



# TW X-610

Basic Line

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**INSTALLATION, OPERATION AND MAINTENANCE MANUAL**



**Read this entire manual carefully before installation or operation of the TWX-610. Follow the instructions strictly.**

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## TYRE CHANGER INSTRUCTION MANUAL

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## Tyre Changer

**Warning:** This instruction manual is important for the machine, please read carefully before installation and use; also it is important for safe use and machine maintenance of machine. Please keep this manual properly in order to further maintenance of the machine.

### 1. Introduction:

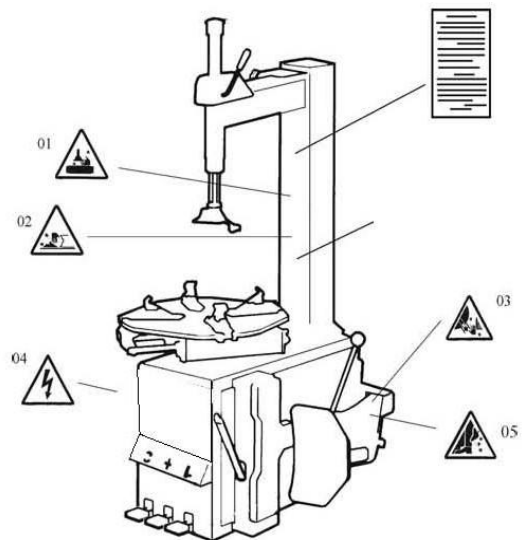
**Application Range:** The semi-automatic tyre changer is especially designed for demounting / mounting tyres from wheel rims.

**Caution :** Please use the machine only for purpose for which it is designed, don't use it for other purposes.

**Manufacturer shall not be liable for any damage or injury caused by failure to comply with these regulations.**

**Safety regulation:** Use of this machine is especially reserved to trained and qualified professional persons, those who already read the introduction manual carefully, or someone have the experience for operating similar machinery. Any changes and beyond the scope of use on this machine without manufacturer's permission or do not according to the manual, may cause the malfunction and damage to machine, manufacturer can cancel warranty coverage for above. If some parts are damaged due to some reason, please replace them according to the spare parts list.

(Attention: warranty is one year after manufactures' delivery date; warranty excludes the easy-broken parts).



### 2. Warning label and sticking position:

01 Don't put hands under the Mounting/demounting head during operation;

02 Don't put hands between the jaws during operation;

03 Don't put hands inside the tyre bead when demounting the tyre;

04 Make sure and to check the system is equipped with a good grounding circuit;

05 Don't put feet between the Bead Breaker shovel and the body during operation;

**Security warning labels**

**Caution:** When the security warning labels are defaced or off, please recovery them in time!

**Do not allow to operate when the security warning labels are missed or imperfect.**

**Do not allow to set any objects to obscure the security warning labels.**

**Clients can self-set the warning labels (as right picture show) at any necessary positions.**



### 3. Technical data

Type	TW X-610
Rim diameter (outer)	10" - 19"
Rim diameter (inner)	12" - 22"
Wheel (max.)	41" (1040 mm)
Rim diameter (max.)	14" (355 mm)
Pressing weight	2500 kg
Pneumatic connection	8-10 bar
Power input	230 V
Motor output	1,1 kW
Noise level	<70 dB
Net weight (ca.)	188 kg

**Remark:** Rim dimensions defined at above table are based on the iron wheel rims. Aluminum rims are thicker than the iron wheel rims, so here above rim dimensions are just for the reference.

### 4. Transport:

When transporting, the machine should be with original package and placed according to the mark on the package. For the already packaged machine should be handled with a corresponding tonnage forklift for loading and unloading. The location to insert the fork feet shown as Fig 1

### 5. Unpacking & Inspection:

Pull out the nail which is nailed on the plate with tip jaw; unpack the carton and plastic cover. Check and make sure all parts shown on the spare parts list are included. If any parts are missing or broken, please do not use the machine and contact the manufacturer or dealer ASAP.

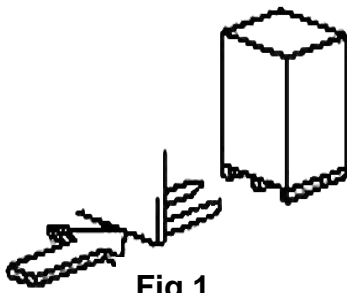


Fig 1

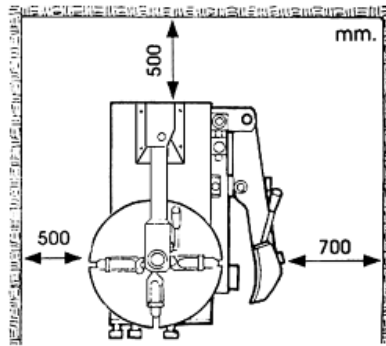


Fig2

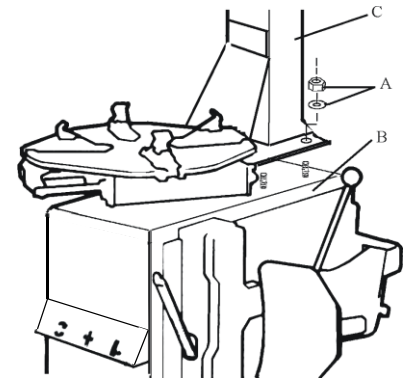


Fig 3

## 6. Workplace requirements:

Choose workplace in compliance with safety regulations. Connect power supply and air source according to manual and workplace must have good air condition; in order to make the machine run well, its workplace requires at least clear space from each wall shown as Fig 2. If installing it outdoor, it must be protected by roof against rain and sunshine.

**Warning:** the machine with motor must not be operated in explosive atmosphere.

## 7. Position and installation:

1. Unscrew the nuts at the bottom, position the machine and calibrate it with the horizontal rule. Mount the machine with all the screws and to ensure the machine is stable. Make sure the system is equipped with a good grounding circuit for prevent electric leakage. And have operation range of ground for skid prevention.

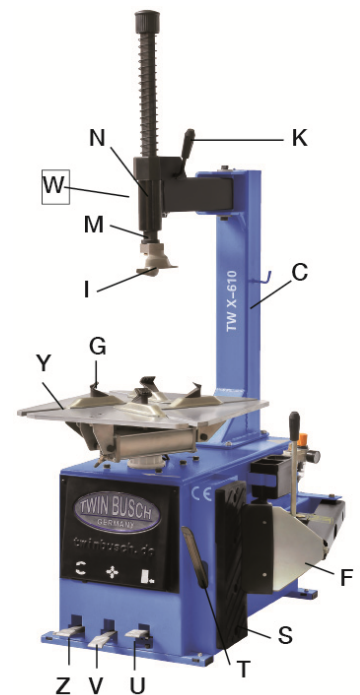
2. Unscrew the nut A on the cabinet body B as shown in Fig 3.

Lift the column C; mount it on the machine body B by using the nut A through the bolt located on the machine body B. If the column becomes loose after a period of using, tight them immediately. Otherwise the result of damage to the tyre may happen.

## 8. Electricity and Pneumatic connections:

**Caution:** Before installation and connection, check to be sure that the electricity power supply corresponds to the machine technical data. All the installation of electric and pneumatic devices must be operated by a professional electrician.

Connect the compressed air connector which is on the machine right side with compressed air system. The electric grid that the machine connects to must have fuses protection device and good outer cover grounding protection. Install the leakage automatic air switch on the main power supply, leakage current is set at 30A **Caution:** No power plug for this machine, the user should self-connect one power plug no less than 16A as well as in line with the machine voltage. Or directly connect with the power supply according to the above requirements.



