



REDBACK RB221PA TYRE CHANGER

INSTRUCTION & MAINTENANCE MANUAL



Read this entire manual carefully and completely
before installation or operation of the tyre changer

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.

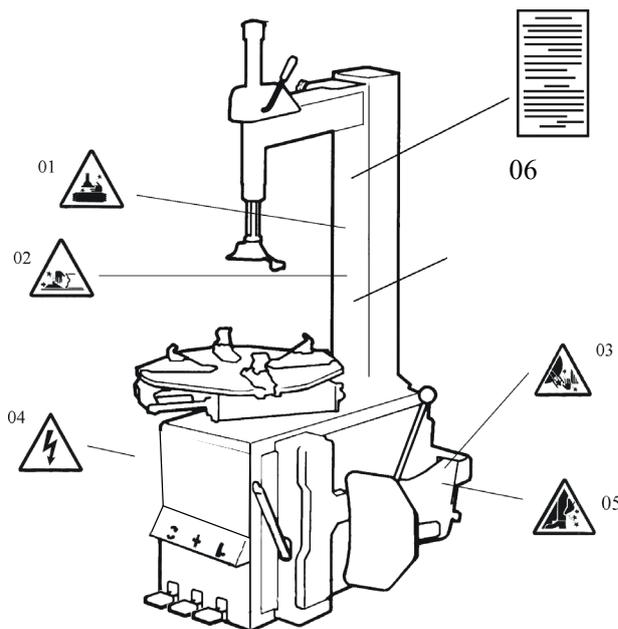
1. Introduction:

Application Range: The 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. Safety Warnings:

- 01 Don't put hands under the Mounting head/demounting head during operation;
- 02 Don't put hands between the jaws during operation;
- 03 Don't put hands in 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;
- 06 Warning instruction

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

External locking rim dimensions	10~21 "
Internal locking rim dimensions	12~24 "
Max. Wheel diameter	1000mm (40 ")
Max. Wheel width	355mm(14 ")
Working Pressure	8-10bar
Power supply	110V (1ph)/ 220V (1ph)/ 380V (3ph)
Optional Motor power	0.75/0.55/1.1 kw
Max. Rotating Torque (Turntable)	1078 N*m
Overall Dimension	960*760*930 mm
Noise Level	<75dB

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.

Here **above machine versions can be equipped with Rapid Tire Inflation Device** (client optional device), IT-suffix version, accessory **details** can be found at **the IT-suffix version diagram**.

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.

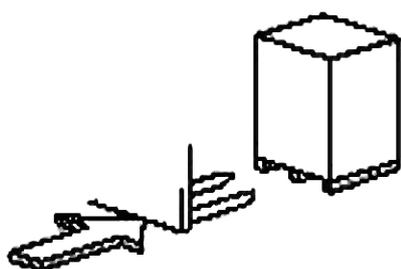


Fig 1

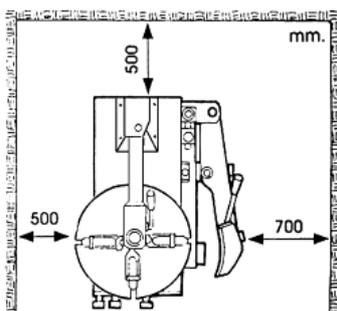


Fig 2

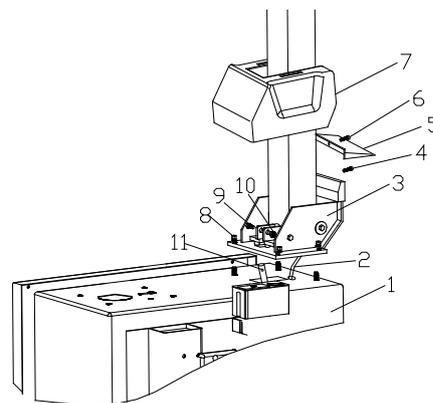


Fig 3

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:

7.1 Install the column (accessories details refer to the exploded drawing)

- 1) Tools preparation
- 2) Place the tilting seat (3, Fig 3) on the body (1, Fig 3) with 4 bolts (M12), push air hose (2, Fig 3) through the hole of the column. Tighten 4 self-locking nut (8, Fig 3).
- 3) Insert screw (9, Fig 3) into the holes of both column and tilting cylinder shaft (11, Fig 3), tighten it with self-locking nut (10, Fig 3).
- 4) Unscrew the two bolts on the left cover and remove the cover, connect air hose (2, Fig 3) previously mentioned to the side holes which control the tilting 5-way valve. Fix the left cover.
- 5) Fix the plastic cover (7, Fig 3) with two bolts (4, Fig 3).
- 6) Mount the plastic back cover (5, Fig 3) on the column with screw (6, Fig 3).



8. Electricity and Pneumatic connections:

Warning: 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.**

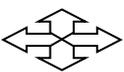
9. Adjusting operation:



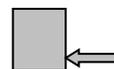
Tilting pedal (H)



Turntable Rotation pedal (Z)



Jaws open and close pedal(V)



Bead Breaker pedal(U)

Please note: below operation refer to **Fig 4**

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 (R) compress; release Bead Breaker Pedal (U), Bead Breaker shovel (R) back to original position.

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

Depress pneumatic locking button (K) to lock the Slide arm (N) and Vertical arm (M).

Tread the Bead Breaker pedal (H), the tilting column (C) backwards down; depress again, the tilting column return.

Tyre changer operation is consisted of three parts:

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

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 shovel (F) against the bead about 10mm from the edge of the rim shown as Fig 5. Depress 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.

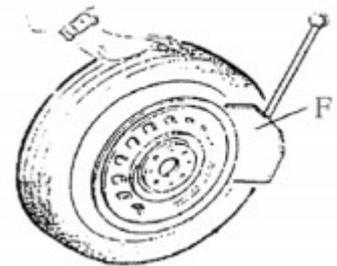


Fig 5

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:

Depress 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 depress 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 closed. Put the tyre on the turntable and depress 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 clamps before next step.

Lower the Vertical Arm (M) until the Mounting head/demounting head (I) rests next to the edge of the rim, flip pneumatic locking button (K) to lock the Vertical Arm (M) and Horizontal arm in position, and control the distance from Mounting head/demounting head to the edge of wheel rim about 2-3 mm. Insert the Lifting Lever (T) between the tyre bead and the front section of the mounting head/demounting head (I), and move the tyre above the mounting head/demounting head as shown as Fig 6.

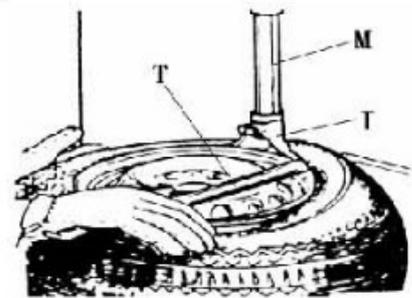


Fig 6

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, depress 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. Depress the Titling pedal (H), the column backward down, take out the tyre.

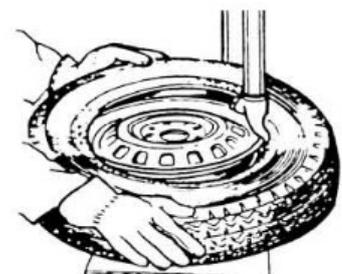


Fig 7

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 head/demounting head, the other side under the front section of the Mounting head/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)

10. Help Arm 006

The help arm 006 is an auxiliary device for tire changer, it is used to help to demount and mount tires.

Before any operation of this machine, the operator is requested to read the manual carefully. Do not attempt any operations that are not stated in it. Manufacturer will not be responsible for any injury or damage caused by improper operation. Please keep the manual handy for consulting.

10.1 Technical Data

Work Pressure	8~10 bar
Weight	80kg
Package dimension	1230*450*350mm
Noise Level	LpA<75dB



10.2. Safety Regulations

This device is especially reserved to trained professional personnel or somebody who has experiences on mechanical operation and read this manual carefully. This device must be used together with our tire changers, we are not sure it can work with others. Manufacturer won't be responsible for any unauthorized modification.

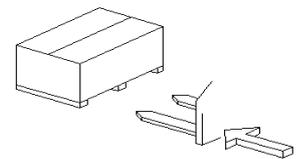


Fig 8

10.3. Installation

Notice!

The installation of this auxiliary device should be done by professional personnel. Before assembly, disconnect the device from power supply and air source.

10.3.1. Transport

Move the device with a forklift truck as illustrated in Fig 8.

10.3.2. Unpacking

When unpacking, check and make sure all parts shown on the packing list are included. If any parts are missing or broken, please call the manufacturer or the dealer asap. Please keep the package out of children's reach.

10.3.3. Workplace Requirement

Fig 9 shows the minimum distance (cm) from walls after assembly this auxiliary device. Please choose the right place to install it.

