TC24

Tire Changer Manual

WARNING

- This manual is a necessary part of the product. Please read carefully.
- Keep the manual for later use when maintaining the machine.
- This machine can only be used for the designated purposes. Never use it for any other purpose.
- The manufacturer is not responsible for the damage incurred by improper use or use other than the intended purpose.

Precautions

- The equipment can only be operated by qualified personnel with special training. Modification to any components or parts, or use the machine for other purpose without either obtaining the agreement from the producer, or observing the requirement of the instructions may lead to direct or indirect damage to the equipment.
- The equipment should be installed on the stable ground.
- Keep the back panel 0.5M away from the wall for good ventilation. Enough room should be left on both sides for convenient operation.
- Do not put the equipment a place with high temperature or moisture, or near the heating system, water tap, air-humidifier or chimney.
- Do not put the equipment near the window with sunlight. Protect the unit with a curtain or shield if necessary.
- Avoid lots of dust, ammonia, alcohol, thinner or spraying binder.
- People who are no operating the machines should be kept away when it is used.
- Use appropriate equipment and tools, protective and safety equipment, including eyeglasses, earplugs and working boots.
- Pay special attention to the marks on the machine.
- Do not touch or approach the moving parts by hand during operating.
- Do not remove the safety device or keep it from working properly.
- Before moving the tire changer, contact maintenance personnel.

Contents

1. General Information

1.1. Usage

The Machine is used for demounting, mounting and inflating tires of small vehicles. It features simple operation and high reliability. In addition, it can also be a great help in car repair garage and tire dealers.

1.2. Features

- The equipment can be used for different purposes of demounting, mounting and inflating tires.
- The steel mount/demount is cast from excellent alloy material with special shape and durable performance.
- The two clamping cylinder ensures accurate central alignment, so that the tires can be held tightly.
- The layout of the pedals gives convenience to the operating personnel.
- The distance of bead breaker is large enough for big tire.
- Tire lever and lubrication box are easy to reach.

1.3. Specifications

Dimensions
Maximum height：1900 mm
Length：900 mm
Width：850 mm

Noise
Working noise:≤70dB(A)

Air supply
Working pressure：8－10 bar
Bead breaker maximal work force：14000 N

Electric specifications
Voltage to choose:

NO.	Voltage	Power	Phase
1	AC110V/60Hz	1.1kW	single
2	AC220V/50Hz	1.1kW	single
3	AC220V/60Hz	1.1 or 0.75 kw	Single/three
4	AC380V/50Hz	0.75kW	three
5	AC200V/50/60HZ	1.1kw	three

RPM of turntable：6～8 n / min

1.4. Applicable Range

Max. wheel diameter：41″(1040mm)
Max. rim width：14″(355mm)
External Locking Rim diameter: 10″～21″
Internal Locking Rim diameter: 12″～24″

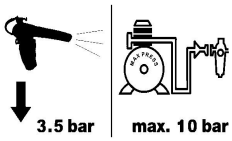
1.5. Working Conditions

Working temperature：-40℃－45℃
Transport/store temperature：-40℃－55℃
Humidity：30－95%

1.6. Description of Safety Signs

- To prevent accidents from occurring, make sure to keep hands and other body parts away when fastening the mount/demount head or when the turntable is running.

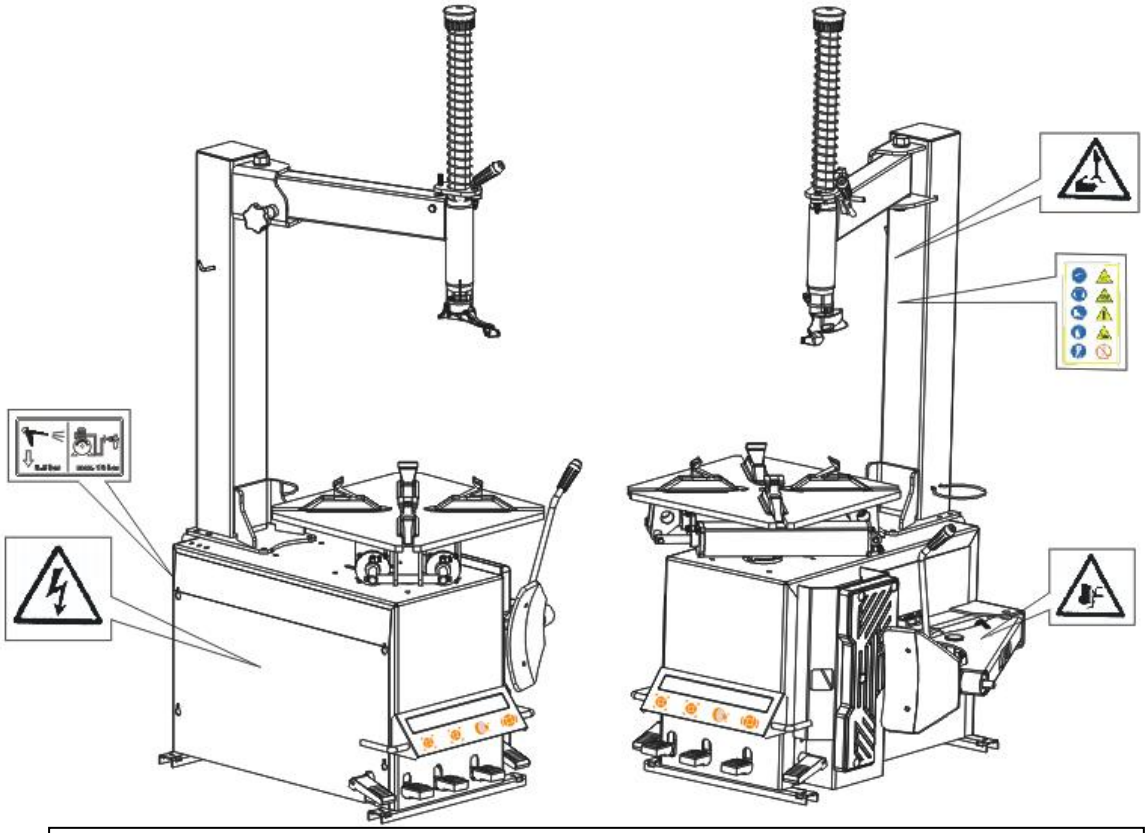
- Caution should be taken when separating the tyre from rim. The bead breaker shoe will move rapidly and forcefully when the pedal is depressed. Keep body and materials away from the work area.



- The pressure of the compressed air should not exceed 10bar. When inflating the tire， The inflating gun pressure value should be 3.5 bar

- High voltage power! Dangerous!

1.7. Position of Safety Signs



- Please change the safety signs if it gets blurred or lost.
- When one or more safety signs get lost, don't operate the machine.
- The safety signs must be kept within the sight of the operator.

2. Main Structure

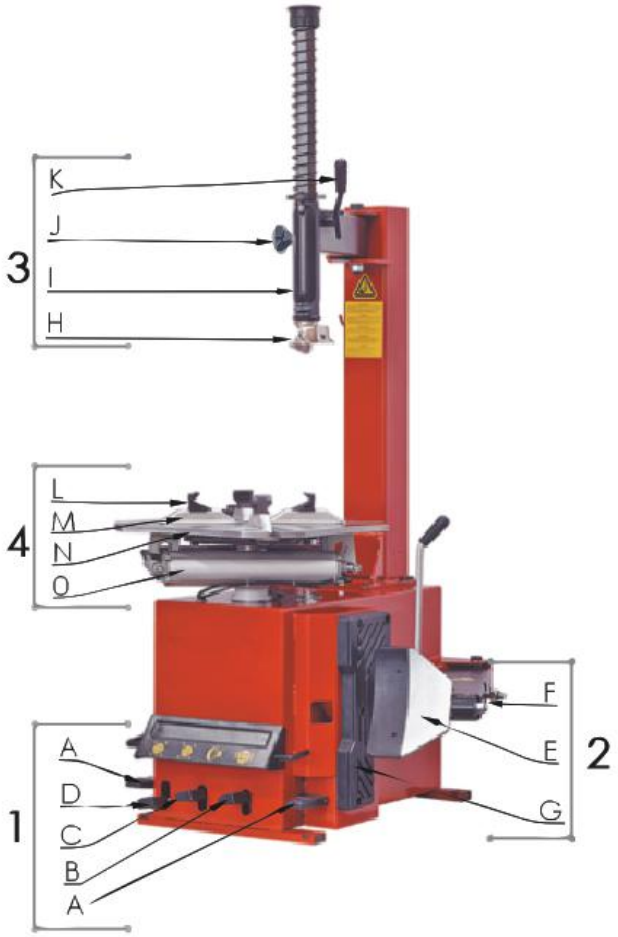


Fig.1

The main operating parts are shown in fig.1:

1	Item	2	Item	3	Item	4	Item
A	Turn table control pedal	E	Bead breaker shovel	H	Mount/demount head	L	Clamping jaw
B	Bead breaker pedal	F	Bead breaker arm	I	Swing arm	M	Slide
C	Jaw open pedal	G	Rubber buffer	J	Adjusting handle	N	Turntable
D	Jaw close pedal			K	Locking lever	O	Clamping cylinder

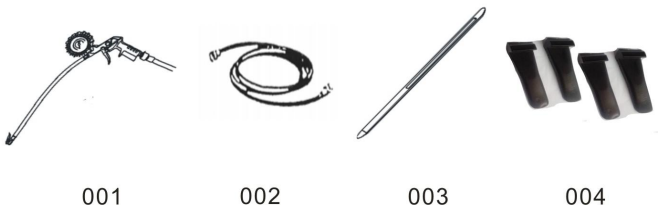


Fig.2

Accessories provided are shown in Fig.2:

001- Inflating gun
002- Inflator tube
003- Tire lever
004- Jaw protector

3. Installation and adjusting

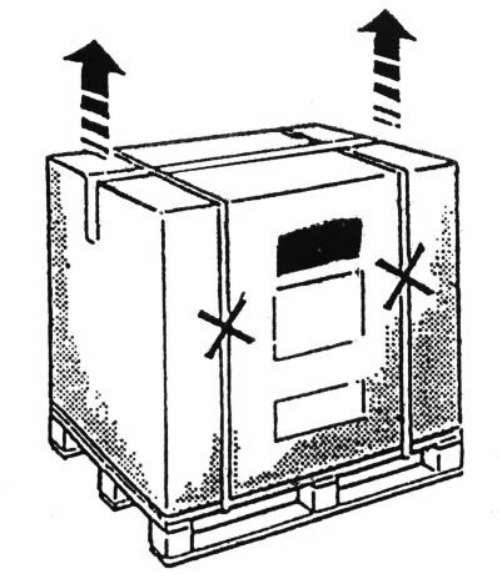


Fig3

3.1. Unpacking

- Unpack according to the instructions on the package. Remove the packing materials and inspect the machine for possible damage or loss of accessories during transportation. In case of doubt do not use the machine and refer to professionally qualified personnel and/or to the seller.
- Keep the packing materials out of the reach of children. Handle in an appropriate way if the packing material is likely to cause pollution.
- Remove the cabinet, column, swing arm and accessory box fitted on the bottom plate and keep them in safety place.

⚠NOTE:

A special anti-rust oil applied on the delicate parts may attract dust. Clean it when necessary.

3.2. Location

The place to install the machine should be in accordance with safety regulations：

- The machine should be installed in a place close to the main power source and compressed air system.
- Install the machine on smooth concrete ground or other ground with hard flooring. 4 sets of anchor bolts can be used to fasten the machine onto the ground to avoid vibration and noise.
- Leave enough space for the operation and maintenance of the machine. The space should be no less than 1M in front and on the two sides of the machine, 0.5M behind it so that operation on different parts shall not be hindered.
- If the machine has to be installed outdoors, a protective shelter should be built.
- Never operate the machine in a place with flammable gas.

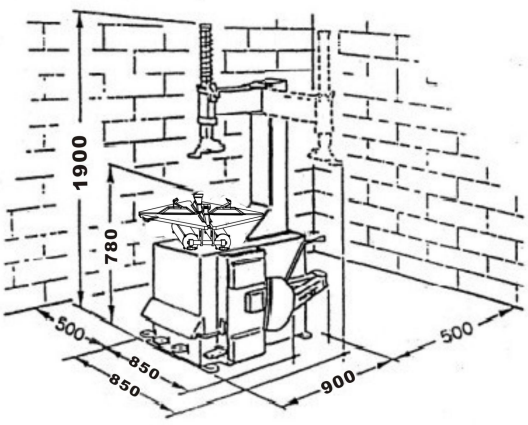


Fig4

⚠NOTE:

For safety and proper operation, keep the machine at least 0.5M away from any wall (Fig4）

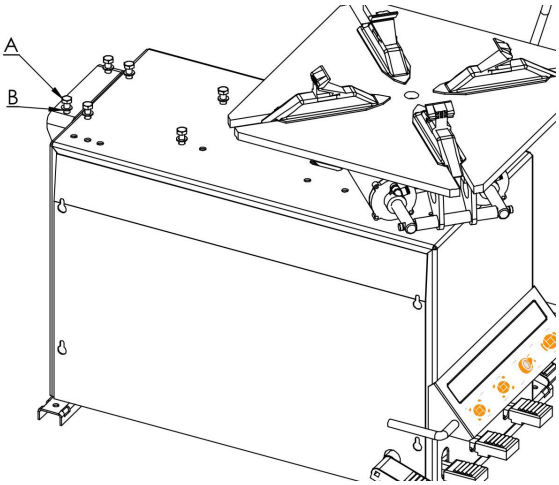


Fig 5-a

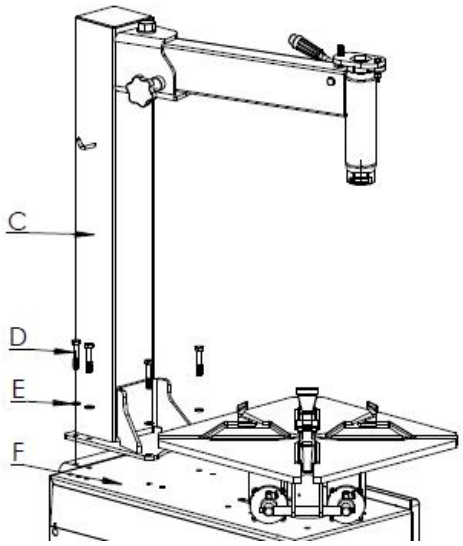


Fig.5-b

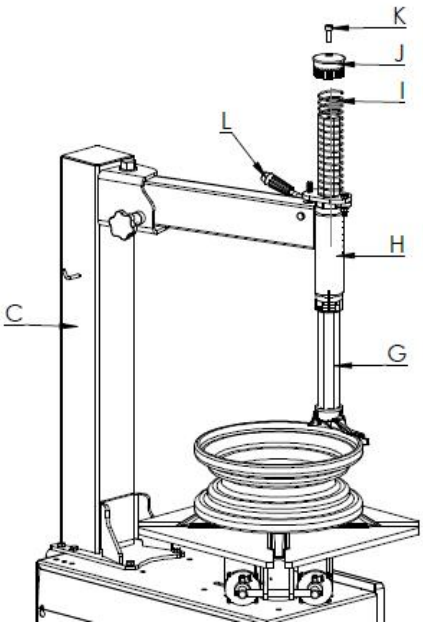


Fig.5-c

3.3. Installation

3.3.1 Column installation

- Screw off connecting bolts A and flat washer B. As Fig.5-a

- As fig. 5-b, put column C on the frame F, locked into mounting holes with D10X55 hexagonal bolts and flat washer E，fasten with connecting screws.

⚠**NOTE:**

When column installation, keep column vertical, prevent it from tilting, avoid injury!