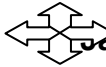
## 9. Adjusting operation:



Turntable Rotation Pedal (Z)



Bead Breaker Pedal (U)



Jaws open and close Pedal (V)

Tread the Turntable Rotation Pedal (Z), Turntable (Y) clockwise rotation; Lift up the Turntable Rotation Pedal (Z), Turntable (Y) counterclockwise rotation.

Tread Bead Breaker Pedal (U), Bead Breaker shovel (F) close toward inside; release Bead Breaker Pedal (U), Bead Breaker shovel (F) return to original position.

Tread Jaws open and close Pedal (V), four jaws (G) on the turntable open; tread again, four Jaws (G) close. When the pedal is in the middle position, four Jaws stop moving.

Tyre changer operation is consisted of three parts:

- 1) Breaking the tyre bead
- 2) Demounting the tyre
- 3) Mounting the tyre

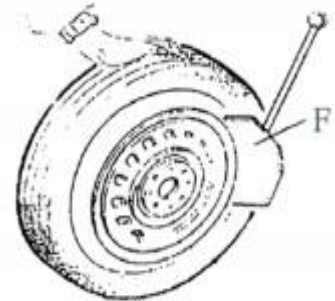


Fig 5

**Caution:** Before any operations, don't wear loose clothing and wear protective hat, gloves, and skid-proof shoes. Ensure to exhaust the air in the tyre completely, and remove all the wheel weights from the rim.

### 9.1. Breaking the tyre bead:

Ensure to exhaust the air in the tyre completely, place the tyre against the rubber buffer (S). Bring the paddle against the bead about 10mm from the edge of the rim shown as Fig 5. Tread Bead breaker Pedal (U) to push paddle into tyre. Repeat the above operations on different positions around the tyre and both sides of tyre until tyre bead is released completely.

### 9.2. Demounting the tyre :

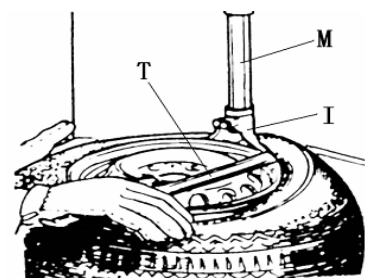
Ensure to remove all the weights on the wheel rim and to exhaust the air in the tyre completely before this operation. Apply lubricating grease (or similar lubricant) around the tyre bead. Without the lubricant may lead to badly wear and tear on tyre Clamp the wheel methods shown as below regarded to the ruled dimension:

a- to clamp the wheel from outside:

Tread the Jaws open and close Pedal (V) halfway down to middle, positioning for the four clamps (G) by reference scale on the Turntable (Y); put the tyre on turntable, hold the rim, and tread the Jaws open and close Pedal (V) until the wheel is secured by the jaws.

b- to clamp the wheel from inside:

Positioning for the four clamps (G) and let them all



Fig



closed. Put the tyre on the turntable and tread the Jaws open and close Pedal (V) to open the clamps thereby lock the wheel in place.

**Caution:** Check to make sure the wheel firmly secured by the four jaws before next step.

Lower the Vertical Arm (M) until the Mounting/demounting head (I) rests next to the edge of the rim, flip the Locking Handle to lock the Vertical Arm and Swing Arm in position, and also adjust the Rocker Arm make Mounting/demounting head can raise 2mm-3mm automatically from the edge of the wheel rim. Insert the Lifting Lever (T) between the tyre bead and the front section of the mounting/demounting head (I), and move the tyre above the mounting/demounting head as shown as Fig 6.

**Caution:** Chains, bracelets, loose clothes and anything else close to the rotating parts will bring danger to the operator.

With the Lifting Lever held in position, tread the Turntable Rotation Pedal (Z), rotate the Turntable (Y) in a clockwise direction until the tyre is completely separated from the wheel rim.

For the other side tyre demounting, keep using the lifting lever to lift the tyre, make the other side tyre separated from the wheel rim.

### 9.3. Mounting the tyre :

**Caution:** Check to make sure that the tyre and the wheel rim are of same size before mounting the tyre.

To avoid any damage on type, lubricate the tyre bead and the wheel rim with the lubrication recommended by manufacturer. Put on the tyre and check the situation.

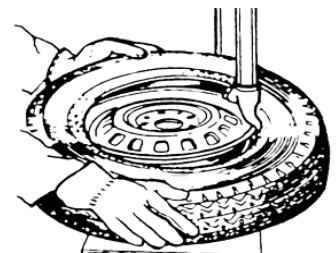
**Caution:** When clamp the wheel rim, don't put your hands on the wheel rim to avoid injury during this operation.

Lock the Hexagonal Vertical Mounting Arm, put the tyre on the rim, let the Rocker Arm back to place as demounting the tyre. And let one side of tyre down bead above the rear section of the Mounting/demounting head, the other side under the front section of the Mounting/demounting head.

Suppress the tyre with hands or help arm, and then spin the turntable for mounting the tyre down bead.

Repeat the above operation for mounting the tyre up bead.

(Fig 7)



Fig

### 10. Inflating the tire:

**Importance:** It is very dangerous during inflating operation, take carefully and comply with instruction. When inflating, it will turn to be extremely dangerous if problems happen to tyre or rim. The possible burst force tyre goes upward and outward, the big power may cause injury or death of the operator or the people around.

Tyre may burst caused by following:

- 1) The wheel rim and the tyre are not of the same size;
- 2) The tyre or the wheel rim is damaged;
- 3) The pressure of tyre inflation is over the max. pressure recommended by manufacturer;
- 4) The operator fail to comply with the safety regulation;

Please operate as follows:



Fig 8



- 1) Remove the valve cap from the valve stem;
- 2) Check to make sure the air nozzle is pressed down completely over the threads of the valve stem.
- 3) Check to make sure that the tyre and the wheel rim are of the same size;
- 4) Lubricate both the tyre bead and the wheel rim, additional lubrication is required if needed;
- 5) Inflate the tyre with break, while inflating, check the pressure listed on the pressure gauge, also check whether the bead is fixed or not. Repeat operation above until the bead is secured; you need take special steps when inflating convex rim or double convex rim;
- 6) Continue inflating and check the air pressure frequently until to reach the required pressure.

**Note:**

Never exceed the max. inflation pressure given by the tyre manufacturer.

Keep hands and your body away from inflating tyres.

Only specially trained persons are allowed to perform the operations, do not allow other to operate or be near the tyre changer.

## 11. Moving machine:

Please use forklift to move the machine. Disconnect the tyre changer from the electricity power supply and pneumatic power supply, lift the base board and insert the feet of forklift. Then mount the tyre changer machine to a new position and fix it tightly.

**Note:** the place chosen for fixing the tyre changer must meet the safety regulation.

## 12. Maintenance:

**Caution:** only the professional persons can do the maintenance. To prolong the machine's life, maintain the machine timely according to the manual. Otherwise, it will impact the reliability of the machine or even cause injury to operator and others nearby.

**Caution:** before performing any maintenance, disconnect the tyre changer from the electric power supply and pneumatic power supply, and tread the Jaws open and close Pedal or Turntable Rotation Pedal for 3~4 times to evacuate all compressed air from the machine. Damaged parts must be replaced by professional persons with the spare parts provided by manufacturer.

Clean the machine once every day after work. Clean the dirt on the turntable with diesel oil once per week and lubricate the slides and clamps.

Following maintenance must be done at least once per month:

Check oil level in Oil Fog Maker, please be filled with SAE30# oil if need.

Unscrew with hex wrench (E). Based on connection of compressed air, first to tread Jaws open and close Pedal or Turntable Rotation Pedal 5-6 times, and then check whether oil in Oil Fog Maker drops down a drip of oil. For continuous operation, tread twice every time, drop down a drip of oil, otherwise adjust the screw (D) that controlled oil enter with minus screwdriver.