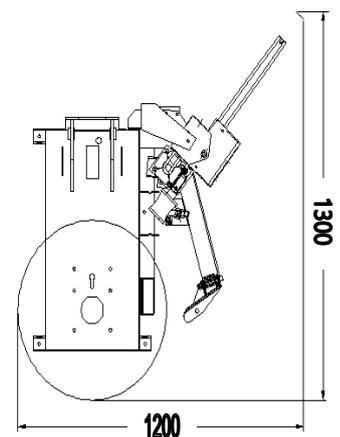


Fig 9

10.3.4 Assembly

- 1) Disconnect the tire changer from power supply and air source.
- 2) Install the column 3 with screw 1 and 2; install the support 5 of the auxiliary arm with screw 4; (Fig 10)

- 3) Install the help arm 6 with nut 7 and screw 9, then tighten 4、7、8、9 (Fig 10 、 Fig 11) ;
- 4) Install the Rotating arm (A)、 Hexagonal horizontal arm (B) and Tire lifting roller support (C) separately on the tire changer;(Fig 12)
- 5) Install the tire lifting roller (D)、 the switch (E)、 tire pressing head (F) and tire pressing roller(G) separately on the tire changer;(Fig 12)
- 6) Connect the air hose to the corresponding joint through the rear hole of the body.

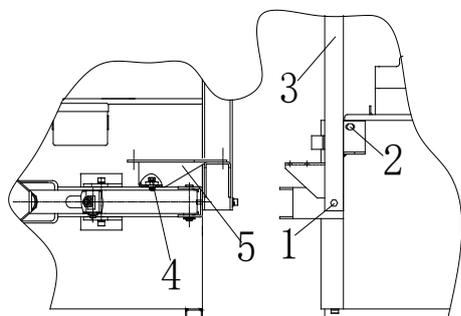


Fig 10

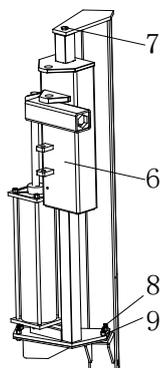


Fig 11

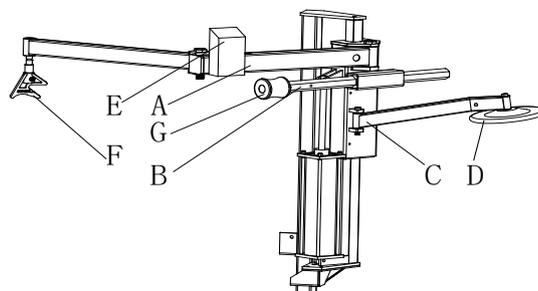


Fig 12

10.4.Functional Parts

Fig 12 shows functional parts to the 006 device:

- | | |
|--------------------------------|-----------------------------|
| A. Rotating arm connector | B. Hexagonal horizontal arm |
| C. Tire lifting roller support | D. Tire lifting roller |
| E. Raise-fall control assembly | |
| G. Tire pressing roller | |

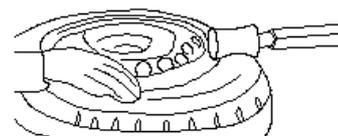


Fig 13

10.5. Trial operation

The 006 device must connect with the air compressor, and the air pressure from 8 bars to 10 bars is desirable.

10.6. Operations

Mounting and demounting big flat tire is difficult work. By the help of 006 help arm to mount/demount the tire from the tire bead will make the operation easier. It is a good helper for tire changer.

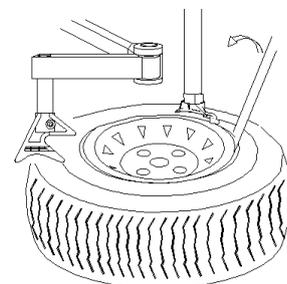


Fig 14

10.6.1. Fixing the Tire

Loosen the bead according to the manual. Clamp the tire from outside, tread the corresponding pedal to open the jaws;

Put the tire on the turntable; Tread the corresponding pedal to close the jaws until they near the rim.

10.6.2. Demounting the Tire

-1. Generally speaking, tire is very tight. Loosen the beads with the tire pressing head first (or using the bead breaker if it too tight to loosen).

Pull out the Hexagonal horizontal arm; let the tire pressing roller above the tire without collision.

Lower the tire pressing roller lower with the switch handle to press the tire. Tread the pedal to rotate the turntable. Loosen the bead during this procedure. (Fig 13)

Caution: Lubricate the tire pressing head (upper) and the bead before the operation.

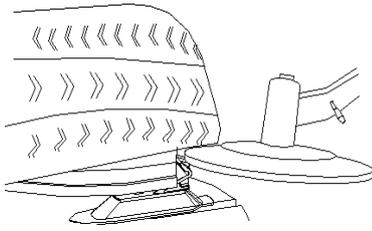


Fig 15

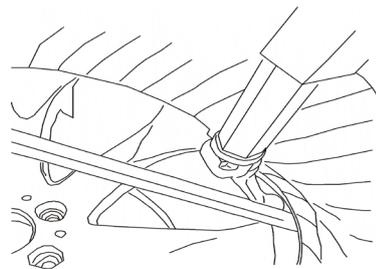


Fig 16

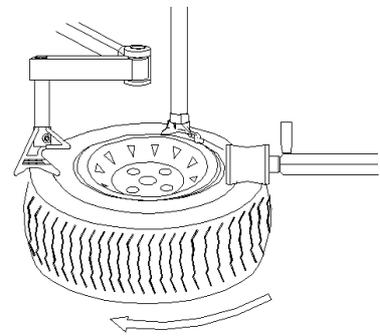


Fig 17

-2. Demounting the upper bead

a- Move the mounting head near the edge of the rim, rotate the tire pressing arm to move the tire pressing block above the tire, press the switch handle to depress the tire, and insert the lifting lever in the clearance between the tire and the rim, then hang the bead on the mounting head. **(Fig 14)**

b- Raise the auxiliary arm, rotate the tire pressing head to the opposite. Press the tire with the switch handle to create enough space.

c- Tread the power supply pedal to rotate the turntable. With the help of the tire pressing head, the upper tire bead is detached.

d- Raise the help arm to move the tire pressing block to its non-working position.

-3. Demounting the bottom bead

Turn the roller support and move it under the tire, but don't touch it with the rim.; **(Fig 15)** Tread the power supply pedal to rotate the turntable, meanwhile, lift help arm gradually to loosen tire and completely demount the bottom bead.

Caution: The roller support can't be used for all tires, some tires need following operation: Move the mounting head above the rim; Insert the lifting lever in the clearance between the bottom tire bead and the rim, have the tire hung on the mounting head(Fig 16); Tread the power supply pedal to rotate the turntable. With the help of the mounting head, the tire is detached completely.

10.6.3. Mounting the tire

Lubricate the tire bead and rotate the turntable, mount the bottom bead with the mounting head;
Pull the hex rod out, press the upper bead under the mounting head 5mm with the tire pressing roller, rotate the rotating arm and move the tire pressing block above the tire;
Don't touch with the rim in the operation, or it causes damage on the rim due to friction.

Tread the power supply pedal to rotate the turntable and the tire pressing block, lower the help arm to press the tire under the rim. Mount the tire with the mounting head. Please pay attention to the safety in the process of operation. **(Fig 17)**

11. 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 tire 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;

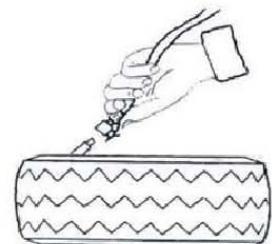


Fig 18

Please operate as follows:

- 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.

12. 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.

13. 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 depress 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 depress 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, depress twice every time, drop down a drip of oil, otherwise adjust the screw (D) that controlled oil enter with minus screwdriver.

(Fig 19)

- As shown in Figure 19-1, when you found there are some water in the cup, push up the drain valve to drain away water with your fingers; loosen your fingers after drained water, drain valve can be automatic closed under the action of the spring.

