



7300-M037-1_R

**G5440.22
G5440.22M
G5440I.22M
G5440I.22U
G5440I.22S**

INSTRUCTION MANUAL

GB

TRANSLATION FROM THE
ORIGINAL INSTRUCTIONS

For spare parts drawings refer to the section "LIST OF COMPONENTS" enclosed to this manual.




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


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

7300-M037-1_R - Rev. n. 1 (09/2019)

PRINTING CHARACTERS AND SYMBOLS

Throughout this manual, the following symbols and printing characters are used to facilitate reading:

	Indicates the operations which need proper care
	Indicates prohibition
	Indicates a possibility of danger for the operators
BOLD TYPE	Important information

	WARNING: before operating the machine, read carefully chapter 5 “Operation” where all proper operations for a better functioning of the machine are shown.
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CHAPTER 1 – INTRODUCTION

1.1 INTRODUCTION

Thank you for purchasing a product from the line of Automatic tire changers. The machine has been manufactured in accordance with the very best quality principles. Follow the simple instructions provided in this manual to ensure the correct operation and long life of the machine. Read the entire manual thoroughly and make sure you understand it.

1.2 TYRE CHANGER IDENTIFICATION DATA

A complete description of the “Tire Changer Model” and the “Serial number” will make it easier for our technical assistance to provide service and will facilitate delivery of any required spare parts. For clarity and convenience, we have inserted the data of your tire changer in the box below. If there is any discrepancy between the data provided in this manual and that shown on the plate fixed to the tire changer, the latter should be taken as correct.


LOGO		
Type:		
Volt	Amp	Kw
Ph	Hz	
Year of manufacturing:		
Air supply: 8-10 bar (115 – 145 PSI)		

1.3 MANUAL KEEPING


For a proper use of this manual, the following is recommended:

- Keep the manual near the machine, in an easily accessible place.
- Keep the manual in an area protected from the damp.
- Use this manual properly without damaging it.
- Any use of the machine made by operators who are not familiar with the instructions and procedures contained herein shall be forbidden.

This manual is an integral part of the machine: it shall be given to the new owner if and when the machine is resold.

	The illustrations have been made out of prototypes pictures. It is therefore possible that some parts or components of standard production differ from those represented in the pictures.
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1.4 GENERAL SAFETY PRECAUTIONS

	The tire changer may only be used by specially trained and authorized expert personnel.
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- Any tampering or modification to the equipment carried out without the manufacturer's prior authorization will free him from all responsibility for damage caused directly or indirectly by the above actions.
- Removing or tampering with safety devices immediately invalidates the guarantee.
- The tire changer comes complete with instruction and warning transfers which are designed to be long-lasting. If they should for any reason be damaged or destroyed, please ask immediately for replacements from the manufacturer.

TO THE READER

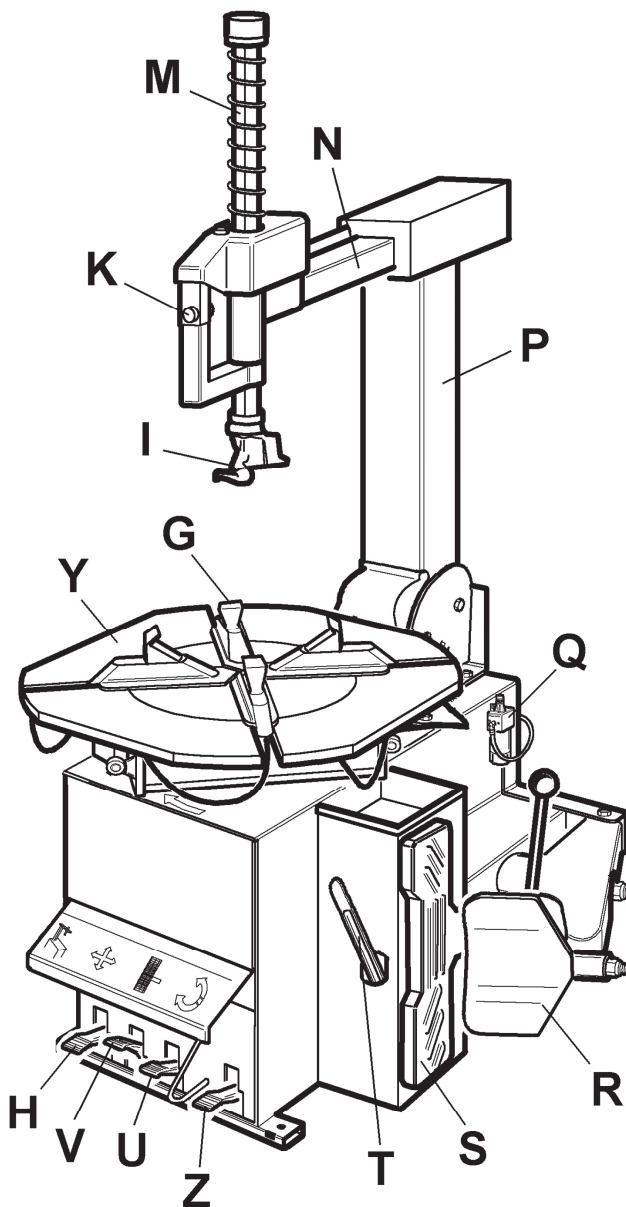
Every effort has been made to ensure that the information contained in this manual is correct, complete and up-to date. The manufacturer is not liable for any mistakes made when drawing up this manual and reserves the right to make any changes due the development of the product, at any time

CHAPTER 2 – GENERAL INFORMATION

2.1 INTENDED USE

- This automatic tire changer has been designed and manufactured exclusively for removing and mounting tires from/onto rims from 10" to 24" and a maximum diameter of 1000 mm.
- In particular **THE MANUFACTURER** cannot be held responsible for any damage caused through the use of this tire changer for purposes other than those specified in this manual, and therefore inappropriate, incorrect and unreasonable.

2.2 DESCRIPTION



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

Fig . 1

2.3 DANGER WARNING SIGNS

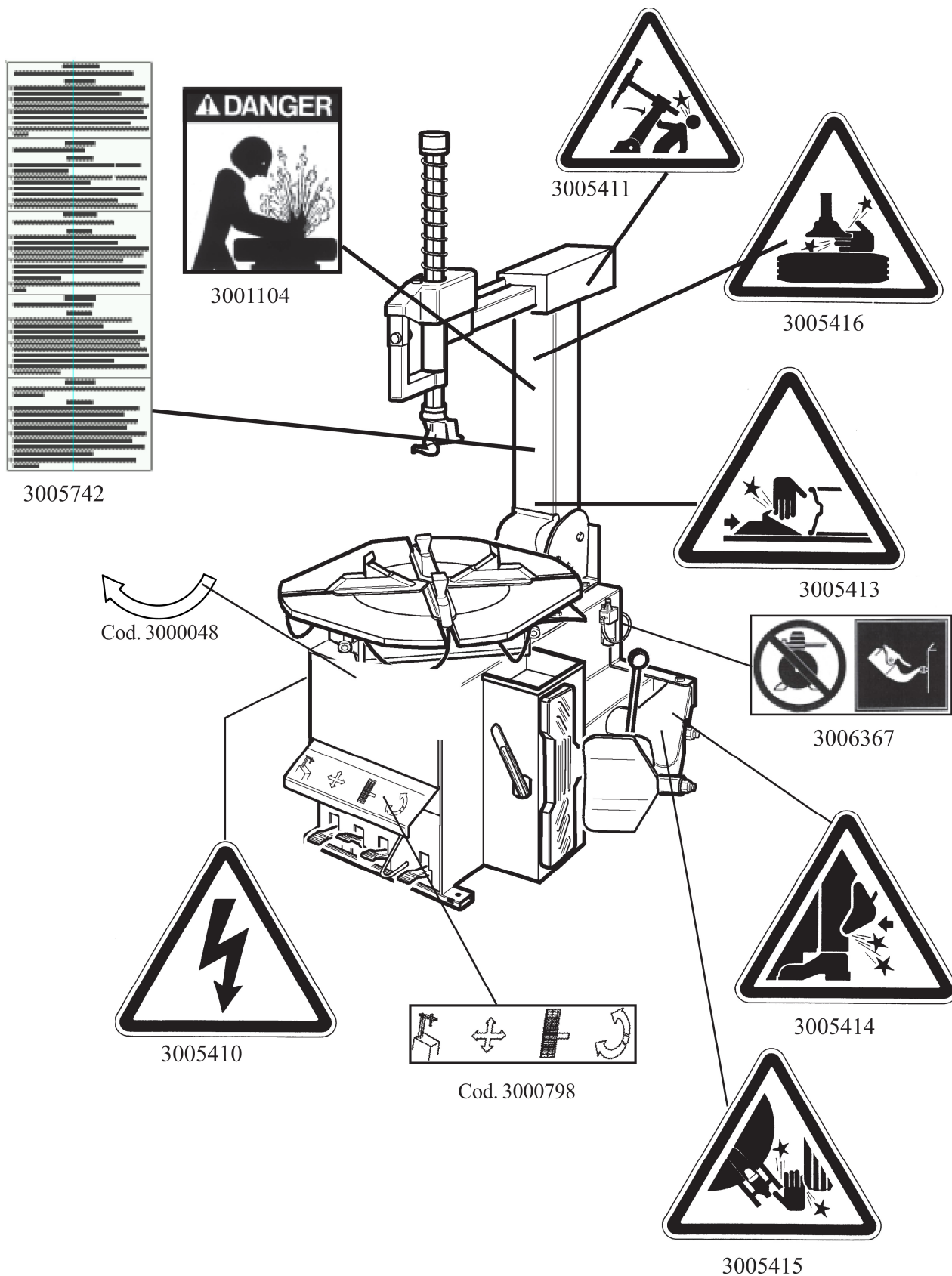


Fig. 2

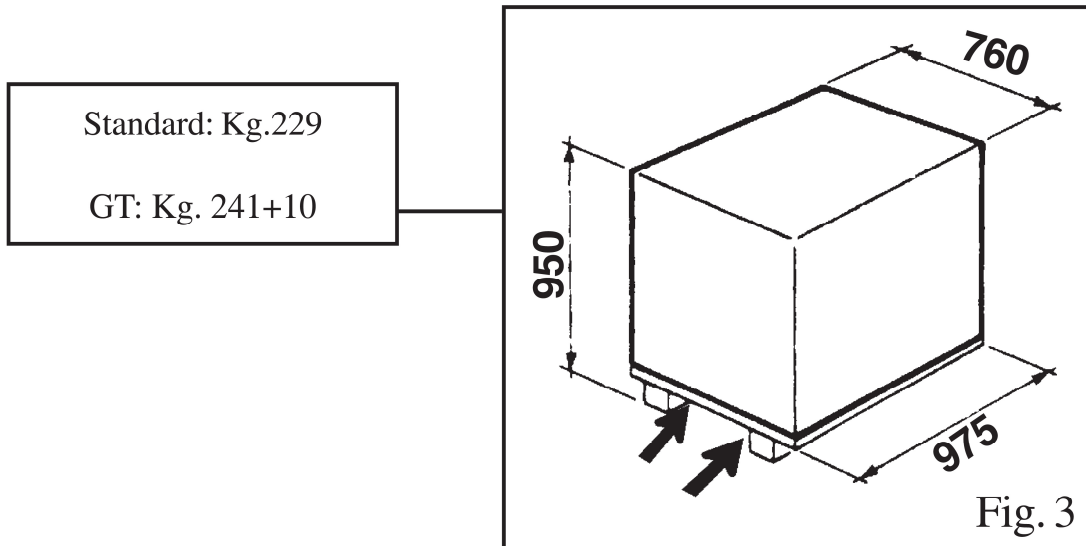
2.4 TECHNICAL SPECIFICATION

External locking rim dimension	10" – 20"
	11" – 21"
	12" – 22"
Internal locking rim dimension	12"- 22"
	13" – 23"
	14" – 24"
Max. tire diameter	1000mm (39")
Max tire width	330mm (13")
Force on bead breaker blade (10 bar)	3000 kg
Working pressure	10 bar (145 psi)
Inflating pressure device max.	3.5 bar (50 psi)
Power supply voltage	220V/380 230V/400V 3Ph 110/220/230V 1Ph
Motor power	0.55 (3 ph 1-speed) 0.8/1.1 kw (3ph 2-speed) 0.75 kw (1ph)
Rotating speed	7 – 14 rpm
Max spindle torch	1200 NM
Dimension	975 x 760 x 950
Net weight	229 kg STND 251 kg GT
Noise level in working condition	< 70 dB (A)

CHAPTER 3 – TRANSPORTATION, UNPACKING AND STORAGE

3.1 TRANSPORTATION

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



3.2 UNPACKING

- Remove the protective cardboard and the nylon bag.
- Check that the equipment is in perfect condition, making sure that no parts are damaged or missing. Use fig. 1 for reference.



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

3.3 STORAGE

In the event of storage for long periods of time, be sure to disconnect all sources of power and grease the clamp sliding guides on the turntable to prevent them from oxidizing.

CHAPTER 4 – INSTALLATION

4.1 SPACE REQUIRED

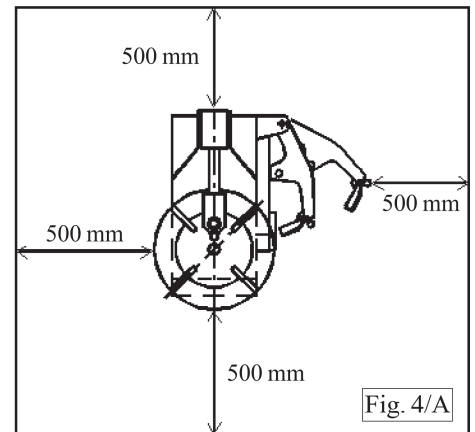
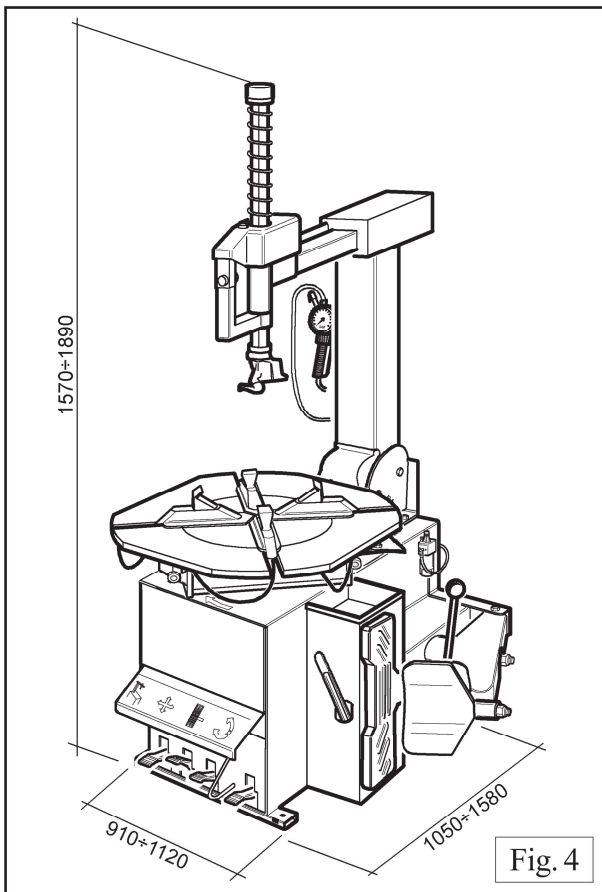


When choosing the place of installation be sure that it complies with current safety at work regulations.

- The tire changer must be connected to the main electric power supply and the compressed air system. It is therefore advisable to install the machine near these power sources.
- The place of installation must also provide at least the space shown in pictures 4 - 4/A so as to allow all parts of the machine to operate correctly and without any restriction. Make sure the area has the adequate lighting.
- If the machine is installed outside it must be protected by a lean-to.



