

## TYRE CHANGER INSTRUCTION MANUAL

INDEX	PAGE
1. Introduction: .....	1
2. Safety Warnings: .....	1
3. Technical data: .....	2
4. Transport: .....	2
5. Unpacking & Inspection: .....	2
6. Workplace requirements: .....	2
7. The illustrations of products .....	3
8. Position and installation: .....	4
9. Electric and Pneumatic connections: .....	4
10. Adjusting operation: .....	4
11. Helping arm application: .....	6
12. Inflating the tyre: .....	8
13. Moving machine: .....	8
14. Maintenance : .....	8
15. Trouble shooting table: .....	10
16. Exploded drawing.....	11
17. Circuit diagram.....	23
18. Pneumatic drawing.....	23

## 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.**

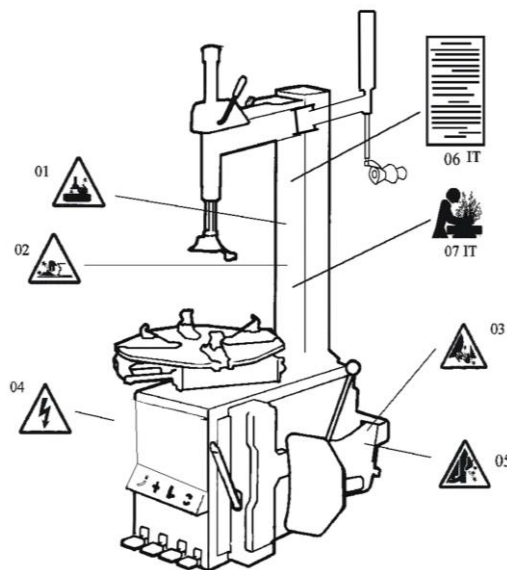
### 1. Introduction :

Application Range: The semi-automatic tyre changer is especially designed for demounting / mounting tyres from wheel rims. This type of machine can demount/mount bigger and heavier tyres, dimension of tire rims from 254mm to 762mm. The tire installation base is different with the traditional turntable and can fix the tire with quick release nut which is more efficient & protection. With the tire lifting device rise-fall the tires automatically this can save the labor of manual handling.

**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 Demount/mount 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;
- 06 Warning instructions;
- 07 Pay attention to safety because it is an equipment with strong compressed air device ;

#### 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:

rim dimensions	8 " -28 "
Max. Wheel diameter	1143mm ( 45 " )
Max. Wheel width	406mm (16 " )
Working Pressure	8-10bar
Power supply	110V (1ph)/ 220V (1ph)/ 380V (3ph)
Optional Motor power	0.75/1.1 kw
Max. Rotating Torque (Turntable)	1078 Nm
Overall Dimension	1130X900X1030mm
Noise Level	<75 dB

### 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 to make sure all parts shown on the spare parts list are included. If any parts are missing or broken, please contact the manufacturer or dealer ASAP.

### 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.**

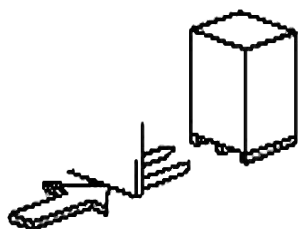


Fig 1

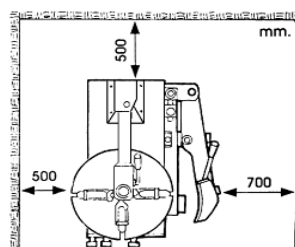


Fig 2

## 7. The illustrations of products

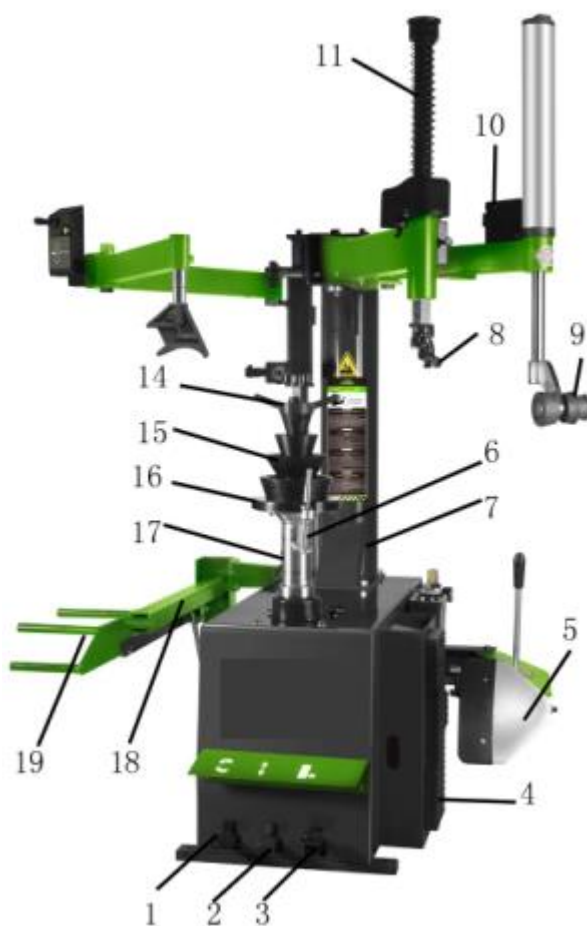


Fig 3

1. Rotation Pedal	2. Rise-fall Pedal	3. Bead Breaker Pedal
4. Bead breaker buffer	5. Bead Breaker shovel	6. Auxiliary rotating rod
7. Column	8. Demount/mount head	9. Tire pressing roller
10. Raise-fall control valve	11. Vertical arm	12. Adjust handle
13. Inflating gun	14. Quick release nut	15. Cone
16. Rubber protection washer	17. Tire installation base assembly	18. Tire lifting device
19. Tire lifting support		

**Caution:** Before any operations, please operator keep the hands and human body away from the machine rotating parts. Please wear straitjackets and don't wear loose clothing and wear necklaces, bracelets.

## 8. 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 machine body B as shown in Fig 4. 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.
3. Fixing the tire lifting device on the side of machine body with bolt set A, shown as Fig 5; after fixing all the bolts, connecting the air hose B&C.
4. Fixing the left help arm on the post and cabinet with 10pcs M10 bolts. Put the 8MM pipe into the cabinet from the right reservation hole (2) of the machine and plug on the three-way connection, show as fig6.
5. Fixing the cylinder T1 on the swing arm with 2 bolts T2; Fixing the tire pressing roller on the piston rod and tighten with the hex screws T3, then make sure that the tire pressing roller can rotate freely; connecting the air hose. Shown as Fig7.

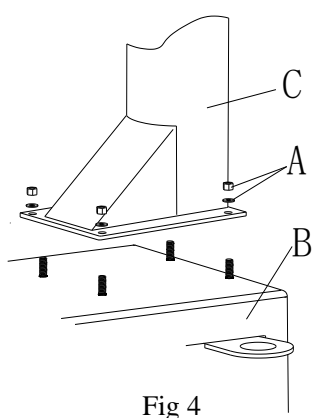


Fig 4

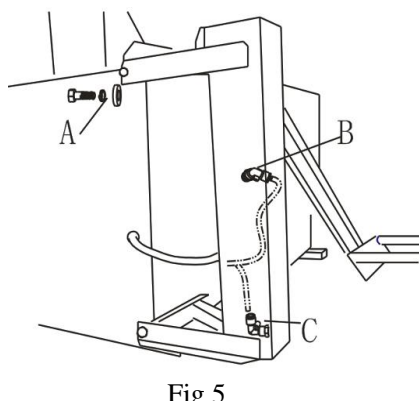


Fig 5

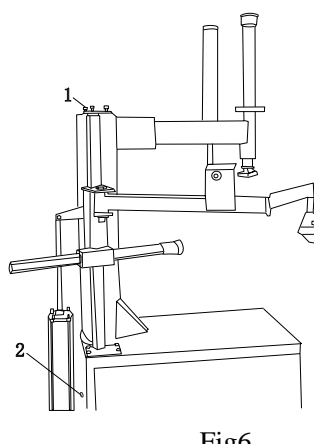


Fig6

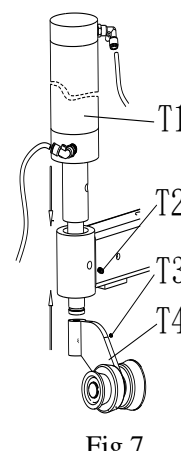


Fig 7

## 9. Electric 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.**

## 10. Adjusting operation:

### 10.1 Function of Pedal

1) Tread Rotation Pedal (1), Tire installation base (17) rotates in a clockwise direction; Lift Rotation Pedal (1), Tire installation base (17) rotates in an anticlockwise direction

2) Tread bead breaker pedal (3), bead breaker shovel (5) closing toward inside; loose bead breaking pedal (3), bead breaking shovel (5) returns to original position.

