





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 lift and carrying out any adjustment, read carefully chapter 7 “installation” where all proper operations for a better functioning of the lift are shown.
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CHAPTER 1 – INTRODUCTION

1.1 INTRODUCTION

Thank you for purchasing a product from the line of 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 lift, 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 manual: 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

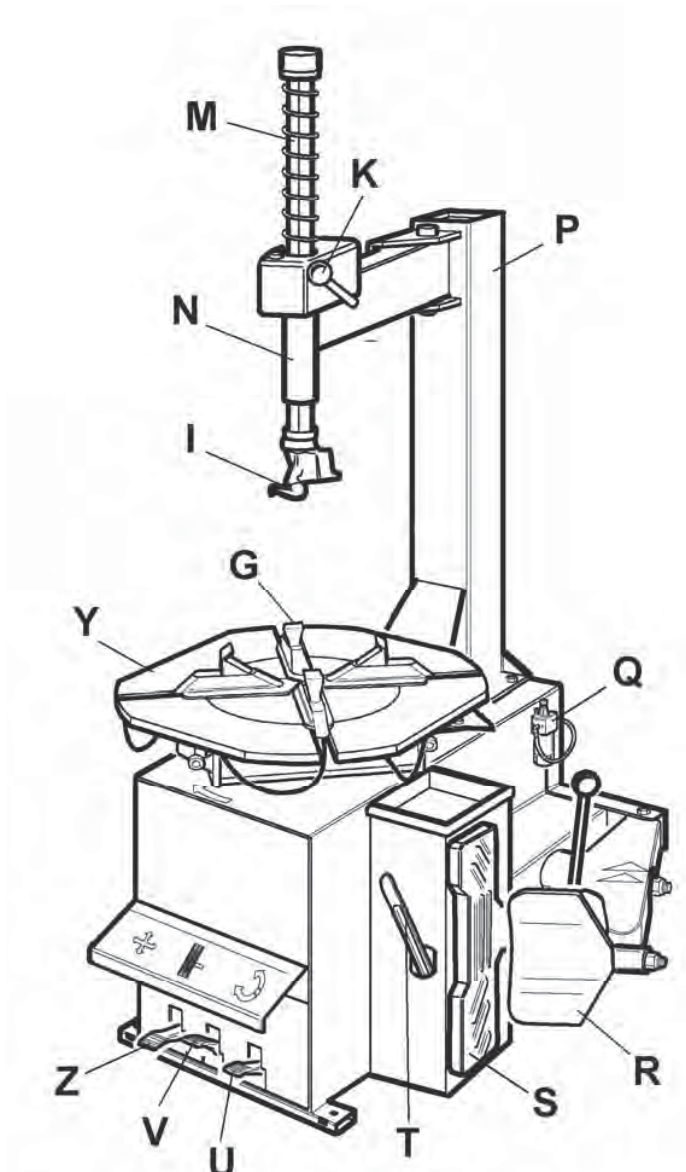
Every effort has been made to ensure that the information contained in this manual is correct, complete and up-to date. The manufacturer is not liable for any mistakes made when drawing up this manual and reserves the right to make any changes due the development of the product, at any time

CHAPTER 2 – GENERAL INFORMATION

2.1 INTENDED USE

- This Semi-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
- M) Mounting bar
- N) Horizontal arm
- P) Vertical arm
- Q) Air supply
- R) Bead breaker
- S) Wheel support
- T) Bead lifting lever
- U) Clamp control pedal
- V) Clamp control pedal
- Z) Reverser control pedal
- Y) Turntable
- K) Locking lever

Fig . 1

2.3 DANGER WARNING SIGNS

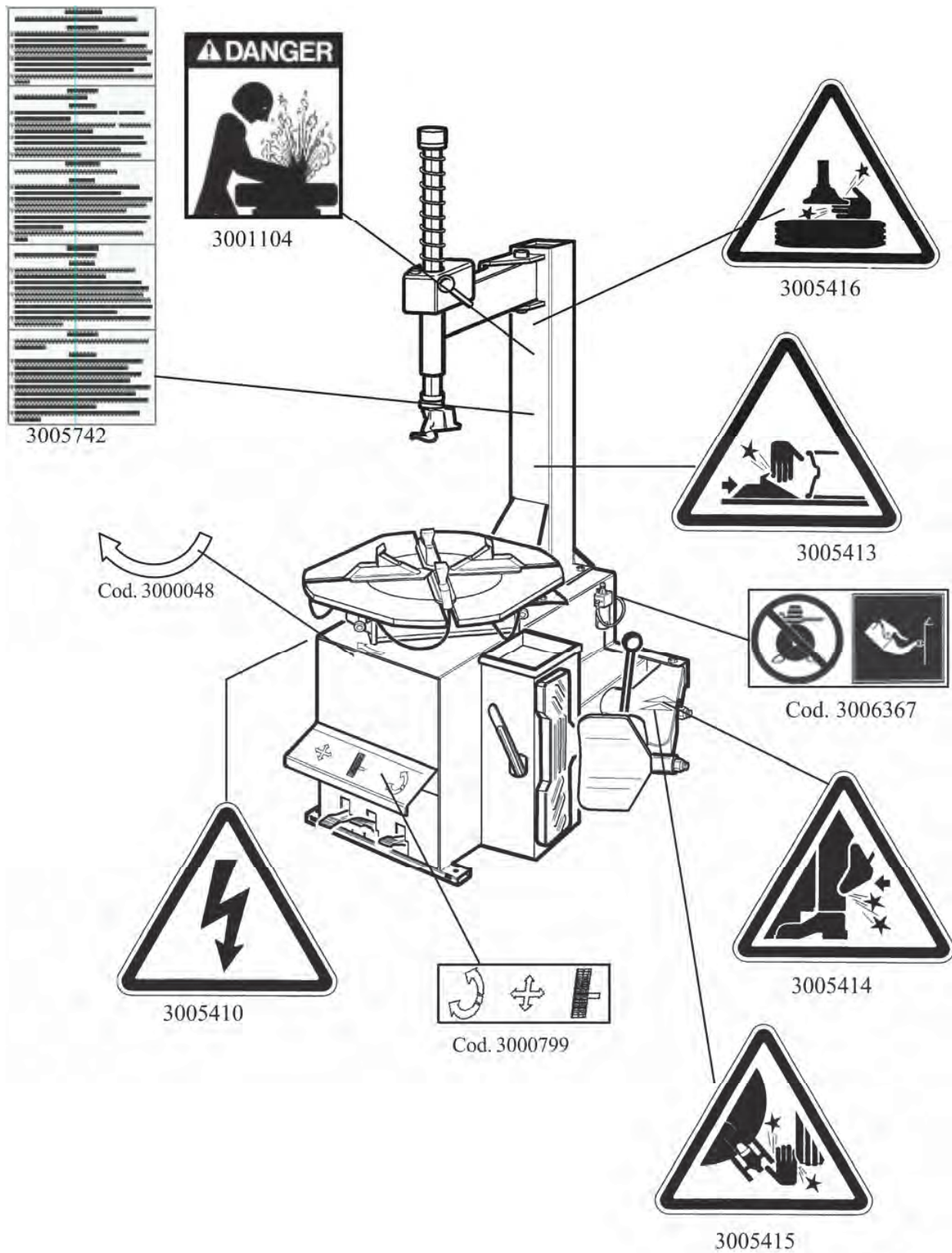


Fig. 2

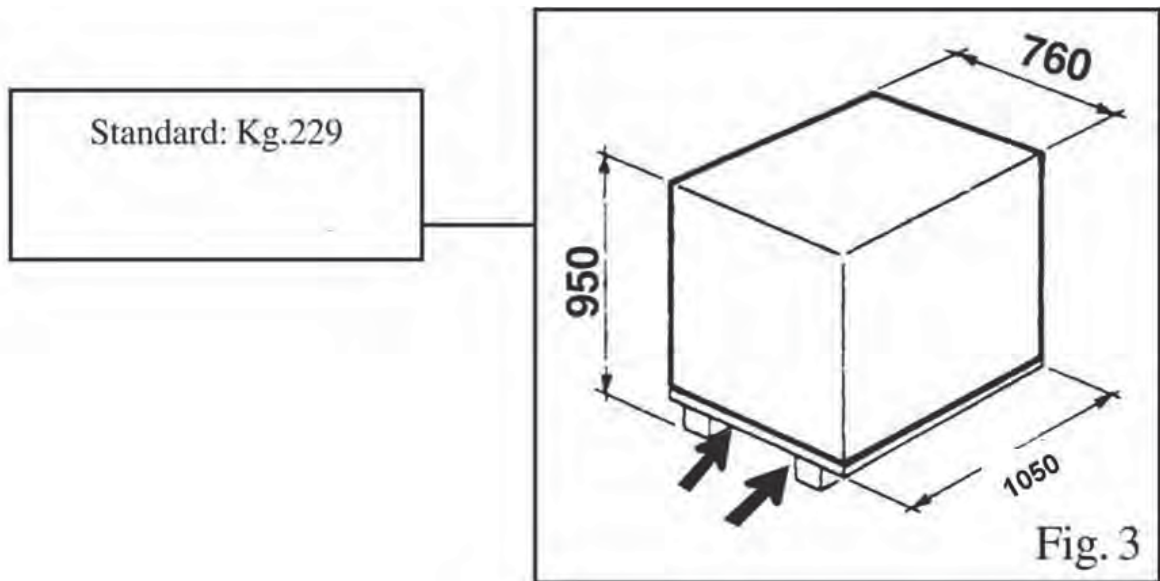
2.4 TECHNICAL SPECIFICATION

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	420mm (17")
Force on bead breaker blade (10 bar)	2500 kg
Working pressure	10 bar (145 psi)
Inflating pressure device max.	3.5 bar (50 psi)
Power supply voltage	110V 1Ph
Motor power	1.1 kw (1ph)
Rotating speed	7 – 14 rpm
Max spindle torch	1200 NM
Dimension	1050 x 760 x 950
Net weight	229 kg STND
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.
- 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.