3.3.2 Vertical column installation

- Install vertical column G into column hole on the swing arm H from downside to upside, lock vertical column with lock lever L.（note：Care about mounting head installation direction. Place a rim on turntable for reference；then install return spring I, knob J , fasten connecting screw K. as fig. 5-c

⚠**NOTE:**

When screw off K, please lock vertical column G with lock lever L as column G will fall down automatically, take care!

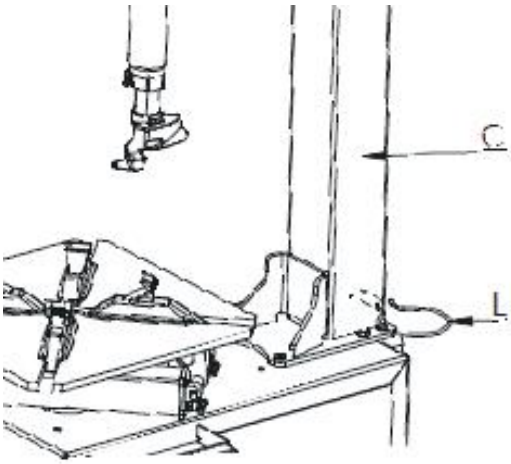


Fig.5-d

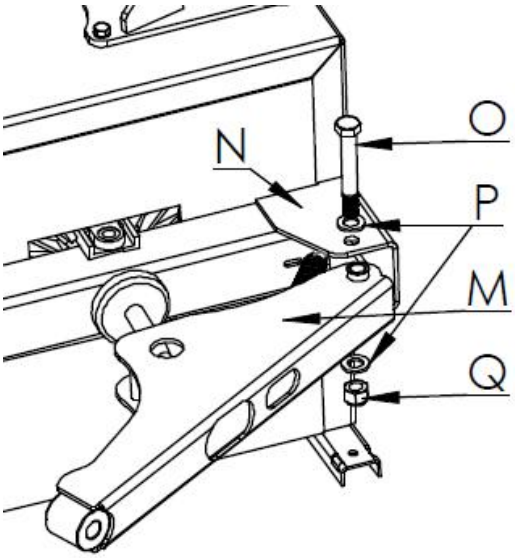


Fig.6-a

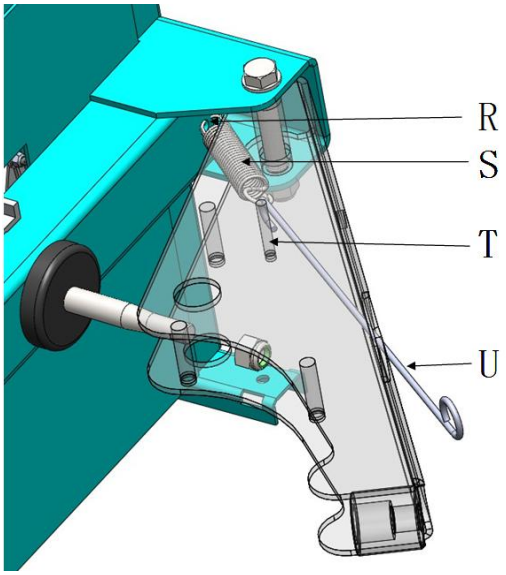


Fig.6-b

3.3.3 Support ring installation

- As fig.5-d， put L ring terminals into ϕ 5 holes on the right of the column C.

3.3.4 Bead breaker arm assembly installation

- Step 1，Arm installation, As fig.6-a，put arm M into fixed seat N, tighten with hex bolt O and flat washer P.

- Step 2， Arm spring installation, As fig.6-b， hang one end of spring S into the hole R, use spring hook U, hook another end of spring S to spring pin T, take out spring hook U.

⚠ **NOTE:**

When arm installation, take care, avoid hands injured!

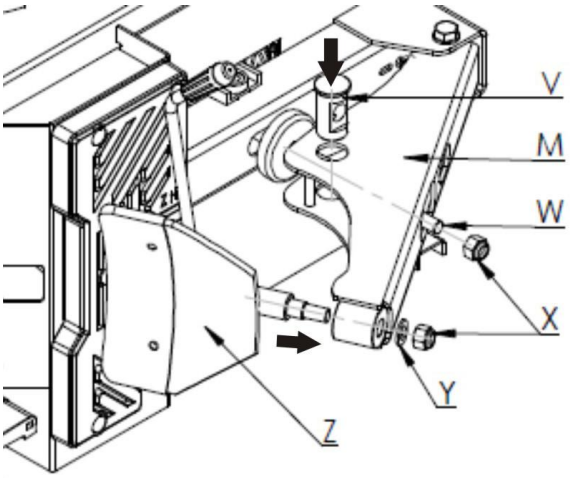


Fig.6-c

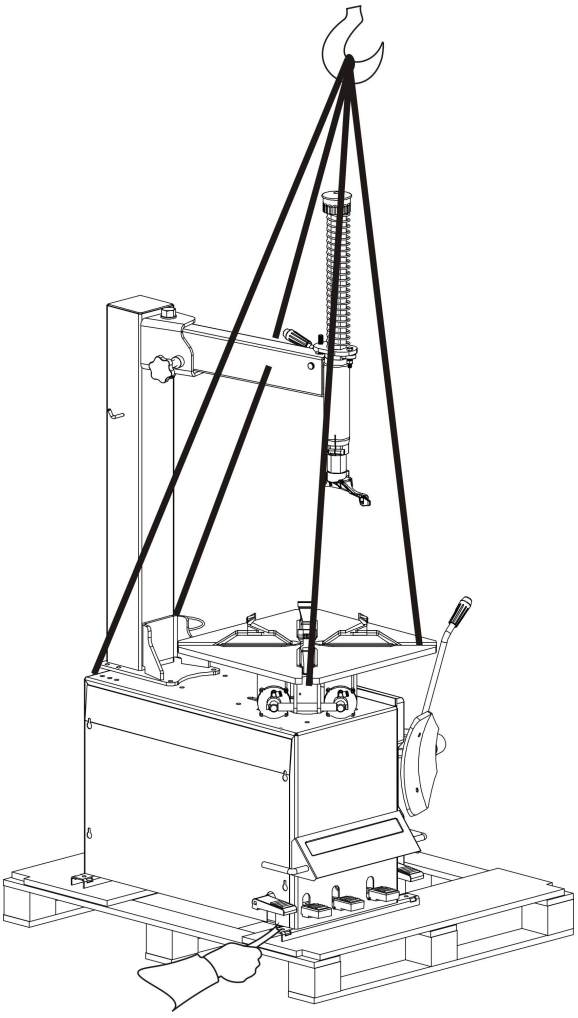


Fig.7

- Step 3， Bead breaker cylinder location pin installation, Pull out breaker arm M, till location pin V can be put into the breaker arm hole（note：make sure the slot side of location pin V is on outer side.） Let arm M go back after location pin V is installed.（note：Insert Piston rod W through hole of location pin V），Fasten connecting nut X when arm M lay back. as fig.6-c.
- Step 4， shovel installation, As fig.6- c， shovel Z installation from inside to outside，install into the hole of arm M, install flat washer Y, fasten X connecting screw.
- Finish installation.

3.3.5 Lifting and installation

- Take off screws by spanner（as Fig.7）Use hoist to lift the machine, move pallet, locate the machine.

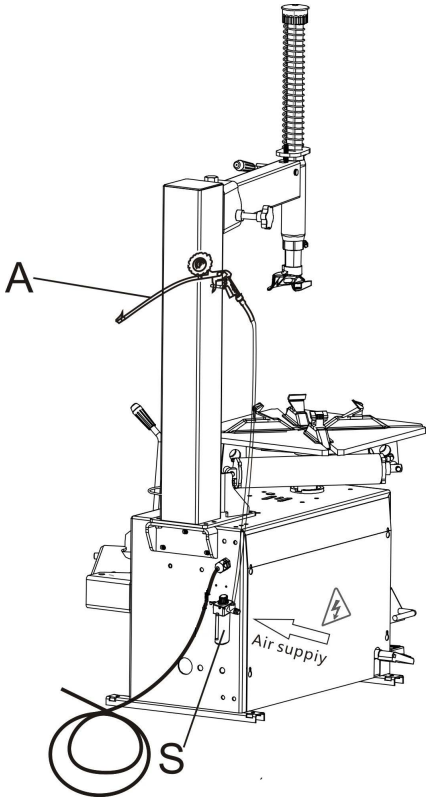


Fig.8

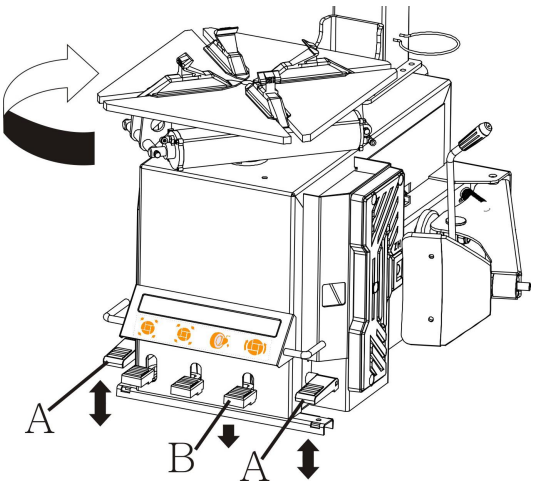


Fig.9

3.4. Power and Air Connections

- All work on the electrical system, including minor operation, must be carried out by professional qualified personnel！ check that the electrical supply voltage is the same as that indicated on the plate of the machine.
- The power socket should be at a place within the sight of the operator. The height should be between 24”～67”.
- The machine needs grounding protection.
- Air system connection：Connect the inflation gun A to the coupling located to the up of the air filter S； put inflating gun to the hook, on the column(as Fig.8) ； Connect the compressed air supply to the coupling located between the lubricator and the air filter（as Fig.8).

⚠NOTE：

The tyre changer is not equipped with overload protection. Please connect power according to the electric diagram included in the User’s manual. Otherwise, the manufacturer will not be responsible for any accidents.

- Operation test： After power connected, press pedals A (Fig.9), turntable will turn clockwise. This test is very important.

4. Operation

⚠NOTE:

- ***Do not operate the machine before having completing training and qualified for operating the tire changer. Use appropriate equipment, tools and personal protective equipment, such as eye-glasses, ear-plugs and working boots***.
- ***When operating the tire changer. Make sure that the power, air sources and the oil level in the oil cup are in accordance with the requirements***.

4.1. Principles

- For easier demounting and better protection of the tire and rim, lubricate the area between the rim and tire bead, where the bead breaker shoe goes in, with industrial lubricant or thick soap solution.
- Pay special attention to rotary direction marked on some flanges or tires.
- Fit the tire on the rim of matched size.
- Check for damages (distortions, surface damages, excessive run out, erosion or overall wear) before demounting.
- Never ignore the mounting and demounting requirements of the special wheel.
- When inflating the tire, make sure the pressure increases in an even way. Check the rim as often as possible.

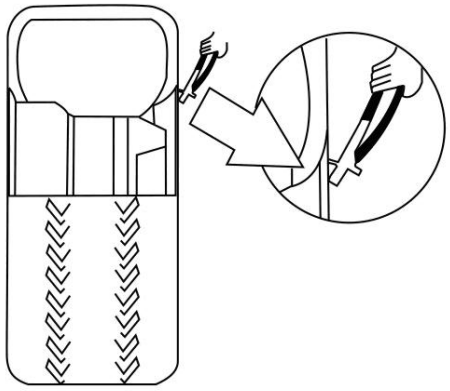


Fig 11

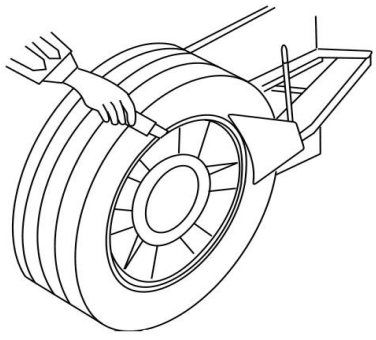


Fig.12

4.2. Demounting Tire

Preparing

- Deflate the tire thoroughly.
- Remove all the foreign substance and weights from the rim（as fig.11）.

Demounting

⚠NOTE:

Lubricate the bead with a brush with lubricant before the shoe touches the bead. Otherwise the tire bead will be worn（as fig.12）

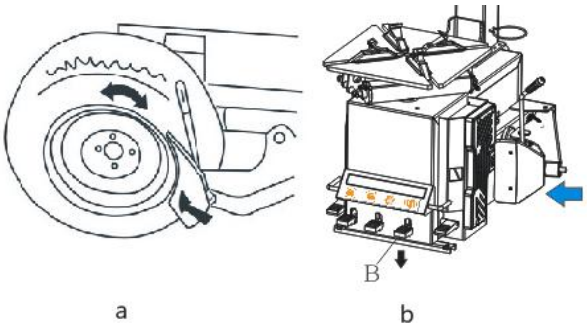


Fig.13

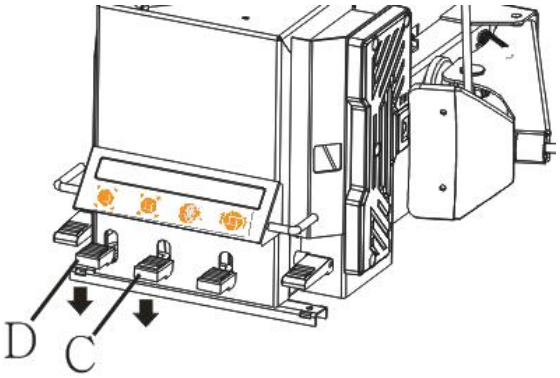


Fig.14

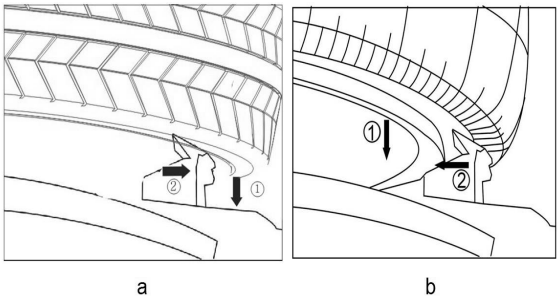


Fig.15

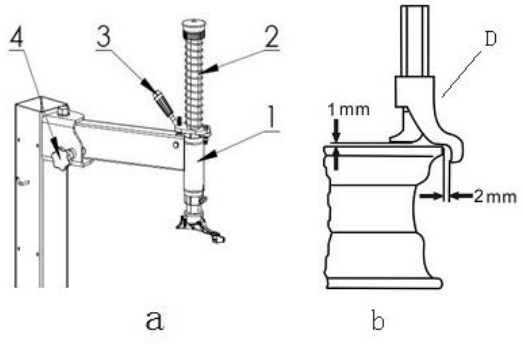


Fig.16

- Place the tire between the bead breaker shoe and rubber pad and keep the shovel between the bead and rim, about 1cm to the bead (Fig.13-a). Depress pedal B (Fig.13-b) to separate the tire from rim.
- Repeat the above steps on other part of the tire to get the tire separated thoroughly from the rim.

⚠NOTE:

When using the bead breaking arm, do not put arms and hands between the tire and the bead breaker

- Press the open control pedal C to prepare the chuck jaws or press D to lock the rim externally（fig.14）.

⚠NOTE:

Different types of clamping can be chosen in accordance with different rims.

➢ In case of inside clamping, （ fig.15-a ）, depress pedal D, shrink the jaws together, place the wheel on the turntable and depress pedal C to clamp .

➢ In case of outside clamping, （ fig.15-b ）, enlarge the jaws outward(2-3cm away from edge of the rim), and place the wheel on the turntable, press the rim close to the jaws, depress pedal D to clamp it..