3) Tread rise-fall pedal (2), Tire lifting device lifting up; lift the rise-fall pedal (2), Tire lifting device falling down.

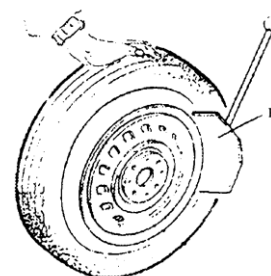


Fig 8

## 10.2 Operation of a the tyre changer

Operation of tyre changer consists of three parts:

- 1) Breaking 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.

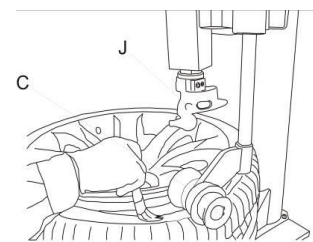


Fig 9

### 10.2.1. Breaking the tyre bead:

Ensure to exhaust the air in the tyre completely, place the tyre against the rubber buffer (4). Bring the paddle (R) against the bead about 10mm from the edge of the rim shown as **Fig 8**. Tread Bead breaker Pedal (3) 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.

### 10.2.2. Demounting tyre:

**Caution:** 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.

**Caution:** Without the lubricant may lead to badly wear and tear on tyre. (Fig 9)

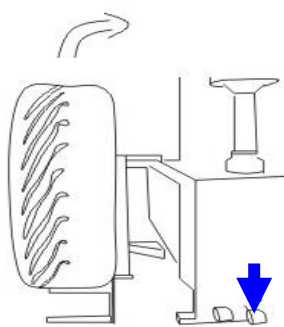


Fig 10

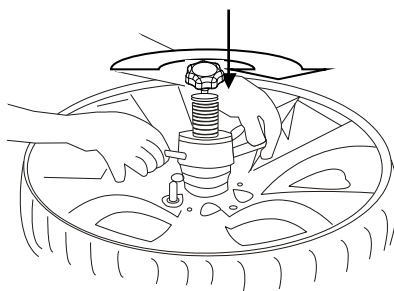


Fig 11

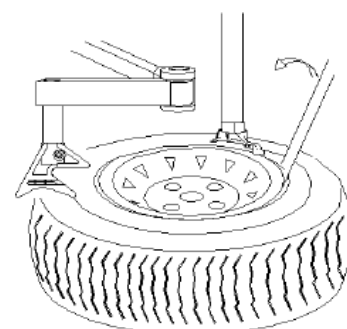


Fig 12

With the tire lifting device to rise/ fall the tire, shown as Fig 10.

**Make sure that removing the thread shaft on the tire installation base before lifting the tire.**

Exhaust the air in the tyre completely, remove the valve core, put the tyre on the tyre lifting device, tread the rise-fall pedal, and the tyre lifting device will lift up the tyre. Push the tyre to the tyre installation base when the tyre lifting support is 90° with the machine body. Tread the rise-fall pedal again down the tyre, and adjust the auxiliary rotating rod of tyre installation base which should be alignment with the fixing hole of tyre rim. Input the tread shaft, positioning the tyre with the appropriate cone, and then fixing the tyre with the quick release nut shown as the Fig 11.

**Caution:** Check to make sure the wheel rim firmly secured before next step.

Move the mounting head near the edge of the rim, rotate the tyre pressing arm to move the tyre pressing block above the tyre, press the switch handle to depress the tyre, and insert the lifting lever in the clearance between the tyre and the rim, then hang the bead on the mounting head. (Fig 12)

With the Lifting Lever held in position, tread the Rotation Pedal (1), rotate the tyre installation base in a clockwise direction until the tyre bead 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 beads separated from the wheel rim.

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



Fig 13



Fig 14

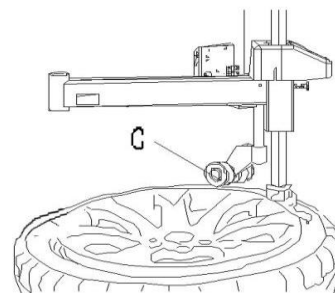


Fig 15

### 10.2.3. Mounting tyre :

**Caution:** Before mounting the tire, please make sure that dimension of tire bead is in accordance with the tire rim. 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.

If rim diameter and width are same as that of tyre, it is not necessary to loosen and lock vertical arm. Only put tyre on rim, move swing arm to position when demounting tyre, put one side of tyre bottom bead upon rear of demount / mount head, and the other side of tyre bottom bead below front of demount/mount head. Press tyre manually or by pressing roller C of helping arm, rotate tire installation base and tyre bottom bead can be mounted. Please use the bead pressing tool(optional device)/left help arm tyre pressing function(Fig 21) for auxiliary operation if necessary.(Fig 13,14,15)

Repeat above operation to mount tyre top bead.

### 11. Helping arm application:

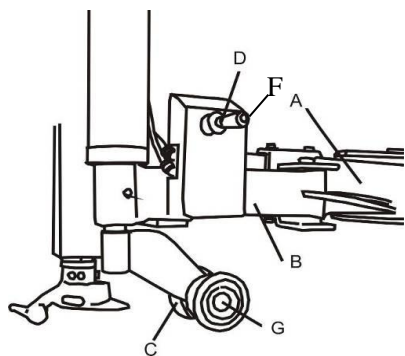


Fig 16

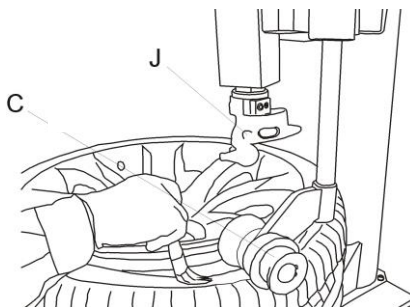


Fig 17

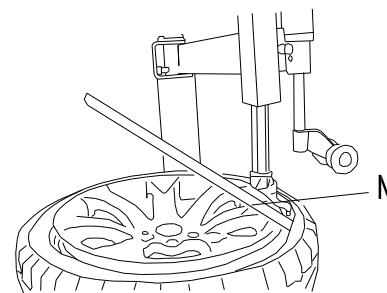


Fig 18

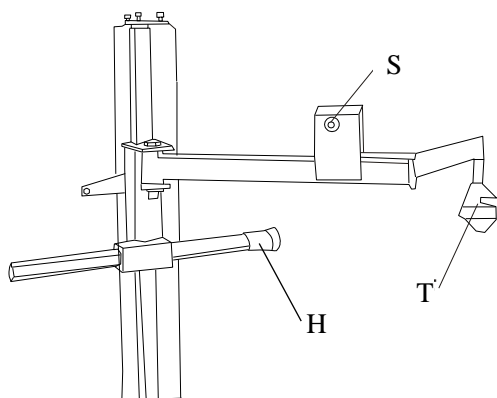


Fig 19

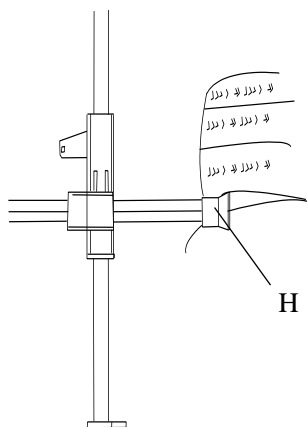


Fig 20

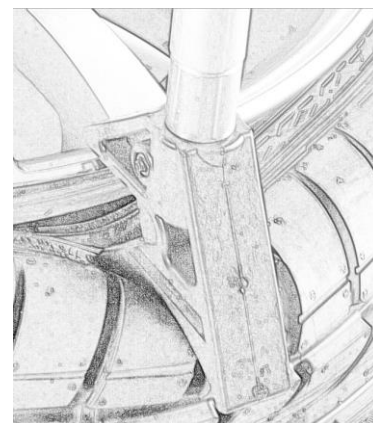


Fig 21

Helping arm at right side is auxiliary device of tyre changer for helping operator to demount and mount tyre.

### 11.1 help arm Components

Each components of helping arm device are introduced as follows: (Fig 16&19):

- |                                   |                             |
|-----------------------------------|-----------------------------|
| A- Swing arm                      | B- Small helping arm        |
| C- Roller C                       | D- Raise-fall roller handle |
| F- Locking switch for helping arm | G- Roller G                 |
| S-Control switch                  | T-tire pressing head        |
| H-tire pressing roller            |                             |

**The function of helping arm's control handle is as follows:**

Roller lifting handle (D, Fig 16) is for lifting and lowering roller C、G so as to adjust tyre demount/mount vertical height. Operate handle (D, Fig 16) up, then roller C、G goes up; Operate handle (D, Fig 16) down, then roller C、G goes down.

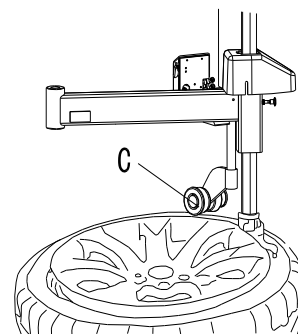


Fig 22

### 11.2 Operation

It is difficult to demount and mount big low profile tyre. If operation is proper, it is very easy to use helping arm device to demount and mount tyre from rim. The helping arm device may also be used when demounting and mounting normal tyre with resistance.

#### a. Clamp rim

Firstly, press both side tyre loose as per operation instruction in user's manual, fixing the tire on the tire installation base.

#### b. Demount tyre

1. Press tyre with right pressing roller C/G to a position 3cm lower than rim edge, lubricate tyre bead, rotate turntable, lift roller C/G. ( Fig 16 )

2. Move demount/mount head close to edge of rim, keep a 2-3mm gap between demount/mount head and rim plane, lock vertical arm, adjust screw bolt in column to position swing arm.

3. Nearby demount/mount head, insert lift lever N into tyre, use lift lever to lift bead upon knob of demount / mount head. Manually rotate roller C to inner side, pull handle D down, make roller C to press rim, keep 3-5mm gap between demount/mount head and rim, make sure demount/mount head not damage rim, rotate tire installation base, demount tyre upper bead ( Fig 18)

4. Push handle D up, lift roller C,G, press switch F, loosen right pressing arm,

Lift tyre up, insert lifting level into bottom tyre bead nearby demount/mount head, lift bead upon knob of demount/mount head and rotate turntable to demount down tyre bead

During the above operation, the user can use the left help arm to help the working. For example: pressing the wheel hub, flattening or lifting up the tire from the side with the tire pressing, show as Fig20&21.

#### c. Install the tyre

1. Lubricate tyre and rim edge with lubricant to avoid damage of tyre. Adjust height of demount/mount head and make tyre bottom bead upon rear of demount/mount head and below front of mounting/mounting head. Rotate tire installation base to mount bottom bead.

2. Make tyre top bead upon rear of demount/mount head and below front of demount/mount head, clip the tyre pressing head(up) on the rim. Move the auxiliary tire pressing head (up) near the mounting/demounting head (distance 3~4cm), lower "tire pressing head (up)" to press down the tyre 3-5cm below mounting/demounting head, rotate turntable, tire pressing head (up) will follow in synchrony as to rotate and press the tyre down in tyre rim, no intervention is needed during this process.

**NOTE: It should be specially noted for below operation.**

1) Smear lubricant on tyre bead to protect tyre

2) make hands far away from roller C,G

**Attention:**

- 1) To prevent collision of help arm and mounting/demounting head, do not excessive rotate the the installing base while using help arm;



图 23



- 2) Make sure the tire pressing head (up) never press on the tyre rim, the friction between them will damage the tyre rim! Keep your hands away from the tire pressing head (up)!

## 12. Inflating the tyre:

**WARNING:** all operations in this chapter refer to manual of machine equipped with inflating gun.

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.

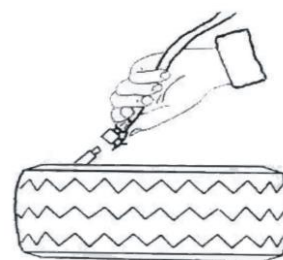


Fig 24

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:

- 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) Lubricating 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; shown as Fig 24
- 6) Continue inflating and check the air pressure frequently until to reach the required pressure..

### NOTE:

- 1) If not observe following warning and instruction, it may cause serious injury or death to operators or people beside . When inflating tyre or locking rim, air pressure must not exceed 3.5bar (50psi) .
- 2) If higher air pressure is required to inflate tyre, take tyre off from tyre changer, and put it into inflating cage, then start inflating. It is strictly forbidden that inflating tyre with pressure higher than that recommended by tyre manufacturer
- 3) Only operator who has been specially trained can operate. All other people are not allowed to operate or approach the tyre changer.

## 13. Moving machine:

A forklift is required to move the tyre changer. Cut off air supply and electricity supply, lift base a little bit, insert lift fork into bottom base, move tyre changer to new position, then fix tightly

**NOTE:** installation position of tyre changer must comply with safety regulation.

## 14. 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 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 tire installation base with diesel oil once per week and lubricate the slides and shafts.

- 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 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, and otherwise adjust the screw (D) that controlled oil enters with minus screwdriver. (Fig 25)

**Note:** in the event of tire installation base 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 26)

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

**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;
3. Clean the mufflers with compressed air; please replace it referring to the spare parts list if it is damaged. (Fig 27)

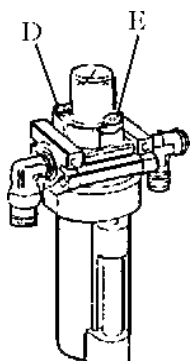


Fig 25

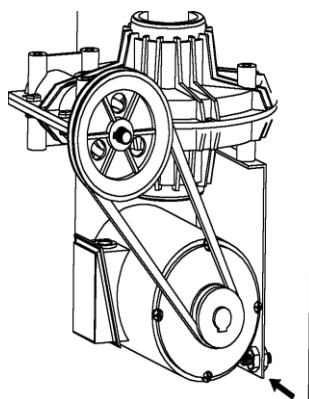


Fig 26

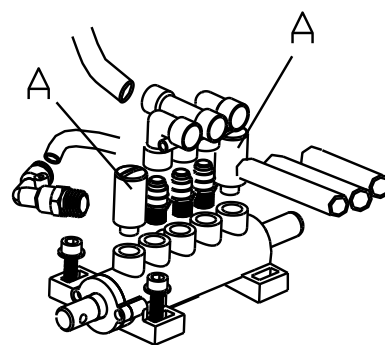
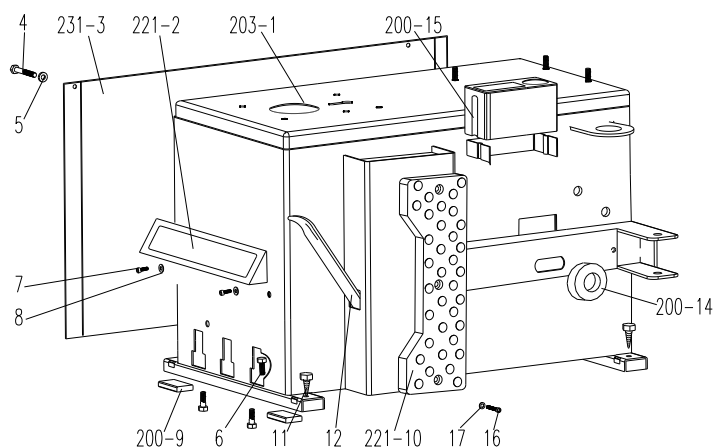


Fig 27

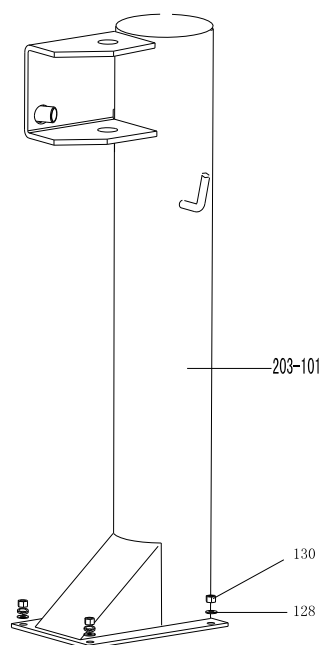
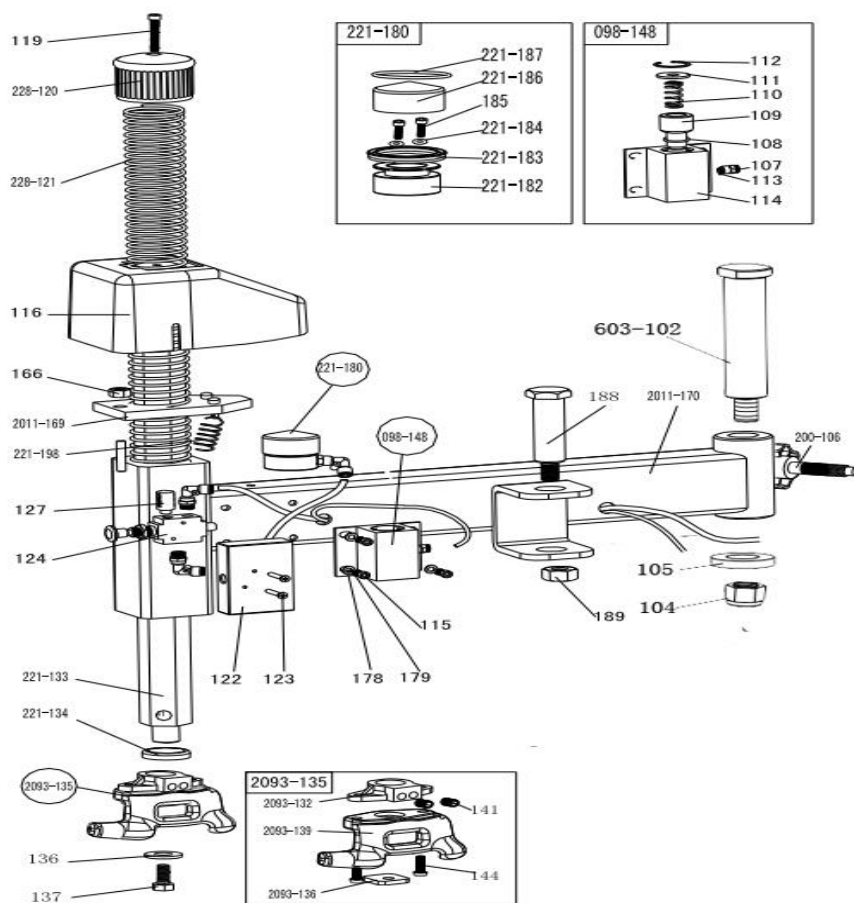
## 15. Trouble shooting table:

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.
	Broken washers of the chuck cylinder	Replace it.
The demount/mount head always touch the rim during operation.	The locking plate incorrectly adjust or unqualified.	Replace or adjust it.
	Screws on the chuck loose; the Hexagonal 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.

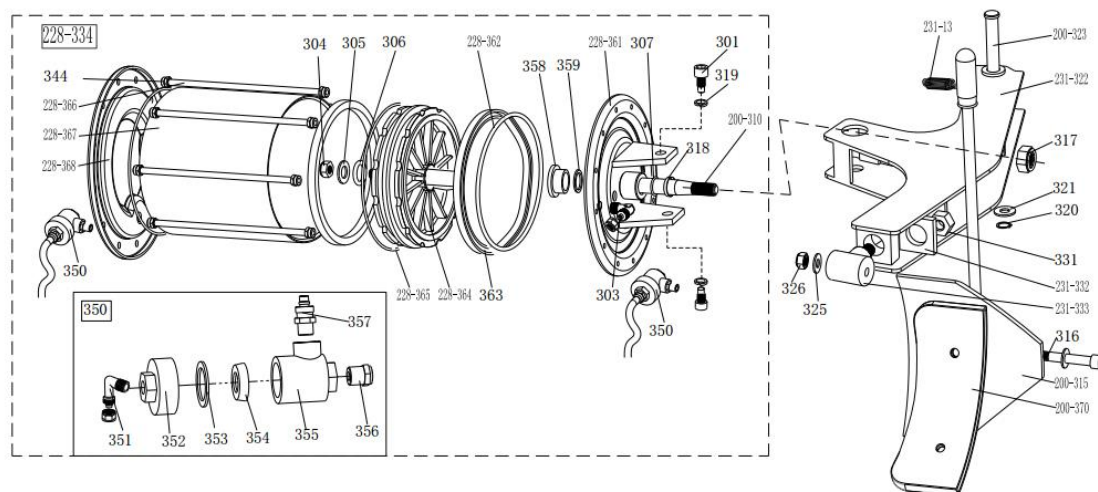
## 16. Exploded drawing



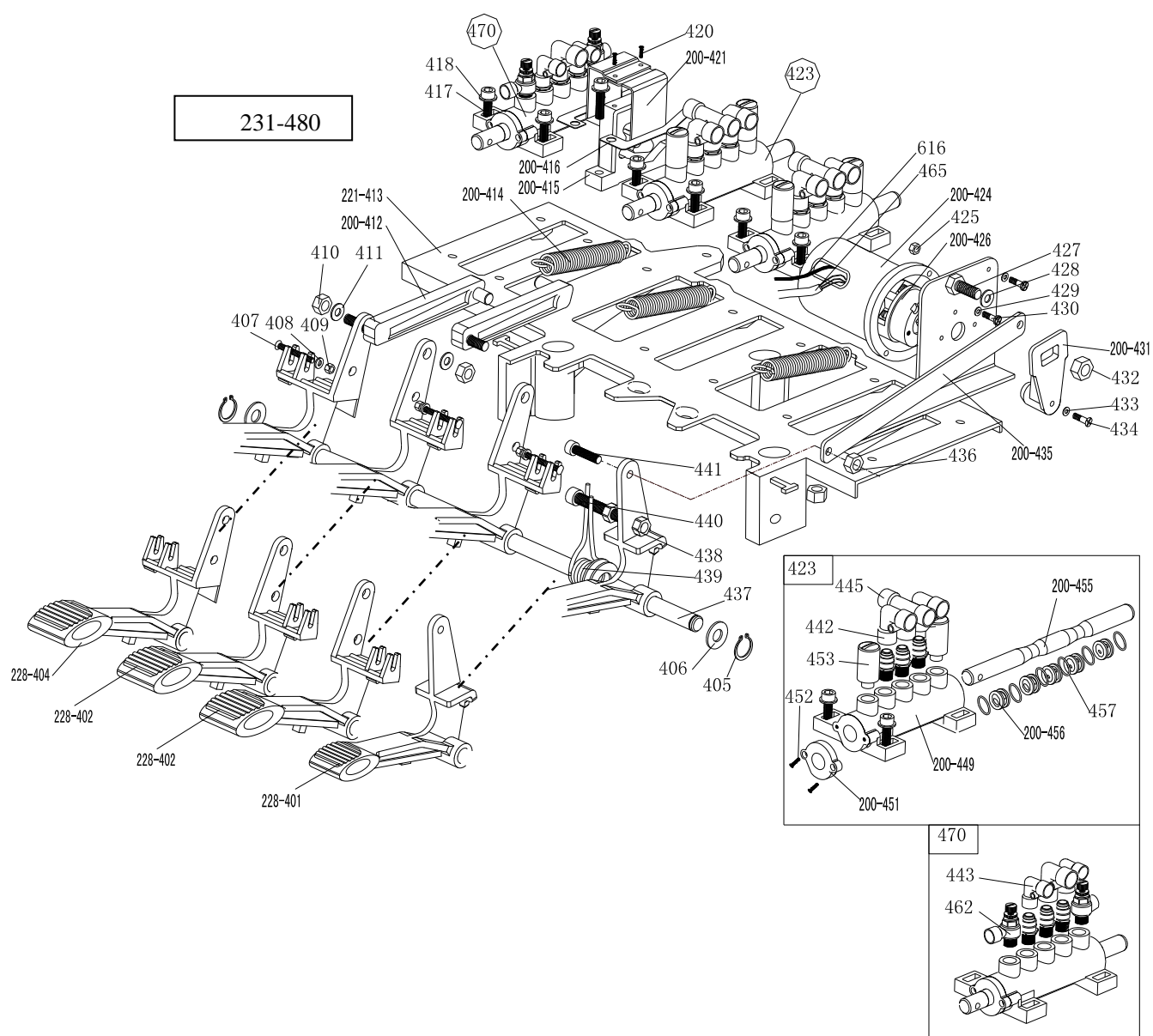
203-1	JZ08001021109	Maching body U2030101	200-9	JZ09001023159	Rubber foot buffer U200
231-2	JZ08001021048	Pedal front cover U2310108	221-10	JZ09001023181	Bead breaker buffer with pot point U2210150
231-3	JZ08001021148	Left cover U2310102	11	FJ04006004049	Hex head tapping screw ST6.3*38
4	FJ04009048872	hex socket head cap screw M6*55	200-12	JZ09001023041	Lifting lever U2000158
5	FJ04002003895	Flat washer 6*18*1.5	200-14	JZ09001022719	Bead breaker arm rubber U2000151
6	FJ04009004877	Outer hex bolt M8*20	200-15	JZ07001020929	Oil-water box U2000147
7	FJ04009004706	hex socket head cap screw M8*20	16	FJ04009004707	hex socket head cap screw M8*25
8	FJ04002003892	Flat washer 6*14*1.2	17	FJ04002003904	Flat washe 8*17*1.5



203-101	JZ08001021060	Round column
603-102	JZ03001015822	Swing arm pin
104	FJ04008004448	Self-locking nut M16
105	JZ03001015476	Big washer
200-106	JZ07001020882	Column adjust handle
107	EQ10005003302	Quick Straight union M5- Ø 4
108	FJ08001005221	O-seal 30X3.55
109	JZ03001015506	098 Swing arm spring plate
110	JZ09001022811	098 Swing arm spring
111	JZ03001015507	control arm plate washer
112	FJ04001003723	Snap ring Ø30(hole)
114	JZ03001015681	098 Pneumatic lock barrel
115	FJ04009004680	Hex socket head bolt M6X20
116	JZ07001020910	Locking plate cap
119	FJ04009004581	Hex socket head bolt M10×30
228-120	JZ07001020885	Vertical arm cap
228-121	JZ09001022973	Vertical arm spring
122	JZ07001020905	Locking switch box
123	FJ04006004200	Cross head screw M4*30
124	EQ02012002889	Hand valve
127	EQ04002002955	Muffler 1/8"
293-133	JZ03001015652	Vertical arm
221-134	JZ09001022968	Vertical arm washer
136	JZ03001015342	3# Mount/demount head protection washer
137	FJ04009004770	Outer hex bolt M10×25
098-148	JZ03001015681	098 Pneumatic lock
166	FJ04008004444	Self-locking nut M10
2011-169	JZ03001015648	Hex locking board 2011
2011-170	JZ08001021125	Swing arm 2011
178	FJ04002003890	Flat washer Ø6
179	FJ04002003790	Spring washer Ø6
221-180	JZ06001020239	Complete locking cylinder
221-182	JZ09001023098	Complete locking cylinder piston
221-183	FJ08003005389	V seal Ø60*50*6.5
221-184	FJ08001005285	O- seal Ø 5.6*2
185	FJ04009004689	Hex socket head bolt M6×55
221-186	JZ03001015728	Locking cylinder cover Ø 60
221-187	FJ08001005293	O-Seal Ø52*2
188	JZ03001015837	Pressing arm pin (right)
189	FJ04008004447	Self-locking nut M16*1.5
221-198	JZ09001022969	Hex locking board spring
2093-135	JZ06001020308	Complete plastic mount/demount head
2093-132	JZ09001023084	Plastic mount/demount head plate
2093-136	JZ03001015722	3# Mount/demount head protection washer
2093-139	JZ07001020837	Plastic mount/demount head
141	FJ04006004059	Hex socket head bolt M12X16
144	FJ04009004578	Hex socket head bolt M10*20



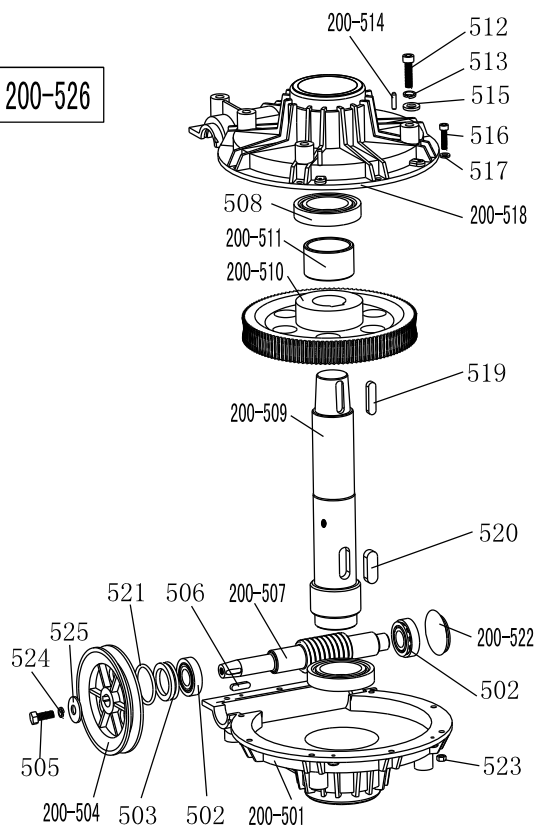
231-13	JZ09001022723	Bead breaker arm spring	231-332	JZ03001015351	Enlarge bead breaker arm rotating washer
301	JZ09001011179	Hex socket head bolt M14×30	231-333	JZ03001015350	Enlarge bead breaker arm rotating shaft
303	EQ11005003350	Union (90° ) 1/4-Ø8	228-334	JZ06001020266	Complete bead breaker cylinder D200
304	FJ04008004517	Nut M16*1.5	344	FJ04008004459	Self-locking nut
305	FJ04002003833	Flat washer Ø16*28*2	350	JZ06001020298	Bead breaker cylinder exhaust valve
306	FJ08001005120	O-seal Ø 16*2.65	351	EQ10004003264	Union 1/8-Ø8
307	FJ08001005151	O- seal Ø20X2.65	352	JZ07001020848	Bead breaker cylinder exhaust valve cover
200-310	JZ09001022746	Bead breaker cylinder piston rod	353	JZ09001022987	Seal washer
200-315	JZ03001015791	Bead breaker shovel assembly	354	JZ09001023080	Bidirectional seal
316	FJ04009004613	Hex socket head bolt M12×90	355	JZ07001020849	Bead breaker cylinder exhaust valve barrel
317	FJ04008004517	Self-locking nut M16*1.5	356	EQ04001002949	Muffler
318	CF03003001068	Guide belt	357	EQ10005003288	Straight union 1/4- Ø8
319	FJ04002003777	Spring washer Ø14	358	JZ02007011606	Nylon sleeve
320	FJ04001003741	Snap ring Ø16	359	FJ08003005391	V-seal 20*28*7.5
321	FJ04002003833	Flat washer	228-361	JZ03001015383	Bead breaker cylinder cover assembly
231-322	JZ08001021036	Enlarge bead breaker arm 231	228-362	FJ08001005153	O-seal Ø198*3.1
200-323	JZ03001015349	Bead breaker pin	363	FJ08005005395	Y-seal D200*184*12
325	FJ04002003813	Flat washer Ø12*24*2	228-364	JZ09001022745	Bead breaker cylinder piston D200
326	FJ04008004445	Self-locking M12	228-365	FJ08001005147	O-seal Ø180*5
331	FJ04008004448	Self-locking nut M16*1.75	228-366	JZ09001022935	Threaded connection rod
			228-367	JZ09001022753	Bead breaker cylinder barrel D200
			228-368	JZ09001022742	Bead breaker cylinder rear cover
			200-370	JZ07001020829	Bead breaker shovel protection cover(optional)



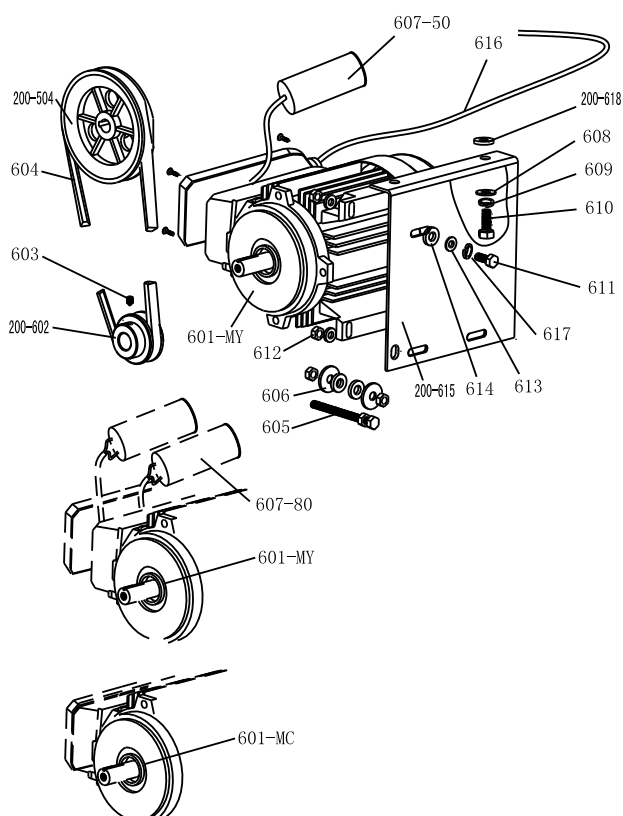


228-401	JZ03001021184	Reverse switch pedal	430	FJ04006004323	Cross head screw M4*16
228-402	JZ03001021300	5-way valve pedal(right)	200-431	JZ07001020856	Reverse switch handle
228-404	JZ03001021301	5-way valve pedal(left)	432	FJ04008004458	Self-locking nut M6
405	FJ04001003737	Snap ring Ø12	433	FJ04002003859	Flat washer Ø3
406	FJ04002003813	Flat washer Ø12*24*2	434	FJ04006004306	Cross head screw M3X16
407	FJ04006004326	Cross head screw M4X30	200-435	JZ03001015560	Pedal connection rod
408	FJ04002003874	Flat washer Ø 4	436	FJ04008004459	Self-locking nut M8
409	FJ04008004455	Self-locking nut M4	437	JZ03001015571	Pedal front shaft
410	FJ04008004459	Self-locking nut M8	438	FJ04008004515	Nut M8
411	FJ04002003904	Flat washer Ø8*17*1.5	439	JZ09001022873	Pedal twist spring
200-412	JZ07001020913	Cam connection rod	440	FJ04009004715	Hex socket head bolt M8x50
221-413	JZ09001022883	Pedal support board	441	FJ04009004706	Hex socket head bolt M8x20
200-414	JZ09001022872	Pedal Spring	442	EQ10004003264	Quick union1/8- Ø 8
200-415	JZ07001020914	Cam	443	EQ10004003262	Quick union1/8- Ø 6
200-416	JZ09001023109	Cam washer	445	EQ10001003242	Quick T-union1/8-2* Ø 8
417	FJ04009004680	Hex socket head bolt M6x20	200-449	JZ09001022986	5-way valve barrel (right)
418	FJ04002003890	Flat washer Ø6	200-451	JZ07001020918	5-way valve cover
420	FJ04006004228	Cross head self tapping screw 2.9*12	452	FJ04006004372	Cross head ST2.9*14
200-421	JZ03001015747	Cam cover	453	EQ04002002955	Muffler 1/8"
423	JZ06001066665	5-way valve (T-union,without rod ) (Aluminum alloy)	200-455	JZ09001015771	5-way valve rod
200-424	JZ07001020853	Reverse switch cover	200-456	JZ07001020919	5-way valve rod spacer
425	FJ04008004510	Nut M4	457	FJ08001005087	O seal 12*20*4
200-426	DD03009001577	Reverse switch	462	EQ02005002809	Throttle valve
427	FJ04009004680	Hex socket head bolt M6x20	470	JZ06001020287	Complete tilting 5-way valve
428	FJ04002003890	Flat washer Ø 6X12X1	231-480	JZ06001020274	Complete 4-pedals assembly 231

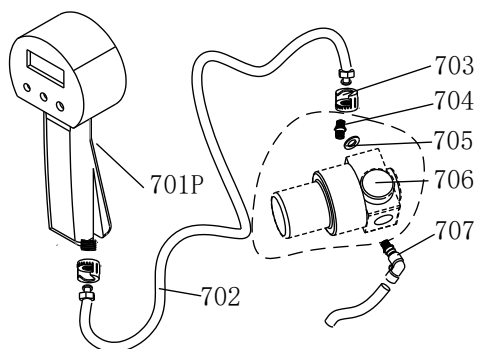
200-526



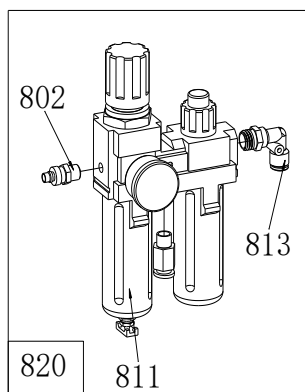
200-501	JZ09001022681	Gear box lower cover
502	FJ02010003613	Bearing 30204
503	FJ08007005413	Gear box seal $\phi$ 20*35*8
200-504	JZ09001023119	Gear Belt pulley
505	FJ04009004879	Outer hex bolt M8×25
506	FJ06001004964	Key washer 6×20
200-507	JZ09001023118	Worm rod
508	FJ02010003623	Bearing 6010
200-509	JZ09001023128	Worm gear shaft
200-510	JZ09001023250	Worm gear
200-511	JZ02007011727	Worm gear shaft spacer
512	FJ04009004779	Outer hex bolt M10×55
513	FJ04002003773	Spring washer $\phi$ 10
200-514	FJ06002005000	Pin 6X20
515	FJ04002003800	Flat washer $\phi$ 10*20*2
516	FJ04009004680	Hex socket head bolt M6×20
517	FJ04002003892	Flat washer $\phi$ 6*14*1.2
200-518	JZ09001022679	Gear box upper cover
519	FJ06001004962	Key washer 10×40
520	FJ06001004963	Key washer 14×40
521	FJ08001005221	O-seal $\phi$ 30*3.55
200-522	JZ09001022990	Oil resistant seal
523	FJ04008004458	Self-locking nut M6
524	FJ04002003792	Spring washer $\phi$ 8
525	FJ04002003915	Flat washer $\phi$ 8*30*3
200-526	JZ06001020264	Complete gear box



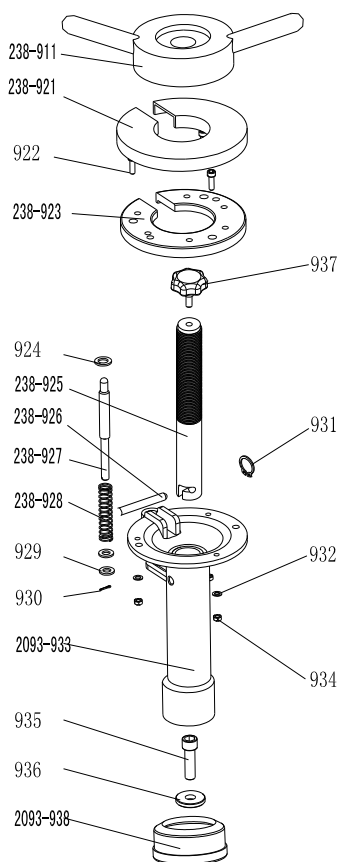
200-504	JZ09001023119	Gear Belt pulley
601-MY	DD01001001180	Motor 220V/50HZ
200-602	JZ09001015421	Motor Belt pulley
603	FJ04006004178	Hex socket head bolt M8×12
604	FJ02003003545	Tyre changer belt A-28
605	FJ04009004889	Outer hex bolt M8X65
606	FJ04002003915	Flat washer $\phi$ 8X30X3
607-80	DD04009001964	Capacitor 80 $\mu$ f, 110V
607-50	DD04009001883	Capacitor 50 $\mu$ f, 220V
608	FJ04002003800	Flat washer $\phi$ 10X20X2
609	FJ04002003773	Spring washer $\phi$ 10
610	FJ04009004770	Outer hex bolt M10X25
611	FJ04009004883	Outer hex bolt M8X35
612	FJ04008004515	Nut M8
613	FJ04002003910	Flat washer $\phi$ 8X22X2
614	JZ09001022782	Motor rubber washer
200-615	JZ03001015423	Motor support
616	JZ12001026447	Motor cable 5×1.0
617	FJ04002003792	Spring washer $\phi$ 8
200-618	JZ09001022782	Motor rubber buffer



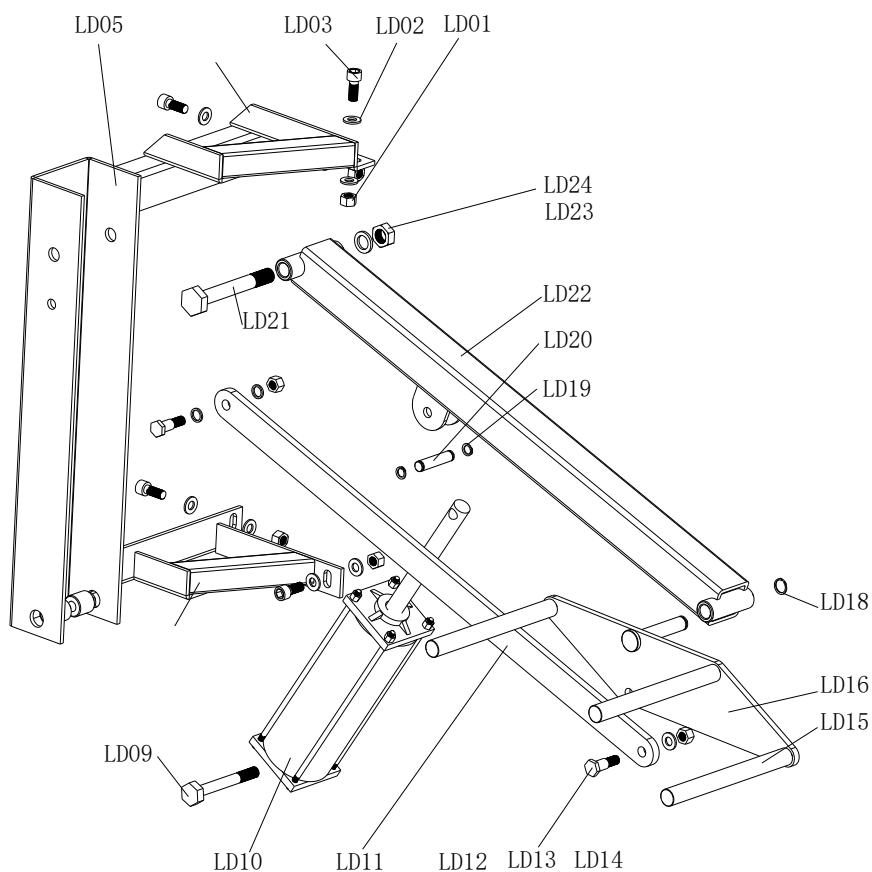
701P	EQ05001048326	Digital Inflating gun
702	JZ09001022984	Rubber connection hose
703	EQ14003003478	Notch nut
704	EQ07005003072	Straight union 1/4-1/4
705	FJ04002003822	Flat washer Ø13
706	EQ03003002911	Pressure adjust valve
707	EQ10004003257	Quick union 1/4-Ø8



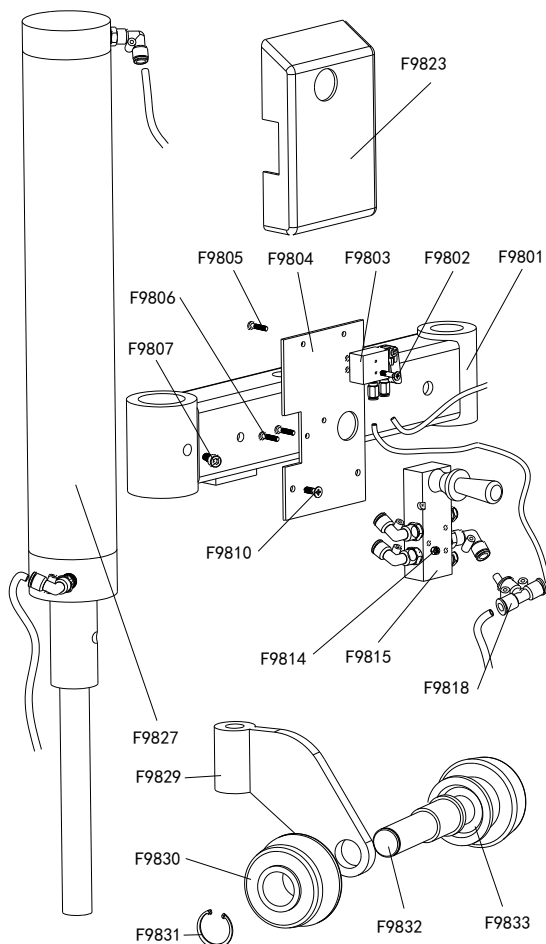
811	EQ03001002902	oil fog maker 3300
813	EQ11005003350	Union (90°)1/4- Ø8
820	JZ06001020326	Complete oil fog maker 3300
802	EQ12001003412	Quick nozzle PM20



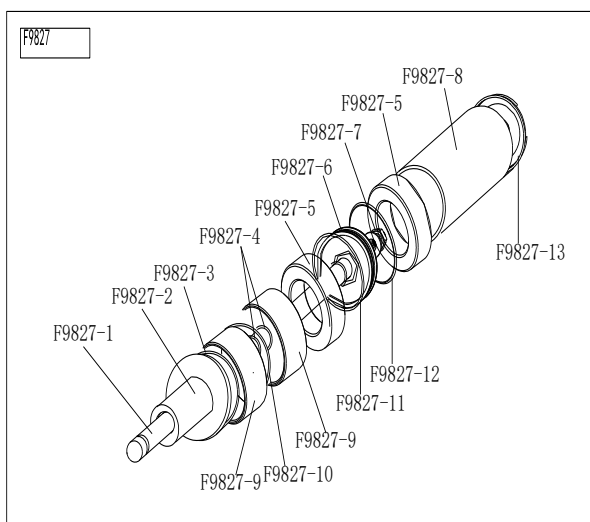
238-911	JZ03001015599	Quick release nut 238
238-921	JZ09001023156	Rubber protection washer
922	FJ04009004706	Hex socket head bolt M8x20
238-923	JZ03001023083	Tire installation plate cushion
924	JZ03001015699	Retaining ring up
238-925	JZ09001023082	Thread shaft
238-926	JZ09001015642	Connection pin
238-927	JZ03001015779	Auxiliary rotating rod
238-928	JZ09001023117	Outer spring
929	JZ03001015773	Retaining ring down
930	FJ06002004981	Split pin 2X25
931	FJ04001003759	Snap ring Ø8
932	FJ04002003906	Flat washer Ø8
2093-933	JZ03001015663	Tire installation base
934	JZ09001023156	Nut M8
935	FJ04009004620	Hex socket head bolt(full thread)
936	FJ04002003779	Flat washer Ø16
937	JZ07001020911	Adjust handle
2093-938	JZ07002020974	Protection cover



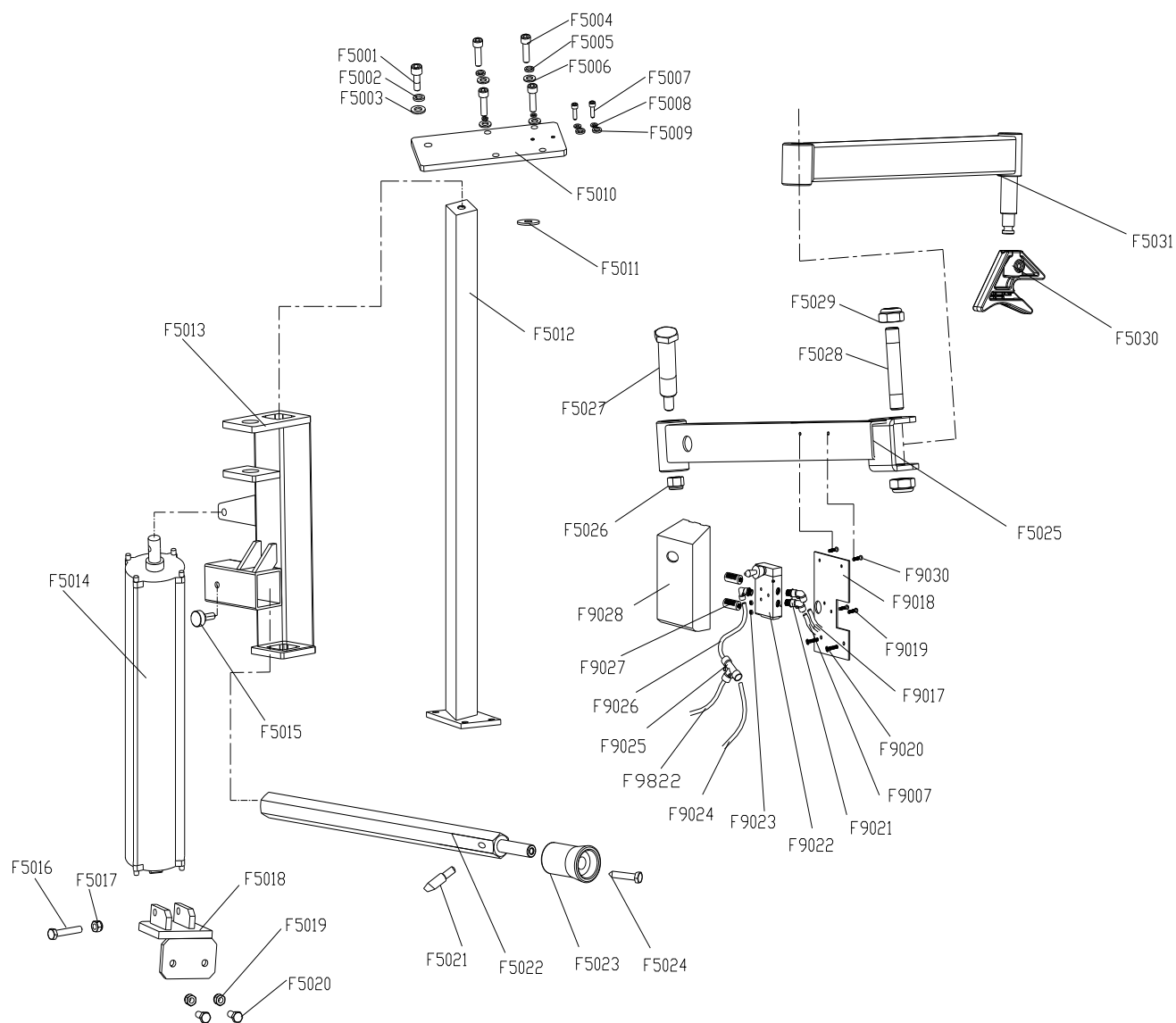
LD01	FJ04008004494	Nut M10
LD02	FJ04002003800	Flat washer Ø10
LD03	FJ04009004579	Hex socket head bolt M10×25
LD05	JZ08001021093	Complete tire lifting support
LD09	FJ04009004788	Outer hex bolt M12×110
LD10	JZ06001020232	Complete rise-fall cylinder
LD11	JZ03001015843	Support rod
LD12	JZ09001022959	connection bolt
LD13	FJ04002003800	Flat washer Ø10
LD14	FJ04008004494	Nut M10
LD15	JZ01001006422	Tire lifting rod
LD16	JZ01001006431	Tire lifting support board
LD18	FJ04001003741	Snap ring Ø16
LD20	JZ03001015703	Rise-fall pin
LD21	FJ04009004754	Outer hex bolt M16×120
LD22	JZ08001021049	Lifting arm
LD23	FJ04008004448	Self-locking nut M16
LD24	FJ04002003833	Flat washer Ø16