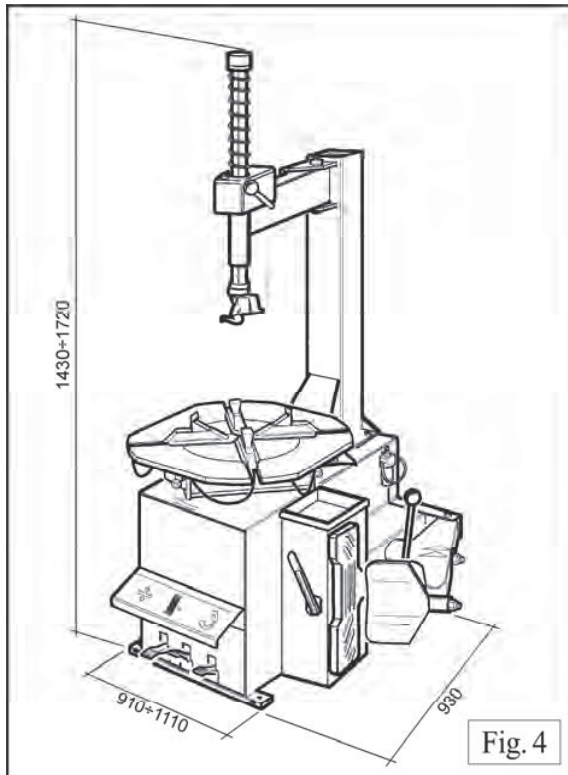


Fig. 4

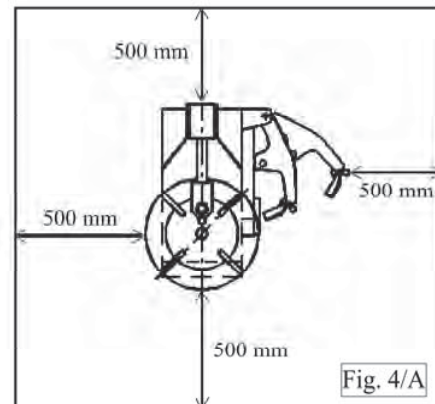


Fig. 4/A

4.2 POSITIONING AND PARTS ASSEMBLY

4.2.1 Arm assembly

- Unscrew the pallet fixing screws and set the tire changer on the floor.
- Unscrew the 4 screws from the body, set the vertical arm into the proper seat and fix the screw again (Fig. 5/a).
- Make sure the horizontal arm is on the vertical arm's support and the pin is locked with nuts and washers as shown in Fig. 5/b.



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 compressed air network (Fig. 5/d)
- Mount the bead breaker arm as shown in Fig. 5/e:
 - Set the arm "a" into the proper seat, set the screw into the hole and screw the nut **WITHOUT TIGHTENING**.
 - Set the pivot pin "b" into the hole on the arm and let the cylinder's shaft pass through the pin's hole. Screw 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 5/f
- Screw the nut as indicated in Fig 5/g

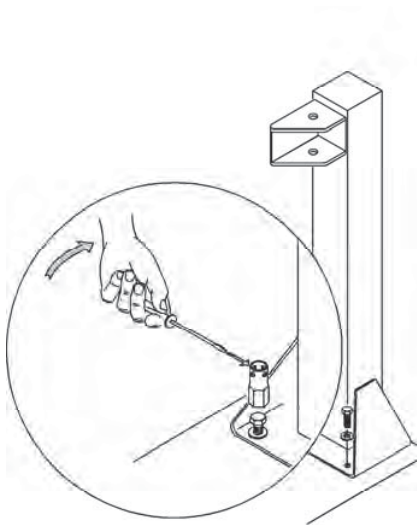


Fig. 5/a - Abb. 5/a

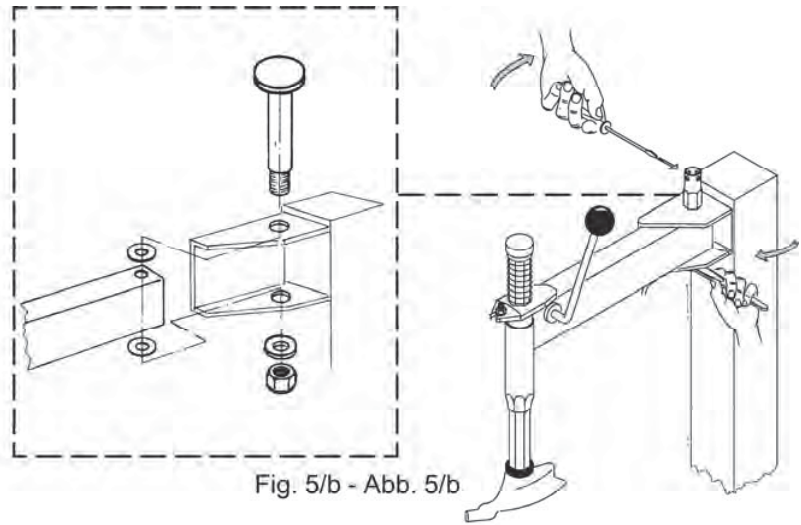


Fig. 5/b - Abb. 5/b

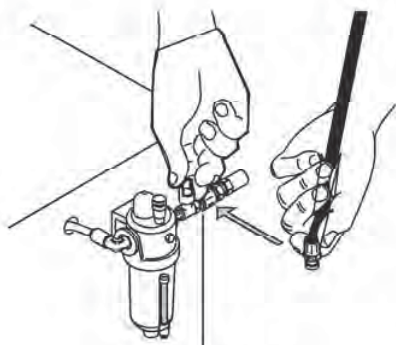


Fig. 5/c - Abb. 5/c

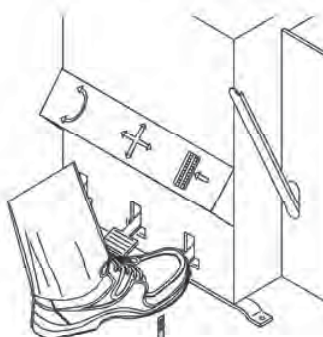


Fig. 5/d - Abb. 5/d

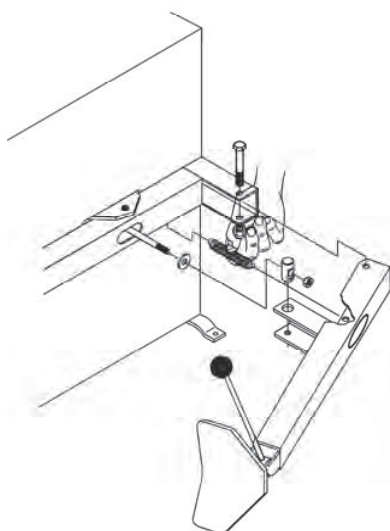
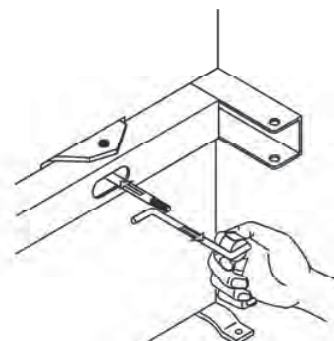


Fig. 5/e - Abb. 5/e

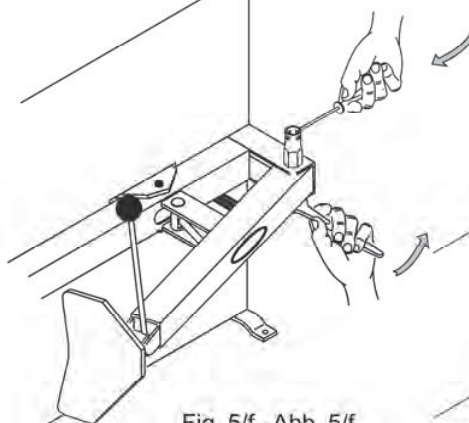


Fig. 5/f - Abb. 5/f

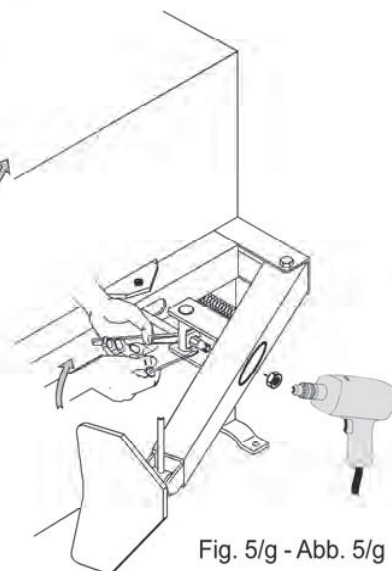
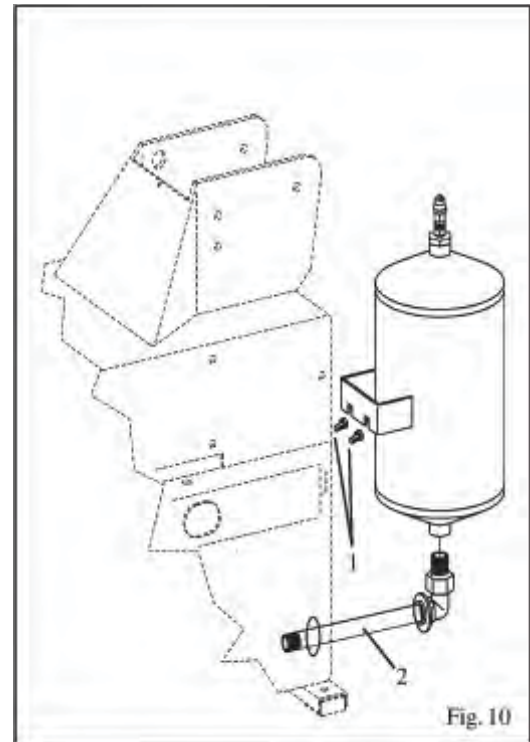


Fig. 5/g - Abb. 5/g

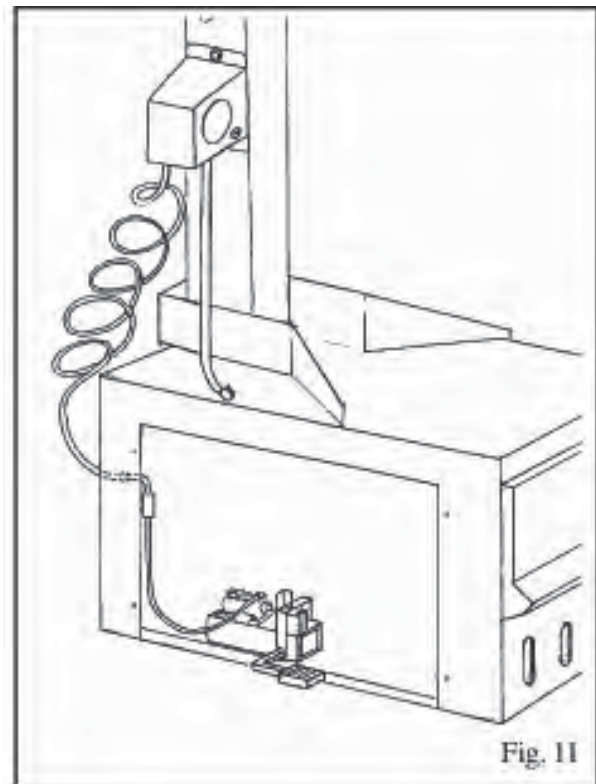
4.2.2 Mounting and connecting the GT tank (optional)

- 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


- 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.