**Note:** After the first 20 days of use, retighten the jaws with tightening screws (B) on the Turntable (Fig 10)

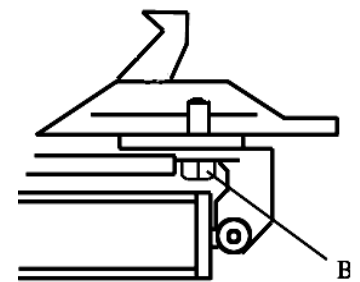


Fig 10

**Note:** in the event of turntable lose power, check to see if the belt is tight as follow steps:

Remove the left side cover by unscrewing the screws; adjust two screws located on the motor support, keep a suitable distance between motor support and motor base; tight the screws for the belt tension.(Fig 11)

**Caution:** please disconnect the machine from electric power supply and pneumatic power supply.

**Note:** If Hexagonal Vertical Arm not be locked or not meet the requirement that 2-3mm from the bottom of Mounting/demounting head to rim, please adjust Hexagonal Locking Plate, refer to Fig 12 and adjust the (X).

**Note:** In order to achieve the reliability of jaws and Bead Breaker shovel, operate as follows to keep their valves clean:

1. Remove the left side cover of the machine body by unscrewing the two screws;
2. Loosen the valve Muffler (A) which belong to Jaws open and close Pedal and Bead Breaker Pedal; (Fig 13)
3. Clean the silencers with compressed air, please replace it referring to the spare parts list if it is damaged. (Fig 13)

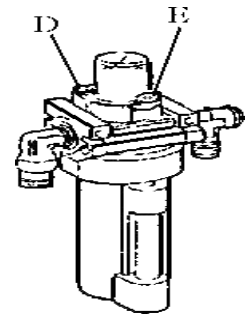


Fig 9

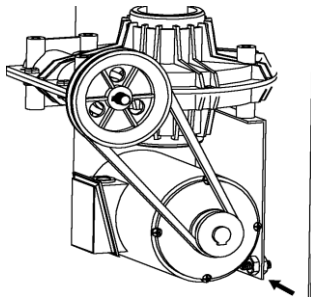


Fig 11

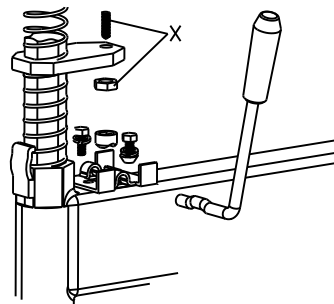
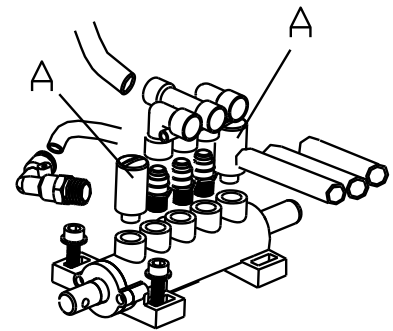


Fig 12



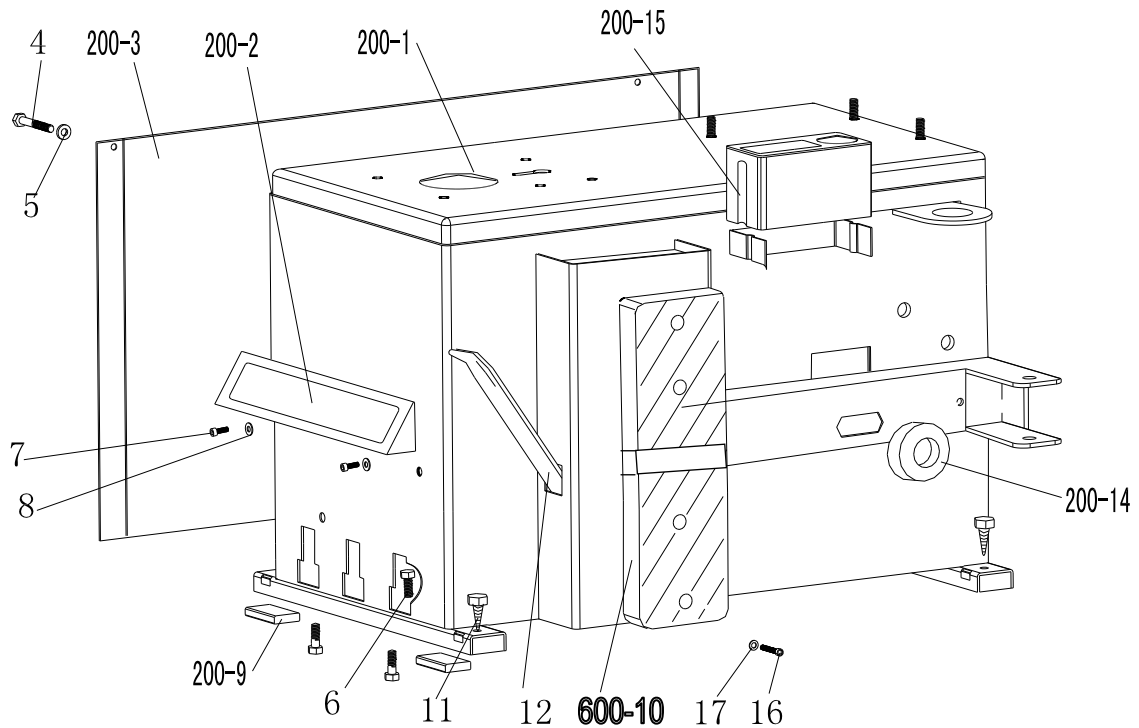
Fig

### 13. Trouble shooting table:

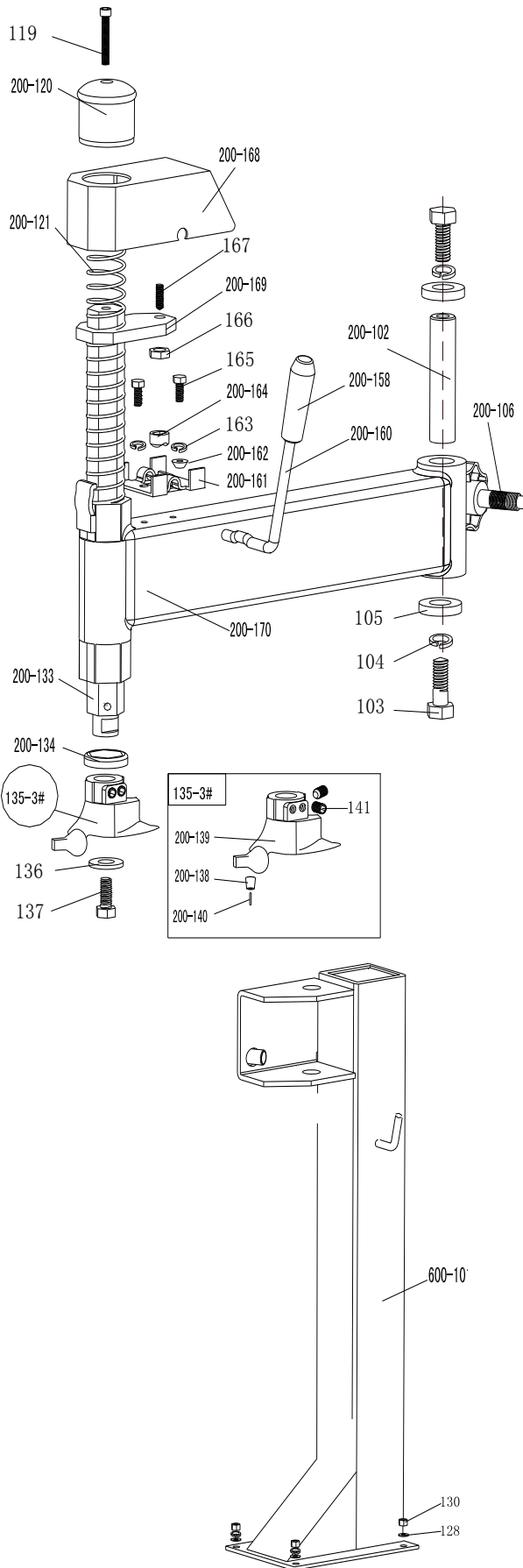
Problem	Reason	Solution
The turntable rotate just in one direction or can't rotate.	Reverse Switch broken	Replace the Reverse Switch
	Belt broken	Replace the belt
	The Motor's malfunction	Check the motor cable or terminal block wire; Replace the motor if it was broken.
Demount or fix the wheel, the turntable can't lock (spin with wheel);	Leakage of Air network	Check all the parts on the air network.
	The clamping cylinder can't work.	Replace the cylinder piston.
	Worn jaws	Replace the jaws.