- Pull back swing arm and adjust swing arm 1, （as fig.16-a）and vertical column（2）, make mounting head against rim, adjust handle 4, lock swing arm ,lock vertical column by handle 3. Make sure mounting head keep a distance of 1-2mm from outer edge of rim to avoid mounting head scratch rim（as fig.16-b）.

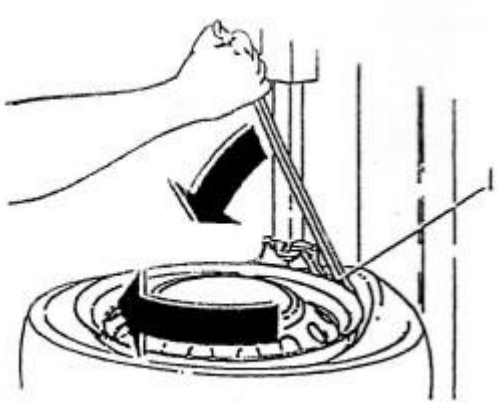


Fig.17

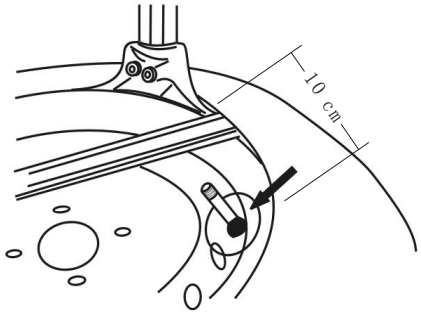


Fig.18

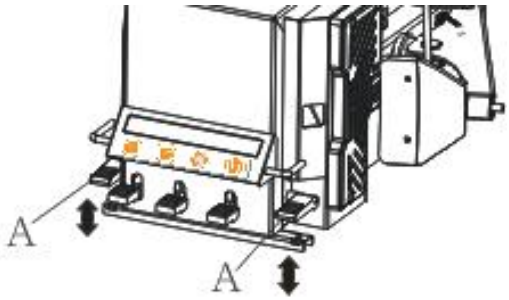


Fig.19

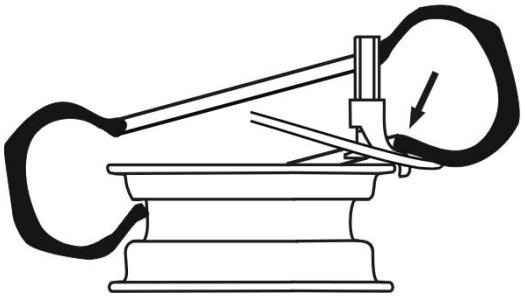


Fig.20

- Before demounting，lubricate tire bead and rim.
- Raise the bead with special lever and hook it onto the tongue of the bead（as fig.17 18）.

⚠NOTE：

If inner tube ,to avoid damage of inner tube, keep the position of air valve and mounting head at 10cm distance（as fig.18）

- Press pedal A（as fig.19），turntable turn clockwise, until edge of wheel fall off.

⚠NOTE：

- ***For very tough and low profile wheel, wheel edge is easy to slip off, to avoid this, before turn clockwise of the turntable, may turn anti-clockwise a little to make the turntable back 1-2mm.***
- ***If the demounting process is prevented, stop the turntable from turning around, lift pedal A (fig. 19), let the turntable turn anti-clockwise.***

- If there is tube in the tire, remove it..
- Lift wheel, make the bottom edge of wheel as fig.20）.
- Press pedal A until bottom edge of wheel fall off.
- Push away swing arm， take off wheel, and finish demounting.

⚠NOTE：

Keep hands and the rest of human body away from the moving parts of the machine. Never wear necklace, bracelet or loose clothes when operating the machine as it may cause danger

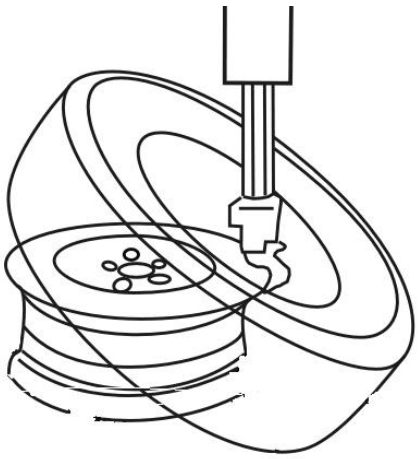


Fig.21

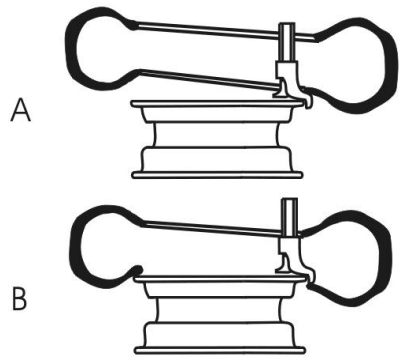


Fig.22

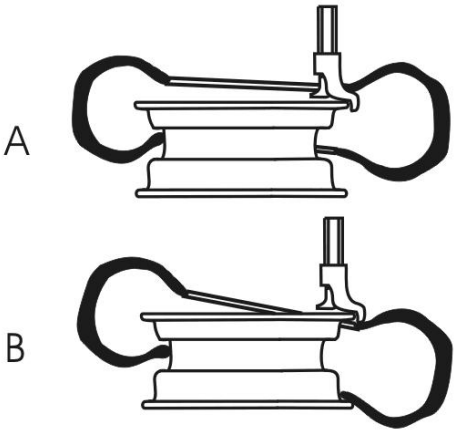


Fig.23

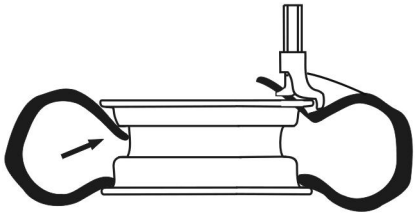


Fig.24

4.3. Mounting Tire

⚠NOTE：

Check the size of tire and rim to see if they match each other

- Clamp the rim tightly in the same way as demounting tire.
- Use lubricant such as thick soap solution on the tire and the rim.
- Put the bead on the rim with the left side upward, pull back swing arm and place it on its working position.（as fig.21）.
- Check the coordination of mount/demount head and rim. Readjust if necessary.

- Adjust relative position between the tire and the mount/demount head to make the tire bead cross the mount/demount head. At the end of the mount/demount head, the tire bead should be placed on the mount/demount head as fig. 22-A； At the beginning of the mount/demount head, the tire bead should be placed under the ball protuberance of the mount/demount head （as fig.22-B）.
- Press down the central part of the tire. Depress the pedal L to turn the turntable clockwise, making the lower tire bead fall into the rim groove completely （as fig.23-A）.
- If a tube needs to be installed in the tire, check first for the possible damages. Round it onto the rim. Make sure to keep the air inlet valve on the tube in the right position throughout the mounting process.
- To install the upper tire bead, place the tire well and readjust position of the tire bead（ same as mount of the lower tire bead in Fig 23-B，Press down the tire opposite to the mount/demount head to the rim groove（as fig.24）.
- Depress the pedal A， to turn the turntable while keeping pressing on the tire. When only 10~15cm is left, slow down to avoid damage of the tire bead. Stop the motor if there is any indication for damage. Lift the pedal A and turn the turntable counter-clockwise. Try again when the tire is back to the original shape.

⚠NOTE：

It is extremely important, for the correct functioning of the machine, that when pedal A is pressed, the chuck rotates in a clockwise direction.

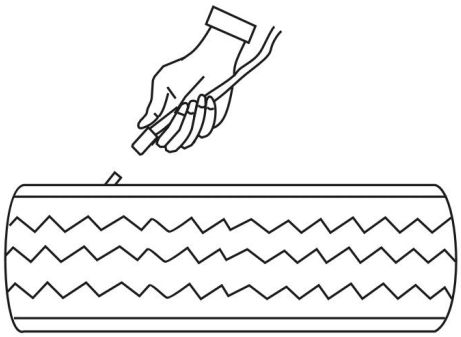


Fig.25

4.4. Inflating Tire

⚠ ***Danger!***

Inflating can be highly dangerous. Take precautions and pay close attention to the procedures. Check if the compressed air is well connected before inflating !

Inflating procedures are shown in Fig.25. The machine is equipped with a gauge to read the pressure in the tire.

- Connect the outlet of the gun to the air inflation valve.
- Slowly press the switch on the inflating gun for several times during inflation to make sure that the reading on pressure gauge meets the manufacturer's specifications. The pressure should not exceed 3.5 bar.
- If the pressure exceeds the limit, press the button on the gun inflator so that the pressure goes down to what is required.

5. Trouble Shooting

Malfunction	Cause	Solution
The chuck does not rotate in any direction	1. Power plug not inserted 2. Incorrect connection in the plug 3. Electrical supply not suitable	Check correct plugging and its connection.(see cause 2 and 3)
Pressing the invertor pedal down causes the chuck to turn in an anti-clockwise direction	Polarity inverted	Invert the connections in the power plug
The chuck turns with insufficient power	1. Supply voltage wrong 2. Driving belt loosen	1. Check the correspondence between the supply voltage and that on the maker's plate. 2. Tighten the belt
The bead breaker does not have sufficient power to break the tire bead.	1. The pneumatic supply is not connected to the machine. 2. Insufficient pressure in the pneumatic system. 3. Pressure reducer is closed or badly adjusted (for versions with this device).	1. Connect the pneumatic supply. 2. Correct the supply pressure. 3. Open or correctly adjust the pressure reducer.

Other malfunctions should be checked and fixed by Professionally Qualified Personnel.

6. Maintenance

⚠ ***Note*:**

Only the specialized technician can do the maintenance. Before any maintenance is performed, disconnect the power and keep the plug within the sight of the maintenance personnel. and shut off compressed air, push the air valve switch to "Off" position and depress pedal 16 for 3 or 4 times to bleed the residual compressed air in the machine

To keep the tire change in good condition and to prolong the work life, it is necessary to do regular maintenance according to the instructions on the user's manual. Otherwise, the normal operation and reliability of the machine will be affected, or personal injury would be caused.

- Keep the machine and working area clean and prevent dust or foreign matter from entering the moving parts.
- Keep the hexagonal column and the moving parts clean and lubricate（clean with diesel as Fig.26）.
- Keep the swing arm clean and lubricate it periodically so that it can move expectably.
- Check the oil level in the sprayer regularly. If the oil level does not reach the second line, fill SAE20 (Fig.27).
- Clear away the condensed material in the water separator around the sprayer regularly.
- Regularly check and adjust the tension of the belt..
- Check all connecting parts and bolts regularly and tighten them if necessary.
- Check and adjust locker handle periodically, to make sure after locking, mount head and rim keep 2-3m distance.

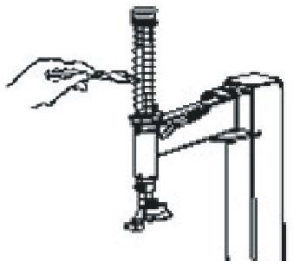


Fig.26

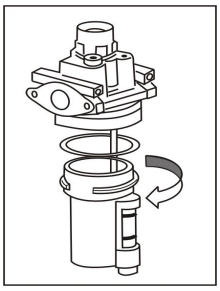


Fig.27

7. Storing and Scrapping

7.1. Storing

When the equipment needs to be stored for a long time.

- Disconnect the power and compressed air.
- Lubricate all the parts: slide block and groove.
- Empty all the oil/liquid cups.
- Cover the equipment with plastic shield.

7.2. Scrapping

When the equipment can no longer be used, disconnect the power and compressed air and dispose in accordance with the local regulations.

8. Spare parts list

This list is only for the reference of the maintenance personnel. The manufacturer will not be held responsible for any use other than the designed purpose.

In case any damage occurs, please contact your dealer or factory with the corresponding codes in the list.

SPARE PARTS LIST								
No.	**Code**	**Description**	**Qty.**		**No.**	**Code**	**Description**	**Qty.**
2065586 Parts of Column & Arm (Fig. 34)								
101	2065587	Vertical Column	1		119	2037801	Locking block Handle	1
102	6000146	Lock nut M20	1		120	6000163	Retainer ringΦ16	1
103	6000141	Washer Φ20	2		121	6000148	Lock nut M8	1
104	2065641	Hook	1		122	6000121	Hex nut M8*30	1
105	6000126	Hex nut M6	1		123	2065593	Hexagonal column	1
106	3005271	Adjust Handle	1		124	3005188	Hexagonal column washer	1
107	2065589	Swing arm	1		125	2052501	Washer 34*10*5	1
108	2005601	Connect Screw	1		126	6000184	Hex nut M10*25	1
109	6000387	Hex screw M10*30	1		127	2045001	Support ring	2
110	3005190	Knob	1		128	6000290	Hex nut M10*60(black half thread)	4
111	2005401	Spring	1		129	6000134	Washer Φ10	8
112	6000296	Hex screw M8*45	1		130	6000143	Lock nut M10	4
113	6000139	Washer Φ8	1		150	2004501	Complete mounting head	1
114	6000143	Lock nut M10	1		151	2004601	Mounting head	1
115	6000134	Washer Φ10	1		152	2004701	Contact roller	1
116	2065573	Locking plate	1		153	2004801	Contact roller screw	1
117	6000187	Hex screw M10*55	1		154	6000225	Hex nut M10*16	2
118	3000501	Locking block Handle cover	1					
2015801 Parts of Turning Table Assembly（Fig. 35）								
201	2015901	Turn table	1		226	6000442	Nut M6	16
202	6000129	Hex nut M16*40	1		227	6000441	Washer 6	8
203	2065256	Cover	4		228	2045801	Front cover	2
204	2017101	Jaw	4		229	2064398	TS bearing23*20*20	2
205	2064923	Slide	4		230	3004701	O seal ring68.3*3.5	4
206	2065951	Slip sheet	2		231	3005311	O seal ring20*2.65	2
207	2065949	Slide support	4		232	3005249	O seal ring 16*2.4	2
208	6000236	Circlip	4		233	2012001	Piston	2
209	6000135	Flat washer12*20*2	4		234	3005250	O ring75*5.7	4
210	2065932	Washer	4		235	6000144	Nut M12	2
211	2053201	Sleeve	4		236	2017901	Cylinder barrel	2
212	6000213	Spring washer 12	4		237	2067409	Screw M6	8
213	6000449	Screw M12*95	1		238	2045901	Clamping rear cover	2
214	6000196	Circlip 70	1		239	3005075	Union IPB6-01	2