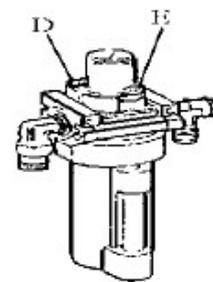


Fig 19

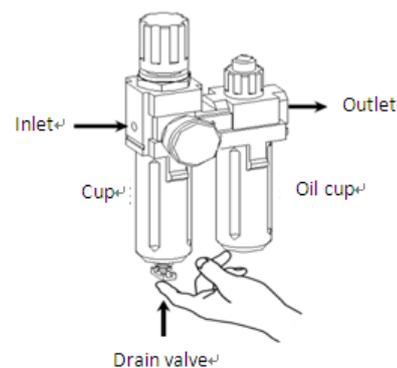
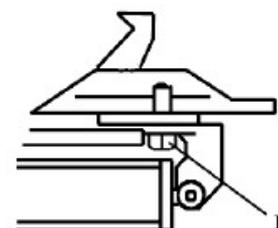


Fig 19-1

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

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 21)

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

Fig 20

Note: If Vertical Arm not be locked or not meet the requirement that 2-3mm from the bottom of Mounting head/demounting head to rim, please adjust Hexagonal Locking Plate, refer to Fig 22 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 mufflers (A) which belong to Jaws open and close Pedal and Bead Breaker Pedal; **(Fig 23)**
3. Clean the mufflers with compressed air, please replace it referring to the spare parts list if it is damaged. **(Fig 23)**

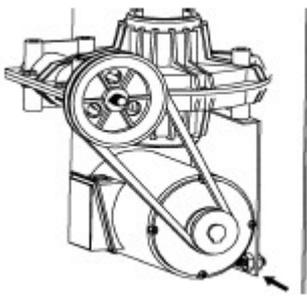


Fig 21

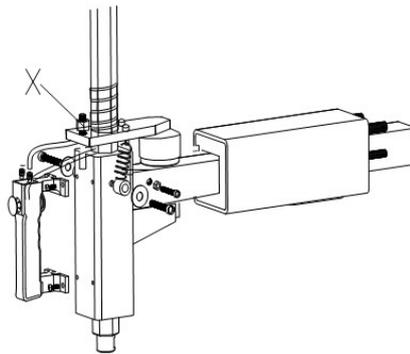


Fig 22

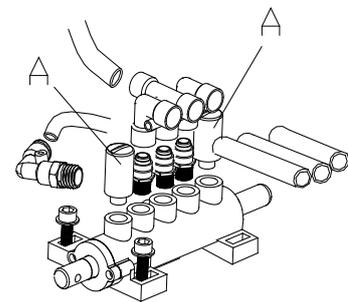


Fig 23

14. 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); The jaws delay to open/close; The turntable locks the rim incorrectly.	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.
The mounting head/demounting head always touch the rim during operation.	Broken washers of the chuck cylinder	Replace it.
	The locking plate incorrectly adjust or unqualified.	Replace or adjust it.
	Screws on the chuck loose; the Vertical Arm can't be locked by Locking Plate	Tighten the screws; replace the Locking Plate.

The Bead Breaker Pedal and Jaw open and close Pedal can't turn back to the original position.	pedal spring broken	Replace it.
The Bead Breaker shovel operates difficultly.	Jammed silencer	Clean it or replace it.
	The washer on the Bead Breaker cylinder is broken.	Replace it.

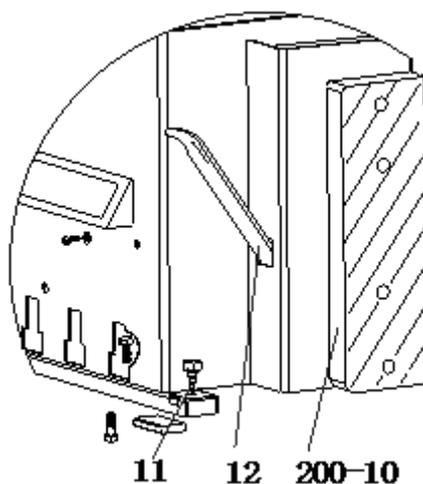
15. Guide for ordering spare parts

1. Firstly, the damaged or ordered sample should be gained and confirmed the quantity of spare parts
2. Confirm the replaced parts specification, avoid wrong order.

The confirmed method showed as following:

According to the use range and place position of parts, find out the codes of parts in the exploded drawing (section 17) from the manual.

For example, if lifting level is needed to be ordered, resulting from the fact that lifting level always placed in the sleeve, and its exploded drawing position is showed as below:



We can see the code "12" from the picture, then find out all the information of code "12" and record them.

11	B-027-060401-0	Grounding screw M6x40
12	C-200-580000-0	Lifting level
200-13	C-200-360000-0	Bead breaker arm spring

The recorded information:

12	C-200-580000-0	Lifting level
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3. Gather the detailed information of parts

Code .	Order code	Name	Qty	Purchase time of machine
12	C-200-580000-0	Lifting level	2	2009.6.25

4. Please contact the spare parts department and confirm the order.
 5. After confirming the order with any problem, the spare parts department will deliver the goods for you according to the order.

Special statement

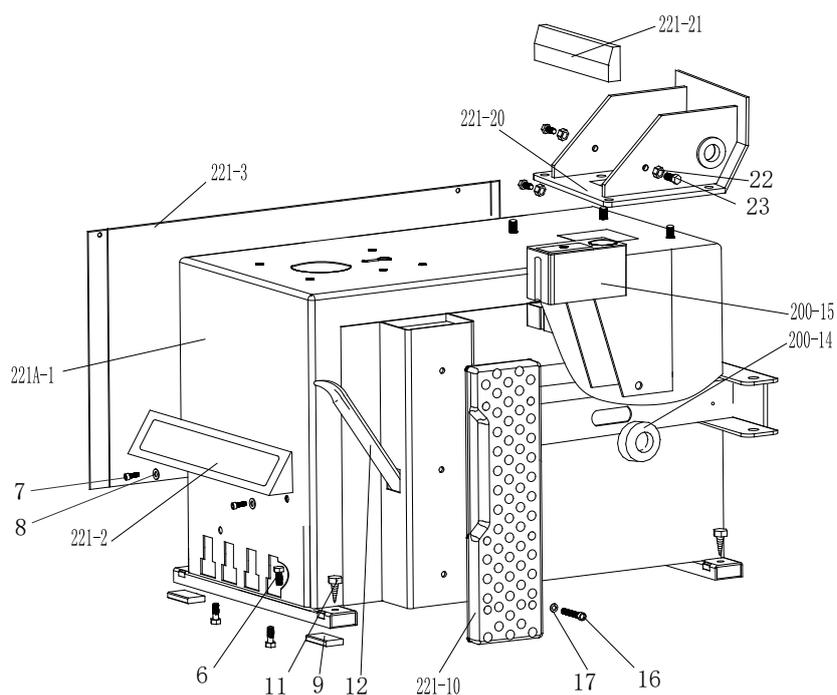
- ◆ **Manufacturer reserves the rights to change the parts specification without beforehand notice for the users.**
 ◆ **Manufacturer do not liable for the modification and improvement of the products which have been sale**