<p><b>The jaws delay to open/close; The turntable locks the rim incorrectly.</b></p>	<p><b>Broken washers of the chuck cylinder</b></p>	<p><b>Replace it.</b></p>
<p><b>The mounting/demounting head always touch the rim during operation.</b></p>	<p><b>The locking plate incorrectly adjust or unqualified.</b></p>	<p><b>Replace or adjust it.</b></p>
	<p><b>Screws on the chuck loose; the Hexagonal Vertical Arm can't be locked by Locking Plate</b></p>	<p><b>Tighten the screws; replace the Locking Plate.</b></p>
<p><b>The Bead Breaker Pedal and Jaw open and close Pedal can't turn back to the original position.</b></p>	<p><b>pedal spring broken</b></p>	<p><b>Replace it.</b></p>
<p><b>The Bead Breaker shovel operates difficultly.</b></p>	<p><b>Jammed silencer</b></p>	<p><b>Clean it or replace it.</b></p>
	<p><b>The washer on the Bead Breaker cylinder is broken.</b></p>	<p><b>Replace it.</b></p>

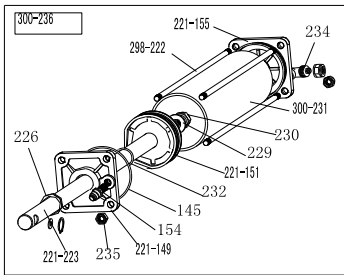
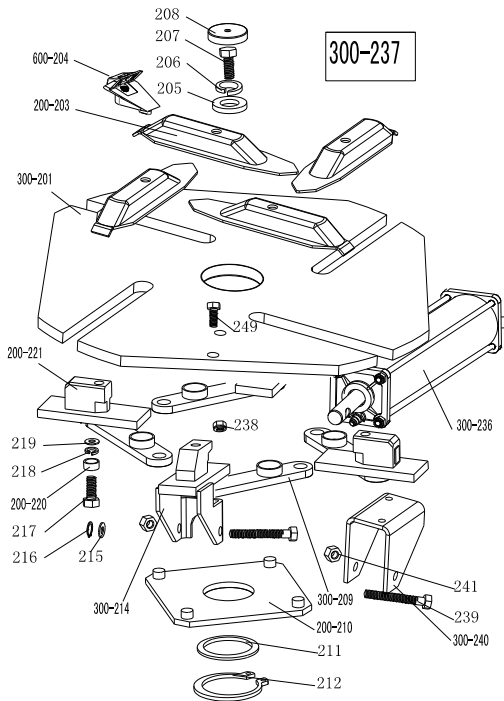
## 14. Exploded drawing:



200-1	CX-200-010000-0	Machine body
200-2	CZ-200-080000-0	Pedal front cover
200-3	CX-200-020000-0	Left cover
4	B-010-060101-0	Hex socket head bolt M6×10
5	B-040-061412-1	Flat washer Ø6*14*1.2
6	B-014-080251-0	Outer hex bolt M8x25
7	B-010-080201-0	Hex socket head bolt M8×20
8	B-040-061412-1	Flat washer Ø 6*14*1.2
200-9	C-000-001020-0	Rubber foot buffer
600-10	C-600-500000-0	Bead breaker buffer
11	B-027-060401-0	Grounding screw M6x40
12	C-200-580000-0	Lifting lever
200-14	C-200-510000-0	Bead breaker arm rubber
200-15	C-200-470000-0	Oil-water box
16	B-010-080201-0	Hex socket head bolt M8x20
17	B-040-081715-1	Flat washer Ø 8*17*1.5

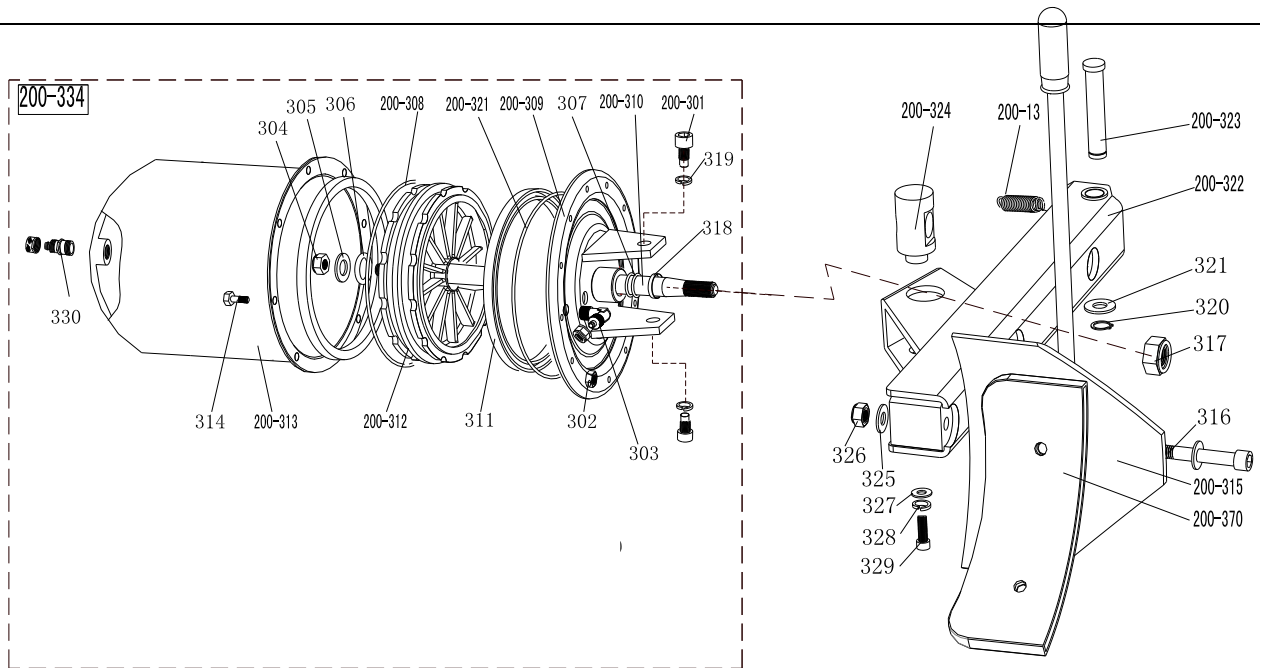


600-101	CX-204-250000-0	Square column
200-102	CX-200-190000-0	Swing arm pin
103	B-014-140301-0	Outer hex bolt M14x30
104	B-050-140000-0	Spring washer Ø14
105	CX-200-140000-0	Big washer
200-106	C-200-350000-0	Column adjust handle
119	B-010-100501-0	Hex socket head bolt M10x50
200-120	C-200-490000-0	Vertical arm cap 200
200-121	C-200-390000-0	Vertical arm spring
128	B-040-102020-1	Flat washer Ø10X2
130	B-001-100001-0	Self-locking nut M10
200-133	CX-200-160000-0	Vertical arm 200
200-134	C-200-520000-0	Vertical arm washer
136	CX-200-170000-0	Mount/demount head flat washer
137	B-014-100251-0	Outer hex bolt M10x25
135-3#	CW-113-020003-0	Complete mount/demount head3#
200-138	CX-200-150200-0	Mount/demount head pulley
200-139	C-200-150100-3	Mount/demount head 3#
200-140	C-200-150400-0	Hex round pin
141	B-007-120161-0	Hex socket head bolt M12X16
200-158	C-200-230200-0	Locking Handle cover
200-160	CX-200-230000-0	Locking Handle
200-161	CX-200-200000-0	Locking plate
200-162	C-200-240000-0	Locking block cover
163	B-050-080000-0	Spring washer Ø8
200-164	C-200-210000-0	Eccentric shaft nut
165	B-014-080251-0	Outer hex bolt M8x25
166	B-004-120071-1	Nut M12X1.75X7
167	B-007-120301-0	Hex socket head bolt M12X30
200-168	C-200-480000-0	Locking plate cap
200-169	CX-200-220000-0	Hex locking board 200
200-170	CX-200-180000-0	Swing arm 470



300-201	CX-300-130000-0	Non-central Turntable assembly
200-203	CX-200-120000-0	J a w c a p 2 0 0
600-204	C-600-570000-0	J a w 6 0 0
2 0 5	CX-200-140000-0	B i g w a s h e r
2 0 6	B-050-160000-0	S p r i n g w a s h e r Ø16
2 0 7	B-014-160401-0	O u t e r h e x b o l t M16x40
2 0 8	C-200-440000-0	T u r n t a b l e c a p
200-209	CX-200-310000-0	C o n n e c t i o n r o d a s s e m b l y 540
200-210	CX-200-280000-0	S q u a r e t u r n t a b l e 540
2 1 1	CX-200-290000-0	S q u a r e t u r n t a b l e w a s h e r
2 1 2	B-055-650001-0	S n a p r i n g Ø65(shaft)
300-214	CX-600-110000-0	J a w s l i d e g u i d e w i t h p i n 600
2 1 5	B-040-122520-1	F l a t w a s h e r Ø12X25X2
2 1 6	B-055-120001-0	S n a p r i n g Ø12(shaft)
2 1 7	B-014-120801-0	O u t e r h e x b o l t M12x80
2 1 8	B-046-122050-1	T e e t h l o c k i n g w a s h e r Ø12x20.5x1
2 1 9	B-040-123030-1	F l a t w a s h e r Ø12X30X3
200-220	CX-200-300000-0	C o n n e c t i o n r o d n u t
200-221	CX-200-110100-0	J a w s l i d e g u i d e w i t h o u t p i n
298-222	C-298-051000-0	T h r e a d e d c o n n e c t i o n r o d 240
221-223	C-221-350200-0	C l a m p i n g c y l i n d e r p i s t o n r o d
221-149	C-221-350100-0	T i l t i n g c y l i n d e r c o v e r w i t h o u t h a n d l e
1 5 4	S-011-010808-0	S t r a i g h t u n i o n 1/8"-Ø8
2 2 6	S-005-020075-0	V - s e a l 20*28*7.5
1 4 5	S-000-068353-0	O - s e a l 68.26*3.53
221-151	C-221-550000-0	T i t l i n g c y l i n d e r p i s t o n
2 2 9	B-040-122520-1	F l a t w a s h e r Ø12X25X2
2 3 0	B-004-120071-1	N u t M 1 2 X 7 X 1 . 7 5
300-231	C-300-100500-0	C l a m p i n g c y l i n d e r b a r r e l
2 3 2	S-000-019262-0	O - s e a l 19.6X2.62
221-155	C-221-350300-0	T i t l i n g c y l i n d e r c o v e r w i t h h a n d l e
2 3 4	S-018-010808-0	U n i o n 1 / 8
2 3 5	B-001-080001-0	S e l f - l o c k i n g n u t M8
300-236		C o m p l e t e c l a m p i n g c y l i n d e r 180
300-237		C o m p l e t e N o n - c e n t r a l T u r n t a b l e
2 4 9	B-010-080251-0	H e x s o c k e t h e a d b o l t M8x25
2 3 8	B-001-120001-0	S e l f - l o c k i n g n u t M12
600-239	CX-600-110500-0	J a w p l a t e s u r p o r t
600-240	CX-600-110400-0	J a w p l a t e s u r p o r t 2