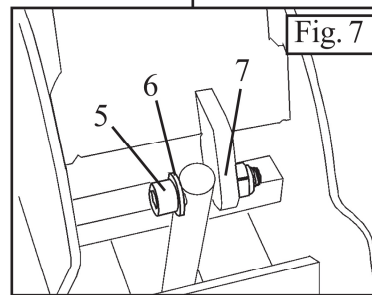
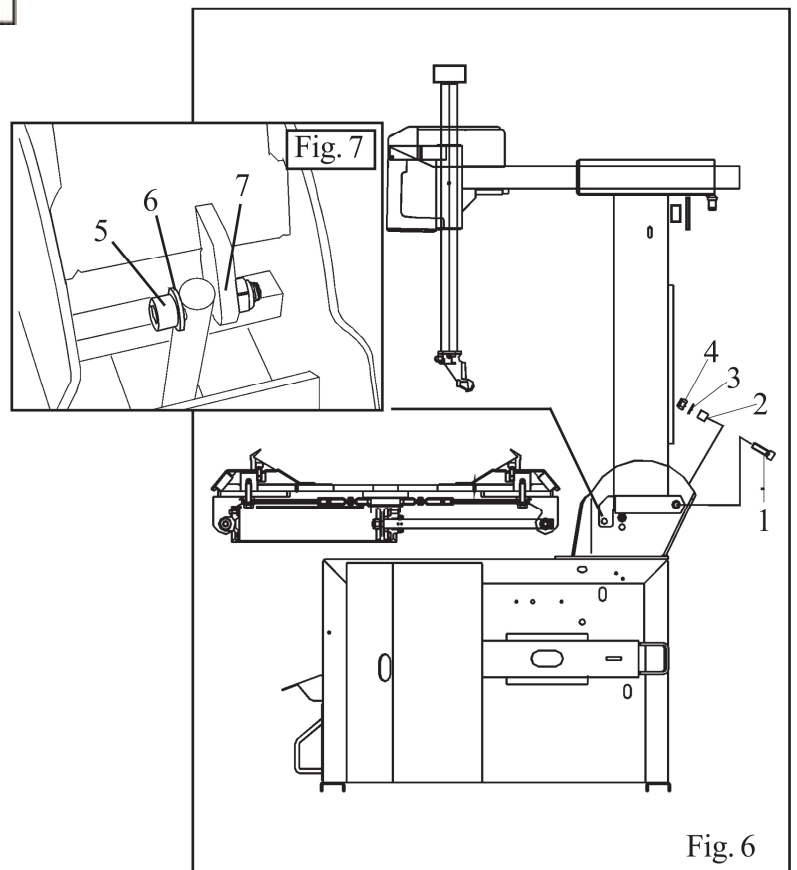
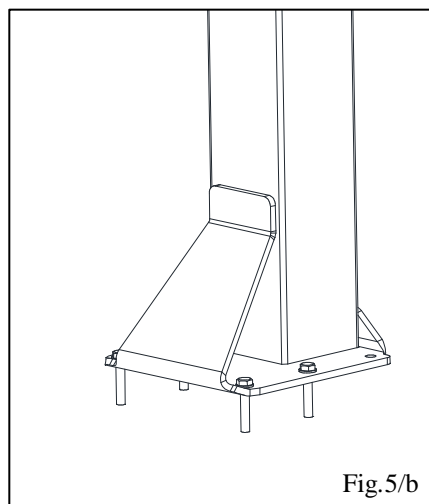
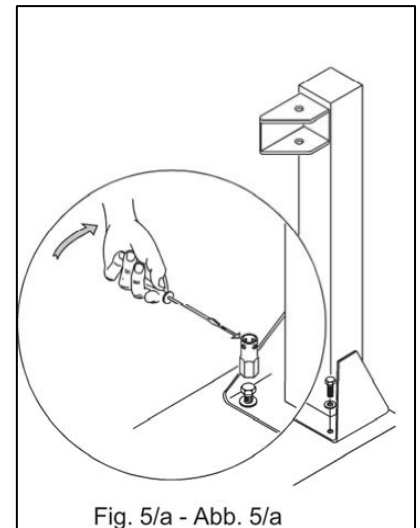
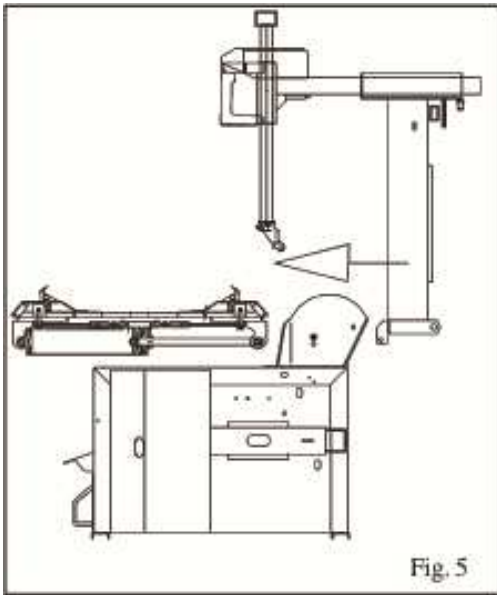
The tire changer with electric motor cannot be used in explosive atmospheres, unless it is a proper version.



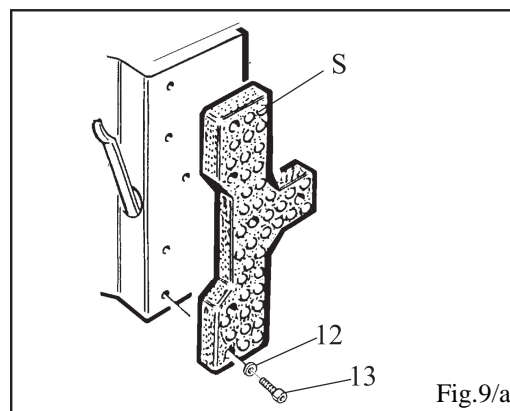
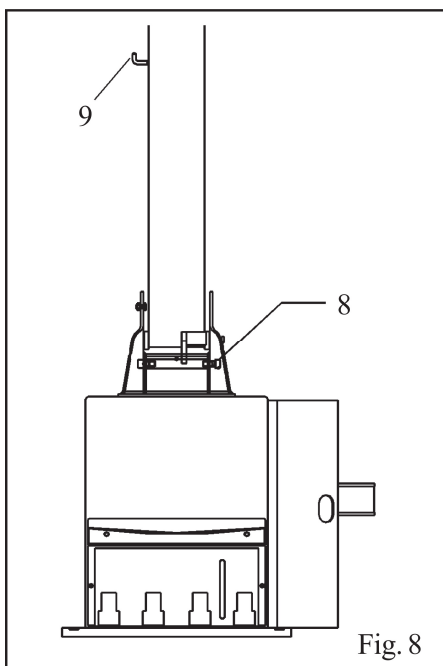
4.2 PARTS ASSEMBLY


4.2.1 Arm assembly

- Unscrew the pallet fixing screws and set the tire changer on the floor.
- Unscrew the screws from the body, set the vertical arm into the proper seat on the machine body (Fig. 5).
- Make sure the horizontal arm is on the vertical arm's support and fix the screws again (Fig. 5/a).
- Set the rear articulation pin (1) and the washers (2) and tighten the screws (4). Fig. 6.
- Set the pin (5) and washer (6) to joint the tilting cylinder to the arm as show in the Fig. 7.
- Tighten the nut (7). Enable the cylinder to operate correctly in order not to cause frictions with the tilting arm; pay attention not to tighten it too much.



- Tighten the screw (8) as shown in Fig. 8.
- Fix the inflating gauge hook (9) on the vertical arm.
- Tighten the screws and washers to fix the rubber protection as shown in Fig. 5/b.
- Fix the wheel rubber support (S) by means of washers (12) and screws (13) as shown in Fig. 9/a.



 **Before connecting all the power sources ALWAYS check your installations. They must exactly correspond to those requested by the machine.**

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

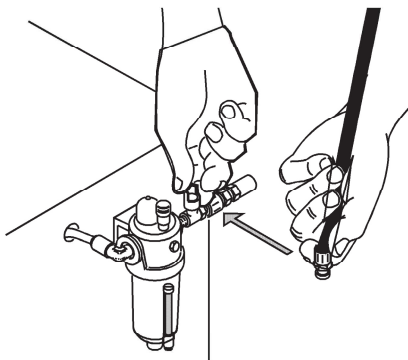


Fig. 9/b - Abb. 9/b

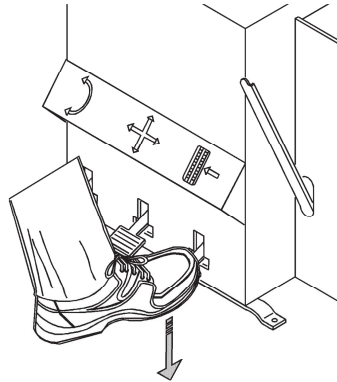


Fig. 9/c - Abb. 9/c

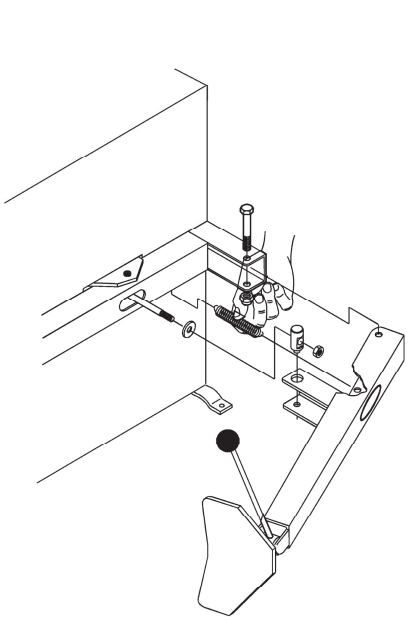
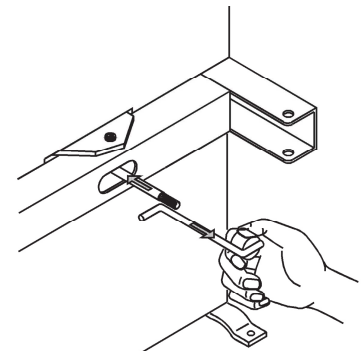


Fig. 9/d - Abb. 9/d

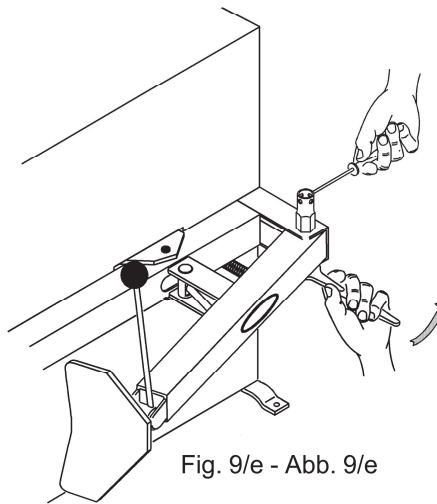


Fig. 9/e - Abb. 9/e

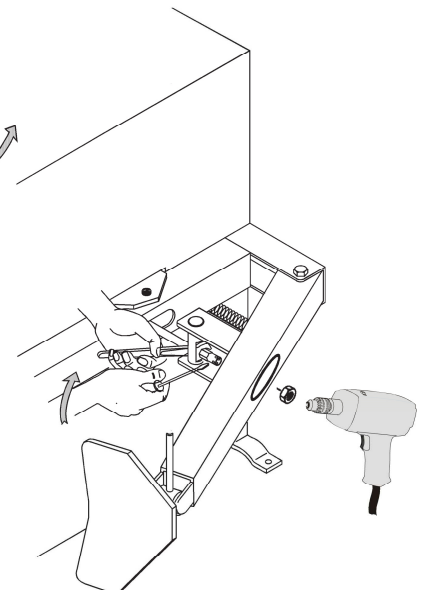
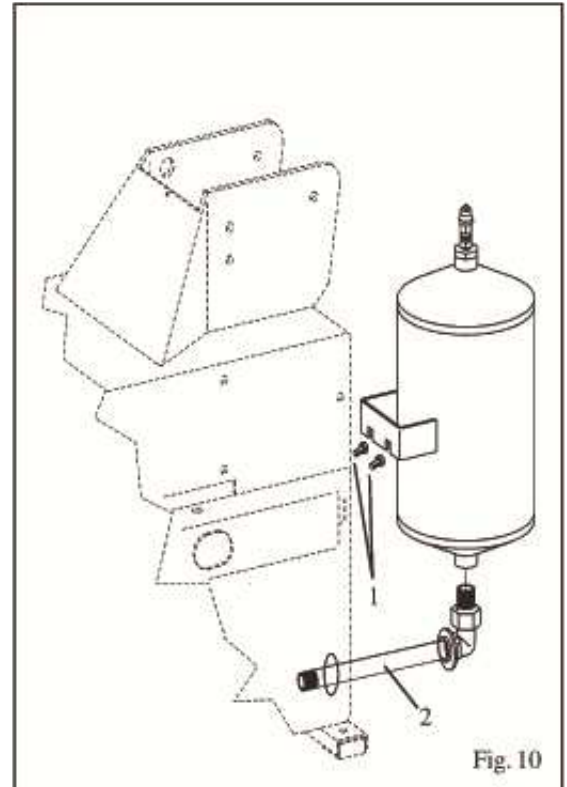


Fig. 9/f - Abb. 9/f

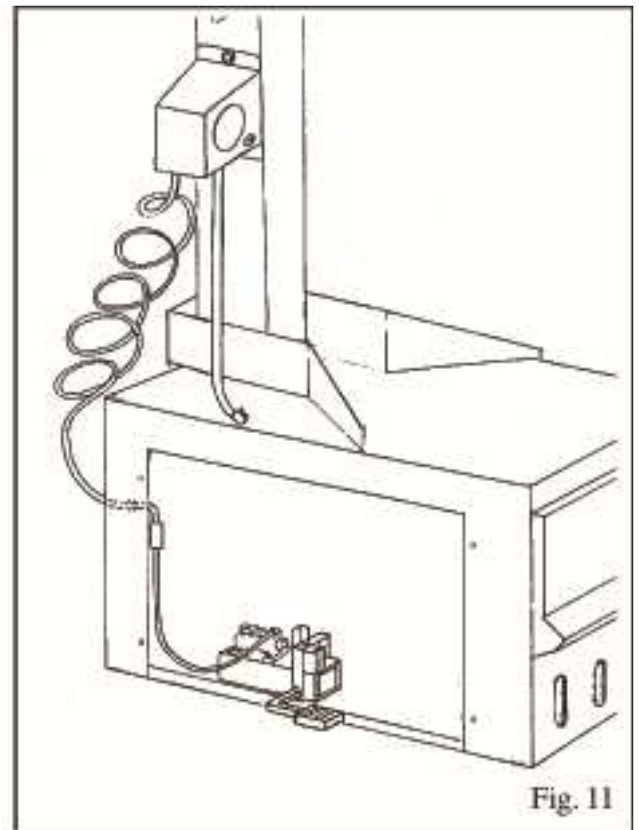
4.2.2 Mounting and connecting the GT tank(optional)

- Fix the tank on the back side of the machine body through the proper screw. Fig. 10.
- Demount the side panel.
- Route the hose (2), situated inside the machine body, through the hole on the back side of the body.
- Tighten the hose (2) to the tank through the proper union.




4.2.3 Mounting and connecting the manometer(optional)


- Fix the manometer to the vertical arm through the proper screw. Fig. 11.
- Route the connecting spiral hose through the small hole on the back side of the machine body.
- Connect the rilsan hose to the union of the pressure limiting device, situated on the inflating pedal.



4.3 COMMISSIONING

	<p>Any electric connection job must be carried out by professionally qualified personnel.</p> <p>Make sure that the power supply is right.</p> <p>Make sure the connection of the phases is right. Improper electrical hook-up can damage motor and will not be covered under warranty.</p>
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- Check to make sure the characteristics of your systems correspond to those required by the machine. If you have to change the machine's operating voltage, make the necessary adjustments to the terminal board referring to the electric diagram in chapter 9.
- Connect the machine to the compressed air system by means of the air connection (Q) that protrudes from the rear section.