16. Wearing spare parts list

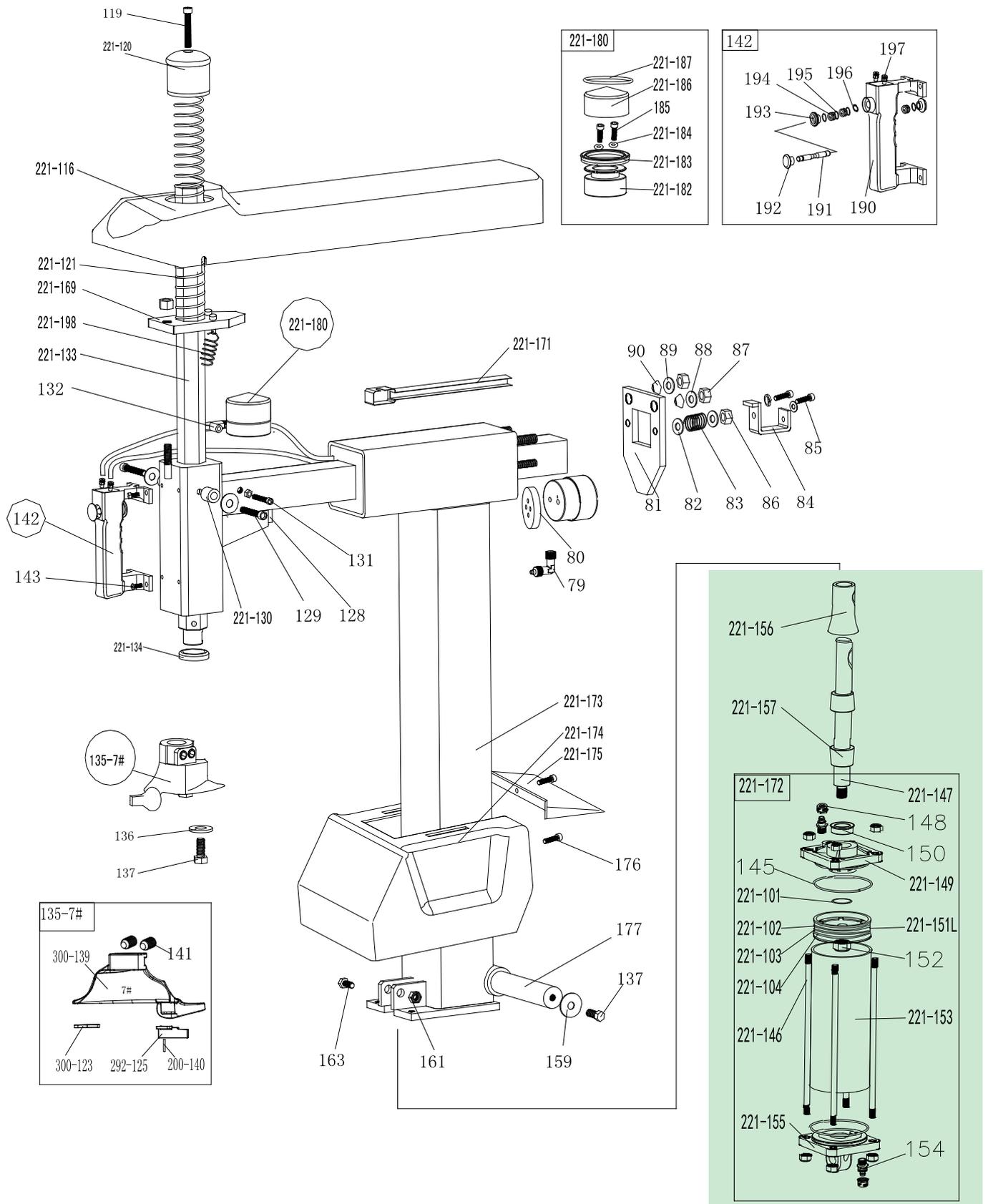
Code	Order code	Name	Code	Order code	Name
221-10	C-221-500000-0	Bead breaker buffer	331	S-000-019262-0	O- seal Ø 19.6*2.62
226	S-005-020075-0	V seal 20*28*7.5	200-426	S-060-016000-1	Reverse switch
227	S-000-063265-0	O seal 63*2.65	521	S-000-030355-0	O seal Ø 30*3.55
200-228	C-200-540000-0	Clamping cylinder pistonØ70	200-532	S-000-059262-0	O seal 59.9*2.62
232	S-000-019262-0	O seal Ø19.6×2.62	604	S-042-000686-0	Tyre changer belt A-28
306	S-000-016265-0	O- seal Ø 16*2.65	200-522	C-200-320700-0	Oil seal resistance
307	S-000-020265-0	O- seal 20*2.65	801	S-033-200002-1	Decompression filter
200-308	S-000-180500-0	O- seal 180×5	804	S-033-200002-2	Complete oil fog maker
311	S-005-168115-0	V seal 185×168×10.8	A86	S-030-010400-0	Drain valve
200-321	S-000-175500-0	O seal Ø173.4×5.3			

Remark : The parts in the list are easy broken parts, if other parts needed to be ordered, please check the manual.

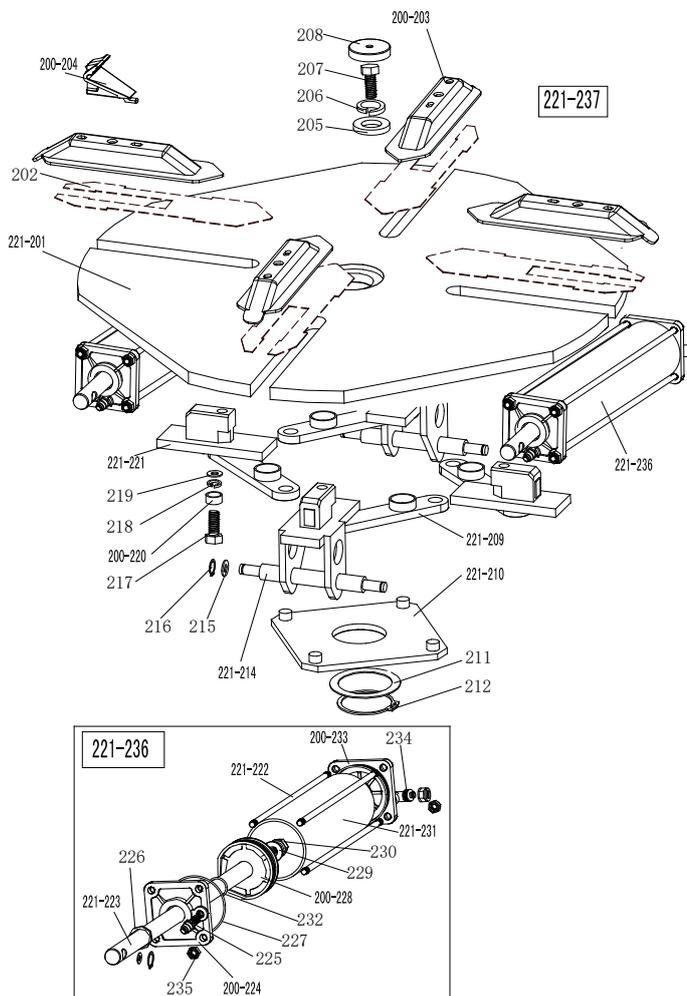
17. Exploded drawing:



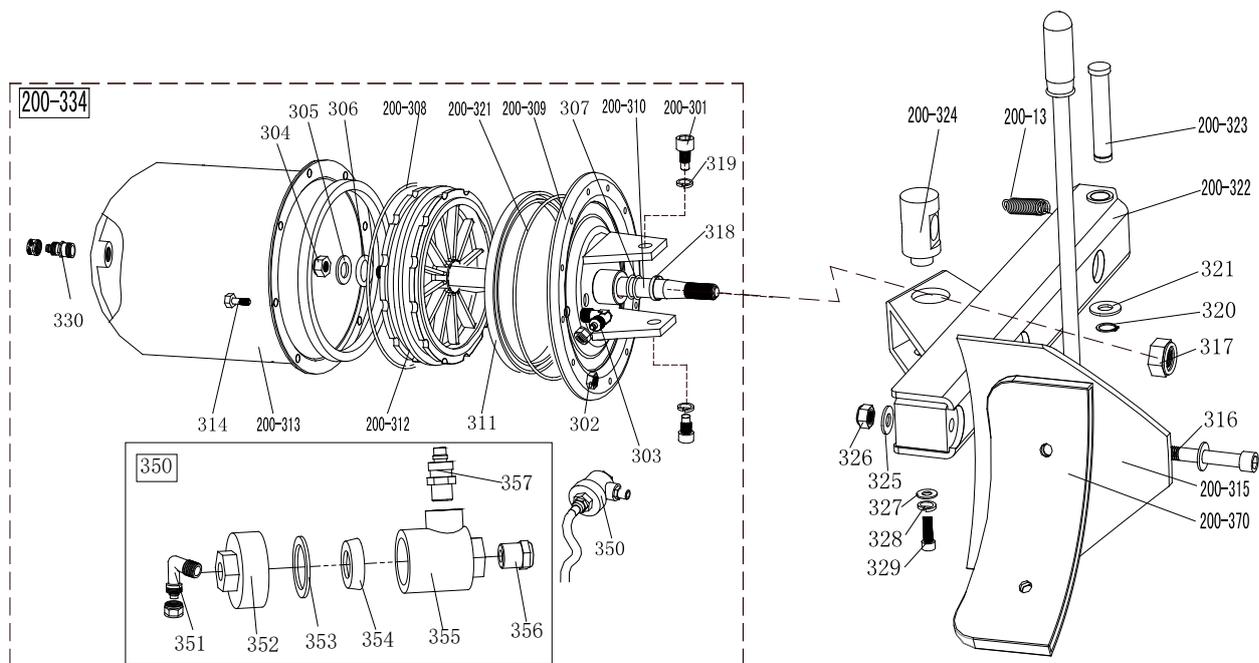
221A-1	CX-221-010000-A	Machine body 221
221-2	CX-221-080000-0	Pedal front cover
221-3	CX-221-020000-0	Left cover
4	B-010-060101-0	Hex socket head bolt M6×10
5	B-040-061412-1	Flat washer Ø6*14*1.2
6	B-014-080251-0	Outer hex bolt M8x25
7	B-014-08201-0	Hex socket head bolt M8×20
8	B-040-082220-1	Flat washer Ø 8*22*2
9	C-000-001020-0	Rubber foot buffer
221-10	C-221-500000-0	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-040-081715-0	Flat washer Ø8*17*1.5
221-20	CX-221-010106-0	Tilting seat
221-21	C-221-820000-0	Tilting protect cover
22	B-001-100001-0	Self-locking nut M10
23	B-014-100251-0	Outer hex bolt M10*25



