



Artiglio

Master Code

Code 4-118329B - 05/2015

User Manual

Copyrighted materials. All rights reserved.

The information contained herein may be subject to modifications without prior notice.

Thank you for choosing our Tyre Changer

CORGHI

Dear Purchaser

Thank you for purchasing your Corghi Tyre Changer.

Your Tyre Changer has been designed to provide years of safe and dependable service, as long as it is used and maintained in accordance with the instructions provided in this manual.

All persons who will use and/or maintain this Tyre Changer must read, understand and follow all warnings and instructions provided in this manual, and be properly trained.

This Owner's Manual should be considered an internal part of your Tyre Changer and should remain with the Tyre Changer. However, nothing in this manual, and none of the devices installed on the Tyre Changer, substitute for proper training, careful operation, good judgement and safe work practices.

Always be sure that your Tyre Changer is in optimum working order. If you suspect that anything is not working properly, or that a dangerous situation may exist, immediately shut down the Tyre Changer and remedy any condition before you proceed.

If you have any questions concerning the proper use or maintenance of your Tyre Changer, please call your authorized Corghi representative.

Sincerely,
Corghi SpA

OWNER INFORMATION

Owner
Name _____
Owner
Address _____
Model
Number _____
Serial
Number _____
Date
Purchased _____
Date
Installed _____
Service and Parts
Representative _____
Phone
Number _____
Sales
Representative _____
Phone
Number _____

TRAINING CHECKLIST

	Trained	Declined
<u>Safety Precautions</u>		
Warning and Caution Labels	<input type="checkbox"/>	<input type="checkbox"/>
Pinch Points and Other Potential Hazards	<input type="checkbox"/>	<input type="checkbox"/>
Safe Operating Procedures	<input type="checkbox"/>	<input type="checkbox"/>
<u>Maintenance and Performance Checks</u>		
Mounting Head Inspection	<input type="checkbox"/>	<input type="checkbox"/>
Adjustment and Lubrication	<input type="checkbox"/>	<input type="checkbox"/>
Self-diagnostics procedures	<input type="checkbox"/>	<input type="checkbox"/>
Maintenance messages and instructions	<input type="checkbox"/>	<input type="checkbox"/>
<u>Clamping</u>		
Steel / Alloy Wheels	<input type="checkbox"/>	<input type="checkbox"/>
Reverse Drop Centre Wheels	<input type="checkbox"/>	<input type="checkbox"/>
Close Centre Wheels	<input type="checkbox"/>	<input type="checkbox"/>
<u>Bead Breaking</u>		
Standard Wheels	<input type="checkbox"/>	<input type="checkbox"/>
Low Profile Wheels	<input type="checkbox"/>	<input type="checkbox"/>
<u>Demounting</u>		
Bead Lubrication During Removal of Low Profile Tyres	<input type="checkbox"/>	<input type="checkbox"/>
Reverse Drop Centre Wheels	<input type="checkbox"/>	<input type="checkbox"/>
<u>Mounting</u>		
Standard Wheels	<input type="checkbox"/>	<input type="checkbox"/>
Mounting of Stiff, Low Profile Tyres	<input type="checkbox"/>	<input type="checkbox"/>
Reverse Drop Centre Wheels	<input type="checkbox"/>	<input type="checkbox"/>
Proper Bead Lubrication for Mounting Protection	<input type="checkbox"/>	<input type="checkbox"/>
WDK procedure	<input type="checkbox"/>	<input type="checkbox"/>
<u>Automatic procedures</u>		
Automatic Size Identification Procedure	<input type="checkbox"/>	<input type="checkbox"/>
Machine Use in Automatic Mode	<input type="checkbox"/>	<input type="checkbox"/>
Emergency Procedures in Automatic Mode	<input type="checkbox"/>	<input type="checkbox"/>
<u>Accessories</u>		
Instructions for the Correct Use of Accessories	<input type="checkbox"/>	<input type="checkbox"/>
Bead Sealing and Seating	<input type="checkbox"/>	<input type="checkbox"/>
Instructions for Using Inflatron (optional)	<input type="checkbox"/>	<input type="checkbox"/>

UK

Inflation

Safety Precautions

Lubrication and Removal of Valve Core

Bead Sealing and Seating

Individuals and Dates Trained

TABLE OF CONTENTS

1. GETTING STARTED	7
1.1 INTRODUCTION	7
1.1.a. Purpose of the manual	7
1.2 FOR YOUR SAFETY	7
1.2.a. General warning and instructions	8
1.2.b. Decal placement	11
1.2.c. Electrical and pneumatic connections	16
1.2.d. Technical data	17
1.2.e. Air pressures	17
1.3 SPECIAL RIM/TYRE CONSIDERATIONS	18
1.4 INTENDED USE OF THE MACHINE	18
1.5 EMPLOYEE TRAINING	18
1.6 PRE-USE CHECKS	19
1.7 DURING USE	19
2. TRANSPORT, STORAGE AND HANDLING	20
2.1 UNPACKING	20
3. HOISTING/HANDLING	21
3.1 INSTALLATION	22
3.2 INSTALLATION CLEARANCES	24
4. ARTIGLIO MASTER CODE DESCRIPTION	24
4.1 OPERATOR POSITION	25
4.2 EQUIPMENT COMPONENTS (MAIN WORKING ELEMENTS OF THE MACHINE)	26
4.3 CONTROLS	28
4.3.a. Main switch	28
4.3.b. Operating console	28
4.3.c. Pedal unit	30
4.3.d. Display for configuring and displaying wheel data	30
4.3.e. Pressure gauge with deflation push-button	31
4.4 OPTIONAL ACCESSORIES SUPPLIED ON REQUEST	31
5. BASIC PROCEDURE - USE	32
5.1 TURNING THE MACHINE ON	33
5.2 PRELIMINARY CHECKS	34
5.3 LOADING AND CLAMPING THE WHEEL	34
5.3.a. Deflating the tire	36
5.4 AUTOMATIC WORK PROCEDURE	37
5.4.a. Advanced automatic features (7 sequences)	38
5.4.b. Basic automatic features (4 sequences)	50
5.5 MANUAL WORK PROCEDURE	61
5.5.a. Manual configuration of wheel data	61
5.5.b. Bead breaking	61
5.5.c. Demounting	61

UK

5.5.d. Mounting	64
5.6 APPROVED UHP AND RUN FLAT TYRE DEMOUNTING AND MOUNTING PROCEDURE.....	67
5.7 TYRE INFLATION	68
5.7.a. Safety indication.....	68
5.7.b. Inflating tyres.....	69
5.7.c. Special procedure	70
5.8 UNCLAMPING AND UNLOADING THE WHEEL	72
5.9 MENU'	73
5.9.a. Language	73
5.9.b. Video	73
5.9.c. Help online.....	74
5.9.d. Release Software-Database.....	74
5.9.e. Service	74
5.9.f. Options	74
5.9.g. Date/Time.....	75
5.9.h. TPMS.....	75
5.9.i. Calibrate Touch Screen.....	82
5.9.l. Calibrate Laser	82
5.9.m. Diagnostik P3K	85
6. OPTIONAL ACCESSORIES	87
6.1 INFLATRON	87
6.1.a. Inflation.....	88
6.1.b. Possible error messages	90
6.2 CAMERA	91
6.3 TREAD THICKNESS MEASURING SENSOR	93
6.4 TEMPERATURE MEASURING SENSOR.....	95
6.5 TPMS.....	96
6.6 LUBRICATORS	98
7. MAINTENANCE	100
8. TROUBLESHOOTING	104
9. ENVIRONMENTAL INFORMATION.....	106
10. INFORMATION AND WARNINGS ABOUT HYDRAULIC FLUID...	107
11. INFORMATION AND WARNINGS ABOUT LUBRICATING FLUID FOR TYRES	108
12. RECOMMENDED FIRE-EXTINGUISHING EQUIPMENT.....	108
13. GLOSSARY	109
TABLE FOR USING CENTRING AND CLAMPING ACCESSORIES ACCORDING TO RIM TYPE	112
WIRING DIAGRAM.....	121
PNEUMATIC DIAGRAM	130

1. GETTING STARTED

1.1 INTRODUCTION

1.1.a. PURPOSE OF THE MANUAL

The purpose of this manual is to provide the instructions necessary for optimum operation, use and maintenance of your machine. If you sell this machine, please deliver this manual to the new owner. In addition, so we can contact our customers with any necessary safety information, please ask the new owner to complete and return to Corghi the change of ownership form attached to the previous page of this manual. Alternatively, the new owner can send an email to service@corghi.com.

This manual presumes that the technician has a thorough understanding of rim and tyre identification and service. He/she must also have a thorough knowledge of the operation and safety features of all associated tools (such as the rack, lift, or floor jack) being utilized, and have the proper hand and power tools necessary to work in a safe manner.

The first section provides the basic information to safely operate the MASTER CODE tyre changer family. The following sections contain detailed information about equipment, procedures, and maintenance. "Italics" are used to refer to specific parts of this manual that provide additional information or explanation.

These references should be read for additional information to the instructions being presented. The owner of the tyre changer is solely responsible for enforcing safety procedures and arranging technical training. The tyre changer is to be operated only by a qualified and trained technician. Maintaining records of personnel trained is solely the responsibility of the owner or management.

The MASTER CODE tyre changer family is intended for mounting, demounting, and inflating tyres of lightweight vehicles (cars, not trucks or motorcycles) with maximum dimensions of 47 inches in diameter and 16 inches in width.

Copies of this manual and of the documents accompanying the machine may be obtained from Corghi by specifying the type of machine and its serial number.

NOTICE: Design details are subject to change. Some illustrations may vary slightly in appearance from the machine you have.

UK

1.2 FOR YOUR SAFETY

HAZARD DEFINITIONS

These symbols identify situations that could be detrimental to your safety and/or cause equipment damage.



DANGER



DANGER: Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.



WARNING



WARNING: Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



CAUTION



CAUTION: Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

NOTICE

NOTICE: Used without the safety alert symbol, indicates a potentially hazardous situation, which, if not avoided, may result in property damage.

1.2.a. GENERAL WARNING AND INSTRUCTIONS



WARNING

Avoid Personal Injury. Carefully read, understand and follow the warnings and instructions given in this manual. This manual is an essential part of the product. Keep it with the machine in a safe place for future reference.

1. If the use and maintenance procedures provided in this manual are not properly performed, or the other instructions in this manual are not followed, an accident could occur. Throughout this manual reference is made that “an accident” could occur. Any accident could cause you or a bystander to sustain severe personal injury or death, or result in property damage.
2. Overinflated tyres can explode, producing hazardous flying debris that may result in an accident.
3. Tyres and rims that are not the same diameter are “mismatched.” Never attempt to mount or inflate any tyre and rim that are mismatched. For example, never mount a 16.5” tyre on a 16” rim and vice versa. This is very dangerous. A mismatched tyre and rim could explode, resulting in an accident.

WARNING

Avoid Personal Injury. Carefully read, understand and follow the warnings and instructions given in this manual. This manual is an essential part of the product. Keep it with the machine in a safe place for future reference.

4. Never exceed the bead setting pressure provided by the tyre manufacturer, as stated on the sidewall of the tyre. Carefully monitor the gauge on the air hose.
5. Never place your head or any part of your body over a tyre during the inflation process or when attempting to seat beads. This machine is not intended to be a restraining device for exploding tyres, tubes or rims.
6. Always stand back from the tyre changer when inflating, never lean over.



DANGER

An exploding tyre and rim may be propelled upward and outward with enough force to cause serious injury or death.

Never mount any tyre unless the tyre size (molded into the sidewall) matches the rim size (stamped into the rim) exactly or if the rim or tyre are defective.

Never exceed the tyre pressure recommended by the tyre manufacturer.

This tyre changer is not a safety device and will not restrain exploding tyres and rims. Keep the area clear of bystanders.

7. **Crushing Hazard. Moving Parts Present.** Contact with moving parts could result in an accident.

- Only one operator may work with the machine at a time.
- Keep all bystanders clear of the tyre changer.
- Keep hands and fingers clear of rim edge during the demounting and mounting process.
- Keep hands and fingers clear of the mount/demount head during operation.
- Keep hands and other body parts away from moving parts.
- Do not use tools other than those supplied with the tyre changer.
- Use proper tyre lubricant to prevent tyre binding.



8. **Electric Shock Hazard.**

- Never hose down or power wash electric tyre changers.
- Do not operate the machine with a damaged power cord
- If an extension cord is necessary, a cord with a current rating equal to or greater than that of the machine must be used. Cords rated for less current than the machine can overheat, resulting in a fire.



UK

- Care should be taken to arrange the cord so that it will not be tripped over or pulled.

9. Risk of Eye Injury. Flying debris, dirt and fluids may be discharged during bead seating and the inflation process. Remove any debris from the tyre tread and wheel surfaces. Wear OSHA, CE or other approved safety glasses during mount and demount procedures.



10. Always inspect the machine carefully before using it. Missing, broken, or worn equipment (including warning stickers) must be repaired or replaced prior to operation.

11. Never leave nuts, bolts, tools or other equipment on the machine. They may become trapped between moving parts and cause a malfunction.

12. NEVER install or inflate tyres that are cut, damaged, rotten or worn. NEVER install a tyre on a cracked, bent, rusted, worn, deformed or damaged rim.

13. If a tyre becomes damaged during the mounting process, do not attempt to finish mounting. Remove from the service area and properly mark the tyre as damaged.

14. To inflate tyres, use short bursts while carefully monitoring the pressure, tyre, rim and bead. NEVER exceed the tyre manufacturer's pressure limits.

15. This equipment has internal arcing or sparking parts which should not be exposed to flammable vapours (gasoline, paint thinners, solvents, etc.). This machine should not be located in a recessed area or below floor level.

16. Never operate the machine if you are under the effects of alcohol, medications and/or drugs. If you are taking prescription or over the counter medication, you must consult a medical professional regarding any side effects of the medication that could hinder your ability to operate the machine safely.

17. Always use OSHA, CE or other approved and mandated Personal Protective Equipment (PPE) during use of the machine. See your supervisor for more instructions.



18. Remove jewellery, watches, loose clothing, ties and restrain long hair before using the machine.

19. Wear non-slip safety footwear when operating the tyre changer.

20. Wear proper back support and employ a proper lifting technique when placing, moving, lifting or removing wheels from the tyre changer.

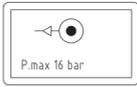
21. This machine may only be used, maintained or repaired by properly trained employ-

ees of your company. Repairs should only be performed by qualified personnel. Your CORGHI service representative is the most qualified person. The employer is responsible for determining if an employee is qualified to safely make any repairs to the machine should repair be attempted by users.

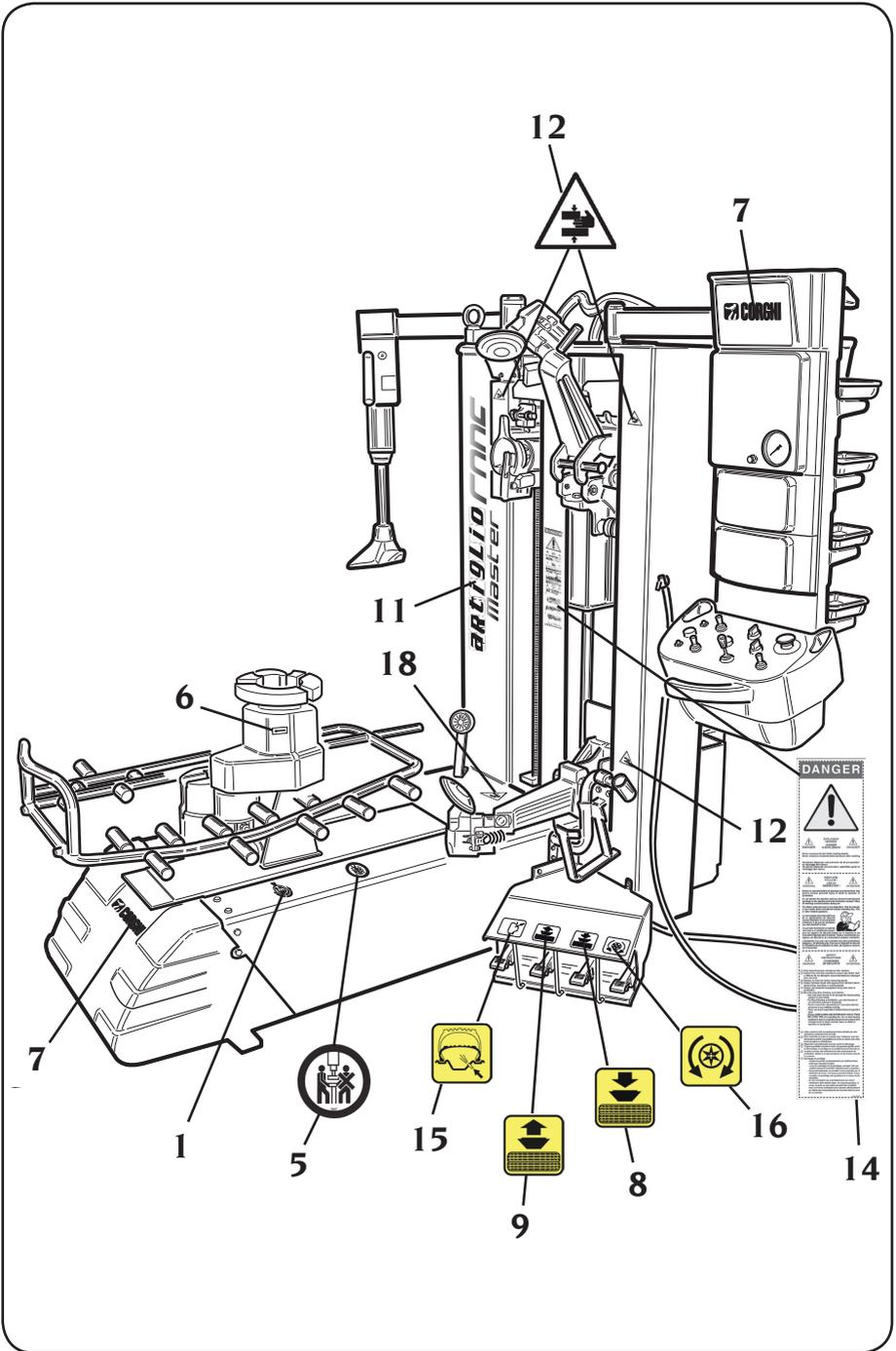
22. The user should understand all warning decals affixed to this equipment before operating.

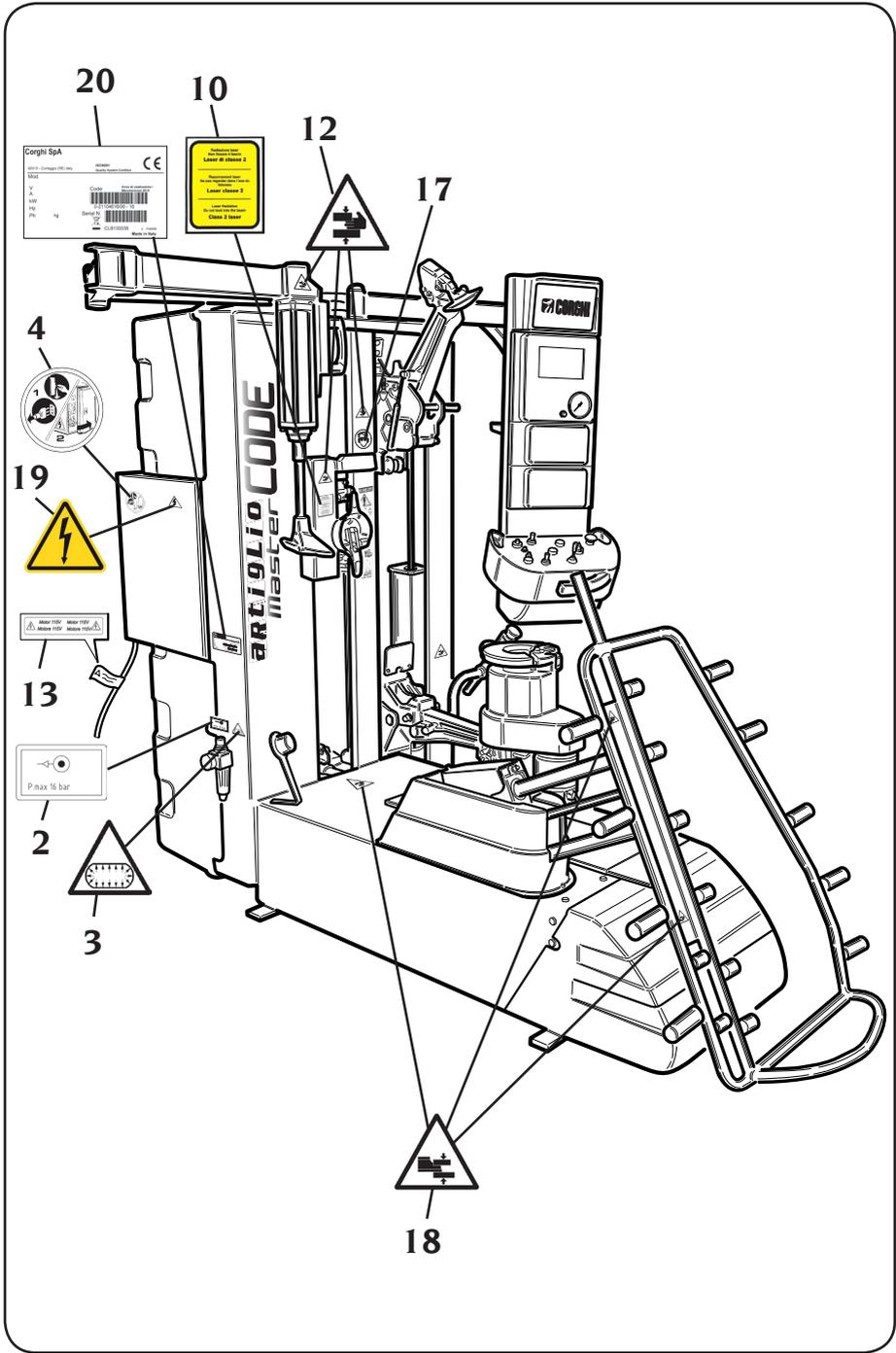
23. Lock the rim on the turntable during inflation.

1.2.b. DECAL PLACEMENT

No.	Part Number	Drawing	Description
1	4-105844		DECAL, MI POWERED SYSTEM
2	446429		DECAL, MAX. INLET PRESSURE 16 BAR
3	446442		DECAL, WARNING UNDER PRESSURE TANK
4	446598		DECAL, DISCONNECT POWER SUPPLY
5	461936		DECAL, ONE OPERATOR ONLY
6	418135		DECAL, DIRECTION OF ROTATION
7	4-103881		DECAL, CORGHI LOGO
8	4-111304		DECAL, WHEEL LOCKING PEDAL
9	4-111305		DECAL, WHEEL UNLOCKING PEDAL







DANGER WARNING DECALS



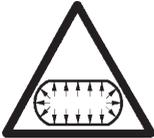
part nr 462081. Crushing Hazard.



part nr 461930. Crushing hazard.



part nr 461936. Never stand behind the machine.
Only one operator may operate and use the machine.



part nr 446442. Danger - pressurised container.



part nr 42521 1A. Risk of electrical shock.



part nr 1010283. Caution - laser radiation.
Never look at the laser beam.



part nr 425083. Earth ground terminal.



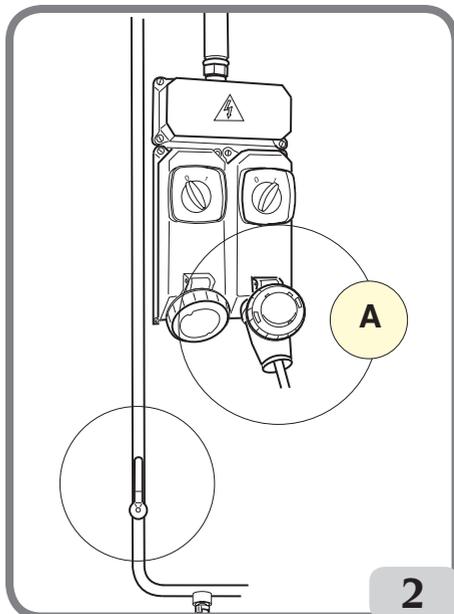
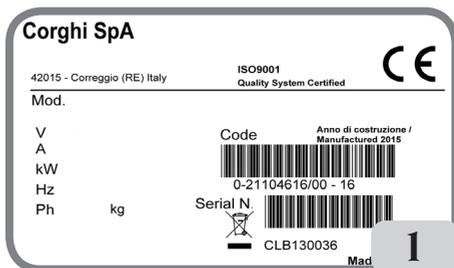
1.2.c. ELECTRICAL AND PNEUMATIC CONNECTIONS

The dimensions of the electric hook-up used must be suitably sized in relation to:

- the electric power absorbed by the machine, indicated on its data plate (Fig. 1);
- 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) compared with the rated voltage specified on the data plate.

- The operator must:

- fit a power plug on the power supply lead in compliance with the relevant safety standards;
- connect the machine to its own electrical connection - A, Fig. 2 - and fit a differential safety circuit-breaker with 30 mA residual current;
- fit fuses to protect the power supply line, rated as indicated on the general wiring diagram in this manual;
- connect the machine to an industrial socket; the machine must not be connected to domestic sockets.



NOTICE

An effective grounding connection is essential for correct operation of the machine.

Make sure the available pressure and the rendered capacity of the compressed air system are compatible with those required for correct machine operation - see the "Technical Data" section. For correct machine operation, the compressed air supply line must provide a pressure range from no less than 8.5 bar to no more than 16 bar and guarantee an air flow rate greater than the average consumption of the machine, which is equal to 160 Nl/min.

NOTICE

For correct equipment operation, the air produced must be suitably treated (not above 5/4/4 according to ISO 8573-1)

1.2.d TECHNICAL DATA

- Tyre types processed. **CONVENTIONAL - LOW PROFILE - RUN FLAT - BALOON BSR**
- **Wheel dimension range:**
 - rim diameter from 13" to 32"
 - maximum tyre diameter 1200 mm
 - maximum tyre width 400 mm (16")
- **Turntable:**
 - automatic positioning in relation to tools
 - resting side flanged
 - centring on cone
 - automatic clamping
 - drive system 2-speed motor-inverter unit
 - rotation torque 1200 Nm
 - rotation speed 7-20 rpm
- **Wheel lifter:**
 - lifting capacity 85 kg
- **Power supply:**
 - electric 1Ph 230V-0.98 kW 50/60Hz
 - electric 1Ph (alternative) 110V-0.98 kW 50/60Hz
 - compressed air operating power: 8 - 10 bar
 - Min. air operating flow: 160 NI/min
 - Weight 595 kg
- Weight of electric/electronic parts 49 kg
- Noise level:
 - Weighted sound pressure level A (L_{pA}) in the work place < 70 dB(A)

The noise levels indicated correspond to 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 subject to include the duration of the exposure, the characteristics of the workplace, other sources of noise, etc. The permitted exposure levels may also vary according to the country. However, this information will enable machine users to make a more accurate assessment of hazards and risks.



1.2.e. AIR PRESSURES

The machine is equipped with an internal pressure limiting valve to minimize the risk of over inflating the tyre.

	<p style="text-align: center;"> DANGER</p> <ul style="list-style-type: none">• EXPLOSION HAZARD• Never exceed the tyre pressure recommended by the tyre manufacturer. Never mismatch tyre size and rim size.• Avoid personal injury or death
--	---

1. Never exceed these pressure limitations:

- Supply line pressure (from compressor) is 220 psi (15 bar).
- Operating pressure (gauge on regulator) is 145 psi (10 bar).