215	2065947	Slide plate	2		250	2064376	Complete plate	1
					251	2065928	Plate	2
220	2017801	Complete clamping cylinder	2		252	2065931	Plastic sleeve	1
221	6000178	Circlip 30	2		253	6000112	Screw M6*12	4
222	6000140	Flat washer22*29*0.5	2		254	2065950	Rod	4
223	3005074	UnionIPL6-01	2		255	2065930	Shaft	4
224	3005157	Y seal	2		256	6000233	Nut M6	4
225	2018001	Piston rod	2					
2053301 Parts of Rotating Valve Assembly（Fig.36）								
300	**2053301**	Complete rotating valve	1		303	3004601	O seal59.5*3.1	3
301	2010901	Rotating valve core	1		304	2011001	Rotating valve casing	1
302	3005004	T-union IPC6-01	4		305	6000356	Union M3*5	4
2064938 Parts of Gearbox assemble （Fig.36）								
306	2064938	Complete gearbox	1		320	6000148	Lock nut M8	5
307	3000801	Oil ruler	1		321	2064158	Oil seal cover	1
308	3000901	Oil ruler casing	1		322	3004501	O seal 35*3.1	1
309	6000121	Screw M8x30	5		323	6000168	Bearing 30205	2
310	2009201	Upper cover	1		324	2009601	Worm screw	1
311	6000166	Bearing 6010	1		325	6000337	Key 6*6*20	1
312	2009401	Gearbox shaft	1		326	3005127	Seal 25*40*8	1
313	6000102	Screw M8x20	1		327	6000170	Key 12*8*50	1
314	6000199	Washer 8	1		328	6000112	Screw M6*12	1
315	2037201	Flat washer Φ8	1		329	6000101	Key 12*8*40	1
316	2009701	pulley	1		330	6000204	Pin Φ8*16	1
317	2009501	Worm gear	1		331	6000200	Washer 10*30*2	6
318	6000167	Bearing 6208	1		332	6000181	Screw M10*160	6
319	2009301	Bottom cover	1					
2012501 Parts of motor assembly （Fig.36）								
400	2012501	Motor assembly	1		406	6000192	Screw M8x35	4
401	4003101	Motor 220V 1.2KW 50HZ（standard）	1		407	6000139	Washer 8x22x2	8
	4002801	Motor 380V 0.75KW 50HZ（optional）			408	6000134	Washer 10x20x2	3
	4003201	Motor 110V 1.2KW 60HZ（optional）			409	6000336	Nut M10	4
402	2012701	Motor pulley	1		410	3003601	Washer	6
403	6000130	Screw M6*10	2		411	6000199	WasherΦ8	4
404	6000237	Belt A660	1		412	6000127	Nut M8	4
405	2012601	Motor support	1		413	4004444	Capacitor	1
2065542 Part of body assembly（Fig.37）								
501	2065543	Frame	1		524	6000325	Flat washer 6*16*2	2

502	2065776	Foot space frame	1		525	6000180	Pin 2*20	2
503	2065580	Side cover	1		526	3005025	Silencer PSL-1/4	4
504	6000431	Hex screw M6*16	4		527	3005005	L union IPC8-01	2
505	6000198	WasherΦ6	4		528	3005066	L union IPL8-01	1
506	6000138	Flat washerΦ6	4		529	2010701	Spring	1
507		Complete five way valve			530	4000201	Switch	1
508	3001201	Five way valve	2		531	3005031	Switch cover	1
509	3001301	Spacer	10		532	6000125	Nut M5	2
510	3005012	O seal 7.9*4.0	12		533	3001501	Rod casing	2
511	3005004	L union IPC6-01	2		534	2010501	Long pedal	2
512	3005067	T union IPB8-01	1		535	6000119	Screw M5*12	2
513	6000112	Screw M6*12	4		536	2037501	Switch	1
514	2013001	Rod	2		537		Complete switch	1
515	6000175	Screw M8	2		538	6000253	Screw M6*16	5
516	2013101	Adjust rod	2		539	6000325	Flat washer 6*18*1.6	5
517	6000232	Pin 4*18	2		540	3005273	Rubber buffer	1
518	2013001	Bar	2		541	3005276	Small rubber buffer	1
519	6000143	Lock nut M10	2		542	3000101	Rubber buffer piece	4
520	6000134	Flat washer 10*22*2	2		543	4001001	Oil mist	1
521	2009901	U support	1		544	3005074	L union IPL6-01	1
522	2010601	Short pedal	3		545	3005026	Cooper Coupling (F.L.R)	1
523	2010301	L support	1					
2065790 Parts of bead breaker cylinder （Fig.38）								
600	2065792	Complete bead breaker cylinder	1		607	3004301	O seal 20*2.4	1
601	2011201	Bead breaker cylinder	1		608	2011501	Piston rod	1
602C	602-1--602-4	Complete exhaust valve	1		609	3004401	O seal 185*5.7	1
602-1	3005025	Silence	1		610	2011301	Cover	1
602-2	2065987	Exhaust valve	1		611	2011601	Screw	2
602-3	3005005	Union IPC8-01	1		612	3005027	Bearing	1
602-4	3005328	Copper union	1		613	3003401	Y seal 20*30*7	1
603	6000114	Screw M6*20	12		614	6000140	Washer 22*29*0.5	1
604	3005029	Y seal 170*185*11	2		615	6000178	Retainer ring 30	1
605	3005028	Piston ring	1		616	3005010	L union IPL8-02	1
606	2011401	Piston	1		617	6000233	Lock nut M6	12
2065574 Parts of bead breaker arm （Fig.38）								
631	2038401	Bead breaker ring	1		636	3000701	Hand cover	1
632	6000136	Washer 16*30*2	3		637	2065654	Shovel cover	1
633	6000318	Lock nut M16	3		638	3005134	Pin	1
634	2065575	Bead breaker arm	1		639	2065654	Washer	1
635	2065652	Bead breaker shovel	1		640	2064378	Screw M16*110	1

					641	6000391	Lock nut M18	1
1002154 Quick inflating system-optional（Fig.40）								
701	4004001	Safety valve	1		709	2064825	Inflating tube	1
702	3005090	Cooper connection	1		710	3005193	Valve sleeve	1
703	3005006	Union IPC8-02	1		711	3005192	O sealΦ32.5*3.55	2
704	4004348	One-way valve	1		712	2064827	Spring 1.8*37.5*23.4*3	1
705	3005036	Copper T-way union	1		713	6000388	Retainer ring Φ32	1
706	2064826	Air tank	1		714	2064828	valve	1
707	3005202	Elbow G1"-G1"	1		715	2064826	Explosive filling mouth	1
708	3005204	Ring bush G1"-G3/4"	1					
1002113 Simple left help arm（optional）（Fig.40）								
F701	6000110	Screw M10*40	4		F716	6000128	Screw M8*25	4
F702	6000134	Washer 10*22*2	4		F717	2064204	Support	2
F703	3003201	Valve cover	1		F718	2064221	Pin for main arm	1
F704	4000301	Rise fall control valve	1		F719	2064213	Complete cylinder	1
F705	6000344	Screw M16*30	2		F720	2064219	Connecting plate	2
F706	2064210	Main arm	1		F721	2039601	Cylinder cover	2
F707	2064205	Secondary arm	1		F722	2064220	Screw	4
F708	2037401	Washer 38*10*4	1		F723	2064214	Y seal(90*140)	1
F709	6000226	Screw M10*16	1		F724	3005132	Y seal 90*75*8.5	2
F710	6000235	Adjust handle	1		F725	2064216	Piston	1
F711	6000295	Screw M8*20	6		F726	2064215	Piston rod	1
F712	3005146	Tire pressing head	1		F727	6000148	Self lock nut M8	8
F713	3005063	Cover	1		F728	3005074	Union IPL 6-01	4
F714	2064222	Locking block	1		F729	6000234	Hand knob M12*S40	1
F715	2064203	Fixing plate	1		F730	2064215	Piston rod	1

9. Exploded drawings

9.1 Column assembly

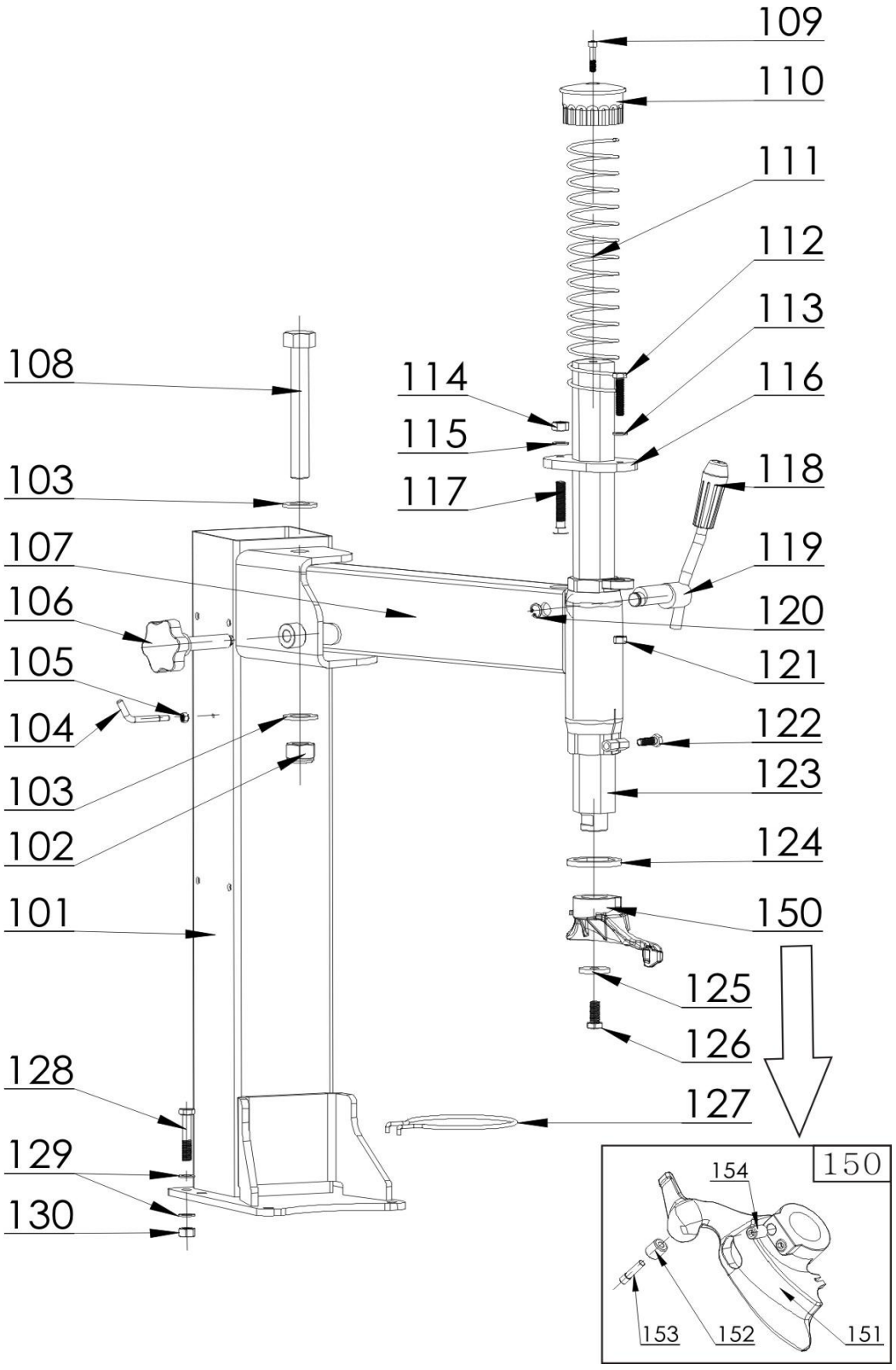


Fig.34

9.2 Turntable assembly

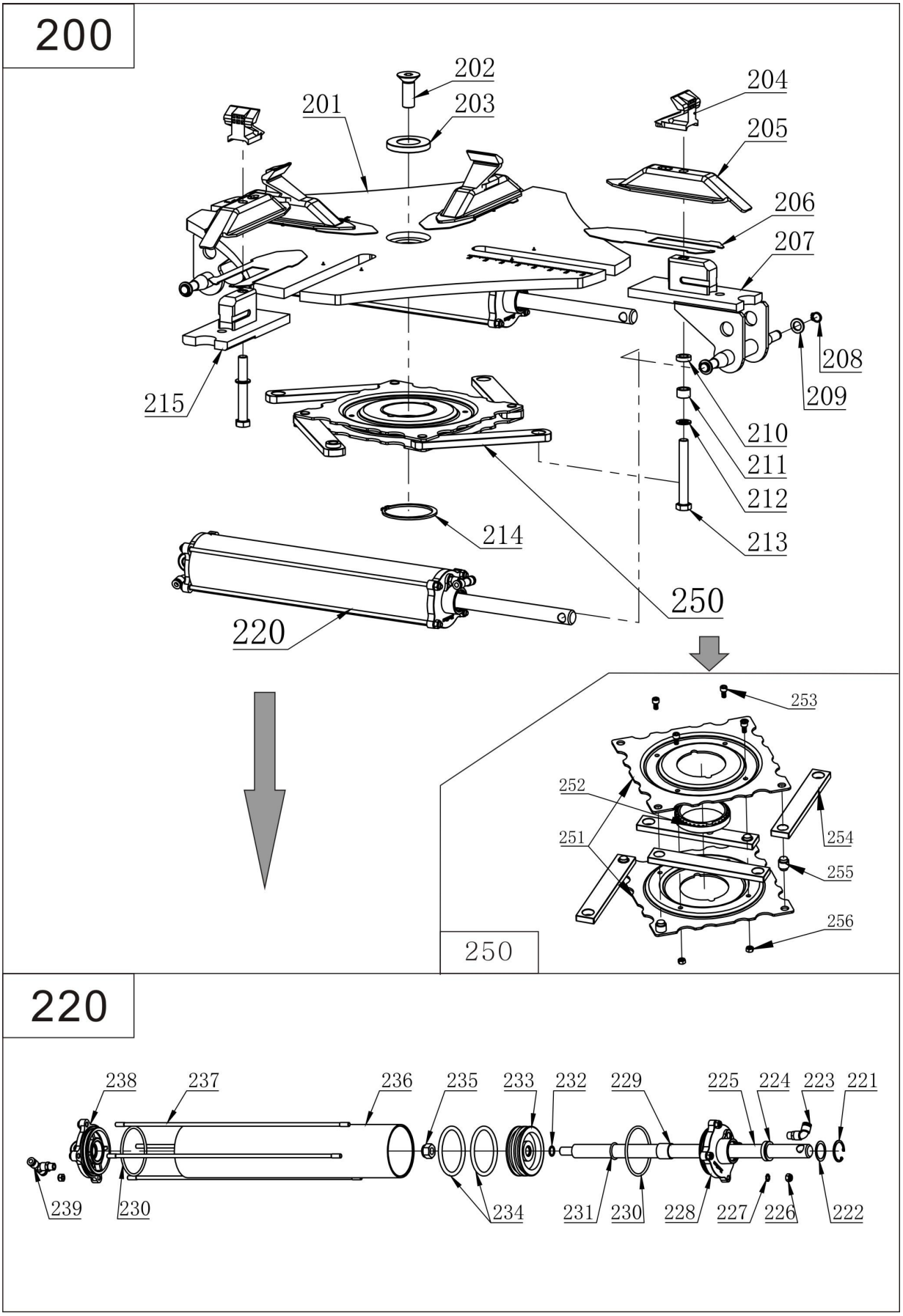


Fig.35

9.3 Gearbox & motor assembly

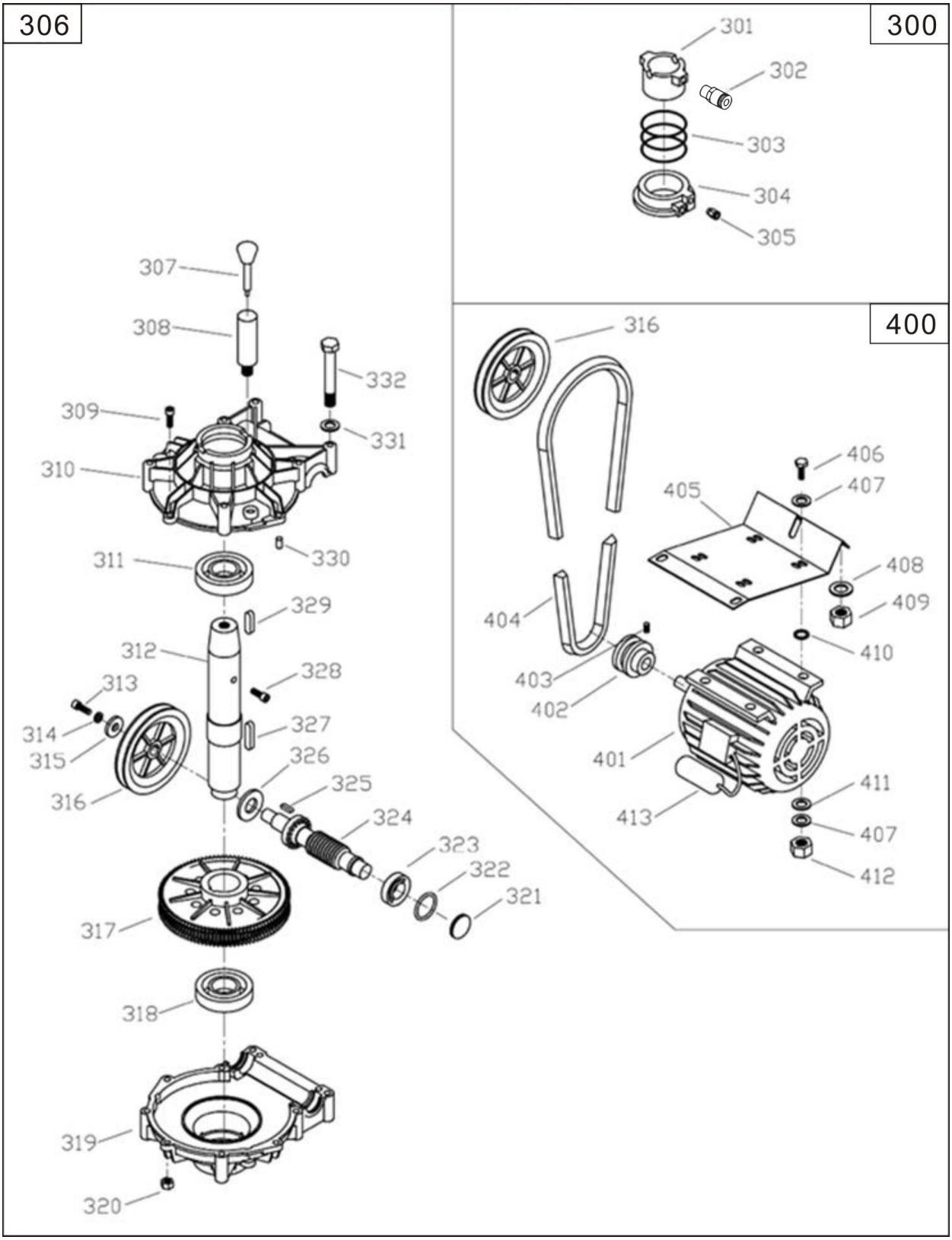


Fig.36

9.4 Body assembly

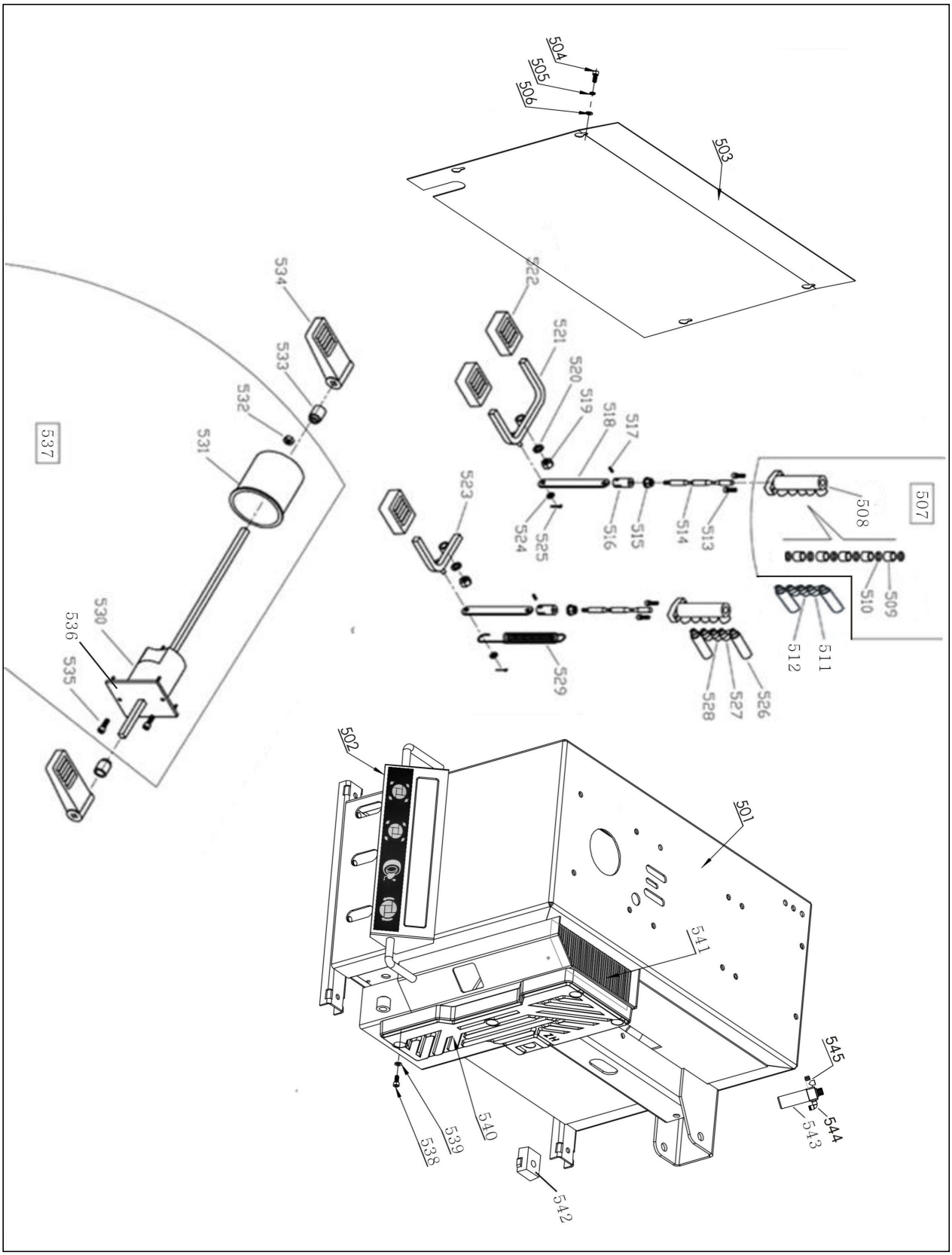


Fig.37

9.5 Bead Breaker Cylinder & Breaker Arm Assembly

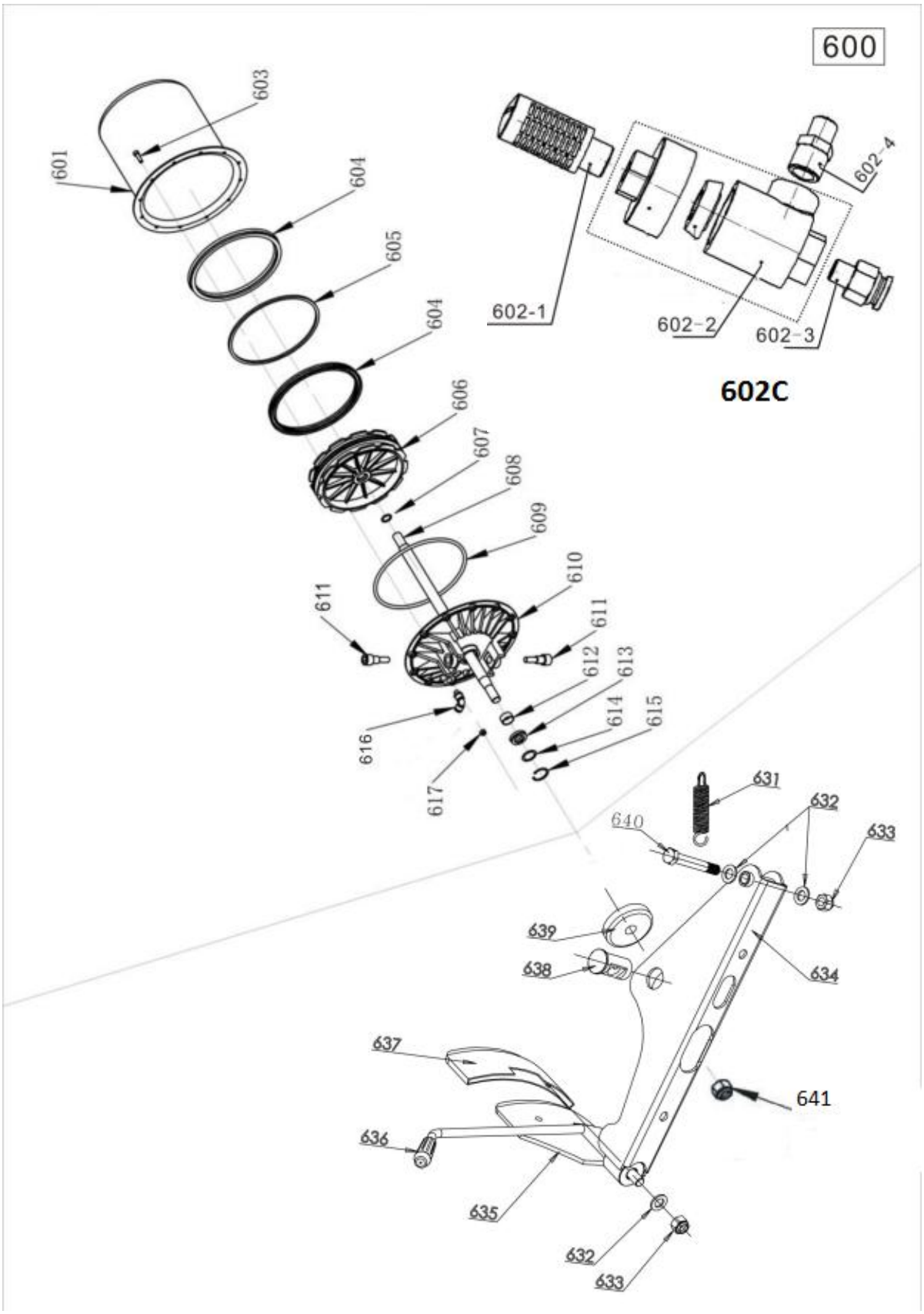


Fig.38

9.6 Quick inflating system(Optional)

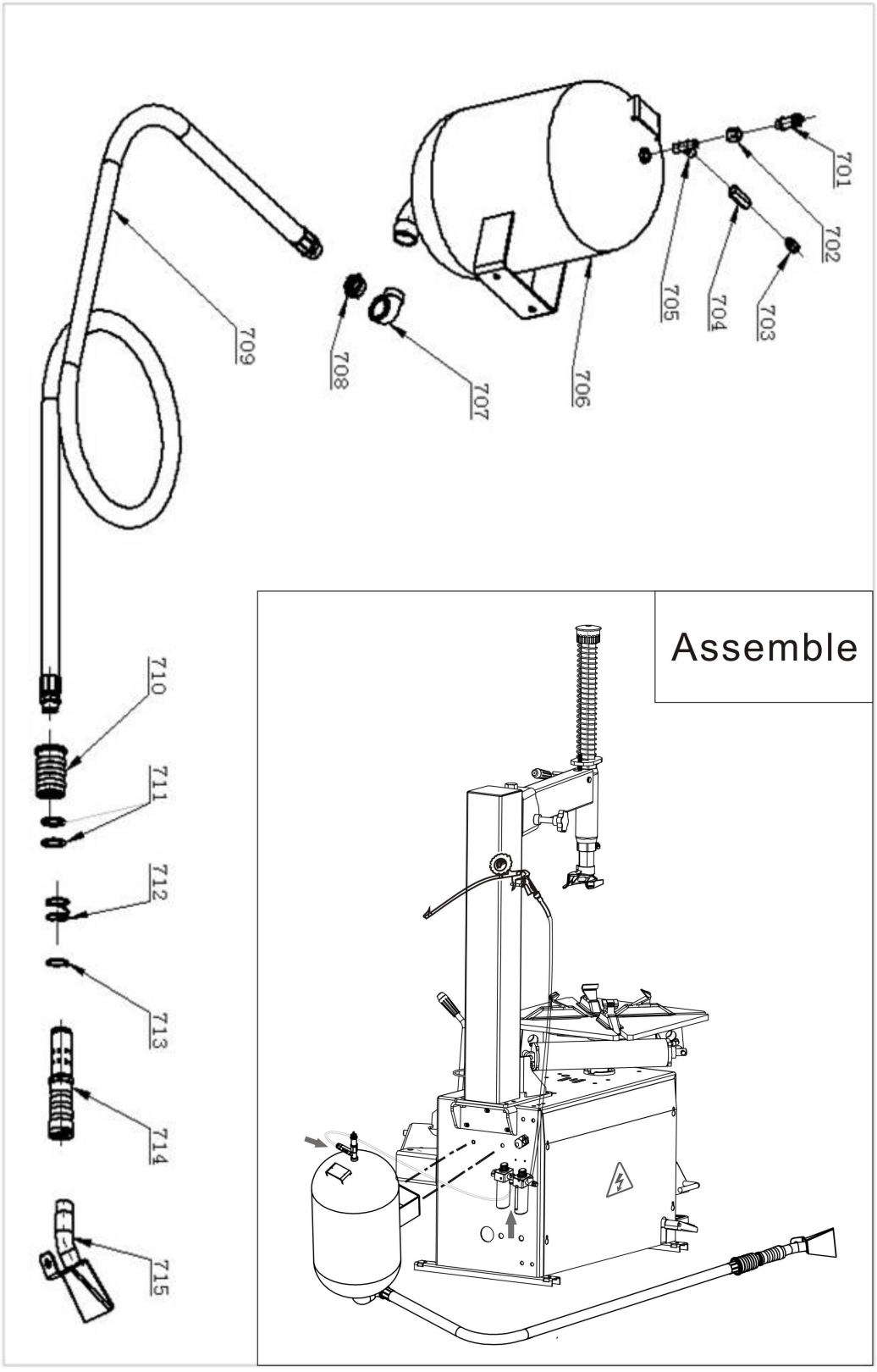


Fig.39

9.7 Simple left help arm(Optional)

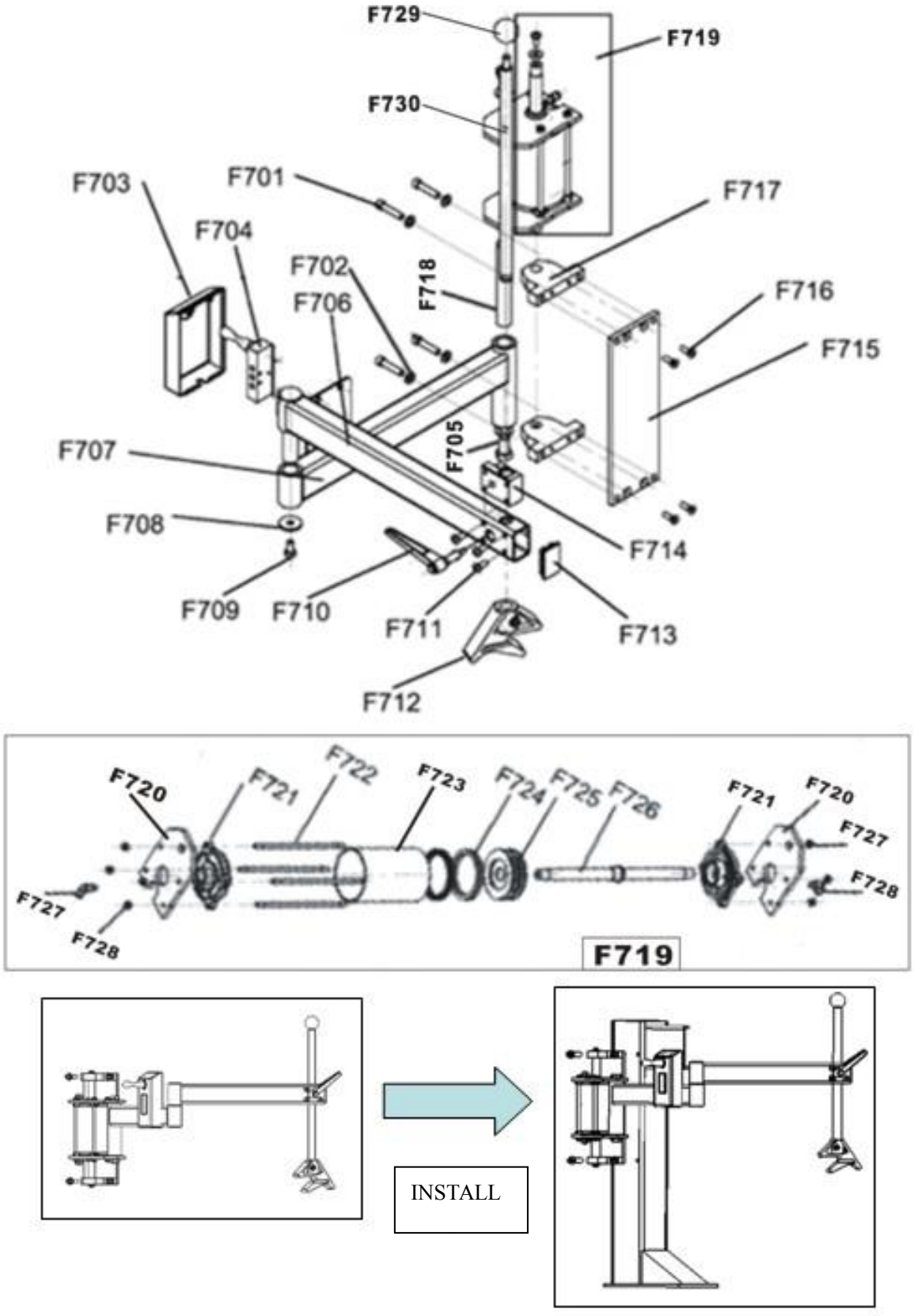


Fig.40

Structure:

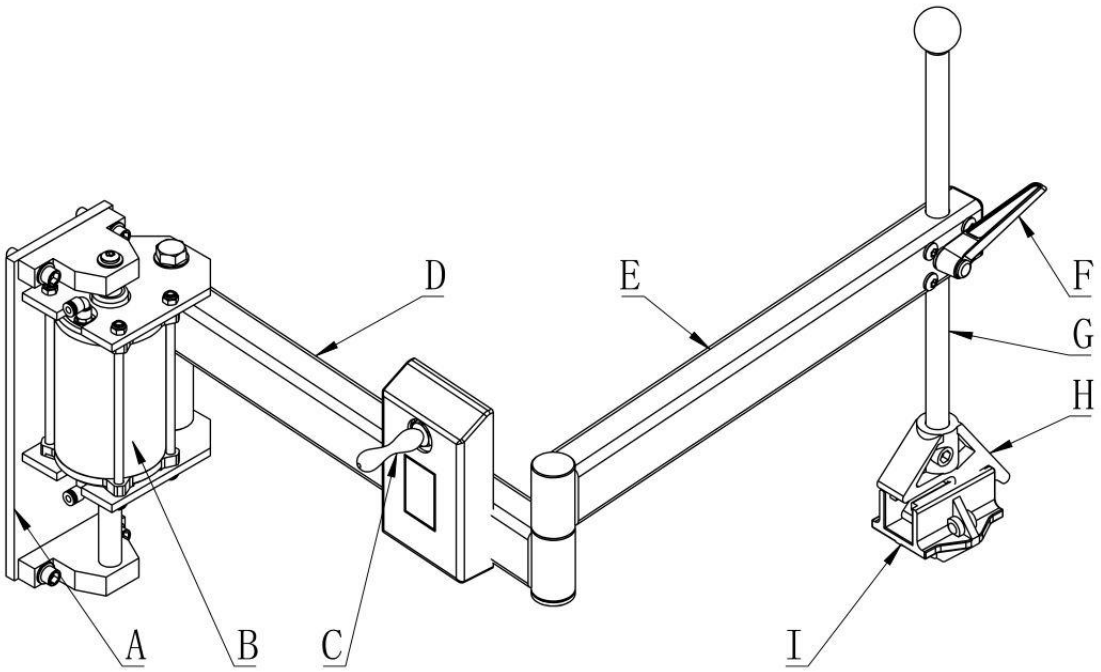


Fig. 1

The main operating parts are shown in Fig.1

No.	Item	No.	Item	No.	Item
A	Base	D	Arm	G	Adjustable rod
B	Cylinder	E	Extended arm	H	Tire pressing head
C	Up/down switch	F	Locking rod	I	Centering cone

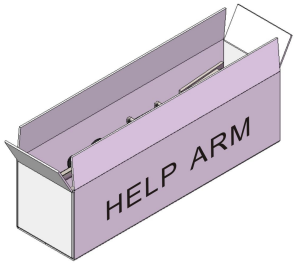


Fig. 2

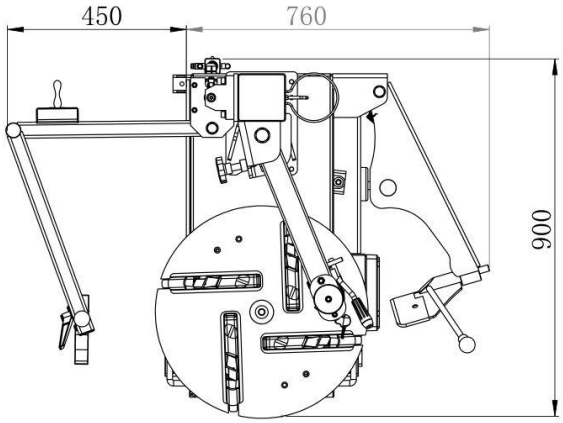


Fig. 3

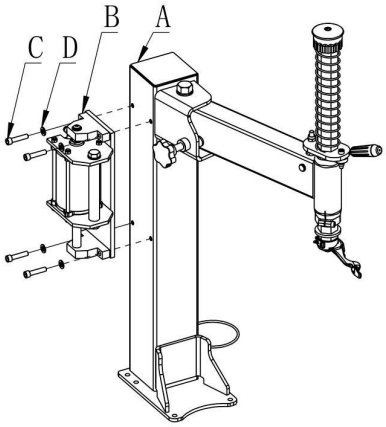


Fig. 4

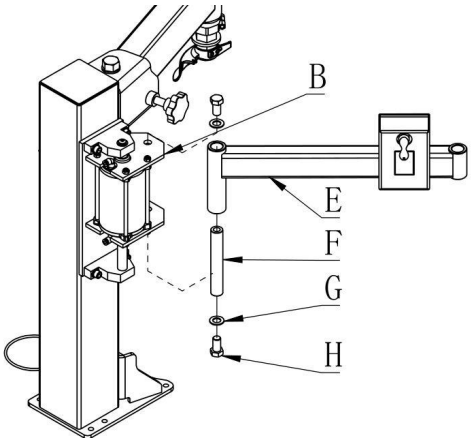


Fig. 5

Installation, air connection and testing

⚠NOTE：

- This arm must be used together with tire changer machine appointed by manufacturer；
- The installation of this auxiliary device should be done by professional personnel；
- Before assembly, disconnect the device from power supply and air source

1 Unpacking（Fig.2）

- When unpacking, check to 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 as soon as possible. Please keep the package out of children's reach.

2 Location size（Fig.3）

- Leave enough space for the operation and maintenance of this arm. Keep no less than 500MM distance around for operation area.

3 Installation

- Fix base B onto left side of post A with 4 pieces screw M10*45 C and washer D (as **Fig**.4)

- Remove F from B and put F into E as. Fig.5, fix arm E into base B with screw H (M16*30) and washer G, fasten it, make sure arm E can be moveable at horizontal direction .

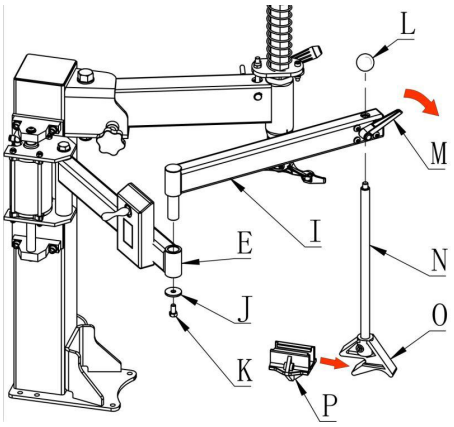


Fig. 6

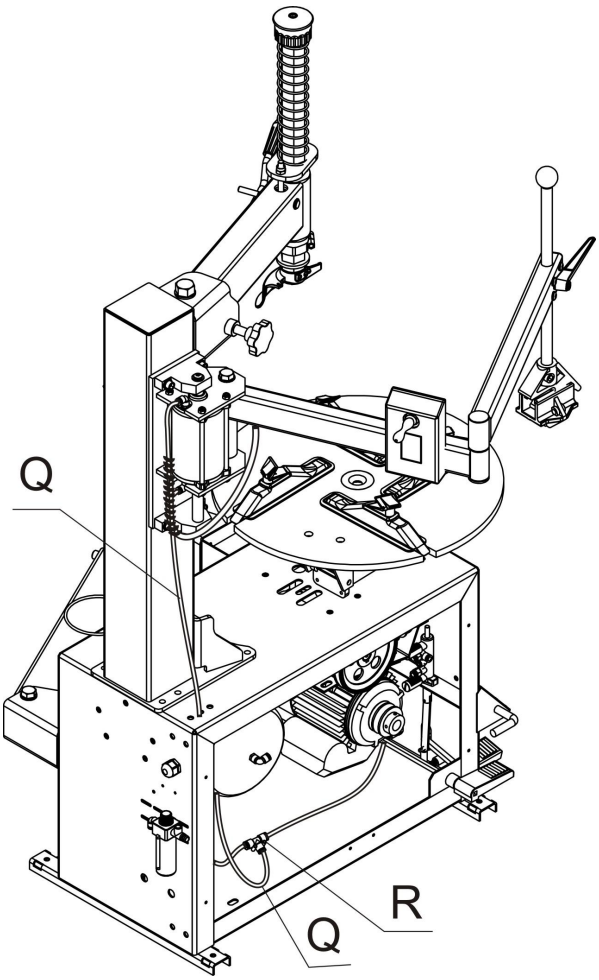


Fig. 7

- Fix arm I into arm E as Fig.6 fasten it with screw K and washer J.
- As Fig.6, loose switch rod M at clockwise, insert rod N into the hole on the arm, lock N with switch M at anti-clockwise, install L into N, install centering cone P into O , arm installation finished.

4 Air connection

- As Fig.7 remove side cover, insert arm air tube O into the frame, connect it with R(if there is no R installed, find it in the box together with the arm)
- Tidy air tube in the frame, put on side cover.

5 Testing

- This arm device must connect with air compressor, and the air pressure from 8 bar to 10 bar is desirable.
- After air connected, pull up/down switch, double check if all parts on the arm working well. Make sure cylinder working upward and downward in accordance with up/down switch.

⚠NOTE：

- Please change the safety signs if it gets blurred or lost；
- Do not operate the machine when safety sign gets lost；
- The safety signs must be kept within the sight of the operator；
- If necessary, you can place warning sign on the machine as picture on the right ⚠

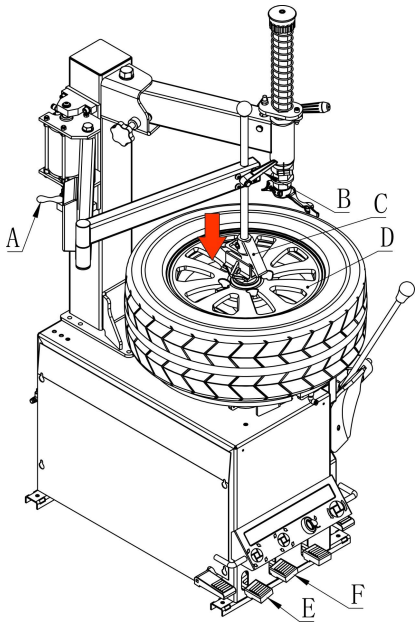


Fig. 8

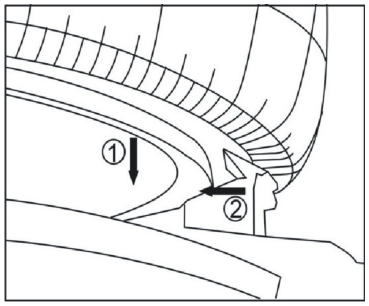
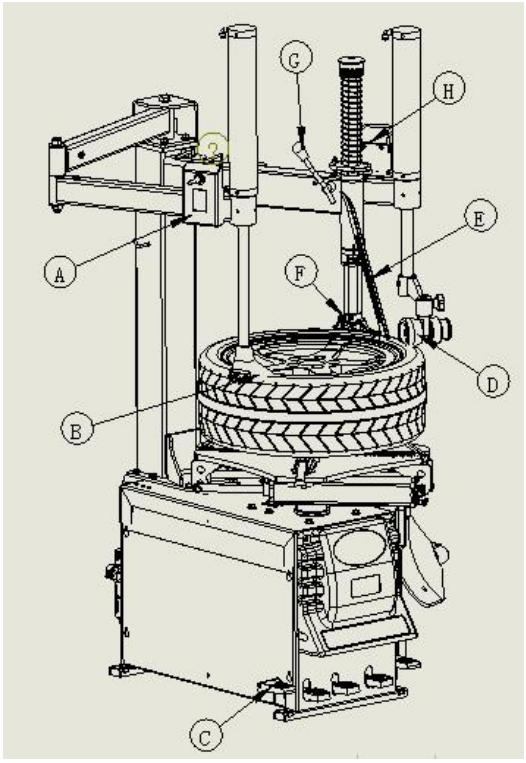


Fig. 9



Operation

- This help arm has been designed to facilitate the operations of tires mounting/demounting. In any case, this device would make these jobs easier on any type of wheel.
- All work on the electrical system, including minor operation, must be carried out by professional qualified personnel ! Check that the electrical supply voltage and air supply is the same as that indicated on the plate of the machine

1 Rim clamping

- As the instruction on the manual, loose the tire from its two sides with shovel and lubricate the tire bead
- Press pedal E, four jaws start to open, and make the jaws open till big enough to clamp the rim, put tire on the turntable. As Fig 8
- Lift switch A and cylinder reach its highest position, pull switch B down to loose rod and let centering cone going to the middle of the rim, pull up switch B to lock rod.
- Pull down switch A and let rim down as Fig,9, again press pedal F to make rim clamped by the four jaws.

⚠NOTE：

- We Suggest clamping rim from outside, not clamping rim from inside (if locking rim inside, damage or danger may occurred, such as tire falling, rim damaged.)。

2 Demounting the tire

2.1 Demounting the upper bead

- Refer to tire changer machine manual, pull swing arm to its working area, release handle G, move pressing roller D onto the tire bead as Fig.10, lock hand G, pull down switch H, loose tire bead ahead of mount/demount head.
- Insert lever E from top of mount/demount head, release pressing roller D and move away its arm, pull down switch A , let B press down tire bead reasonably, press lever E and let upper bead goes onto mount/demount head, depress pedal C to rotate turntable till upper bead comes out of rim.