79	S-012-010806-0	Quick union 1/8-Ø6	221-149	C-221-350100-0	Tilting cylinder cover without handle
80	C-221-250600-0	Locking cylinder plate	150	S-005-020075-0	V seal Ø20*28*7.5
81	CX-221-190000-0	Horizontal arm locking plate	221-151L	C-221-550000-L	Tilting cylinder piston(Al-alloy)φ75
82	B-040-081715-1	Flat washer Φ8*17*1.5	152	B-004-120071-0	Nut (silver) M12*1.5*7
83	C-221-410000-0	Horizontal arm locking spring	221-153	C-221-350500-0	Tilting cylinder barrel
84	CX-221-240000-0	Horizontal arm block	154	S-010-010806-0	Straight union 1/8-Ø6
85	B-014-080201-0	Outer hex bolt M8*20	221-155	C-221-350300-0	Tilting cylinder cover with handle
86	B-001-080001-0	Self-locking nut M8	221-156	CX-221-351000-0	Tilting cylinder piston rod cover
87	B-001-120001-0	Self-locking nut M12	221-157	C-221-350700-0	Tilting cylinder rubber sheath 1
88	B-040-122520-1	Flat washer Φ 12*25*2	137	B-014-100251-0	Outer hex bolt M10×25
89	B-040-122520-1	Flat washer Φ 12*25*2	159	B-040-104030-1	Flat washer 10*40*3
90	C-221-230000-0	Locking spacer	161	B-001-120001-0	Self-locking nut M12
221-116	C-221-480000-0	Horizontal arm protection back cover	163	B-014-120651-0	Outer hex bolt M12×65
119	B-010-100501-0	Hex socket head bolt M10*50	221-169	CX-221-220000-0	Hex locking board 221
221-120	C-228-490000-0	Vertical arm cap 228	221-171	C-221-790000-0	hose guide
221-121	C-228-390000-0	Vertical arm spring	221-172	CW-105-021102-0	Complete titling cylinder
127	B-007-120161-0	Hex socket head bolt M12*16	221-173	CX-221-250000-A	Column
128	C-221-200000-0	Shock absorber	221-174	C-231-450000-0	Column protection cover
129	B-010-060351-0	Hex socket head bolt M6×35	221-175	C-221-460000-0	Tilting Column back cover
221-130	P-120-260000-0	guide pulley	176	B-024-050161-1	Cross head screw 5*16
131	B-010-060161-0	Hex socket head bolt M6×16	177	CX-221-260000-0	Column shaft
132	S-017-010806-2	T-union 1/8-2*O6	221-180		Complete locking cylinder
221-133	CX-221-160000-0	Vertical arm	221-182	C-221-090100-0	Complete locking cylinder piston
221-134	C-228-520000-0	Vertical arm washer	221-183	S-005-050065-0	V seal Ø60*50*6.5
136	CX-200-170000-0	7# Mount/demount head protection washer	221-184	S-000-006300-0	O seal Ø4*2
137	B-014-100251-0	Outer hex bolt M10×25	185	B-010-060551-0	Hex socket head bolt M6×55
300-123	C-2592-150500-0	Mount/demount head protection plate	221-186	CX-221-090200-0	Locking cylinder cover Ø60
200-124	C-200-150400-0	hex round pin	221-187	S-000-052200-0	O seal 52X2
292-125	C-2592-150300-0	Mount/demount head protective washer	190	C-221-210100-0	Pneumatic handle switch plate
135-7#	CW-113-030000-0	Complete Mount/demount head7#	191	C-221-210200-0	Pneumatic handle valve rod
200-139	C-300-150000-0	Mount/demount head 7#	192	C-221-210500-0	Pneumatic valve rod cap
141	B-007-120161-0	Hex socket head screw M12X16	193	C-221-210300-0	Pneumatic handle cover
142	CW-119-021100-0	Complete Pneumatic locking switch	194	C-221-210400-0	Pneumatic handle spacer
143	B-010-060161-0	Hex socket head bolt M6*16	195	S-000-007265-0	O seal 7.5*2.65
145	S-000-068353-0	O seal Ø68.26*3.53	196	B-055-080001-0	Snap ring Ø8
221-146	C-221-350900-0	Tilting cylinder threaded	197	S-010-010806-0	Straight union
221-147	C-221-350200-0	Tilting cylinder piston rod	221-198	C-221-400000-0	Hex locking board spring
148	B-001-080001-0	Self-locking nut M8	199	B-007-100121-0	Hex socket head screw M10×12
221-101	S-000-011180-0	O-seal φ11*1.8	221-103	S-000-068353-0	O-sealφ68*3.53
221-102	S-005-065075-0	Y-sealφ65*75*6	221-104	S-000-065053-0	O-sealφ65*5.3

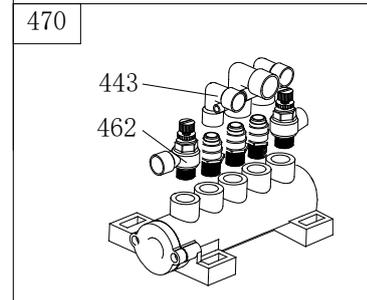
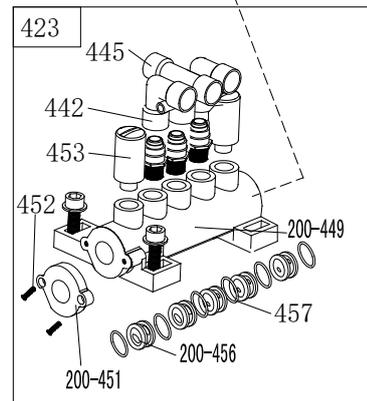
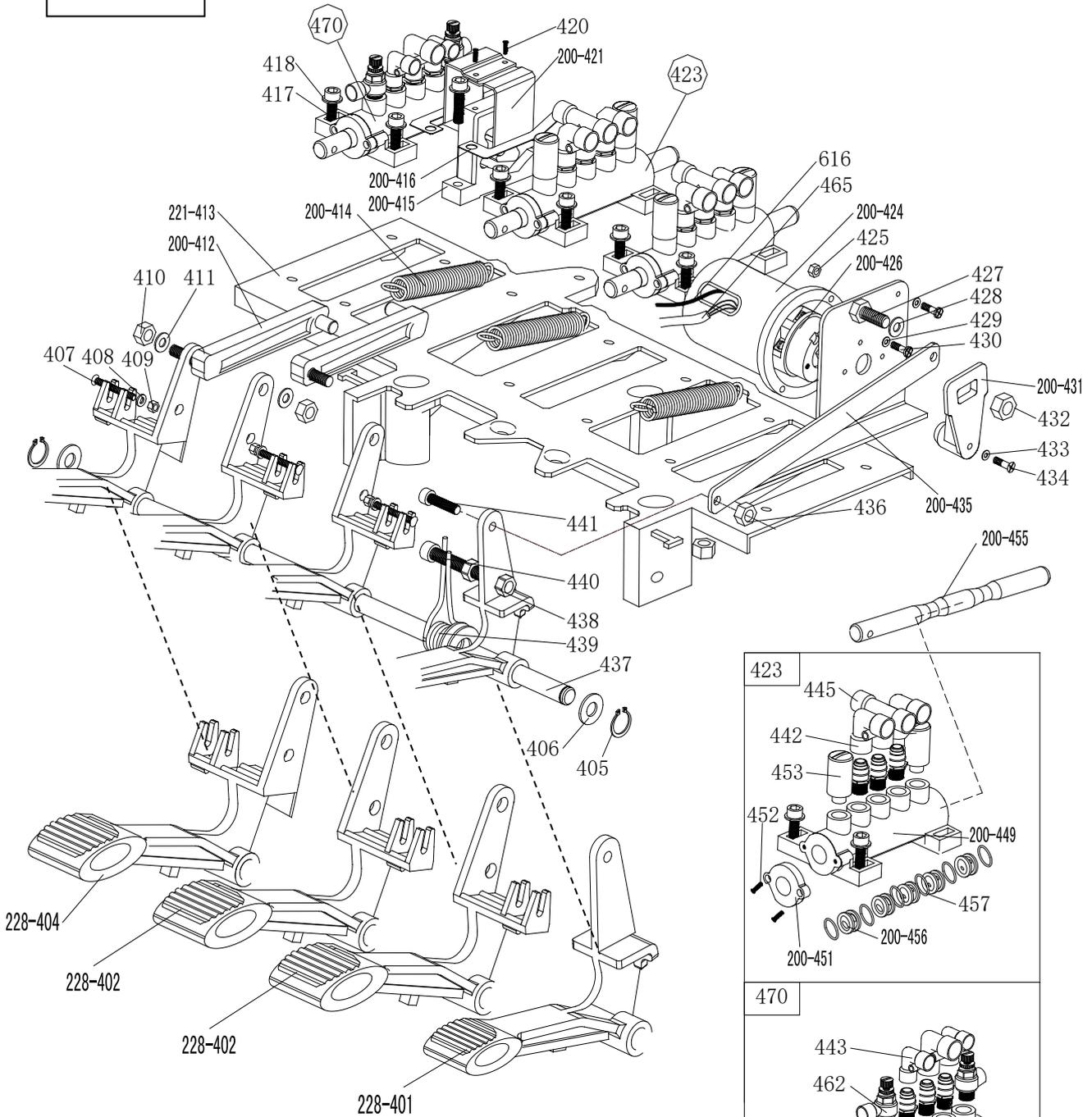