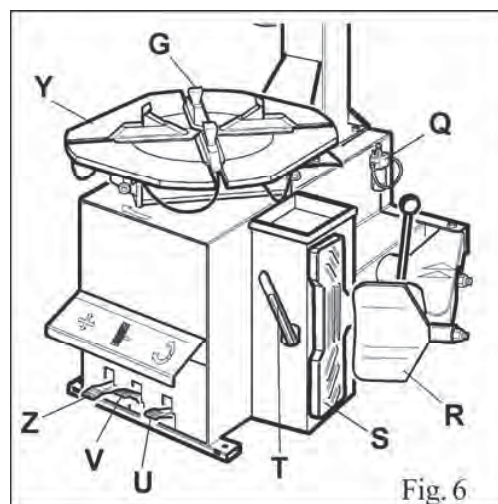
	<p>Connect the machine to the electric network, which must be provided with line fuses, a good earth plate in compliance with regulations in force and it must be connected to an automatic circuit breaker (differential) set at 30 mA.</p> <p>Should the tire-changer be lacking in electric plug, the user 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 trigger on the airline gauge cause air to be released from the head.



4.4.1 GT SYSTEM (optional)

	<p>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.</p>
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- 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.

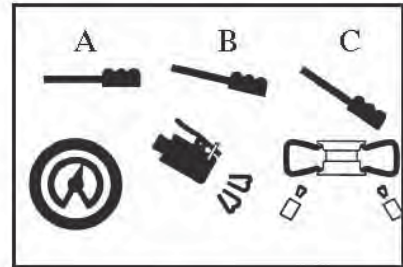



Fig. 13

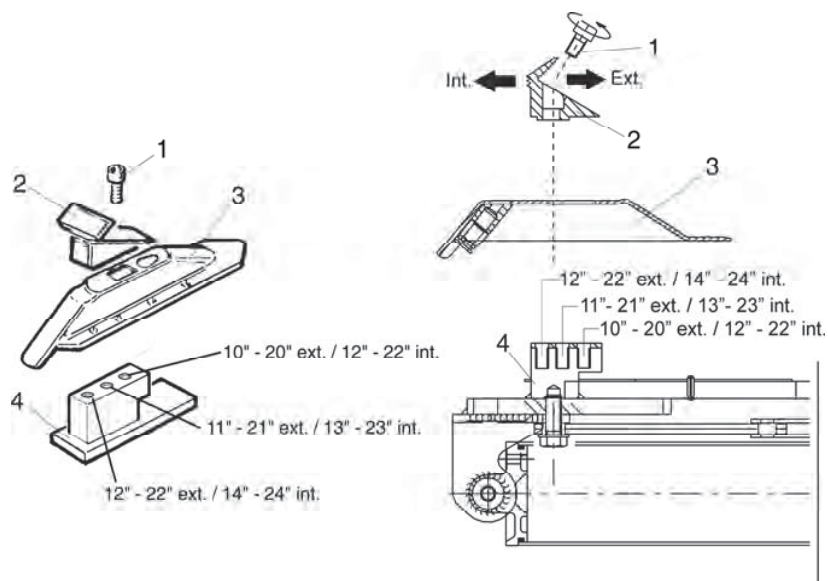
4.5 TURNTABLE LOCKING VALUE ADJUSTING

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.

	<p>It is important to perform the above mentioned operation for all the 4 clamps to avoid any unbalance in locking phase.</p>
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CHAPTER 5 – OPERATION


	<p>Do not use the machine until you have read and understood the entire manual and the warning provided.</p> <p>Before carrying out any operation, deflate the tire and take off all the wheel balancing weights.</p>
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The operation of the tire changer is divided into three parts:

- a) BREAKING THE BEAD b) REMOVING THE TIRE c) MOUNTING THE TIRE

	<p>It is advised to equip the tire changer with the pressure regulator.</p>
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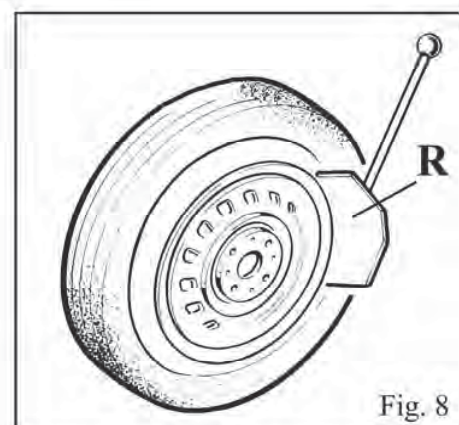
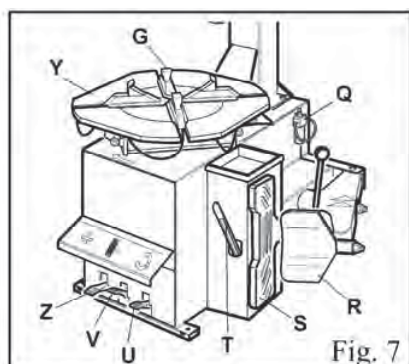
5.1 BREAKING THE BEAD

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

	<p>Bead breaking with the clamps in open position can be extremely dangerous for operator's hands.</p> <p>During bead breaking operations NEVER touch the side of the tire.</p>
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- 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. 8). 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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- 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 MEVER 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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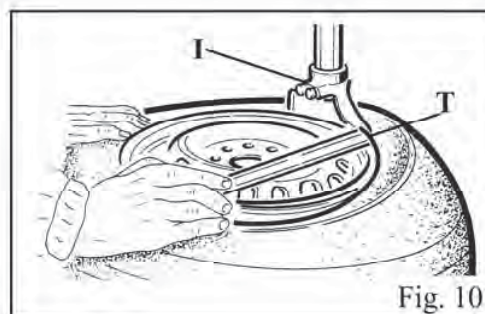
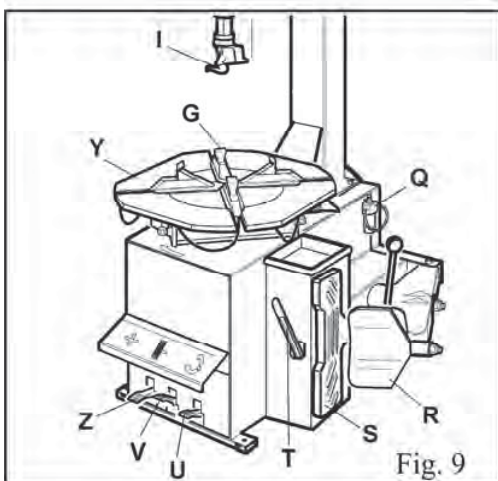
- Lower the mounting bar (M) so that the mounting head (I) rests against the edge of the rim and lock it using the lever (K). This will lock the arm in both vertical and horizontal direction and move the mounting head (I) of about 2 mm from the rim.
- With the lever (T) inserted between the bead and 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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- 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.
- Remove the inner tube if there is one and repeat the operation for the other bead.



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



5.3 MOUNTING THE TIRE



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:

The tire and cord fabric are not damaged. If you note defects DO NOT mount the tire.

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.

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.

- Lubricate the tire beads with the special grease in order to avoid damaging them and to facilitate the mounting operations.



During rim locking MEVER keep your hands under the tire. For a correct locking operation set the tire exactly in the middle of turntable.

- 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.



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 ram (P) with the arm and the bar locked in their working positions.



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. 12).

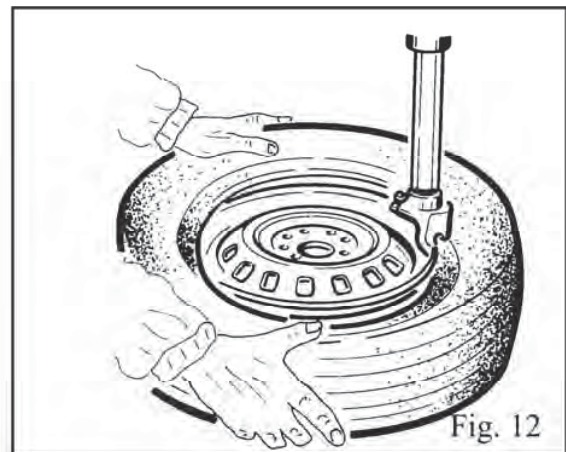
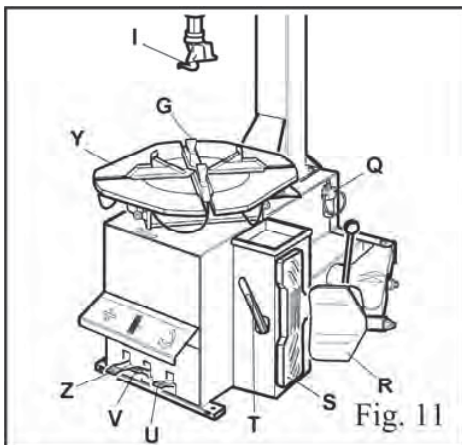


To prevent industrial accidents, keep hands and other parts of the body as far as possible from the tool arm when the table top is turning.

- 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.



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 bust 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.

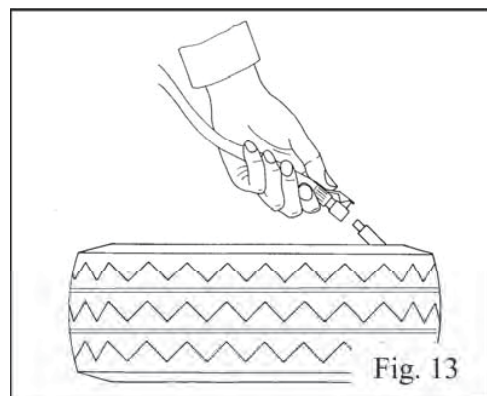
All our tire changers are automatically limited to a maximum inflating pressure of 3.5 bar (51 psi). In any case NEVER EXCEED THE PRESSURE RECOMMENDED BY THE MANUFACTURER.

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.

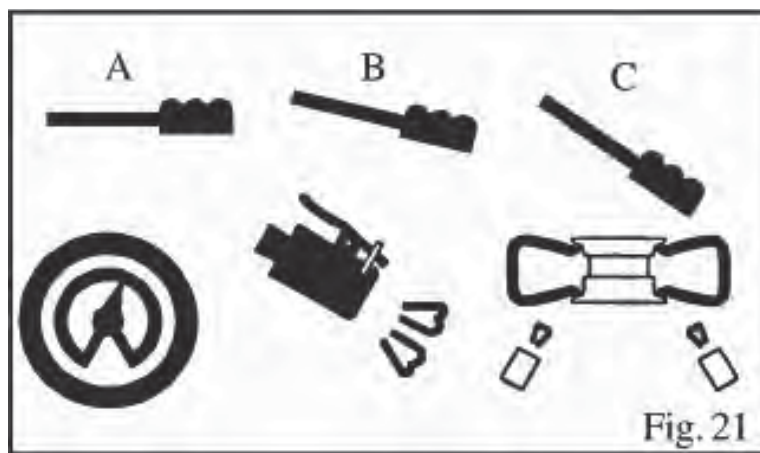
6.2 INFLATING TIRES WITH GT SYSTEM (optional)

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.
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- 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.

	<p>EXPLOSION HAZARD!</p> <p>Never exceed 3.5 bar (51 psi) when seating beads or inflating tires.</p> <p>If a higher inflating pressure is required remove the wheel from turntable and continue the inflating procedure inside a special protection cage (commercially available).</p> <p>Never exceed the max. inflating pressure given by the tire manufacturer.</p> <p>ALWAYS keep hands and body back from inflating tire.</p> <p>ONLY special trained personnel are allowed to perform these operations.</p> <p>Do not allow other persons to operate or to stay near the tire changer.</p>
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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. 14)
 - 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. 14)
- After the first 20 days of work, retighten the clamp tightening screws on the turntable slides (Fig. 15).
- 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.

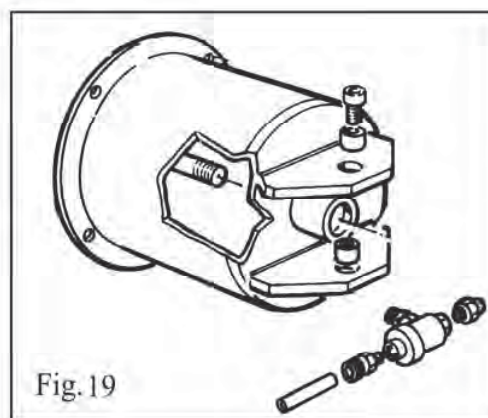
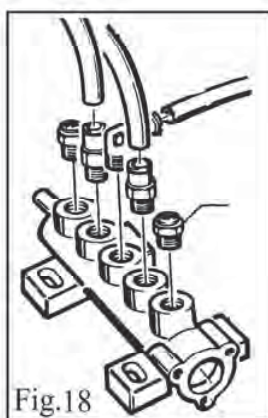
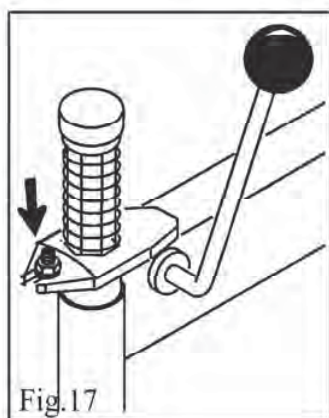
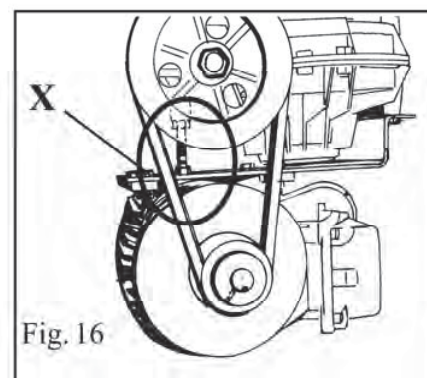
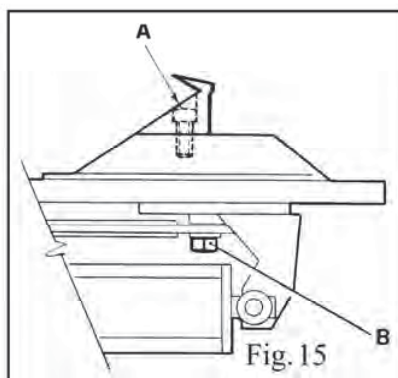
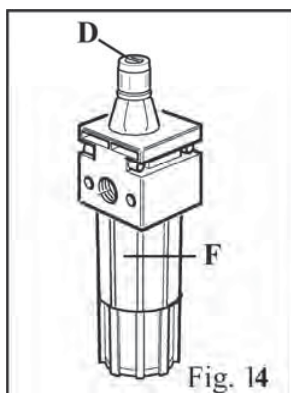
- Remove the left side body panel of the tire changer by unscrewing the four fixing screws.
- Remove the drive belt by means of the special adjusting screw X on the motor support (Fig. 16).

- 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. 17.

For cleaning or replacing the silencer for opening/closing clamps, see Fig 18 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. 19 and proceed as shown on previous point 1 and 3.

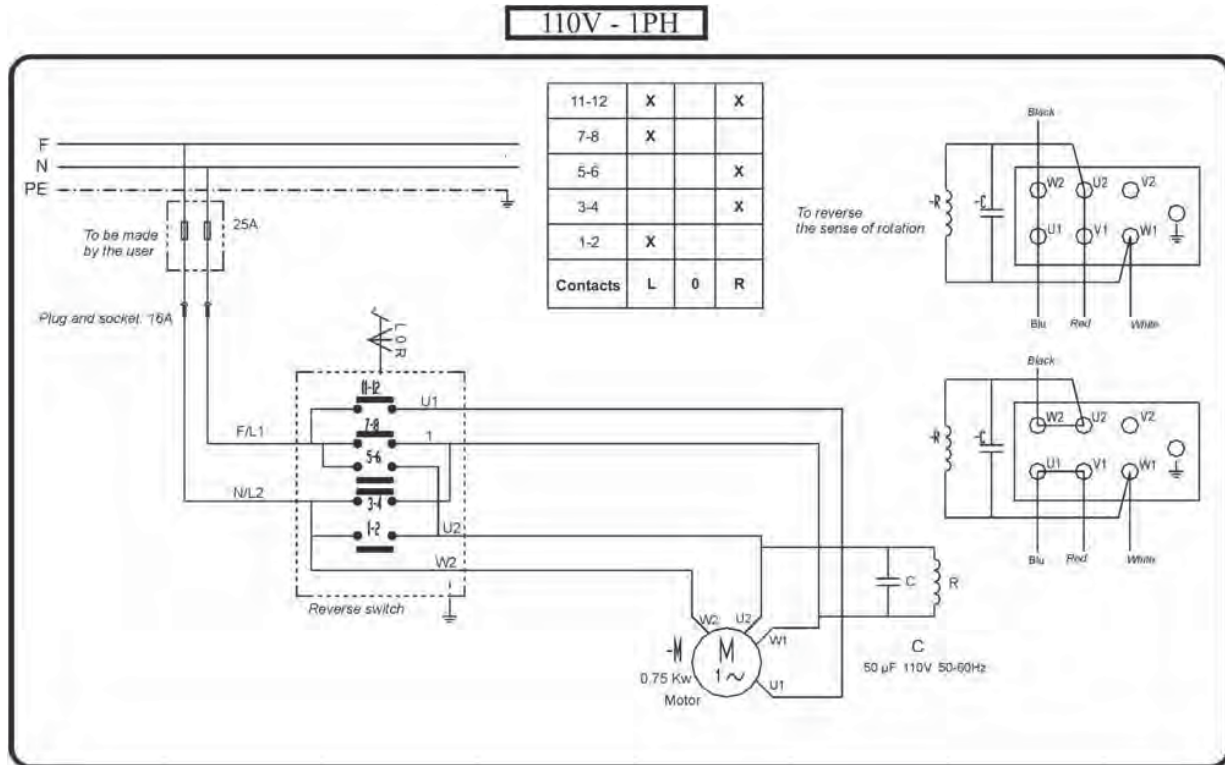


CHAPTER 8 – TROUBLE-SHOOTING

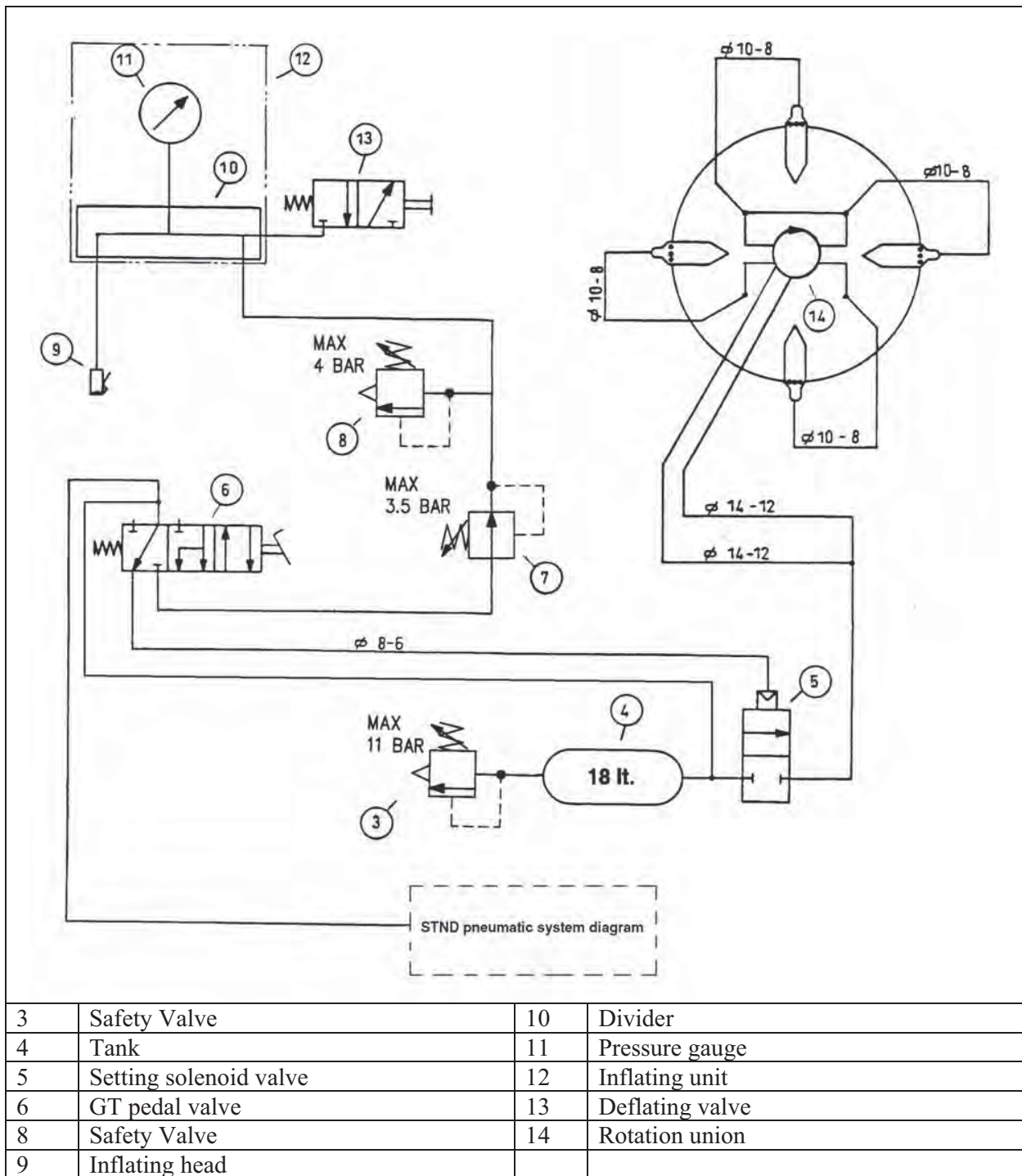
TROUBLE:	POSSIBLE CAUSE:	SOLUTION:
Turntable rotates only in one direction.	Reverser broken	Replace reverser
Turntable does not rotate.	Belt broken	Replace
	Reverser broken	Replace reverser
	Problem with motor	Check for loose wire in the motor, plug or socket.
		Replace motor
Turntable locks	Belt loose	Adjust the belt tension (chap. 7 Fig. 24)
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 – Fig 25)
	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 – Fig. 27)
	Bead breaker cylinder gasket broken	Replace gasket

CHAPTER 9 – ELECTRIC AND PNEUMATIC DIAGRAM

STANDARD ELECTRIC DIAGRAM



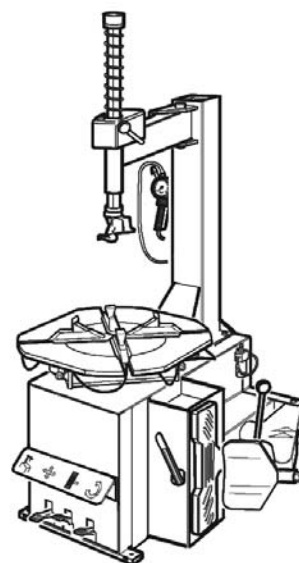
GT PNEUMATIC SYSTEM DIAGRAM





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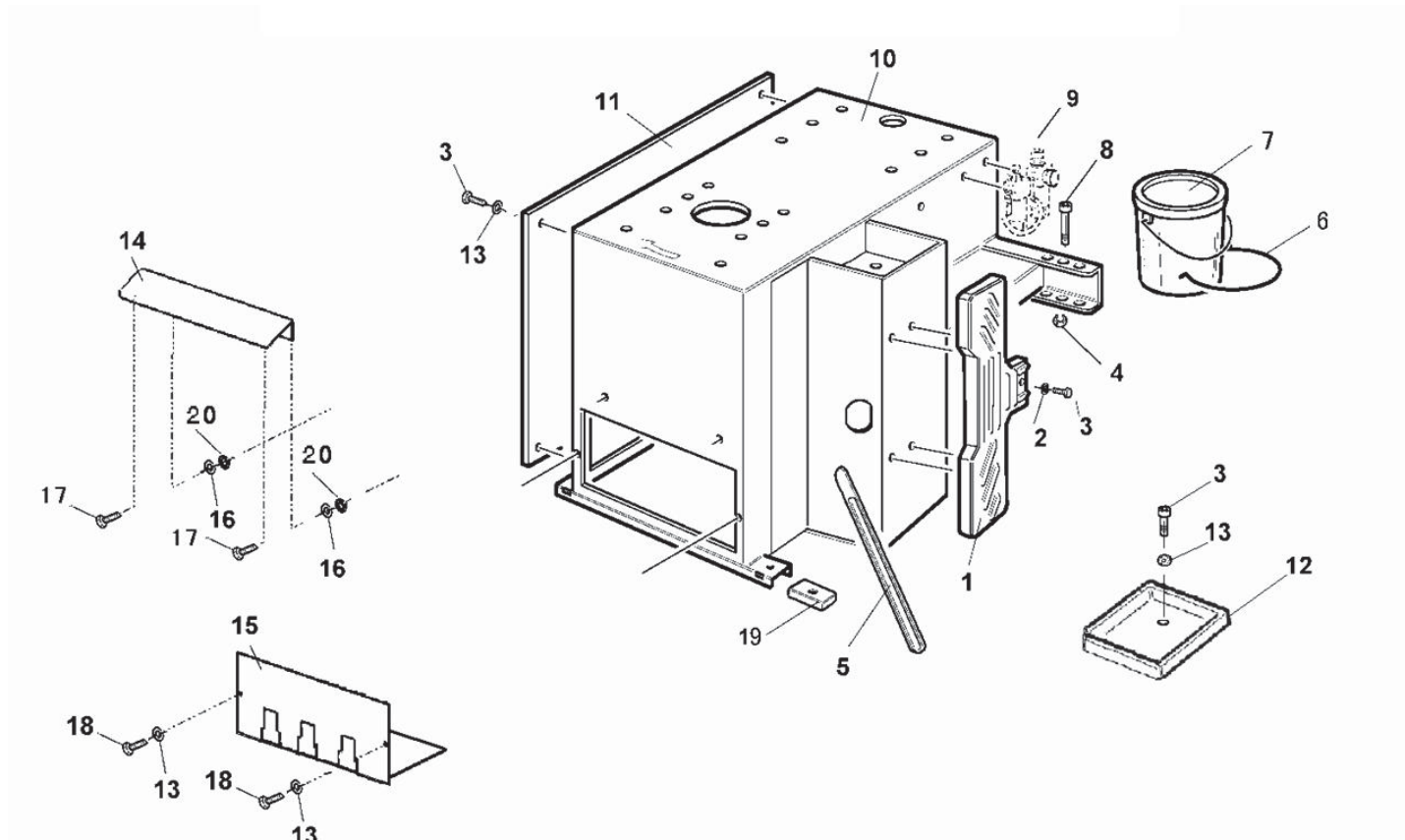
PART CATALOGUE
TC-221XL/TC-229
SEMI-AUTOMATIC TIRE CHANGER



TAV.1-2

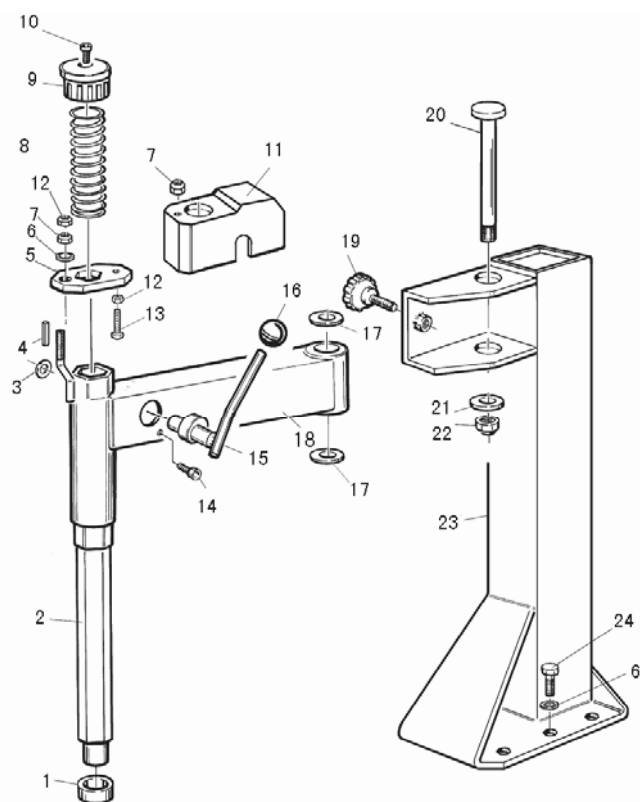
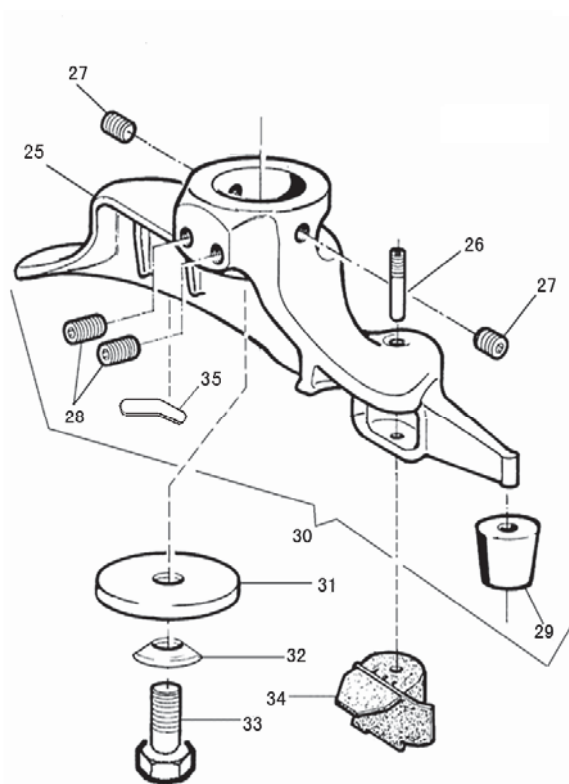
BODY

ED. 07/08



TAV.1-2	BODY	ED. 07/08
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ITEM	CODE	REF. NO	DESCRIPTION	QTY	REMARK
1	3002102	YC1-3002102	Wheel support	1	
2	4398848	GB/T96	Washer 6	4	
3	4398108	GB/T70.1	Self-tapping screw M6X16	9	
4	4399971	GB/T6182	Self-locking nut M10	1	
5	3006970	YC1-3006970	Bead lifting lever	1	
6	3000069	YC1-3000069	Spring	1	
7	4299984	YC1-4299984	Grease cup	1	
8	4398925	GB/T70.1	Screw M10X85	1	
9			Air lubricator	1	
10	2118258	202W-2418258	shell	1	
11	2101800	YC1-3001800	Side cover	1	
12	3018260	202W-3018260	ABS cover	1	
13	4399998	GB/T97.1	Washer 6	7	
14	3011970	YC1-3011970-1	Pedal cover	1	
15	6612080	YC1-3012080	Pedal support	1	
16	4399828	GB/T97.1	Washer 8	2	
17		GB/T5783	Screw M8X16	2	
18	4398723	GB/T70.1	Screw M6X12	2	
19	3002099	YC1-3002099	Plastic foot	4	
20	4399976	GB/T6170	Nut M8	2	



TAV.2.2		HORIZ. AND VERT. ARMS			ED. 07/08
ITEM	CODE	REF. NO	DESCRIPTION	QTY	REMARK
1	3002601	YC1-3012601	Mounting head shock absorber	1	
2	3015586	YC1-3015586	Hexagonal arm	1	
3	4398807	GB/T97.1	Washer 14	1	
4	4398783	GB/T879.2	Elastic pin 4X25	1	
5	3015567	YC1-3015567	Arm locking plate	1	
6	4398633	GB/T97.1	Washer 10	7	
7	4399971	GB/T6182	Self-locking nut M10	2	
8	3005407	YC1-3005407	Spring	1	
9	3001759	YC1-3001759	Operating arm knob	1	
10	4399134	GB/T70.1	Screw M8X30	1	
11	3012631	YC1-3012631	Arm frame	1	
12	4399967	GB/T6172	Nut M10	2	
13	4398900	GB/T5783	Screw M10X25	1	
14	4399964	GB/T70.1	Screw M6X10	1	
15	2107085	YC1-2407085	Arm locking lever	1	
16	4299952	YC1-4299952	Knob	1	
17	4397898	YC1-4397898	Steel shim	3	
18	6615589	YC1-2415589	Horizontal arm	1	
19	3000487	YC1-3000487	Hand wheel	1	
20	3015565	YC1-3015565	Pivot	1	
21	3007352	YC1-3007352	Washer 20.5X50X6	1	
22	4399963	GB/T6182	Self-locking nut M16	1	
23	2112123	YC1-2412123	Vertical arm	1	
24	4399877	GB/T5782	Screw M10X60	6	
25	3002214	YC1-2002214	Mounting tool	1	
26	3009018	YC1-3009018	Special pin D.5 M6	1	

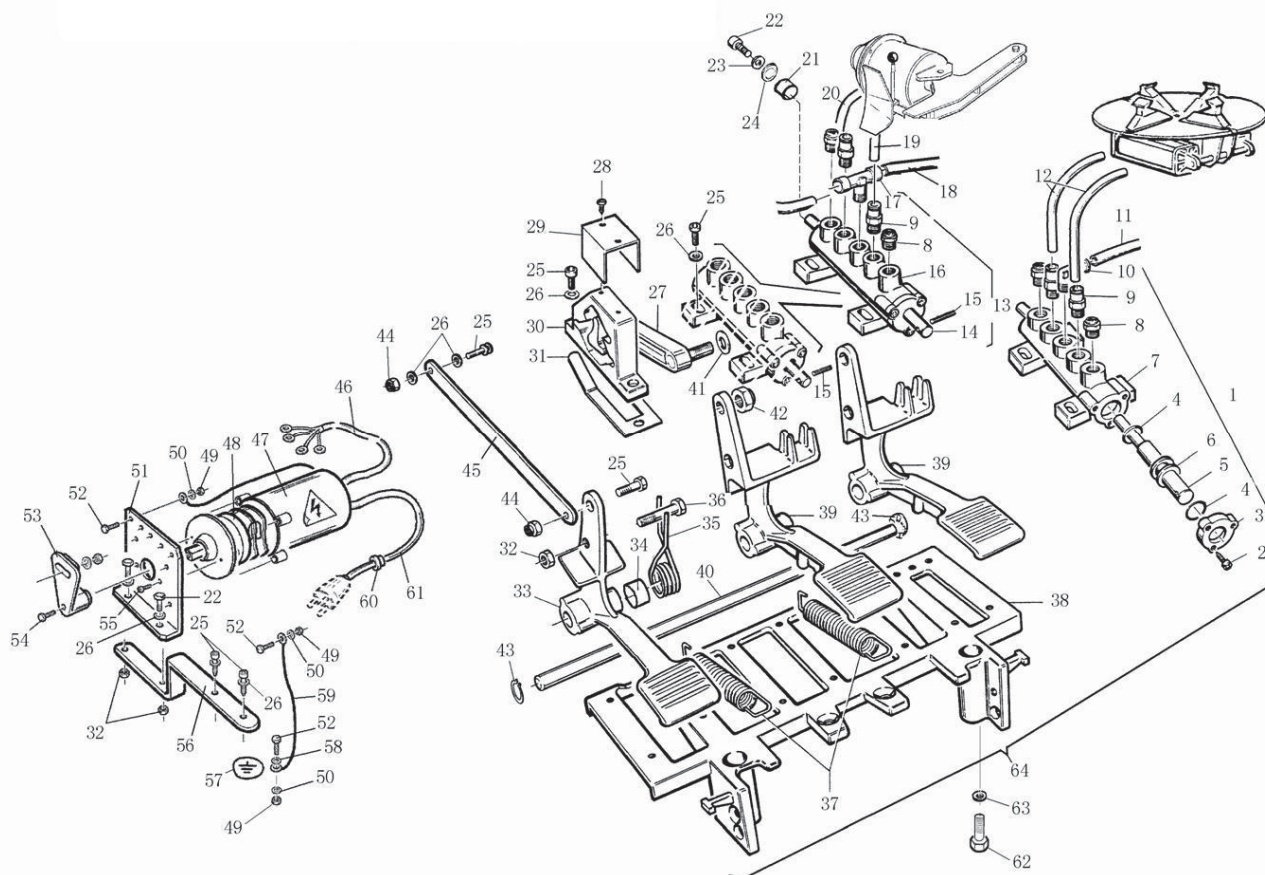
TAV.2.2	HORIZ. AND VERT. ARMS			ED. 07/08
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27	5395530	GB/T80	Screw M12X12	2
28	4395805	GB/T77	Screw M12X16	2
29	3000215	YC1-3000215	Peak roll	1
30	2002215	YC1-2002215	Mounting tool unit	1
31	4395804	YC1-4395804	Washer 14.2X35X5	1
32	4395805	YC1-4395805	Washer 10.2X21X4	1
33	4399953	GB/T5783	Bolt M10X16	1
34	3006689	YC1-3006689	Plastic insert	1
35	3013650	YC1-3013650	Tool protection	1

TAV.3.2

PEDAL BOX

ED. 07/08



TAV.3.2	PEDAL BOX	ED. 07/08
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ITEM	CODE	REF. NO	DESCRIPTION	QTY	REMARK
1	2002529	YC1-2002529	Valve unit	1	
2	4398999	GB/T845	Self-tapping screw ST3.5X13	6	
3	3001585	YC1-3001585	Flange for valve 3001583	2	
4	4299000	YC1-4299000	O-ring 17X4	12	
5	3002442	YC1-3002442	Valve pin	1	
6	3001584	YC1-3001584	Spacer for valve 3001583	10	
7	3001583	YC1-3001583	Distribution valve	2	
8	4199843	YC1-4899843	Silencer outlet adjuster G1/8"	4	
9	4198954		Quick union 1/8" - 8	4	
10	4198990		Quick union 1/8" - 8	1	
11	3002446		Rilsan hose D8/5 L=80	1	
12	3099335		Rilsan hose D8/5 L=750	2	
13	2006297	YC1-2006297	Valve unit	1	
14	3007598	YC1-3007598	Valve rod	1	
15	4398783	GB/T879.2	Elastic pin 4X25	2	
16	2002444	YC1-2002444	Valve unit	1	
17	4198778		Quick union 1/8" - 8	1	
18	4300145		Rilsan hose D8/5 L=900	1	
19	3099335		Rilsan hose D8/5 L=750	1	
20	3000144		Rilsan hose D8/5 L=700	1	
21	4197629	YC1-4197629	Nylon washer	1	
22	4399905	GB/T5783	Screw M6X12	3	
23	4398848	GB/T96	Washer 6	1	
24	4398633	GB/T97.1	Washer 10	1	
25	4399890	GB/T70.1	Screw M6X20	14	
26	4399998	GB/T97.1	Washer 6	16	
27	4299912	YC1-4299912	Connection rod	1	

TAV.3.2	PEDAL BOX	ED. 07/08
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28	4399891	GB/T845	Self-tapping screw ST3X6	2
29	4299910	YC1-3099910	Connection rod guide	1
30	4299913	YC1-4299913	Double cam	1
31	4299911	YC1-4299911	Forked leaf spring	1
32	4399889	GB/T6170	Nut M6	4
33	3002157	YC1-3002157	Reverser control pedal A	1
34	3007953	YC1-3007953	Bush	1
35	3000142	YC1-3000142	Pedal control spring	1
36	4397649	GB/T5782	Screw M6X50	1
37	3013333	YC1-3013333	Pedal return spring	2
38	3002161	YC1-3002161	Pedal box base	1
39	3002159	YC1-3002159	Pedal B	1
40	3003094	YC1-3003094	Pedal alignment pin	1
41	4399894	GB/T860	Elastic washer 8	1
42	4399900	GB/T6182	Self-locking nut M8	1
43	4399864	GB/T894.1	Seeger 12	2
44	4399893	GB/T6182	Self-locking nut M6	2
45	3015341	YC1-3015341	Connection rod	1
46	2001171	YC1-2001171	Connecting cable	1
47	3015345		Reverser cover	1
48	4595380		Reverser (40A)	1
49	4399996	GB/T6170	Nut M4	3
50	4399703	GB/T862.2	Toothed washer 4	3
51	2115340	YC1-2115340	Reverser support	1
52	4399905	GB/T5783	Screw M4X12	3
53	3000175	YC1-3000175	Reverser lever	1
54	4399905	GB/T70.1	Screw M4X12	1

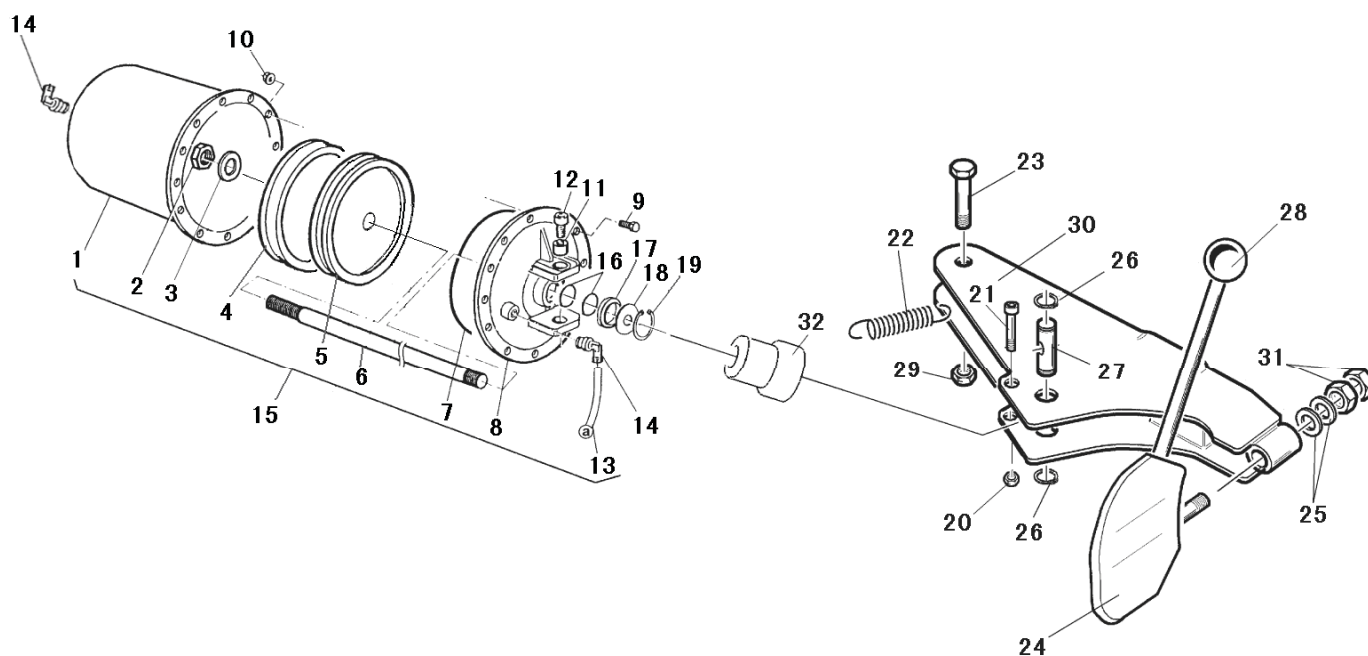
TAV.3.2	PEDAL BOX			ED. 07/08
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55	4399044	GB/T70.1	Screw M5X20	2
56	3015342	YC1-3015342	Support	1
57	3005604		Grounding sticker	1
58	4399703	GB/T97.1	Washer 4	1
59	2006040		Grounding cable	1
60	4599986		Cable holder	1
61			Electric cable	1
62		GB/T5783	Screw M8X16	3
63	4399829	GB/T97.1	Washer 8	3
64	2015861	YC1-2015861	Pedal control unit	1

TAV.4.2

BEAD BREAKER

ED. 07/08



TAV.4.2	BEAD BREAKER	ED. 07/08
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ITEM	CODE	REF. NO	DESCRIPTION	QTY	REMARK
1	3005053	YC1-3005053	Cylinder liner	1	
2	4394969	GB/T6171	Nut M18X1.5	1	
3	4398289	GB/T97.1	Washer 18	1	
4	4195069	YC1-4195069	Seal	1	
5	3016806	YC1-3016806	Cylinder piston	1	
6	3015834	YC1-3015834A	Piston rod	1	
7	4198145	GB/T3452.1	O-ring 195X5.1	1	
8	2115571	YC1-2415571	Cylinder flange	1	
9	4399892	GB/T5783	Screw M6X16	12	
10	4398007	GB/T6177	Flange nut M6	12	
11	3015573	YC1-3015573	Bush	2	
12	4399943	GB/T70.1	Screw M12X35	2	
13	3000889		Rilsan hose 8x5 L=700	1	
14	4198578		Rotation union 1/4" 8	2	
15	2015572	YC1-2015572	Bead breaker cylinder	1	
16	4298168	GB/T3452.1	O-ring 20X2.75	2	
17	3199601		Scraper 20X30X7	1	
18	4398146	YC1-4398146	Shim 24X30X0.5	1	
19	3199599	GB/T893.1	Seeger 30	1	
20	4399971	GB/T6182	Self-locking nut M10	1	
21	4397145	GB/T70.1	Screw M10X70	1	
22	3000114	YC1-3000114	Arm spring	1	
23	4399945	GB/T5782	Screw M16X90	1	
24	2412271	YC1-2412271	Bead breaker plate	1	
25	4398899	GB/T955	Elastic washer 14	2	
26	4398178	GB/T894.1	Seeger 40	2	
27	3008990	YC1-3008990	Pivot pin	1	

TAV.4.2		BEAD BREAKER			ED. 07/08
28	4299952	YC1-4299952	Knob	1	
29	4399963	GB/T6182	Self-locking nut M16	1	
30	6615574	YC1-2415574	Bead breaker arm	1	
31	4396941	GB/T6172	Nut M14	2	
32		YC1-002	Rubber limit	1	

TAV.6-20r	SELF-CENTERING TURNTABLE	ED. 07/08
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ITEM	CODE	REF. NO	DESCRIPTION	QTY	REMARK
1	2015845	YC1-2015845	Turntable system	1	
2	3015187	YC1-3015187	Guide pin	8	
3	3009778	YC1-3009778	Washer 16.3X47X13	1	
4	3000062	YC1-3000062	Turntable cap	1	
5	4399926	GB/T5783	Screw M16X1.5X40	1	
6	2112865	YC1-2112865	Turntable	1	
7	3006255	YC1-3006255	Slide	4	
8	2115756	YC1-2415756	Slide guide	2	
9	4398637	GB/T97.1	Washer 12	8	
10	4399864	GB/T894.1	Seeger 12	4	
11	3002901	YC1-3002901	Cylinder shaft	2	
12	4198856	YC1-4198856	Piston	2	
13	4399865	GB/T6182	Self-locking nut M12	2	
14			Rotation union 1/8" 8	1	
15	3199601		Scraper 20X30X7	2	
16	4398146	YC1-4398146	Washer 24X30X0.5	2	
17	3199599	GB/T893.1	Seeger 30	2	
18	4299168	GB/T3452.1	O-ring 20X2.75	2	
19	4397678	GB/T6177	Flange nut M8	8	
20	3015023	YC1-3007941	Special screw	8	
21	3002293	YC1-3015023	Back flange	2	
22	3008042	YC1-3008042	Cylinder liner	2	
23	4298822	GB/T3452.1	O-ring 75X3.55	4	
24	4198898		Union 1/8" 8	2	
25			Rilsan hose 8X5 L=70	2	
26	3002225		Rilsan spiral hose 8X5 L320	1	
27			T union D.8	1	

TAV.6-20r	SELF-CENTERING TURNTABLE	ED. 07/08
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28	3015024	YC1-3015024	Front flange	2
29	3002225		Rilsan hose 8X5 L=850	2
30	3199589	GB/T3452.1	O-ring 60X2.65	3
31	3015169	YC1-3015169	Turntable plate	4
32	2008060	YC1-2008060	Turntable cylinder unit	2
33	3099335		Rilsan hose 8X5 L=270	2
34	3006870	YC1-3006870	Connection plate	8
35	4399932	GB/T894.1	Seeger 65	1
36	4398037	GB/T70.1	Screw M10X1.25X25	4
37	3002297	YC1-3002297	Oversize clamp	4
38	2115755	YC1-3015755	Slide guide	2
39	3006879	YC1-3006879	Turntable spacer	4
40	3006880	YC1-3006880	Connection rod spacer	4
41	4398637	GB/T97.1	Washer 12	4
42	4398838	GB/T70.1	Screw M12X1.25X45	4
43	4298955	YC1-4298955	Rotation union	1
44	2006393	YC1-2006393	Clamp cover	4
45	4198954		Quick union 1/8" 8	2
46			Quick T union 1/8" 8	1
47		GB/T5783	Screw M6X12	4
48	4399889	GB/T6170	Nut M6	4
49	3006878	YC1-3006878	Connection pin	4
50	3006869	YC1-3006869	Turntable flange	2
51	3007420	YC1-3007420	Bush	1
52	3006869	YC1-3006869-A	Turntable spacer	1

TAV.7-4	SELF-CENTERING TURNTABLE GT	ED. 07/08
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ITEM	CODE	REF. NO	DESCRIPTION	QTY	REMARK
1	2015856	YC2-2015856	GT turntable	1	
2	3015187	YC1-3015187	Guide pin 12	8	
3	3009778	YC1-3009778	Washer 16.3X47X13	1	
4	3000062	YC1-3000062	Turntable cap	1	
5	4399926	GB/T5783	Screw M16X1.5X40	1	
6	2107384	YC2-2107384	Turntable	1	
7	2107387	YC2-2407387	GT slide	4	
8	2115756	YC1-2415756	Slide guide	2	
9	4398637	GB/T97.1	Washer 12	8	
10	4399864	GB/T894.1	Seeger 12	4	
11	3002901	YC1-3002901	Piston rod	2	
12	4198856	YC1-4198856	Piston	2	
13	4399865	GB/T6182	Self-locking nutM12	2	
14	2006393	YC1-2006393	Clamp cover	4	
15	3199601		Oil scraper 20X30X7	2	
16	4398146	YC1-4398146	Shim 24X30X0.5	2	
17	4198035	GB/T893.1	Seeger 30	2	
18	4299168	GB/T3452.1	O-ring 20X2.75	2	
19	4397678	GB/T6177	Flange nut	8	
20	3007941	YC1-3007941	Special screw	8	
21	3015023	YC1-3015023	Back flange	2	
22	3008042	YC1-3008042	Cylinder liner	2	
23	4298822	GB/T3452.1	O-ring 75X3.55	4	
24	4198898		90° union 1/8" - 8	2	
25			Rilsan hose 8X5 L=70	2	
26	3002225		Rilsan spiral hose 8X5 D.60X3	1	