Fig. 10

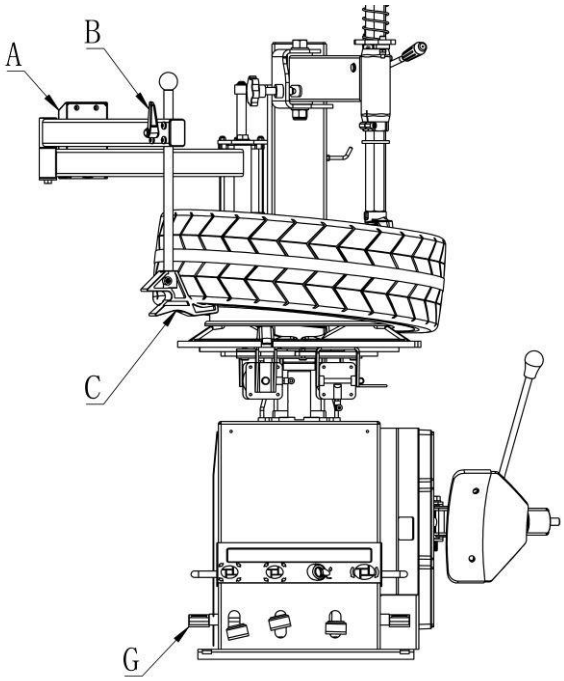


Fig. 11

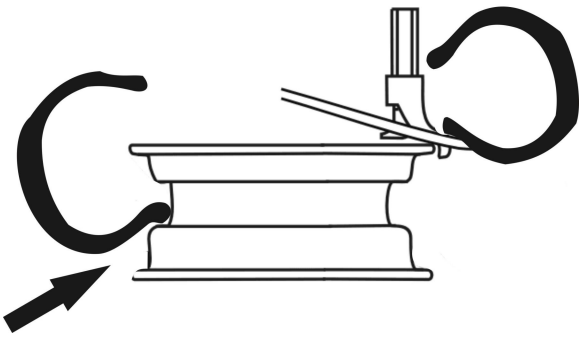


Fig. 12

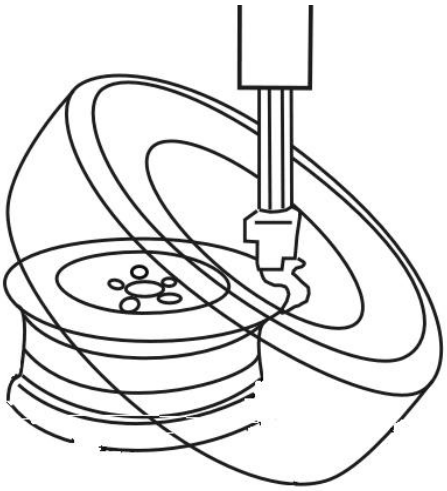


Fig. 13

- After upper bead comes out of rim, C plays important role to lift bottom bead into groove when bottom bead and rim are sticked closely.

2.2 Demount bottom bead

- Lift tire , place the bottom bead into the groove as Fig.12 arrow sign, on the left side, on the opposite side, lift bottom bead onto the ball protuberance mount/demount head with lever tool.
- Depress motor pedal, turntable rotate clockwise till bottom bead comes out of rim.
- Move away swing arm, take down the tire from tire changer machine, demounting finished.

⚠NOTE：

- ***Keep hands and the rest of human body away from the moving parts of the machine. Never wear necklace, bracelet or loose clothes when operating the machine as it may cause danger***

3 Mounting Tire

⚠NOTE：

- ***Check the size of tire and rim to see if they match each other***
-

3.1 Mounting bottom bead

- Clamp the rim tightly in the same way as demounting tire.
- Check the coordination of mount/demount head and rim. Readjust if necessary.
- Lubricate tire bead from both sides
- Put the tire bead on the rim with left part upward, pull back swing arm and place it on its working position as Fig.13

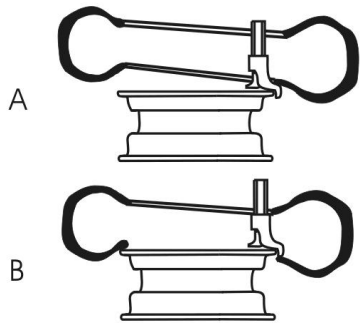


Fig. 14

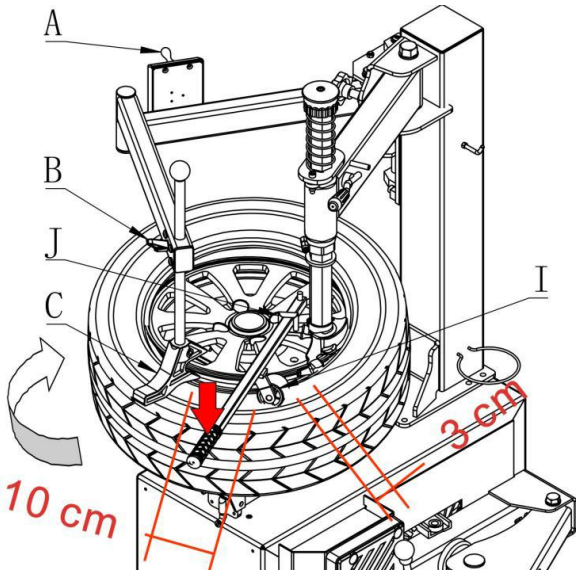
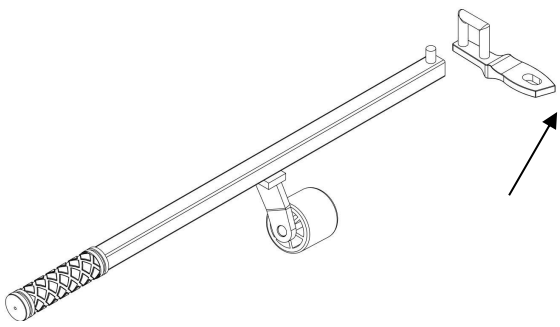


Fig. 15



Optional lever with roller help to press （Optional）

Fig. 16

- Adjust relative position between tire bead and mount/demount head, let the tire bead cross the mount/demount head. At the end of the mount/demount head, the tire bead should be placed on the mount/demount head as fig. 14-A；
  At the beginning of the mount/demount head, the tire bead should be placed under the ball protuberance of the mount/demount head （as fig.14-B）
- Press down the central part of the tire. Depress corresponding pedal to rotate the turntable clockwise, making the lower tire bead fall into the rim groove completely

3.2 Mounting upper bead

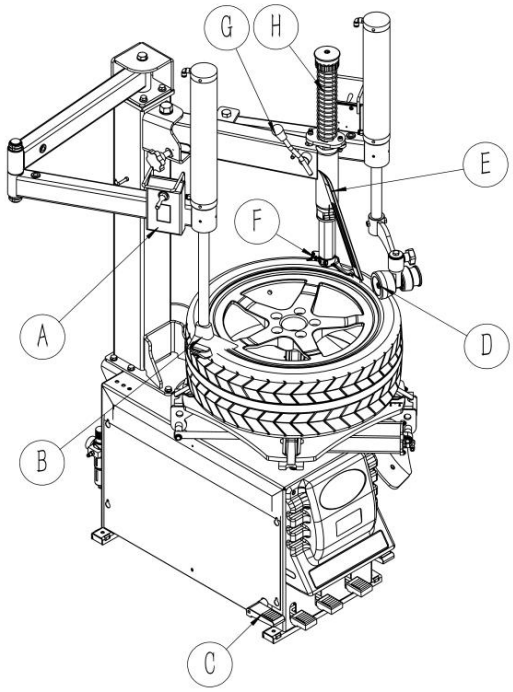
- Adjust relative position between tire bead and mount/demount head(the same as mounting bottom bead)
- Optional lever is recommended to mount low-profile and run-flat wheels. As Fig.16 the arrow sign show, this parts can be installed onto mount/demount head.(Washer on the mount/demount head should be replaced when this optional lever is used.)
- Pull back the pressing roller D to the position as Fig 15, pull down switch A and let the pressing roller press tire bead into groove, the roller I (on the optional lever) also help to press tire bead ahead of mount/demount head 3cm as Fig.15.
- Depress motor pedal and turntable rotate clockwise at one circle till tire upper bead meet the rim, mounting finished.

⚠ NOTE：

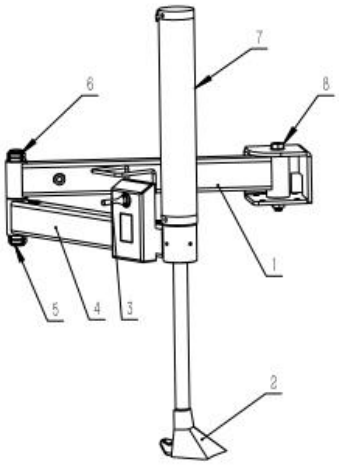
- ***It is extremely important, for the correct functioning of the machine, that when demounting or mounting a tire, the chuck rotates in a clockwise direction;*** anticlockwise is only for correcting the wrong operation.
- People except the operator must stay away from the machine during its operation

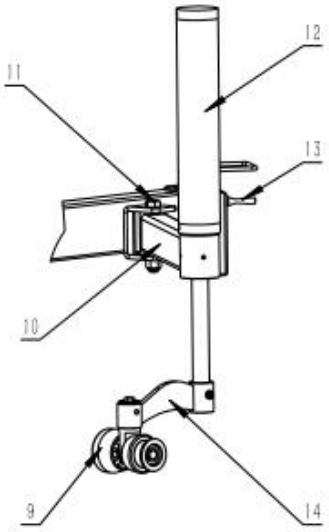
9.8 Simple double help arms(Optional)

Double arm(optional)



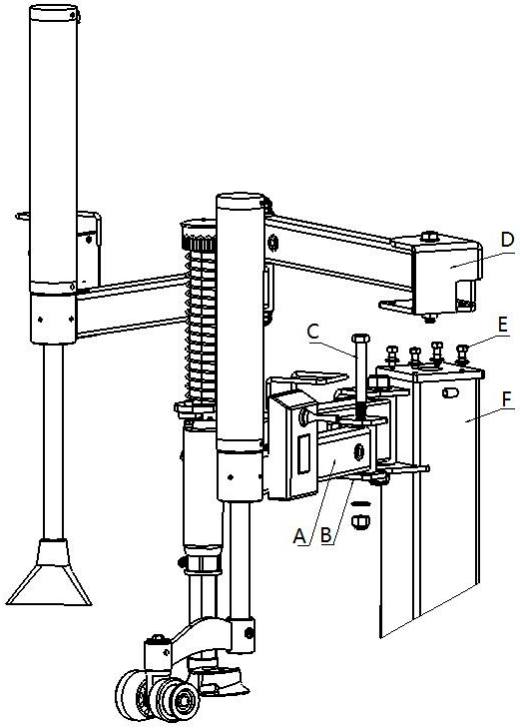
1、Structure:





NO.	ITEM	NO.	ITEM	NO.	ITEM
1	Back Arm	6	Screw	11	Screw
2	Pressing roller	7	Cylinder	12	Up/down switch
3	Valve	8	Screw	13	Valve
4	Front arm	9	Pressing roller	14	Support shelf
5	Screw	10	Right help arm		

2、Installation：



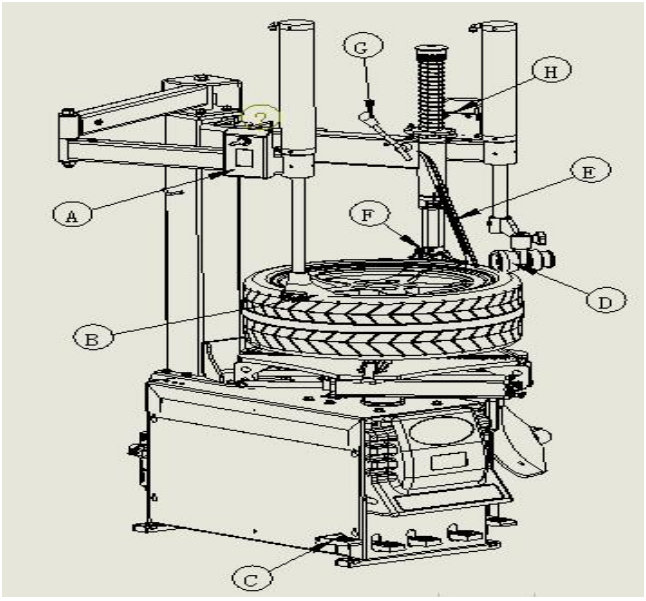


Fig.6-d

●As **Fig.6-d**,open the package, install D onto the post with screw E, fasten it;install A onto B wit h screw C, fasten it,make sure each parts is working well, if not, adjust the gap by fastening or loose the screws.

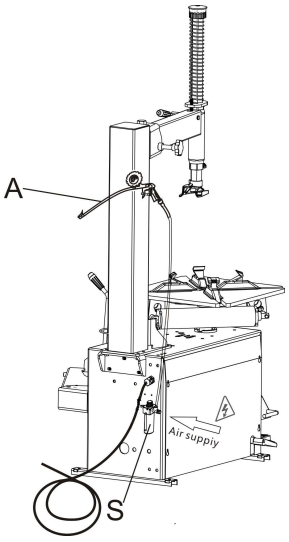


Fig 8-a

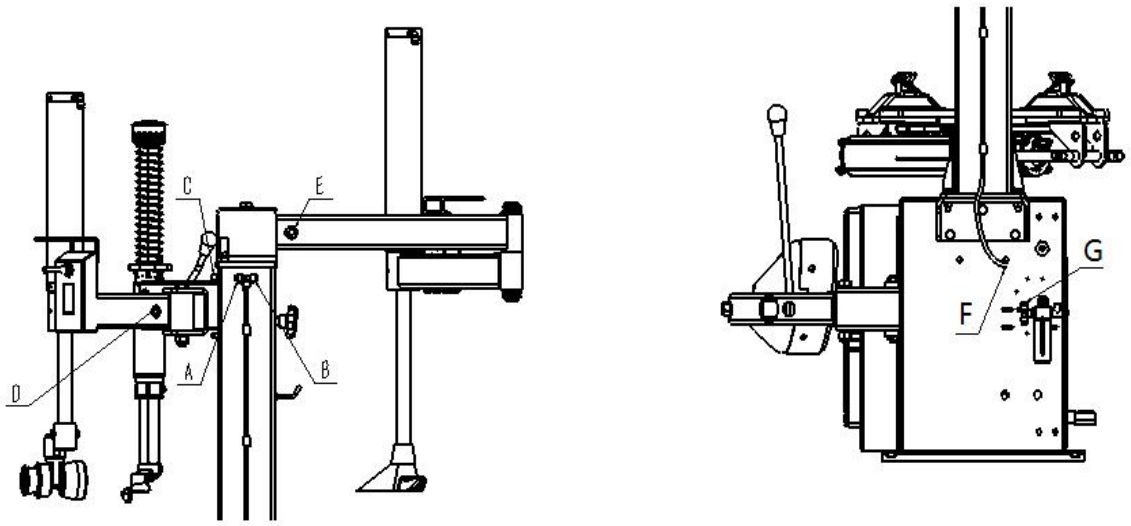


Fig 8-b

●**Air connection:** Connect air inflating air tube (A) with three way connector(make sure it is con nected with upward mouth) on Filter S; hook infalting gun on the post as Fig8-a. Connect air so urce with three way connector(make sure it is connected with horizontal mouth as Fig.8-a the arr ow sign shows). As Fig8-b, D comes out from tube C and connect with A, E connects with B, F c onnects with G.