221-201	CX-221-130000-0	Turntable 615
202	CX-221-120300-0	Jaw sliding plate(optional)
200-203	CX-200-120000-0	Jaw cap assembly
200-204	C-200-570000-0	Jaw 200
205	CX-200-140000-0	Big washer
206	B-050-160000-0	Spring washer Ø16
207	B-014-160401-0	Outer hex bolt M16×40
208	C-200-440000-0	Turntable cap
221-209	CX-221-310000-0	Connection rod assembly 615
221-210	CX-221-280000-0	Square turntable 615
211	CX-200-290000-0	Square turntable washer
212	B-055-650001-0	Snap ring Ø65(shaft)
221A-2 14	CX-221-110000-A	Jaw slide guide with pin
215	B-040-122520-1	Flat washer Ø12X25X2
216	B-055-120001-0	Snap ring Ø12(shaft)
217	B-014-120801-0	Hex socket head bolt M12×40
218	B-046-122050-1	Teeth locking washer Ø12×1
219	B-040-123030-1	Flat washer Ø12X30X3
200-220	CX-200-300000-0	Connection rod nut
221A-2 21	CX-221-110100-A	Jaw slide guide without pin
221-222	C-221-100400-0	Threaded connection rod 393
221-223	C-221-100200-0	Clamping cylinder piston rod 400
200-224	C-200-100100-0	Clamping cylinder cover without handle
225	S-011-010808-0	Straight union 1/8"-Ø8
226	S-005-020075-0	V- seal 20*28*7.5
227	S-000-063265-0	O- seal 63*2.65
200-228	C-200-540000-0	Clamping cylinder piston Ø70
229	B-040-122520-1	Flat washer Ø12X25X2
230	B-004-120071-1	Nut M12X7X1.75
221-231	C-221-100500-0	Clamping cylinder barrel 360
232	S-000-019262-0	O- seal Ø19.6X2.62
200-233	C-200-100300-0	Clamping cylinder cover with handle
234	S-018-010808-0	Quick union 1/8-Ø8
235	B-001-080001-0	Self-locking nut M8
221-236	CW-105-021100-0	Complete clamping cylinder
221-237	CW-104-021100-0	Complete square turntable 615



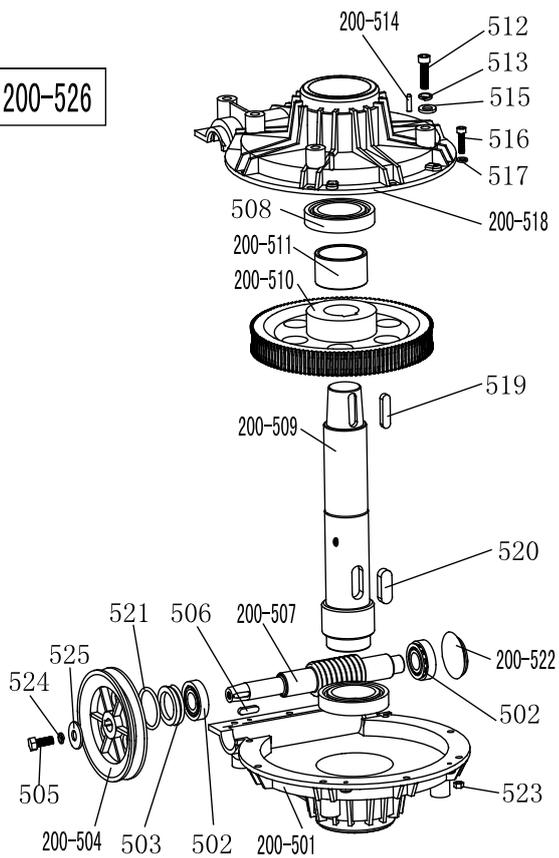
200-13	C-200-360000-0	Bead breaker arm spring	320	B-055-160001-0	Snap ring Ø16
200-301	B-010-140301-0	Hex socket head boltM14×30	200-321	S-000-180500-0	O-seal 180x5
302	B-001-060001-0	Self-locking nut M6	200-322	CX-200-030000-0	Bead breaker arm 200
303	S-018-010408-0	Union (90°) 1/4-Ø8	200-323	CX-200-040000-0	Bead breaker pin
304	B-004-160001-1	Nut M16*1.5	200-324	CX-200-050600-0	Bead breaker cylinder rotating pin
305	B-040-162820-1	Flat washer Ø16*28*2	325	B-040-122520-1	Flat washer Ø12*24*2
306	S-000-016265-0	O-seal Ø 16*2.65	326	B-001-120001-0	Self-locking M12
307	S-000-020265-0	O-seal Ø 20*2.65	327	B-040-083030-1	Flat washer Ø8*30*3
200-308	S-000-175500-0	O-seal Ø170.8×5.33	328	B-050-080000-0	Spring washer Ø8
200-309	CX-200-050500-0	Bead breaker cylinder cover assembly	329	B-014-080201-0	Outer hex bolt M8×20
200-310	C-200-050100-0	Bead breaker cylinder piston rod	330	S-011-010808-0	Straight union1/8-Ø8
311	S-005-168115-0	V-seal 185X168X10.8	331	S-000-019262-0	O-seal Ø 19.6*2.62
200-312	C-200-050200-0	Bead breaker cylinder piston	200-334	CW-108-020000-0	Complete bead breaker cylinder
200-313	CX-200-050300-0	Bead breaker cylinder barrel	350	CW-112-209800-0	Bead breaker cylinder exhaust valve
314	B-010-060161-0	Hex socket head bolt M6×16	351	S-012-010808-0	Union (90°)1/8-Ø8
200-315	CX-200-070000-0	Bead breaker shovel assembly	352	C-098-600200-0	Bead breaker cylinder exhaust valve cover
316	B-010-120901-0	Hex socket head bolt M12×90	353	C-098-600400-0	Seal washer
317	B-004-160001-1	Self-locking nut M16*1.5	354	C-098-600300-0	Bidirectional seal
318	U-006-000001-1	Guide belt	355	C-098-600100-0	Bead breaker cylinder exhaust valve barrel
200-370	C-200-070600-0	Bead breaker shovel protection cover(optional)	356	S-023-010401-6	Muffler
319	B-050-140000-0	Spring washer Ø14	357	S-010-010408-0	Straight union 1/4- Ø8