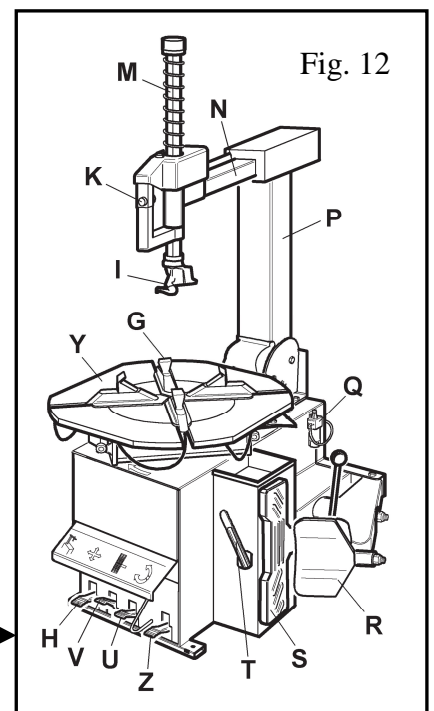
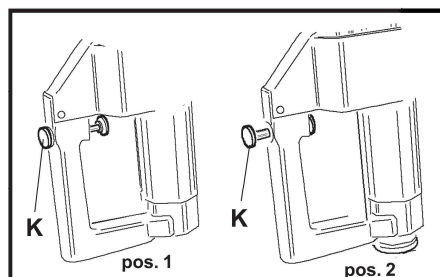
	<p>Connect the machine to the electric network, which must be provided with line fuses, a good earth plate in compliance with regulations in force and it must be connected to an automatic circuit breaker (differential) set at 30 mA.</p> <p>Should the tire-changer be lacking in electric plug, the user must set one, which is at least 16 A and which conforms to the voltage of the machine, in compliance with the regulations in force.</p>
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4.4 OPERATING TESTS

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

	<p>If the turntable turns in the opposite direction to that shown, reverse two of the wires in the three-phase plug.</p>
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- Pressing the pedal (U) activates the bead breaker (R); when the pedal is released the bead breaker returns to its original position.
- Pressing the pedal (V) opens the four clamps (G); when the pedal is pressed again they close.
- Pressing the pedal (H) tilts the arm (P); when the pedal is pressed again it returns to its working position.
- Position 1 of the locking button (K) locks the mounting bar (N) and the horizontal arm (M).
- Position 2 of the locking button (K) unlocks the arms.
- Pressing the trigger on the airline gauge cause air to be released from the head.



4.4.1 GT version(optional)



Do NOT LEAN on the turntable during this operation. Possibly dirty dust on turntable could offend the operator's eyes. For the same reason, be carefully as not to accidentally push the inflating pedal while working.

- When the pedal located on the left side of the machine body is pushed down to its intermediate position (B), air is released from the airline gauge.
- When the pedal (C) is pushed down completely, air is released from the airline gauge with a powerful jet from the nozzles located on the turntable clamps.

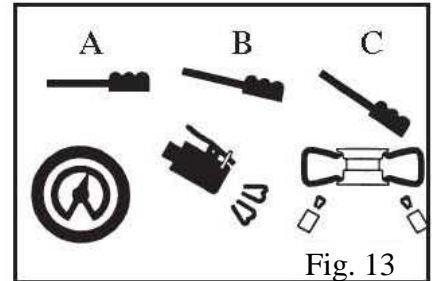


Fig. 13

4.5 TURNTABLE LOCKING VALUE ADJUSTING

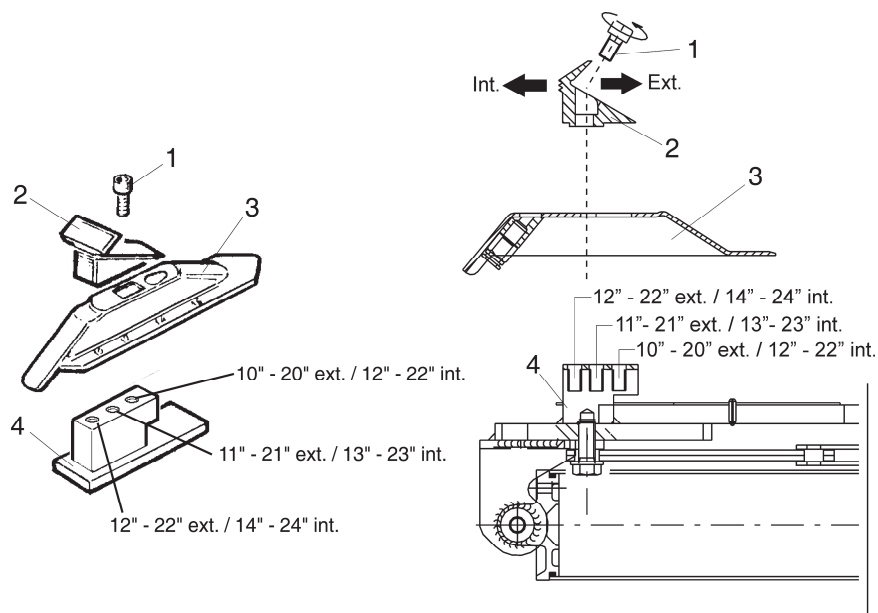
The tire changer turntable is preset by the manufacturer on a middle range measure from 11" to 21" **ext.** (considering the rim outer side and) from 13" – 23" **int.** (if you lock the rim from inner side). It is however possible to change this dimension range in case of need when working on larger or small rims; it is enough to change the position of the 4 clamps are shown in the figures below. The obtainable value starts from a minimum of 10"-20" **ext.** and 12"-22" **int.** until a maximum of 12"-22" **ext.** and 14"-24" **int.**

To change the position, proceed as follows:

- Unscrew screw (1) by means of the Allen wrench.
- Remove the locking clamp (2) and the slide piece (3).
- Align the slide hole with one of the guide holes (4) according to the locking dimensions you want to set. Use the measures below for reference.



It is important to perform the above mentioned operation for all the 4 clamps to avoid any unbalance in locking phase.



CHAPTER 5 – OPERATION



Do not use the machine until you have read and understood the entire manual and the warning provided.

Before carrying out any operation, deflate the tire and take off all the wheel balancing weights.

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

a) BREAKING THE BEAD

b) REMOVING THE TIRE

c) MOUNTING THE TIRE



It is advised to equip the tire changer with the pressure regulator.

5.1 BREAKING THE BEAD



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

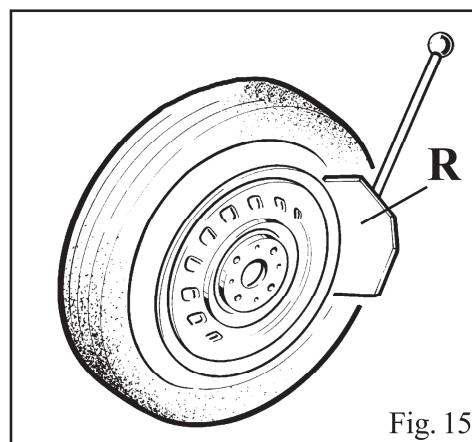
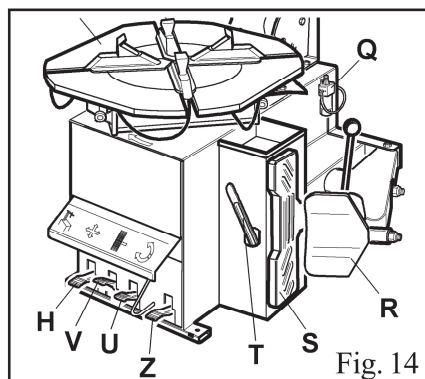
- Check that the tire is deflated. If not, deflate it.
- Close the turntable clamps completely.




Bead breaking with the clamps in open position can be extremely dangerous for operator's hands.


During bead breaking operations NEVER touch the side of the tire.

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





5.2 REMOVING THE TIRE

	Before any operation make sure to remove the old wheel balancing weights and check that the tire is deflated.
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	During arm tilting make sure that nobody stands behind the tire changer.
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- Press pedal (H) to tilt the arm (P) thereby clearing the turntable.
- Spread the supplied grease (or grease of a similar type) onto the tire bead.

	Failure to use the grease could cause serious damage to the tire bead.
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	During rim locking NEVER keep your hands under the tire. For a correct locking operation set the tire exactly in the middle of turntable.
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OUTER LOCKING

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


INNER LOCKING


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

	Make sure that the rim is firmly fixed to the clamps.
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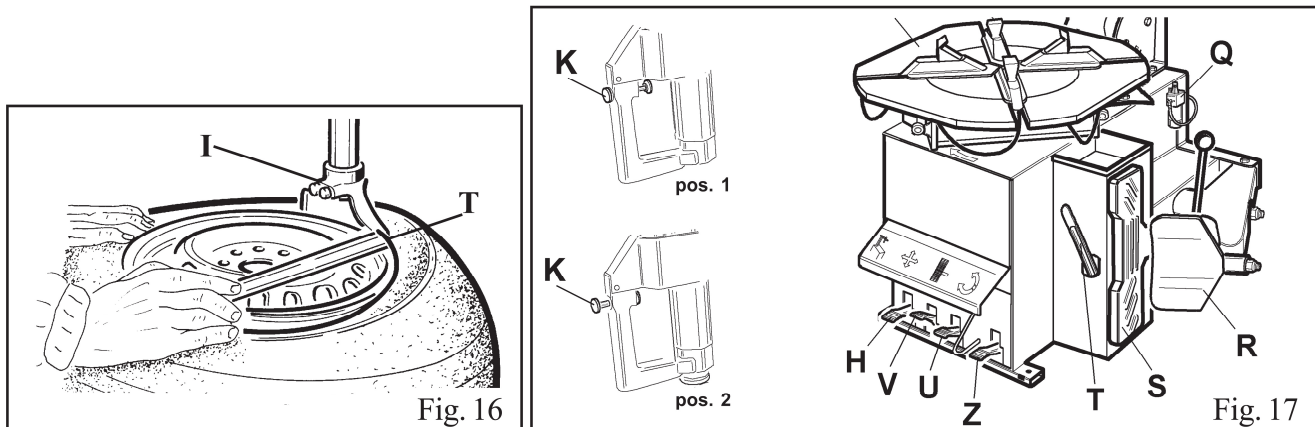
	Never keep your hands onto the wheel: the arm recovery to “working position” could set the operator at risk of hand crushing between rim and mounting head.
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- Return the arm (P) by pressing the pedal (H).
- Unlocking the mounting bar (M) by placing the locking button (K) in the position “2”.
- Lower the mounting bar (M) so that the mounting head (I) rests on the upper edge of the wheel rim and lock the entire assembly by placing the locking button in the position “1” This will lock the arm in both vertical and horizontal direction and automatically move the mounting head (I) of about 2 mm from the rim.
- With the lever (T) inserted between the bead and the front section of the mounting head (I), move the tire bead over the mounting head.


	In order to avoid damaging the inner tube if there is one, it is advisable to carry out this operation with the valve about 10 cm right of the mounting head. (Fig. 16)
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	Chains, bracelets, loose clothing or foreign objects in the vicinity of the moving parts can represent a danger for the operator.
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- With the lever held in this position, rotate the turntable (Y) in a clockwise direction by pressing pedal (Z) down until the tire is completely separated from the wheel rim (Fig. 17).
- In order to remove the inner tube if there is one, tilt the arm (P) by pushing the pedal (H) down directly without unlocking the mounting bar.
- Repeat the operation for the other bead.





5.3 MOUNTING THE TIRE

	<p>It is utmost important to check the tire and rim to prevent tire explosion during the inflating operations. Before beginning mounting operation, make sure that:</p> <p>The tire and cord fabric are not damaged. If you note defects DO NOT mount the tire.</p> <p>The rim is without dents and is not warped. Pay attention to alloy rims, internal micro-cracks are not visible to naked eye. This can compromise the rim and can also be a source of danger especially during inflation.</p> <p>The diameter of the rim and tire are exactly the same. NEVER try to mount a tire on a rim if you cannot identify the diameter of both.</p>
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- Lubricate the tire beads with the special grease in order to avoid damaging them and to facilitate the mounting operations.

	<p>During rim locking NEVER keep your hands under the tire. For a correct locking operation set the tire exactly in the middle of turntable.</p>
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- For 10 to 20 inch wheels lock the rim using the inner part of the clamps.
- For 12 to 22 inch wheels lock the rim using the outer part of the clamps.

	<p>During arm tilting make sure that nobody stands behind the tire changer.</p>
	<p>When working with rims of the same size it is not necessary always to lock and unlock the mounting bar; you only need to tilt and return the vertical arm (P) with the horizontal arm and the bar locked in their working positions.</p>



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

- Move the tire so that the bead passes below the front section of the mounting head and is brought up against the edge of the rear section of the mounting head itself.
- Keeping the tire bead pressed down into the wheel rim channel with your hands, press down on the pedal (Z) to rotate the turntable clockwise. Continue until you have covered the entire circumference of the wheel rim (Fig. 19).



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

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



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

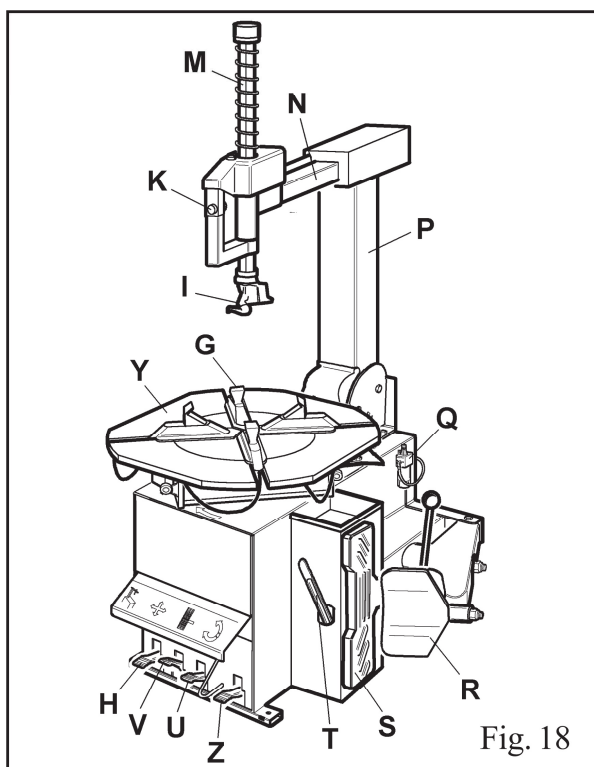


Fig. 18

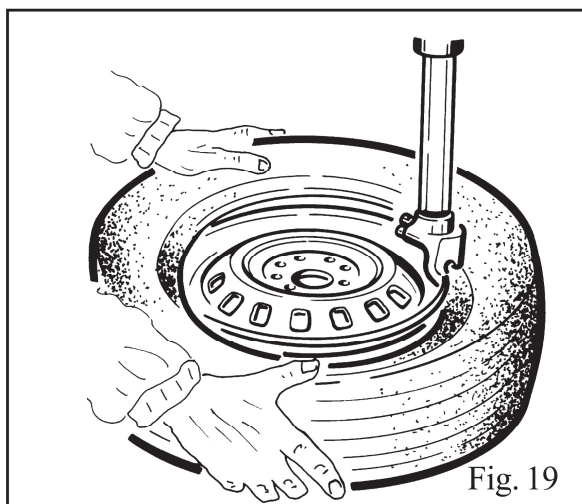


Fig. 19

CHAPTER 6 – INFLATING



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

▲ DANGER



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

Check carefully that the wheel rim and the tire are of the same size.

Check the state of wear of the tire and that it has no defects before beginning the inflation.

Inflate the tire with brief jets of air, checking the pressure after every jet.

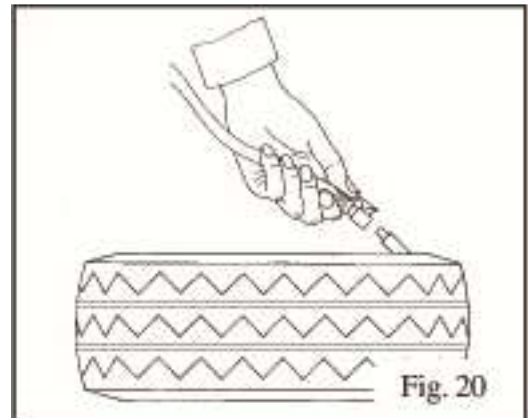
All our tire changers are automatically limited to a maximum inflating pressure of 3.5 bar (51 psi). In any case NEVER EXCEED THE PRESSURE RECOMMENDED BY THE MANUFACTURER.

Keep your hands and body as far away as possible from the tire.

6.1 INFLATING TIRE USING AIRLINE GAUGE

In the standard version our tire changer are supplied with an airline gauge. To inflate a tire proceed as follows:

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



▲ DANGER



EXPLOSION HAZARD!

Never exceed 3.5 bar (51 psi) when seating beads or inflating tires.

If a higher inflating pressure is required remove the wheel from turntable and continue the inflating procedure inside a special protection cage (commercially available).

Never exceed the max. inflating pressure given by the tire manufacturer.

ALWAYS keep hands and body back from inflating tire.

ONLY special trained personnel are allowed to perform these operations. Do not allow other persons to operate or to stay near the tire changer.

6.2 INFLATING TIRES WITH GT SYSTEM (OPTIONAL)

The GT inflating system facilitates inflation of tubeless tires to a powerful jet of air from the nozzle positioned on the clamps.



During this phase of work the level of noise can reach 85db (A). It is advisable to use a noise protection.

- Lock the wheel on the turntable and connect the inflating head to the tire valve.
- Make a last check to be certain that tire and rim diameter correspond.
- Check to be certain that rim and beads are sufficiently lubricated. If necessary lubricate some more.
- Press the pedal down to intermediate position (B – Fig. 21)
- If the bead of tire is not well seated, due to a strong bead, lift tire manually until the upper bead seats against the rim, then press pedal all the way down (C-Fig. 21). A strong jet will be released through the nozzles in the slides and this will help the bead seal.
- Release the tires; set the pedal in the intermediate position (B – Fig. 21) and continue to inflate the tire with short jets of air and constantly checking the pressure between air jets until the required pressure has been reached.

⚠ DANGER



EXPLOSION HAZARD!

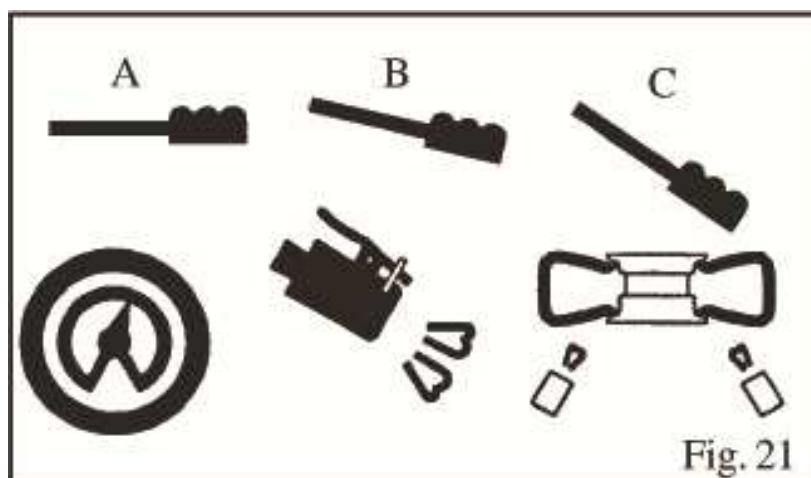
Never exceed 3.5 bar (51 psi) when seating beads or inflating tires.

If a higher inflating pressure is required remove the wheel from turntable and continue the inflating procedure inside a special protection cage (commercially available).

Never exceed the max. inflating pressure given by the tire manufacturer.

ALWAYS keep hands and body back from inflating tire.

ONLY special trained personnel are allowed to perform these operations. Do not allow other persons to operate or to stay near the tire changer.



CHAPTER 7 – MAINTENANCE

7.1 GENERAL WARNINGS



Unauthorized personnel may not carry out maintenance work.

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



Before carrying out any maintenance work, disconnect the electric and pneumatic supplies. Moreover, it is necessary to break the bead without load 3-4 times in order to let the air in pressure go out of the circuit.

- Defective parts must be replaced exclusively by expert personnel using the manufacturer's parts.
- Removing or tampering with safety devices (pressure limiting and regulating valves) is extremely forbidden.



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

7.2 MAINTENANCE OPERATIONS

- Clean the turntable once a week with diesel fuel so as to prevent the formation of dirt, and grease the clamp sliding guides.
- Carry out the following operations at least every 30 days:
 - Check the oil level in the lubricator tank. If necessary, fill up by unscrewing the reservoir F. Only use ISO VG viscosity ISOHG class oil for compressed air circuit. (Fig. 22)
 - Check that a drop of oil is injected into the reservoir F very 3-4 times the pedal U is pressed down. If not, regulate using the screw D (fig. 22)
- After the first 20 days of work, retighten the clamp tightening screws on the turntable slides (Fig. 23).
- In the event of a loss of power, check that the drive belt is tight as follows.



Before any operation disconnect the electric power supplies.

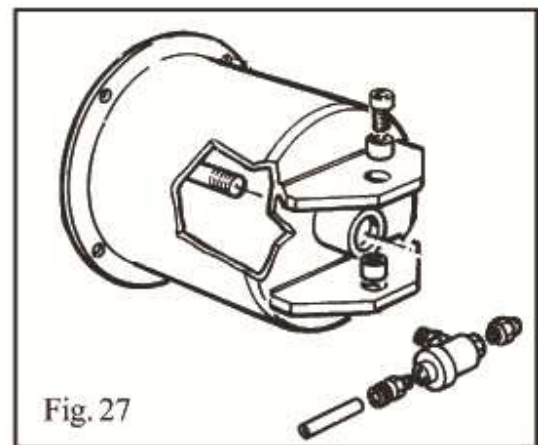
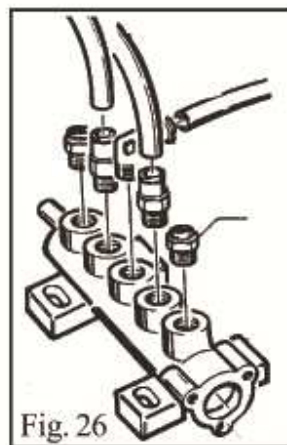
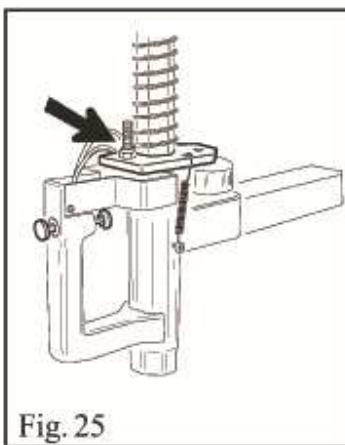
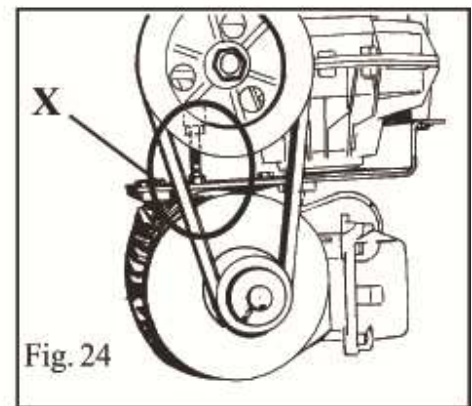
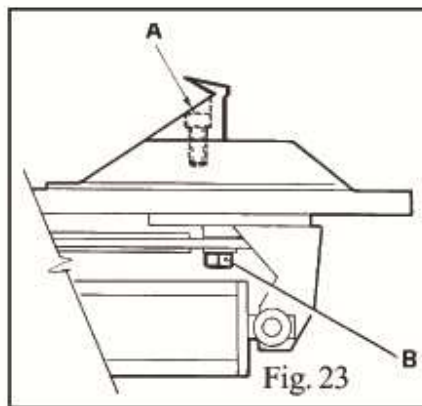
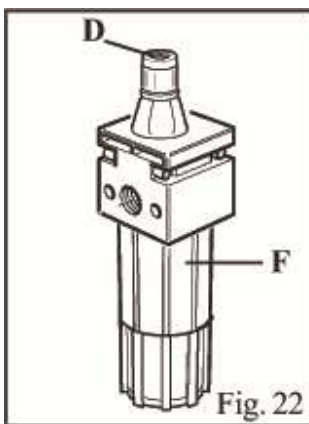
- Remove the left side body panel of the tire changer by unscrewing the four fixing screws.
- Remove the drive belt by means of the special adjusting screw X on the motor support (Fig. 24).

- If necessary to adjust the vertical arm locking plate because the tool does not lock or it does not rise from the rim of 2mm necessary for working, adjust nuts as shown in Fig. 25.

For cleaning or replacing the silencer for opening/closing clamps valves, see Fig 26 and proceed as follows:

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

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

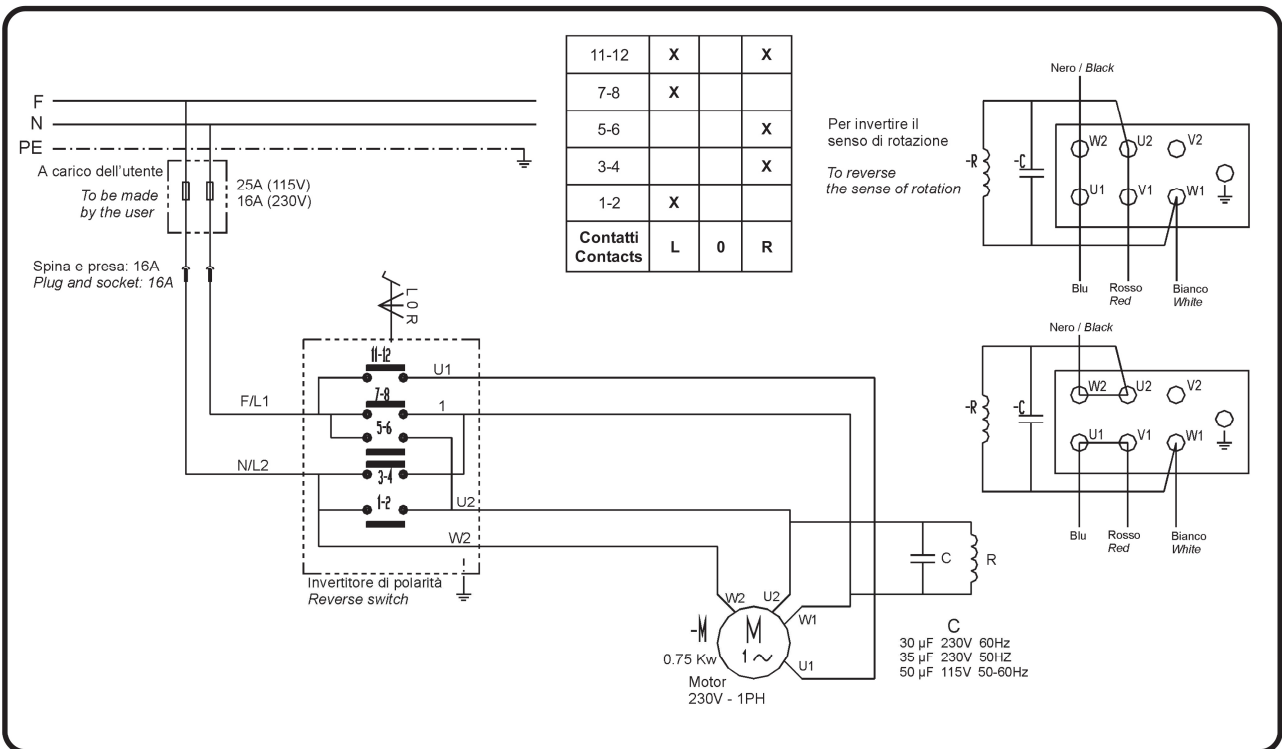


CHAPTER 8 – TROUBLE-SHOOTING

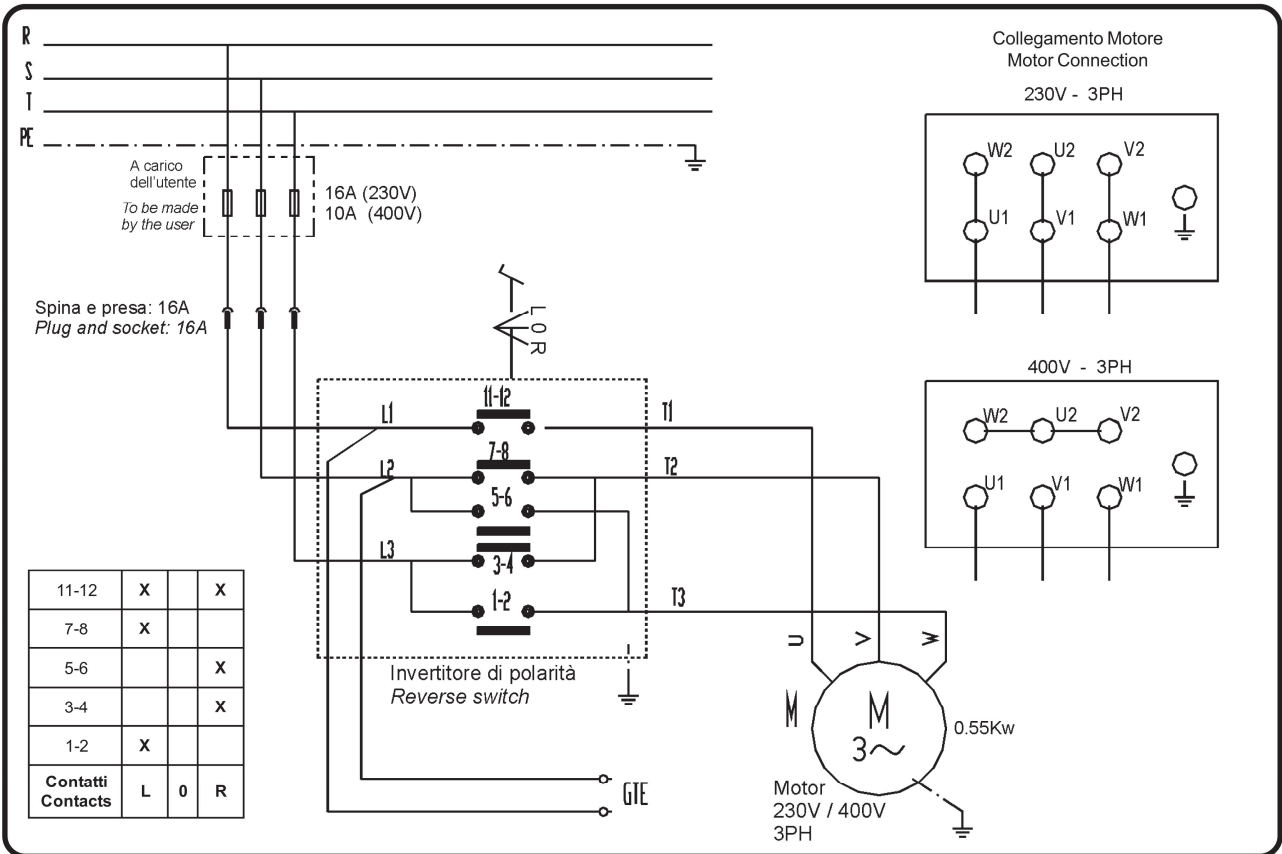
TROUBLE:	POSSIBLE CAUSE:	SOLUTION:
Turntable rotates only in one direction.	Reverser broken	Replace reverser
Turntable does not rotate.	Belt broken	Replace
	Reverser broken	Replace reverser
	Problem with motor	Check for loose wire in the motor, plug or socket. Replace motor
Turntable locks	Belt loose	Adjust the belt tension (chap. 7)
Clamp slow to open or close	Silencer clogged	Clean or replace silencer
Turntable does not lock the wheel rim correctly	Clamps worn	Replace clamps
	Turntable cylinder(s) defective	Replace cylinder gasket
The tool touches the rim during the tire removing or mounting operations	Locking plate incorrectly adjusted or defective	Adjust or replace locking plate (chap 7)
	Turntable locking screw loose	Tighten screw
Pedal lock out of working position	Return spring broken	Replace spring
Bead breaking operation difficult	Silencer clogged	Clean or replace silencer (chap. 7)
	Bead breaker cylinder gasket broken	Replace gasket

CHAPTER 9 – ELECTRIC AND PNEUMATIC DIAGRAM

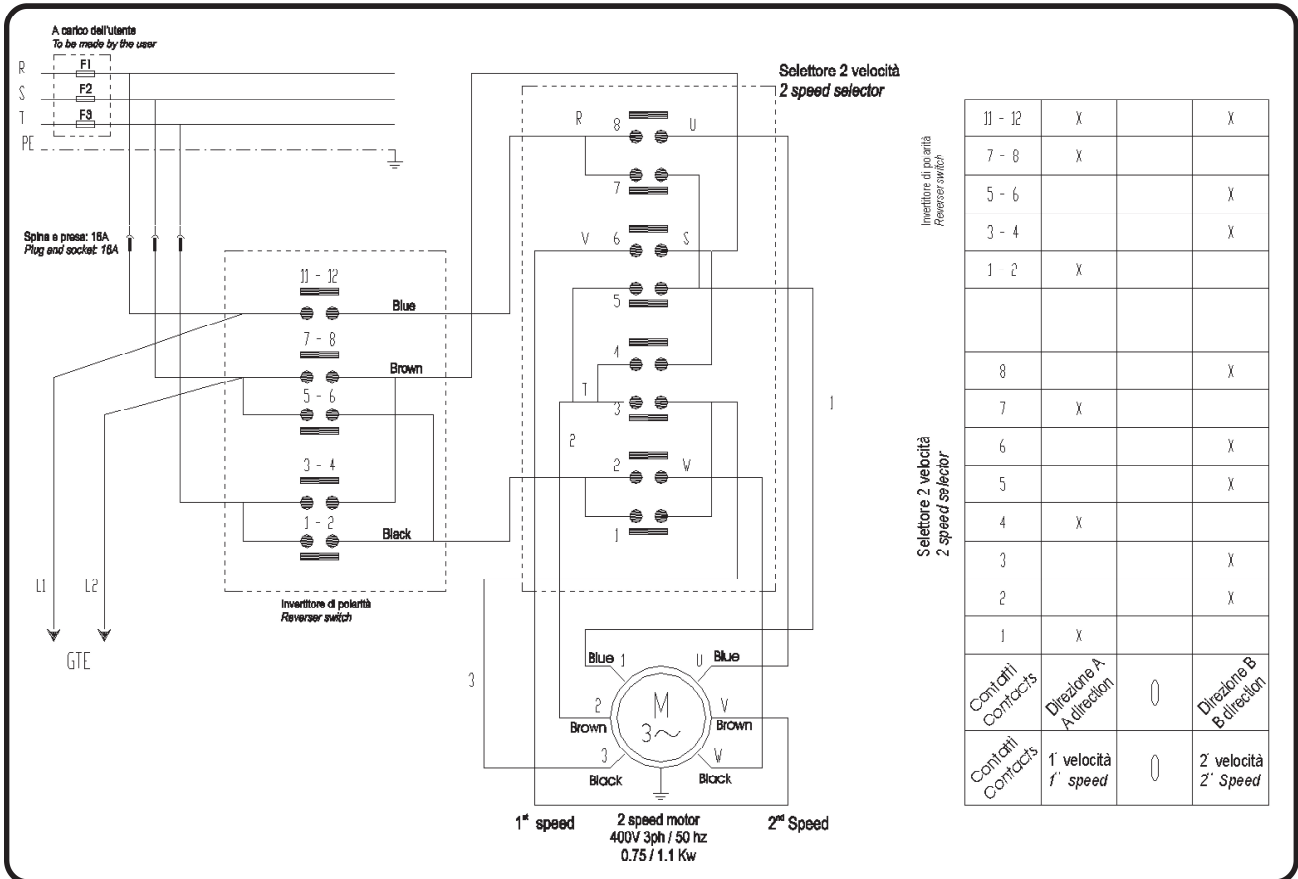
230V - 1PH



230/400V - 3PH

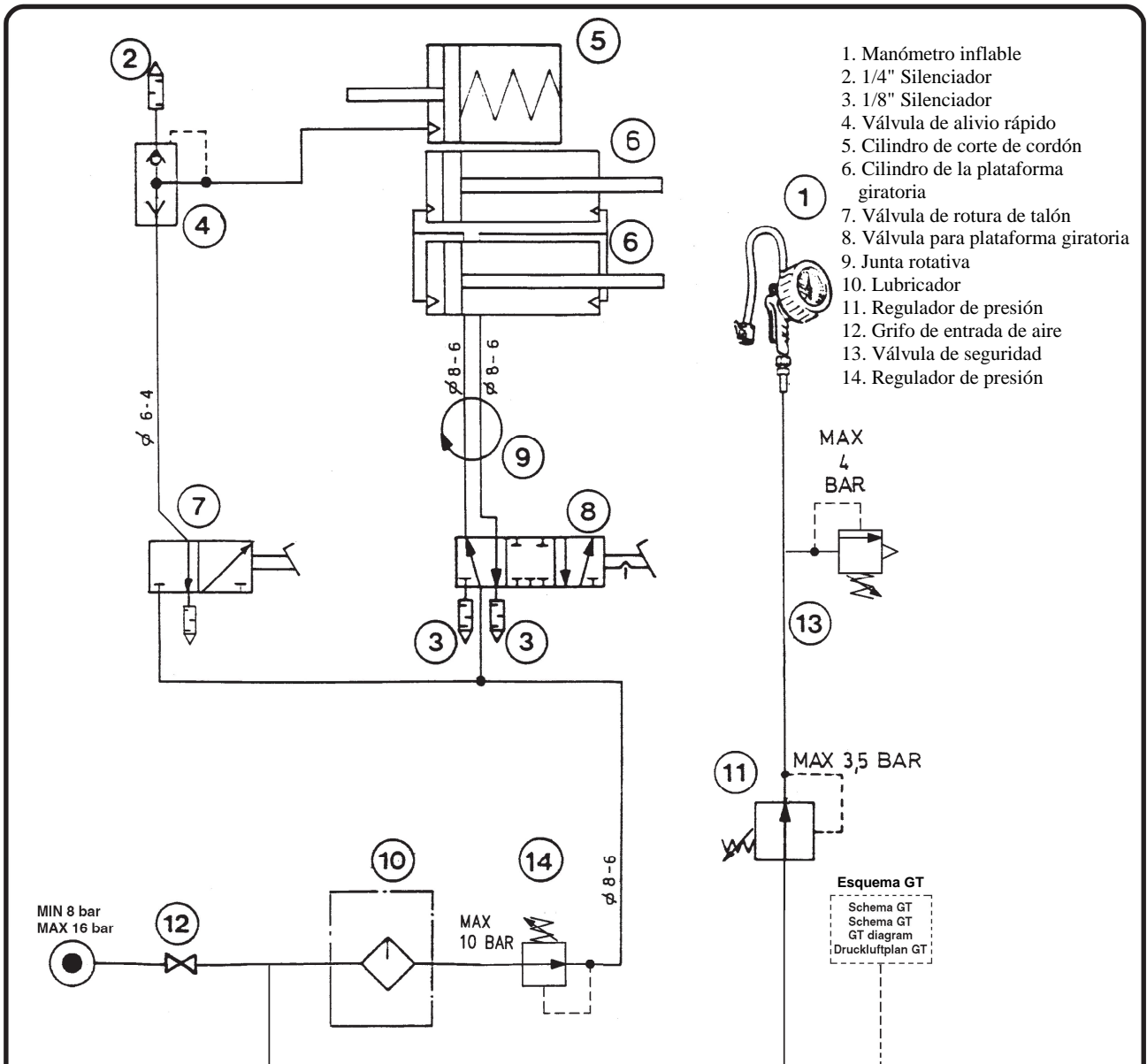


400V - 3PH - 2 SPEED



**SCHEMA PNEUMATICO STND
SCHEMA PNEUMATIQUE STND
STND PNEUMATIC SYSTEM DIAGRAM
DRUCKLUFTPLAN STND**

ESQUEMA NEUMÁTICO STND



1. Pistoletta di gonfiaggio
2. Silenziatore 1/4"
3. Silenziatore 1/8"
4. Valvola scarico rapido
5. Cilindro stallonatore
6. Cilindro autocentrante
7. Valvola stallonatore
8. Valvola autocentrante
9. Raccordo girevole
10. Lubrificatore
11. Regolatore di pressione
12. Rubinetto ingresso aria
13. Valvola di sicurezza
14. Regolatore di pressione

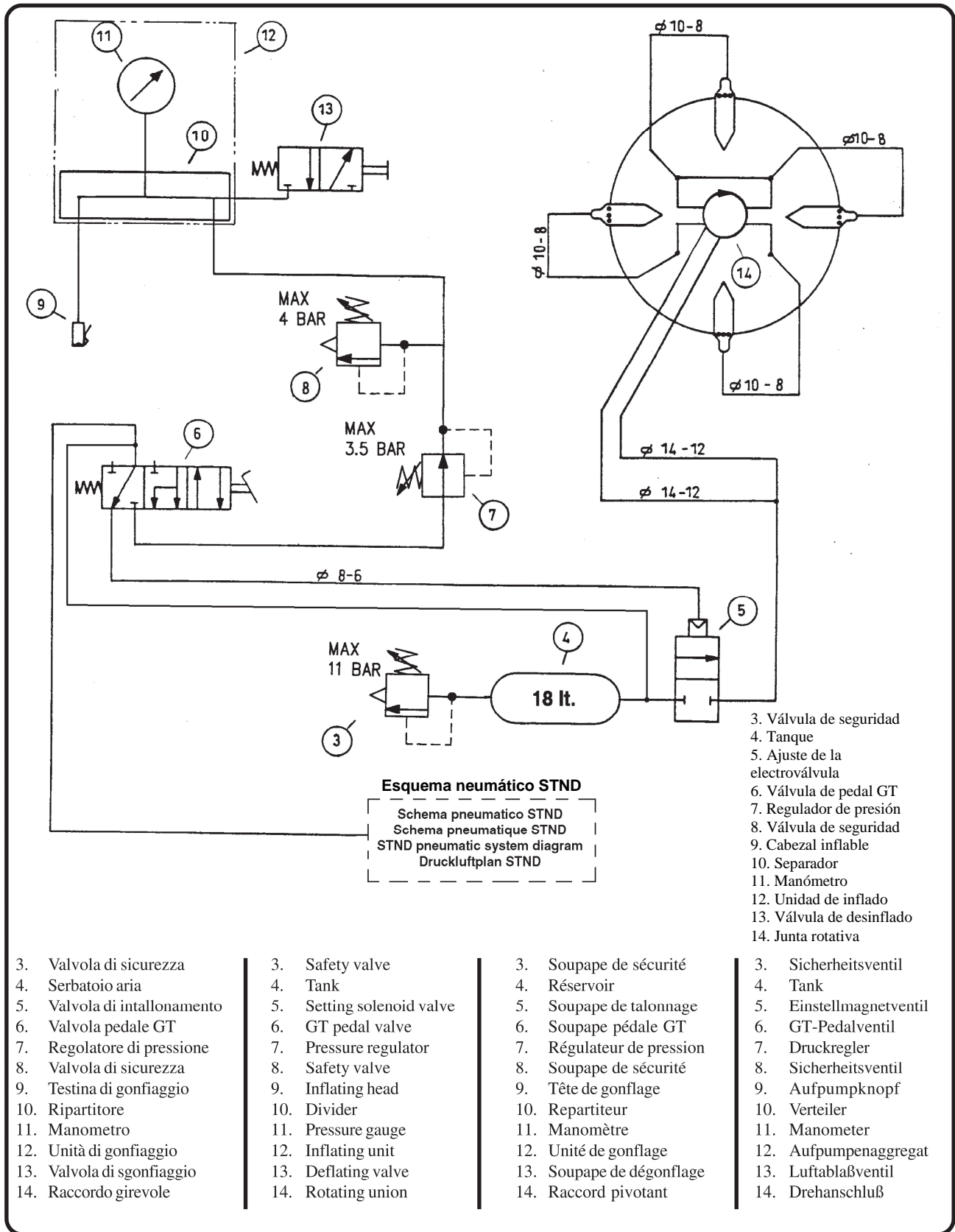
1. Inflating gauge
2. 1/4" Silencer
3. 1/8" Silencer
4. Quick relief valve
5. Bead breaker cylinder
6. Turntable cylinder
7. Bead breaking valve
8. Turntable valve
9. Rotating union
10. Lubricator
11. Pressure regulator
12. Air intake cock
13. Safety valve
14. Pressure regulator

1. Pistolet de gonflage
2. Silencieux 1/4"
3. Silencieux 1/8"
4. Vanne décharge rapide
5. Verin décolleur
6. Verin autocentreur
7. Soupape décolleur
8. Soupape autocentreur
9. Raccord pivotant
10. Huileur
11. Régulateur de pression
12. Robinet manuel
13. Soupape de sécurité
14. Régulateur de pression

1. Aufpumppistolet
2. Schalldämpfer 1/4"
3. Schalldämpfer 1/8"
4. Schnellablaßventil
5. Wulstabdrukzylinder
6. Zentriertischzylinder
7. Wulstabdrukventil
8. Zentriertischventil
9. Drehanschluß
10. Schmierer
11. Druckregler
12. Lufteinlaß
13. Sicherheitsventil
14. Druckregler

**SCHEMA PNEUMATICO GT
SCHEMA PNEUMATIQUE GT
GT PNEUMATIC SYSTEM DIAGRAM
DRUCKLUFTPLAN GT**

ESQUEMA NEUMÁTICO GT



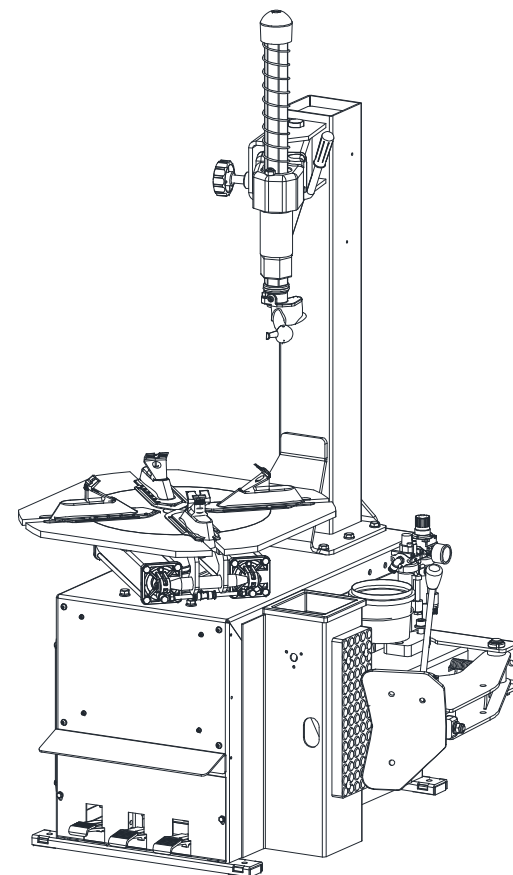
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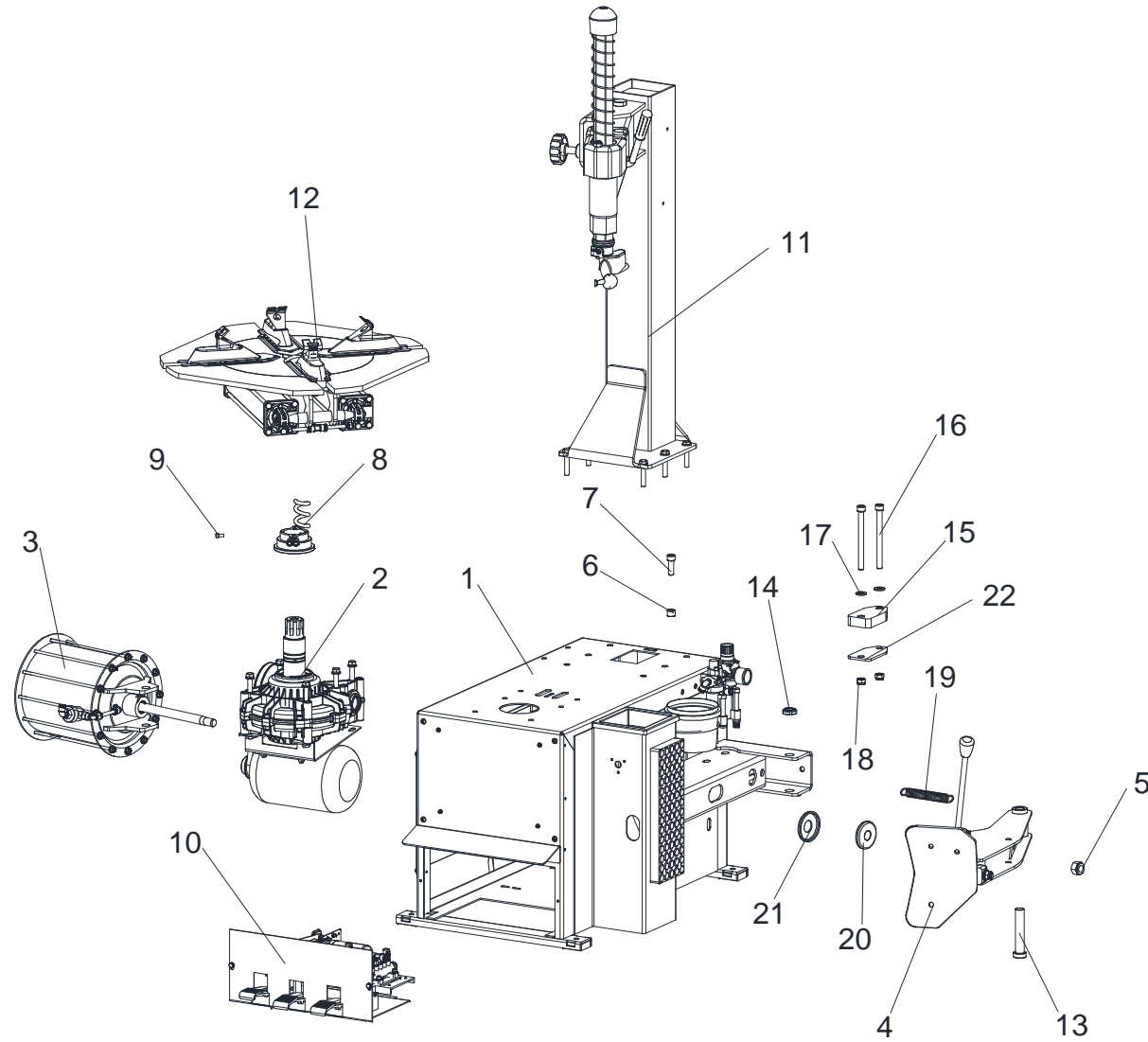
REV.1 - ED. 09/19

PART CATALOGUE

440.22

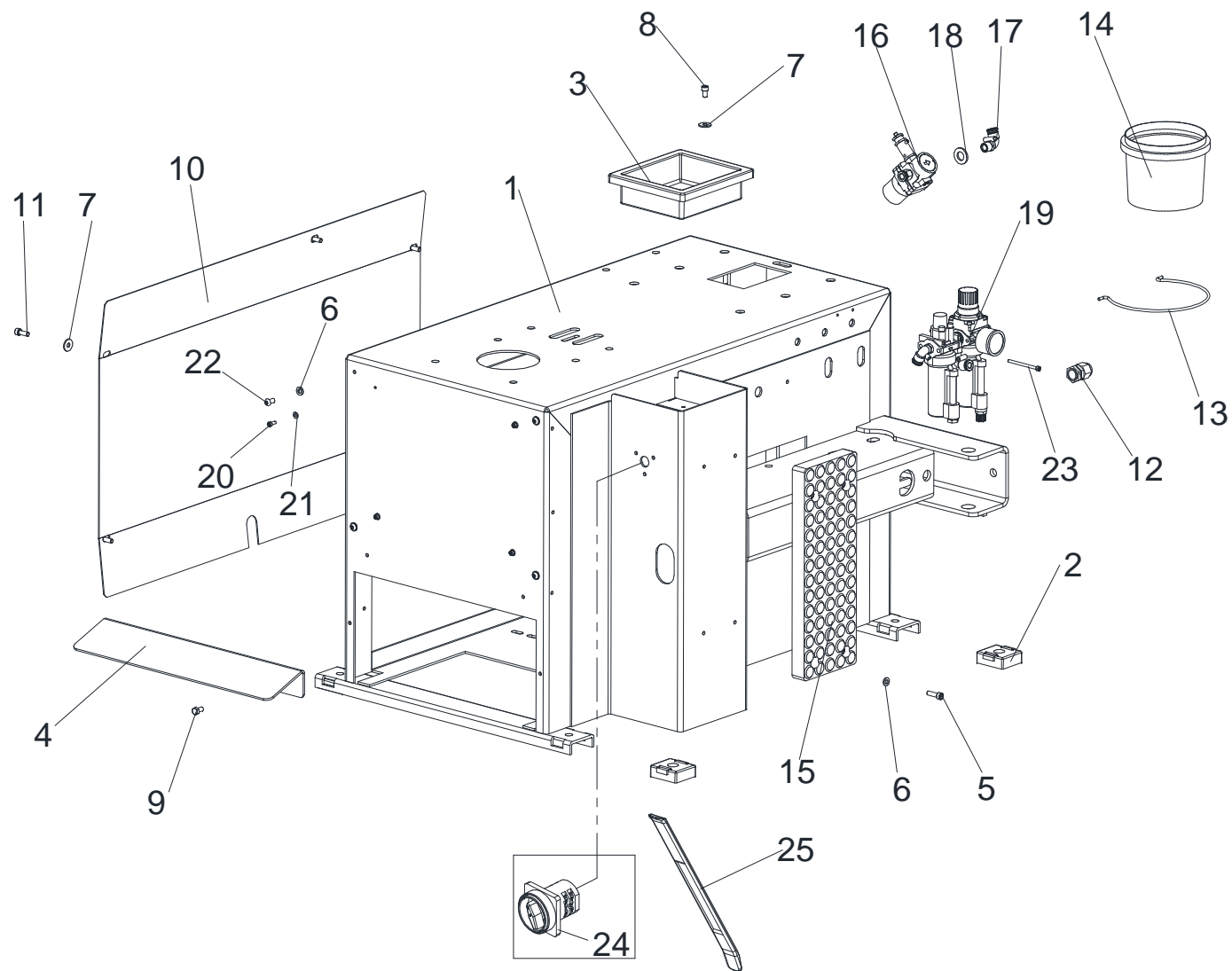
TIRE CHANGER





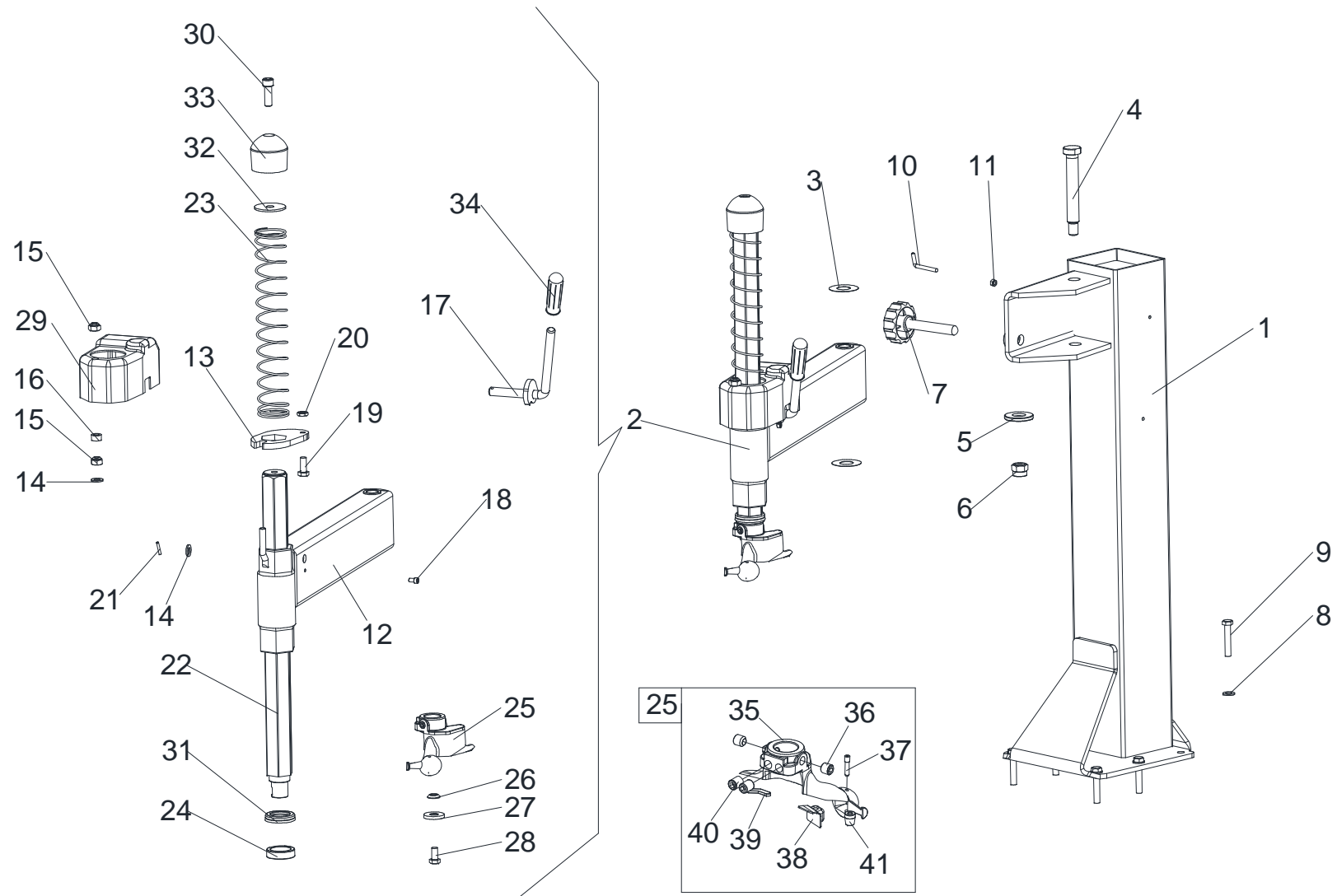
TAV.0	TIRE CHANGER ASSEMBLY	ED. 09/19
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ITEM	PART NUMBER	DESCRIPTION	QTY	REMARK
1	C11K100000	Shell	1	
2	YC1-2002000	Motor – Reduction gear group	1	
3	C00AQ10000	Bead breaker cylinder	1	
4	C22K300000	Bead breaker arm assembly	1	
5	0204009	Self-locking nut M18	1	
6	YC1-3015573	Bush	2	
7	0202071	Screw M12X35 - GB/T70.1	2	
8	YC2-4298992	Rotation union GT	1	
9	0202024	Screw M6X12 - GB/T70.1	2	
10	YC1-2005000	Pedal control unit	1	
11	C11H200000	Horiz. And vert. Arms	1	
12	YC1-2015845	Turntable	1	
13	C22K000001	Shaft	1	
14	0204052	Anti-rotation nut M20X1.5	1	
15	C22K000003	Spacer 1	1	
16	0202089	Screw M12X140 - GB/T70.1	2	
17	0205013	Washer D.12 - GB/T97.1	2	
18	0204007	Nut M12 - GB/T889.1	2	
19	C200000003	Spring	1	
20	106B-3006001	Shock absorber	1	
21	106B-3006002	Absorber protection	1	
22	C22K000002	Spacer 2	1	



TAV.1.0	BODY	ED. 09/19
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ITEM	PART NUMBER	DESCRIPTION	QTY	REMARK
1	C22K101000	Shell	1	
2	YC1-3002099	Plastic foot	4	
3	202W-3018260	Plastic cover	1	
4	C22K100001	Pedal support	1	
5	0202033	Screw M6X20 - GB/T70.1	4	
6	0205006	Washer D.6 - GB/T97.1	8	
7	0205007	Washer D.6 - GB/T96	6	
8	0202030	Screw M6X10 - GB/T70.1	1	
9	0201011	Screw M6X12 - GB/T5783	2	
10	YC1-3001800	Side cover	1	
11	0202032	Screw M6X16 - GB/T70.1	5	
12	0508252	Cable relief	1	
13	YC1-3000069	Spring	1	
14	YC1-4299984	Grease cup	1	
15	C22K100002	Wheel support	1	
16	C00AQ58000	Safety valve unit 3.5bar	1	Optional
17	0306032	90° quick union 8-1/4	1	
18	0205013	Washer D.12 - GB/T97.1	1	
19	YC2-2012326-2	Lubricator + filter regulator	1	
20	0202022	Screw M4X10 - GB/T70.1	4	
21	0205002	Washer D.4 - GB/T97.1	4	
22	0206092	Screw M6X12 - GB/T70.2	4	
23	0202009	Screw M4X55 - GB/T70.1	2	
24	0505008	Dual speed switch	1	Optional
25	0511242	Bead lifting lever	1	

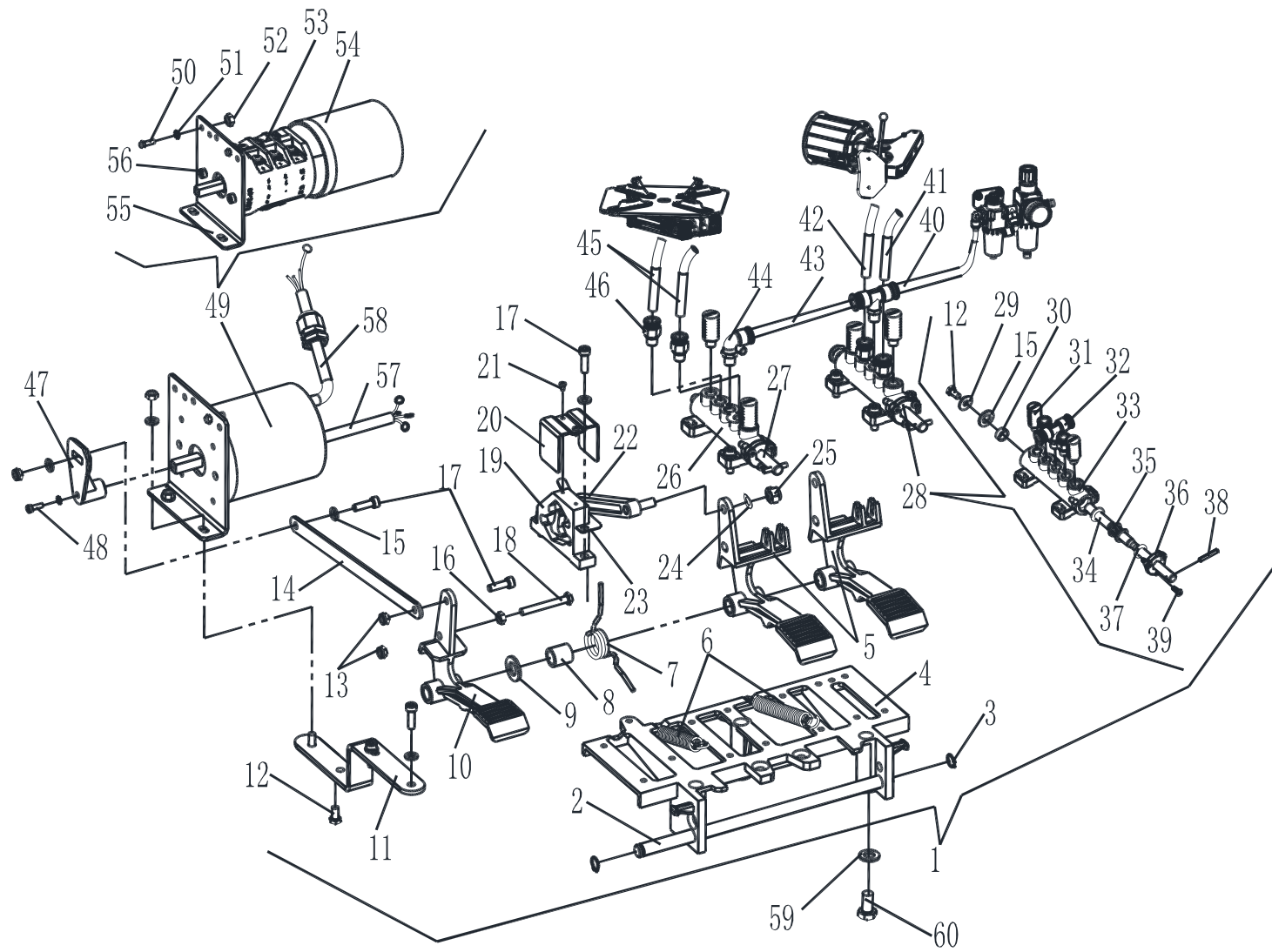


TAV.2.0	HORIZ. AND VERT. ARMS	ED. 09/19
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ITEM	PART NUMBER	DESCRIPTION	QTY	REMARK
1	YC1-2412123M	Vertical post	1	
2	C11H210000	Working arm assembly	1	
3	YC1-4397898	Steel shim	2	
4	YC1-3015565	Pivot	1	
5	YC1-3007352	Washer	1	
6	0204008	Self-locking nut M16 - GB/T889.1	1	
7	YC1-2004002	Hand wheel	1	
8	0205011	Washer D.10 - GB/T97.1	6	
9	0201055	Screw M10X55 - GB/T5782	6	
10	YC1-3012978	Inflator hook	1	
11	0203004	Nut M6 - GB52	1	
12	YC1-2415589A	Horizontal arm	1	
13	YC1-3015567	Arm locking plate	1	
14	0205011	Washer D.10 - GB/T97.1	2	
15	0204005	Nut M10 - GB/T889.1	2	
16	YC1-3012632	Rubber spacer	1	
17	YC1-2407085	Arm locking lever	1	
18	0202030	Screw M6X10 - GB/T70.1	1	
19	0201064	Screw M10X25 - GB/T5783	1	
20	0204012	Nut M10 - GB/T6172.1	1	
21	0213003	Elastic pin 4X25 - GB/T879.1	1	
22	C11H210001	Hexagonal arm	1	
23	104-3005407	Spring	1	
24	YC1-3002601	Shock absorber	1	
25	YC1-2002215	Mounting tool unit	1	
26	YC1-4295805	Spherical washer	1	
27	YC1-4295804	Conical washer	1	

TAV.2.0	HORIZ. AND VERT. ARMS		ED. 09/19
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28	0201062	Screw M10X20	1
29	YC1-3012631	Arm frame	1
30	0202071	Screw M12X35 - GB/T70.1	1
31	YC1-3002602	Shock absorber protection	1
32	C22K210001	Washer	1
33	C22K210002	Arm knob	1
34	C11K210002	Handle	1
35	YC1-3007801	Mounting tool	1
36	0209020	Screw M12X12 - GB/T80	2
37	0215031	Shaft	1
38	YC1-3006689	Plastic insert	1
39	YC1-3013650	Plastic insert	1
40	0209015	Screw M12X16 - GB/T80	2
41	0215032	Peak roller	1



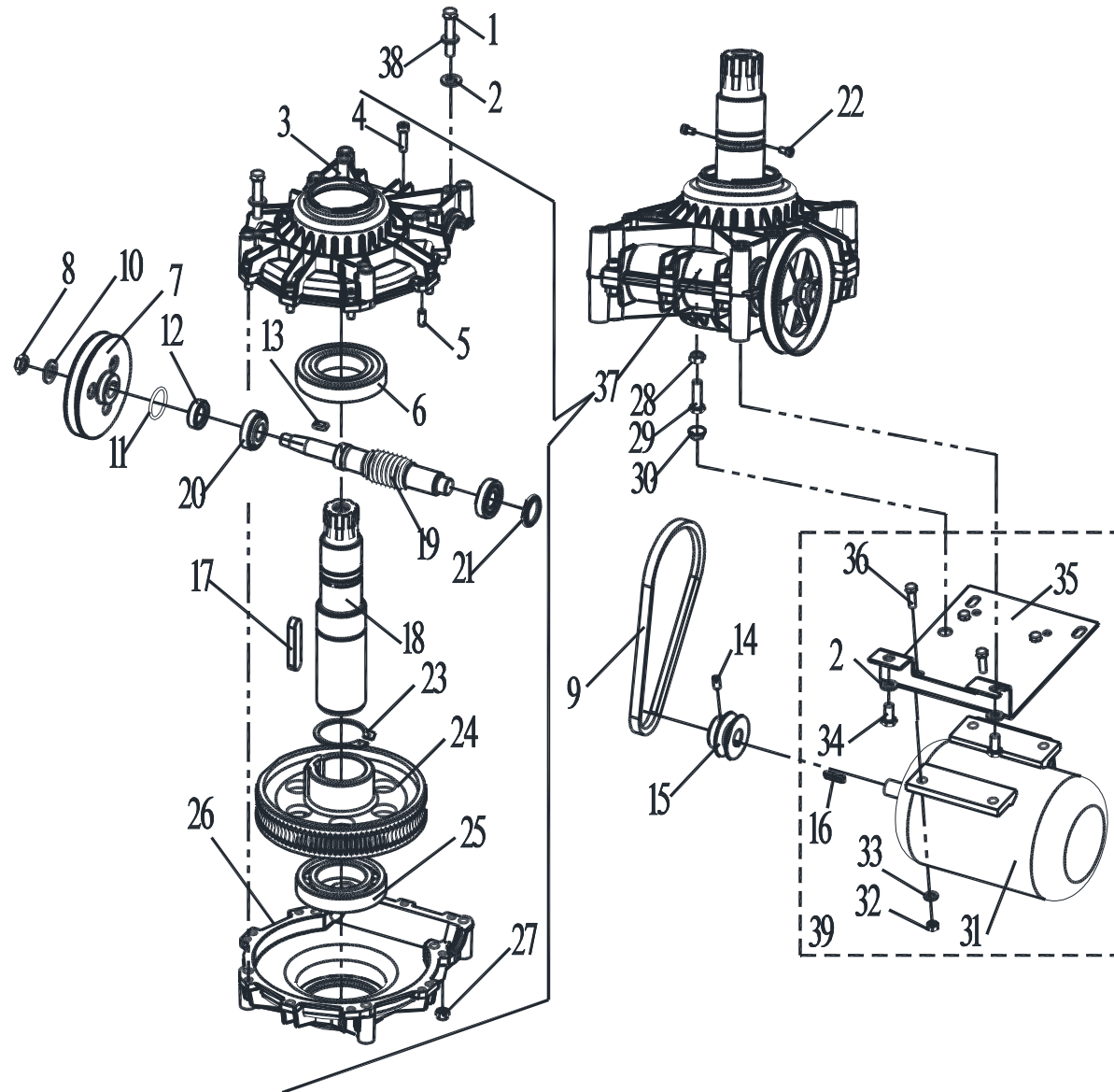
TAV.3.0	PEDAL BOX	ED. 09/19
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ITEM	PART NUMBER	DESCRIPTION	QTY	REMARK
1	YC1-2015861	Pedal control unit	1	
2	YC1-3003094	Pedal alignment pin	1	
3	0212001	Seeger D.12 - GB/T894.1	2	
4	YC1-3002161	Pedal box base	1	
5	YC1-3002159	Pedal B	2	
6	YC1-3013333	Pedal return spring	2	
7	C00A000001	Spring	1	
8	YC1-3007953	Bush	1	
9	0205013	Washer D.12 - GB/T97.1	1	
10	YC1-3002157	Pedal A	1	
11	YC1-3015342	Support	1	
12	0201011	Screw M6X12	3	
13	0204003	Nut M6 - GB/T889.1	3	
14	YC1-3015341	Connection rod	1	
15	0205006	Washer D.6 - GB/T97.1	12	
16	0203004	Nut M6 - GB52	3	
17	0202033	Screw M6X20 - GB/T70.1	10	
18	0201016	Screw M6X50 - GB/T5782	1	
19	YC1-4299913	Double cam	1	
20	YC1-3099910	Connection rod guide	1	
21	0207034	Self-tapping screw ST2.9X6.5 - GB/T845	2	
22	YC1-4299912	Connection rod	1	
23	YC1-4299911	Forked leaf spring	1	
24	0215019	Washer D.8 - GB/T860	2	
25	0204004	Nut M8 - GB/T889.1	1	
26	YC1-2002529	Turntable valve unit	1	
27	YC1-3002442	Valve pin 1	1	

28	YC1-2006297	Bead breaking valve unit	1
29	0205007	Washer D.6 - GB/T96	1
30	YC1-4197629	Nylon washer	1
31	0306059	Silencer 1/8	4
32	0306023	Quick T union 8-1/8	1
33	YC1-3001583	Valve body	2
34	YC1-3007598	Valve pin 3	1
35	YC1-3001584	Valve spacer	10
36	YC1-3001585	Valve flange	2
37	YC1-4299000	O-ring 17X4	12
38	0213003	Elastic pin 4X25 - GB/T879.1	2
39	0207032	Self-tapping screw ST3.5X13 - GB/T845	6
40	0306097	Rilsan hose 8X5 L=1000	1
41	0306097	Rilsan hose 8X5 L=700	1
42	0306097	Rilsan hose 8X5 L=800	1
43	0306097	Rilsan hose 8X5 L=70	1
44	0306033	90° quick union 8-R1/8	1
45	0306097	Rilsan hose 8X5 L=850	2
46	0306045	Quick union 8-1/8	4
47	YC1-3000175	Reverser lever	1
48	0202004	Screw M4X12 - GB/T70.1	1
49	YC1-2002002	Reverser assembly	1
50	0201004	Screw M4X12 - GB/T5781	2
51	0211016	Washer D.4 - GB/T862.2	2
52	0203002	Nut M4 - GB52	2
53	0505009	Reverser 40A	1
54	YC1-3015344	Reverser cover	1

TAV.3.0	PEDAL BOX		ED. 09/19
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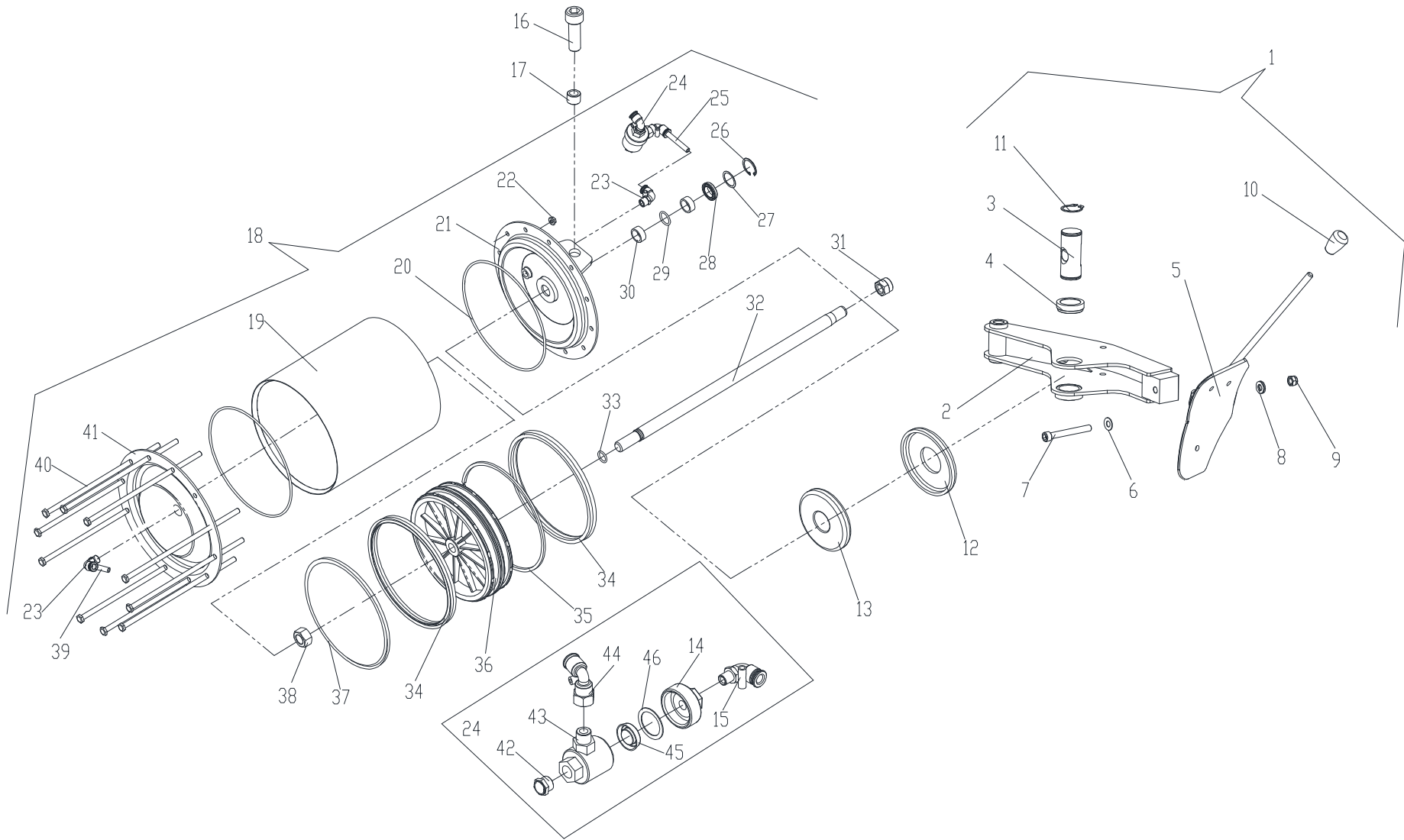
55	YC1-3015340	Reverser support	1
56	0202021	Screw M5X20 - GB/T70.1	2
57	0506016	Motor cable L=1500	1
58	0506016	Power cable L=3500	1
59	0205008	Washer D.8 - GB/T97.1	3
60	0201026	Screw M8X16 - GB/T5783	3



ITEM	PART NUMBER	DESCRIPTION	QTY	REMARK
1	0201069	Screw M10X55 - GB/T5780	6	
2	0205011	Washer D.10 - GB/T97.1	8	
3	YC1-3010872	Top gear box	1	
4	0202049	Screw M8X30 - GB/T70.1	10	
5	0213011	Elastic pin 8X20- GB/T119.1	2	
6	0214006	Bearing 6212-2RS - GB/T276	1	
7	YC1-3199596	Gear box pulley	1	
8	0204013	Nut M14 - GB/T6172.1	1	
9	0511052	V belt A580	1	
10	0205017	Washer D.14 - GB/T97.1	1	
11	0606005	O-ring 34.5X3.55 - GB/T3452.1	1	
12	YC1-4296942	Seal	1	
13	0213028	Tab 6X18 - GB/T1096	1	
14	0209009	Screw M8X16 - GB/T80	1	
15	C24E200001	Motor pulley	1	
16	202W-ZYDJPJ	Tab 6X30 - GB/T1096	1	
17	0213027	Tab 16X70 - GB/T1096	1	
18	YC1-3010885	Helical gear stud	1	
19	YC1-3010883	Worm	1	
20	0214007	Bearing 30204 - GB/T297	2	
21	YC1-3010886	Seal cap	1	
22	0202030	Screw M6X10 - GB/T70.1	2	
23	0212010	Seeger D.60 - GB/T894.1	1	
24	YC1-3015537	Helical gear	1	
25	0214005	Bearing 6212 - GB/T276	1	
26	YC1-3010873	Bottom gear box	1	
27	0204004	Nut M8 - GB/T889.1	10	

TAV.4.0	MOTOR – REDUCTION GEAR GROUP	ED. 09/19
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28	0203009	Nut M10 - GB52	1
29	0201050	Screw M10X35 - GB/T5783	1
30	YC1-3000164	Spherical washer	1
31a	0509097	Motor 110V/60Hz/1ph 1.1KW	1
31b	0509016	Motor 220V/50Hz/1ph 0.75KW	1
31c	0509062	Motor 220V/60HZ/3ph 0.8/1.1KW	1
31d	0509088	Motor 220V/50HZ/3ph 0.8/1.1KW	1
31e	0509065	Motor 230V/50Hz/1ph 0.75KW	1
31f	0509146	Motor 230V/50HZ/3ph 0.8/1.1KW	1
31g	0509017	Motor 380V/50HZ/3ph 0.8/1.1KW	1
31h	0509090	Motor 380V/60HZ/3ph 0.8/1.1KW	1
31i	0509050	Motor 400V/50HZ/3ph 0.8/1.1KW	1
31j	0509054	Motor 220/380V/50HZ/3ph 0.55KW	1
31k	0509066	Motor 220/380V/60HZ/3ph 0.55KW	1
31l	0509053	Motor 230/400V/50HZ/3ph 0.55KW	1
32	0203029	Nut M8 - GB/T6170	4
33	0205008	Washer D.8 - GB/T97.1	4
34	0201062	Screw M10X20 - GB/T5783	2
35	YC1-3000149A	Motor support	1
36	0201038	Screw M8X25 - GB/T5783	4
37	YC1-2011967	Reduction gear unit	1
38	0208007	Washer D.10 - GB/T93	6
39	YC1-2002001	Motor unit	1



TAV.5.0

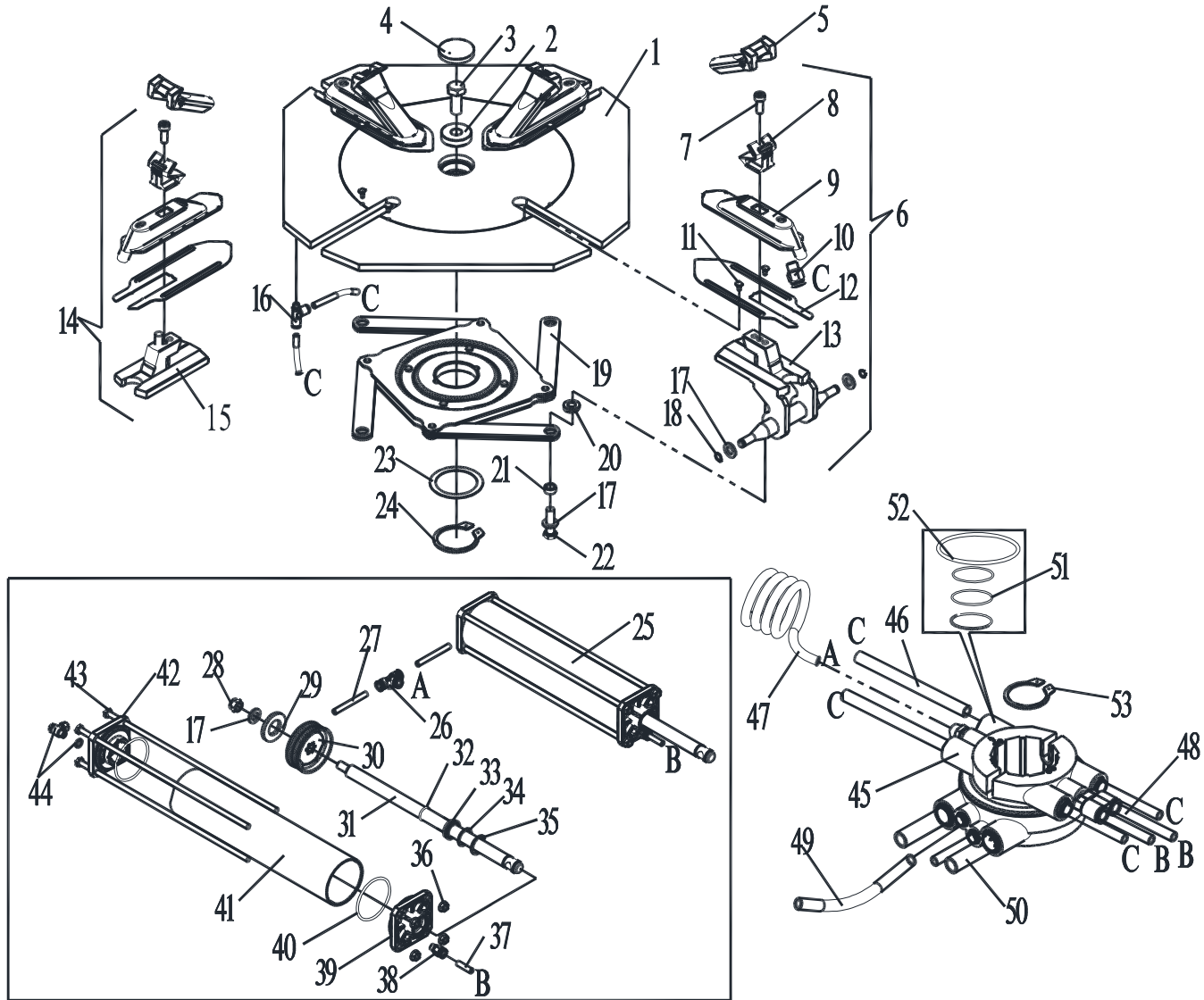
BEAD BREAKER

ED. 09/19

ITEM	PART NUMBER	DESCRIPTION	QTY	REMARK
1	C22K300000	Bead breaker arm assembly	1	
2	C22K301000	Bead breaker arm	1	
3	C204000004	Pivot pin	1	
4	C22K300001	Spacer	2	
5	C22K302000	Bead breaker arm	1	
6	0208015	Spring	1	
7	0202147	Screw M12X100 - GB/T70.1	1	
8	0205013	Washer D.12 - GB/T97.1	2	
9	0204007	Nut M12 - GB/T889.1	1	
10	C22K300002	Handle	1	
11	0212008	Seeger D.40 - GB/T894.1	2	
12	106B-3006002	Absorber protection	1	
13	106B-3006001	Shock absorber	1	
14	C02AQ00102	Valve cover	1	
15	0306033	90° quick union 8-R1/8	1	
16	0202071	Screw M12X35 - GB/T70.1	2	
17	YC1-3015573	Bush	2	
18	C00AQ10000	Bead breaker cylinder	1	
19	C00AQ10001	Cylinder liner 200X227.5	1	
20	0309104	O-ring 195X3.55	2	
21	C207010100	Front flange	1	
22	0204025	Flange nut M8 - GB/T6177.1	12	
23	0306032	90° quick union 8-1/4	2	
24	C02AQ00100	Quick discharge valve unit	1	
25	0306097	Rilsan hose 8X5 L=700	1	
26	0211004	Seeger D.30 - GB/T893.1	1	
27	YC1-4398146	Washer	1	

TAV.5.0	BEAD BREAKER		ED. 09/19
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28	0606016	Scraper 20X30X7	1
29	0606004	O-ring 20X2.75	1
30	0305041	Guide ring 67X9.5X2	1
31	0204009	Self-locking nut M18 - GB/T889.1	1
32	YC1-3015834-B	Piston rod	1
33	0309084	O-ring 16X2.65	1
34	C207010004	Seal 188X200X12	2
35	C207010001	Guiding ring	1
36	C207010002	Piston	1
37	C207010008	Seal support ring	2
38	0203022	Nut M18X1.5 - GB/T6171	1
39	0306097	Rilsan hose 8X5 L=750	1
40	0201175	Screw M8X248	12
41	C207010007	Back flange	1
42	0306086	Silencer G1/4	1
43	C02AQ00101	Valve body	1
44	0306039	Quick union 8-1/4	1
45	C02AQ00104	Seal	1
46	C02AQ00103	Seal	1

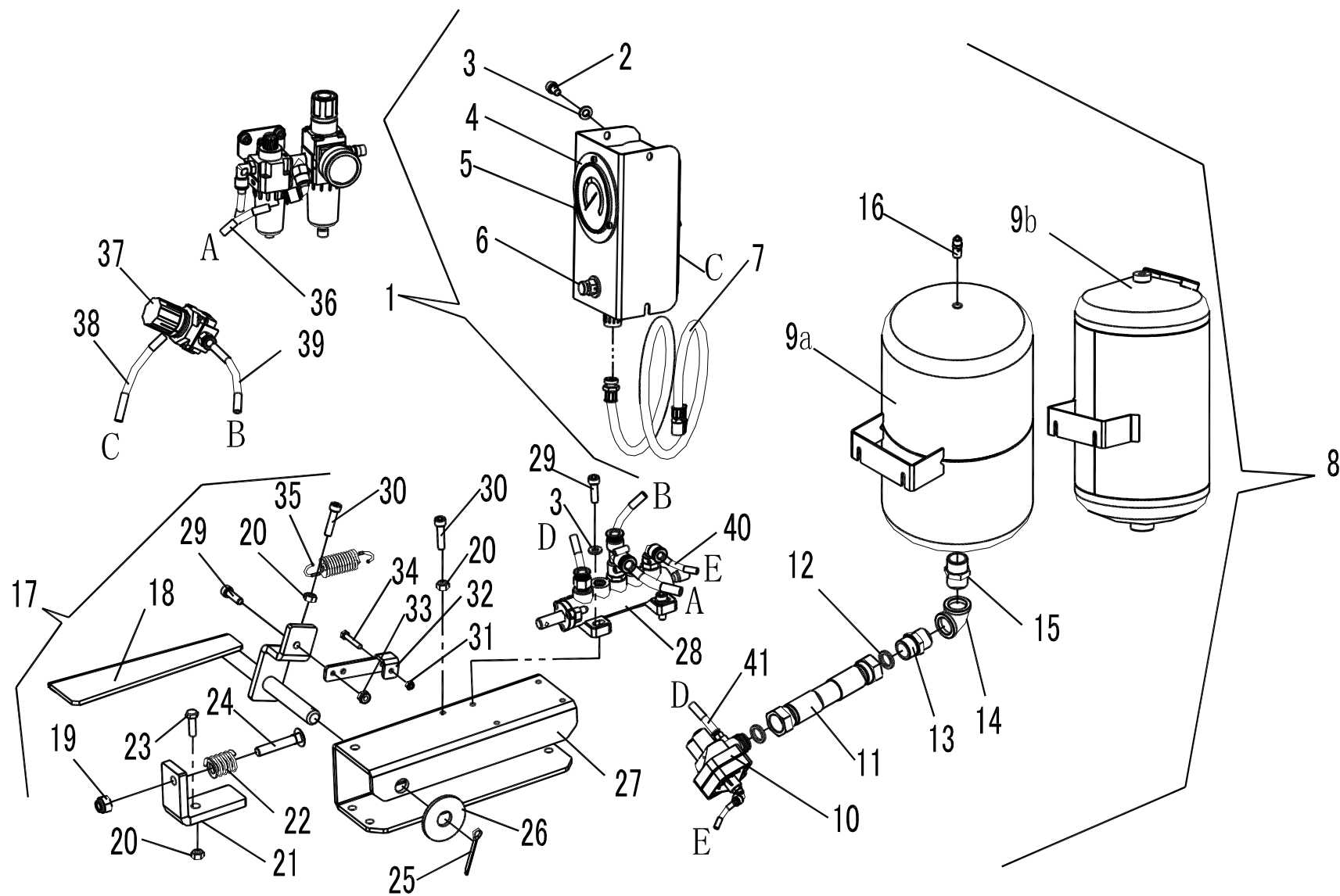


TAV.6.0	SELF-CENTERING TURNTABLE GT	ED. 09/19
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ITEM	PART NUMBER	DESCRIPTION	QTY	REMARK
1	YC1-2112865	Turntable	1	
2	YC1-3009778	Washer	1	
3	0201100	Screw M16X1.5X40 - GB/T5786	1	
4	YC1-3000062	Turntable cap	1	
5	YC1-3001468	Clamp cover	4	
6	YC2-2015756	Clamp assembly	2	
7	0202055	Screw M10X1.25X25 - GB/T70.1	4	
8	YC1-3002297	Oversize clamp	4	
9	YC2-2407387	Slide	4	
10	0306042	Quick union 10-1/4	4	
11	YC1-3015187	Rivet	8	
12	YC1-3015169	Turntable plate	4	
13	YC1-2415756	Slide guide	2	
14	YC2-2015755	Slide guide	2	
15	YC1-2412860	Slide guide	2	
16	0306020	Quick Tee union10-1/8	4	
17	0205013	Washer D.12	10	
18	0212001	Seeger D.12	4	
19	YC1-2016001	Turntable flange	1	
20	YC1-3006879	Spacer	4	
21	YC1-3006880	Connection rod spacer	4	
22	0201072	Screw M12X1.25X45 - GB/T5786	4	
23	YC1-3006869-A	Connection rod spacer	1	
24	0212011	Seeger D.65	1	
25	YC1-2008060	Turntable cylinder	2	
26	0306022	Quick T union D.8	1	
27	0306097	Rilsan hose 8X5 L=70	2	

TAV.6.0	SELF-CENTERING TURNTABLE GT	ED. 09/19
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28	0204007	Nut M12 - GB/T889.1	2
29	YC1-4198857	Washer	2
30	YC1-4198856	Piston	2
31	YC1-3002901	Piston rod	2
32	0606004	O-ring 20X2.75 - GB/T3452.1	2
33	0606016	Scraper 20X30X7	2
34	YC1-4398146	Washer	2
35	0211004	Seeger D.30 - GB/T893.1	2
36	0204025	Nut M8 - GB/T6177.1	8
37	0306097	Rilsan hose 8X5 L=350	2
38	0306045	Quick union 8-1/8	2
39	YC1-3015024A	Front flange	2
40	0606007	O-ring 75X3.55 - GB/T3452.1	4
41	YC1-3008042	Cylinder liner	2
42	YC1-3015023A	Back flange	2
43	0201034	Screw M8X371	8
44	0306016	Union 8-1/8	2
45	YC2-4298992	Rotation union GT	1
46	0306094	Rilsan hose 10X6.5 L=4200	4
47	0306157	Rilsan spiral hose 8X5.5 L=625	1
48	0306097	Rilsan hose 8X5 L=270	2
49	0306097	Rilsan hose 8X5 L=850	2
50	0306018	Rilsan hose 14X10 L=1000	2
51	0309065	O-ring 63X2.65 - GB/T3452.	3
52	0309067	O-ring 90X1.8 - GB/T3452.1	1
53	0212009	Seeger D.50 - GB/T894.1	1



TAV.7.0

GT INFLATING DEVICE

ED. 09/19

ITEM	PART NUMBER	DESCRIPTION	QTY	REMARK
1	YC2-2014217A	GT pneumatic unit	1	
2	0202030	Screw M6X10 - GB/T70.1	2	
3	0205006	Washer D.6 - GB/T97.1	6	
4	0305058	Pressure gauge	1	
5	0202008	Screw M4X8 - GB/T70.1	5	
6	YC2-4299354	Relief valve	1	
7	0306110	GT control unit hose 1/4 L=1500	1	
8	C22A070000	Air tank unit	1	
9a	YC2-2402899	Air tank	1	
9b	YC2-2402899A	Air tank CE	1	
10	YC2-4198531	Pneumatic valve	1	
11	0306340	Rilsan hose	1	
12	C04A301013	Seal	2	
13	0306343	Rotation union 1"	1	
14	0511076	Elbow union 1"	1	
15	0511133	Union 1"	1	
16	0306004	Safety valve 1/4 10bar	1	
17	YC2-2012486	GT valve control	1	
18	YC2-2410288	GT pedal	1	
19	0204004	Nut M8 - GB/T889.1	1	
20	0203004	Nut M6 - GB52	3	
21	YC2-3008005	Limit stop screw support	1	
22	YC2-4298942	Spring	1	
23	0201014	Screw M6X20 - GB/T5783	1	
24	0201170	Screw M8X45 - GB/T794	1	
25	0213020	Pin 3X30	1	
26	0205016	Washer 14	1	

TAV.7.0	GT INFLATING DEVICE	ED. 09/19
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27	YC2-3010287	Valve unit support	1
28	YC2-2009718	GT valve unit	1
29	0202033	Screw M6X20 - GB/T70.1	5
30	0202034	Screw M6X25 - GB/T70.1	2
31	0204001	Locking nut M4 - GB/T889.1	1
32	YC2-3001853	Valve control lever	1
33	0204003	Self-locking nut M6 - GB/T889.1	2
34	0201002	Screw M4X25	1
35	YC2-3000141	Spring	1
36	0306097	Rilsan hose 8X5 L=1000	1
37	C00AQ58000	Safety valve unit 3.5bar	1
38	0306097	Rilsan hose 8X5 L=850	1
39	0306097	Rilsan hose 8X5 L=400	1
40	0306095	Rilsan hose 6X4 L=400	2
41	0306097	Rilsan hose 8X5 L=500	1



Dichiarazione di Conformità

Declaration of Conformity
Konformitätserklärung
Déclaration de Conformité
Declaración de Conformidad



Noi
We / Wir / Nous / Nosotros

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

dichiaro sotto la nostra esclusiva responsabilità che il prodotto

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

Smontagomme

Tyre changer
Reifenmontiermaschine
Démonte-Pneus
Desmontadora

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

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

2006/42/CE

Direttiva Macchine

2014/30/UE

Direttiva Compatibilità Elettromagnetica

Per la conformità alle suddette direttive sono state seguite le seguenti Norme Armonizzate:

To comply with the above mentioned Directives, we have followed the following harmonized directives:

In Übereinstimmung mit o.g. Richtlinien wurden folgende harmonisierte Normen befolgt:

Pour la conformité aux normes ci-dessus, nous avons suivi les normes harmonisées suivantes:

Para la conformidad a las Normas arriba mencionadas, hemos seguido las siguientes normas armonizadas:

UNI EN ISO 12100:2010

Sicurezza del macchinario – Principi generali di progettazione – Valutazione del rischio
riduzione del rischio

CEI EN 60204-1:2006/AC:2010

Sicurezza del macchinario – Equipaggiamento elettrico delle macchine –
Parte 1: Regole generali

E la seguente Norma tecnica

And the following technical Directive

Sowie die folgende technische Norm

Et la Norme technique suivante

Y la siguiente Norma técnica

UNI 11691:2017

Macchine per smontaggio e montaggio pneumatici per veicoli – Requisiti di sicurezza

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

The technical documentation file is constituted by RAVAGLIOLI S.p.A.

Vorgesetzte Rechtsperson für die Erstellung des technischen Lastenheftes ist RAVAGLIOLI S.p.A.

La société RAVAGLIOLI S.p.A. est l'organisme délégué à la présentation de la documentation technique.

RAVAGLIOLI S.p.A. es encargada a la constitución del archivo técnico.

RAVAGLIOLI S.p.A.

Il modello della presente dichiarazione è conforme alla norma

UNI CEI EN ISO/IEC 17050-1

The version of this declaration conforms to the regulation

Das Modell der vorliegenden Erklärung entspricht der Norm

Le modèle de la présente déclaration est conforme à la norme

El modelo de la presente declaración cumple la norma