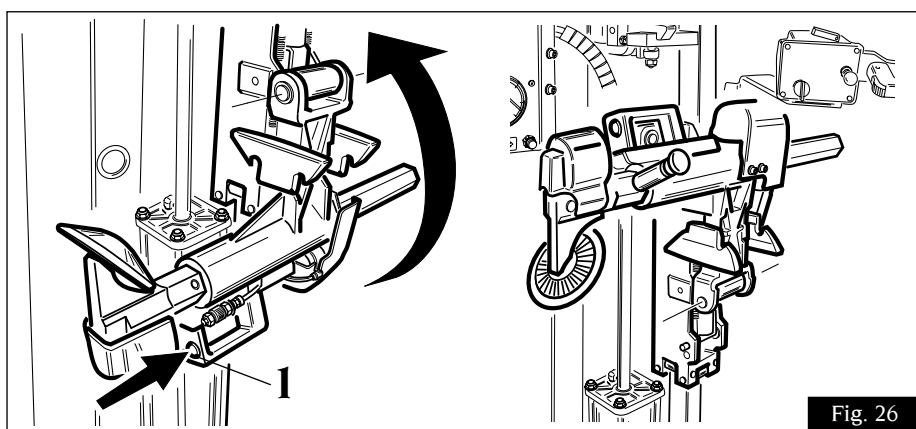


Fig. 26

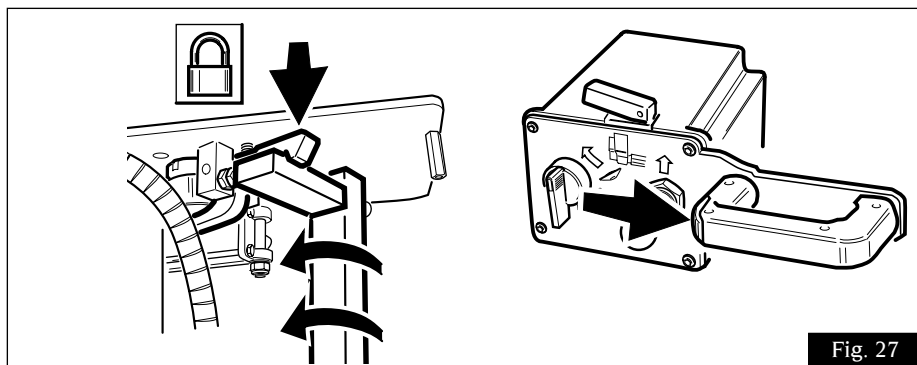


Fig. 27

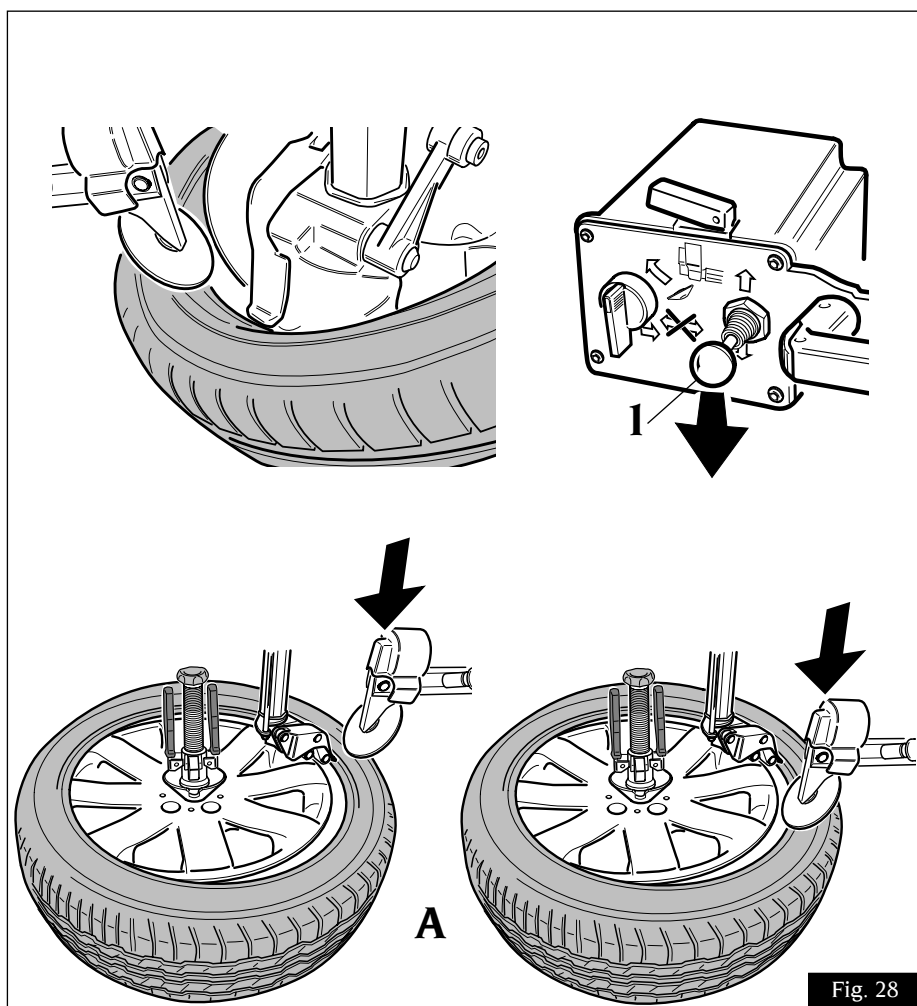


Fig. 28

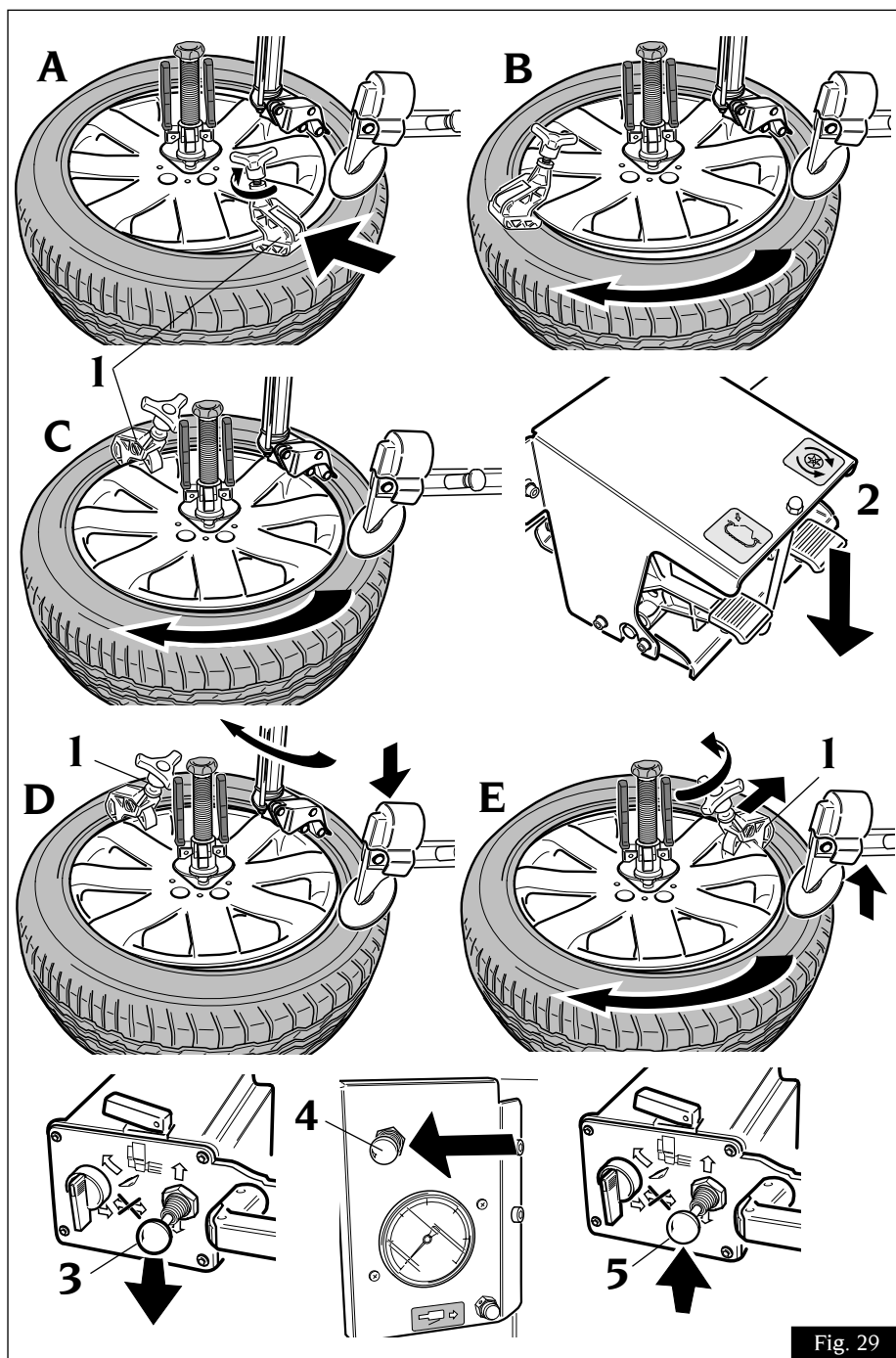