Bead setting pressure (gauge on hose) is the tyre manufacturer's maximum pressure as stated on the sidewall of the tyre

2. Activate air inflation jets only when sealing the bead.

3. Bleed air pressure system before disconnecting supply line or other pneumatic components. Air is stored in a reservoir for operation of inflation jets.

4. Only activate the air inflation jets if the rim securing device is locked in place and the tyre is properly clamped (when possible).

1.3. SPECIAL RIM/TYRE CONSIDERATIONS

NOTICE

Wheels equipped with low tyre pressure sensors or special tyre and rim designs may require special procedures. Consult wheels and tyre manufacturers' service manuals.

1.4. INTENDED USE OF THE MACHINE

This machine must be used only to remove and replace an automotive tyre on an automotive rim, using the tools with which it is equipped. Any other use is improper and can result in an accident.

The machine can not work on motorcycle wheels.

1.5. EMPLOYEE TRAINING

1. The employer is obligated to provide a programme to train all employees who service rim wheels in the hazards involved in servicing those rim wheels and the safety procedures to be followed. Service or servicing means the mounting and demounting of rim wheels, and related activities such as inflating, deflating, installing, removing and handling.

- The employer shall insure that no employee services any rim wheel unless the employee has been trained and instructed in correct procedures of servicing the type of wheel being serviced, and in safe operating procedures.
- Information to be used in the training programme shall include, at a minimum, the applicable information contained in this manual.

2. The employer shall ensure that each employee demonstrates and maintains the ability to service rim wheels safely, including performance of the following tasks:

- Demounting tyres (including deflation).
- Inspecting and identifying rim wheel components.
- Mounting tyres.

- Using any restraining device, cage, barrier, or other installation.
- Handling rim wheels.
- Inflating the tyre.
- Understanding the necessity to stand back from the tyre changer during tyre inflation and during inspection of the rim wheel following inflation, never leaning over.
- Installing and removing rim wheels.

3. The employer shall evaluate each employee's ability to perform these tasks and to service rim wheels safely, and shall provide additional training as necessary to assure that each employee maintains his or her proficiency.

1.6. PRE-USE CHECKS

Before beginning work, carefully check that all components of the machine, especially rubber or plastic parts, are in place, in good condition and working properly. If the inspection reveals any damage or excessive wear, no matter how slight, immediately replace or repair the component.

1.7. DURING USE

In the event you hear any strange noise or feel unusual vibration, if a component or system is not operating properly, or if there is anything unusual at all, stop using the machine immediately.

- Identify the cause and take any necessary remedial action.
- Contact your supervisor if necessary.

Never allow any bystander to be within 20 feet of the machine during operation.

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).



2. TRANSPORT, STORAGE AND HANDLING

Conditions for transporting the machine

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

- Packing dimensions:

- width 1150 mm
- depth 1950 mm
- height 2100 mm

- Weight of wooden packing:

- STD version kg 710

Machine storage and shipping specifications

Temperature: -25° - +55°C.

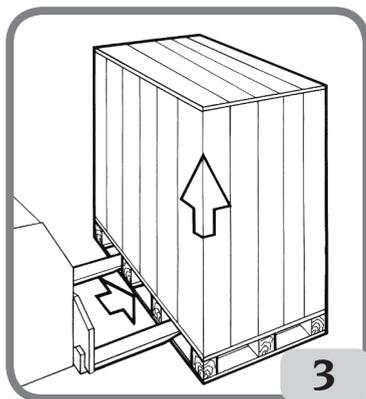
NOTICE

Do not stack other goods on top of the packing or damage may result.

Handling

To move the packing, insert the tines of a fork-lift truck into the slots on the base of the packing itself (pallet) (Fig.3).

Before moving the machine, refer to the HOISTING/HANDLING section.



NOTICE

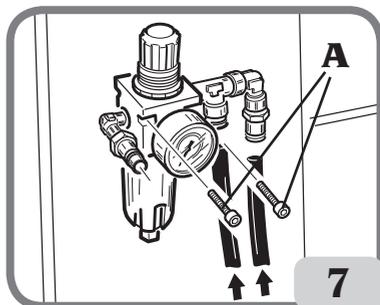
Keep the original packing in good conditions to be used if the equipment has to be shipped in the future.

2.1. UNPACKING

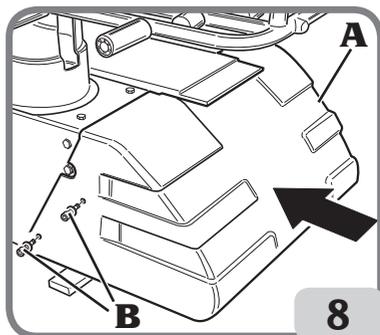
Remove the upper part of the packing and make sure the machine has not been damaged during transportation.

3.1. INSTALLATION

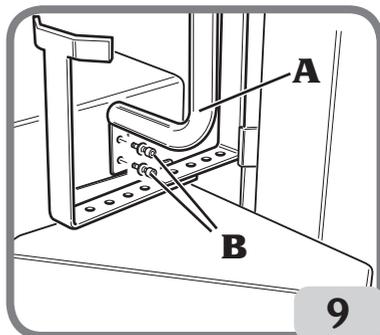
- Remove the filter unit from the packing;
- Secure the filter unit to the tyre changer chassis using the 2 screws provided (A Fig. 7);
- Connect the 2 pipes to the unions (see Fig. 7);



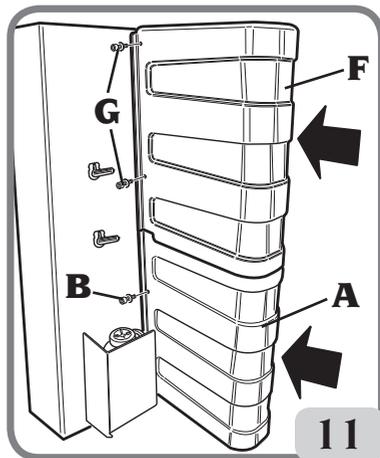
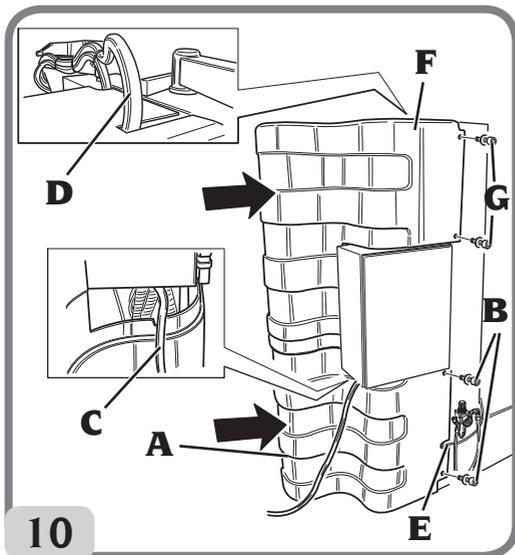
- Assemble the front motor guard (A, Fig. 8) with the screws and washers (B, Fig. 8);



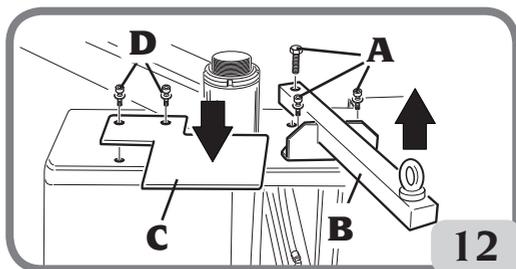
- Assemble the handle support (A, Fig. 9) with the screws and washers (B, Fig. 9);



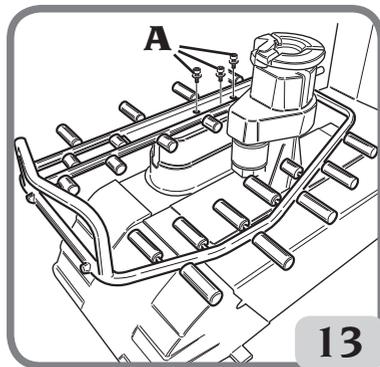
- Assemble the bottom and top rear semi-cover (A, F Figs. 10-11) with the screws and washers (B,G, Figs. 10-11), making sure the cables (C, D, E) are in their proper place;



- Remove the hoisting bracket (B, Fig.12) unscrewing the screws and washers (D, Fig. 12); assemble the bead depressor retainer (C, Fig. 12) with the screws and washers (D, Fig. 12).



- Assemble the wheel lifter (Fig. 13) with the screws and washers (A, Fig. 13).



- Connect the machine to the mains and compressed air supply.

UK

3.2. INSTALLATION CLEARANCES

WARNING

The machine must be installed in accordance with all applicable safety regulations, including but not limited to those issued by OSHA.

Risk of Explosion or Fire. Never use the machine in an area where it will be exposed to flammable vapours (gasoline, paint thinners solvents, etc.). Never install the machine in a recessed area or below floor level.

IMPORTANT: for the correct and safe operation of the machine, the lighting level in the place of use should be at least 300 lux.

CAUTION

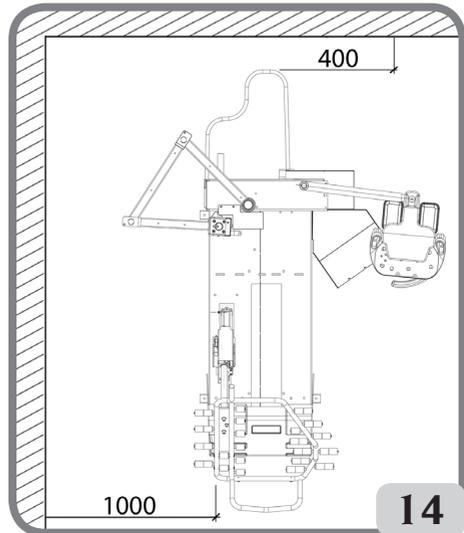
Do not install the machine outdoors. It is designed for use in an indoor, sheltered area.

Install the tyre changer in the chosen work position, complying with the minimum clearances shown in Fig.14.

The surface must have a load-carrying capacity of at least 1000 kg/m².

Work environment conditions

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



4. ARTIGLIO MASTER CODE DESCRIPTION

ARTIGLIO Master Code is an electropneumatically operated universal tyre changer to change car, off-road and light commercial vehicle tyres.

With ARTIGLIO Master Code any type of tyre with a rim from 13" to 32" can easily be broken, mounted and demounted. Further improvements have been made:

- to reduce the physical exertion of the operator;
- to guarantee rim and tyre safety;
- to automate, as far as possible, operations that up until now have been manually performed by the operator.

The machine's operating principle is entirely innovative, with:

- automatic detection of the rim diameter and wheel size, and manual configuration if required, with automatic radial and axial positioning of mounting and demounting tools and bead breaker discs.
- pneumatic bead breaker unit with dual two-way vertical disc featuring controlled and independent, electropneumatically controlled penetration;
- tool head with automatic or console-operated two-way vertical travel, for optimal tyre mounting and demounting, without having to use the bead lifter lever;
- electro-pneumatically operated lifter, to load and unload the wheel from the work area.

Controls are grouped on:

- an adjustable ergonomic console,
- a touch screen, to configure and display the machine's functions and a pedal unit.

This configuration allows the operator to work safely, without having to move from his work station.

Each machine has a data plate Fig. 15, with information about the machine and some technical data.

As well as the manufacturer's details, the plate indicates:

Mod. - Machine model;

V - power supply voltage in Volts;

A - Input voltage in Amperes;

kW - Absorbed power in kW;

Hz - Frequency in Hz;

Ph - Number of phases;

bar - Operating pressure in bar;

Serial No. - Machine serial number;

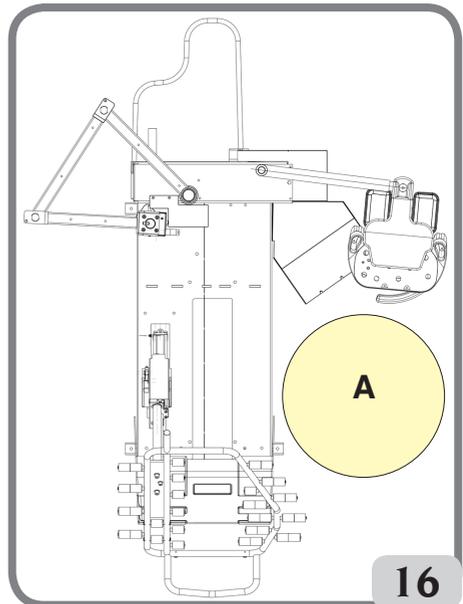
ISO 9001 - Certification of the company's Quality System;

EC - EC marking.

4.1. OPERATOR POSITION

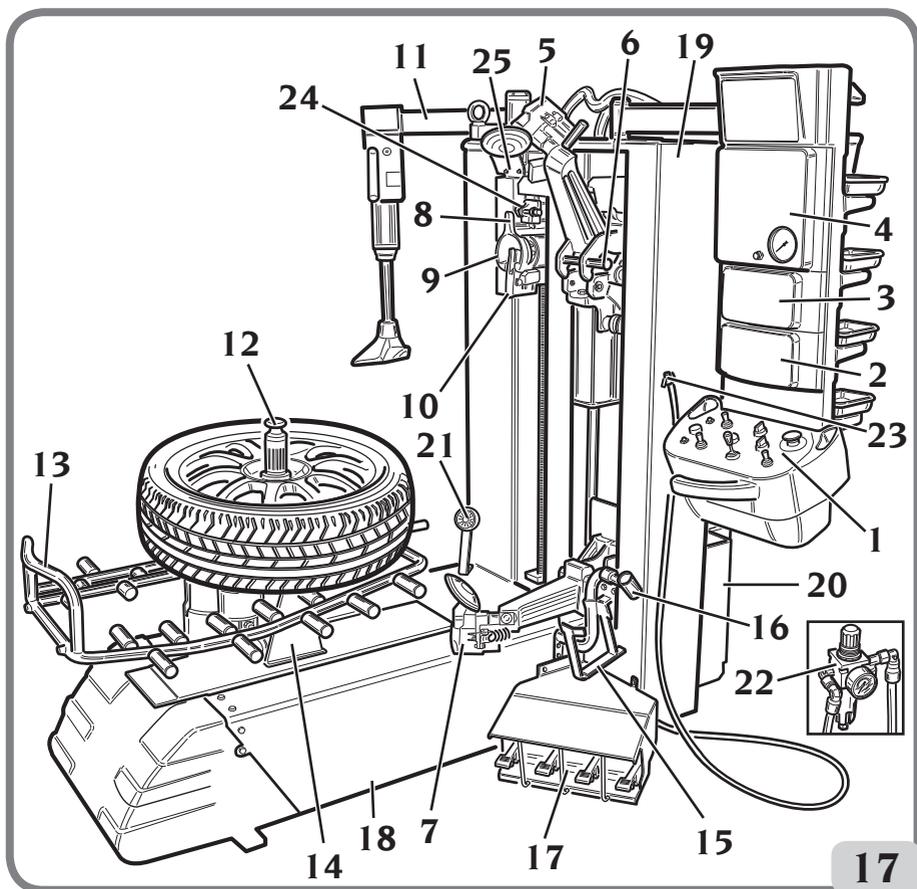
The operator's position (A) during the different operating stages is shown in Fig. 16.

The display for configuring and displaying wheel data, the operating console and pedal unit are on the same side of the machine. This side is the work station of the operator using the machine. The operator may operate on the wheel and machine controls from this position only. In these conditions, the operator can carry out, monitor and check the outcome of all tyre change operations and take action in the case of any unforeseen events.

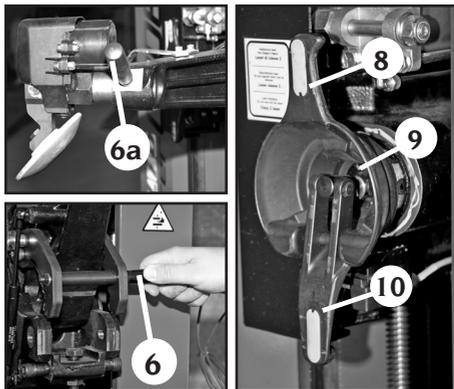


4.2. EQUIPMENT COMPONENTS

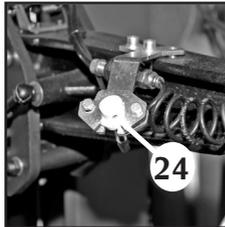
(MAIN WORKING ELEMENTS OF THE MACHINE) - FIG. 17



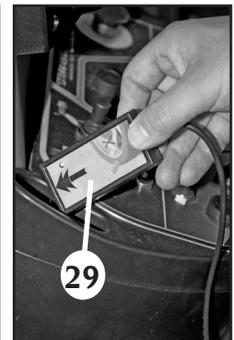
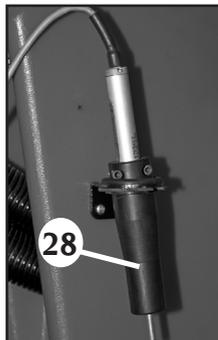
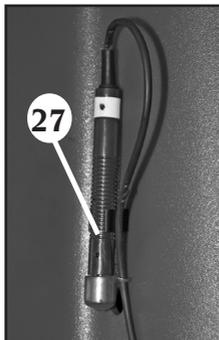
- 1 Operating console
- 2 TPMS (optional)
- 3 Inflatron (optional)
- 4 Touch screen display for machine functions
- 5 Upper bead breaker disc
- 6 Lever to unlock the upper bead breaker disc
- 6a Lever to position the upper bead breaker disc
- 7 Lower bead breaker disc
- 8 Fixed tool



- 9 Tool head
- 10 Movable tool
- 11 Bead pressor
- 12 Centring handle
- 13 Lifter
- 14 Turntable
- 15 Lubricant holder
- 16 Centring handle support
- 17 Pedal unit
- 18 Casing
- 19 Cover
- 20 Lubricators liquid tank
- 21 Camera
- 22 Filter Regulator Unit
- 23 Doyfe inflator chuck
- 24 Lubricators (optional)
- 25 Laser measuring sensor
- 26 USB socket
- 27 Tyre temperature measuring sensor (optional)
- 28 Tread thickness measuring sensor (optional)
- 29 Valve diagnosis measuring sensor (optional)



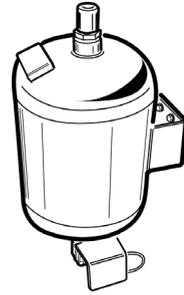
UK





WARNING

For technical characteristics, warnings, maintenance and any other information about the air tank (optional), consult the relevant operator and maintenance manual provided with the accessory documentation.



4.3. CONTROLS

4.3.a. MAIN SWITCH (Fig. 18)



4.3.b. OPERATING CONSOLE (Fig. 19)



Area A – Bead breaker disc unit functional controls



1 - Operating lever for upper bead breaker disc vertical movement.



2 - Operating lever for lower bead breaker disc vertical movement.



3 - Button for upper bead breaker disc penetration



4 - Button for lower bead breaker disc penetration



5 - Upper bead lubricator button



6 - Lower bead lubricator button



Area B – Tool head functional controls



7 - Head rotation operation button 180°



8 - Button to operate the movable tool to select the upper bead



9 - Selector to operate the movable tool for upper bead demounting



10 - Head movement control lever



Area C – Lifter unit functional control



11 - Lifter operating lever



Area D - Stop control

12 - Stop button: to restore normal operation, turn the button clockwise back to the rest position



4.3.c. PEDAL UNIT (Fig. 20)



1 - Inflation pedal



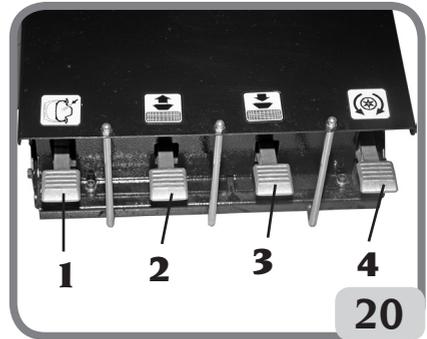
2 - Wheel unclamping pedal



3 - Wheel clamping pedal



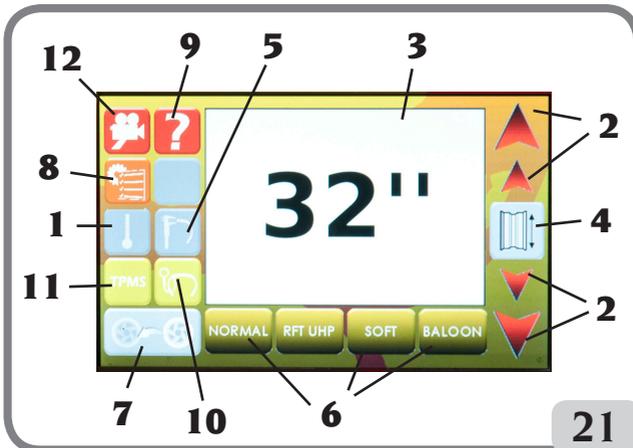
4 - Turntable rotation pedal



The pedal has 4 different operating positions, corresponding to 4 different rotation speeds:

- Pedal raised (unstable position): slow anticlockwise rotation. If the pedal is kept raised for more than 4 seconds, rotation gets faster (always anticlockwise).
- Pedal in the rest position (stable position): turntable stopped.
- Pedal gently pressed downwards (unstable position): slow clockwise rotation.
- Pedal pressed entirely downwards (unstable position): fast clockwise rotation.

4.3.d. DISPLAY (Fig. 21)



1 - Temperature measuring sensor (see the section OPTIONAL ACCESSORIES)

2 - Rim diameter manual configuration keys

They consist of:

- Large arrows

- Small arrows

3 - Display showing the rim diameter and user interface

4 - Key for configuring rim diameter

5 - Tread thickness measuring sensor (see the section OPTIONAL ACCESSORIES)

6 - Automatic procedure keys

They consist of:

-NORMAL normal tyre mounting/demounting

-RFT-UHP: mounting/demounting of Runflat (RFT) tyres, tyres with lower shoulder and racing tyres (UHP)

-SOFT: mounting/demounting of off-road vehicle tyres, or tyres with soft sides

7 - Last wheel call-up key

8 - Menu key

9 - Help online key

10 - Inflatron (see the section OPTIONAL ACCESSORIES)

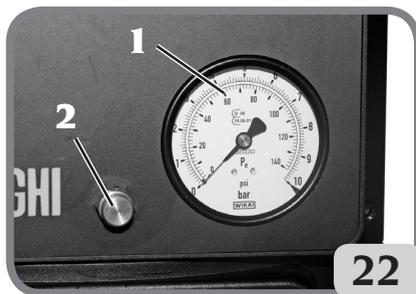
11 - Tpms (see the section OPTIONAL ACCESSORIES)

12 - Camera (see the section OPTIONAL ACCESSORIES)

4.3.e. PRESSURE GAUGE WITH DEFLATION BUTTON (Fig. 22)

1 - Air pressure display pressure gauge
Regulated by pedal

2 - Deflation button



UK

4.4. OPTIONAL ACCESSORIES

For a complete list of optional accessories supplied on request, see the document “ORIGINAL ACCESSORIES FOR THE ARTIGLIO MASTER CODE TYRE CHANGER”.

5. BASIC PROCEDURES - USE



WARNING

CRUSHING HAZARD:

Some parts of the machine, such as the head, the bead breakers and turntable move by themselves.

A beeper will sound to indicate when automatic movements are carried out.

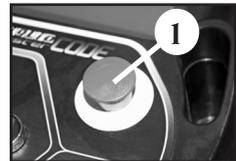
Do not approach moving parts of the machine.



WARNING

To stop the machine under emergency conditions:

- press the stop button on the push-button panel (1);



- press the switch then disconnect the power supply plug (2);



- isolate the compressed air line by disconnecting the shutoff valve (quick-release connector) (3).



5.1. TURNING THE MACHINE ON

Move the main switch to I (ON) position.



The message “KEEP TOUCH TO RECALIBRATE” appears on the screen while the software is loading (Fig. 24a).



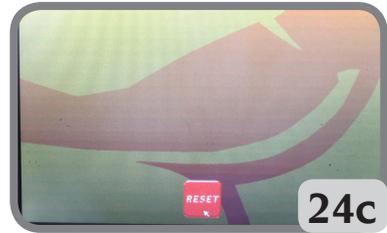
If the touch screen needs to be recalibrated (for example the tyre changer had to be switched off because no command could be given) press the display until OK appears (Fig. 24b), after which the calibration page will appear.

Proceed with calibration as described in paragraph 5.9.i in this manual.

N.B.: DO NOT press anything if the touch screen does NOT require calibration. The software will be loaded normally.



After the machine is switched on, the “reset” button will appear on the display (see Fig. 24c). Press it to reset the machine.



UK

NOTICE

If the machine comes back on after a power failure, all tools must be moved away from the wheel, before resetting the machine.

In these conditions, if the reset procedure is triggered accidentally, the movement can be stopped by pressing the STOP button on the operating console. An image of the button will also appear on the display. Reset the button to restore normal operating conditions.

Notes: during this operation, with the machine/support plate set to 32”, once the reset micro-switch is tripped, the support plate moves back by about 1” before restarting the reset operation.

5.2. PRELIMINARY CHECKS

Check that there is a pressure of at least 8 bar on the Filter Regulator pressure gauge.

If the pressure is lower, the operation of some automatic procedures is not guaranteed and the display will show LOW-PRESSURE Fig. 25.

However, it is still possible to operate in manual mode.

After the correct pressure has been restored, the machine will function properly.

Check that the machine has been adequately connected to the power mains.



5.3. LOADING AND CLAMPING THE WHEEL

- Load the wheel onto the wheel lifter (Fig. 26a).

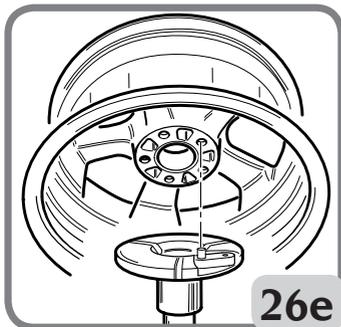


- Operate the Lever and lift the wheel until it is positioned on the turntable (see Figs. 26b, 26c, 26d) making sure the movable pin is inserted in one of the fastening bolt holes (see Fig. 26e).

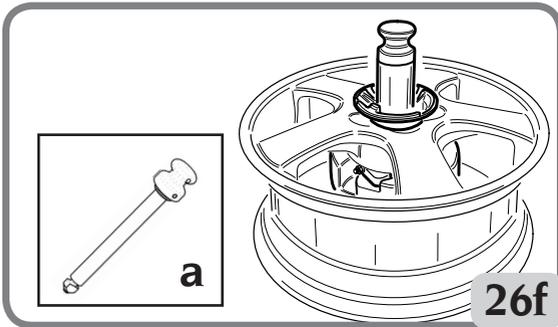
- fit the cone on the handle, using the extension as necessary (see **the diagram for using centring and clamping accessories per type of rim** in this manual).

- Insert the handle (a) in the central hole and turn clockwise until it stops (Fig. 26f).





26e



26f

⚠ WARNING

PINCH POINT - MOVING PARTS, Risk of Crushing Injury.
Do not keep hands on the handle or cone during clamping

NOTICE

See the section "TABLE FOR USING CENTRING AND CLAMPING ACCESSORIES ACCORDING TO RIM TYPE" in this manual.

- Operate the Pedal  until the wheel locks.

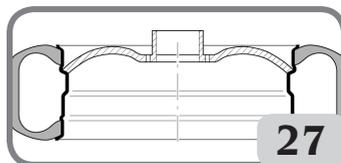
When working with "easily deformable" rims (i.e. a central hole with thin, projecting edges - see Fig. 27) we recommend using the appropriate universal flange for special rims code 8-11100087 (see the section "TABLE FOR USING CENTRING AND CLAMPING ACCESSORIES ACCORDING TO RIM TYPE" on this manual).