231-480

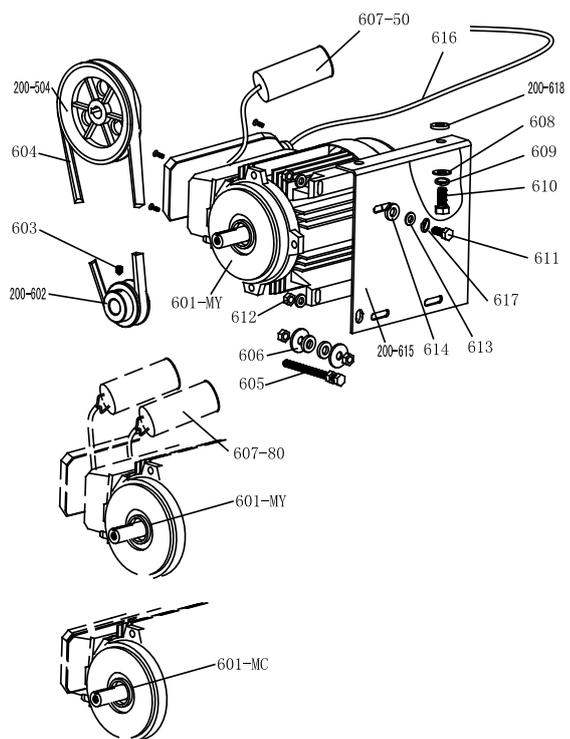


228-401	C-228-060400-0	Reverse switch pedal	430	B-024-040161-0	Cross head screw M4*16
228-402	C-228-060300-0	5-way valve pedal(right)	200-431	C-200-530000-0	Reverse switch handle
228-404	C-228-060200-0	5-way valve pedal(left)	432	B-001-060001-0	Self-locking nut M6
405	B-055-120001-0	Snap ring Ø12	433	B-040-030000-1	Flat washer Ø3
406	B-040-122520-1	Flat washer Ø12*24*2	434	B-017-030161-0	Cross head screw M3X18
407	B-017-040301-0	Cross head screw M4X30	200-435	CX-200-060600-0	Pedal connection rod
408	B-040-040000-1	Flat washer Ø 4	436	B-001-080001-0	Self-locking nut M8
409	B-001-040001-0	Self-locking nut M4	437	CX-221-060700-0	Pedal front shaft
410	B-001-080001-0	Self-locking nut M8	438	B-004-080001-0	Nut M8
411	B-040-081715-1	Flat washer Ø8*17*1.5	439	C-200-370000-0	Pedal twist spring
200-412	C-200-061300-0	Cam connection rod	440	B-010-080501-0	Hex socket head bolt M8×50
221-413	C-221-060100-0	Pedal support board	441	B-010-080201-0	Hex socket head bolt M8×20
200-414	C-200-380000-0	Pedal Spring	442	S-012-010808-0	Quick union1/8- Ø 8
200-415	C-200-061500-0	Cam	443	S-012-010806-0	Quick union1/8- Ø 6
200-416	C-200-810000-0	Cam washer	445	S-016-010808-2	Quick T-union1/8-2* Ø 8
417	B-010-060201-0	Hex socket head bolt M6×20	200-449	C-200-060901-0	5-way valve barrel (right)
418	B-040-061210-1	Flat washer Ø6	200-451	C-200-061100-0	5-way valve cover
420	B-019-290121-0	Cross head self tapping screw 2.9*12	452	B-024-290-121-0	Cross head ST2.9*14
200-421	CX-200-060500-0	Cam cover	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 valve 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	462	S-030-010806-0	Throttle valve
427	B-010-060201-0	Hex socket head bolt M6×20	470	CW-110-021102-0	Complete tilting 5-way valve
428	B-040-061210-1	Flat washer Ø 6X12X1	231-480	CW-109-023100-0	Complete 4-pedals assembly 231
429	B-040-040000-1	Flat washer Ø 4			

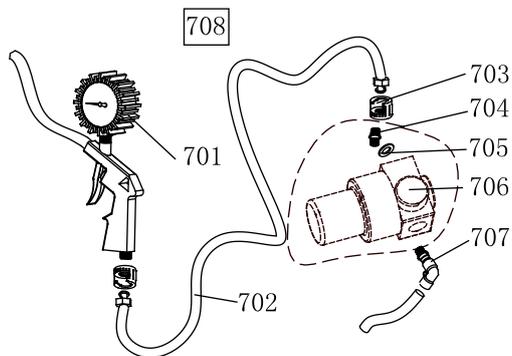
200-526



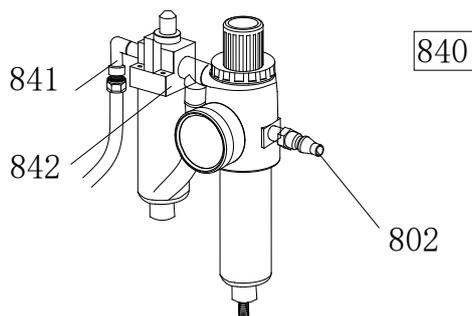
200-501	C-300-320302-0	Gear box lower cover
502	S-040-030204-0	Bearing 30204
503	S-005-020080-1	Gear box seal φ20*35*8
200-504	C-200-320500-0	Gear Belt pulley
505	B-014-080251-0	Outer hex bolt M8x25
506	B-065-006020-0	Key washer 6x20
200-507	C-200-320400-0	Worm rod
508	S-040-006010-0	Bearing 6010
200-509	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 Ø10
200-514	B-060-006020-0	Pin 6X20
515	B-040-102020-1	Flat washer Ø10*20*2
516	B-010-060201-0	Hex socket head bolt M6x20
517	B-040-061412-1	Flat washer Ø 6*14*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-000-030355-0	O-seal Ø 30*3.55
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 Ø 8
525	B-040-083030-1	Flat washer Ø 8*30*3
200-526	CW-107-020001-0	Complete gear box



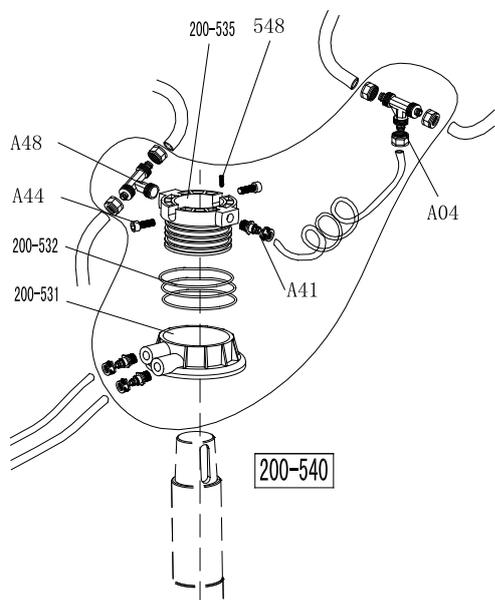
200-504	C-200-320500-0	Gear Belt pulley
601-MC	S-050-220110-5	Motor 220V/50HZ
601-MY	S-050-230075-0	Motor 220v
200-602	CX-200-330000-0	Motor Belt pulley
603	B-007-080121-0	Hex socket head bolt M8x12
604	S-042-000686-0	Tyre changer belt A-28
605	B-014-080651-0	Outer hex bolt M8X65
606	B-040-083030-1	Flat 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 washer φ8X22X2
614	C-200-560000-0	Motor rubber washer
200-615	CX-200-340000-1	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



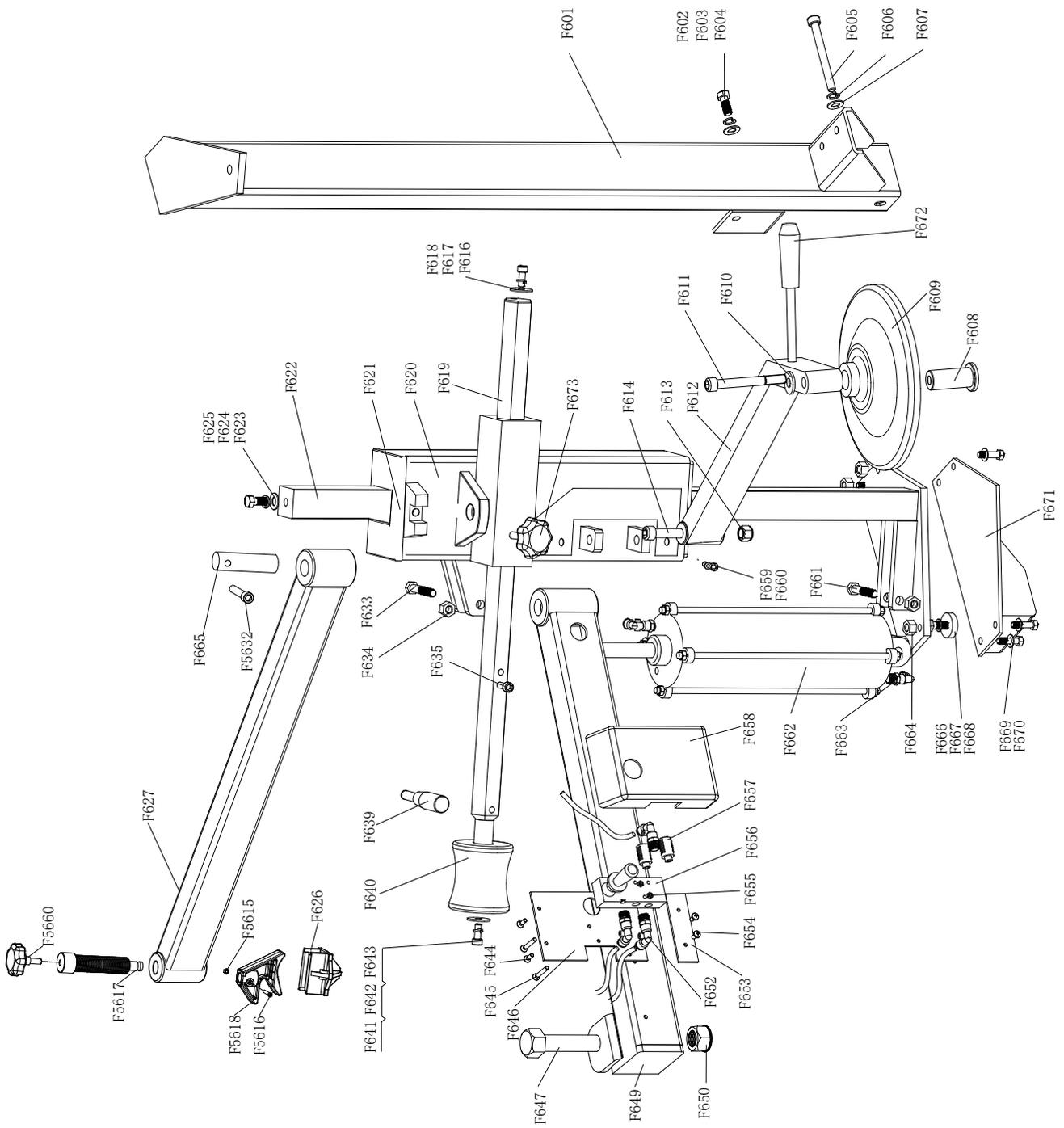
701	S-038-000100-0	Inflating gun indicator
702	C-200-900000-0	Rubber connection hose
703	S-025-104008-0	Notch nut
704	S-011-010414-1	Straight union 1/4-1/4
705	B-040-132420-1	Flat washer Ø13
706	S-030-010400-2	Pressure adjust valve(optional)
707	S-012-010408-0	Quick union 1/4-Ø8
708		Complete inflating gun