Fig. 29

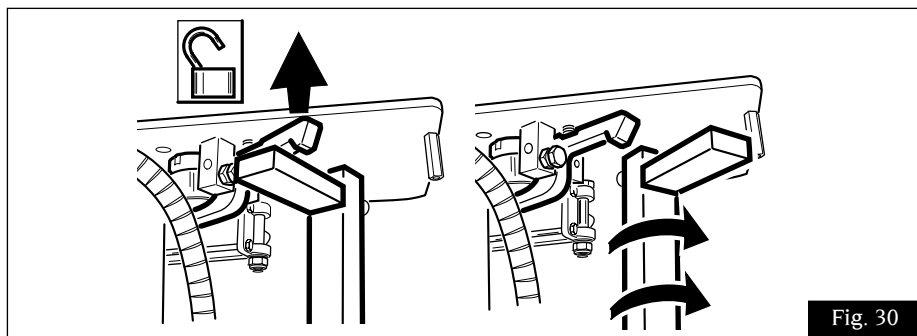


Fig. 30

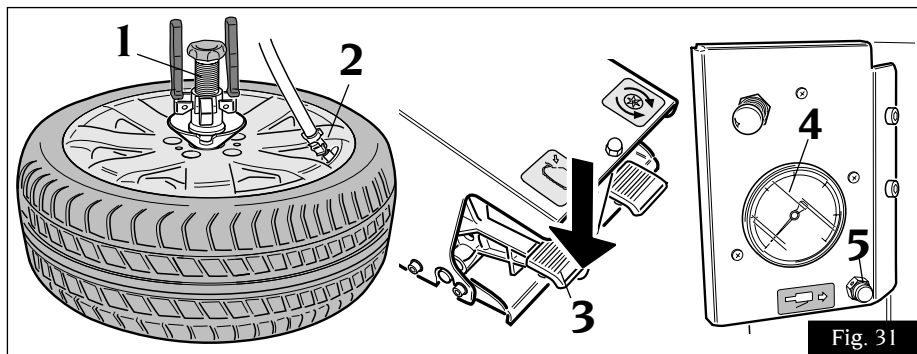


Fig. 31

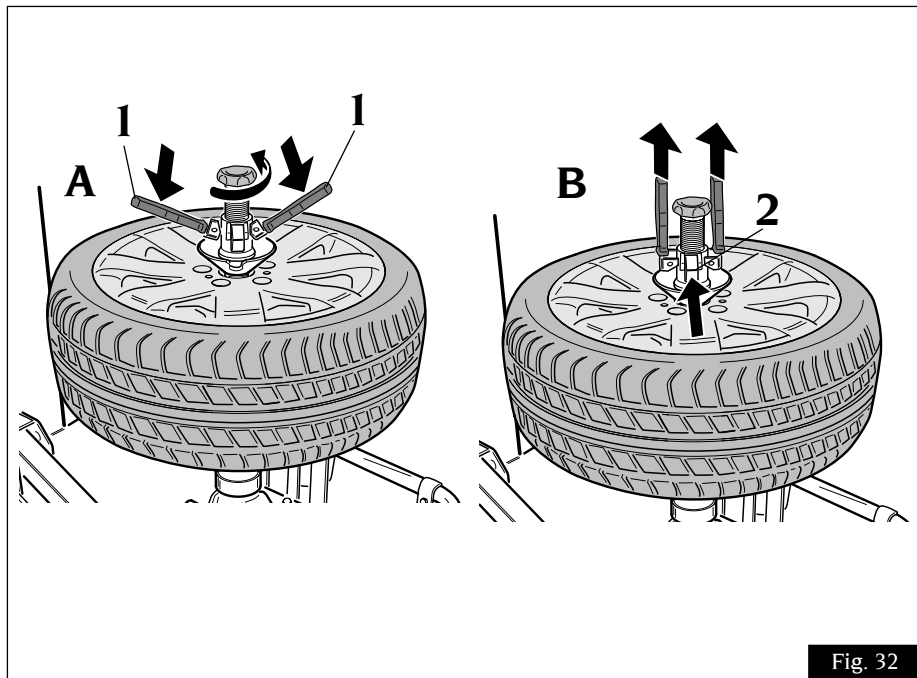