Deciding from which side of the wheel the tyre must be demounted

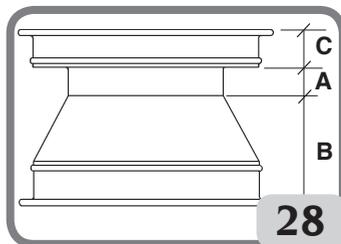
See Fig. 28. Find the position of rim well A on the wheel rim. Find the largest width B and the smallest width C. The tyre must be mounted and demounted with the wheel on the turntable with the smallest width side C facing upwards.

Special wheels

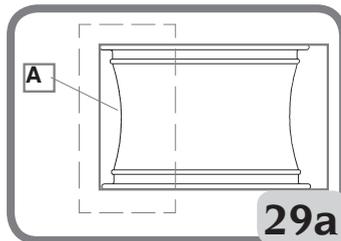
Alloy rim wheels: some alloy rim wheels have minimal rim wells A or no rim wells at all - Fig. 29a. These rims are not approved by DOT (Department of Transporta-



27



28



29a

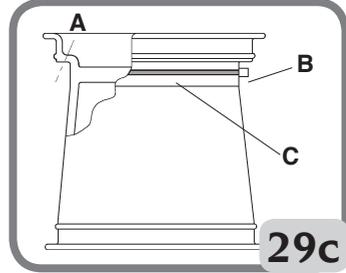
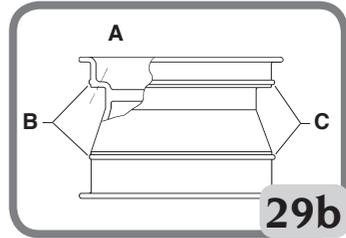
UK

tion) standards.

The initials DOT certify that tyres comply with the safety standards adopted by the United States and Canada (these wheels cannot be sold on these markets).

High-performance wheels (asymmetric curvature) - Fig. 29-b: Some European wheels have rims with a very pronounced curvature 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 the area of the valve hole, on both the top and bottom sides.

Wheels with pressure sensor - Fig.29c. To operate correctly on these wheels and avoid damaging the sensor (which is incorporated in the valve, fixed with the belt, glued inside the tyre, etc.) appropriate mounting/demounting procedures should be followed (ref. Approved mounting/demounting procedure for runflat and UHP tyres)

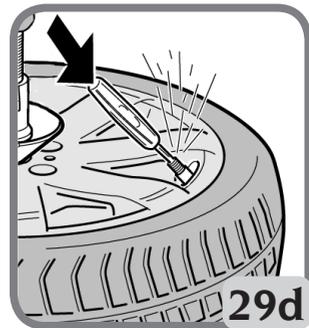


NOTICE

The TPMS device (optional accessory) can be used to check the proper operation of pressure sensors.

5.3.a DEFLATING THE TIRE

Operate the valve to fully deflate the tyre (Fig. 29d).



5.4. AUTOMATIC WORK PROCEDURE



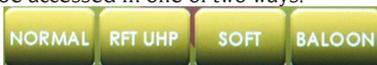
WARNING

During operating stages, some parts of the machine will move by themselves.

To stop operations at any moment, press the STOP button.



The automatic features can be accessed in one of two ways:



a) Press one of the buttons (Fig. 30) to select the type of tyre. This method should be followed each time a new wheel or rim must be acquired.



b) Press the button (Fig. 30) to recall the last wheel or rim acquired, avoiding the acquisition phase. In this case skip to paragraph (5.4.b).

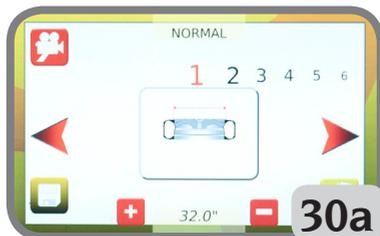


NOTICE

The machine is capable of distinguishing a rim with a tyre from one without a tyre and indicating the operating sequence to follow. While still remaining within the automatism, if necessary it is possible to carry out the individual phases manually or to use the arrows



to select the sequence to carry out (Fig. 30a).



UK

NOTICE

The machine carries out a check on the state of the sensors. If it finds faults it limits or completely excludes automatic operations depending on how serious the fault is

TYPES OF TYRES:

NORMAL: commonly used tyres, not lowered and with medium rigidity sides, with not very high mounting/demounting tension.

RFT-UHP: Runflat tyres with reinforced sides, self-supporting, high pressure or lowered, with

high mounting/demounting tension.

SOFT: commonly used tyres with particularly soft sides (ex: Michelin Energy), with contained mounting/demounting tension.

BALLOON: off-road tyres that are particularly voluminous and/or heavy or with significantly sized sides, with high width/side ratio. These usually require a manual support provided by the operator during the most critical handling phases.

Note: the mounting/demounting tension is also based on the rim/tyre combination, therefore we defer to the experience of the tyre mechanic (operator) for adequate identification of the type of automatism that should be used.

5.4.a ADVANCED AUTOMATIC FEATURES (7 sequences)

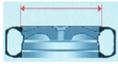
AUTOMATIC ACQUISITION OF WHEEL DATA

NOTICE

For an optimal reading of dimensions, the wheel must be beaded.

! WARNING

The top bead breaker automatically hooks during the descent phase.

PHASE 1: Press the icon  (Fig. 30a) to edit image and automatically acquire and store the size of the wheel or of the rim only.



NOTICE

If, following automatic detection of the wheel/rim, the detected diameter needs to be corrected, you must act on the buttons  and  (Fig. 30a). To maintain the correction in the next wheel recalls, the new diameter must be stored using the button  (Fig. 30a). This command stores only the diameter variations and not the tool position variations.

If the wheel dimensions are not identified (Fig. 30c), the operator may proceed as follows:

a. press the button  (Fig. 30c) and then press the icon  (Fig. 30a) again and repeat automatic wheel data acquisition.

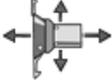


b. manually store wheel data:

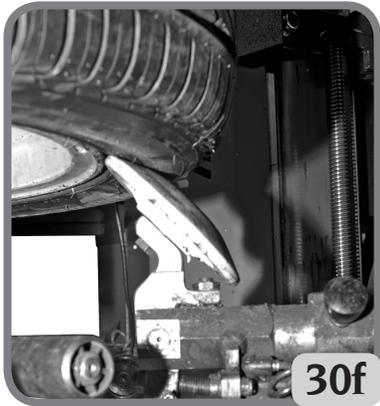
- use the arrows   (Fig. 30c) to set the rim diameter.

N.B.: The large arrows increase or decrease the size by one inch, at each pressure step: The small arrows increase or decrease the size by one tenth of an inch each time they are pressed.



- Operate the control  on the push-button panel to position the tool on the wheel as shown in Fig. 30d.

N.B.: To obtain a more precise position, press the button at the top of the control (see Fig. 30e).



- Act on the bottom bead breaker command



to position it as illustrated in Fig. 30f.

- Press the camera button  (optional) to facilitate positioning of the bottom bead breaker disc.

- Press the key  (Fig. 30c) to store the wheel dimensions.

NOTICE

Once saving is completed the tool and the bead breakers will make a small movement away from the wheel.

NOTICE

If operating on a tireless rim, the machine will automatically identify this condition, arranging the tools to mount the tyre.
The display will go to the relative mounting sequence.
If necessary, see the relative section.

BEAD BREAKING - DEMOUNTING

 WARNING	 WARNING	 WARNING
 KEEP HANDS AND OTHER BODY PARTS AWAY FROM MOVING PARTS	 KEEP FEET CLEAR OF THE BEAD BREAKER AND LIFTER	 DO NOT BREAK THE BEAD WITH AIR PRESSURE IN THE TYRE

WARNING

All air pressure inside the tyre must be removed before proceeding. Never attempt to break the bead until all air is removed from the tyre. Failure to remove all air from the tyre may result in injury to the operator, or damage to equipment, the tyre or wheel.

NOTICE

The machine carries out 3 phases in sequence: top bead breaking (sequence 2), bottom bead breaking (sequence 3) and tyre demounting (sequence 4).
If necessary the automatic sequence can be interrupted at any moment pressing the stop button (1).
Subsequently the individual phase can be repeated or you can proceed in manual mode.



N.B.: Before beginning bead breaking, position the inflation valve at 3 o'clock (Fig. 31a). During the various work phases the machine automatically directs the position of the valve in order to reduce the risk of damage to the valve itself.

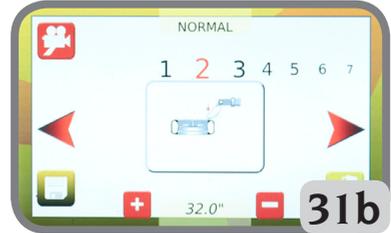


NOTICE

Always verify the presence and size of the sensor on the inflation valve in order to assess the possibility of operating in automatic mode. Alternatively, you can proceed manually.

PHASE 2: Press the icon  (Fig. 31b) to begin top bead breaking. Wheel rotation, lowering of the disc, penetration and if present (optional) lubrication to aid in detaching the bead from the rim seat will be activated automatically.

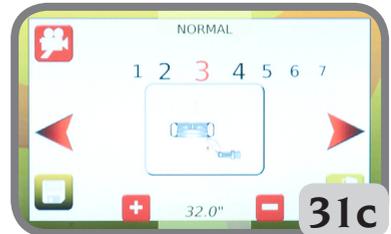
Alternatively, manually lubricate the head to make bead breaking easier.



NOTICE

In the event that bead breaking is unsuccessful, repeat the automatic phase pressing the icon  (Fig. 31b) or proceed manually.

PHASE 3: At the end of phase 2 bottom bead breaking will be automatically activated (Fig. 31c). Positioning of the disc, penetration, wheel rotation and if present (optional) lubrication to aid in detaching the bead from the rim seat will be activated automatically. Alternatively, manually lubricate the head to make bead breaking easier.



If present (optional) the camera that shows the bottom bead breaking phase is activated (Fig. 31d). For correct camera use, see section 6.2.



NOTICE

Use the mirror or the camera (optional) to verify that the bottom bead breaker disc is correctly positioned above the rim shoulder (Fig. 31d). Alternatively, interrupt the sequence by pressing the stop button.

NOTICE

In the event that bead breaking is unsuccessful, repeat the automatic phase pressing the icon



(Fig. 31c) or proceed manually.

PHASE 4: At the end of phase 3 the demounting phase will automatically be activated (Fig. 31e).



NOTICE

The machine movements differ as indicated below in order to better operate on the various types of tyres.

NORMAL, RFT-UHP and SOFT

Top bead demounting.

During this operation ensure:

- correct hooking of the bead during search for the same (Fig. 31f).
- Correct height positioning of the tool based on the type of tyre to be demounted (Fig. 31g).
- Correct positioning of the bead in the channel (Figs. 31g and 31h).

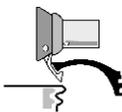
N.B.: During RFT-UHP tyre demounting handling the display indicates use of the bead presser at 6 o'clock in order to facilitate insertion of the bead into the channel (Fig. 31i).



NOTICE

In the event that one or more operations are not completed correctly, repeat the

automatic phase pressing the icon



(Fig. 31e) or proceed manually.

Wheel rotation activates automatically in order to complete extraction of the top bead.

Bottom bead demounting using only the bottom bead breaker disc..

During this operation ensure:

- correct hooking of the bead during lifting of the tyre (Fig. 31l).
- Correct positioning of the bottom bead inside the channel on the side opposite the bead breaker disc (Fig. 31m).



UK

NOTICE

Where necessary, during the bottom bead breaker raising phase, for extraction of the bottom bead, keep the tyre raised with your hand (Fig. 31n).

- That the bead breaker disc has correctly taken the bottom bead above the top edge of the rim (Fig. 31n).
- correct penetration of the disc for extraction of the bottom bead. (Fig. 31n).

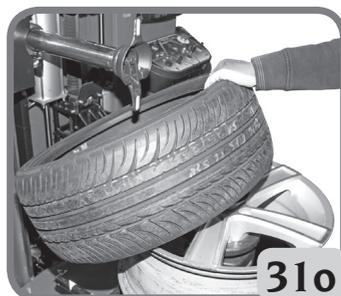


NOTICE

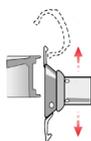
During extraction of the bottom bead accompany and hold the tyre in order to prevent it from falling (Fig. 31o).

DANGER

Once the tyre demounting phase is completed, direct it correctly in order to allow re-entry of the tool head (Fig. 31o).



Remove the tyre from the machine.



PHASE 5: Press the icon (Fig. 31p) to position the fixed tool and the bottom bead breaker in the correct bottom bead mounting position (Fig. 31q).

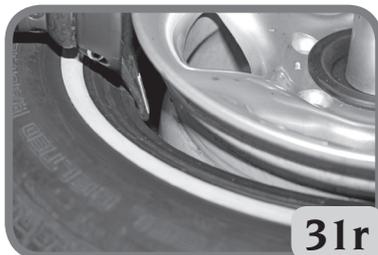


BALLOON

Top bead demounting.

During this operation ensure:

- correct hooking of the bead during search for the same (Fig. 31r).
- Correct height positioning of the tool based on the type of tyre to be demounted (Fig. 31s).
- Correct positioning of the bead in the channel (Figs. 31t and 31u).

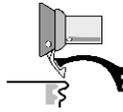




NOTICE

In the event that one or more operations are not completed correctly, repeat the automatic

phase pressing the icon or proceed manually.



(Fig. 31v)



Wheel rotation activates automatically in order to complete extraction of the top bead.

UK

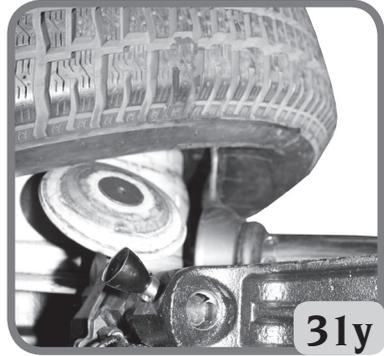
NOTICE

If necessary, aid unhooking of the bead from the demounting tool (Fig. 31w).



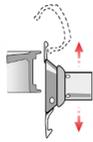
Demounting the bottom bead using the demounting tool and bead breaker.

During this operation verify that the bottom bead is correctly broken while the bottom disc and the tool ascend (Fig. 31y).



NOTICE

Manually load the second bead on the tool.



PHASE 5: Press the icon (Fig. 31j). The fixed tool and the bead breaker will go into position to remove the bottom bead (Fig. 31k).



Wheel rotation and ascent of the bead breaker disc activates automatically in order to complete extraction of the bottom bead.



NOTICE

Where necessary, during the bead breaker disc raising phase, hold the tyre up with your hand (Fig. 31x).



NOTICE

During extraction of the bottom bead accompany and hold the tyre in order to prevent it from falling (Fig. 31z).



Remove the tyre from the machine.

MOUNTING

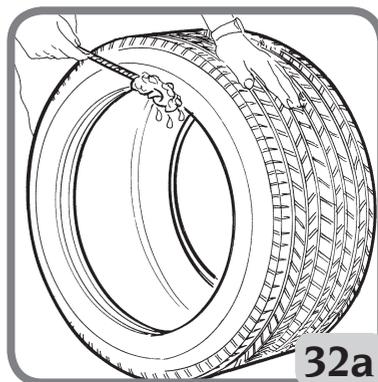
WARNING

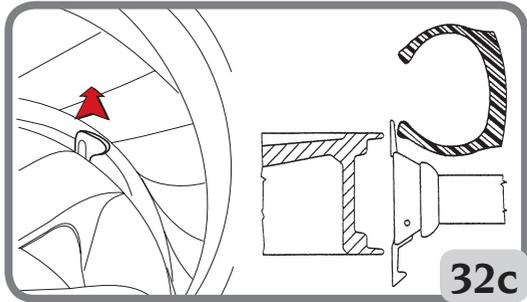
Always check that the tyre/rim combination is correct in terms of compatibility (tubeless tyre on tubeless rim; tube type tyre on tube type rim) and geometrical size (keying diameter, cross-section width, off-set and shoulder profile) before mounting. Also check that rims are not deformed, that their fixing holes have not become oval, that they are not scaled 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.

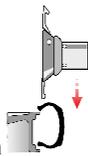
UK

- Carefully lubricate the sides of the tyre along the entire circumference of the bottom and top bead (Fig.32a)





- manually adjust the tyre so that part of the bottom bead is correctly inserted into the channel (Figs. 32b - 32c).



PHASE 6: Press the icon (Fig. 32d) to activate the bottom bead mounting sequence.



NOTICE

Maintain a light pressure on the tyre section with the lower bead not yet inserted in the rim.

NOTICE

After mounting the first bead the machine positions the fixed tool and the top bead breaker on the upper part of the tyre in the correct top bead mounting position. (Fig. 32e).



⚠ WARNING

The top bead breaker automatically hooks during the descent phase.



Proceed with mounting the top bead using the bead presser (Fig. 32f) and, if necessary, the bead presser pliers (Fig. 32g).

WARNING

Take care to avoid any injuries. Ensure that the top bead is correctly loaded on the tool before carrying out mounting (Fig. 32g).



- Press the pedal  to start rotation until the second bead has been mounted.

WARNING

Take care to avoid any injuries. Make sure the top bead is correctly inserted in the rim well, throughout the mounting stage.

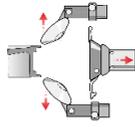
- Remove the bead pressing pliers or the bead pressing tool.

WARNING

Position the bead pressing tool in the correct rest position (Fig. 32h) so that it does not interfere with the work area.



TOOL REMOVAL



PHASE 7: Press the icon (Fig.33) to remove the tool from the work area and position the inflation valve at 3 o'clock.



NOTICE

At the end of the operation the INFLATRON (optional) will be recalled or you will be returned to the main screen.
For correct use of the INFLATRON see section 6.1.

5.4.b BASIC AUTOMATIC FEATURES (4 sequences)

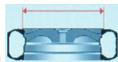
AUTOMATIC ACQUISITION OF WHEEL DATA

NOTICE

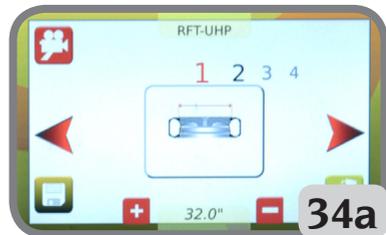
For an optimal reading of dimensions, the wheel must be beaded.

! WARNING

The top bead breaker automatically hooks during the descent phase.



PHASE I: Press the icon (Fig. 34a) to edit image and automatically acquire and store the size of the wheel or of the rim only.



NOTICE

If, following automatic detection of the wheel/rim, the detected diameter needs to be corrected, you must act on the buttons  and  (Fig. 34a). To maintain the correction in the next wheel recalls, the new diameter must be stored using the button  (Fig. 34a). This command stores only the diameter variations and not the tool position variations.

If the wheel dimensions are not identified (Fig. 34b), the operator may proceed in one of the two following ways:

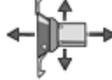
a. press the button  (Fig. 34b) and then press

the icon  (Fig. 34a) again and repeat automatic wheel data acquisition.

b. manually store wheel data:

- Use the arrows  (Fig. 34b) to set the rim diameter.

N.B.: The large arrows increase or decrease the size by one inch, at each pressure step: The small arrows increase or decrease the size by one tenth of an inch each time they are pressed.

- Operate the control  on the push-button panel to position the tool on the wheel as shown in Fig. 34c.

N.B.: To obtain more precise positioning press the button located on the top part of the command (see Fig. 34d).-



- Act on the bottom bead breaker command



to position it as illustrated in Fig. 34e.

UK

- Press the camera button  (optional) to facilitate positioning of the bottom bead breaker disc.

- Press the key  (Fig. 34b) to store the wheel dimensions.

NOTICE

Once saving is completed the tool and the bead breakers will make a small movement away from the wheel.

NOTICE

If operating on a tireless rim, the machine will automatically identify this condition, arranging the tools to mount the tyre.
The display will go to the relative mounting sequence.
Therefore, if necessary go to the relative paragraph.

BEAD BREAKING

 WARNING	 WARNING	 WARNING
 KEEP HANDS AND OTHER BODY PARTS AWAY FROM MOVING PARTS	 KEEP FEET CLEAR OF THE BEAD BREAKER AND LIFTER	 DO NOT BREAK THE BEAD WITH AIR PRESSURE IN THE TYRE

WARNING

All air pressure inside the tyre must be removed before proceeding. Never attempt to break the bead until all air is removed from the tyre. Failure to remove all air from the tyre may result in injury to the operator, or damage to equipment, the tyre or wheel.

WARNING

The top bead breaker automatically hooks during the descent phase.



1 - Act on the lever  and move the disc, taking it to about 5 mm under the rim edge (Fig. 35a).

2 - Press the top bead breaker disc penetration button



3 - If available (optional), press the button



to carry out lubrication and facilitate bead detachment.

Alternatively, manually lubricate the head to make bead breaking easier.



4 - Press the pedal  to turn the turntable.



5 - Operate the control , tapping on it, to lower the bead breaker disc and fully remove the bead from its seat on the rim.

6 - Turn at least one rotation to finish bead breaking.

THESE OPERATIONS will completely detach the top bead from the rim (see Fig. 35b).



7 - Move the lever upward to automatically stop penetration and to withdraw the disc from the work area.



CAUTION

When the upper bead breaking unit reaches the upper travel limit, the tilting arm is automatically released upwards (Fig. 35c).





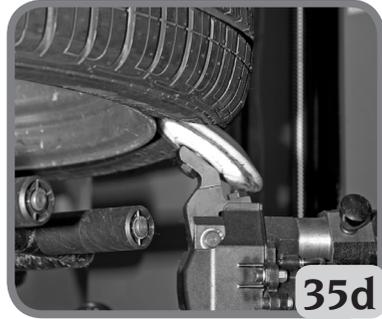
8 - Act on the lever ↓ and move the disc, taking it to about 5 mm above the rim edge (Fig. 35d).

In this phase the camera can be activated (optional) in order to obtain maximum control.



If available (optional), press the button and the camera will display the bottom part of the tyre (Fig. 35e).

For correct camera use, see section 6.2.



9 - Press the button to activate penetration of the bottom bead breaker disc.

10 - If available (optional), press the button  to carry out lubrication and facilitate bead detachment.

Alternatively, manually lubricate the head to make bead breaking easier.



11 - Press the pedal  to turn the turntable.

12 - Operate the control , tapping on it, to raise the bead breaker disc and fully remove the bead from its seat on the rim.

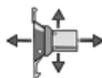
13- Turn at least one rotation to finish bead breaking.

THESE LAST OPERATIONS will completely detach the bottom bead from the rim.



14 - Move the lever ↓ downward to automatically stop penetration and to withdraw the disc from the work area.

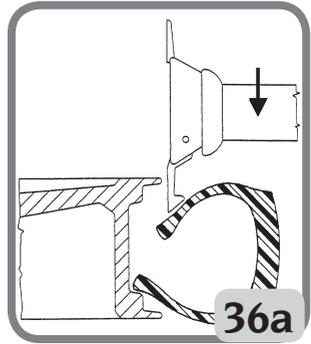
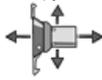
DEMOUNTING



1 - Act on the lever to insert the movable tool completely under the bead (Fig. 36a).



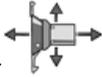
To obtain a more precise position, press the button located on the top part of the lever during movement (Fig. 36b).



3 - Hold in the button to hook the bead (Fig. 36c).



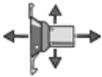
Rotate the wheel applying pressure on the pedal. If necessary, operate the control to lower the head



further

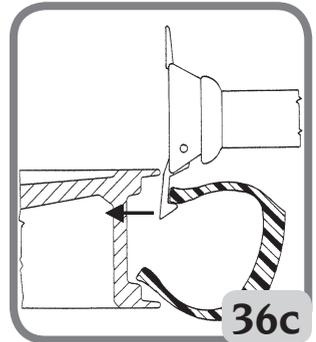


4 - After hooking the bead, release the button to return the tool to the rest position (Fig. 36d).

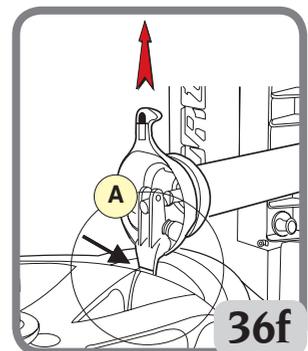
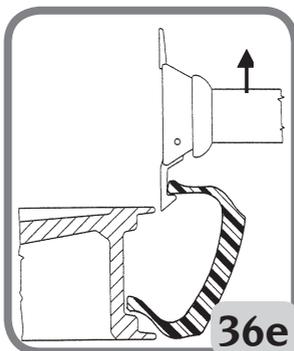
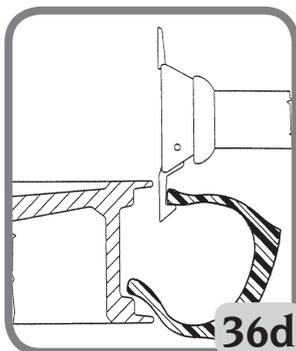


5 - raise the movable tool so that the horizontal line of the tool is not completely visible (Fig. 36e) - (A, Fig. 36f).

6 - Ensure that the bottom part of the tyre is completely bead broken, otherwise repeat the bottom bead breaking operation.



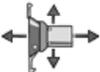
7 - Ensure that the bead at 180° with respect to the tool is in the channel, otherwise use the bead pressing tool to facilitate positioning (Fig. 36g).



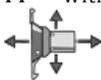
UK

8 - Turn the selector  (see Fig. 36h).

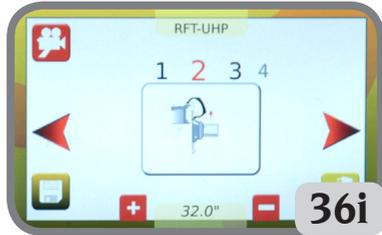
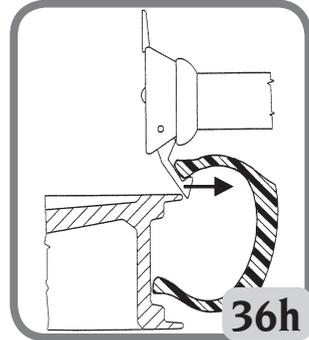
9 - Keeping the selector turned , press the  pedal to turn the turntable and demount the upper part of the tyre from the rim.

If necessary, operate the control  to slightly raise the head and complete top bead removal.

10 - Release the selector  and the pedal 

11 - Withdraw the movable tool from the work area 

12 - Press the icon  on the display to enable tool positioning in the lower par (Fig. 36i).



NOTICE

The machine will position the fixed tool in the tyre underside and at the same time the bead breaker will move upwards to provide the space necessary to load the bead.

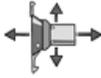
13 - Manually position the tyre so that the tool hook is between the lower bead and the rim (Fig. 36l).





14 - Press the icon on the display (Fig. 36m). The fixed tool will go into position to remove the lower bead (Fig. 36n).

For some types of wheels/rims, the height of the tool may need to be manually adjusted, operating



on the control

15 - After completing the operation the machine automatically suggests the next operating sequence.



16 - Act on the lever to move the bottom bead breaker disc upward (Figs. 36o - 36p) until reaching 5 mm above the top edge of the rim.



17 - Press the button to activate penetration of the bottom bead breaker and the pedal



to turn the turntable.



18 - If necessary, operate the control to slightly lift the bottom bead breaker disc.



UK

MOUNTING

WARNING

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 scaled 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.

1- Thoroughly lubricate the sidewalls of the tyre around the entire circumference of the lower and upper bead (Fig. 37a).

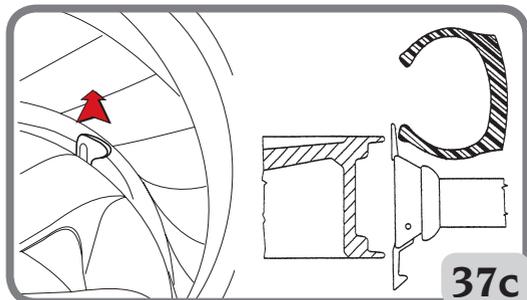
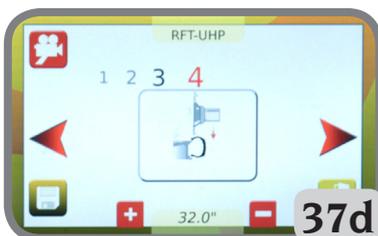
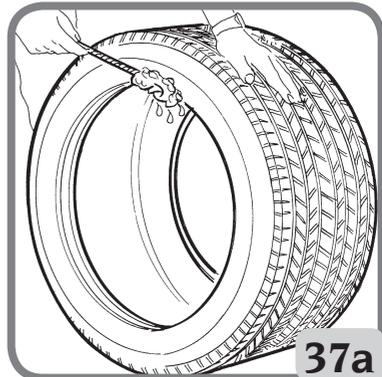


2- Operate the control to remove the disc from the work area.

3- The tool is already positioned at the correct height for assembling the first bead, (Fig. 36b), and manually work the tyre so that the upper shoulder of the rim bypasses the lower bead and goes into the rim well (Figs. 37b - 37c).



4- Press (see Fig. 37d), to enable the sequence for assembling the first bead.



NOTICE

Maintain a light manual pressure on the tyre section with the lower bead not yet inserted in the rim.

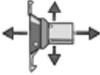
NOTICE

After mounting the first bead the machine positions the fixed tool and the top bead breaker on the upper part of the tyre in the correct top bead mounting position. (Fig. 32e).



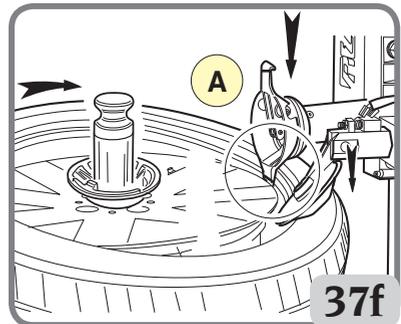
⚠ WARNING

The top bead breaker automatically hooks during the descent phase.

5 -> Act on the lever  lowering the tool and manually adjusting the tyre into position (Fig. 37f).

6 - Push the tyre  under the shoulder level (Fig. 37g).

7 - Use the bead pressing tool (Fig. 37g) and, if necessary, bead pressing pliers (Fig. 37h) on the rim shoulder, ensuring that the top bead is in the channel.



UK



WARNING

Take care to avoid any injuries. Ensure that the top bead is correctly loaded on the tool before carrying out mounting (Fig. 37h).



- Press the pedal to start rotation until the second bead has been mounted.

WARNING

Take care to avoid any injuries. Make sure the top bead is correctly inserted in the rim well, throughout the mounting stage.

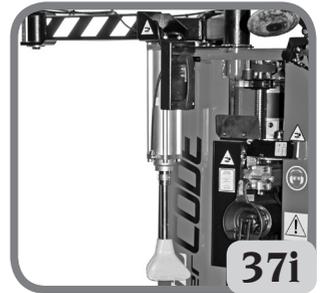
- Remove the bead pressing pliers or the bead pressing tool.

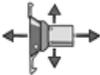
NOTICE

At the end of the operation the machine will return to the main screen or will launch the INFLATRON (optional), if active.

WARNING

Position the bead pressing tool in the correct rest position (Fig. 37i) so that it does not interfere with the work area.



- Take the bead breaker back to the top  and bottom  extremity (Fig. 37l).
- Withdraw the fixed tool  from the work area (Fig. 37m).



5.5. MANUAL WORK PROCEDURE

5.5.a. MANUAL CONFIGURATION OF WHEEL DATA

- From the main screen (Fig. 39) press the wheel

icon  to quickly select the rim \varnothing from a list (see Fig. 39a)

Otherwise, from the main screen:

- Press the arrows  to increase or decrease the rim \varnothing in inches, until the required value.

- Press the small arrows  to increase or decrease the rim \varnothing by tenths of an inch and make micro-corrections.



5.5.b. BEAD BREAKING

See the section on “bead breaking” in the automatic procedure.

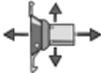
5.5.c. DEMOUNTING

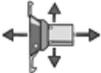


1- Press the button  to orient the movable tool 1 as shown in Fig. 40.



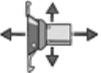
UK

2- Operate the lever  to fully lower the movable tool below the bead seat (Fig. 40a).

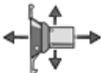
To obtain a more precise position, press the button on top of the lever  during movement (Fig. 40b).

3- Keep the button  pressed to hook the bead (Fig. 40c).
Turn the wheel by pressing the rotation pedal



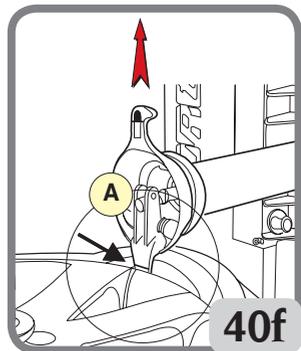
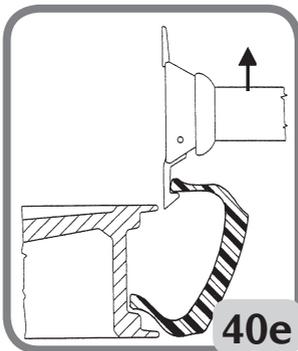
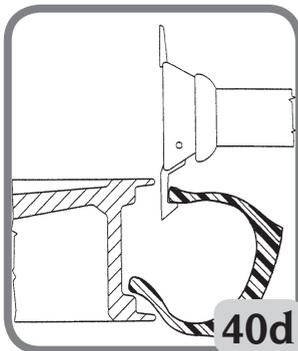
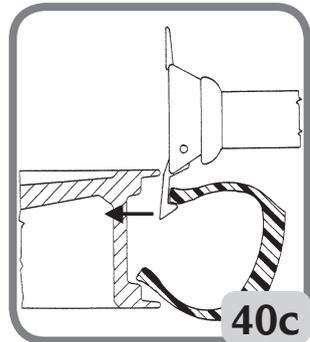
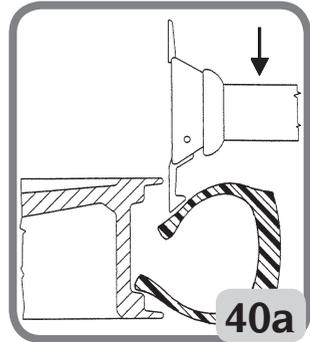
If necessary, operate the control to lower the head further .

4- Once the bead is hooked, release the button to return the tool to the rest position (Fig. 40d).

5-  Lift the movable tool until the horizontal line on the tool can be fully seen (Fig. 40e) - (A Fig. 40f).

6- Make sure the tyre underside is entirely broken, and if not, repeat lower bead breaking.

7- Make sure the bead at 180° to the tool is in the rim



well, otherwise use the bead depressor to facilitate positioning (Fig. 40g).

8- Turn the selector  (see Fig. 40h).

9- Keeping the selector turned , press the

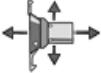


Pedal to rotate the turntable and demount the upper part of the tyre from the rim.

If necessary, operate the control  to slightly raise the head and complete upper bead removal.

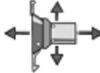
10- Release the Selector  and the Pedal 

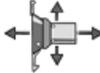
11- Move the movable tool away from the work area

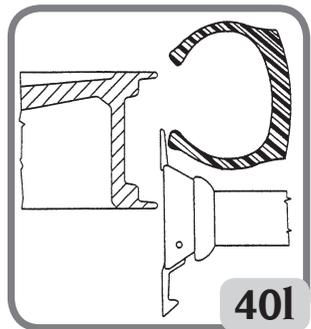
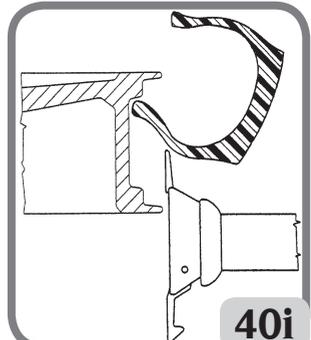
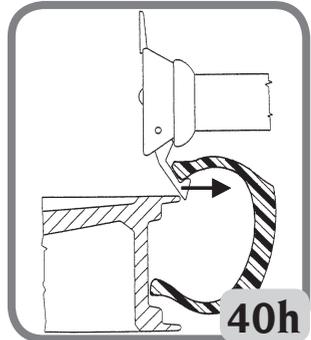
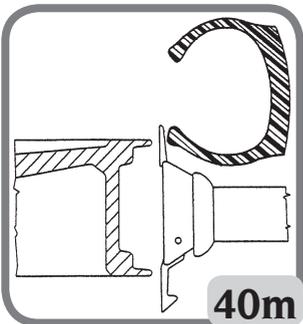


12- Operate  to move the head in the lower part of the wheel (Fig. 40i).

13- Manually position the tyre so that the tool hook is between the lower bead and the rim (Fig. 40l).



14- Operate the lever  to position the fixed tool at the correct height for removing the second bead (Fig. 40m).



UK



15- Operate the lever and move up the lower bead breaker disc (Figs. 40n - 40o) to 5 mm above the upper edge of the rim.



16- Press the Button for lower bead breaker

disc penetration and press the Pedal to rotate the turntable.



17- If necessary, operate the control to slightly lift the lower bead breaker.



5.5.d. MOUNTING

! WARNING

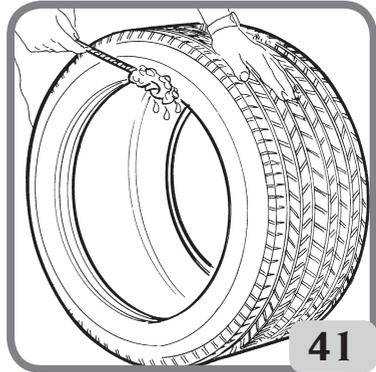
Always check that the tyre/rim combination is correct in terms of compatibility (tubeless tyre on tubeless rim; tube type tyre on tube type rim) and geometrical size (keying diameter, cross-section width, off-set and shoulder profile) before mounting. Also check that rims are not deformed, that their fixing holes have not become oval, that they are not scaled 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.

1- Thoroughly lubricate the sidewalls of the tyre around the entire circumference of the lower and upper bead (Fig. 41).



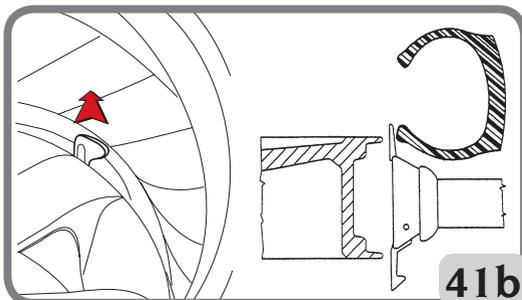
2- Operate the control to remove the disc from the work area.

3- The tool is already positioned at the correct





41a



41b

height for assembling the first bead, (Fig. 41b), and manually work the tyre so that the upper shoulder of the rim bypasses the lower bead and goes into the rim well (Figs. 41a -41b).

4- Maintain a light pressure on the tyre section with the lower bead not yet inserted in the rim

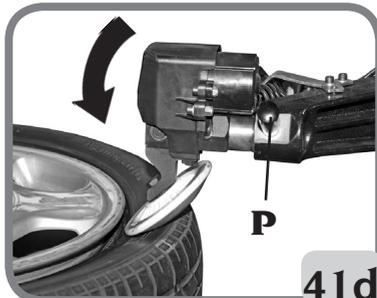
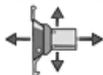


and rotate the turntable



41c

5- Operate the lever to move the tool head to the upper work area, to mount the upper bead.



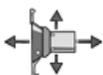
41d

6- During movement, press the button to configure the fixed tool or the upper bead mounting stage (Fig. 41c).

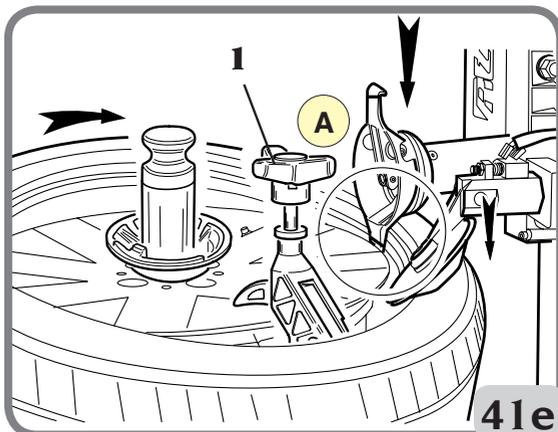


7- Operate knob P (Fig. 41d) to manually lower the upper bead breaker disc.

8- Operate the lever lowering the tool and manually positioning the tyre (Fig. 41e).

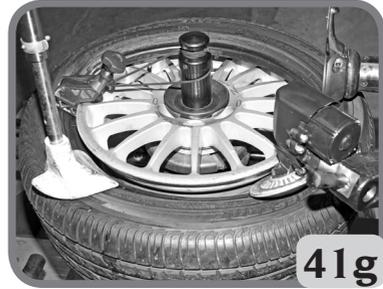
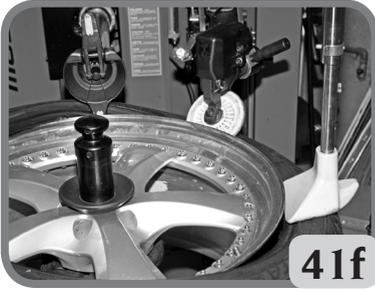


9- Push the tyre below the level of the shoulder (Fig. 41e).



41e





10- Use the bead presser (Fig. 41f) and, if necessary, the bead presser gripper(s) (Fig. 41g), on the shoulder of the rim, to make sure the upper bead stays in the rim well.

! WARNING

Avoid personal injury. Make sure the upper bead is correctly loaded on the tool before mounting (Fig. 41g).



11- Press the pedal to start rotation, until the second bead has been assembled.

! WARNING

Avoid personal injury. Make sure the upper bead is correctly inserted in the rim well, throughout the mounting stage.

12- Remove the bead presser gripper(s) or bead presser.

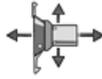
13- Return the bead breakers to the top



and bottom ends (Fig. 41h).



- Move the fixed tool

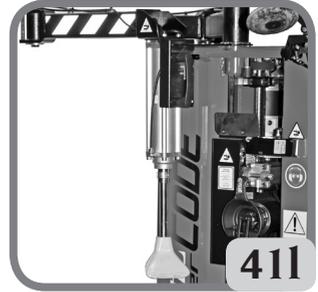


away from the work area (Fig. 41i).



WARNING

Position the bead pressing tool in the correct rest position (Fig. 41l) so that it does not interfere with the work area.



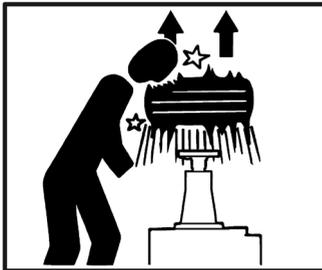
UK

5.6. APPROVED UHP AND RUN FLAT TYRE DEMOUNTING AND MOUNTING PROCEDURE

For this type of tyre please refer to the instructions in the manual prepared by WDK (German Tyre Industry Association).

5.7. TYRE INFLATION

5.7.a. SAFETY INDICATIONS



DANGER

- **EXPLOSION HAZARD**
- **Never exceed tire pressure recommended by tire manufacturer. Never mismatch tire size and rim size.**
- **Avoid personal injury or death**

Verify that both upper and lower tyre beads and the rim bead seat have been properly lubricated with an approved mounting paste. Safety goggles with plain lenses and safety footwear must be worn.

Lock the rim on the turntable during inflation. Remove the valve stem core if not already done. Connect the inflation hose to the valve stem (Fig. 42).

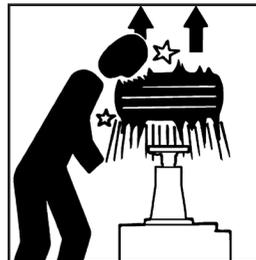


Step down partially on the pedal to inflate the tyre and seal beads with the inflation hose. Frequently stop to check bead seating pressure on the gauge.

WARNING

Avoid personal injury. Carefully read, understand and observe the following instructions.

1. Overinflated tyres can explode, producing hazardous flying debris that may result in an accident.
2. Tyres and Rims that are not the same diameter are “mismatched”. Never attempt to mount or inflate any tyre and rim that are mismatched. For example, never mount a 16” tyre on a 16.5” rim (or vice versa). This is very dangerous. A mismatched tyre and rim could explode, resulting in an accident.
3. Never exceed the bead setting pressure (gauge on hose) provided by the tyre manufacturer, as stated on the sidewall of the tyre.
4. Never place your head or any part of your body over a tyre during the inflation process or when attempting to seat beads. **This machine is not intended to be a restraining device for exploding tyres, tubes or rims.**
5. Always stand back from the tyre changer when inflating, never lean over.



WARNING



During this operation, noise levels assessed at 85 dB(A) may occur. Operators are advised to wear hearing protection devices.

WARNING

An exploding tire and rim may be propelled upward and outward with enough force to cause serious injury or death.

Do not mount any tire unless the tire size (molded into the sidewall) matches the rim size (stamped into the rim) exactly or if the rim or tire are defective or damaged.

This tire changer is not a safety device and will not restrain exploding tires and rims. Keep area clear of bystanders.

5.7.b. INFLATING TYRES

1. Make sure the wheel on which the tyre is fitted is securely clamped on the turntable by the centring handle (Fig. 48).

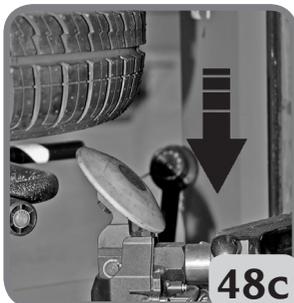
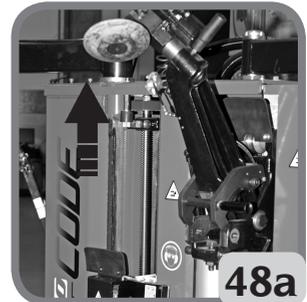
2. Make sure the tool head, upper and lower bead breaking units and bead depressor are not near the work area, and if possible are in the rest position (see Figs. 48 a-b-c).

3. Remove the valve stem core if not already done (Fig. 48d).

4. Connect the air hose Doyfe inflator chuck to the valve stem (Fig. 48e).



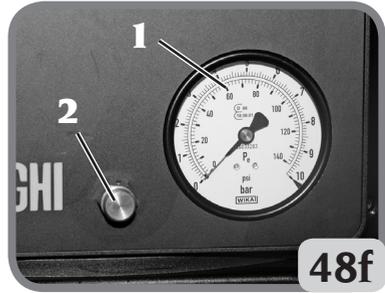
5. Press  to inflate the tyre. The tyre will expand, and the beads will seat.



UK

If necessary:

6. Continue inflating up to the maximum value of 3.5 bar to position the tyre correctly on the rim. Avoid distractions during this operation, and continually check tyre pressure on the air pressure gauge (1, Fig. 48f) to prevent excessive inflation. Inflating tubeless tyres requires a higher air flow-rate to allow the beads to bypass the rim HUMPS - see types of rim profiles for mounting without a camera in Fig. 49.

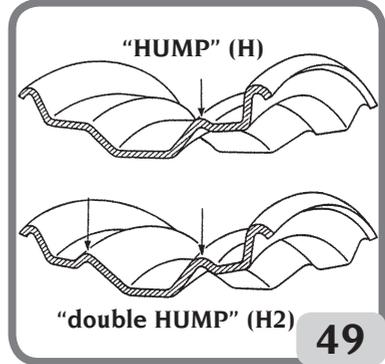


7. From the position of the centring ridges check that the beads are properly positioned on the rim; otherwise, deflate the tyre, break the beads as described in the relevant section, lubricate and turn the tyre on the rim. Repeat the mounting operation described previously and check again.

8. Replace the internal mechanism of the valve.

9. Bring the pressure to the operating value by pressing the Inflation push-button (2, Fig. 48f).

10. Fit the cap to the valve.



5.7.c. SPECIAL PROCEDURE

If, during inflation, the tyre does not seat on the rim because of the excessive gap between the tyre/rim, it is possible to use an air-pressure airblast through the jaws on the TI accessory (available on request).

Verify that both upper and lower tyre beads and the rim bead seat have been properly lubricated with an approved mounting paste.

1. Locking the rim (Fig. 50).

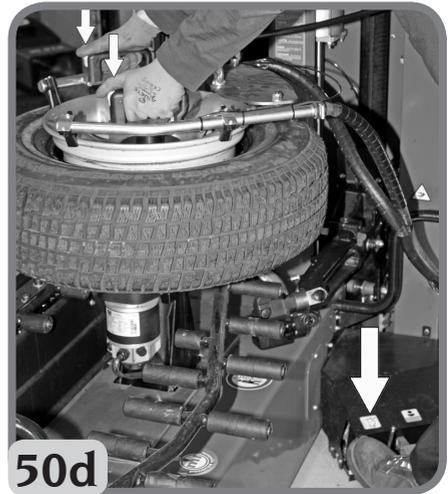
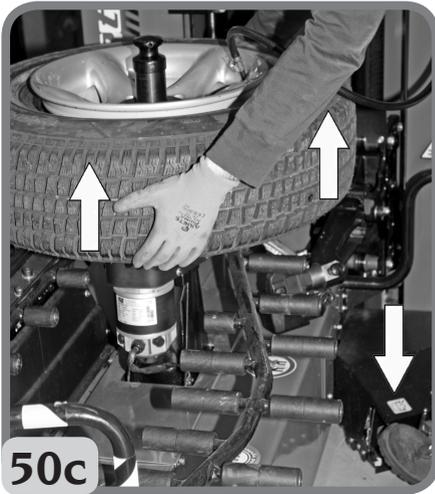
2. Remove the valve stem core if not already done (Fig. 50a).

3. Connect the inflation hose to the valve stem (Fig. 50b).

4. Pull up on the tyre lightly to reduce the gap between the upper bead and the rim (Fig. 50c).

5. Step down completely on the air inflation pedal and at the same time press the 2 buttons on the accessory to release a high-pressure air blast through the four jets to assist in seating the beads of the tyre (Fig. 50d).





NOTICE

To increase the effectiveness of the inflation jets, always liberally lubricate beads and raise the lower bead while activating inflation jets.

Step down partially on the pedal to inflate tire and seal beads with inflation hose. Frequently stop to check bead seating pressure on gauge.

! WARNING

Explosion hazard. Do not exceed the manufacturer's maximum pressure as stated on the sidewall of the tyre when seating beads.

Reinstall valve stem core into the valve stem after beads have been seated, and then inflate tire to vehicle manufacturer recommended pressure.

! WARNING

Activate air inflation jets only when sealing the bead. Do not point jets towards people.

Bleed air pressure from system before disconnecting supply line or other pneumatic components. Air is stored in a reservoir for operation of inflation jets.

! WARNING

Only activate the air inflation jets if the rim securing device is locked in place and the tire is properly clamped (when possible).

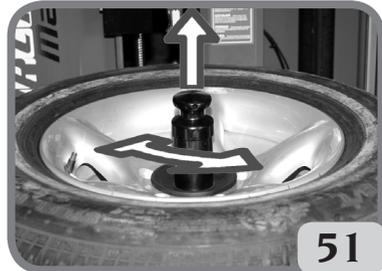
UK



WARNING

EXPLOSION HAZARD. Never mount a tyre on a rim that is not the same diameter (e.g., 16 1/2 inch tyre mounting on a 16 inch rim).

If the tyre is over-inflated, air may be removed from the tyre by pressing the brass manual air release button located below the air pressure gauge. Disconnect the inflation hose from the valve stem.



5.8. UNCLAMPING AND UNLOADING THE WHEEL



Operate the Pedal until the wheel unlocks. Turn handle 1 anticlockwise by 90° and remove (Fig. 51). Put the handle in its seat (Fig. 51a).



Operate the Lever (Fig. 51b) and lift the wheel from the wheel support plate (Fig. 51c). Move the wheel to the left, until it rests on the frame (Fig. 51d).



Continue to operate the Lever until the lifter is on the ground (Fig. 51e). Unload the wheel from the lifter and move it away from the work area.



5.9. MENU

From the main screen (Fig. 52) press the key 

Description of universal buttons:



On one level



Confirm key



Exit

5.9.a. LANGUAGE

Select LANGUAGE then press the confirm key



(Fig. 53).

Select the language then press the confirm key



(Fig. 53a).

5.9.b. MOVIES

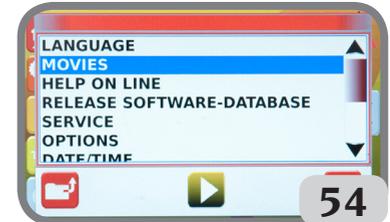
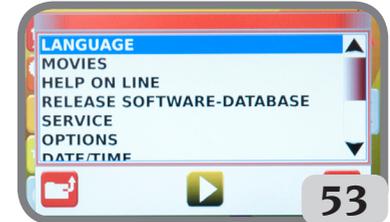
Select MOVIES then press the confirm key  (Fig. 54).

- Videos from SD-CARD:

1. Select the video from the list (Fig. 54a)
2. Highlight it and press PLAY  (Fig. 54a).

- Videos from USB pen:

1. Put the USB pen with the videos in the right port
2. At the end of the list --- "VIDEOS from USB" --- will be displayed listing all videos in the USB pen
3. Highlight it and press PLAY  (Fig. 54a).
Press the touch screen in any area while the video is playing to display an operating menu for around 6 seconds (see Fig. 54b) with the following options: "X" to Exit the video



UK



“PLAY” to Play the video

“PAUSE” to Pause the video

“STOP” to STOP the video

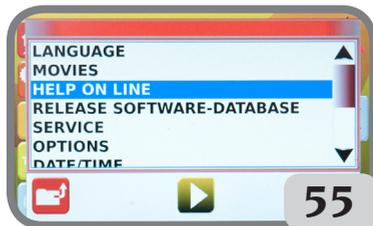
The “SCROLL BAR” indicates video status. Drag the cursor to quickly scroll the video forwards or backwards.

5.9.c. HELP ON LINE

Select HELP ONLINE then press the confirm key



(Fig. 55).



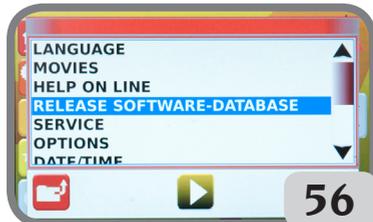
5.9.d. SOFTWARE - DATABASE RELEASE

Select SOFTWARE-DATABASE RELEASE then press



the confirm key (Fig. 56).

The SW versions installed will be automatically displayed (Fig. 56a).



5.9.e. SERVICE (FIG. 57)

Password access for the service department.

5.9.f. OPTIONS

Select OPTIONS then press the confirm key



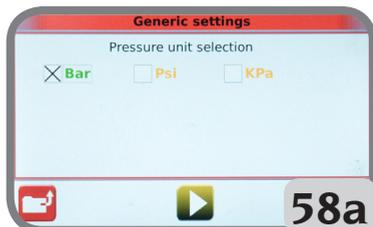
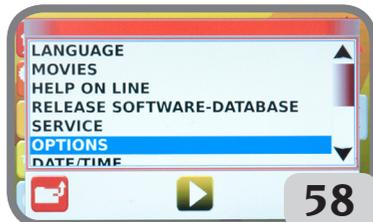
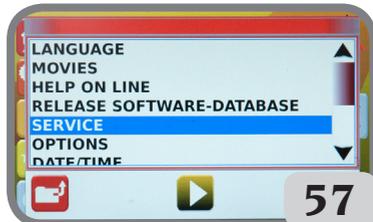
(Fig. 58). The inflation pressure unit of measurement can be selected from:

- bar
- PSI
- KPa

then press the confirm key



(Fig. 58a).



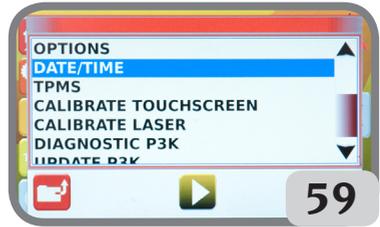
5.9.g. DATE/TIME

Select DATA/TIME then press the confirm key



(Fig. 59).

Set the date and time then press  to confirm (Fig. 59a).



5.9.h. TPMS

Select TPMS then press the confirm key  (Fig. 60).



VERSION TPMS

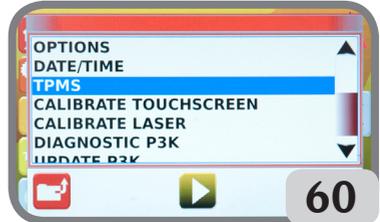
Select VERSION TPMS then press the confirm key



(Fig. 60a).

If the TPMS is off, an error message will be displayed

(Fig. 60b). Press the confirm key  to go back to the previous screen.



Select RESTART TPMS then press the confirm key



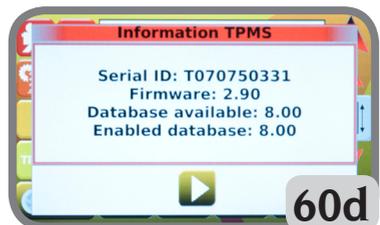
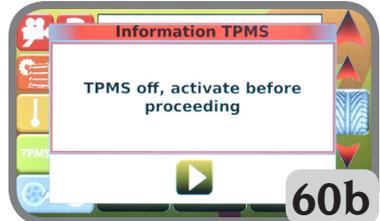
(Fig. 60c).

Re-select VERSION TPMS then press the confirm

key  (Fig. 60a).



Note the SERIAL ID, FIRMWARE and DATABASE AVAILABLE (Fig. 60d).



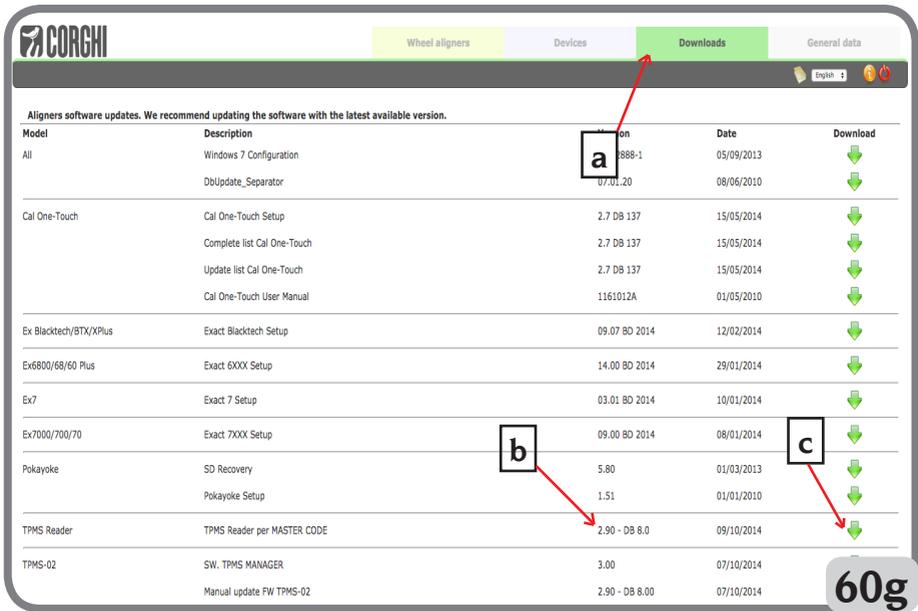
If the TPMS device is not powered or there is no communication, the message in Fig. 60e will be displayed.
 Contact the service network.



Connect by PC to:
www.corghi.com/infoauto
 and log in (Fig. 60f) (or register in the case of first-time access; see the relative section).



Select DOWNLOAD (Fig. 60g - point a).
 Compare the available online version (Fig. 60g - point b) with the version detected for the MASTER CODE TPMS.



If the online version is more recent, DOWNLOAD the file (Fig. 60g - point c) to a USB key.

NOTICE

Use a USB key with a maximum 2 GB capacity.
If this does not work, request a key from the service network.

UPDATE TPMS

1. Insert the key with the updated software into the USB socket of the MASTER CODE and wait 10 seconds.

2. Select UPDATE TPMS then press the confirm key



(Fig. 61).

The message in Fig. 61a will appear.

- If the update does not start after 10 attempts, an error message will be displayed (Fig. 61b).



Press the confirm key to go back to the previous screen, then repeat the steps from point 1.

- If the update starts, a progress message on new file loading will be displayed (Fig. 61c).
- If file loading is interrupted, the message in Fig. 61d will be displayed.

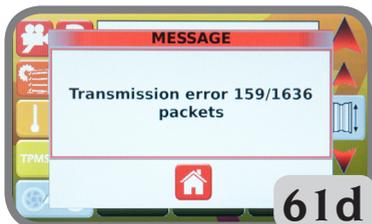
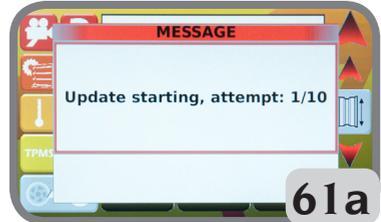


In this case, press the confirm key to go back to the previous screen, then repeat the steps from point 2.

- If the system cannot read the USB key, the message in Fig. 61e will be displayed.



Press the confirm key to go back to the previous screen, then repeat the steps from point 1.



UK

3. After loading, the message in Fig. 61f will be displayed.
4. Remove the USB key.
5. Selecting the VERSION TPMS option described previously, check the FW version now installed on MASTER CODE (see Fig. 61g).

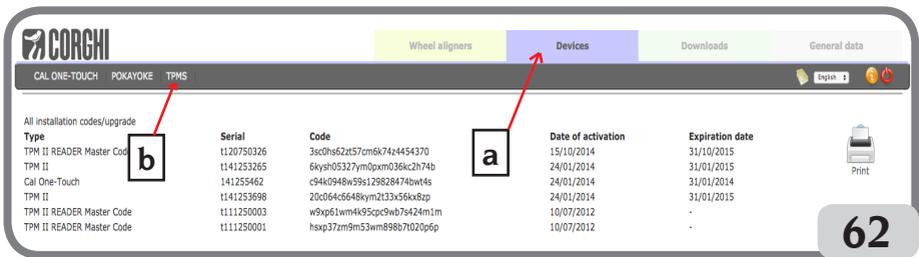


NOTICE

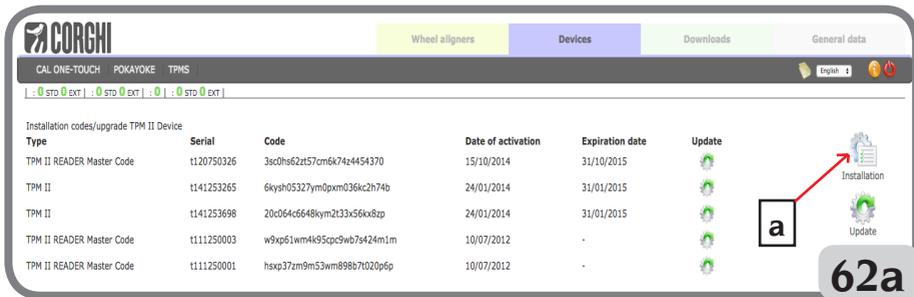
On first-time installation of the machine, and whenever the TPMS board has to be replaced, the board must be registered at www.corghi.com/infoauto and activated. Registration entitles the user to free software updates for 12 months. After this period, a subscription is necessary to update the FW and database.

TPMS REGISTRATION FOR FIRST-TIME INSTALLATION

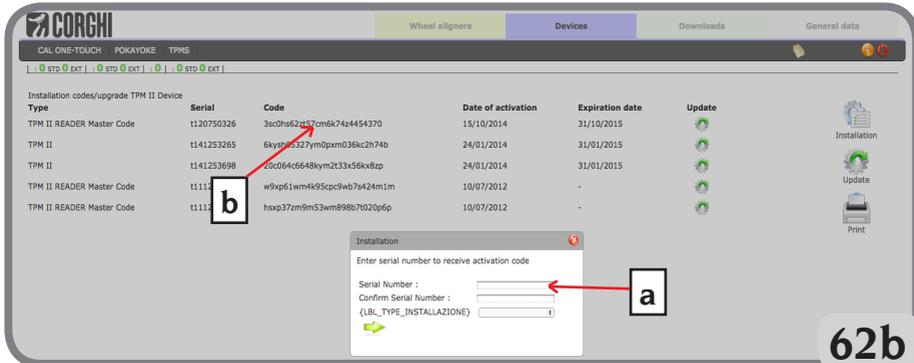
Connect by PC to www.corghi.com/infoauto.
 Select DEVICES (Fig. 62 - point a) and then TPMS (Fig. 62 - point b).



Select INSTALLATION (Fig. 62a - point a).
 Enter and confirm the SERIAL ID (Fig. 62b - point a).
 Select the device type: "TPM II READER MASTER CODE"
 A PASSWORD (Fig. 62b - point b) will be generated. Use this password whenever you need to make up an update.



62a



62b

ACTIVATE TPMS VERSION

1. Select UPDATE TPMS then press the confirm key



(Fig. 63).

2. Enter the Password (Fig. 63a) previously generated in www.corghi.com/infoauto.

If the Password is wrong, the message in Fig. 63b will be displayed.

If the Password is correct, the message in Fig. 63c will be displayed.

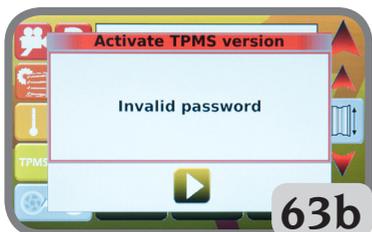
3. Selecting the VERSION TPMS option described



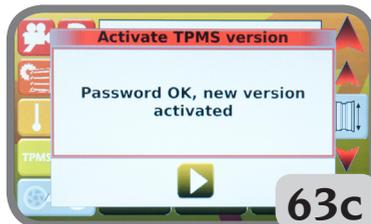
63



63a



63b



63c

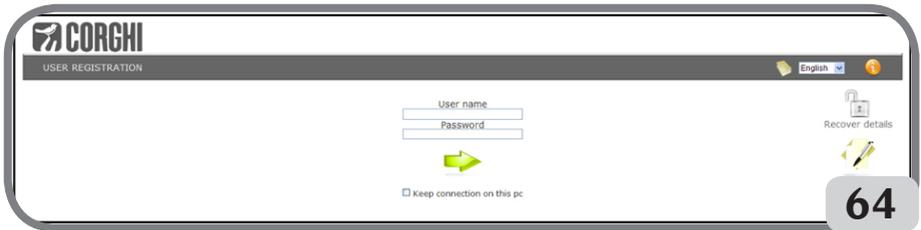
previously, check that the DATABASE AVAILABLE and ENABLED DATABASE are the same.

UPDATING THE DATABASE

NOTICE

**To update the database, a subscription is necessary.
Contact your dealer for information.**

1. Connect by PC to www.corghi.com/infoauto and log in (Fig. 64).



2. Select GENERAL DATA (Fig. 64a - point a) and then REGISTRATION CARDS (Fig. 64a - point b).

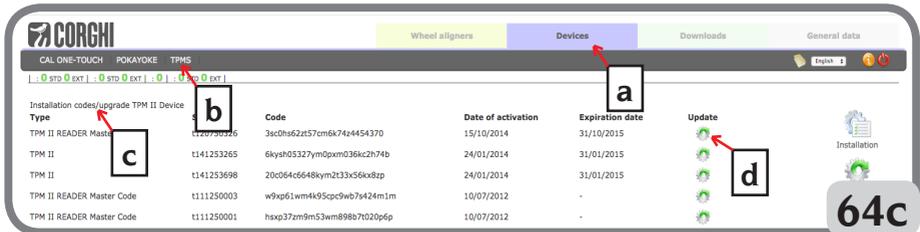


3. Select TOP UP (Fig. 64a - point c).

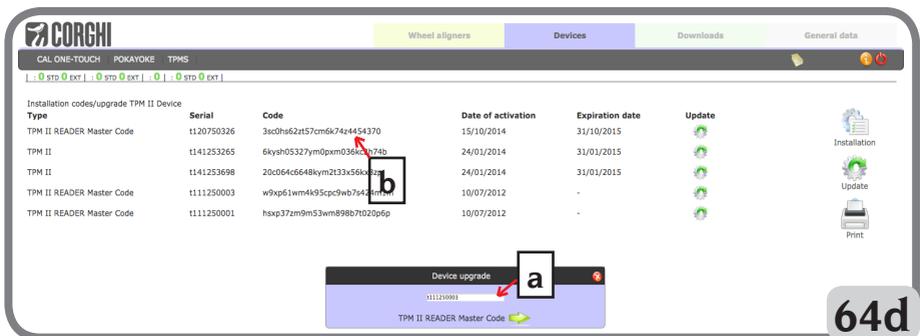
4. Enter the code in the pre-paid card, from the subscription, and confirm (Fig. 64b - point a).



- Credit to top up the TPMS02 is added to the user profile.
- Select DEVICES (Fig. 64c - point a) and then TPMS (Fig. 64 - point b). The number and type of credit available will be shown at the top (Fig. 64c - point c).
- Select UPDATE (Fig. 64c - point d) of the device to update.



- Confirm (Fig. 64d - point a). A new Password will be generated (Fig. 64d - point b).



To activate the updated Database, proceed with ACTIVATE TPMS VERSION previously described.

RESET TPMS

- If you need to reset the TPMS, select RESET

TPMS then press the confirm key  (Fig. 65).



RESTART TPMS

- If you need to restart the TPMS, select RESTART TPMS then press the confirm key



(Fig. 66).

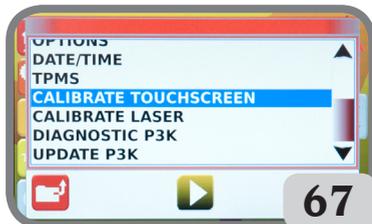


5.9.i. CALIBRATE TOUCH SCREEN

1. Select CALIBRATE TOUCH SCREEN then press



the confirm key (Fig. 67).



NOTICE

For greater precision, wear gloves when carrying out calibration.

2. With your finger, press the 5 crosses which appear in sequence on the touch screen (Fig. 67a). Do not use sharp objects, such as pencils, to touch the screen, as this will affect calibration.



3. At the end, Fig. 67b will be displayed. Touch the display with your finger, making sure the point follows the direction of your finger (Fig. 67b). Otherwise, repeat the procedure.



4. Then you can select (see Fig. 67b):
- SAVE to save calibration
- CANCEL to exit calibration without saving
- RESTART CALIBRATION to repeat the procedure.

5.9.I. CALIBRATE LASER

NOTICE

This operation must be carried out only if recommended by technical assistance.

This operation must **ONLY** be carried out in one of the cases below:

1. Replacing the LASER triangulation sensor
2. Replacing one or both of the bead breaker potentiometers
3. Replacing the tool head micro limit switches
4. Mechanical adjustment and/or replacement of tool head parts
5. Replacing the LASER triangulation sensor movement cylinder

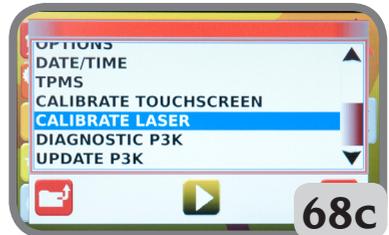
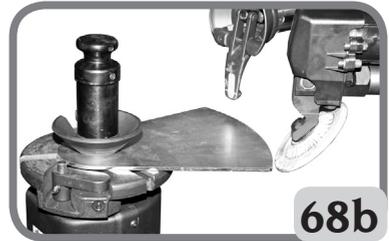
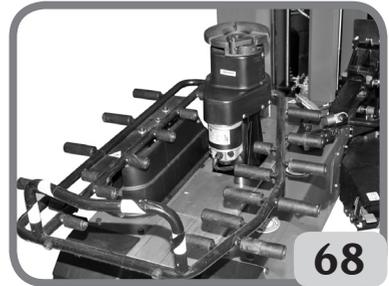
Procedure:

1. Position the lifter in the work position (Fig. 68).
2. Assemble the calibration template. Use the M11 cast iron cone without the guard and position the template with the chamfer facing downwards (Fig. 68a).

Position it so it is interfacing with the bead breakers and head. (B, Fig. 68).

3. Select CALIBRATE LASER then press the confirm

key  (Fig. 68c).



UK

 **WARNING**

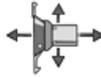
CRUSHING HAZARD:

Some parts of the machine, such as the head, the bead breakers and turntable move by themselves.

A beeper will sound to indicate when automatic movements are carried out. Do not approach moving parts of the machine.

Setup:

4. The following are automatically carried out:
- The tool head moves fully upwards and downwards.
 - The lower bead breaker moves fully upwards and then returns to the lower rest position.
 - The upper bead breaker moves fully downwards and then returns to the upper rest position.
 - The laser scans the template twice at two different heights. During this stage, the turntable moves.
 - The assembly tool will make two small movements to indicate it must be positioned.



5. Operate the lever to position the tool head (see Fig. 68d).

After alignment, confirm the position, moving the tool head joystick to the right ONCE, without holding it down (see Fig. 68e). The laser comes out from the rest position and performs a reading. The upper bead breaker will make two small movements to indicate that the operation has been confirmed and that it will be the next tool to be calibrated.



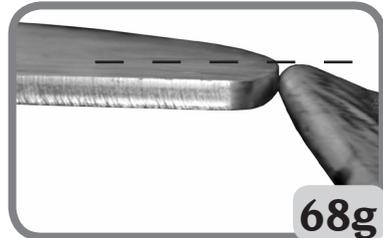
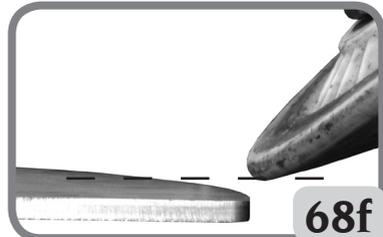
6. Operate the lever to position the upper bead breaker downwards until the lower part of the bead breaking disc is aligned with the upper surface of the template (see Fig. 68f).

After alignment, confirm the position, moving the tool head joystick to the right ONCE, without holding it down (see Fig. 68e). The lower bead breaker will make two small movements to indicate that the operation has been confirmed and that it will be the next tool to be calibrated.

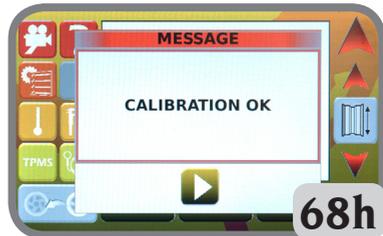


7. Operate the lever to position the lower bead breaker upwards until the upper part of the bead breaking disc is aligned with the upper surface of the template (see Fig. 68g).

After alignment, confirm the position, moving the tool head joystick to the right ONCE. Make sure you only move the joystick to the right once, without holding it down (see Fig. 68e).



8. At the end, Fig. 68h will be displayed. If error messages are displayed, check the messages



in the ERROR MESSAGES chapter in this manual.

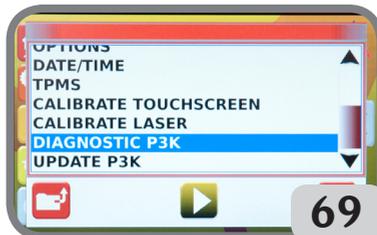
9. Turn the machine back on (Fig. 68i) to enable calibration.



5.9.m. DIAGNOSTIC P3K

1. Select UPDATE TPMS then press the confirm

key  (Fig. 69).



WARNING

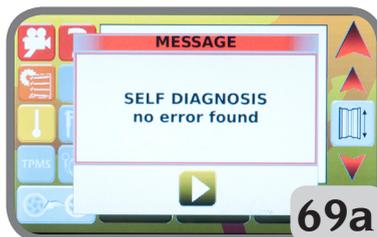
CRUSHING HAZARD:

Some parts of the machine, such as the head, the bead breakers and turntable move by themselves.

A beeper will sound to indicate when automatic movements are carried out. Do not approach moving parts of the machine.

2. At the end, Fig. 69a will be displayed.

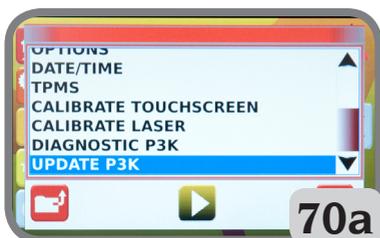
If error messages are displayed, check the messages in the ERROR MESSAGES chapter in this manual.



UK

UPDATE P3K

1. Insert the key with the updated software into the USB socket (Fig. 70) of the MASTER CODE and wait 10 seconds.



2. Select UPDATE P3K

then press the confirm key  (Fig. 70a).

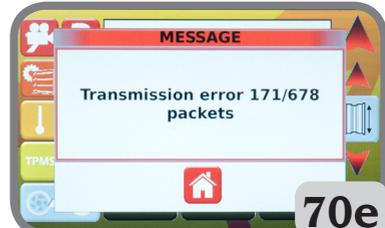
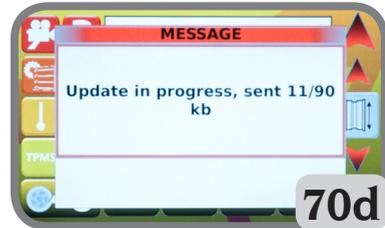


The message in Fig. 70b will be displayed.
 - If the update does not start after 10 attempts, an error message will be displayed (Fig. 70c).



Press the confirm key  to go back to the previous screen, then repeat the steps from point 1.

- If the update starts, a progress message on new file loading will be displayed (Fig. 70d).
 - If file loading is interrupted, the message in Fig. 70e will be displayed.



3. After loading, the message in Fig. 70f will be displayed.

4. Remove the USB key.

5. Selecting the RELEASE SOFTWARE VERSION option described previously (section 5.8.d), check the FW P3K version now installed on MASTER CODE (see Fig. 70g).



6. OPTIONAL ACCESSORIES

6.1. INFLATRON

From the main screen (Fig. 71) press the key



The Inflatron inflator is an electronic precision instrument to automatically inflate and deflate vehicle tyres (see section 1.4 INTENDED USE OF THE MACHINE).

Correct use enables the operator to optimise operating stages and save time, and carry out other operations with maximum time savings.

Intended operating conditions

Inflatron has been designed exclusively for inflating and deflating tyres, using the tools with which it is equipped as described in this manual. Any other use is inappropriate.

Technical specifications

- Operating pressure.....8-10 bar
- Power supply.....24Vdc
- Noise level in working conditions.....< 70dB(A)

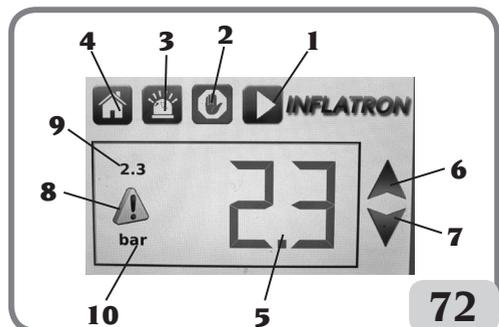
Main working elements of the machine

! WARNING

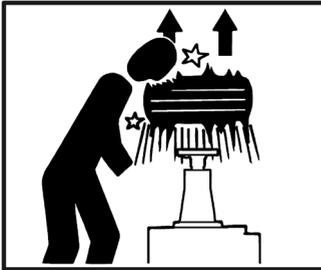
Learn the set up of all controls and their functions. Carefully check that all controls on the device are working properly. The device must be installed properly, operated correctly and serviced regularly in order to prevent accidents and injuries.

UK

- 1 Automatic cycle start key
- 2 Automatic cycle "STOP" key
- 3 Overpressure key
- 4 INFLATRON exit key
- 5 Inflation pressure configured
- 6 Arrow key to increase pressure
- 7 Arrow key to decrease pressure
- 8 Overpressure flashing indicator
- 9 Configured pressure indicator
- 10 Pressure unit of measurement (bar - PSI - KPa)



6.1.a INFLATION



DANGER

- **EXPLOSION HAZARD**
- Never exceed tire pressure recommended by tire manufacturer. Never mismatch tire size and rim size.
- Avoid personal injury or death



WARNING

Avoid personal injury. Carefully read, understand and follow the following instructions:

1. Overinflated tyres can explode, producing hazardous flying debris that may result in an accident.
2. Tyres and rims that are not the same diameter are “mismatched”. Never attempt to mount or inflate any tyre and rim that are mismatched. For example, never mount a 16” tyre on a 16,5” rim (or vice versa). This is very dangerous. A mismatched tyre and rim could explode, resulting in an accident.
3. Never exceed the bead setting pressure (gauge on hose) provided by the tyre manufacturer, as stated on the sidewall of the tyre.
4. Never place your head or any part of your body over a tyre during the inflation process or when attempting to seat beads.
This machine is not intended to be a restraining device for exploding tyres, tubes or rims.
5. Always stand back from the tyre changer when inflating, never lean over.



CAUTION



During this operation, noise levels assessed at 85 dB(A) may occur. Operators are advised to wear hearing protection devices.



WARNING

An exploding tire and rim may be propelled upward and outward with enough force to cause serious injury or death.

Do not mount any tire unless the tire size (molded into the sidewall) matches the rim size (stamped into the rim) exactly or if the rim or tire are defective or damaged.

This tire changer is not a safety device and will not restrain exploding tires and rims. Keep area clear of bystanders.

WARNING

The inflation pressure must **ALWAYS** be checked using the pressure gauge and never from the display.

PROCEDURE:

1. Verify that both upper and lower tyre beads and the rim bead seat have been properly lubricated with an approved mounting paste.

2. Lock the rim (Fig. 73).

3. Remove the valve stem core if not already done (Fig. 73a).



4. Press the key  to enable INFLATRON.

NOTE: If you are using a automatic working procedure the device activation is automatically at the end of the procedure.



5. Press the arrow keys  to select the required inflation pressure.

The selected pressure value is displayed in red

6. Connect the inflation hose to the valve stem (Fig. 73b).



INFLATION PROCEDURE:

7. Press the key  to start the cycle.

The wheel will be automatically inflated until it reaches the selected pressure.

During the entire inflation stage, the pressure value is not displayed and instead 3 horizontal red bars appear (Fig. 73c).

At the end of inflation, the set pressure is displayed again in green (Fig. 73d).

At this stage, inflation has ended.

8. Disconnect the Doyfe inflator chuck from the wheel.

9. Mount the valve stem core (Fig. 73a).



UK

SPECIAL INFLATION PROCEDURE:

	<div style="background-color: red; color: white; padding: 5px; text-align: center;"> DANGER</div> <ul style="list-style-type: none">• EXPLOSION HAZARD• Never exceed tire pressure recommended by tire manufacturer. Never mismatch tire size and rim size.• Avoid personal injury or death
--	--

Use this function for improved tyre insertion.

7A. Press the key  for overpressure.



The following will appear on the display

8A. Press the key  to start the cycle.

The wheel will be inflated to a pressure above 60% the configured value (within maximum pressure limits). Once this overpressure value is reached, the system deflates the tyre to the set value. During the entire inflation and deflation stage, the pressure value is not displayed and instead 3 horizontal red bars and a flashing triangle appear (Fig. 73c). At the end of the operation, the set pressure is displayed again in green and the yellow triangle disappears (Fig. 73d).

At this stage, inflation has ended.

9A. Disconnect the Doyfe inflator chuck from the wheel.

10A. Mount the valve stem core (Fig. 73a).

Notes: To stop the automatic inflation cycle at

any moment, press the “STOP” key .

The error message A08 ERR_STP (see Fig. 73e) will appear on the display.

- Press the key  to exit INFLATRON and go back to the main screen.



6.1.b POSSIBLE ERROR MESSAGES

In the event of anomalies, error messages will appear on the display, and all valves will be closed.

A01

Loss of calibration coefficients.

- If the problem persists, contact technical assistance.

A06

Tubeless procedure or overinflation selected.

- Carry out deflation, when necessary.

A08

Operation stopped with the stop key.

A10

The pressure has not increased after several attempts.

Hose not connected

- connect the disconnected hose.

Air circuit leak

- repair the leak

Broken solenoid valve.

- contact technical assistance.

A11

Inflation or deflation time which is too long

A12

The pressure has not decreased after several attempts.

Air circuit obstruction

- remove the obstruction.

Broken solenoid valve.

- contact technical assistance.

A13

Pressure which is too high

A14

Eeprom read error

A15

Eeprom write error

Besides error messages, other messages may also appear on the display indicating the machine status. These are:

AU

Self-calibration programme;

uuu

This message appears on the large screen during self-calibration and indicates that the pressure value is being read: do not move the air hose or change the pressure.

6.2. CAMERA

From the main screen (Fig. 74) press the key



The camera is an electronic precision instrument to display all operations carried out on the tyre underside, on a specific screen, guaranteeing



maximum control for the operator. The camera also has an automatic luminosity regulation system for correct vision at any time of the day.

Intended operating conditions

The camera has been designed exclusively to display operations carried out on the tyre underside, as described in this manual. Any other use is inappropriate.

Technical specifications

-power supply.....24Vdc

OPERATION



- Press the key  to use the camera.
 - An image of the tyre underside will appear on the display (Fig. 74a).
- Luminosity will be automatically configured.

If the image is not optimal, press the keys 

and , pressing gently on the right side of the display, to manually adjust luminosity. The configuration will be automatically stored and kept each time the camera is used again.

- Press the key  in the top left-hand corner to go back to automatic mode.
- Press the middle of the display to exit the application and go back to the main screen (see Fig. 74b).



Note: If the camera is not used for more than 5 minutes, the main screen will appear automatically.

TROUBLESHOOTING

The camera does not show any images

Cable disconnected on the camera

- Connect the cable (Fig. 74c)

Camera failure

- If the problem persists, contact technical assistance.

The image is out of focus

The optics are not set properly

- Contact technical assistance



6.3 TREAD THICKNESS MEASURING SENSOR

From the main screen (Fig. 75) press the key .

The tread thickness measuring sensor is an electronic device to read vehicle tyre tread thickness. Correct use allows the operator to check and see whether the tyre tread value shown conforms to the highway code.



Intended operating conditions

The tread thickness measuring sensor has been designed exclusively to measure vehicle tyre tread thickness, as described in this manual. Any other use is inappropriate.

Press key  to enable the tread thickness measuring sensor.

Sensor resetting:

NOTICE

When first used and whenever necessary, check sensor resetting.

Resetting procedure

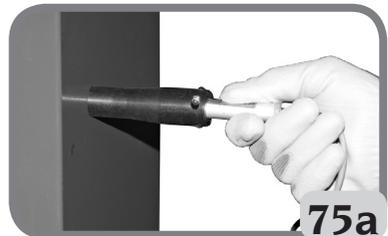
1. Place the cylindrical cursor on a rigid surface and press until it is fully inserted in the sensor (see Fig. 75a).

When the flat part of the sensor is lying entirely on the surface, zero conditions will be achieved.

2. Keep the sensor pressed down, and press the  key (see Fig. 75b).

A confirm message will appear. Enter OK.

3. The sensor is reset to zero.



75a

UK



75c



75b

Operation

- Rest the mobile part of the sensor (cylindrical sensor) in the tyre furrow where the tread thickness is to be measured. Press the sensor so that the flat part adheres to the tread, making the sensor return (see Fig. 75c).

NOTICE

To obtain a precise reading, the flat part of the sensor must be placed at right angles as far as possible to the point to be measured.

- The thickness is shown on the display in mm and in inches (see Fig. 75d).

- The background changes colour to immediately indicate the status of conformity to the highway code, in relation to the thickness measured.

White tyre in good conditions, thickness > 4 mm

Orange tyre in fairly good conditions, thickness between 3.9 mm to 2.0 mm

Yellow tyre in limit conditions, replacement recommended, thickness between 1.6 mm to 1.9 mm

Red tyre to be replaced, thickness < 1.6 mm



- Press key  (see Fig. 75d) to exit the TREAD THICKNESS MEASURING SENSOR and go back to the main screen.

TROUBLESHOOTING

The sensor does not work

Sensor connector disconnected

- Connect the connector (see Fig. 75e)

Sensor failure

- If the problem persists, contact technical assistance.

The sensor does not reset to zero

Sensor failure

- If the problem persists, contact technical assistance.

The sensor does not read correctly

Sensor not reset to zero

- Reset the sensor (see Resetting procedure)

Sensor failure

- If the problem persists, contact technical assistance.



6.4 TEMPERATURE MEASURING SENSOR

From the main screen (Fig. 76) press the key .

The temperature measuring sensor is an electronic device to read the tyre temperature. Correct use allows the operator to check and display the tyre bead and sidewall temperature, for mounting/demounting as indicated by WDK regulations for RUN FLAT and UHP tyres.

Intended operating conditions

The temperature measuring sensor has been designed exclusively to measure tyre temperature, as described in this manual. Any other use is inappropriate.

Technical specifications

Reading precision0.1°C

Operation

- Press the key  to enable the temperature measuring sensor.
- Move the sensor so it is in contact with the bead (Fig 76a, if the wheel is demounted) or sidewall (Fig. 76b if mounted on the rim).

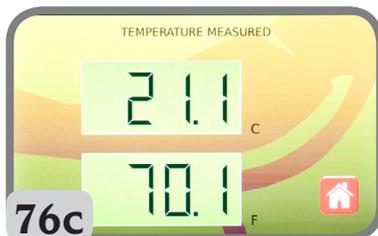


NOTICE

For correct, precise reading, place the two semi-rings against the tyre, making sure there are no parts which come between the two semi-rings.

- The display instantly shows the temperature measured in °C and °F (see Fig. 76c).
- The background changes colour to immediately indicate the status of conformity to the WDK procedure in relation to the temperature value measured:

Green the tyre is at the right temperature. Operations may be carried out conforming to the WDK procedure. The temperature range is 20 - 25 °C
Yellow the tyre is at temperature limits. It is not advisable to carry out operations according to the WDK procedure. The temperature range is 15 - 19 °C and 26 - 30 °C
Red the tyre temperature is outside the tempera-



ture range. It is not possible to carry out operations according to the WDK procedure. Temperature < 15 °C and >30 °C. The tyre temperature must be restored to the permitted range.



- Press the key  (see Fig. 76c) to exit the TEMPERATURE MEASURING SENSOR and go back to the main screen.

TROUBLESHOOTING

The sensor does not read correctly

Sensor connector disconnected or not connected properly

- Connect the connector properly (see Fig. 76d).

Sensor or read circuit failure

- If the problem persists, contact technical assistance.



6.5 TPMS



From the main screen (Fig. 77) press the key .

The TPMS is an electronic device to read pressure sensors and check their operation, directly on the tyre changer. Specifically, the operator can:

- Check sensor integrity and operation before carrying out any operation on tyres
- Check that the sensors convey the correct pressure and temperature values
- Check sensor battery status
- Acquire information on mounting and the torque values of the valves
- Acquire the spare part codes of valves
- Check integrity and operation after carrying out operations on tyres
- Update the vehicle/valve database from the company site via USB



Intended operating conditions

The TPMS has been designed exclusively to diagnose the correct operation of pressure sensor valves, as described in this manual. Any other use is inappropriate.

Technical specifications

- Power supply.....12Vdc

Operation



- Press key  to enable the TPMS.



- The vehicle brand database will be displayed (Fig. 77a).

- Use the arrows (1 and 2) on the right, or vertically drag the cursors between the two arrows to search for the brand.

- Select and click on the brand to highlight it (Fig. 77b).



- Select key 3  to confirm. If you select the

wrong brand, press key 4  to go back to the previous page.

- Carry out the same operations to select the model (Fig. 77b) and year of manufacture (Fig. 77c). If you

select the wrong year, press key 4  to go back to the previous page.



- Select key  (Fig. 77c) to confirm.

- The display will show (Fig. 77f):

- 1 The key enabling the sensor
- 2 The key displaying sensor technical data
- 3 The vehicle database key (to make a new choice)
- 4 The key to exit TPMS
- 5 Data of the selected vehicle (brand, model, year of manufacture)

6 The sensor battery level

7 The sensor code

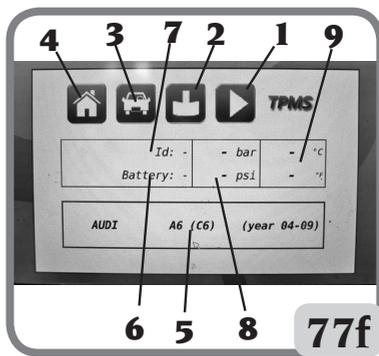
8 The sensor pressure in bar and PSI

9 The temperature inside the tyre in °C and °F
 - Position the sensor on the tyre side in the direction of the valve, at an angle of about 45° (Fig. 77d). Never position the sensor on the rim side.



- Press the button  (1, Fig. 77f) to activate the sensor reading (Fig. 77e).

- After reading the mask offers screen of Fig. 77f with the sensor data.



NOTICE

In some cases, the sensor conveys data only if tyre pressure changes by at least 0.2. For these sensors, the message DEFLATE WHEEL will appear on the display, so a pressure change is required to enable valve transmission.

If data is not acquired, the message "TPM SENSOR DOES NOT TRANSMIT" (Fig. 77g) will appear on the display. Check the correct position of the sensor and

repeat the procedure pressing the key  (1, Fig. 77g). If the problem persists, check sensor integrity. If broken, replace following the instructions in the section on sensor data (2, Fig. 77h).

-At the end of operations, press the key  (1, Fig. 77h) to exit the programme and repeat the procedure for a functional check.

Press the key  to exit TPMS and go back to the main screen.

NOTE: At the next activation of the TPMS device the screen in Fig. 77f will be displayed with the data of the previous vehicle. Press button 3, Fig. 77f to select a new vehicle or button 1, Fig. 77f for a new sensor reading.

TROUBLESHOOTING

The TPMS does not respond

Sensor connector disconnected

- Connect the connector (see Fig. 77i)

The sensor assembled on the valve is broken

- Check TPMS operation with another sensor/faulty TPMS

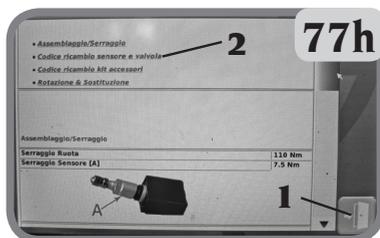
- If the problem persists, contact technical assistance.

6.6 LUBRICATORS

The lubricators deliver lubricating fluid between the bead breaker disc and tyre bead. Correct use allows the operator to facilitate bead removal from the rim, in safe conditions, as he does not have to operate with a brush near moving parts.

Intended operating conditions

The lubricator has been designed exclusively to lubri-



cate tyre beads, as described in this manual in the section on bead breaking. Any other use is inappropriate.

Topping up lubricating fluid

To top up fluid, unscrew the cap (1, Fig. 78) and remove the cover underneath.

Only use lubricating fluid recommended by CORGHI (contact your authorised dealer).

Check the fluid level in the tank.

If below the outlet, top up (see Fig. 78a).



NOTICE

If the machine or lubrication system is not used for a long time, the nozzles could become obstructed. In this case, replace the nozzles.

TROUBLESHOOTING

When pressing button 5 or 6 on the console (Fig. 78b), no liquid comes out of the sprayer:

Sprayer nozzle obstruction

- Replace the nozzle

No lubricating fluid in the tank

- Top up the liquid

Electrical system problems

- If the problem persists, contact technical assistance.

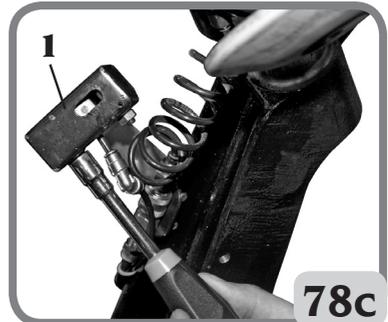
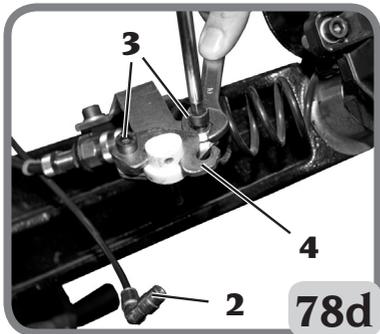
When pressing button 5 or 6 on the console (Fig. 78b), the jet is irregular:

Sprayer nozzle obstruction

- Replace the nozzle



INSTRUCTIONS FOR REPLACING NOZZLES



DEMOUNTING

- Loosen the two fastening nuts and remove cover 1 (Fig. 78c).

- Detach the fluid delivery tube 2 (Fig. 78d) near the nozzle.

- Loosen the two screws 3 (Fig. 78d).

- Turn the mobile metal sheet 4 (Fig. 78d) and remove the nozzle.

MOUNTING

- Fit a new nozzle, adjusting the fluid outlet correctly
- Close the mobile metal sheet and turn
- Tighten the two screws
- Connect the nozzle fluid delivery tube
- Check the nozzle operating position. The sprayed jet must fall between the disc and rim.
- Refit the guard and tighten the two fastening nuts.

7. MAINTENANCE

DANGER

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

WARNING

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

Do not remove or modify any part of this machine (except for servicing).

WARNING

Any operation intended to modify the setting value of the relief valve 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 machine and make sure that all moving parts are suitably immobilised.

CAUTION

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.

NOTICE

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

SCHEDULED MAINTENANCE:

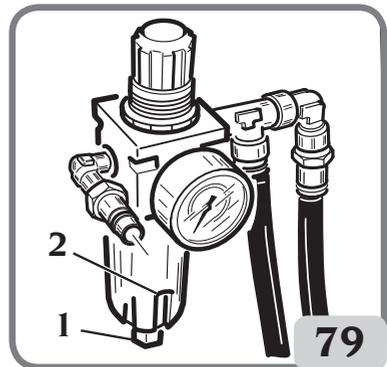
NOTICE

The machine will periodically prompt maintenance to carry out. Failure to observe instructions could affect proper functioning of the machine.

- Check regulator filter condensate drain:

The filter-regulator 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 (1, Fig. 79) when the level rises above level 2, Fig. 79.

To carry out every month



- Clean and lubricate tool hold turret carriage guide (1, Fig. 79a):

Clean with environmentally-friendly solvents and lubricate with LIPLEX EP 2 lubricant or equivalent. To carry out every two months

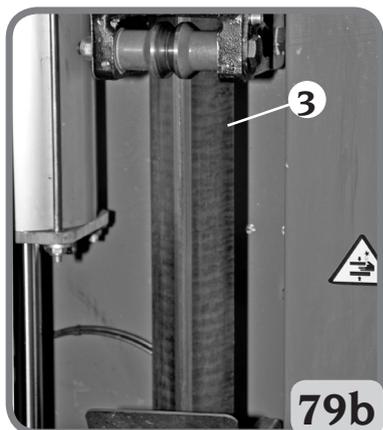
- Lubricate tool holder turret translation screws (2, Fig. 79a):

Clean with environmentally-friendly solvents and lubricate with MOLYguard lube PTFE ISO 68 oil or equivalent.

To carry out every three months



UK



- Clean and lubricate bead breaker rail (3, Fig. 79b):

Clean with environmentally-friendly solvents and lubricate with ROLOIL SUPER LUBRICANT PTFE synthetic gel or equivalent.

To carry out every two months

- Check emergency arrest button function (4, Fig. 79c):

If operating properly, the stop button will appear on the display.

Otherwise, contact technical assistance.

To carry out every two months

- Check condition of tool carriage end stops (5, Fig. 79d - 6, Fig. 79e):

No breakage or permanent deformation must be present.

If present, contact technical assistance.

To carry out every six months.

- Check condition of the rubber guards on the bead breakers and tool head (7, Fig. 79f) and tool head (8, Fig. 79g):

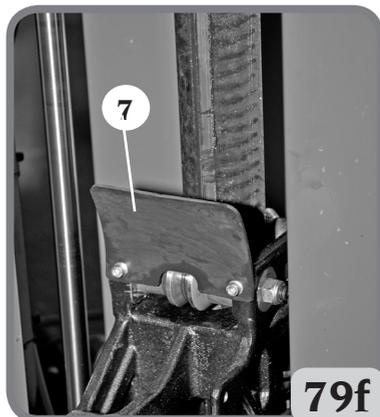
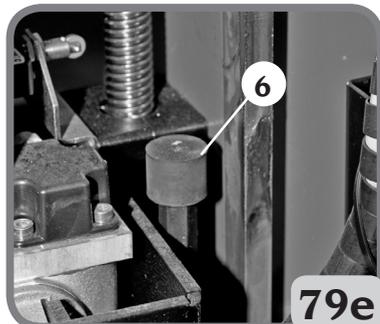
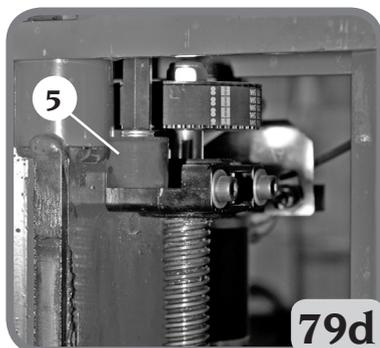
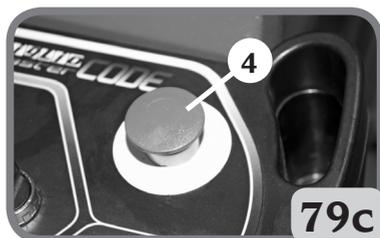
The guards must be present, with no breakage or permanent deformation evident.

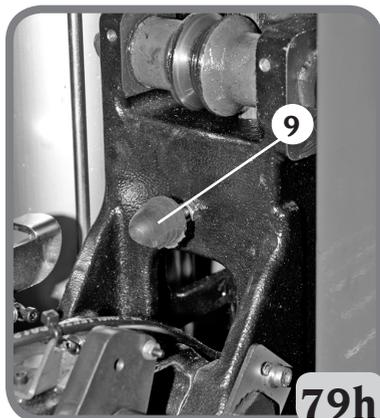
Otherwise, contact technical assistance.

To carry out every three months

- Check condition of the bead breaker tilting travel limit pad (9, Fig. 79h):

No breakage or permanent deformation must be



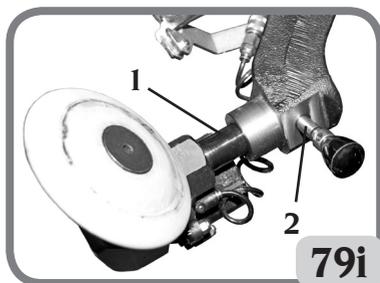


present. Otherwise contact technical assistance.
To carry out every six months.

- **Clean and lubricate the lower bead breaker group pin (1, Fig 79i) and the lower bead breaker group pin attachment (2, Fig 79i):**

Clean with environmentally-friendly solvents and lubricate with common grease.

To carry out every month.



- **Contact technical support to have belts and rubber end stops checked correctly:**

Periodic check by the service network.

To carry out every 7000 wheels

- **Contact technical support for general machine inspection:**

General periodic check by the service network.

To carry out every year



8. TROUBLESHOOTING

WARNING

If the electricity supply fails with the MOUNT/DEMOUNT tool positioned between the rim and the tyre, proceed as follows:

- Restart the machine without resetting it.

To horizontally move the wheel, keep the lifter joystick raised  and move

the joystick head  with single movements right or left. The actuator will move by small amounts.

- Use the bead breakers, operating them up and down, to make enough room for the MOUNT/DEMOUNT tool to be released from the tyre.

- If there is no power supply, the wheel can be manually released by inserting an 8 mm diameter steel pin in the hole and rotating anticlockwise (see Fig. 80)



ERRORS LIST

Fig. 80a shows an example of an error message.



CODE	POP-UP DESCRIPTION
E1	Reset machine
E8	Vertical translation motor overload cut-out switch
E10	P: Horizontal-axis encoder time-out S.: Restart machine
E11	P: Vertical-axis encoder time-out S.: Restart machine
E12	P: Incorrect horizontal axis motor rotation S.: Contact technical assistance
E13	P: Tool microswitch rotation S.: Restart machine

CODE	POP-UP DESCRIPTION
E19	Horizontal axis cut-out switch or under power
E20	Perform machine calibration
E21	Repeat first calibration step
E22	Repeat second calibration step
E23	Motor protection during wheel clamping
E24	Motor protection during wheel release
E26	Horizontal translation motor overload cut-out switch
E27	P.: Missed encoder reading horizontal axis S.: Contact technical assistance
E32	P.: Micro tool rotation concurrently active S.:Contact technical assistance
E33	P.: Micro end stoke vertical axis concurrently active S.:Contact technical assistance
E34	P.: Micro end stoke tool concurrently active S.: Restart machine
E35	Lifter not in working position
E36	P.: No wheel memorised S.: Perform scan
E38	P.: Reading failed S.: Repeat command
E39	P.: Missed encoder reading vertical axis S.: Contact technical assistance
E41	P.: Upper vertical micro-limit switch activated S.: Contact technical assistance
E42	P.: Lower vertical micro-limit switch activated S.: Contact technical assistance
E43	P.: Lift limit switch error S.: Contact technical assistance
E160	P.: Horizontal axis microswitch pressed S.: Release manually or de-icing
E161	P.: Upper bead breaker position not reached S.: Restart machine
E162	P.: Lower bead breaker position not reached S.: Restart machine
E163	P.: Tool rotation not complete S.: Contact technical assistance
E164	P.: Diameter not reached. S.: Contact technical assistance
E165	P.: Tool carriage height not reach S.: Contact technical assistance
E166	P.: Tool horizontal position not reach. S.: Contact technical assistance
E64	P.: P3K firmware missing or incorrect S.: Contact technical assistance



9. ENVIRONMENTAL INFORMATION

The disposal procedure described below only applies to machines with the symbol of the waste bin with a bar across it on their data plates.

This product may contain substances that can be hazardous to the environment and to human health if it is not disposed of properly.



We are therefore providing you with the information below in order to prevent these substances from being released into the environment, and to improve the use of natural resources.

Electrical and electronic equipment should never be disposed of in the usual municipal waste but must be separately collected for its proper treatment. The crossed-out bin symbol, placed on the product and on this page, reminds the user that the product must be disposed of properly at the end of its life.

Thus, the hazardous consequences that non-specific treatments of the substances contained in these products, or improper use of parts of them, may have on the environment or on human health are

prevented. Furthermore, this helps to recover, recycle and reuse many of the materials contained in these products.

Electrical and electronic manufacturers and distributors set up proper collection and treatment systems for these products for this purpose.

At the end of the product's working life, contact your supplier for information about disposal procedures.

When you purchase this product, your supplier will also inform you that you may return another worn-out appliance to him free of charge, provided it is of the same type and has provided the same functions as the product just purchased.

Any disposal of the product performed in a different way from that described above will be liable to the penalties provided for by the national regulations in force in the country where the product is disposed of.

Further measures for environmental protection are recommended: recycling of the internal and external packaging of the product and proper disposal of used batteries (only if contained in the product).

With your help, we can reduce the amount of natural resources used to produce electrical and electronic equipment, minimise the use of landfills to dispose of old products, and improve quality of life by preventing the discharge of potentially hazardous substances into the environment.

10. INFORMATION AND WARNINGS ABOUT HYDRAULIC FLUID

Disposing of spent fluid

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

Fluid leaks or spills

Contain the spilt product from spreading using soil, sand or any other absorbent material. Degrease the contaminated area with solvents, taking care to disperse solvent fumes. The residual cleaning material must be disposed of as prescribed by law.

Precautions for the use of hydraulic fluid

- Avoid contact with the skin.
- Do not allow oil mists to form or spread in the atmosphere.
- Observe 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 that can irritate your 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 adopt the following preventive and protective equipment:
 - 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 advice, providing the characteristics of the type of oil swallowed.
- Inhalation: in case of exposure to high concentrations of fumes or mists, take the affected person to the open air and seek medical advice immediately.
- Eyes: rinse with plenty of running water and seek medical advice as soon as possible.
- Skin: wash with soap and water.

UK

11. INFORMATION AND WARNINGS ABOUT TYRE LUBRICATING FLUID

Disposing of spent fluid

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

Lubricating fluid leaks or spills

Contain the spills product from spreading using non-combustible absorbent material such as earth, sand, vermiculite or diatomaceous earth.

Clean the contaminated area preferably with a detergent, do not use solvents.

Precautions for the use of lubricating fluid for tyres

- Avoid splashes or contact with the skin.
- Avoid splashes or contact with the eyes.
- Avoid swallowing.
- Observe the following elementary health precautions:
 - protect skin and eyes against lubricating fluid splashes (appropriate gloves, goggles);
 - in case of contact with skin, wash immediately with plenty of water;
 - in case of contact with eyes, rinse immediately with plenty of water and seek medical advice;
 - if swallowed, seek medical advice and show the label;
 - do not dry hands with dirty rags;
 - change clothing if impregnated with lubricating fluid;
 - do not smoke or eat with greasy hands.

12. RECOMMENDED FIRE EXTINGUISHING EQUIPMENT

When choosing the most suitable fire extinguisher consult the following table:

	Dry materials	Inflammable liquids	Electrical equipment
Water	YES	NO	NO
Foam	YES	YES	NO
Dry chemical	YES*	YES	YES
CO ₂	YES*	YES	YES

YES* **Use only if more appropriate extinguishers are not at hand or when the fire is small.**



CAUTION

This table contains general instructions to be used as guidelines for users. All applications of each type of extinguisher must be obtained from the relevant manufacturer.

13. GLOSSARY

Tyre

A tyre consists of: **I-the actual tyre**, **II- the rim** (wheel), **III-the air chamber** (in tube type tyres), **IV-pressurised air**.

The tyre must:

- withstand a load,
- ensure driving power,
- steer the vehicle,
- aid handling and braking,
- aid vehicle suspension.

I - Tyre The actual tyre is the main part of the overall tyre in contact with the road and is therefore designed to withstand internal air pressure and all other stress arising from use.

A tyre section shows the various parts it consists of:

1 - *The tread*. This is the part in contact with the ground when the tyre rolls. It comprises a rubber compound and a "pattern" that is suitable for ensuring good resistance to abrasion and good grip in dry and wet conditions, as well as quiet operating conditions.

2 - *Edge or bracing*. This is a metal fabric or textile insert, in the area of the outer bead part. It protects the casing plies from rubbing against the rim.