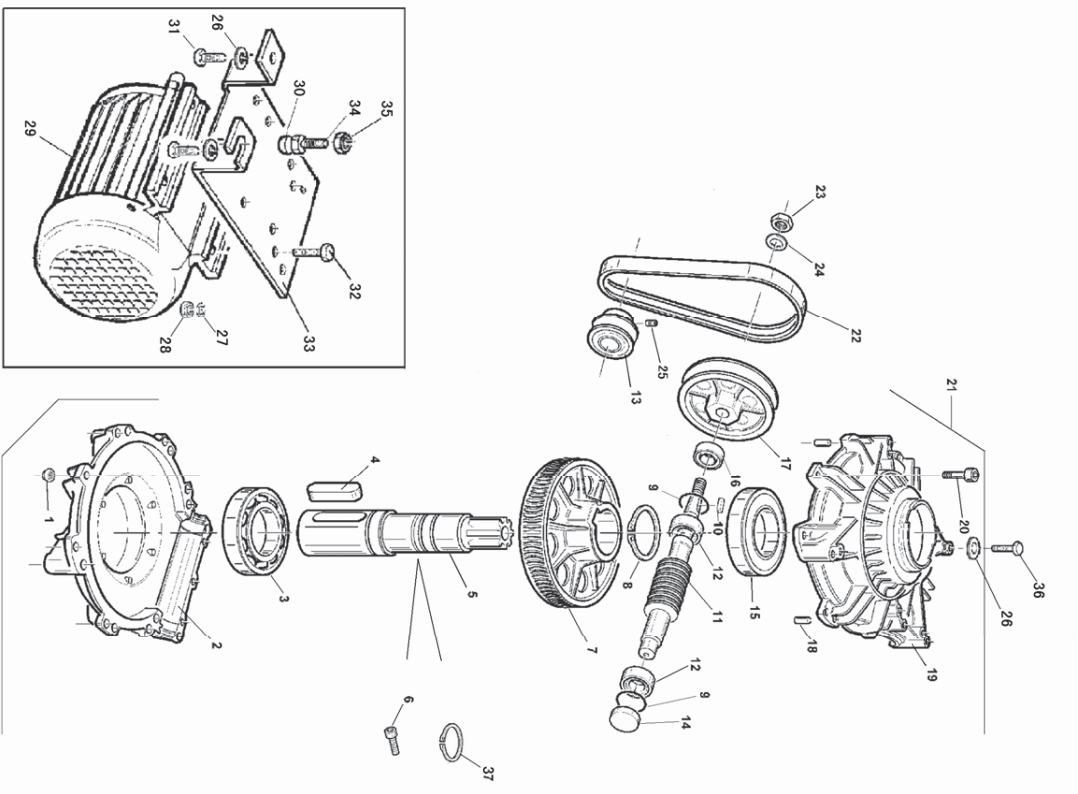
TAV.7-4	SELF-CENTERING TURNTABLE GT	ED. 07/08
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27			T union D.8	1
28	3015024	YC1-3015024	Front flange	2
29	4198954		Quick union 1/8" - 8	2
30			Rilsan hose 8X5 L=270	2
31	3015169	YC1-3015169	Turntable plate	4
32	2008060	YC1-2008060	Turntable cylinder	2
33	4398037	GB/T70.1	Screw M10X1.25X25	4
34	2002297	YC1-3002297	Oversize clamp	4
35	2115755	YC1-3015755	Slide guide	2
36	3006879	YC1-3006879	Turntable spacer	4
37	3006880	YC1-3006880	Connection rod spacer	4
38	4398637	GB/T97.1	Washer 12	4
39	4398838	GB/T70.1	Screw M12X1.25X45	4
40		GB/T5783	Screw M6X12	4
41	4399889	GB/T6170	Nut M6	4
42	3006878	YC1-3006878	Pin	4
43	3006869	YC1-3006869	Turntable flange	2
44	3007420	YC1-3007420	bush	1
45	4399932	GB/T894.1	Seeger 65	1
46	3006870	YC1-3006870	Connection plate	8
47	3002109		Rilsan hose 14X11 L=700	2
48	4198035		Quick union 1/4" 10	4
49	3006478		Rilsan hose 10X6.5 L=400	4
50	4197207		T union 1/8" 10	4
51	3006477		Rilsan hose 10X6.5 L=300	4
52	4298992	YC2-4298992	Rotation union	1
53			Union 1/8" 8	1

TAV.7-4	SELF-CENTERING TURNTABLE GT			ED. 07/08
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54	3001996	GB/T77	Screw M6X25	2
55	4298802	GB/T3452.1	O-ring60X2.65	3
56			T union 1/8" - 8	1
57	3099335		Rilsan hose 8X5 L=850	2
58	3006869	YC1-3006869-A	Flange spacer	1

TAV.7-1	MOTOR – REDUCTION GEAR GROUP			ED. 07/08
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TAV.7-1	MOTOR – REDUCTION GEAR GROUP	ED. 07/08
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ITEM	CODE	REF. NO	DESCRIPTION	QTY	REMARK
1	4399900	GB/T6182	Self-locking nut M8	10	
2	3010873	YC1-3010873	Bottom part of reduction gear box	1	
3	4296910	GB/T276	Bearing 6212	1	
4	4396948	GB/T1096	Tab 16X10X70	1	
5	3010885	YC1-3010885	Helical gear stud	1	
6	4399664	GB/T70.1	Screw M6X10	2	
7	3010884	YC1-3010884	Helical gear	1	
8	4396946	GB/T894.1	Seeger 60	1	
9	4296943	GB/T3452.1	O-ring 34.5X3.55	2	
10	4396947	GB/T1096	Tab 6X6X18	1	
11	3010883	YC1-3010883	Worm	1	
12	4296944	GB/T297	Bearing 30204	2	
13	2100166	YC1-3000166	Motor pulley	1	
14	3010886	YC1-3010886	Sealing cap	1	
15	4296945	GB/T279	Bearing 6212 2RS	1	
16	4296942	YC1-4296942	O-ring 20X35X10	1	
17	3199596	YC1-3199596	Gear box pulley	1	
18	4396940	GB/T119.1	Pin 8X20	2	
19	3010872	YC1-3010872	Upper part of reduction gear box	1	
20	4399134	GB/T70.1	Screw M8X30	10	
21	2011967	YC1-2011967	Reduction gear unit	1	
22	4299923	GB/T11544-1997	Belt V A580	1	
23	4396941	GB/T6172	Nut M14	1	
24	4398807	GB/T97.1	Washer 14	1	
25	4399922	GB/T79	Screw M8X14	1	
26	4398633	GB/T97.1	Washer 10	8	
27	4399829	GB/T97.1	Washer 8	4	

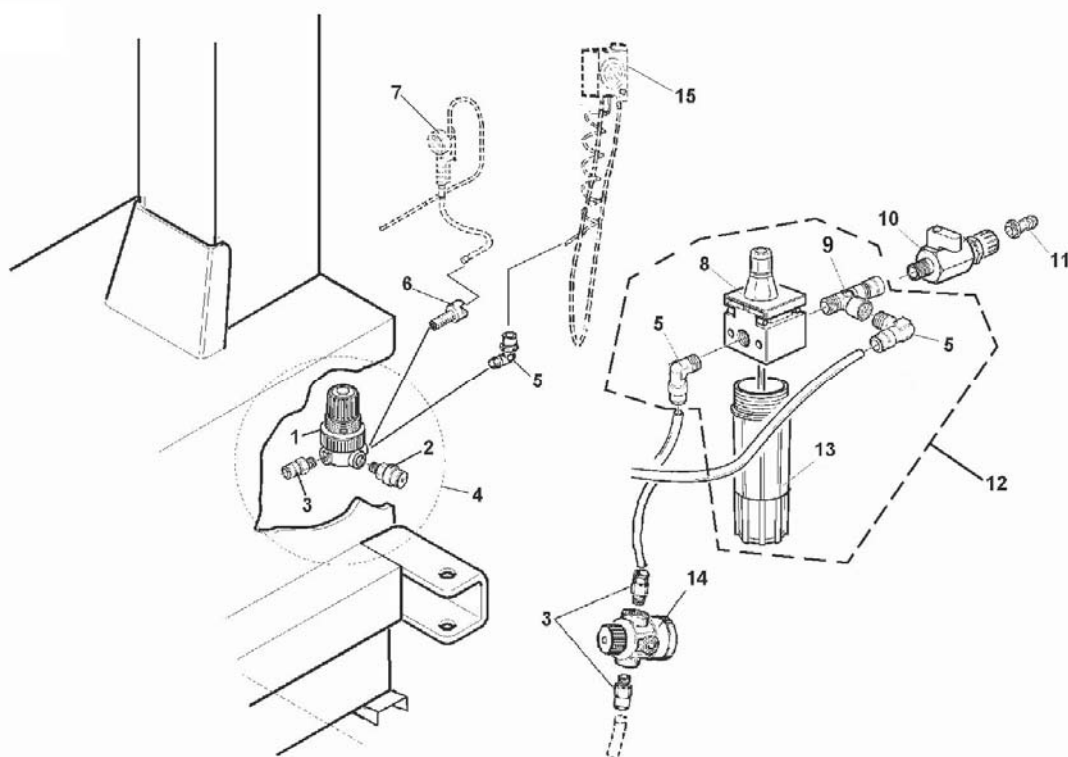
TAV.7-1	MOTOR – REDUCTION GEAR GROUP			ED. 07/08
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28	4399976	GB/T6170	Nut M8	4
29			Motor	1
30	3000164	YC1-3000164	Belt-stretcher shoe	1
31	4399966	GB/T5783	Screw M10X20	2
32	4399935	GB/T5783	Screw M8X25	4
33	3000149	YC1-3000149	Motor support	1
34	4399880	GB/T5783	Screw M10X35	1
35	4399969	GB/T6170	Nut M10	1
36	4399933	GB/T5782	Screw M10X50	6
37	4396700	GB/T894.1	Seeger 50	1

TAV.9-2

AIR LUBRICATION GROUP

ED. 07/08



TAV.9-2	AIR LUBRICATION GROUP	ED. 07/08
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ITEM	CODE	REF. NO	DESCRIPTION	QTY	REMARK
1	4198173		Regulator 1/4" 3.5bar	1	
2	4198435		Safety valve 1/8" 4bar	1	
3	4198884		Union 1/4" 8	3	
4	2010781	YC1-2010781	Pressure regulator unit	1	
5	4198883		Quick union 1/4" 8	3	
6	4199797		Nut 1/4"	1	
7	9298243		Inflating gauge	1	
8	4196315		Lubricator cap	1	
9	4198818		T union 1/4" 8	1	
10	4198143		Valve 1/4" F-F	1	
11	4199987		Union 1/4"	1	
12	2012326	YC1-2012326	Lubricator unit	1	
13	4196316		Lubricator cap	1	
14	4198951		Regulator 1/4" 10bar	1	
15	2014217	YC2-2014217	GT pressure gauge 6212 2RS	1	