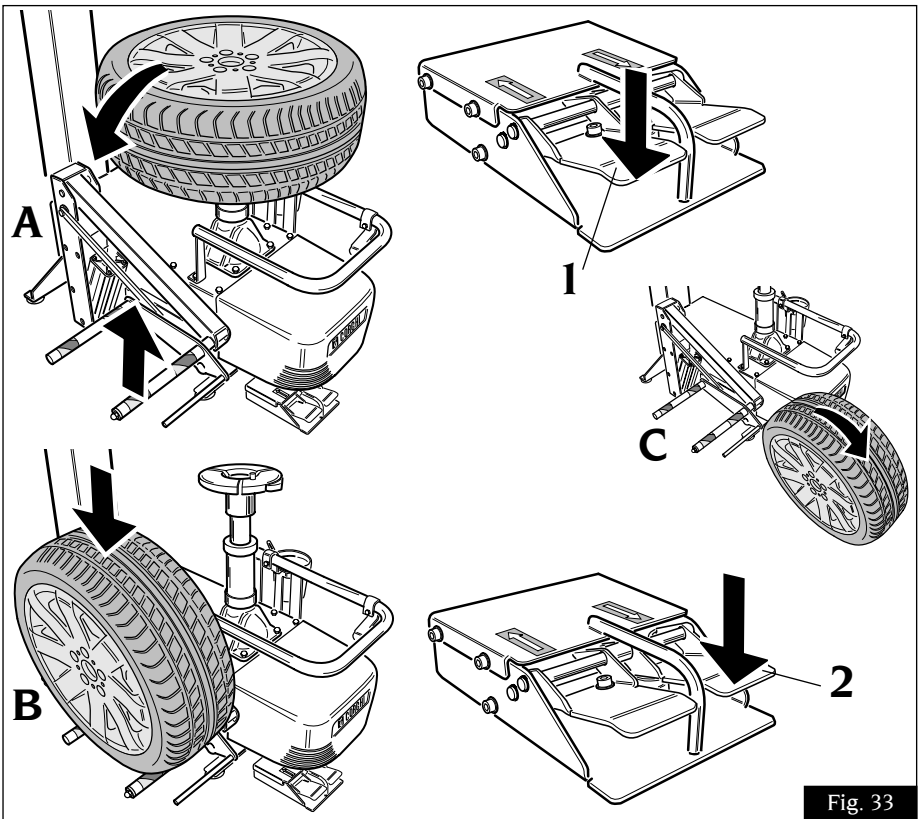
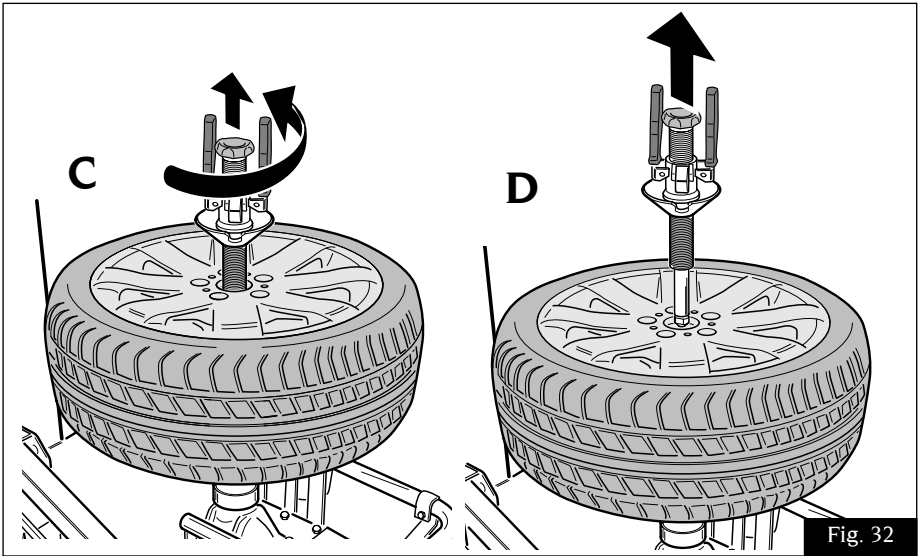
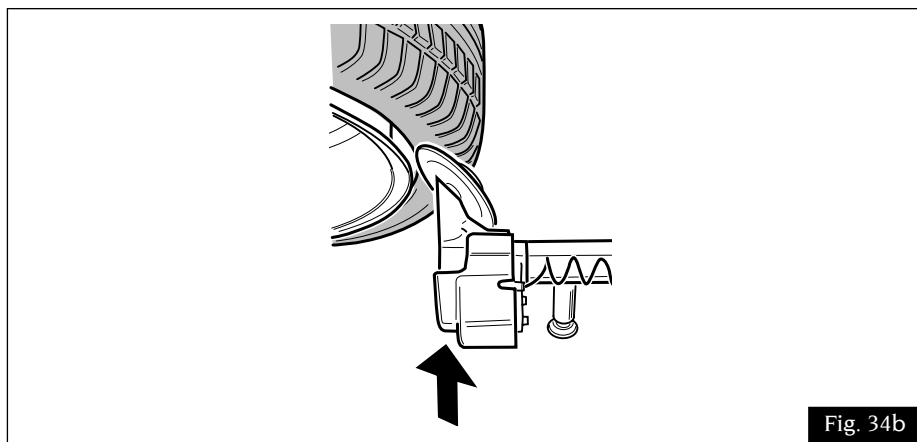
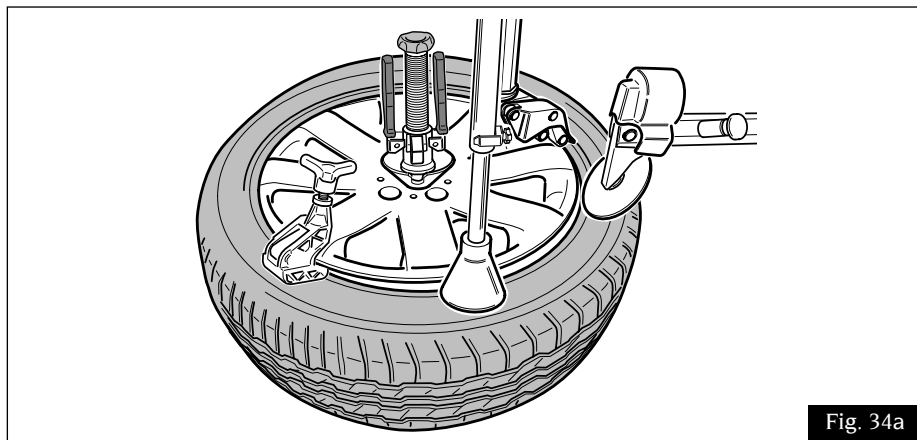
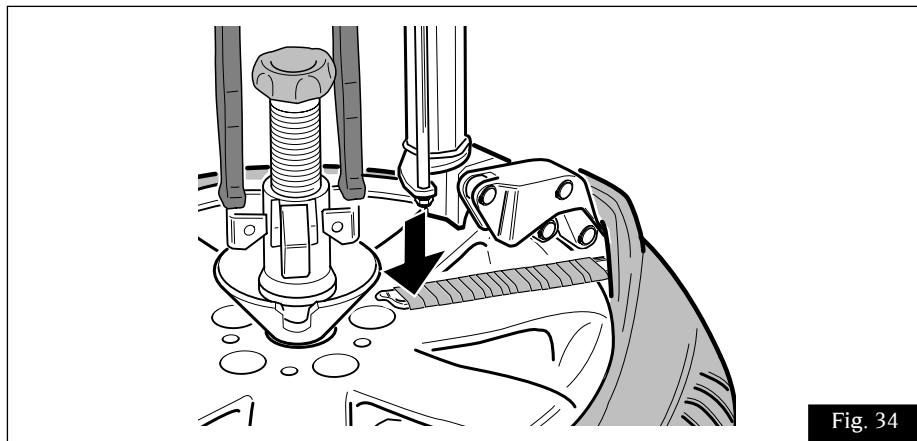