3、Operation：

This help arm has been designed to facilitate the operations of wheel locking and mounting/demounting. In any case, this device would make these jobs easier on any type of wheel.

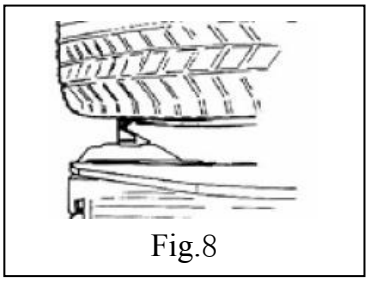


Fig.8

1】Clamping the tire

- Release the beads from both sides of tire as manual stated, clamp the tire from outside (Fig.8). Depress the corresponding pedal to open the jaws till big enough for rim clamping; Put the tire on the turntable, depress the corresponding pedal to close the jaws for clamping the tire.

⚠**NOTE： We Suggest clamping rim from outside, not clamping rim from inside (if locking rim inside, damage or danger may occurred, such as tire falling, rim damaged.)**

2 】Demounting the tire

1）Clamp the rim tightly on the table, loose the tire as Fig.9 when it is necessary.

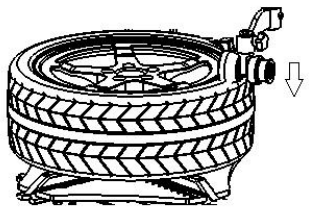


Fig 9

- As Fig 9, let roller press on the tire bead, do not touch the rim, make sure the roller points toward the center of the rim；
- Pull down switch 13, let roller press tire, and depress corresponding pedal to rotate the turntable, then loose the tire totally.

⚠ **NOTE: Lubricate tire bead before operation.**

2）Demounting the upper tire bead

- Move mount/demount head A to the edge of rim, leave pressing roller onto tire bead, pull down switch D and the pressing roller press tire bead downward. Insert lever B onto the ball protuberance of the mount/demount head (as

Fig.10)

- （Fig.11）Lift arm, move away C. Pull left arm and put its pressing head on the tire bead in the opposite of mount/demount head, pull down switch and let pressing roller press tire bead, pull lever B and lift upper tire bead on mount/demount head, make sure lever B is parallel to rim
- Lift left arm, make pressing head out of its working area.
- Depress pedal Z to rotate turntable, demount upper tire bead with the help mount/demount head.

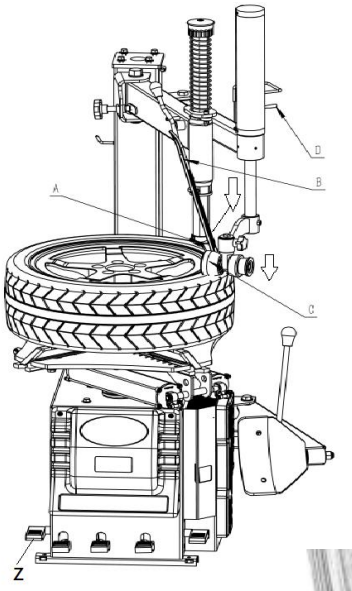
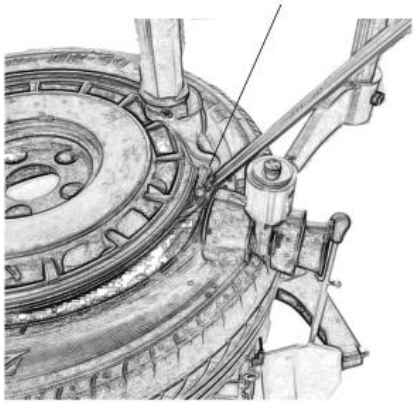


Fig 10

Pay attention the position where the lever inserts into



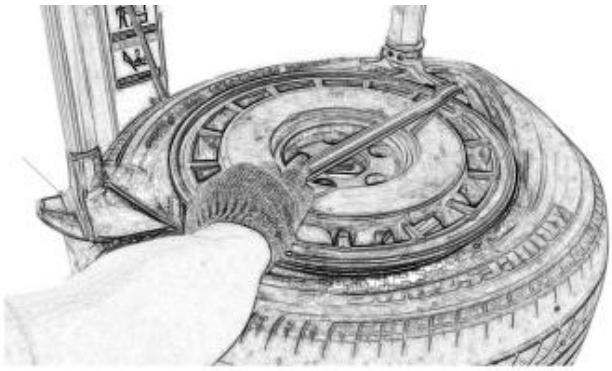
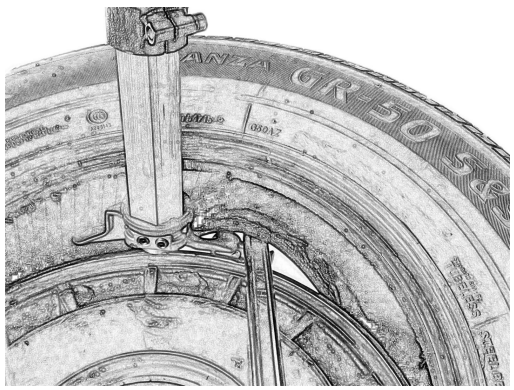


Fig 11

3）Demount bottom tire bead

- For big tires, hook on the left arm could be used to lift tire bead from inside, pull switch upward to lift tire, on the opposite side, insert lever (straight end) to lift tire as Fig.12, make sure the lever is on the ball protuberance of the mount/demount head, then move away arm, depress corresponding pedal to rotate turntable till tire comes out of rim.

Fig 12



3】**Mount tire**

- Lubricate tire bead, put tire on the rim, leave mount/demount head to the edge of rim, depress corresponding pedal to rotate turntable till tire mounted.
- Lift switch upward and arm goes upward, pull pressing roller C onto tire bead; place pressing head to the position as Fig.13 . Pull switch D downward and let arm goes down, leave pressing roller under mount/demount head and press tire bead into the middle of groove, it will reduce the possibility of abrasion for tire bead. As Fig 13

⚠**NOTE：Rim can not be pressed by pressing head and roller during operating, it is very dangerous；**

- Press pedal Z to turn the turntable together with tire pressing head, mount upper bead with the help of mounting head. (as Fig.13)

⚠**NOTE： Stop operation if stuck occurred, to protect tire, lift pedal Z, turntable will go backward. Adjust pressing roller and pressing head, operate as Fig.13 again.**

⚠**NOTE：People except the operator must stay away from the machine during its operation.**

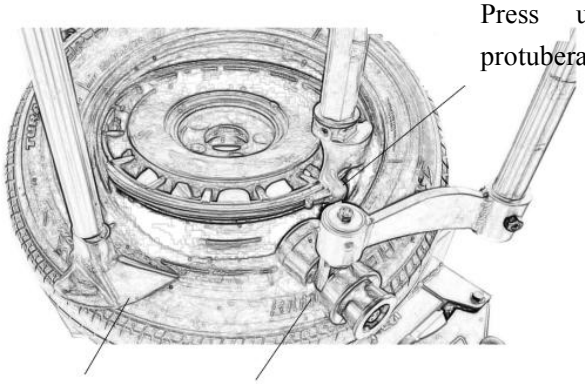
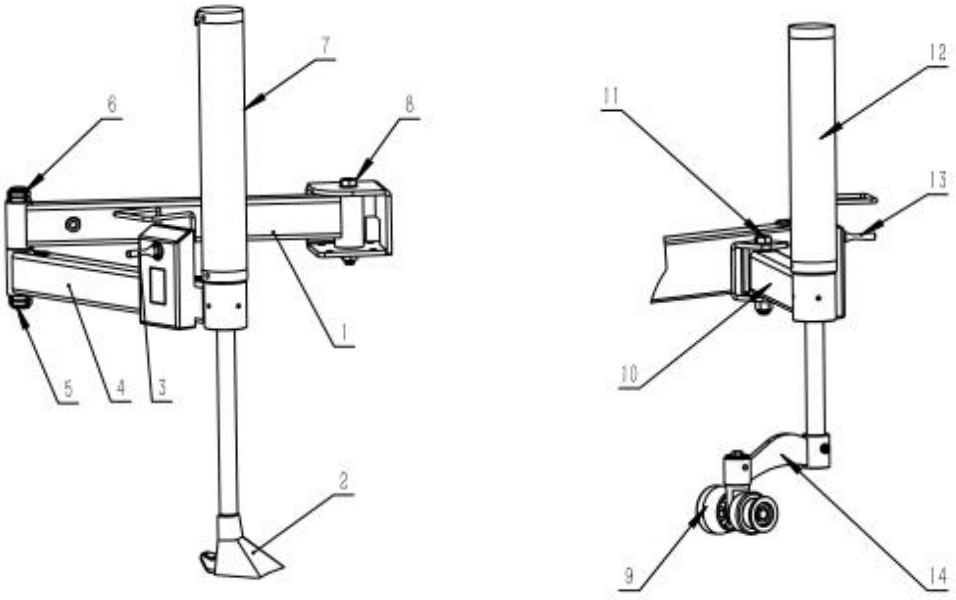


Fig 13

4】**Maintenance**

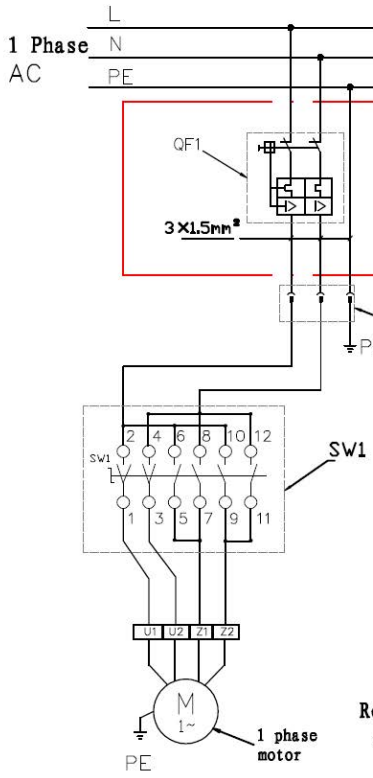


No.	Malfunction	Cause	Solution
1	Gap between back arm and back arm base is big	Abrasion occurred after long time turning	Fasten screw 8
2	Gap between back arm and front arm is big	Abrasion occurred after long time turning	Fasten screw 5 and6
3	Gap between arms is big	Abrasion occurred after long time turning	fasten screw 11
4	cylinder not powerful	Cylinder leakage	Replace cylinder or seals
5	Valve 3 &13 leakage	Seals inside are broken	replace the valve

⚠**NOTE：** **To keep this arm device in good condition and to prolong the work life, it is necessary to do regular maintenance according to the instructions on the user's manual. Ask dealers or manufacturer for help if any question. Otherwise, the normal operation and reliability of the machine will be affected, or personal injury would be caused.**

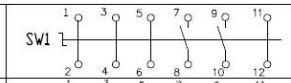
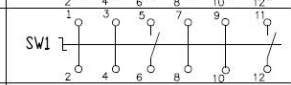
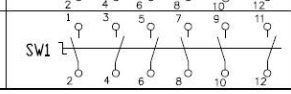
Appendix 1

Electrical Diagram



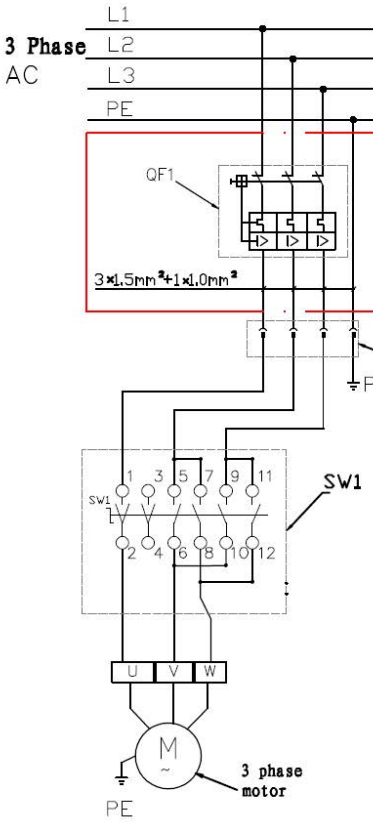
This protective circuit should be fulfiled by the customer

No.	Name	Model	Remarks
QF1	air-break switch	rated current 32 A	
SOCKET	industrial power plug	rated current 16 A	

Switch working diagram		turntable mode
1		clockwise
2		counter-clocewise
0		stop

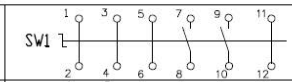
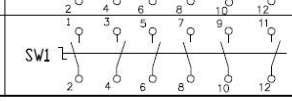
Remarks: if the motor movement is contrary to the rightturning, change the phase wirse(Z1 and Z2).

Fig.40



This protective circuit should be fulfiled by the customer

No.	Name	Model	Remarks
QF1	air-break switch	rated current 20 A	
SOCKET	industrial power plug	rated current 16 A	

Switch working diagram		turntable mode
1		clockwise
2		counter-clocewise
0		stop

Remarks: if the motor movement is contrary to the right turning, change the power any two phase wirse .

Fig.41

Appendix 2

Air Passage Diagram

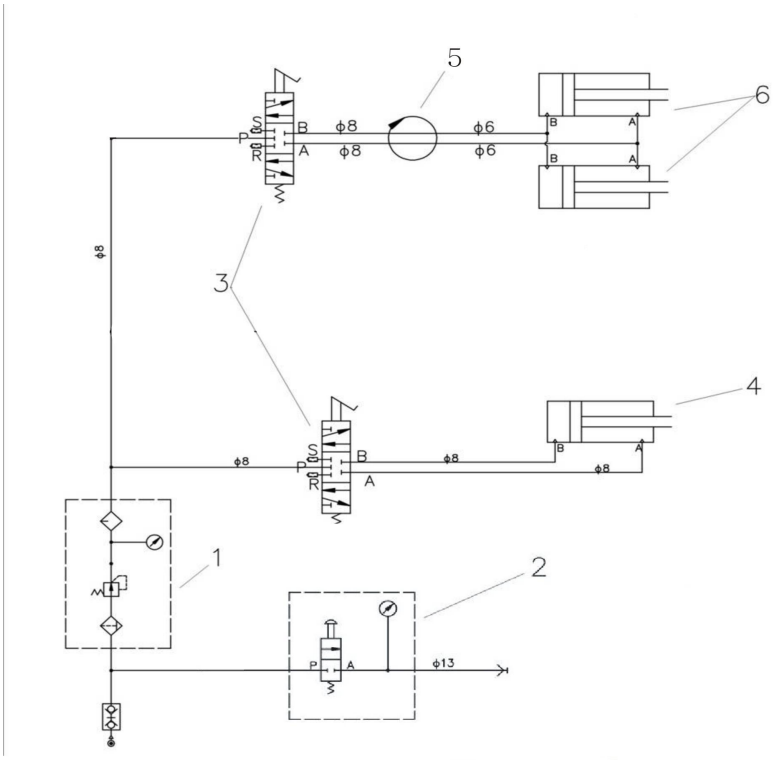


Fig.42

1.	Filter unit FR+L	3.	Five-way valve	5.	Rotating valve assembly
2.	Inflation gun	4.	Bead breaker cylinder	6.	Locking cylinder

Appendix 3

Optional accessory

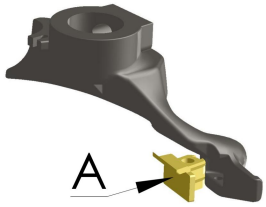


Fig.43

Fig.44

Mounting head for alloy rim (Fig.43)

(Optional)

These are special plastic protectors designed for use light alloy rims.

Motorcycle adaptor（Fig.44）

(Optional)

It can demount and mount 8″ --24″ motorcycle tire. 4 pcs/set