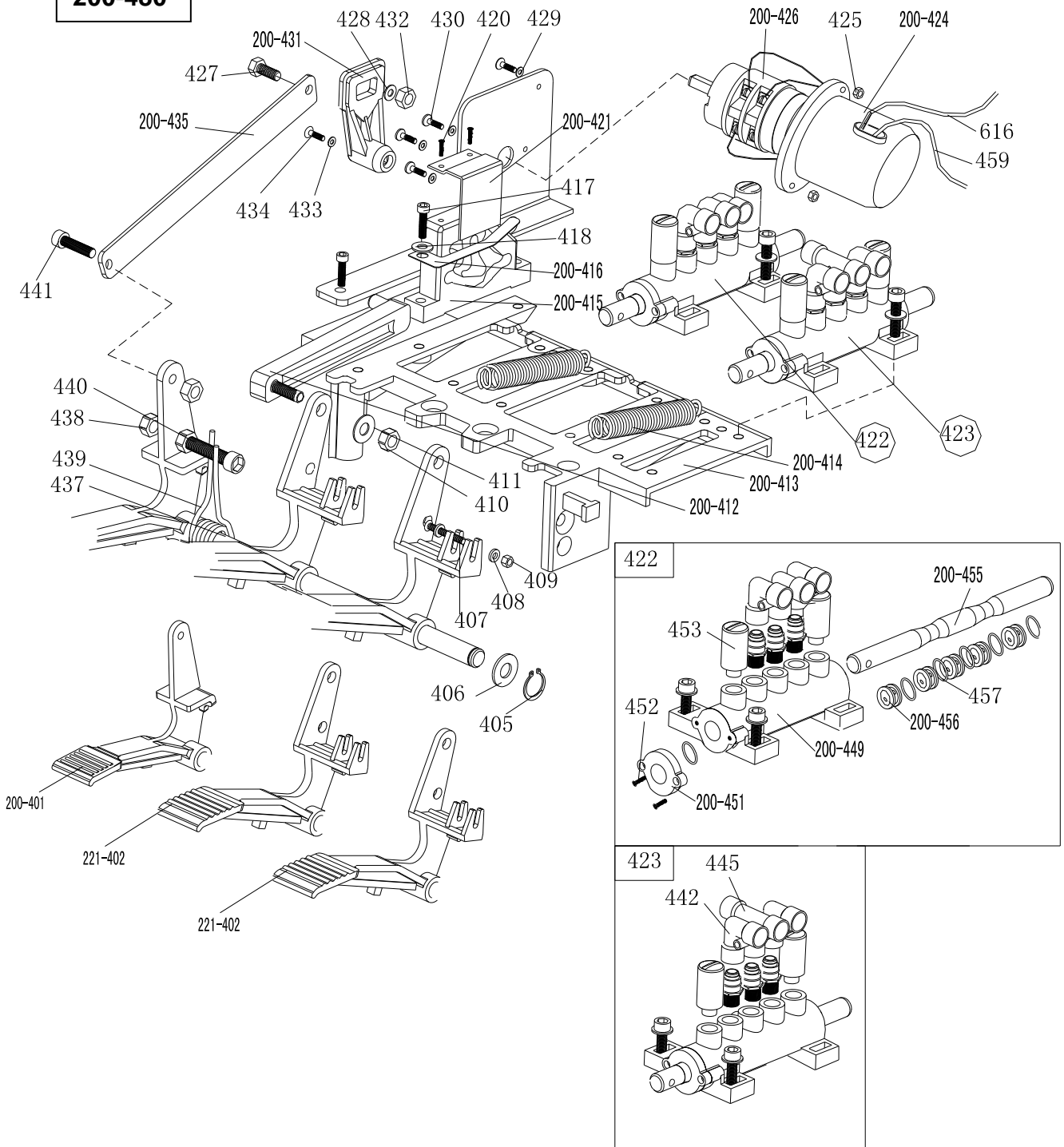




316	B-010-120901-0	Hex socket head bolt M12x90	350	CW-112-209800-0	Bead breaker cylinder exhaust valve
317	B-004-160001-1	Self-locking nut M16*1.5	351	S-012-010808-0	Union (90°)1/8-Ø8
318	U-006-000001-2	Guide belt	352	C-098-600200-0	Bead breaker cylinder exhaust valve cover
200-370	C-200-070600-0	Bead breaker shovel protection cover(optional)	353	C-098-600400-0	Seal washer
200-301	B-010-140301-0	Hex socket head bolt M14x30	200-13	C-200-360000-0	Bead breaker arm spring
302	B-001-060001-0	Self-locking nut M6	319	B-050-140000-0	Spring washer Ø14
303	S-018-010408-0	Union (90°)1/4-Ø8	320	B-055-160001-0	Snap ring Ø16
304	B-004-160001-1	Nut M16*1.5	321	B-040-162820-1	Flat washer
305	B-040-162820-1	Flat washer Ø16*28*2	200-321	S-000-175500-0	O-seal Ø173.4x5.3
306	S-000-016265-0	O-seal Ø 16*2.65	200-322	CX-200-030000-0	Bead breaker arm 200
307	S-000-020265-0	O-seal Ø 20*2.65	200-323	CX-200-040000-0	Bead breaker pin
200-308	S-000-180500-0	O-seal 180x5	200-324	CX-200-050600-0	Bead breaker cylinder rotating pin
200-309	CX-200-050500-0	Bead breaker cylinder cover assembly	325	B-040-122520-1	Flat washer Ø12*24*2
200-310	C-200-050100-0	Bead breaker cylinder piston rod	326	B-001-120001-0	Self-locking M12
311	S-005-168115-0	V-seal 185X168X11.5	327	B-040-083030-1	Flat washer Ø8*30*3
200-312	C-200-050200-0	Bead breaker cylinder piston	328	B-050-080000-0	Spring washer Ø8
200-313	CX-200-050300-0	Bead breaker cylinder barrel	329	B-014-080201-0	Outer hex bolt M8x20
314	B-010-060161-0	Hex socket head bolt M6x16	330	S-011-010808-0	Straight union1/8-Ø8
200-315	CX-200-070000-0	Bead breaker shovel assembly	200-334	CW-108-020000-0	Complete bead breaker cylinder
200-13	C-200-360000-0	Bead breaker arm spring			

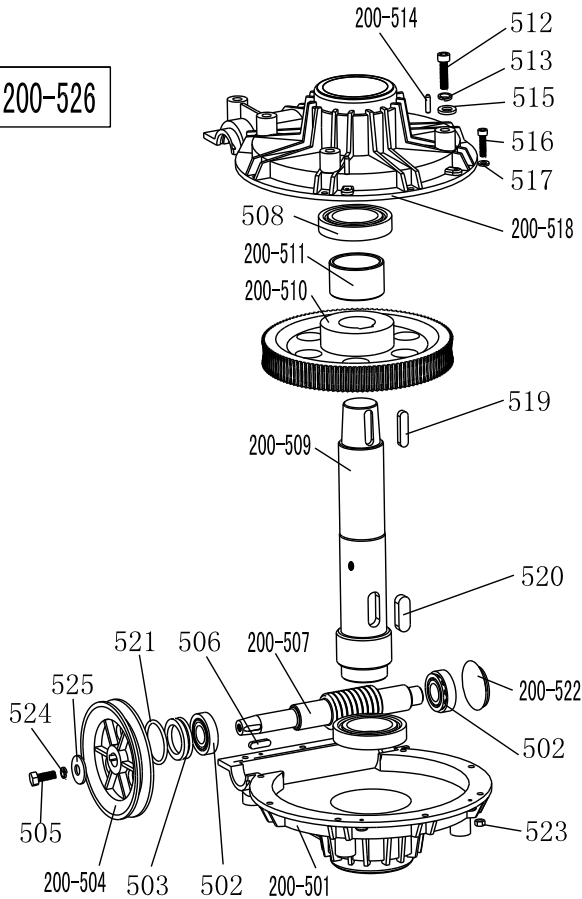


**200-480**

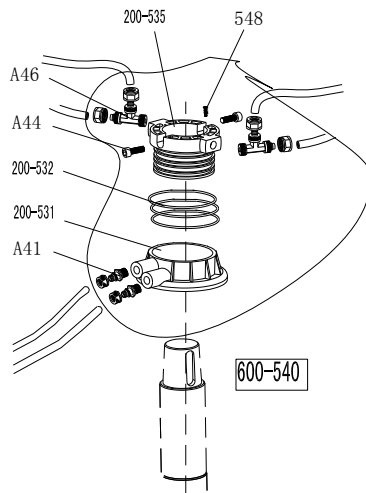


200-401	C-200-060400-0	Reverse switch pedal	428	B-040-061210-1	Flat washer Ø 6X12X1
221-402	C-221-060300-0	5-way valve pedal (right)	429	B-040-040000-1	Flat washer Ø 4
405	B-055-120001-0	Snap ring Ø12	430	B-024-040161-0	Cross-round head screw M4*16
406	B-040-122520-1	Flat washer Ø12*24*2	200-431	C-200-530000-0	Reverse switch handle
407	B-024-040301-0	Cross head screw M4X30	432	B-001-060001-0	Self-locking nut M6
408	B-040-040000-1	Flat washer Ø 4	433	B-040-030000-1	Flat washer Ø3
409	B-001-040001-0	Self-locking nut M4	434	B-017-030161-0	Cross head screw M3X18
410	B-001-080001-0	Self-locking nut M8	200-435	CX-200-060600-0	Pedal connection rod
411	B-040-081715-1	Flat washer Ø8*17*1.5	437	CX-200-060700-0	Pedal front shaft
200-412	C-200-061300-0	Cam connection rod	438	B-004-080001-0	Nut M8
200-413	C-200-060100-0	Pedal suport board	439	C-200-370000-0	Pedal twist spring
200-414	C-200-380000-0	Pedal Spring	440	B-010-080501-0	Hex socket head bolt M8x50
200-415	C-200-061500-0	Cam	441	B-010-080201-0	Hex socket head bolt M8x20
200-416	C-200-810000-0	Cam washer	442	S-012-010808-0	Union 1/8- Ø 8
417	B-010-060201-0	Hex socket head bolt M6x20	445	S-016-010808-2	T-union1/8-2* Ø 8
418	B-040-061210-1	Flat washer Ø6*12*1	200-449	C-200-060901-0	5-way valve (left)
420	B-019-290121-0	Cross head self tapping screw	200-451	C-200-061100-0	5-way valve cover
200-421	CX-200-060500-0	Cam cover	452	B-024-290121-0	cross head screw ST2.9*14
422	CW-110-020000-0	Complete 5-way valve for clamping cylinder	453	S-023-010801-0	Muffler 1/8"
423	CW-110-020001-0	Complete 5-way valve for bead breaker cylinder	200-455	CX-200-061200-0	5-way valve rod
200-424	C-200-061400-0	Reverse switch cover	200-456	C-200-061000-0	5-way valver rod spacer
425	B-004-040001-0	Nut M4	457	S-000-012400-0	O-seal 12*20*4
200-426	S-060-016000-1	Reverse switch	459	C2-000-103150-0	Power supplier cable
427	B-010-060201-0	Hex socket head bolt M6x20	616	C2-000-205150-0	Motor cable
			200-480	CW-109-020000-0	Complete 3-pedals assembly 200