F9801	JZ08001021131	098 Pressing arm(right)
F9802	FJ04006004254	Cross head Screw M5X10
F9803	JZ06001045182	Pneumatic valve
F9804	JZ08001021026	Raise-fall switch base plate
F9805	FJ04006004197	Cross flat head screw M4*16
F9806	FJ04006004200	Cross flat head screw M4*30
F9807	FJ04006004053	Hex socket head bolt M10*12
F9810	FJ04009004651	Hex socket head bolt M5*16
F9813	EQ10004003254	Quick union 1/4-Ø6
F9814	FJ04008004510	Nut ( white) M4
F9815	JZ06001048533	Complete Raise-fall control valve 098
F9818	EQ10001003219	T-union 2XØ6-Ø4
F9820	EQ11002003339	T-union 1/8-2*Ø6
F9823	JZ07001020877	Control valve protect cover (right)
F9827	JZ06001020247	Complete 098 cylinder
F9828	EQ10004003254	Quick Union 1/4-Ø6
F9829	JZ03001015809	Pressing roller bracket support
F9830	JZ07001020925	Tyre pressing roller 1
F9831	FJ04001003723	Snap ring Ø30(hole)
F9832	JZ03001015811	Tyre pressing roller shaft
F9833	JZ07001011985	Tyre pressing roller 2



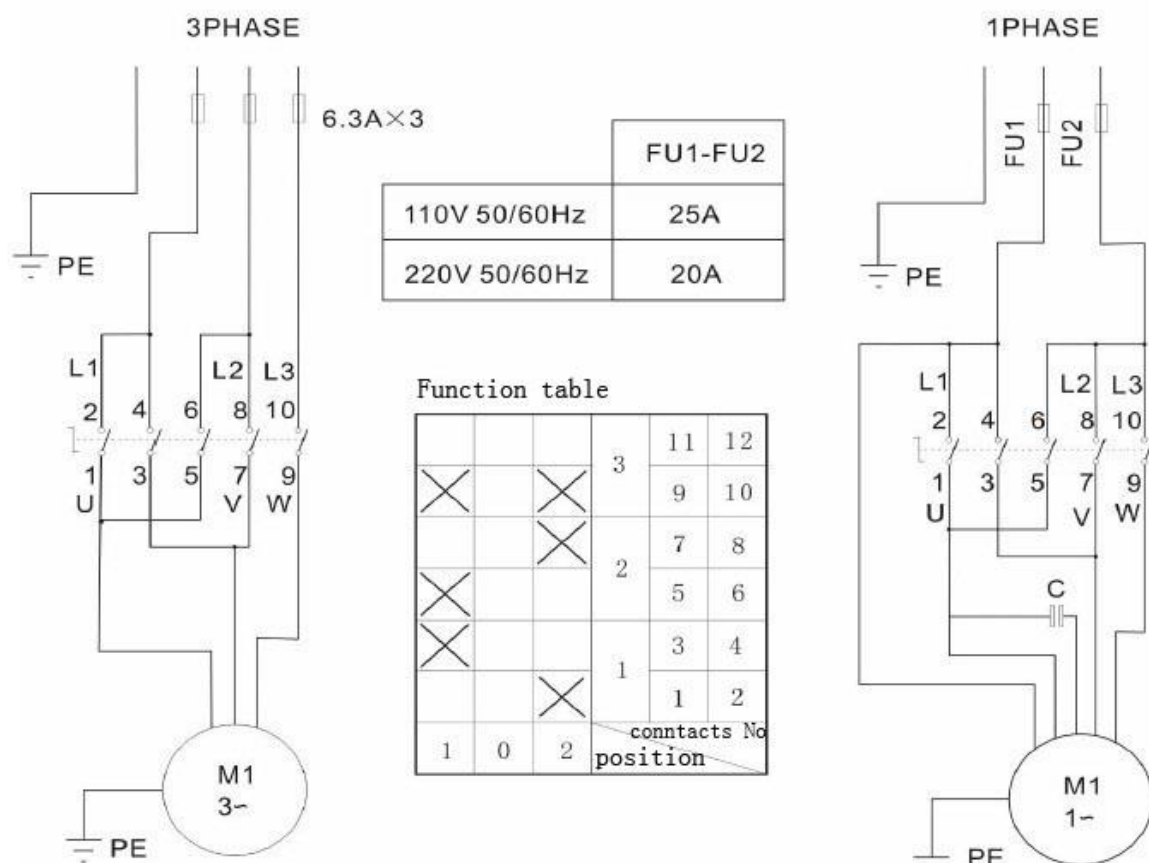
F9827	JZ06001020247	Complete right help arm cylinder
F9827-1	JZ09001023054	Help arm cylinder piston rod
F9827-2	JZ09001011981	Help arm cylinder front cover
F9827-3	FJ04001003727	Snap ring $\phi 40$
F9827-4	FJ08001005218	O-seal $\phi 30 \times 2.65$
F9827-5	JZ09001023200	Right arm cylinder washer U098 $\phi 31 \times 50 \times 15$
F9827-6	JZ09001023047	Help arm cylinder piston $\phi 70$
F9827-7	FJ04008004445	Self-locking nut M12
F9827-8	JZ02007011642	Help arm cylinder barrel
F9827-9	JZ09001022759	Guide cover $\phi 30 \times 33 \times 15$
F9827-10	FJ08001005312	O-seal $\phi 63 \times 2.65$
F9827-11	FJ08001005313	O-seal $\phi 63 \times 3.55$
F9827-12	CF03003001072	Guide belt 4*2
F9827-13	JZ09001023044	Cylinder back cover



F5001	FJ04009004799	Outer hex bolt M12X35	F5016	FJ04009004745	Outer hex bolt M10X16
F5002	FJ04002003813	Flat washer Ø12X24X2	F5017	FJ04008004444	Self lock nut M10
F5003	FJ04002003775	Spring washer /Ø12	F5018	JZ08001021186	Base
F5004	FJ04009004586	Hex socket head bolt M10X40	F5019	FJ04008004444	Self lock nut M10
F5005	FJ04002003800	Flat washer Ø10	F5020	FJ04009004586	Hex socket head bolt M10X40
F5006	FJ04002003773	Spring washer Ø10	F5021	JZ07002020947	Thrust handle
F5007	FJ04009004680	Hex socket head bolt M6X20	F5022	JZ09001023041	Lifting lever
F5008	FJ04002003890	Flat washer Ø6	F5023	JZ02007011309	Tire pressing ruller
F5009	FJ04002003790	Spring washer Ø6	F5024	FJ04009004579	Hex socket head bolt M10X25
F5010	JZ03001015620	Tire pressing arm bottom plate	F5025	JZ08001021185	Tire pressing arm 005B
F5011		Flat washer Ø12	F5026	FJ04008004448	Self lock nut M16
F5012	JZ03001015617	Column	F5027	JZ03001015837	Tire pressing arm pin
F5013	JZ08001021216	Raise-fall sleeve	F5028	JZ03001015632	Connection bolt
F5014	JZ09001023062	Raise-fall cylinder	F5029	FJ04008004448	Self-lock nut M16
F5015	JZ03001015733	Locking handle	F5030	JZ07001020926	Tire pressing head (upper)
			F5031	JZ03001015691	Tire pressing arm connector

F9007	CF01002000909	Air hose (PU)6*4
F9017	CF01002000909	Air hose (PU)6*4
F9018	JZ08001021026	Raise-fall switch baseboard
F9019	FJ04006004200	Cross- flat head screw M4*30
F9020	FJ04006004255	Cross round head screw M5*16
F9021	EQ10004003254	Quick union 1/4-φ6
F9022	EQ02011002888	Handle valve 4H230L-08
F9023	FJ04008004510	Nut M4
F9024	CF01002000909	Air hose (PU)6*4
F9025	EQ11002003331	Quick coupler 3-φ6
F9026	CF01002000909	Air hose (PU)6*4
F9027	EQ04002002955	Muffle1/8
F9028	JZ07001020877	Control valve cover
F9030	FJ04006004197	Cross- flat head screw M4*16

## 17. Circuit diagram



## 18. Pneumatic drawing