Fig. 32





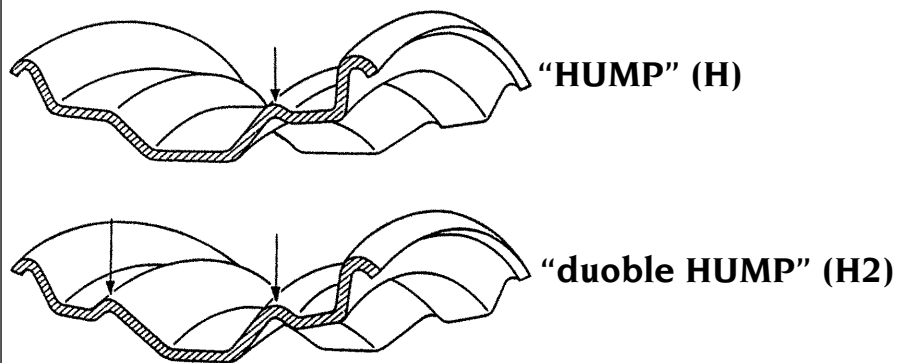


Fig. 35

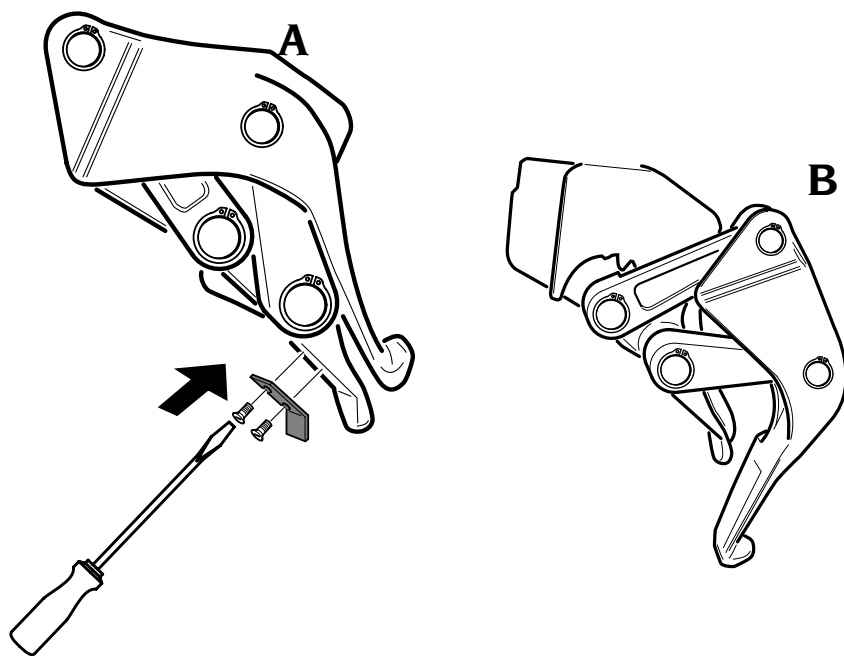
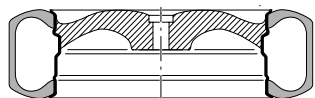


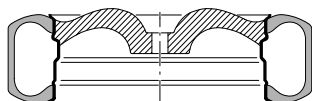
Fig. 36

**SCHEMA UTILIZZO ACCESSORI DI CENTRAGGIO E BLOCCAGGIO PER TIPOLOGIA DI CERCHIO**  
**TABLE TO THE USE OF CENTERING AND CLAMPING ACCESSORIES ACCORDING TO RIM TYPE**  
**SCHEMA D'EMPLOI DES ACCESSOIRES DE CENTRAGE ET DE BLOCAGE PAR TYPE DE JANTE**  
**GEBRAUCHSSCHEMA DER ZENTRIERUNG- UND BLOCKIERUNGZUBEHÖR DURCH FELGENTYP**  
**ESQUEMA USO ACESORIOS DE CENTRAJE Y BLOQUEO POR TIPOLOGIA DE LLANTA**



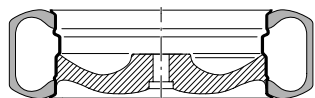
**A**

I - *cerchio standard*  
 GB - Standard rim  
 F - Jante Standard  
 D - Standardradfelge  
 E - Llanta estándar



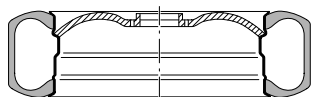
**B**

I - *cerchio con foro incassato*  
 GB - Dropped center hole rim  
 F - Jante avec trou encastré  
 D - Radfelge mit versenkter Bohrung  
 E - Llanta de agujero interno



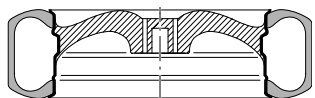
**C**

I - *cerchio a canale rovescio*  
 GB - Reversed rim  
 F - Jante à canal renversé  
 D - Radfelge mit verdrehtem Kanal  
 E - Llanta de acanaladura invertida



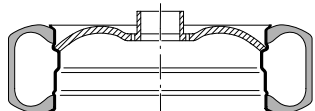
**D**

I - *cerchio per furgone*  
 GB - Pick-up rim  
 F - Jante pour fourgons  
 D - Radfelge für Transporter  
 E - Llanta para furgonetas



**E**

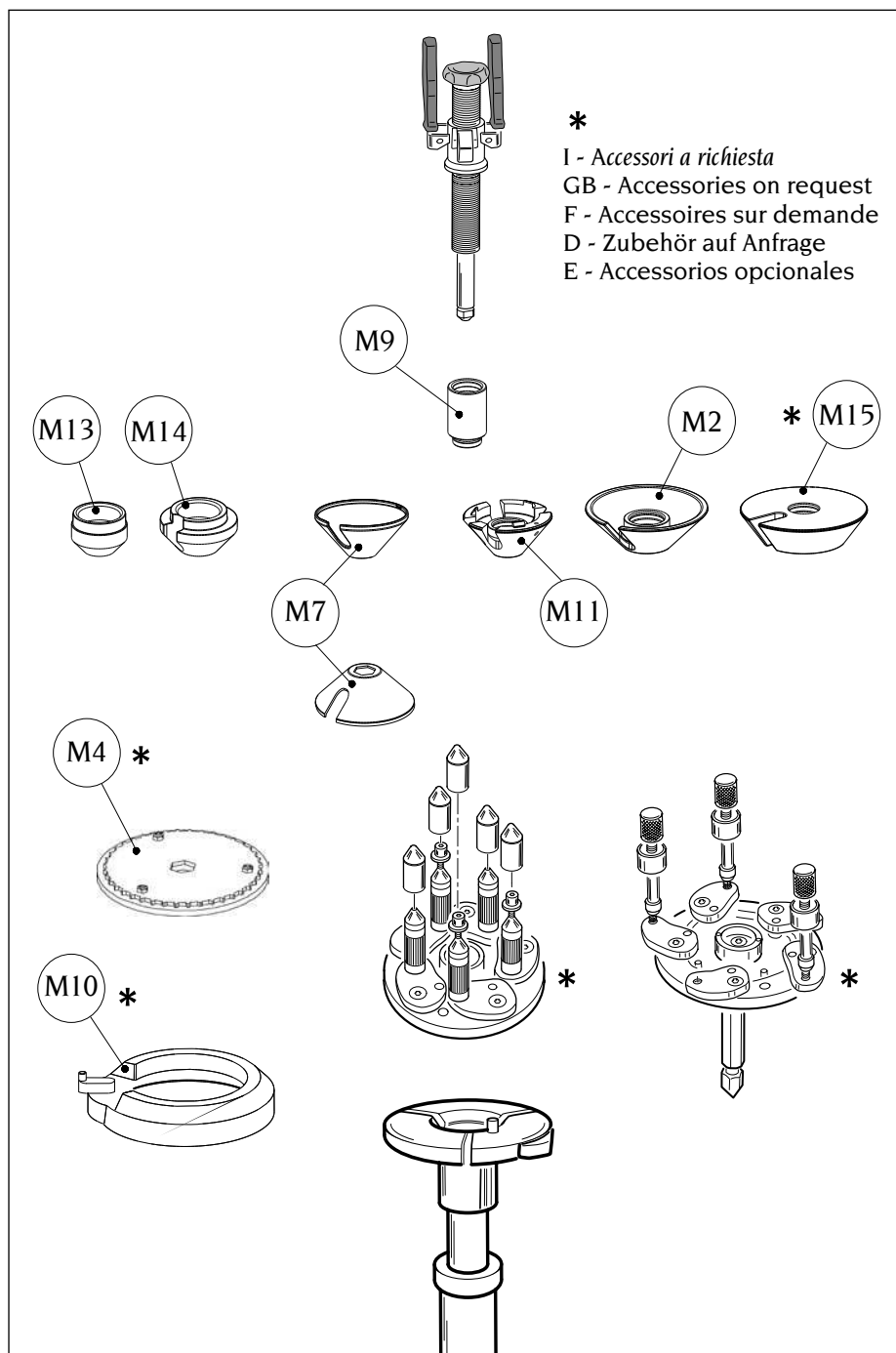
I - *cerchio senza foro centrale*  
 GB - Closed center rim  
 F - Jante sans trou central  
 D - Radfelge ohne Zentralbohrung  
 E - Llanta sin hueco central

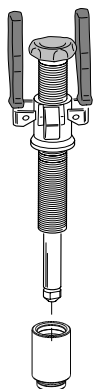
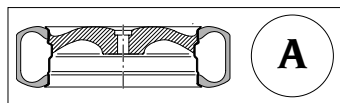


**F**

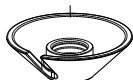
I - *cerchio con foro centrale*  
 GB - Open center rim  
 F - Jante avec trou central  
 D - Radfelge mit Zentralbohrung  
 E - Llanta con hueco central

**Fig. 37**





M9



M2



M11



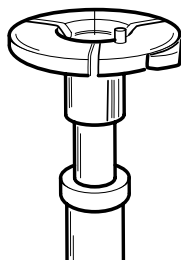
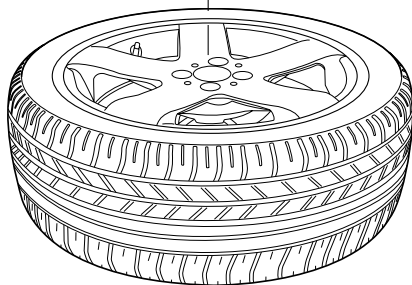
M14

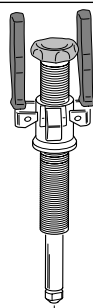
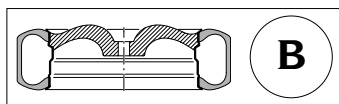