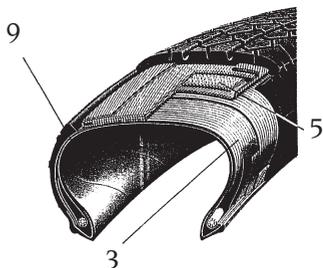
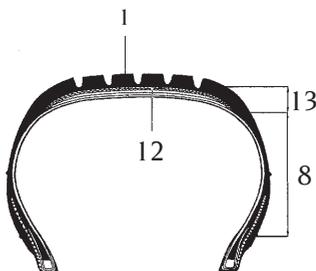
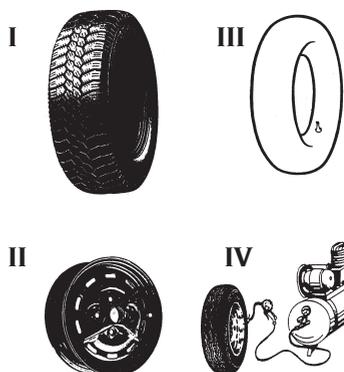
3 - *Casing*. This is the resistant structure and comprises one or more layers of rubber plies. The way the plies comprising the casing are arranged give the structure its name. The following structures are possible:

Conventional: the plies are inclined and arranged so that the strands comprising a ply overlap with those of the adjacent ply. The tread, which is the part of the tyre in contact with the ground, is part of the sidewalls and so during rolling, sidewall flexure is transmitted to the tread.

Radial: the casing consists of one or more plies with the cords in a radial direction.

A radial casing in itself is quite unstable. To make it stable and prevent bad tread movement in the area of contact with the ground, the casing and the undertread are reinforced with an annular structure, usually called belt. The tread and sidewall work with different, independent rigidities, so during rolling, sidewall flexure is not transmitted to the tread.

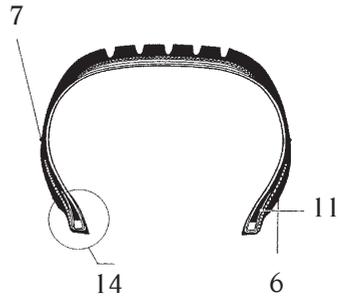
4 - *Side ring*. This is a metal ring comprising several steel strands. The casing plies are secured to the side ring.



5 - *Belt*. This is a non-flexible circumferential structure comprising cross-ply at very low angles, positioned below the tread, to stabilise the casing in the footprint area.

6 - *Centring band*. This is a small marking which indicates the circumference of the top part of the bead and is used as a reference to check exact tyre centring on the rim after mounting.

7 - *Protective band*. This is a circumferential marking in the area of the sidewall which is more exposed to accidental rubbing.

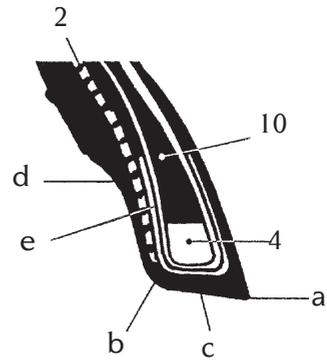


8 - *Sidewall*. This is the area between the shoulder and the centring band. It consists of a more or less thin layer of rubber, which protects the casing ply from lateral impact.

9 - *Liner*. This is a vulcanised, compound sheet, impermeable to air, inside tubeless tyres.

10 - *Filling*. This is a generally triangular rubber profile, above the side ring; it provides rigidity for the bead and gradually offsets the abrupt uneven thickness caused by the side ring.

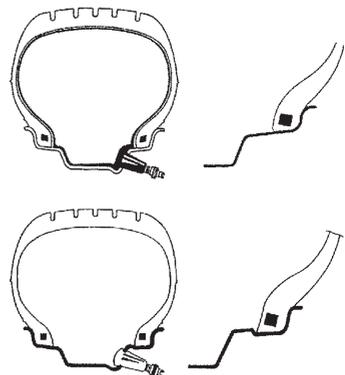
11 - *Flap*. This is the part of the casing ply around the side ring and placed against the casing, to secure the ply and prevent it from slipping.



12 - *Foot*. This is the innermost layer of the tread in contact with the belt, or if the latter is not present (conventional tyre) with the last casing ply.

13 - *Shoulder*. This is the outer part of the tread, between the corner and start of the sidewall.

14 - *Bead*. This is the part joining the tyre to the rim. The bead point (a) is the inner corner. The spur (b) is the outer part of the bead. The base (c) is the area resting against the rim. The groove (d) is the concave part against which the rim shoulder rests.



Tube type tyres. As a tyre has to contain pressurised air for a fairly long time, an air chamber is used. The valve for adding air and maintaining, controlling and restoring air pressure is part of the chamber in this case.

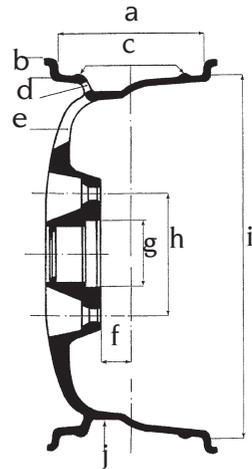
Tubeless tyres. Tubeless tyres consist of a tyre with inner sidewall lined with a thin layer of special impermeable rubber, called *liner*. This liner helps to maintain air pressure in the casing. This kind of tyre must be mounted

on a specific rim, to which the valve is directly fixed.

II - Rim (Wheel). The wheel is the rigid metal part which connects the vehicle hub to the tyre, on a fixed but non-permanent basis.

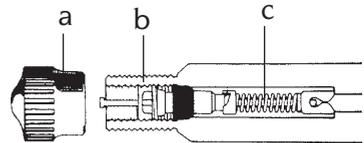
Rim profile. The rim profile is the form of the section in contact with the tyre. It comprises different geometric forms, which ensure: easy tyre mounting (bead insertion in the rim well); safe driving, in terms of the bead anchored in its seat.

The rim section shows its various parts: a) rim width – b) shoulder height – c) tubeless anchoring (HUMP) – d) valve hole – e) ventilation opening – f) off set – g) central hole diameter – h) attachment hole centre to centre i) keying diameter – j) rim well.



III - Air chamber (tube type tyres). The air chamber is a closed ring-like rubber structure with valve, which contains pressurised air.

Valve. The valve is a mechanical device to inflate/deflate the tyre and maintain air pressure inside the air chamber (or tyre in the case of tubeless tyres). It consists of three parts: the valve closing cap (a) (to protect the internal mechanism from dust and guarantee air tightness), an internal mechanism (b) and the base (c) (the outer lining).



Tubeless Inflator. Inflation system that makes the inflation of tubeless tyres easier.

Beading. Operation which takes place during inflation and ensures perfect centring between the bead and the rim edge.

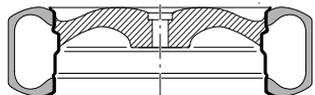
Bead pressing gripper. A tool intended for use when mounting the upper bead. It is fitted so that it grips the shoulder of the rim and holds the tyre upper bead inside the rim well. It is generally used for mounting low profile tyres.

Air delivery regulator. Union allowing regulation of the air flow.

Bead breaking. Operation that allows the tyre bead to be detached from the rim edge.

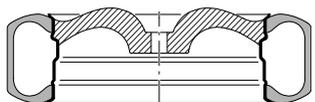


TABLE FOR USING CENTRING AND CLAMPING ACCESSORIES ACCORDING TO RIM TYPE



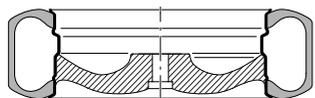
A

Standard rim



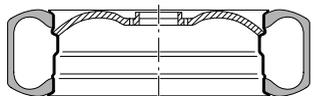
B

Dropped centre hole rim



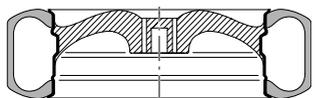
C

Reversed rim



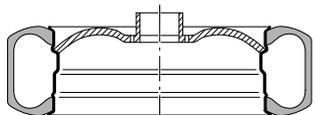
D

Pick-up rim



E

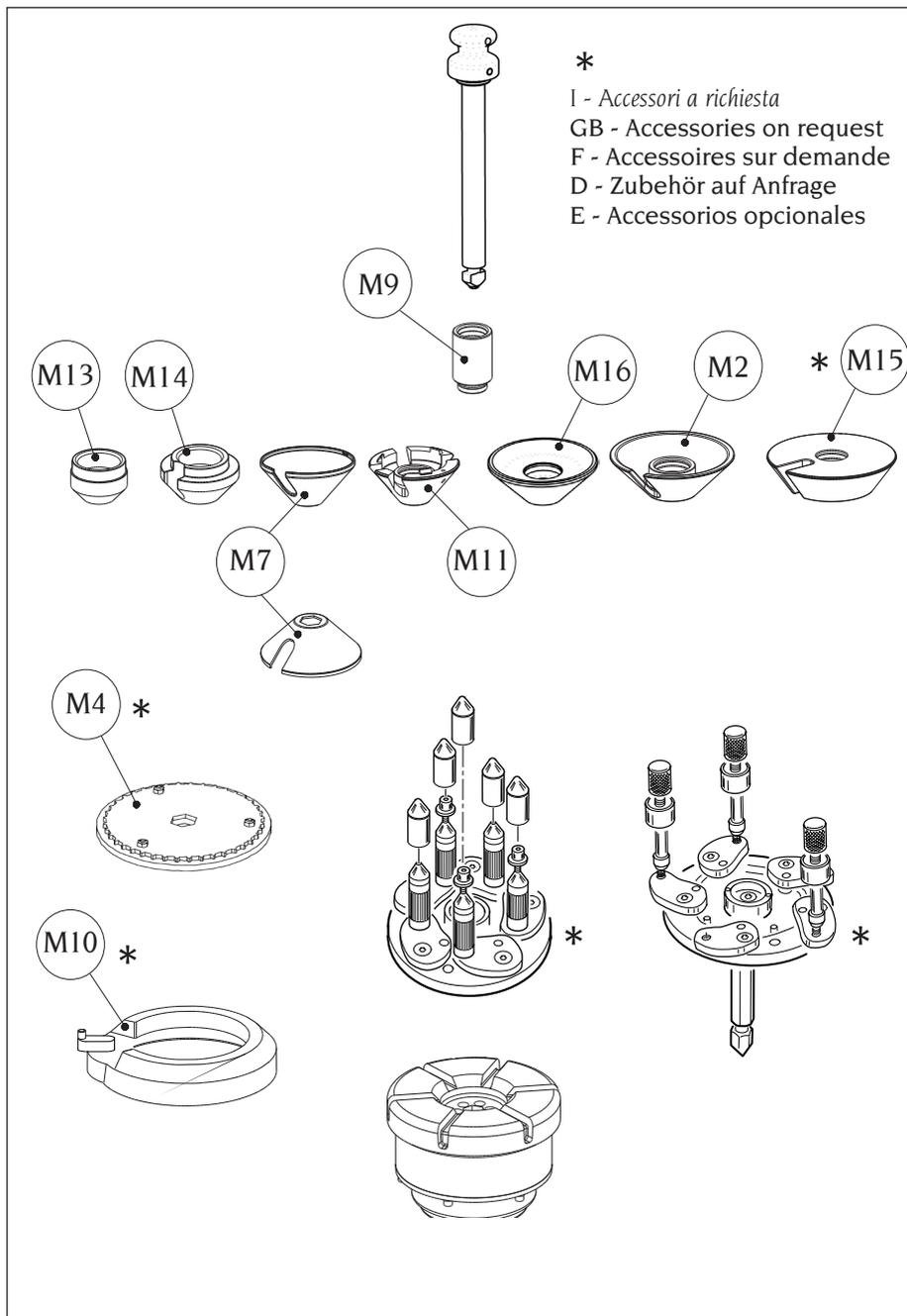
Closed centre rim



F

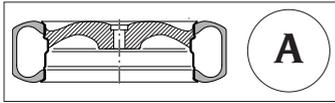
Open centre rim

CLAMPING ACCESSORIES



UK

STANDARD RIM



M9



M2



M11



M16



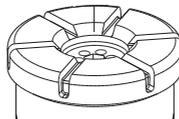
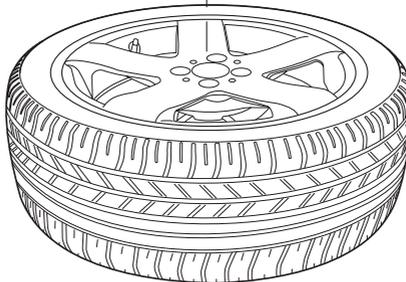
M14



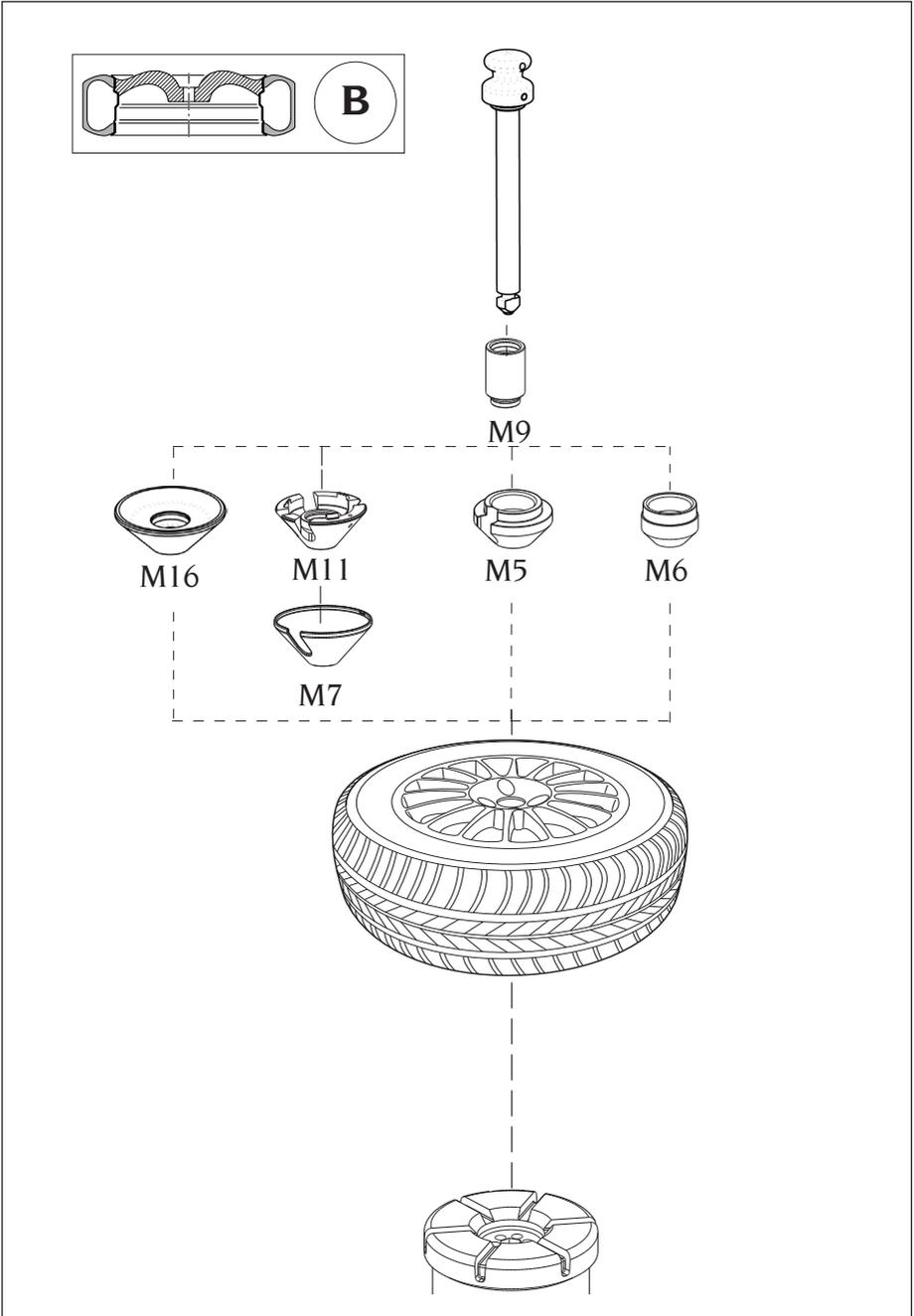
M13



M7

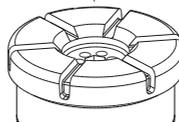
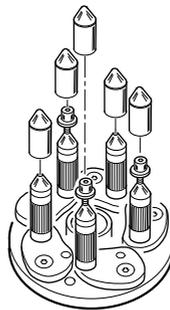
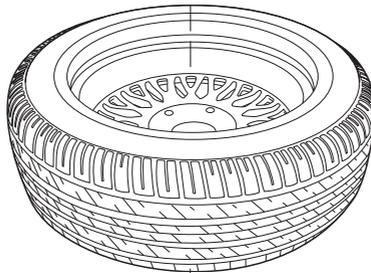
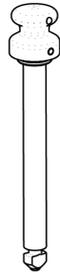
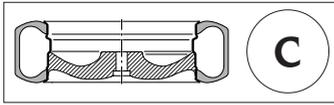


DROPPED CENTRE HOLE RIM

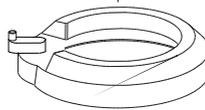
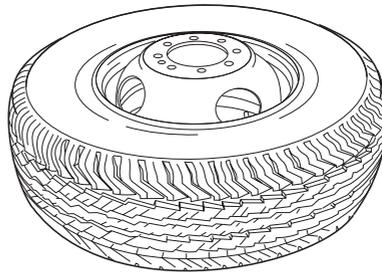
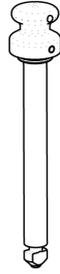
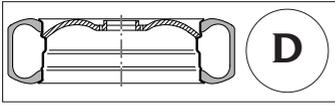


UK

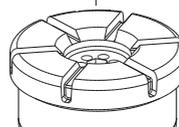
REVERSED RIM



PICK-UP RIM

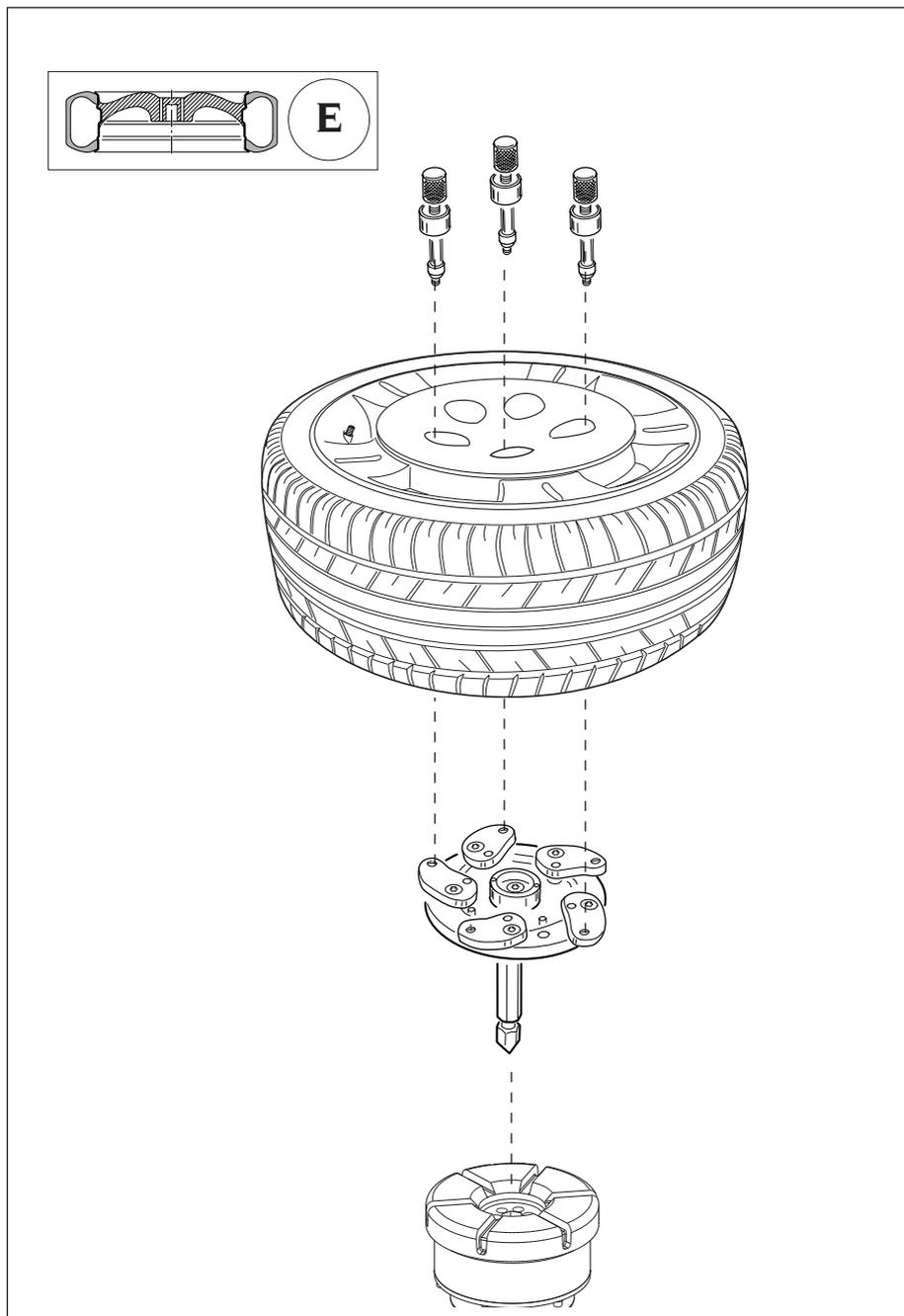


M10

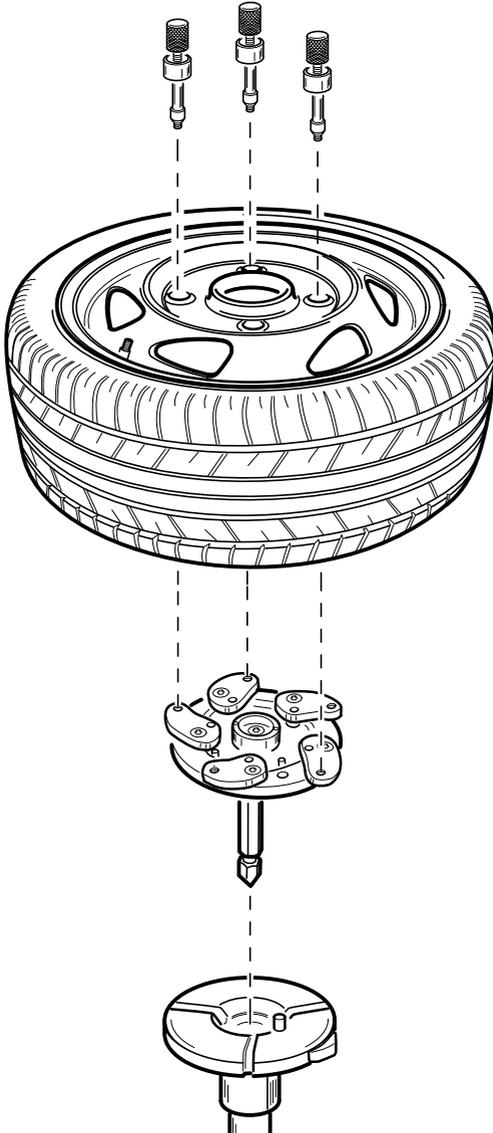
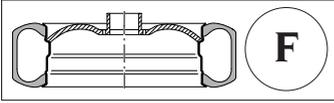