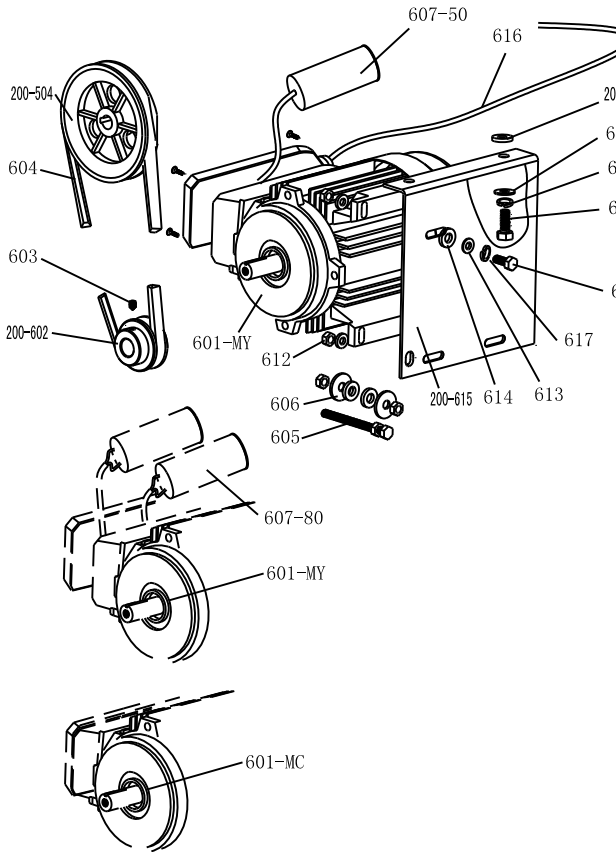
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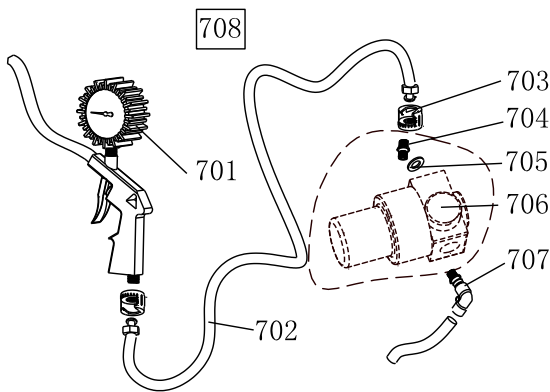
200-501	C-300-320302-0	Gear box lower cover
502	S-040-030204-0	Bearing 30204
503	S-005-020080-1	Gear box seal $\varnothing 20 \times 35 \times 8$
200-504	C-200-320500-0	Gear Belt pulley
505	B-014-080251-0	Outer hex bolt M8x25
506	B-065-006020-0	Key washer 6x20
200-507	C-200-320400-0	Worm rod
508	S-040-006010-0	Bearing 6010
200-509	C-200-320200-0	Worm gear shaft
200-510	C-200-320100-0	Worm gear
200-511	CZ-200-320600-0	Worm gear shaft spacer
512	B-014-100551-0	Outer hex bolt M10x55
513	B-050-100000-0	Spring washer $\varnothing 10$
200-514	B-060-006020-0	Pin 6X20
515	B-040-102020-1	Flat washer $\varnothing 10 \times 20 \times 2$
516	B-010-060201-0	Hex socket head bolt M6x20
517	B-040-061412-1	Flat washer $\varnothing 6 \times 14 \times 1.2$
200-518	C-300-320301-0	Gear box upper cover
519	B-065-010040-0	Key washer 10x40
520	B-065-014040-0	Key washer 14x40
521	S-000-027310-0	O-seal $\varnothing 27.8 \times 3.1$
200-522	C-200-320700-0	Oil resistant seal
523	B-001-060001-0	Self-locking nut M6
524	B-050-080000-0	Spring washer $\varnothing 8$
525	B-040-083030-1	Flat washer $\varnothing 8 \times 30 \times 3$
200-526	CW-107-020001-0	Complete gear box



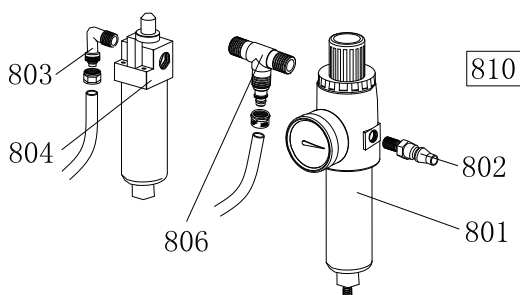
A04	S-015-000008-3	T-union 3* $\varnothing 8$
A44	B-010-060161-0	Hex socket head bolt M6x16
A46	S-015-010808-2	T-union 1/8-2* $\varnothing 8$
200-531	CZ-200-430100-0	Rotating valve casing
200-532	S-000-059262-0	O-seal 59.9X2.62
200-535	CZ-200-430200-0	Rotating valve mandrel
A41	S-011-010808-0	Straight union 1/8- $\varnothing 8$
548	B-007-040061-0	Hex socket head bolt M4X6
600-540	CW-006-060000-0	Complete Rotating valve



200-504	C-200-320500-0	Gear Belt pulley
601-MC	S-050-220110-5	Motor 220V/50HZ
601-MY	S-050-230075-0	Motor 220v
200-602	CX-200-330000-0	Motor Belt pulley
603	B-007-080121-0	Hex socket head bolt M8x12
604	S-042-000686-0	Tyre changer belt A-28
605	B-014-080651-0	Outer hex bolt M8X65
606	B-040-083030-1	Flat washer Ø8X30X3
607-80	S-063-008000-0	Capacitor 80µf,110V
607-50	S-063-005000-0	Capacitor 50µf,220V
608	B-040-102020-1	Flat washer Ø10X20X2
609	B-050-100000-0	Spring washer Ø10
610	B-014-100251-0	Outer hex bolt M10X25
611	B-014-080351-0	Outer hex bolt M8X35
612	B-004-080001-0	Nut M8
613	B-040-082220-1	Flat washerφ8X22X2
614	C-200-560000-0	Motor rubber washer
200-615	CX-200-340000-2	Motor support
616	CZ-000-205150-0	Motor cable 5x1.0
617	B-050-080000-0	Spring washer φ8
200-618	C-200-560000-0	Motor rubber buffer