M13



M7





M9



M11



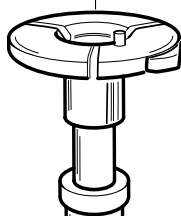
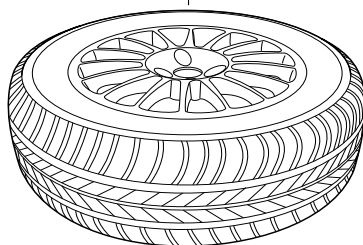
M7

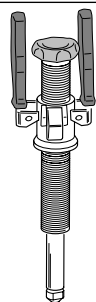
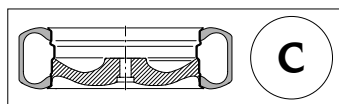


M5

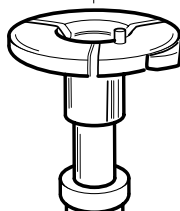
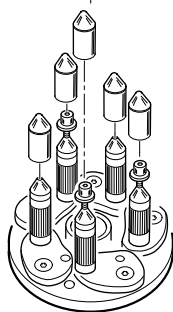
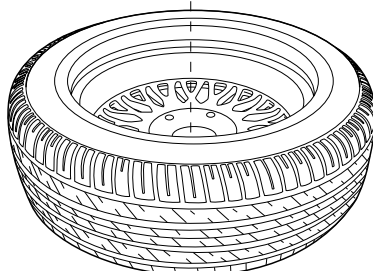


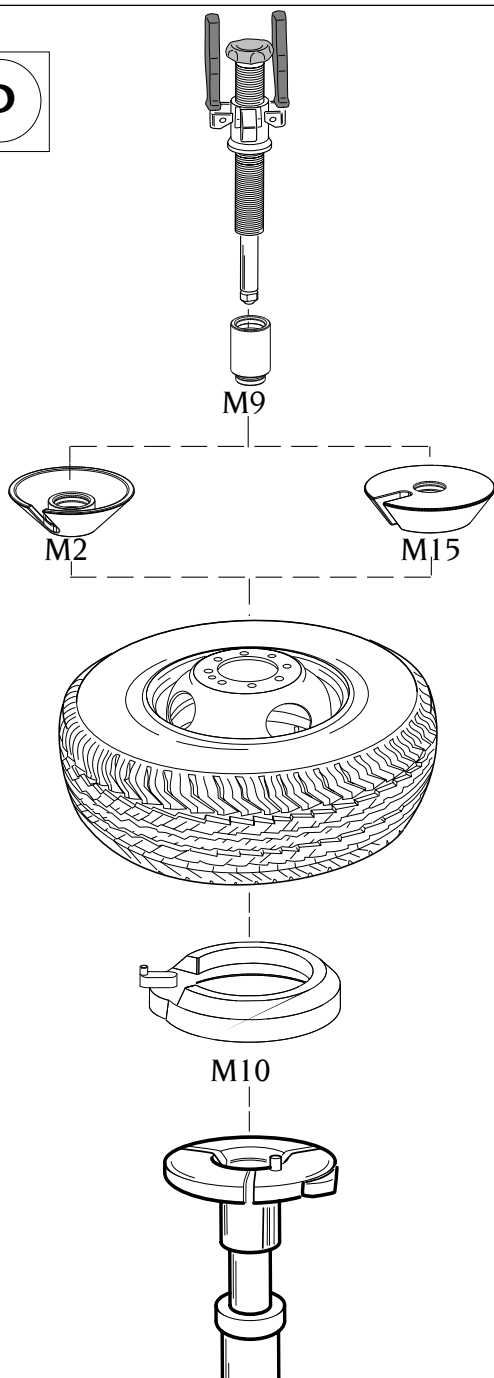
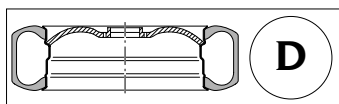
M6

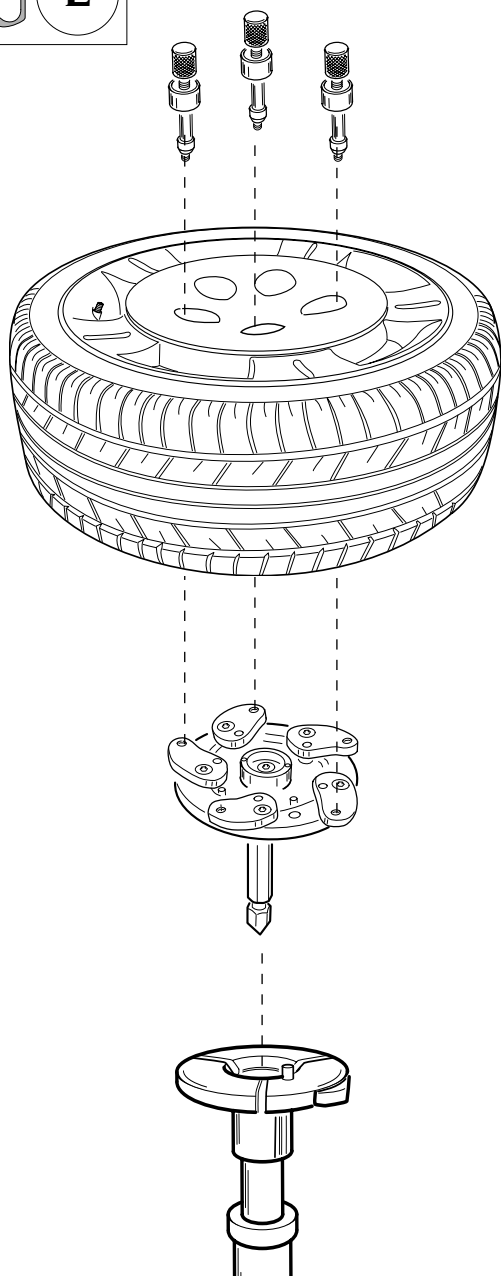
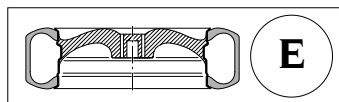