UK

CLOSED CENTRE RIM



OPEN CENTRE RIM WITH DELICATE HOLE EDGES



UK

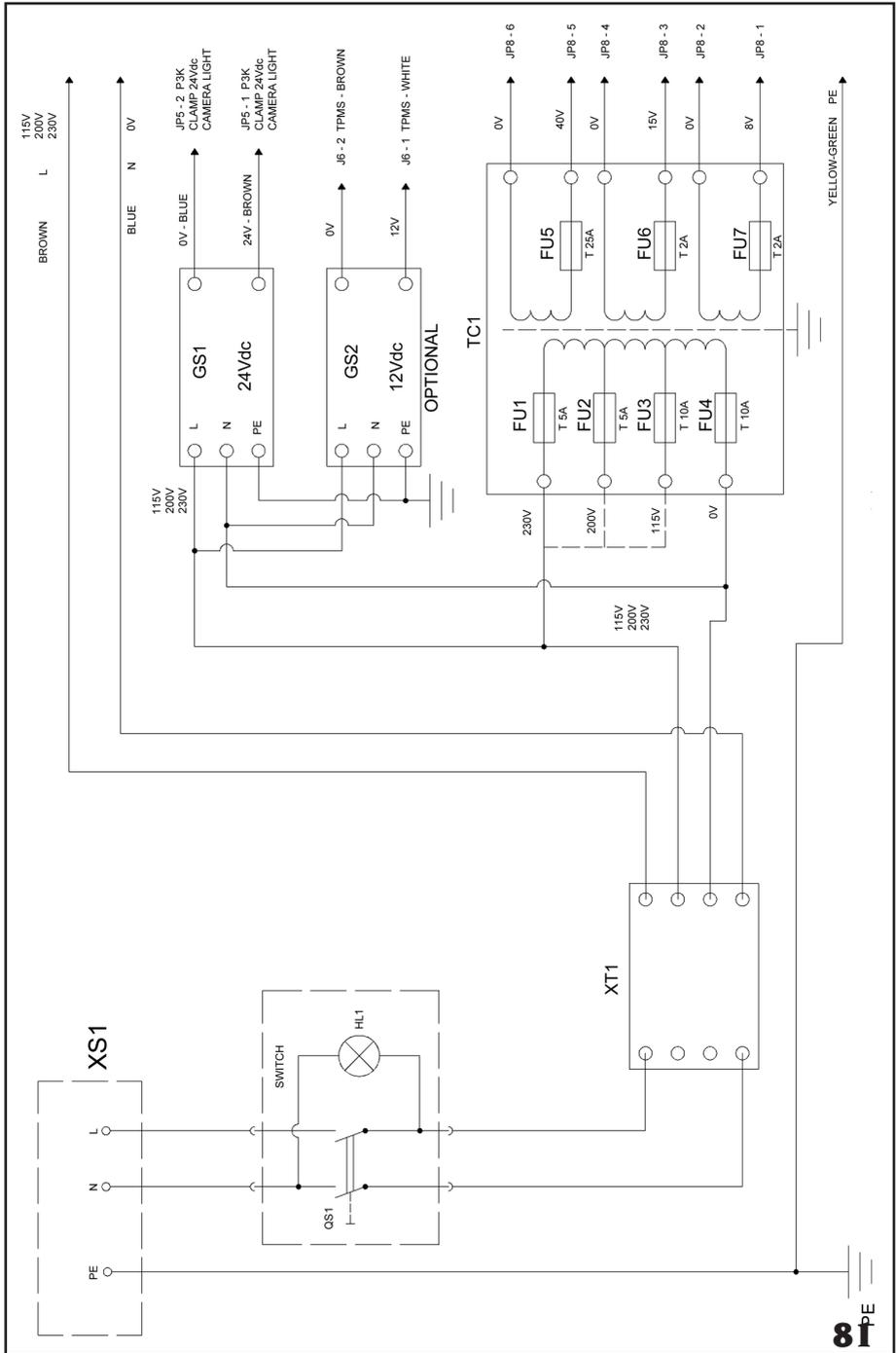
WIRING DIAGRAM

Figures 81 - 82 - 83 - 84 - 85- 86

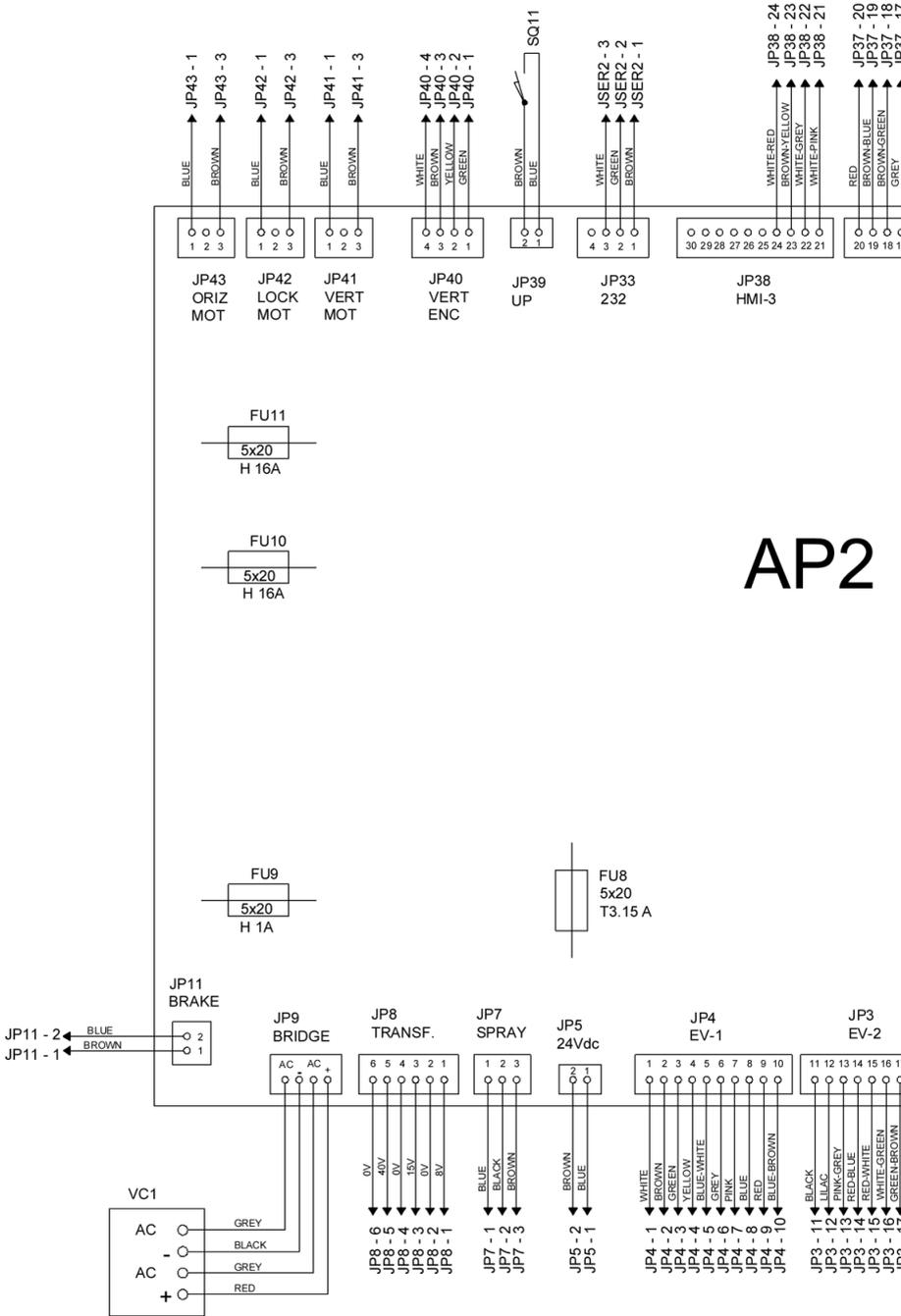
AP2	Feeder and controls board
AP3	Electronic inflator board (INFLATRON)
AP4	CARRIER BOARD + IMX27
AP5	TPMS02 board
AP6	Digital camera board
AP7	Temperature measuring sensor board
AP8	Tread measuring sensor board
BR1	Vertical movement encoder
BR2	Laser triangulation sensor
CF	Compact flash
FU1	T 5A fuse (on TC1 transformer)
FU2	T 5A fuse (on TC1 transformer)
FU3	T 10A fuse (on TC1 transformer)
FU4	T 10A fuse (on TC1 transformer)
FU5	T 25A fuse (on TC1 transformer)
FU6	T 2A fuse (on TC1 transformer)
FU7	T 2A fuse (on TC1 transformer)
FU8	5x20 H T 3.15A fuse (on AP2)
FU9	5x20 H T 1A fuse (on AP2)
FU10	5x20 H T 16A fuse (on AP2)
FU11	5x20 H T 16A fuse (on AP2)
GB1	Buffer battery
GS1	24Vdc switching feeder
GS2	12Vdc switching feeder
HL1	Switch indicator
M1	Motor
M2	Vertical movement DC motor
M3	Wheel clamping DC motor
M4	Linear actuator + encoder
M5	Lubricator motor pump
PS1	Pressure switch
QS1	Two-pole switch
R1	Reinforced resistors
RP2	Bead breaker potentiometer
SB2	Demounting selector
SB3	Search button
SB4	Tool head rotation button
SB5	Stop button
SB6	Upper penetration button
SB7	Lower penetration button
SB8	Upper lubricator button
S96	Lower lubricator button
SQ5	Micro-switch speed I (CLOCKWISE)
SQ6	Micro-switch speed II (CLOCKWISE)



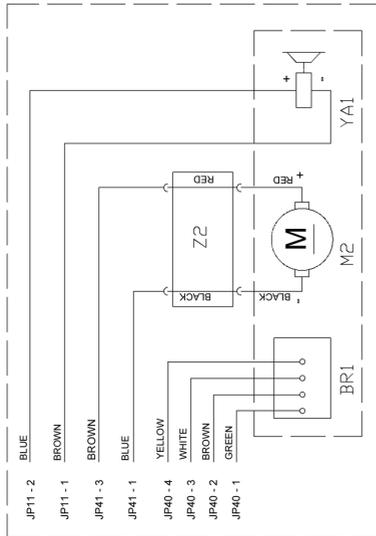
SQ7 Micro-switch speed I (ANTICLOCKWISE)
SQ8 Micro-switch, wheel release
SQ9 Micro-switch, wheel clamping
SQ10 Micro-switch, horizontal movement resetting
SQ11 Micro-switch, vertical movement upper end of stroke
SQ12 Micro-switch, vertical movement lower end of stroke
SQ13 Micro-switch, gear unit inlet rev counter
SQ14 Micro-switch, tool head in end of stroke
SQ15 Micro-switch, tool head out end of stroke
SQ16 Micro-switch tool UP rotation (dismounting)
SQ17 Micro-switch tool DOWN rotation (mounting)
SQ18 Micro-switches, lifter
SQ19 Tool head joystick
SQ20 Lifter joystick
SQ21 Upper bead breaker joystick
SQ22 Lower bead breaker joystick
TC1 Power supply transformer
VC1 Diode bridge
XS1 Power supply plug
XT1 Terminal board
YA Vertical movement DC motor brake
YV6 Pneumatic solenoid valve unit
Z2 Vertical movement motor noise disturbance filter



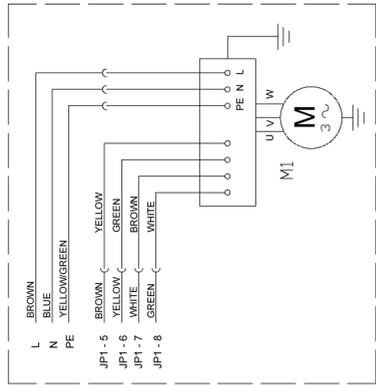
AP2



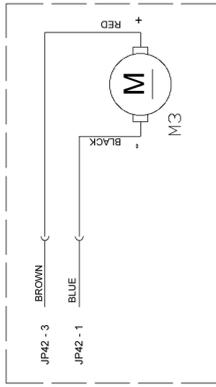
AXIS Y - VERTICAL MOVEMENT



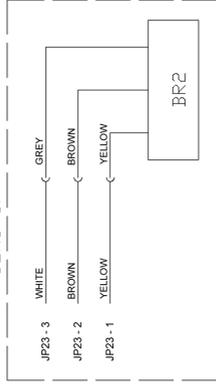
MOTOINVERTER



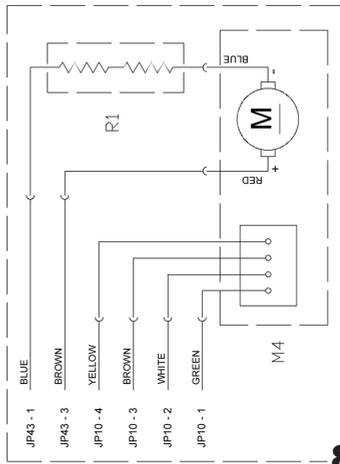
LOCK MOTOR



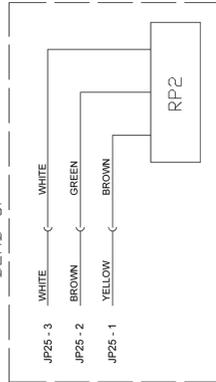
SENS UP



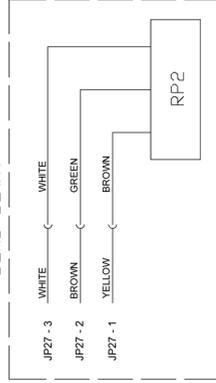
AXIS X - HORIZONTAL MOVEMENT

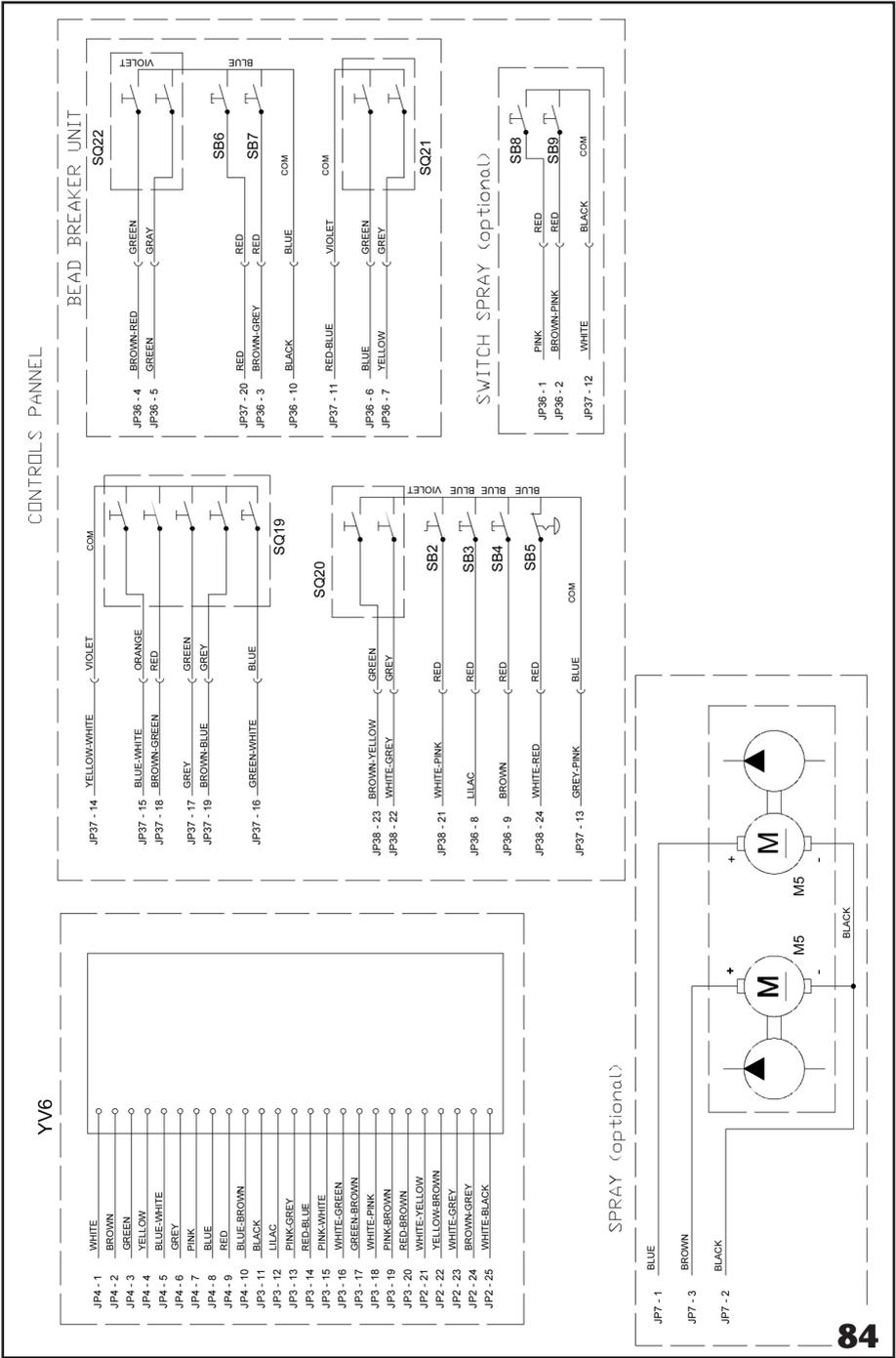


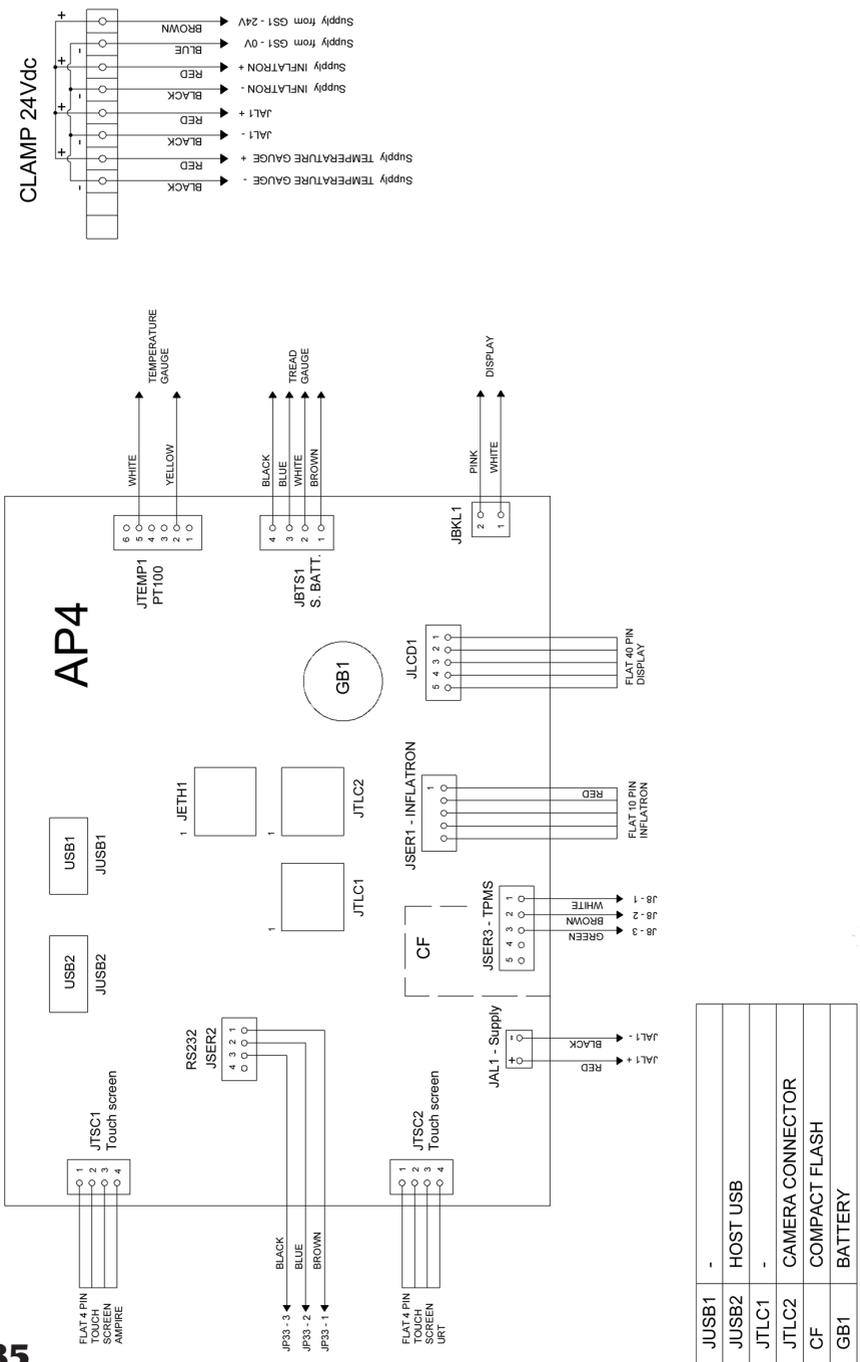
BEAD UP



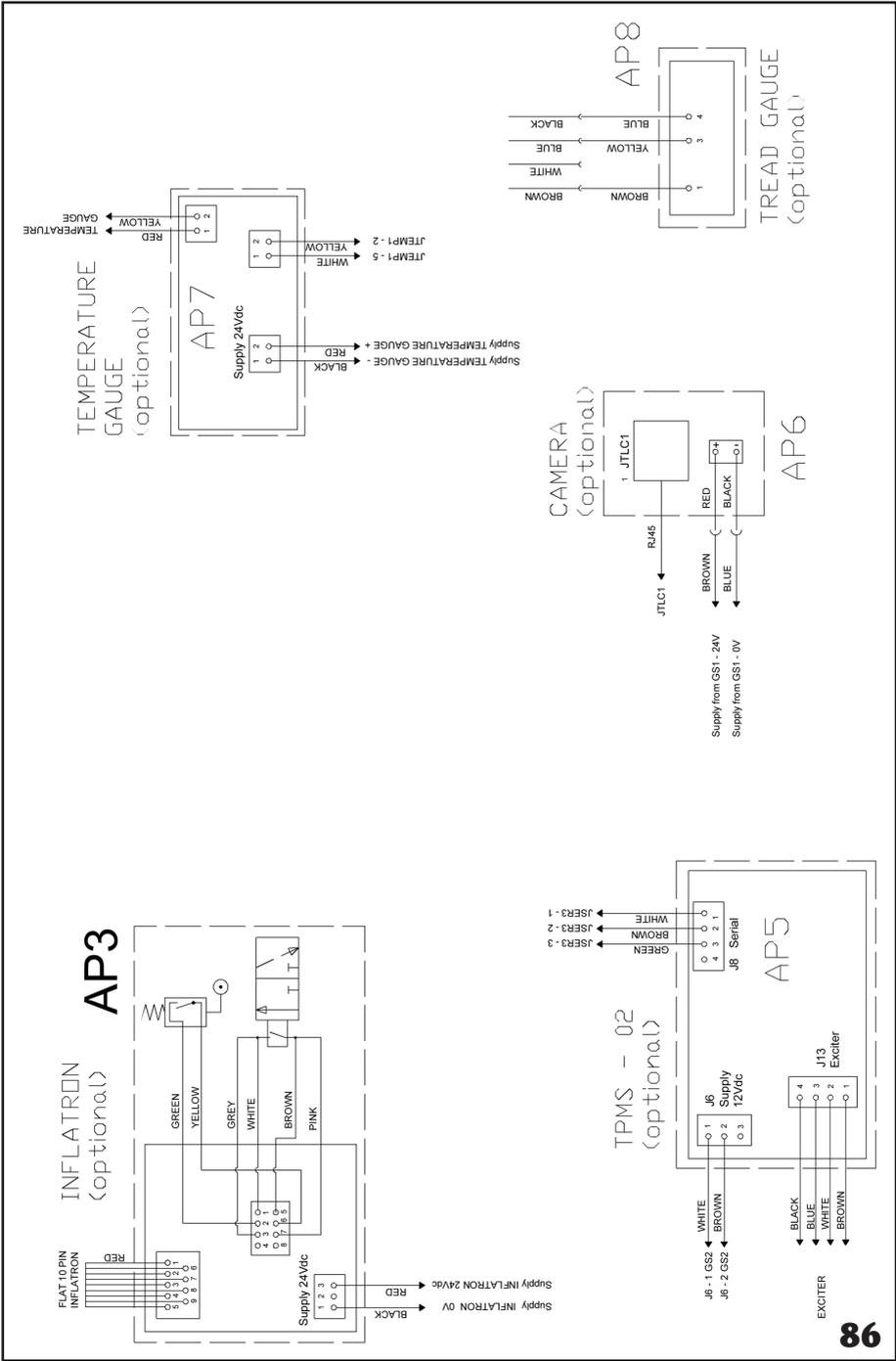
BEAD DOWN







JUSB1	-
JUSB2	HOST USB
JTLC1	-
JTLC2	CAMERA CONNECTOR
CF	COMPACT FLASH
GB1	BATTERY



PNEUMATIC DIAGRAM

- 1 Female quick connector
- 2 Filter regulator unit
- 3 Pressure gauge

A - PEDAL UNIT

- 4 Pressure switch
- 5 Inflation limit device
- 6 3/2 NC Valve Pedal
- 7 Inflation pressure gauge
- 8 Manual deflation valve

INFLATRON (OPTIONAL)

- 9 Selector valve
- 10 3/2 NC solenoid valve
- 11 2/2 NC solenoid valve
- 12 Pressure switch

13 SOLENOID VALVE UNIT

- 13.1 VC6 5/3 solenoid valve for lifter rotation cylinder command
- 13.2 VC6 5/3 solenoid valve for lifter vertical movement cylinder command
- 13.3 VC6 5/3 solenoid valve for head horizontal movement cylinder command
- 13.4 VD6 3/2 NC + 3/2 NO solenoid valve for bead and bead search and demounting command
- 13.5 VF6 3/2 NO + 3/2 NO solenoid valve for bead breaker penetration command
- 13.6 VB6 5/2 solenoid valve for tool head rotation cylinder command
- 13.7 VB6 5/2 solenoid valve for triangulation sensor movement cylinder command
- 13.8 VC8 5/3 solenoid valve for upper bead breaker cylinder command
- 13.9 VC8 5/3 solenoid valve for lower bead breaker cylinder command

B – LIFTER

- 14 Cylinder rotation
- 15 Cylinder vertical movement

C/D – TOOL HEAD UNIT

- 16 Cylinder head horizontal movement
- 17 One-way flow regulating valve
- 18 Quick discharge valve
- 19 Cylinder movement bead search and demounting

E – BEAD BREAKER PENETRATION

- 20 Quick discharge valve
- 21 Cylinder upper bead breaker penetration
- 22 Quick discharge valve
- 23 Cylinder low bead breaker penetration

F – TOOL HEAD ROTATION

24 Cylinder tool head rotation

G – TRIANGULATION SENSOR

25 Cylinder triangulation sensor movement

H – UPPER BEAD BREAKER

26 Cylinder upper bead breaker movement

I – LOWER BEAD BREAKER

27 Cylinder lower bead breaker movement

L – UPPER BEAD BREAKER ARM CONTROL

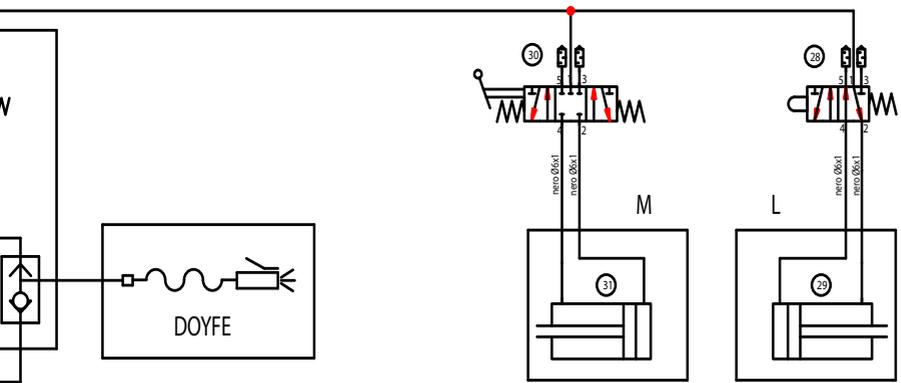
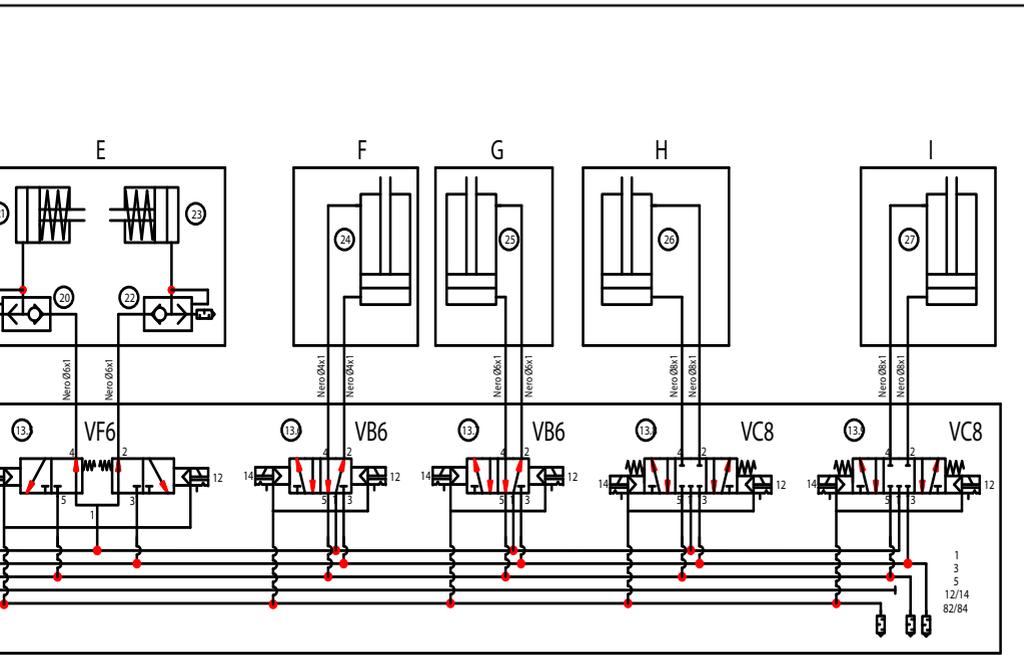
28 5/2 mechanically controlled valve

29 Cylinder upper bead breaker arm movement

M – BEAD PRESSING TOOL

30 5/3 CC mechanically controlled valve

31 Bead pressing tool cylinder



4-114005A

EC Declaration of conformity

We, CORGHI SPA, Strada Statale 468 no.9, Correggio (RE), ITALY, as producer, declare that the product

tyre changer

ARTIGLIO MASTER CODE

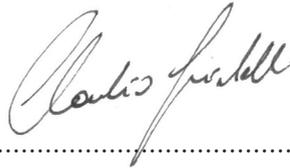
to which this statement refers, manufactured by us and for which we hold the relative technical dossier, is compliant with the following standards:

EN ISO 12100
EN 60204-1

according to directives:

- 2006/42/CE
- 2006/95/CE
- 2004/108/CE
- 86/217/CEE
- 2011/65/UE
- 2009/105/CE

Correggio, 05/2015



.....
CORGHI S.p.A.
Direzione Sviluppo Prodotto
Ing. Claudio Spiritelli

IMPORTANT: This declaration is no longer valid in the event of modifications to the product that alter its original conformation as sold, modifications to its components made without prior authorisation from the manufacturer, or failure to observe the indications of the user's manual.

The form of this statement conforms to EN ISO/IEC 17050-1 and EN ISO/IEC 17050-2 specifications.



CORGHI S.p.A. - Strada Statale 468 No. 9
42015 CORREGGIO - RE - ITALY
Phone. +39 0522 639.111 - Fax +39 0522 639.150
www.corgi.com - info@corgi.com

COMIM - Code 4-118329B - 05/2015