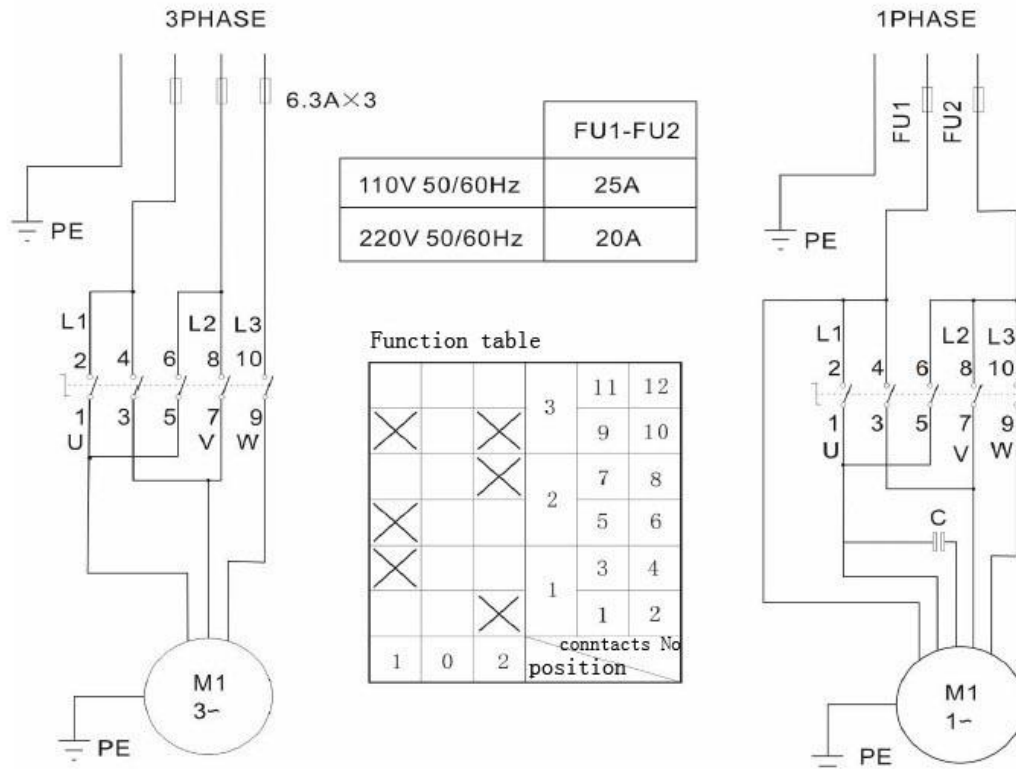
A04	S-015-000008-3	T-union 3* Ø 8
A44	B-010-060161-0	Hex socket head bolt M6x16
A46	S-015-010808-2	T-union 1/8-2*Ø8
200-531	CZ-200-430100-0	Rotating valve casing
200-532	S-000-059262-0	O-seal 59.9X2.62
200-535	CZ-200-430200-0	Rotating valve mandrel
A41	S-011-010808-0	Straight union 1/8-Ø8
548	B-007-040061-0	Hex socket head bolt M4X6
600-540	CW-006-060000-0	Complete Rotating valve



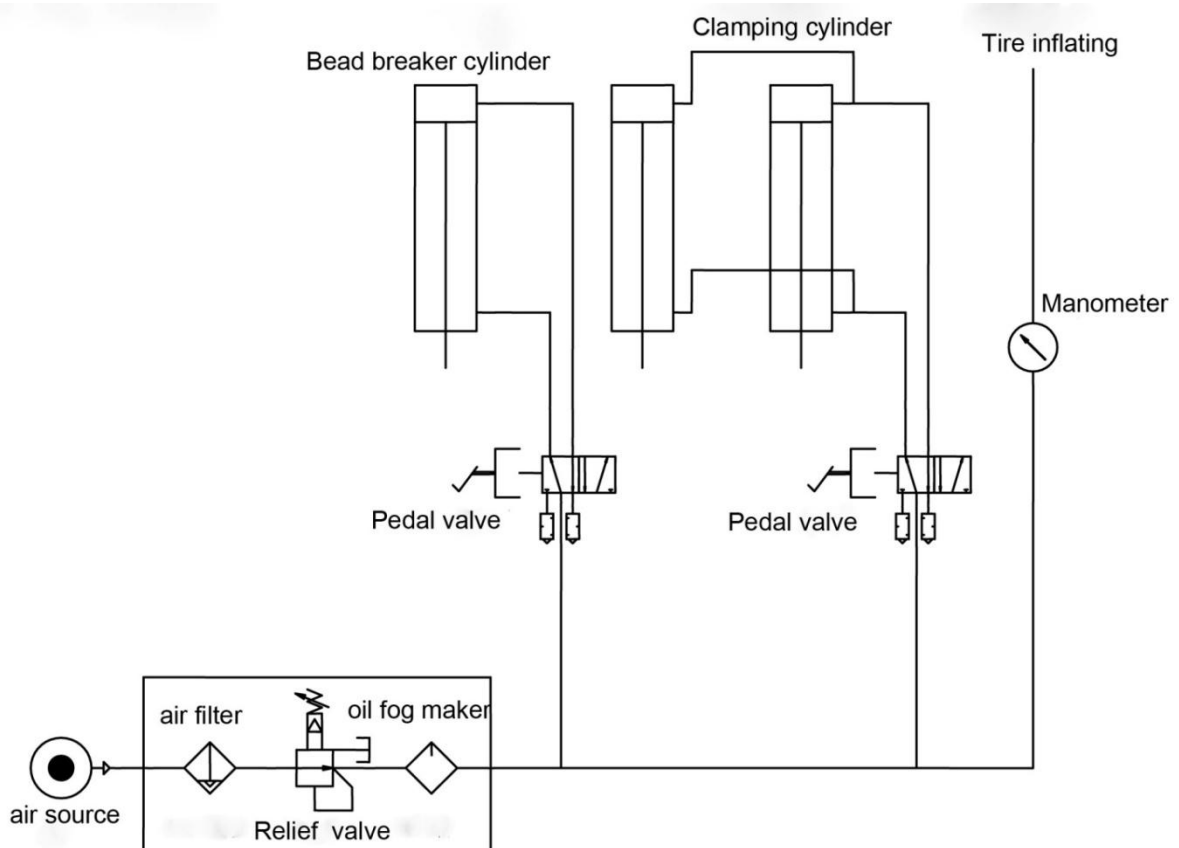
801	S-033-200002-1	Relief pressure filter
802	S-025-000050-0	Quich nozzle
803	S-018-010408-0	Union (90°)
804	S-033-200002-2	Oil fog maker
806	S-015-010408-2	T-union 2X1/4-φ8
810	CW-114-020005-0	Complete oil fog maker



### 15. Circuit diagram:



### 16. Pneumatic drawing:



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**Space for notes:**



The company

**Twin Busch GmbH | Amperestr. 1 | D-64625 Bensheim**

declares hereby, that the **vertical tyre changer**

**TW X-610**

serial no.

in the configuration placed on the market by us, meets the relevant safety and health requirements, as required by the following EC directive(s) in it's/their current version(s).

EG-directive(s)

**2006/42/EC machine**

Applied harmonized standards and regulations

**EN 60204-1:2006+A1:2009 part 1 Safety of machinery - Electrical equipment of machines**

CE Certificate

**CE-C-0421-14-40-01-2A**

date of issue: 19.05.2014  
 place of issue: London  
 technical file no.: TF-C-0421-14-40-01-2A

Certification body

CCQS UK Ltd.,  
 Level 7, Westgate House, Westgate Road,  
 London W5 1YY UK  
 Notified Body Appointment No. 1105

**Any alteration to the equipment, improper use or installation void this declaration.**

Authorized person to compile technical documentation is: Michael Glade (adress as below)



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 Amperestr. 1 · 64625 Bensheim  
 Tel. 08251 / 70585-0 · Fax: 70585-28

Authorized signatory: Michael Glade  
 Bensheim, 08.12.14 Qualitätsmanagement

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