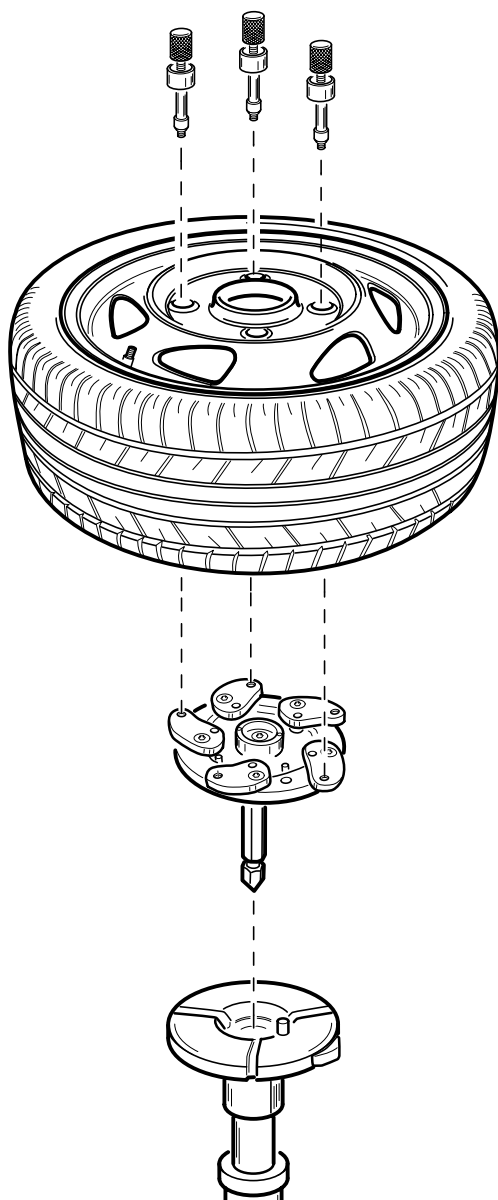
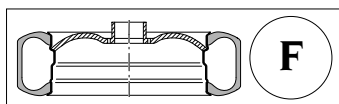


M11











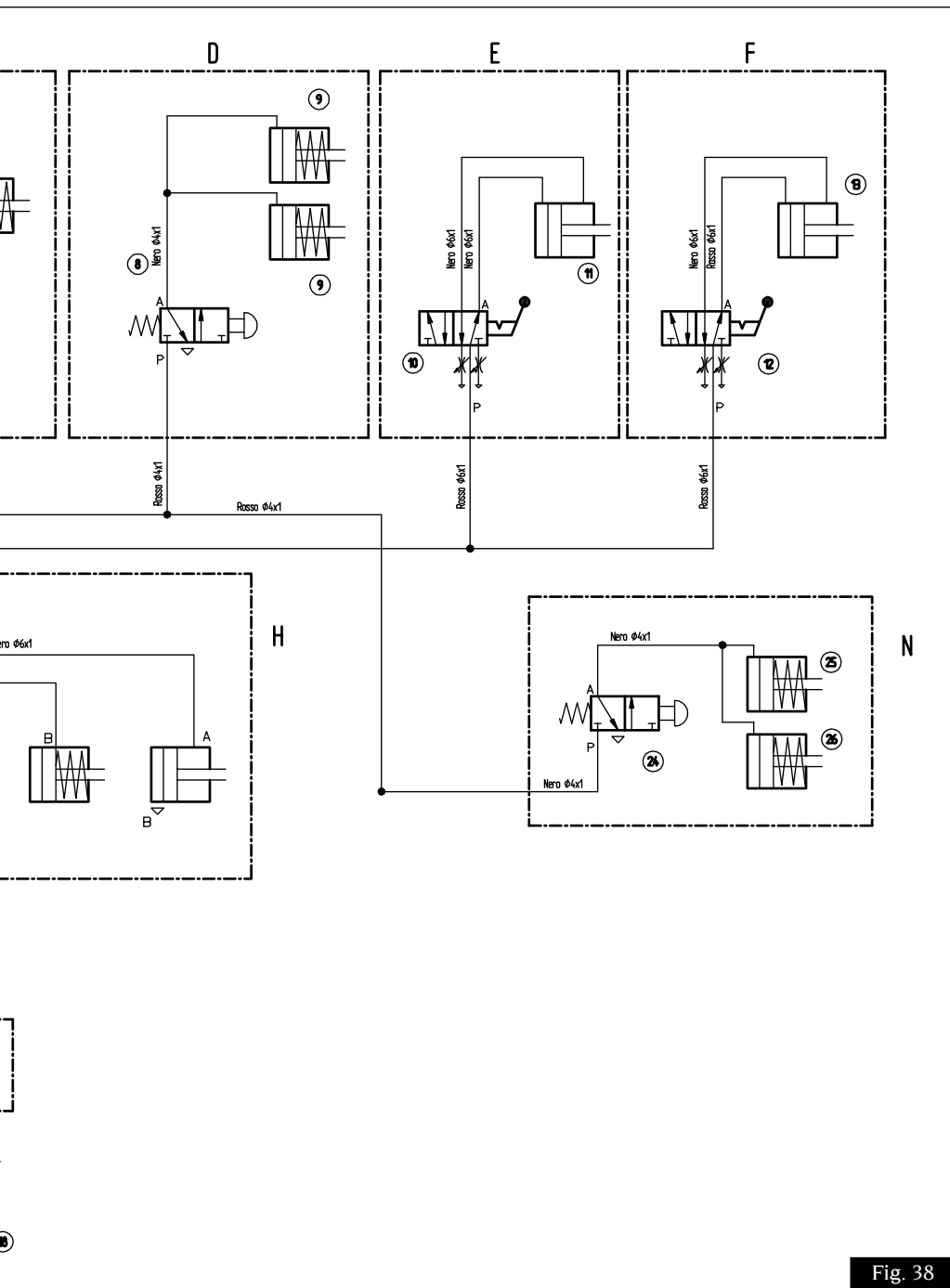


Fig. 38

L1 — FU01 - 20AT      200 - 230V 50/60Hz  
N — FU02 - 20AT  
PE — ————

XS1

Z1

AP1

U V W

MARRONE  
NERO  
AZZURRO

R T S

M1

GRUPPO MOTORE  
MOTOR UNIT

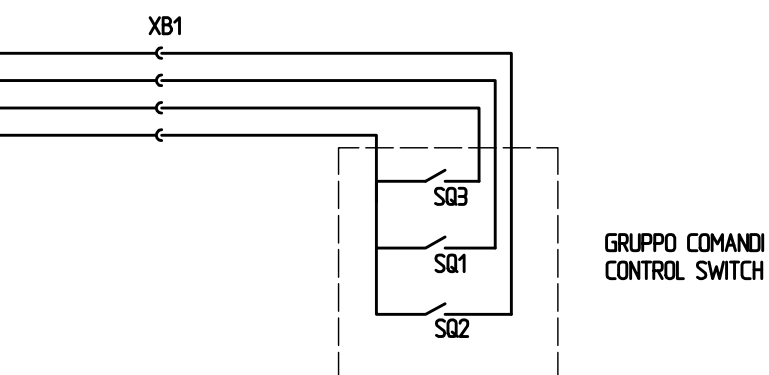


Fig. 39

## EC statement of conformity

We, CORGHI SPA, Via per Carpi n°9, Correggio (RE), ITALY, do hereby declare, that the product

### **ARTIGLIO 50 tyre changer**

to which this statement refers, conforms to the following standards or to other regulatory documents:

EN 292 of 09/91

DIR. 87/404/EEC of 25/06/87 amended with

DIR. 93/68/EEC of 22/07/93

DIR. 86/217/EEC of 26/05/86

according to directives:

- 98/37/CE;

- 73/23/EEC amended with directive 93/68/EEC

- 89/336/EEC amended with directives 92/31/EEC, 93/68/EEC, 93/97/EEC.

Correggio, 05 / 09 / 05

.....  
  
CORGHI S.p.A.  
G. Corghi

**IMPORTANT: The EC Conformity Declaration is cancelled if the machine is not used exclusively with CORGHI original accessories and/or in observance of the instructions contained in the user's manual.**

The form of this statement conforms to EN 45014 specifications.

## Déclaration CE de conformité

Nous, CORGHI SPA, Via per Carpi, n° 9, Correggio (RE) Italy, déclarons que le matériel

### **démonte-pneus ARTIGLIO 50**

objet de cette déclaration est conforme aux normes et/aux documents légaux suivants:

EN 292 du 09/91

DIR. 87/404/CEE du 25/06/87 modifié par la

DIR. 93/68/CEE du 22/07/93

DIR. 86/217/CEE du 26/05/86

Sur la base de ce qui est prévu par les directives:

- 98/37/CE;

- 73/23/CEE modifié par la directive 93/68/CEE;

- 89/336/CEE modifié par les directives 92/31/CEE, 93/68/CEE, 93/97/CEE.

Correggio, 05 / 09 / 05

.....  
  
CORGHI S.p.A.  
G. Corghi

**IMPORTANT : La déclaration CE de conformité est considérée comme nulle et non avenue dans le cas où la machine ne serait pas utilisée exclusivement avec des accessoires originaux CORGHI et/ou, dans tous les cas, conformément aux indications contenues dans le Manuel d'utilisation.**

Le modèle de la présente déclaration est conforme à ce qui est prévu par la EN 45014.

## CE - Konformitätserklärung

CORGHI SPA, Via per Carpi, Nr. 9, Correggio (RE), ITALY, erklärt hiermit, daß das Produkt

### Reifenmontiermaschine ARTIGLIO 50

worauf sich die vorliegende Erklärung bezieht, den Anforderungen folgender Normen und/oder normativer Dokumente entspricht:

EN 292 vom 09.91

RIC. 87/404/EWG vom 25.06.87 mit Änderung durch die

RIC. 93/68/EWG vom 22.07.93

RIC. 86/217/EWG vom 26.05.86

auf Grundlage der Vorgaben durch die Richtlinien:

- 98/37/CE;
- 73/23/EWG mit Änderung durch die Richtlinien 93/68/EWG
- 89/336/EWG mit Änderung durch die Richtlinien 92/31/EWG, 93/68/EWG, 93/97/EWG.

Correggio, 05 / 09 / 05

.....  
  
CORGHI S.p.A.  
G. Corghi

**WICHTIG: Die CE-Konformitätserklärung verliert ihre Gültigkeit, falls die Maschine nicht ausschließlich mit CORGHI-Originalzubehör und/oder unter Mißachtung der in der Betriebsanleitung aufgeführten Gebrauchsanweisungen verwendet wird.**

Das Modell der vorliegenden Erklärung entspricht den Anforderungen der in EN 45014 aufgeführten Vorgaben.

## Declaración CE de conformidad

La mercantil CORGHI SpA abajo firmante, con sede en Via per Carpi n° 9, Correggio (RE), Italia, declara que el producto:

### desmontagoma ARTIGLIO 50

al cual se refiere la presente declaración, se conforma a las siguientes normas y/o documentos normativos:

EN 292 de 09/91

DIR. 87/404/CEE de 25/06/87 modificada por la

DIR. 93/68/CEE de 22/07/93

DIR. 86/217/CEE de 26/05/86

a tenor de lo dispuesto en la Directiva:

- 98/37/CE;
- 73/23/CEE modificada por la Directiva 93/68/CEE
- 89/336/CEE, modificada por la Directiva 92/31/CEE, 93/68/CEE, 93/97/CEE.

Correggio, 05 / 09 / 05

.....  
  
CORGHI S.p.A.  
G. Corghi

**IMPORTANTE: La declaración de conformidad CE deja de tener validez en el caso en que la máquina no sea utilizada exclusivamente con accesorios originales CORGHI y/o, en cualquier caso, con arreglo a las indicaciones contenidas en el Manual de Empleo.**

El modelo de la presente declaración se conforma a lo dispuesto en la EN 45014.

## Dichiarazione CE di conformità

Noi CORGHI SPA, Via per Carpi n°9, Correggio (RE), ITALY,  
dichiariamo che il prodotto

### **smontagomme ARTIGLIO 50**

al quale questa dichiarazione si riferisce è conforme alle seguenti  
norme e/o documenti normativi:

EN 292 del 09/91

DIR. 87/404/CEE del 25/06/87 modificata con la

DIR. 93/68/CEE del 22/07/93

DIR. 86/217/CEE del 26/05/86

in base a quanto previsto dalle direttive:

- 98/37/CE;
- 73/23/CEE modificata con la direttiva 93/68/CEE
- 89/336/CEE modificata con le direttive 92/31/CEE, 93/68/CEE, 93/97/CEE.

Correggio, 05 / 09 / 05

  
.....  
CORGHI S.p.A.  
G. Corghi

**IMPORTANTE:** La dichiarazione CE di conformità decade nel caso in cui la macchina non venga utilizzata unicamente con accessori originali CORGHI e/o comunque in osservanza delle indicazioni contenute nel Manuale d'uso.

Il modello della presente dichiarazione è conforme a quanto previsto nella EN 45014.



CORGHI S.p.A. - Via per Carpi n.9  
42015 CORREGGIO - R.E. - ITALY  
Tel. ++39 0522 639.111 - Fax ++39 0522 639.150  
[www.corgi.com](http://www.corgi.com) - [info@corgi.com](mailto:info@corgi.com)