802	S-025-000050-0	Quick union
841	S-018-010408-0	Two-way union 1/4Φ8
842	S-033-200002-3	oil fog maker 2000 connection
840	CW-114-020000-1	Complete oil fog maker 2000

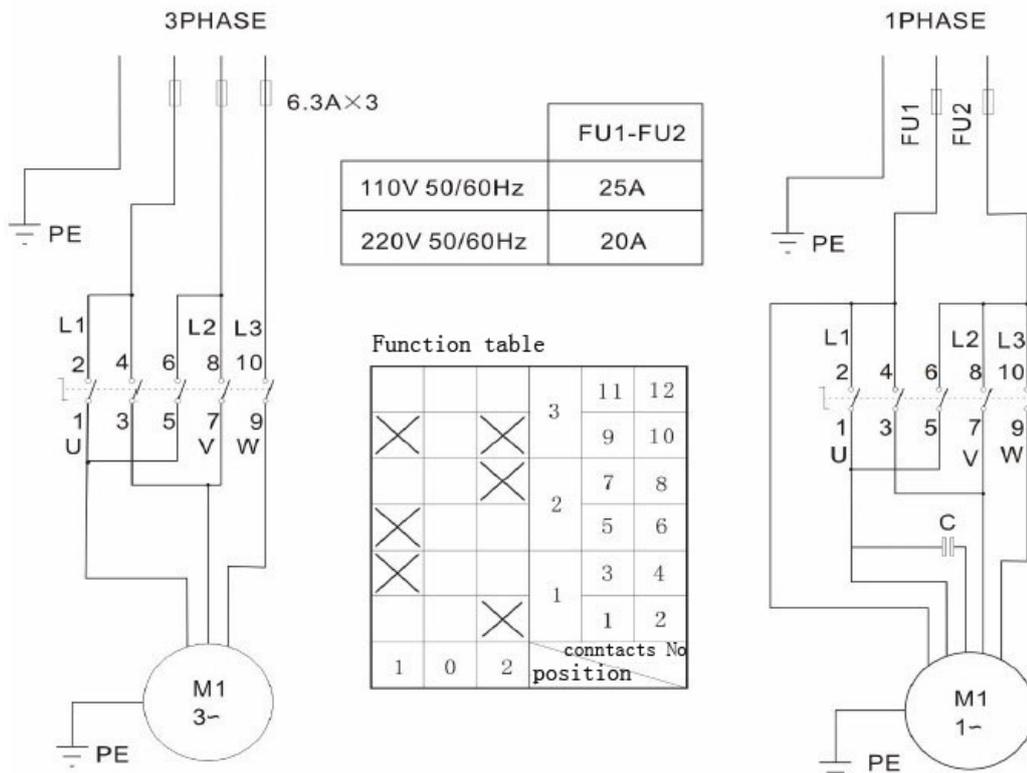


A04	S-015-000008-3	T-union 3* Ø 8
A44	B-010-060161-0	Hex socket head bolt M6×16
A48	S-017-010808-2	Quick T-union
200-531	CX-200-430100-0	Rotating valve casing
200-532	S-000-059262-0	O-seal 59.9X2.62
200-535	CX-200-430200-0	Rotating valve mandrel
537	S-035-055080-0	Hose 5.5* Ø 8
A41	S-011-010808-0	Straight union 1/8-Ø8
548	B-007-040061-0	Hex socket head bolt M4X6
200-540	CW-106-020000-0	Complete Rotating valve



F601	CX-036-010000-0	Column 006	F639	P-000-009000-0	Handle
F602	B-040-102020-1	Flat washer Ø10*20*2	F640	C-008-080000-0	Tire pressing pulley
F603	B-050-100000-0	Spring washer Ø10*20	F641	B-040-083030-1	flat washer Ø8*30*3
F604	B-014-100251-0	Outer hexagon bolt M10*25	F642	B-050-080000-0	Spring washerØ8
F605	B-010-101001-0	Hexagon socket head bolt M10*100	F643	B-010-080201-0	Hex socket head bolt M8*20
F606	B-050-100000-0	Spring washerØ10*20	F644	B-017-040161-0	Cross head screw M4*16
F607	B-040-102020-1	flat washer Ø10*20*2	F645	B-017-040301-0	Cross head screw M4*30
F608	CX-005-110000-0	Tire lifting roller hud	F646	CX-005-200000-0	Raise-fall switch plate
F609	C-005-100000-0	Tire lifting roller	F647	CX-036-050000-0	Connection bolt 006
F610	B-040-122520-1	flat washer Ø12*25*2	F648		Raise-fall intake tube Ø6*4
F611	B-010-121001-0	Hex socket head bolt M12*100	F649	CZ-036-190000-0	Tire pressing arm
F612	CX-006-060000-0	Tire lifting roller support 006	F650	B-001-220001-0	Self-locking nut M22
F613	B-001-120001-0	self-lock nut M12	F651		Raise-fall outlet pipe Ø6*4
F614	B-010-121001-0	Hex socket head bolt M12*100	F652	S-012-010406-0	Quick union 1/4-Ø6
F616	B-040-083030-1	flat washer Ø8*30*3	F653	CX-005-200000-0	Raise-fall switch plate
F617	B-050-080000-0	Spring washer Ø8	F654	B-024-050101-0	Cross head M5*10
F618	B-010-080201-0	Hex socket head bolt M8*20	F655	B-001-040001-0	Nut M4
F619	CX-006-170000-0	Horizontal pushing arm	F656	S-030-010818-0	Handle valve
F620	CX-006-030000-0	Raise-fall sleeve 006	F657	S-023-010801-0	Muffle 1/8(plastic)
F621	CX-036-050000-0	Connecting bolt 006	F658	C-007-181000-0	Control valve protection cover
F622	CX-036-020000-1	Square column assembly 006	F659	B-010-060101-0	Hexagon socket head bolt M6*10
F623	B-040-102020-1	flat washer Ø10*20*2	F660	B-040-061210-1	Flat washer Ø6*12*1
F624	B-014-100251-0	Outer hex bolt M10*25	F661	B-014-100551-0	Outer hexagon bolt M10*55
F625	B-050-100000-0	Spring washerØ10	F662	C-006-040100-0	Raise-fall cylinder 006
F626	C-008-090200-0	Tire pressing head (down)	F663	S-012-010806-0	Quick union 1/8-Ø6
F627	B-004-100001-0	Rotating arm connector 006	F664	B-001-080001-0	Self-locking nut M8
F5615	B-001-060001-0	Nut M6	F665	CX-006-040000-0	Tumbler pin 006
F5616	B-010-060301-0	Hex screw M6*30	F666	B-014-100251-0	Outer hex bolt M10*25
F5617	C-056-140000-0	Pin for tire pressing head	F667	B-050-100000-0	Spring washerØ10*20
F5618	C-008-090100-0	Tire pressing head (Upper)	F668	CX-200-170000-0	Mount/demount head flat washer
F5632	B-010-120551-0	Hexagon socket head bolt M12*55	F669	B-040-081715-1	Flat washer Ø8*17*1.2
F5660	C-238-201501-0	adjust Handle	F670	B-014-080301-0	Outer hex bolt M8*30
F633	B-014-100551-0	Outer hex bolt M10*55	F671	CX-006-140000-0	Help arm support plate
F634	B-001-100001-0	Self-locking nut M10	F672	C-200-230200-0	Locking handle cover
F635	B-010-080201-0	Hex socket head bolt M8*20	F673	C-006-210000-0	Pentagon handle

18. Circuit diagram:



19. Pneumatic drawing:

