

Jema Autolifte A/S

We are here to surprise!

Product no. DWB-3.2

USER MANUAL



KEEP THE MANUAL NEAR
THE MACHINE ALL TIME
AND MAKE SURE ALL
USERS HAVE READ THIS.

FOLLOW THE INSTRUCTIONS
CAREFULLY TO GRANT THE
MACHINE A CORRECT
FUNCTION AND LONG SERVICE
LIFE.

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Tyre Changer

Warning:

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

1. Introduction:

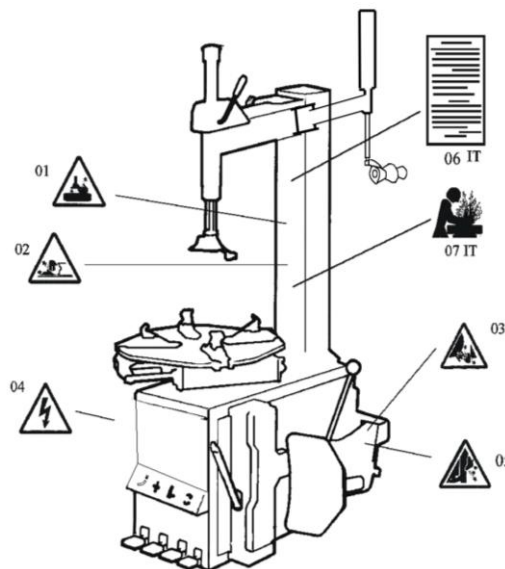
Application Range: The semi-automatic tyre changer is especially designed for demounting / mounting tires from wheel rims. This type of machine can demount/mount bigger and heavier tires, dimension of tire rims from 254mm to 762mm. The tire installation base is different with the traditional turntable 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	10" - 30"
Max. Wheel diameter	1000mm (40")
Max. Wheel width	406mm (16")
Working Pressure	8-10bar
Power supply	220V (1ph)
Optional Motor power	1.1 kw
Max. Rotating Torque (Turntable)	1078 Nm
Overall Dimension	1130*900*1030mm
Noise Level	<70 dB

Remark:

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

4. Transport:

When transporting, the machine should be with original package and placed according to the mark on the package.

For the already packaged machine should be handled with a corresponding tonnage forklift for loading and unloading. The location where 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.

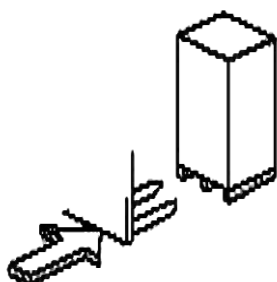


Fig 1

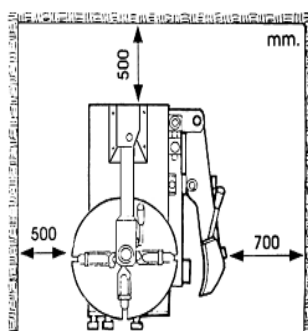


Fig 2

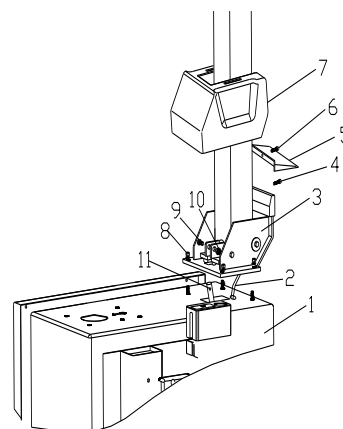


Fig 3

7. Position and installation:

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

1) Tools preparation

2) Place the tilting seat (3, Fig 3) on the body (1, Fig 3) with 4 bolts (M12), push air hose (2, Fig 3) through the hole of the column. Tighten 4 self-locking nut(8, Fig 3).

3) Insert screw (9, Fig 3) into the holes of both column and tilting cylinder shaft (11, Fig 3), tighten it with self-locking nut (10, Fig 3).

4) Unscrew the two bolts on the left cover and remove the cover, connect air hose (2, Fig 3) previously mentioned to the side holes which control the tilting 5-way valve. Fix the left cover.

5) Fix the plastic cover (7, Fig 3) with two bolts (4, Fig 3).

6) Mount the plastic back cover (5, Fig 3) on the column with screw (6, Fig 3).

8. 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.

9. Adjusting operation:

(H): Tilting pedal

(Z): Rotation pedal

(V): Rise-fall Pedal

(U): Bead Breaker pedal

Tread the Rotation Pedal (Z), Tire installation base assembly clockwise rotation;
Lift up the Rotation Pedal (Z), Tire installation base assembly counterclockwise rotation.

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

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

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

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

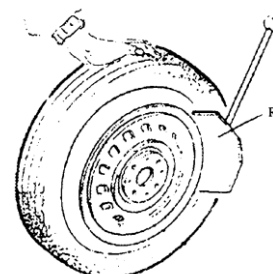


Fig 7

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.

Operation of tyre changer consists of three parts:

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

See 006B & 057 help arm section for more detail.

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.

10. 006B helping arm application:

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

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

10.1 Technical Data

Work Pressure	8~10 bar
Weight	80kg
Package dimension	1230*450*350mm
Noise Level	LpA<70dB

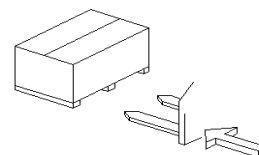


Fig 5

10.2. Safety Regulations

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

10.3. Installation

Notice!

The installation of this auxiliary device should be done by professional personnel.

Before assembly, disconnect the device from power supply and air source.

10.3.1. Transport

Move the device with a forklift truck as illustrated in Fig 5.

10.3.2. Unpacking

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

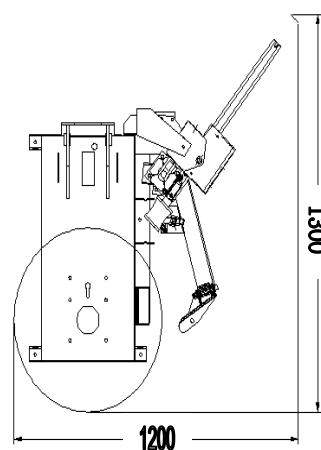


Fig 6

10.3.3. Workplace Requirement

Fig 6 shows the minimum distance (mm) from walls after assembly this auxiliary device. Please choose the right place to install it. And note keep at least 500mm from all direction for operation.

10.3.4 Assembly

- 1) Disconnect the tire changer from power supply and air source.
- 2) Install the column 3 with screw 1 and 2; install the support 5 of the auxiliary arm with screw 4; (Fig 7)
- 3) Install the help arm 6 with nut 7 and screw 9, then tighten 4、7、8、9 (Fig 7 、 Fig 8) ;
- 4) Install the Rotating arm (A)、Hexagonal horizontal arm (B) and Tire lifting roller support (C) separately on the tire changer;(Fig 9)
- 5) Install the tire lifting roller (D)、 the switch (E)、 tire pressing head (F) and tire pressing roller(G) separately on the tire changer;(Fig 9)
- 6) Connect the air hose to the corresponding joint through the rear hole of the body.

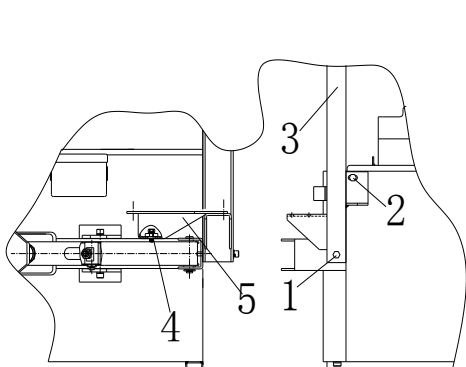


Fig 7

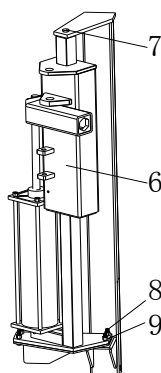


Fig 8

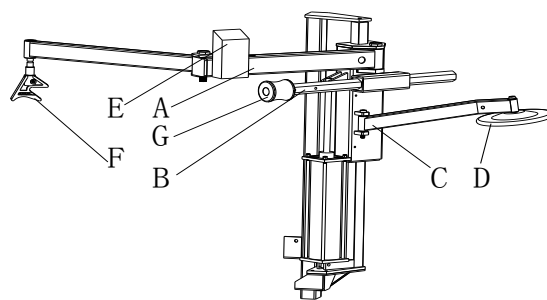


Fig 9

10.4. Functional Parts

Fig 9 shows functional parts to the 006B device:

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

10.5. Trial operation

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

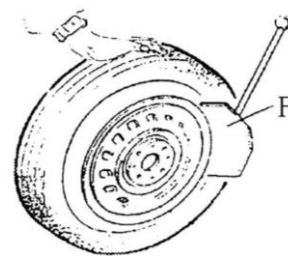


Fig 10

10.6. Operations

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

10.6.1. Breaking the tyre bead:

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

10.6.2. Fixing the tire

Exhaust the air in the tyre completely, remove the valve core, put the tire on the tire lifting device (Fig 11), tread the rise-fall pedal, and the tire lifting device will lift up the tire. (Fig 11) Push the tire to the tire installation base when the tire lifting support is 90° with the machine body. Tread the rise-fall pedal again down the tire, and adjust the auxiliary rotating rod of tire installation base which should be alignment with the fixing hole of tire rim. Input the tread shaft, positioning the tire with the appropriate cone, and then fixing the tire with the quick release nut shown as the Fig 12.

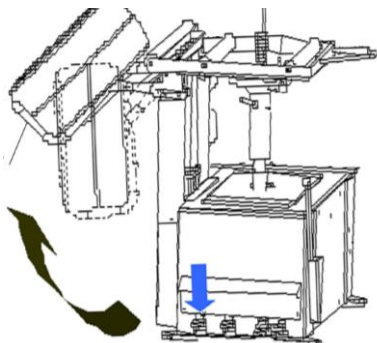


Fig11

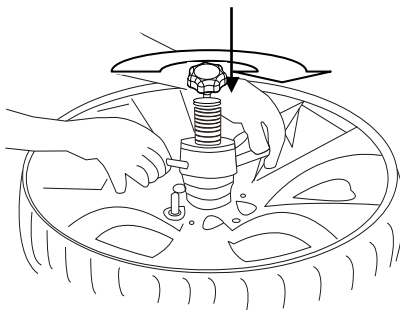


Fig 12

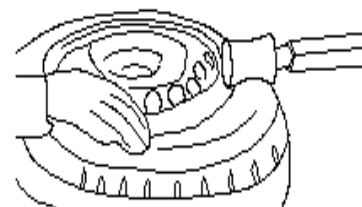


Fig 13

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

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

10.6.3. Demounting the tire

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

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

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

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

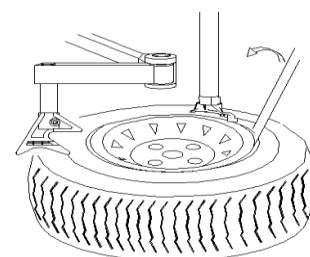


Fig 14

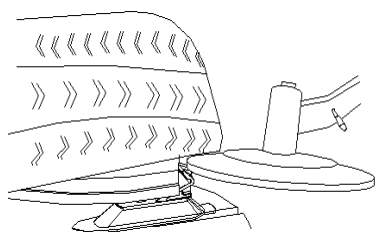


Fig 15

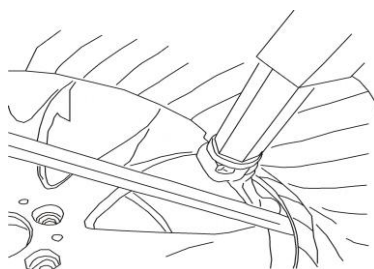


Fig 16

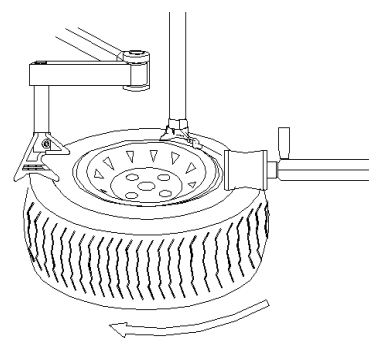


Fig 17

-2. Demounting the upper bead

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

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

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

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

-3. Demounting the bottom bead

Turn the roller support and move it under the tire, but don't touch it with the rim.; (Fig 15) Tread the power supply pedal to rotate the tire, meanwhile, lift help arm gradually to loosen tire and completely demount the bottom bead. Caution: The roller support can't be used for all tires, some tires need following operation: Move the mounting head above the rim; Insert the lifting lever in the clearance between the bottom tire bead and the rim, have the tire hung on the mounting head(Fig 16); Tread the power supply pedal to rotate the turntable. With the help of the mounting head, the tire is detached completely.

10.6.4. Mounting the tire

Lubricate the tire bead and rotate the turntable, mount the bottom bead with the mounting head; Pull the hex rod out, press the upper bead under the mounting head 5mm with the tire pressing roller, rotate the rotating arm and move the tire pressing block above the tire; Don't touch with the rim in the operation, or it causes damage on the rim due to friction. Tread the power supply pedal to rotate the turntable and the tire pressing block, lower the help arm to press the tire under the rim. Mount the tire with the mounting head. Please pay attention to the safety in the process of operation. (Fig 17)

11. Help Arm 057

The help arm 057 is an auxiliary device for tire changer, it is used to help to demount and mount tires.

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

11.1 Technical Data

Work Pressure	8~10 bar
Weight	100kg
Package dimension	1550*310*550mm
Noise Level	LpA<70db

11.2. Safety Regulations

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

11.3. Installation

Notice!

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

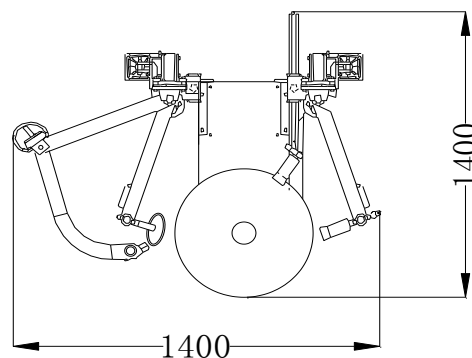


Fig 19

11.3.1. Transport

Move the device with a forklift truck as illustrated in Fig18.

11.3.2. Unpacking

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

11.3.3. Workplace Requirement

Fig19 shows the minimum distance (cm) from walls after assembly this auxiliary device. Please choose the right place to install it. And note keep at least 500mm from all direction for operation.

11.3.4 Assembly

Please install the 057 help arm on the machine body as following steps:

- 1) Disconnect the tire changer from power supply and air source.
- 2) Install the column on the body with four screw 1; Adjust support 2 to right position (Fig 20)
- 3) Connect the air hose to the corresponding T-joint through the rear hole of the body.

11.4. Functional Parts

Fig 21 shows functional parts of the 057 device:

- D- big adjust handle
- E- tire lifting roller
- F-rise-fall switch
- H-adjustable thread rod
- G-tire pressing head shaft

11.5. Operations

Mounting and demounting big flat tire is difficult work. With the help of 057 help arm to mount/demount the tire from the tire bead will make the operation easier. It is a good helper for tire changer.

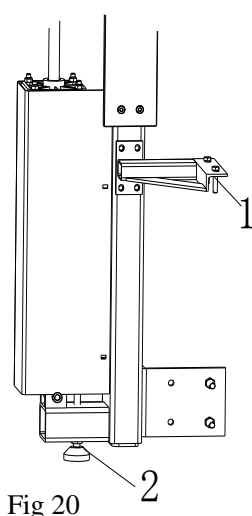


Fig 20

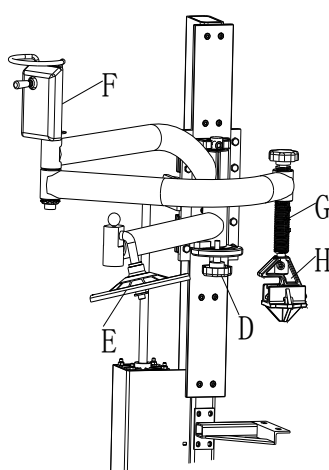


Fig 21

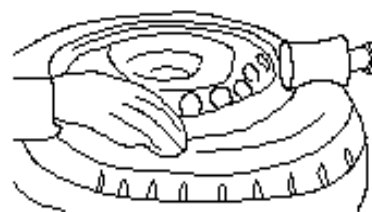


Fig 22

11.5.1. Fixing the tire

Exhaust the air in the tyre completely, remove the valve core, put the tire on the tire lifting device(Fig 11), tread the rise-fall pedal, and the tire lifting device will lift up the tire. (Fig 11)Push the tire to the tire installation base when

the tire lifting support is 90° with the machine body. Tread the rise-fall pedal again down the tire, and adjust the auxiliary rotating rod of tire installation base which should be alignment with the fixing hole of tire rim. Input the tread shaft, positioning the tire with the appropriate cone, and then fixing the tire with the quick release nut shown as the Fig 12.

11.5.2. Demounting the tire

1). The flat tyre will be tight, loosen it with the bead breaker, Pull out the tyre pressing rod to make the tyre pressing roller above the tyre without touching the tyre rim. Lower the tire pressing roller by switch handle to press the tyre.

Tread the pedal to rotate the tire. Loosen the bead during this procedure. Fig 22

Notice: Lubricate the bead before your operation.

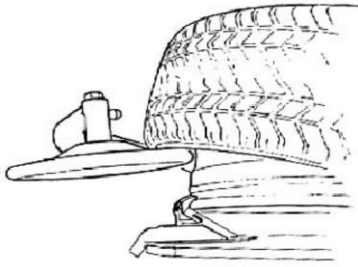


Fig 24

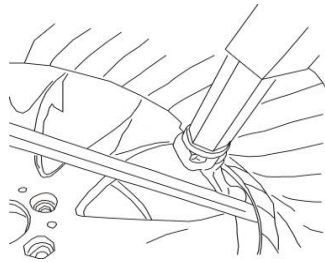


Fig 25

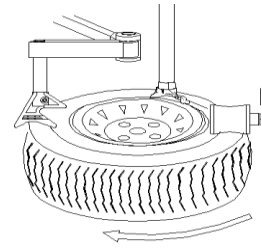


Fig 26

2). Demounting the upper bead

Close the demount/mount head near from the tire as the manual stated.

Move the tire pressing head (upper) near from the demount/mount head, down the rise-fall switch handle to press the bead with the tire pressing head (upper) so as to place the demount/mount head. Insert the lifting lever; hang the bead upon the demount/mount head. (Fig24 & 25).

Raise the auxiliary arm, mount the tire pressing head (upper) on the tire pressing arm and rotate it to the opposite side of the mounting head. Press the tire with the switch handle to create enough space;

Tread the rotation pedal, make the tire rotate, demount the upper bead with the help of the demount/mount head .

Raise the auxiliary arm and push it to non-working position;

3). Demounting the bottom bead

Move the tire lifting roller to under the tire without touching the rim; (Fig 24) depress the corresponding pedal to turn the turntable in clockwise direction, in meanwhile, lift up the help arm slowly, until the bottom bead detach from the rim completely.

11.5.3. Mounting the tire

Lubricate the tire bead before the operation, mounting the upper bead by the mounting head, pull out the horizontal pushing arm, press the tire below the mounting head 5 mm with the tire pressing roller, Rotate the roller support to move the tire pressing roller above the tire; Pay special attention to this procedure. Make sure the tire pressing head (upper) and tire pressing roller don't touch the rim. Or it will cause damage to the rim caused by friction. Tread the corresponding pedal to turn the turntable in clockwise direction. Then the tire pressing head (upper) rotate together with the turntable to mount the tire.

In the operation, please pay attention to safety, prevent human body injury. (Fig

26)

12. Inflating the tyre:

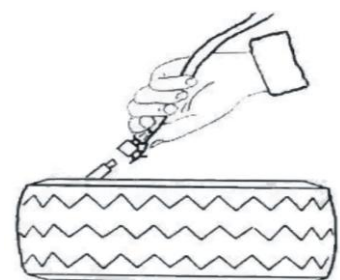


Fig 27

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.

Note: A wheel can explode if:

- 1). the diameter of the rim is not exactly the same at the tires.
- 2). the rim or tyre is defective.
- 3). the tyre is inflated to a pressure higher than the maximum recommended by the manufacturer.
- 4). the operator does not observe the requisite safety regulations.

Inflation for tire as follows:

- 1). Remove the valve stem.
- 2). Check to be certain that tire and rim diameter correspond.
- 3). Check to be certain that rim and beads are sufficiently lubricated.
- 4). Press the pedal down to the middle position to start inflation.
- 5). If the bead of the tyre is not well seated, due to a strong bead, lift tyre manually until the upper bead seals against the rim, then press the pedal all the way down. A strong jet of air will be released through the nozzles in the slides and this will help the bead seal.
- 6). Release the tyre, set the pedal back to the middle position and continue to inflate the tyre to the required pressure. If the air pressure is too high, press the button under the manometer for release the rest air until the correct pressure is reached.

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

Keep hands and your body away from inflating tires.

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

Rapid tyre inflation system:

- 1) Confirm rapid inflating pipe is good before operation.
- 2) After confirmation, straighten out rapid inflating pipe.
- 3) Operation method:

Pry the valve switch counterclockwise (Fig 28.A), open the explosive inflating head.

Pry the valve switch clockwise (Fig 28.B), close the explosive inflating head.

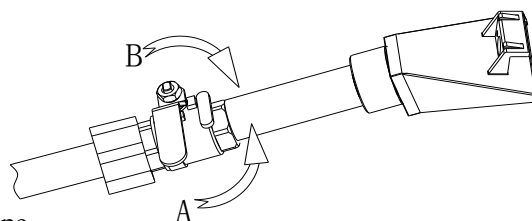


Fig 28

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 29)

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

Note: If Vertical Arm not be locked or not meet the requirement that 2-3mm from the bottom of Mounting head/demounting head to rim, please adjust Hexagonal Locking Plate, refer to Fig 30 and adjust the (X).

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

1. Remove the left side cover of the machine body by unscrewing the two screws;
2. Loosen the valve mufflers (A) which belong to Jaws open and close Pedal and Bead Breaker Pedal;
3. Clean the mufflers with compressed air; please replace it referring to the spare parts list if it is damaged. (Fig 31)

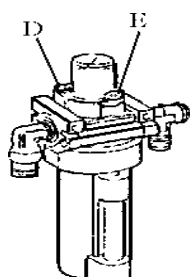


Fig 29

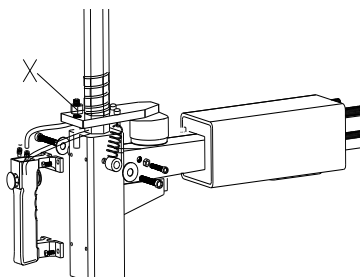


Fig 30

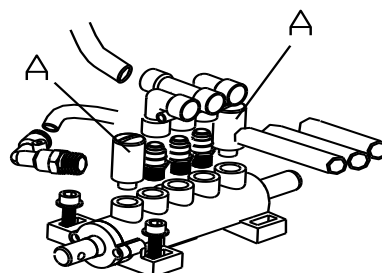


Fig 31

15. Trouble shooting table:

Problem	Reason	Solution
The tire installation base assembly rotate just in one direction or can't rotate.	Reverse Switch broken	Replace the Reverse Switch
	The Motor's malfunction	Check the motor cable or terminal block wire; Replace the motor if it was broken.
The demount/mount head always touch the rim during operation.	The locking plate incorrectly adjust or unqualified.	Replace or adjust it.
The Bead Breaker 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. Guide for ordering spare parts

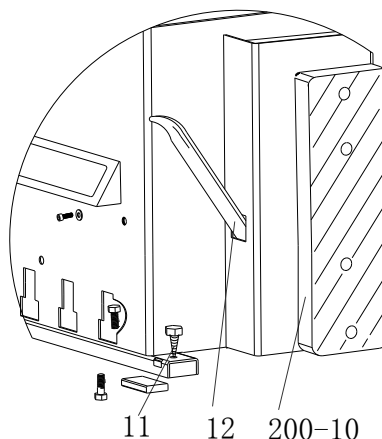
16.1. Firstly, the damaged or ordered sample should be gained and confirmed the quantity of spare parts

16.2. Confirm the replaced parts specification, avoid wrong order.

The confirmed method showed as following:

According to the use range and place position of parts, find out the codes of parts in the exploded drawing (section 18) from the manual.

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



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

11	B-027-060401-0	Grounding screw M6x40
12	C-200-580000-0	Lifting level
200-1 4	C-200-510000-0	Bead breaker arm rubber

The recorded information:

1	C-200-580000-0	Lifting level
2		

16. 3. Gather the detailed information of parts

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

16.4. Please contact the spare parts department and confirm the order.

16.5. After confirming the order with any problem, the spare parts department will deliver the goods for you according to the order.

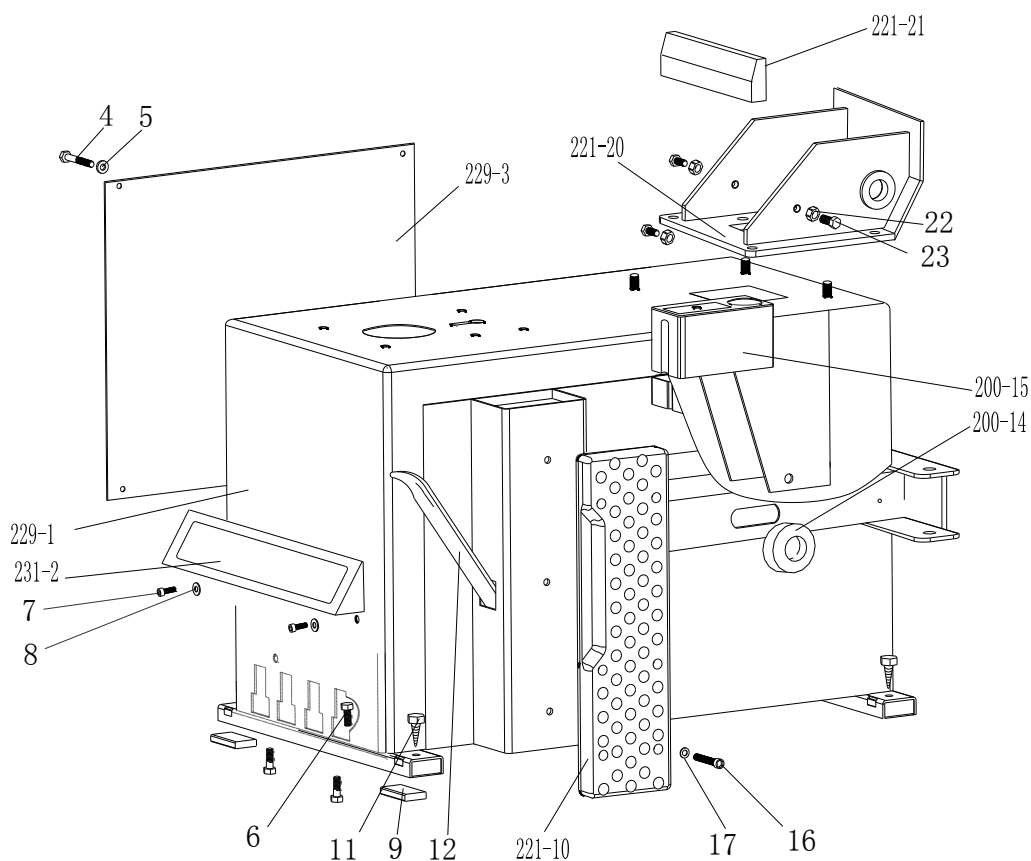
Special statement

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

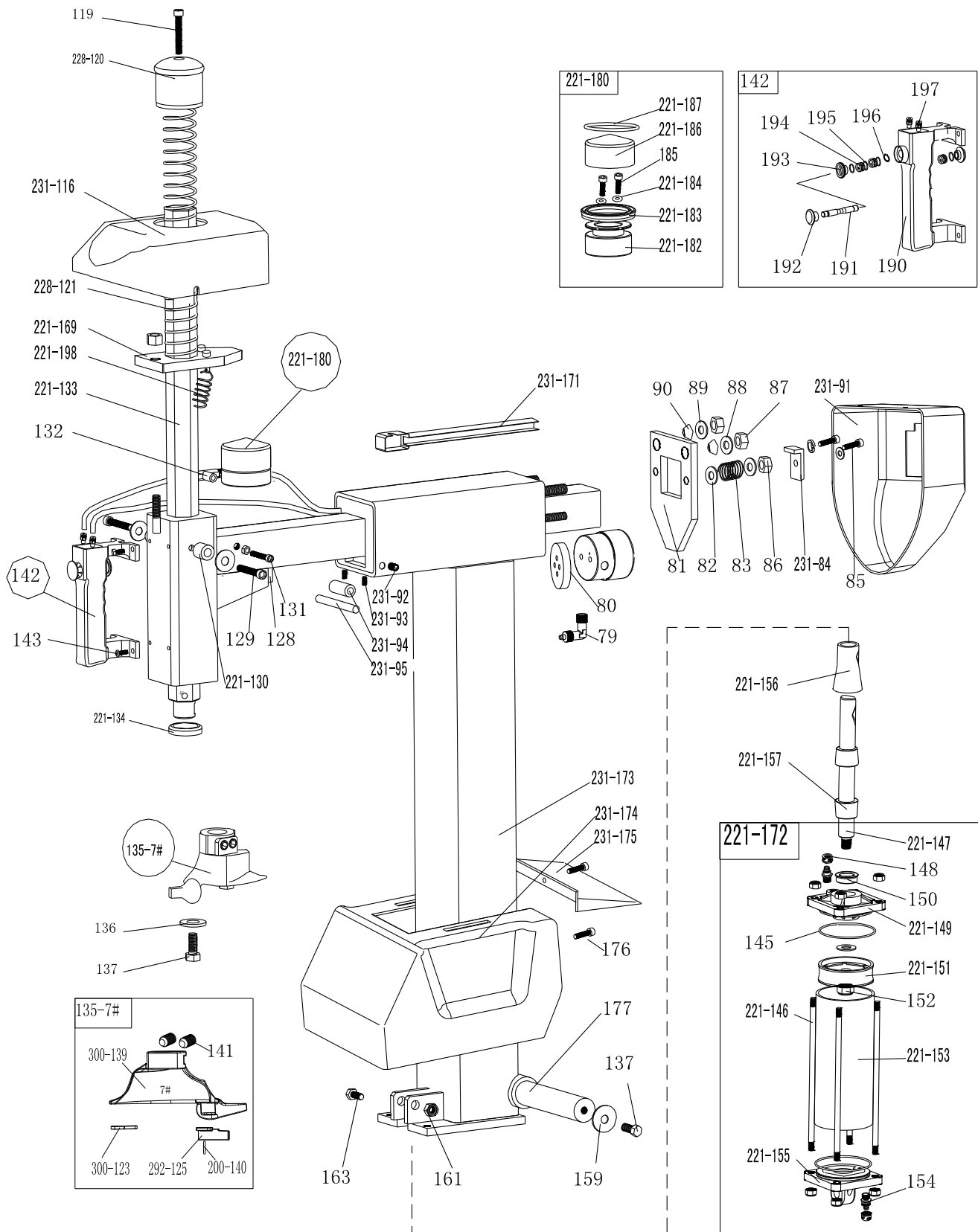
17. Wearing spare parts list

Code	Order code	Name
221-10	C-221-500000-0	Rubber foot buffer
300-123	C-300-150300-0	Mount/demount head protector
292-125	C-2592-150500-0	Mount/demount head protector
145	S-000-068353-0	O seal Ø68.26*3.53
150	S-005-020075-0	V seal Ø20*28*7.5
231-171	C-231-790000-0	hose guide
221-183	S-005-050065-0	V seal Ø60*50*6.5
195	S-000-007265-0	O seal 7.5*2.65
306	S-000-016265-0	O-seal Ø 16*2.65
307	S-000-019262-0	O- seal Ø20X2.65
359	S-005-020075-0	V seal Ø20*28*7.5
228-362	S-000-195265-0	O-seal Ø198*3.1
363	S-005-200184-0	Y-seal D200*184*12
228-365	S-000-180500-0	O-seal 180x5
200-426	S-060-016000-1	Reverse switch
457	S-000-012400-0	O seal 12*20*4
A86	S-030-010400-0	Water discharge valve
811	S-033-330000-0	Oil fog maker 3300

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

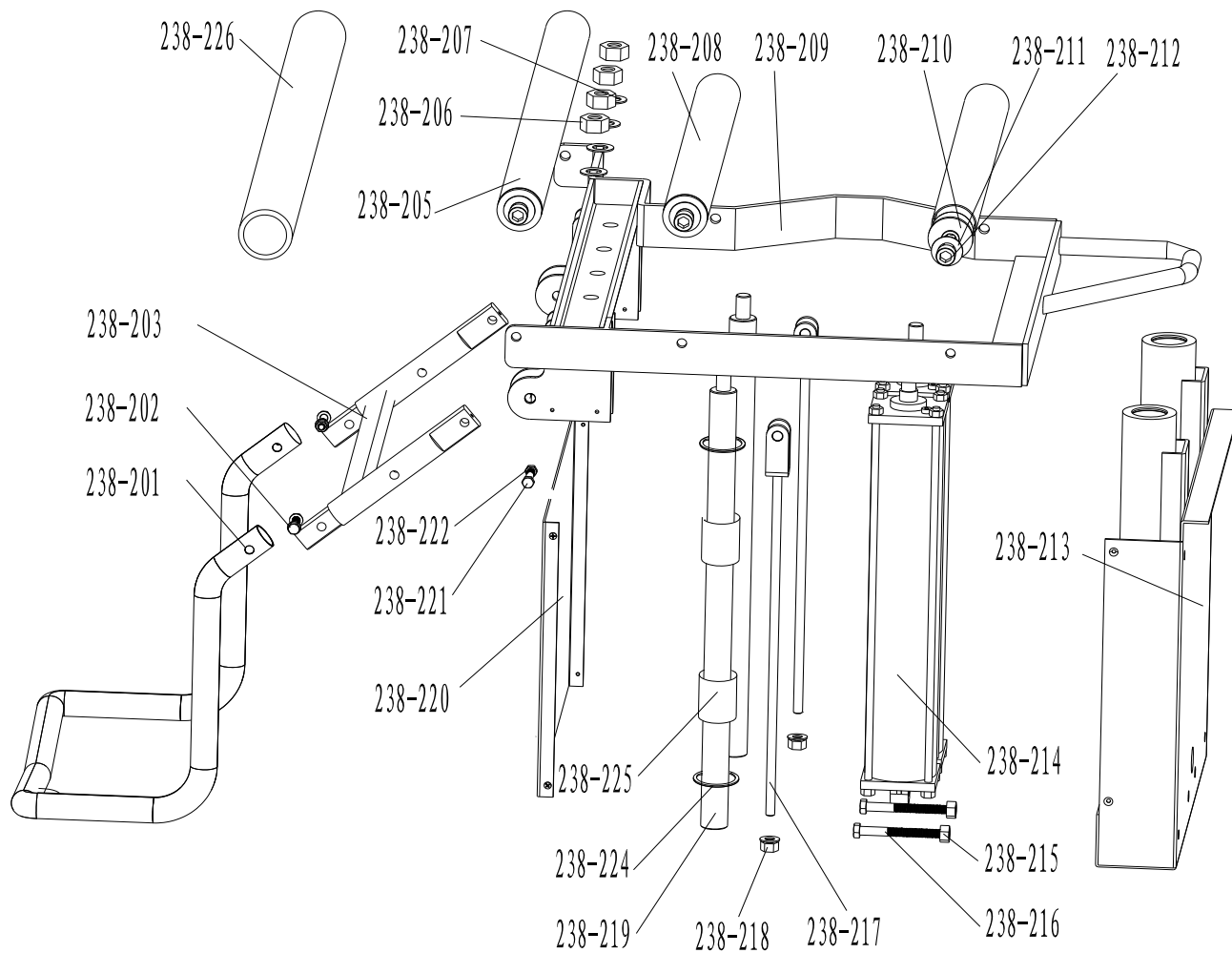
18. Exploded drawing:

229-1	CX-229-020000-WJ	Machine body 229
231-2	CX-231-080000-0	Pedal front cover
229-3	CX-229-020000-WJ	Left cover
4	B-010-060101-0	Hex socket head bolt M6×10
5	B-040-061412-1	Flat washer Ø6*14*1.2
6	B-014-080251-0	Outer hex bolt M8x25
7	B-014-08201-0	Hex socket head bolt M8×20
8	B-040-082220-1	Flat washer Ø8*22*2
9	C-000-001020-0	Rubber foot buffer
221-10	C-221-500000-0	Rubber foot buffer
11	B-027-060401-0	Grounding screw M6x40
12	C-200-580000-4	Lifting lever
200-14	C-200-510000-0	Bead breaker arm rubber
200-15	C-200-470000-0	Oil-water box
16	B-010-080201-0	Hex socket head bolt M8x20
17	B-040-081715-0	Flat washer Ø8*17*1.5
221-20	CX-221-010106-0	Tilting seat
221-21	C-221-820000-0	Tilting protect cover
22	B-001-100001-0	Self-locking nut M10
23	B-014-100251-0	Outer hex bolt M10*25



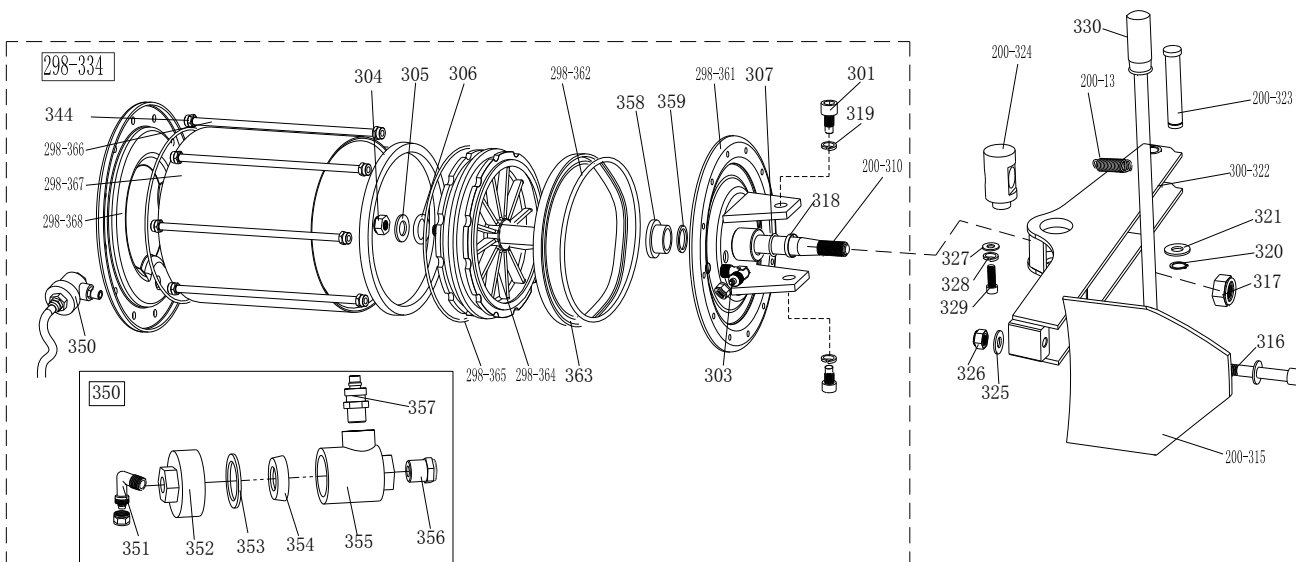
79	S-012-010806-0	Quick union 1/8-Ø6
80	C-221-250600-0	Locking cylinder plate
81	CX-231-190000-0	Horizontal arm locking plate
82	B-040-081715-1	Flat washer Φ 8*17*1.5
83	C-221-410000-0	Horizontal arm locking spring
231-84	CX-231-240000-0	Horizontal arm block
85	B-014-080201-0	Outer hex bolt M8*20
86	B-001-080001-0	Self-locking nut M8
87	B-001-120001-0	Self-locking nut M12
88	B-040-122520-1	Flat washer Φ 12*25*2
89	B-040-122520-1	Flat washer Φ 12*25*2
90	C-221-230000-0	Locking spacer
231-91	C-231-780000-0	Horizontal arm protection back cover
231-92	B-007-100161-0	Hex socket head bolt M10*16
231-93	B-007-080161-0	Hex socket head bolt M8*16
231-94	C-231-251300-0	column side pulley
231-95	C-231-251400-0	column side pulley pin
231-116	C-231-480000-0	Horizontal arm protection front cover
119	B-010-100501-0	Hex socket head bolt M10*50
228-120	C-228-490000-0	Vertical arm cap 228
228-121	C-228-390000-0	Vertical arm spring
128	C-221-200000-0	Shock absorber
129	B-010-060351-0	Hex socket head bolt M6×35
221-130	P-120-260000-0	guide pulley
131	B-010-060161-0	Hex socket head bolt M6×16
132	S-017-010806-2	T-union 1/8-2*O6
221-133	CX-221-160000-0	Vertical arm
221-134	C-228-520000-0	Vertical arm washer
300-123	C-300-150300-0	Mount/demount head protector
292-125	C-2592-150500-0	Mount/demount head protector
135-7#	CW-113-030000-0	Complete mount/demount head 7#
136	CX-200-170000-0	3# Mount/demount head protection washer
137	B-014-100251-0	Outer hex bolt M10×25
300-139	C-300-150000-0	Mount/demount head 7#
200-140	C-200-150400-0	hex round pin
141	B-007-120161-0	Hex socket head bolt M12X16
142	CW-119-021100-0	Complete Pneumatic locking switch
143	B-010-060161-0	Hex socket head bolt M6*16
145	S-000-068353-0	O seal Ø68.26*3.53

221-146	C-221-350900-0	Tilting cylinder threaded
221-147	C-221-350200-0	Tilting cylinder piston rod
148	B-001-080001-0	Self-locking nut M8
221-149	C-221-350100-0	Tilting cylinder cover without handle
150	S-005-020075-0	V seal Ø20*28*7.5
221-151	C-221-550000-0	Tilting cylinder piston
152	B-004-120071-0	Nut (silver) M12*1.5*7
221-153	C-221-350500-0	Tilting cylinder barrel
154	S-010-010806-0	Straight union 1/8-Ø6
221-155	C-221-350300-0	Titling cylinder cover with handle
221-156	CX-221-351000-0	Tilting cylinder piston rod cover
221-157	C-221-350700-0	Titling cylinder rubber sheath 1
159	B-040-104030-1	Flat washer 10*40*3
161	B-001-120001-0	Self-locking nut M12
163	B-014-120651-0	Outer hex bolt M12×65
221-169	CX-221-220000-0	Hex locking board 221
231-171	C-231-790000-0	hose guide
221-172	CW-105-021102-0	Complete titling cylinder
231-173	CX-231-250000-A	Column
231-175	C-231-460000-0	Titling Column back cover
231-174	C-231-450000-0	Column protection cover
176	B-024-050161-1	Cross head screw 5*16
177	CX-221-260000-0	Column shaft
221-180		Complete locking cylinder
221-182	C-221-090100-0	Complete locking cylinder piston
221-183	S-005-050065-0	V seal Ø60*50*6.5
221-184	S-000-006300-0	O seal Ø4*2
185	B-010-060551-0	Hex socket head bolt M6×55
221-186	CX-221-090200-0	Locking cylinder cover Ø60
221-187	S-000-052200-0	O seal Ø52X2
190	C-221-210100-0	Pneumatic handle switch plate
191	C-221-210200-0	Pneumatic handle valve rod
192	C-221-210500-0	Pneumatic valve rod cap
193	C-221-210300-0	Pneumatic handle cover
194	C-221-210400-0	Pneumatic handle spacer
195	S-000-007265-0	O seal 7.5*2.65
196	B-055-080001-0	Snap ring Ø8
197	S-010-010806-0	Straight union
221-198	C-221-400000-0	Hex locking board spring



238-201	CX-238-030600-0	Pipe support
238-202	B-014-100451-0	Screw
238-203	CX-238-030200-0	Raise-fall support
238-205	CX-238-030508-0	Roller 2
238-206	B-001-160001-0	Self-locking nut M16*1.75
238-207	B-040-162820-1	Flat washer Ø16*28*2
238-208	CX-238-030507-0	Roller 1
238-209	CZ-238-030500-0	Tire lifting support
238-210	CZ-238-030509-0	Roller plug
238-211	B-050-140000-0	Spring washer Ø14
238-212	B-010-140301-0	Hex socket head bolt M14×30
238-213	CX-238-030100-0	Raise-fall cylinder support

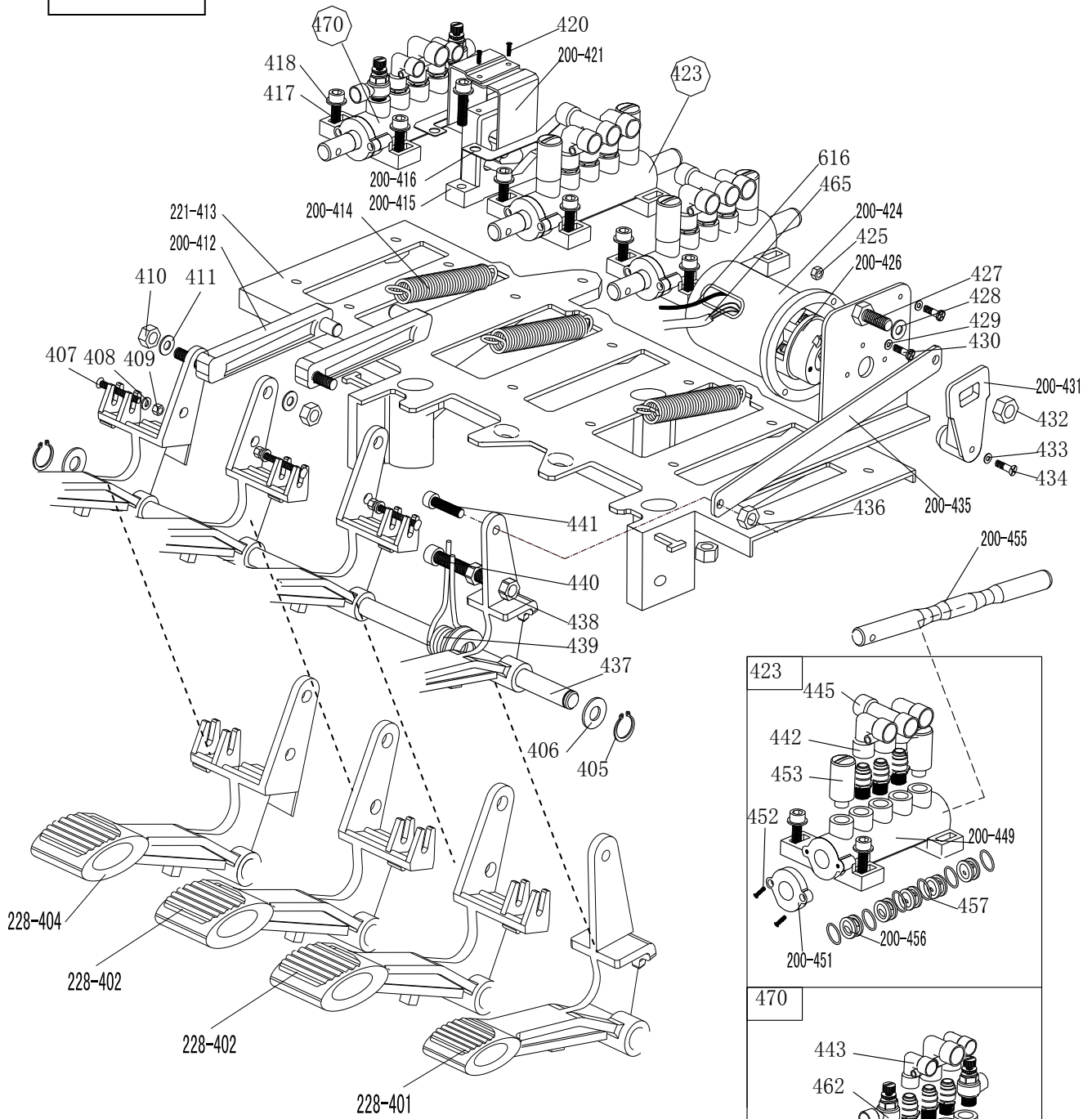
238-214	C-238-030700-0	Cylinder 238
238-215	B-001-120001-0	Self-locking nut M12
238-216	B-014-121101-0	Outer hex bolt M12×110
238-217	CX-238-030400-0	Connection rod assembly
238-218	B-001-100001-0	Self-locking nut M10
238-219	CX-238-030105-0	Guide post
238-220	CX-238-030900-0	Cylinder cover
238-221	B-014-120601-0	Outer hex bolt M12×60
238-222	B-001-120001-0	Self-locking nut M12
238-224	B-055-400002-0	Snap ring Ø40(hole)
238-225	CZ-238-030104-0	Guide sleeve
238-226	S-035-505040-0	Pressure pipe



200-13	C-200-360000-0	Bead breaker arm spring
303	S-018-010408-0	Union (90°) 1/4-Ø8
306	S-000-016265-0	O-seal Ø 16*2.65
307	S-000-019262-0	O-seal Ø 20*2.65
200-310	C-200-050100-0	Bead breaker cylinder piston rod
200-315	CX-200-070000-0	Bead breaker shovel assembly
318	U-006-000001-1	Guide belt
300-322	CX-300-030000-0	Bead breaker arm
200-323	CX-200-040000-0	Bead breaker pin
200-324	CX-200-050600-0	Bead breaker cylinder rotating pin
329	B-014-080201-0	Outer hex bolt M8×20
330	C-6603-070200-0	Straight union 1/8-Ø8
231-332	CX-231-030900-0	Enlarge bead breaker arm rotating washer
231-333	CX-231-030800-0	Enlarge bead breaker arm rotating shaft
298-334	CW-108-209800-0	Complete bead breaker cylinder D200
350	CW-112-209800-0	Bead breaker cylinder exhaust valve
351	S-012-010808-0	Union 1/8-Ø8

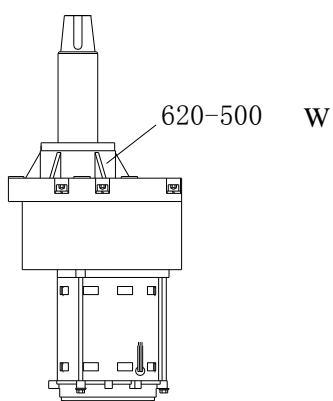
352	C-098-600200-0	Bead breaker cylinder exhaust valve cover
353	C-098-600400-0	Seal washer
354	C-098-600300-0	Bidirectional seal
355	C-098-600100-0	Bead breaker cylinder exhaust valve barrel
356	S-023-010401-6	Muffler
357	S-010-010408-0	Straight union 1/4- Ø8
358	CZ-2098-050900-0	Nylon sleeve
359	S-005-020075-0	V seal Ø20*28*7.5
228-361	CX-298-050500-0	Bead breaker cylinder cover assembly
228-362	S-000-195265-0	O-seal Ø198*3.1
363	S-005-200184-0	Y-seal D200*184*12
228-364	C-298-050200-0	Bead breaker cylinder piston D200
228-365	S-000-180500-0	O-seal 180x5
228-366	C-298-051000-0	Threaded connection rod
228-367	C-298-050300-0	Bead breaker cylinder barrel D200
228-368	C-298-051100-0	Bead breaker cylinder rear cover
200-370	C-200-070600-0	Bead breaker shovel protection cover(optional)

231-480

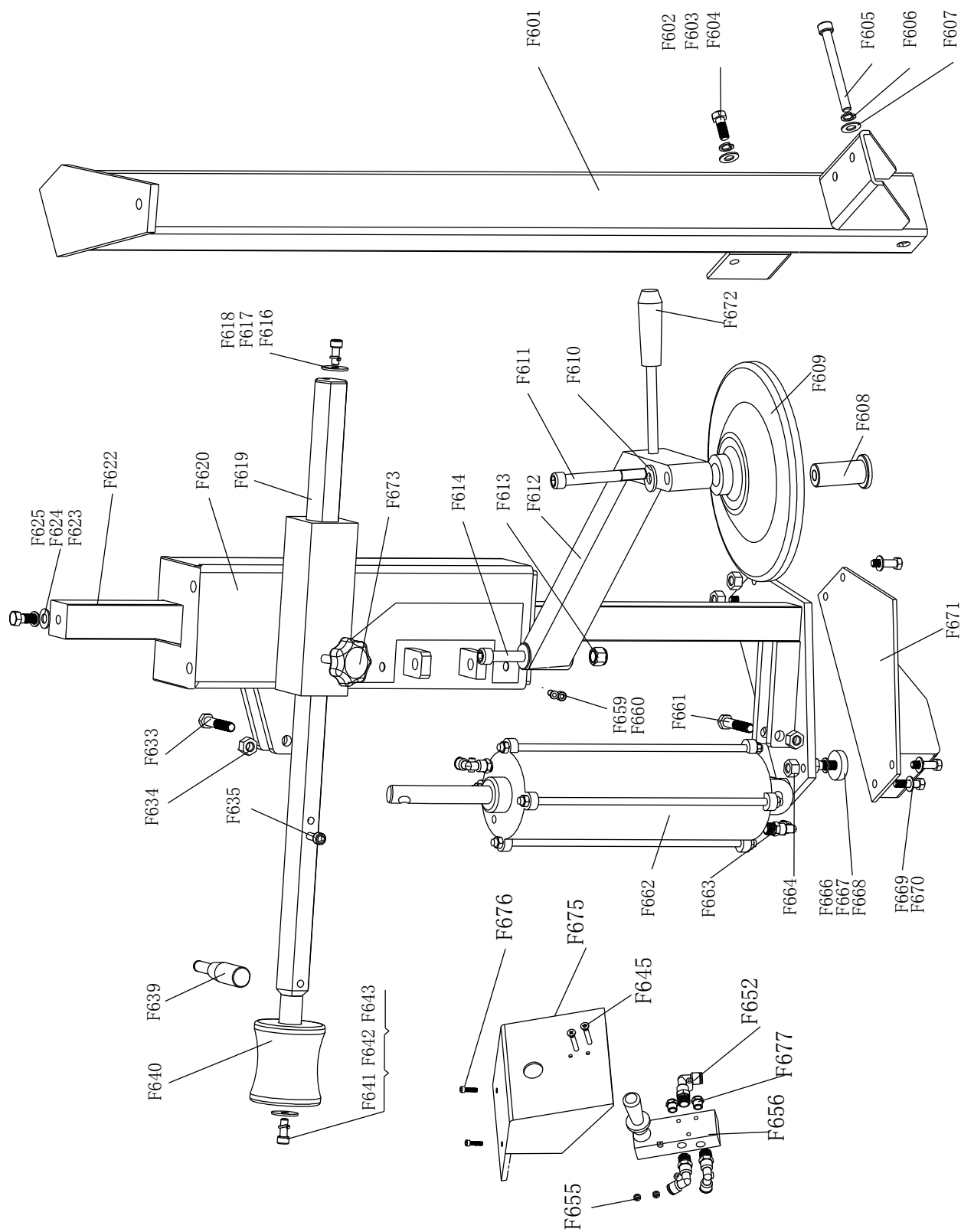


228-401	C-228-060400-0	Reverse switch pedal
228-402	C-228-060300-0	5-way valve pedal(right)
228-404	C-228-060200-0	5-way valve pedal(left)
405	B-055-120001-0	Snap ring Ø12
406	B-040-122520-1	Flat washer Ø12*24*2
407	B-017-040301-0	Cross head screw M4X30
408	B-040-040000-1	Flat washer Ø 4
409	B-001-040001-0	Self-locking nut M4
410	B-001-080001-0	Self-locking nut M8
411	B-040-081715-1	Flat washer Ø8*17*1.5
200-412	C-200-061300-0	Cam connection rod
221-413	C-221-060100-0	Pedal support board
200-414	C-200-380000-0	Pedal Spring
200-415	C-200-061500-0	Cam
200-416	C-200-810000-0	Cam washer
417	B-010-060201-0	Hex socket head bolt M6×20
418	B-040-061210-1	Flat washer Ø6
420	B-019-290121-0	Cross head self tapping screw 2.9*12
200-421	CX-200-060500-0	Cam cover
423	CW-110-020001-0	Complete 5-way valve(T-union), without valve rod
200-424	C-200-061400-0	Reverse switch cover
425	B-004-040001-0	Nut M4
200-426	S-060-016000-1	Reverse switch
427	B-010-060201-0	Hex socket head bolt M6×20
428	B-040-061210-1	Flat washer Ø 6X12X1

429	B-040-040000-1	Flat washer Ø 4
430	B-024-040161-0	Cross head screw M4*16
200-431	C-200-530000-0	Reverse switch handle
432	B-001-060001-0	Self-locking nut M6
433	B-040-030000-1	Flat washer Ø3
434	B-017-030161-0	Cross head screw M3X18
200-435	CX-200-060600-0	Pedal connection rod
436	B-001-080001-0	Self-locking nut M8
437	CX-221-060700-0	Pedal front shaft
438	B-004-080001-0	Nut M8
439	C-200-370000-0	Pedal twist spring
440	B-010-080501-0	Hex socket head bolt M8×50
441	B-010-080201-0	Hex socket head bolt M8×20
442	S-012-010808-0	Quick union1/8- Ø 8
443	S-012-010806-0	Quick union1/8- Ø 6
445	S-016-010808-2	Quick T-union1/8-2* Ø 8
200-449	C-200-060901-0	5-way valve barrel (right)
200-451	C-200-061100-0	5-way valve cover
452	B-024-290-121-0	Cross head ST2.9*14
453	S-023-010801-0	Muffler 1/8"
200-455	CX-200-061200-0	5-way valve rod
200-456	C-200-061000-0	5-way valve rod spacer
457	S-000-012400-0	O seal 12*20*4
462	S-030-010806-0	Throttle valve
470	CW-110-021102-0	Complete 5-way valve(tilting), without valve rod
231-480	CW-109-023100-0	Complete 4-pedals assembly 231

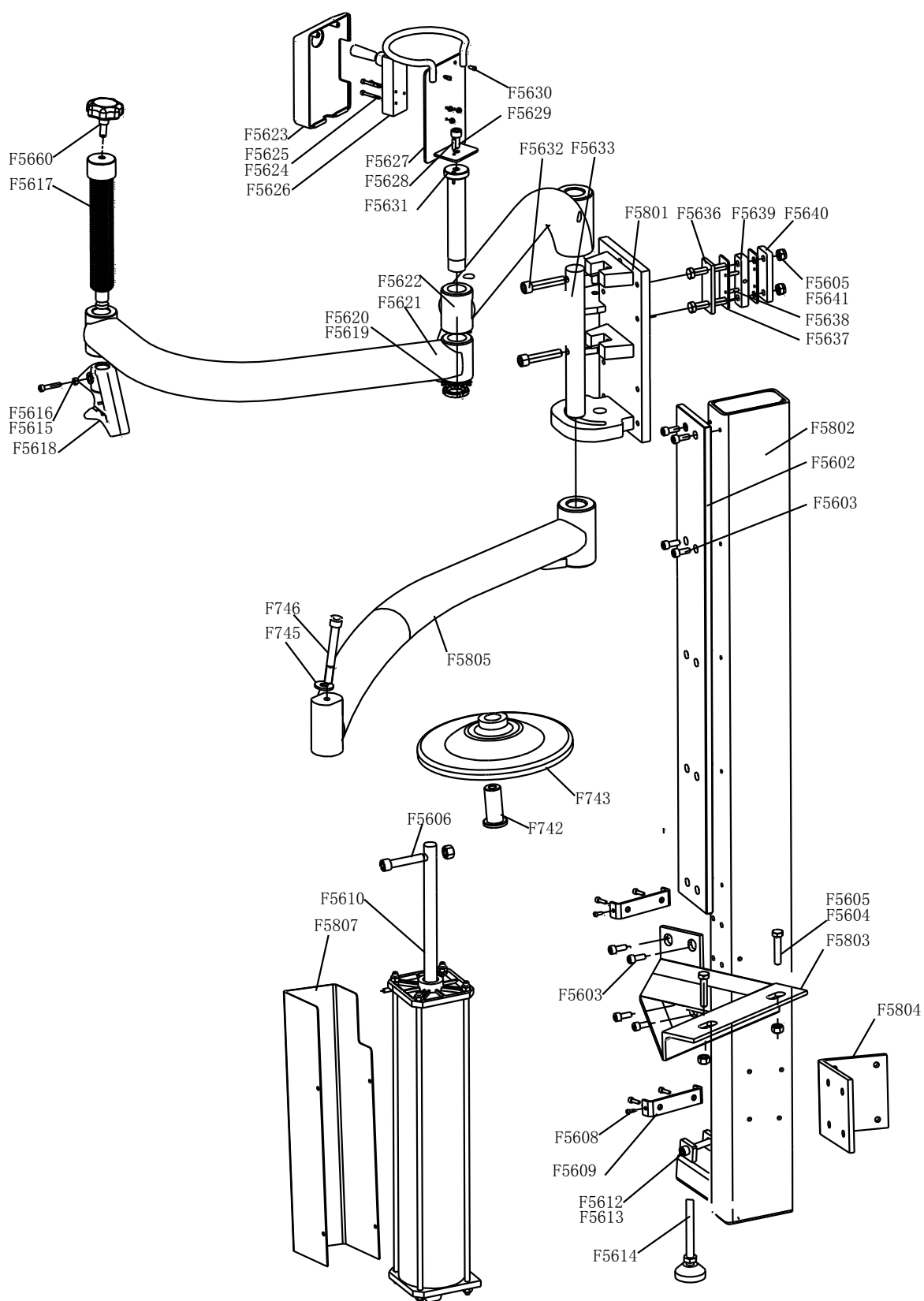


620-500W		组合式变速箱	Gear box
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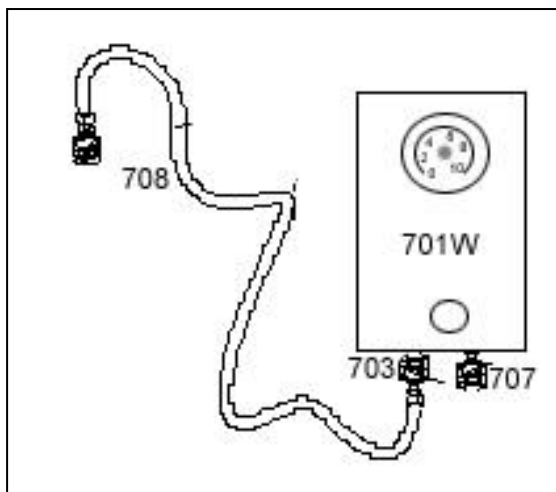
F601	CX-036-010000-0	Column 036
F602	B-040-102020-1	Flat washer Ø10*20*2
F603	B-050-100000-0	Spring washer Ø10*20
F604	B-014-100251-0	Outer hexagon bolt M10*25
F605	B-010-101001-0	Hexagon socket head bolt M10*100
F606	B-050-100000-0	Spring washer Ø10*20
F607	B-040-102020-1	flat washer Ø10*20*2
F608	CX-005-110000-0	Tire lifting roller hud
F609	C-005-100000-0	Tire lifting roller
F610	B-040-122520-1	flat washer Ø12*25*2
F611	B-010-121001-0	Hex socket head bolt M12*100
F612	CX-006-060000-0	Tire lifting roller support 006
F613	B-001-120001-0	self-lock nut M12
F614	B-010-121001-0	Hex socket head bolt M12*100
F616	B-040-083030-1	flat washer Ø8*30*3
F617	B-050-080000-0	Spring washer Ø8
F618	B-010-080201-0	Hex socket head bolt M8*20
F619	CX-006-170000-0	Horizontal pushing arm
F620	CX-006-030000-0	Raise-fall sleeve 036
F621	CX-036-050000-0	Connecting bolt 036
F622	CX-036-020000-1	Square column assembly 036
F623	B-040-102020-1	flat washer Ø10*20*2
F624	B-014-100251-0	Outer hex bolt M10*25
F625	B-050-100000-0	Spring washer Ø10
F633	B-014-100551-0	Outer hex bolt M10*55
F634	B-001-100001-0	Self-locking nut M10
F635	B-010-080201-0	Hex socket head bolt M8*20
F639	P-000-009000-0	Handle

F640	C-008-080000-0	Tire pressing pulley
F641	B-040-083030-1	flat washer Ø8*30*3
F642	B-050-080000-0	Spring washerØ8
F643	B-010-080201-0	Hex socket head bolt M8*20
F644	B-017-040161-0	Cross head screw M4*16
F645	B-017-040301-0	Cross head screw M4*30
F646	CX-005-200000-0	Raise-fall switch plate
F652	S-012-010406-0	Quick union 1/4-Ø6
F655	B-001-040001-0	Nut M4
F656	S-030-010818-0	Handle valve
F657	S-023-010801-0	Muffle 1/8(plastic)
F658	C-007-181000-0	Control valve protection cover
F659	B-010-060101-0	Hexagon socket head bolt M6*10
F660	B-040-061210-1	Flat washer Ø6*12*1
F661	B-014-100551-0	Outer hexagon bolt M10*55
F662	C-006-040100-0	Raise-fall cylinder 006
F663	S-012-010806-0	Quick union 1/8-Ø6
F664	B-001-080001-0	Self-locking nut M8
F666	B-014-100251-0	Outer hex bolt M10*25
F667	B-050-100000-0	Spring washerØ10*20
F668	CX-200-170000-0	Mount/demount head flat washer
F669	B-040-081715-1	Flat washer Ø8*17*1.2
F670	B-014-080301-0	Outer hex bolt M8*30
F671	CZ-006-140000-0	Help arm support plate
F672	C-200-230200-0	Locking handle cover
F675	CZ-229-050000-0	Control valve support
F676	B-010-060201-0	Hex socket head bolt M6*20
F677	S-023-010801-6	Muffler (brass)

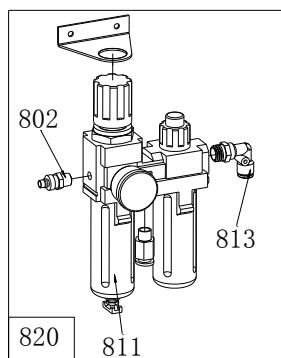


F5602	CX-007-020000-0	Guide track
F5603	B-010-080251-0	Hex socket head bolt M8*25
F5604	B-001-100001-0	Self-locking nut M10
F5605	B-014-100601-0	Outer hex bolt M10*60
F5606	B-014-100601-0	Outer hex bolt M10*60
F5608	B-024-060121-0	Cross round head screw M6*12
F5609	CX-056-010700-0	Connecting board for cylinder cover
F5610	C-056-150000-0	cylinder
F5612	B-010-121201-0	Hex socket head bolt M12*120
F5613	B-001-120001-0	Self-locking nut M12
F5614	C-056-170000-0	Support feet
F5615	B-001-060001-0	Self-locking nut M6
F5616	B-010-060301-0	Hex socket head bolt M6*30
F5617	C-056-140000-0	Tire pressing head rotating shaft
F5618	C-008-090100-0	Tire pressing head (Upper)
F5619	B-045-000027-0	lock washer
F5620	B-004-270001-1	round nut M27
F5621	CX-056-070000-0	Rotate arm rod components 2
F5622	CX-056-060000-0	Rotate arm rod components 1
F5623	C-007-181000-0	Control valve protection cover
F5624	B-017-040301-0	cross head screw M4*30
F5625	B-004-040001-0	Nut M4
F5626	S-030-010818-0	Handle valve
F5627	CX-056-120000-0	Controller sets
F5628	B-010-050101-0	Hex socket head bolt M5*10
F5629	B-010-100251-0	Hex socket head bolt M10*25

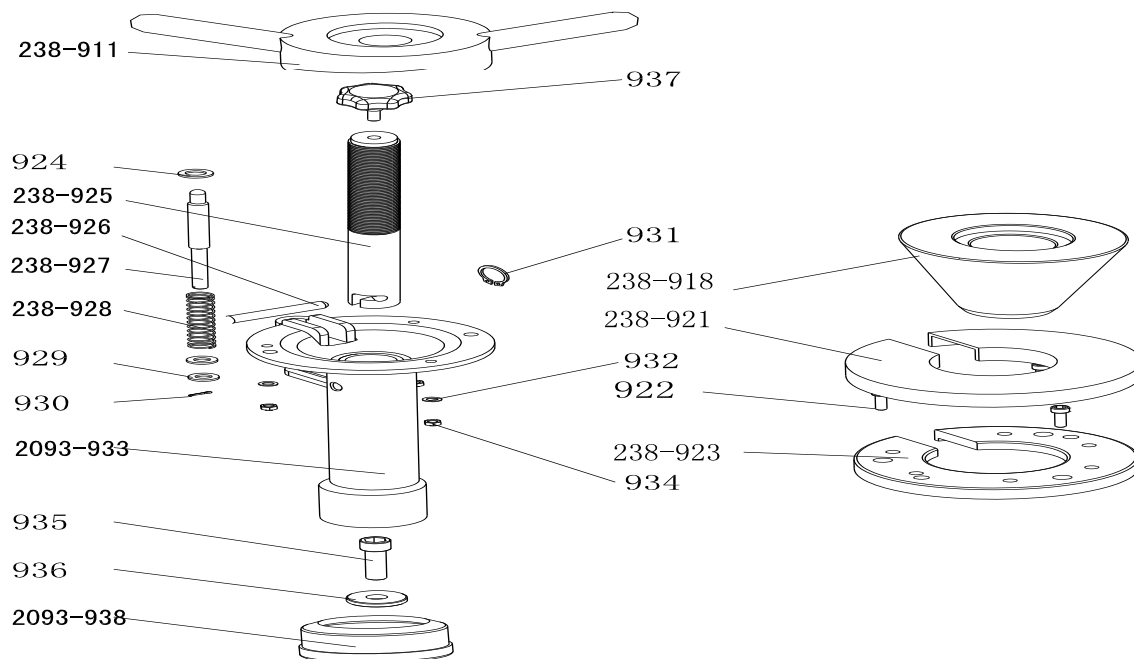
F5630	B-024-040161-0	Cross head screw M4*16
F5631	CX-056-080000-0	Connection pin
F5632	B-010-120551-0	Hex socket head screw M12*55
F5633	C-056-090000-0	Shaft
F5634	C-006-210000-0	Pentagon handle
F5636	CX-007-040000-0	Friction plate inside
F5637	CX-007-070000-0	Friction plate' isolation block
F5638	CZ-007-080000-0	Guide plate positioning pin
F5639	U-006-000001-2	Guide belt
F5640	CX-007-050000-0	Friction plate outside
F5641	B-001-100001-0	Self-locking nut M10
F5650	CX-056-040000-0	Tire pressing rod assembly
F5651	B-040-083030-1	Flat washer Ø8*30*3
F5660	C-238-201501-0	Adjust handle
F742	CX-005-110000-0	Tire lifting roller hud
F743	C-005-100000-0	Tire lifting roller
F745	B-040-123030-1	Flat washer Ø12X30X3
F746	B-010-121201-0	Hex socket head bolt M12*120
F5801	CX-057-030000-0	Arm base assembly 057
F5802	CX-057-010000-0	Column 057
F5803	CX-057-010500-0	Support assembly 057
F5804	CZ-057-010600-0	Connection board
F5805	CX-057-050000-0	Pipe assembly 057
F5806	CZ-056-180000-0	Tire pressing roller 2
F5807	CX-057-100000-0	cylinder cover 057



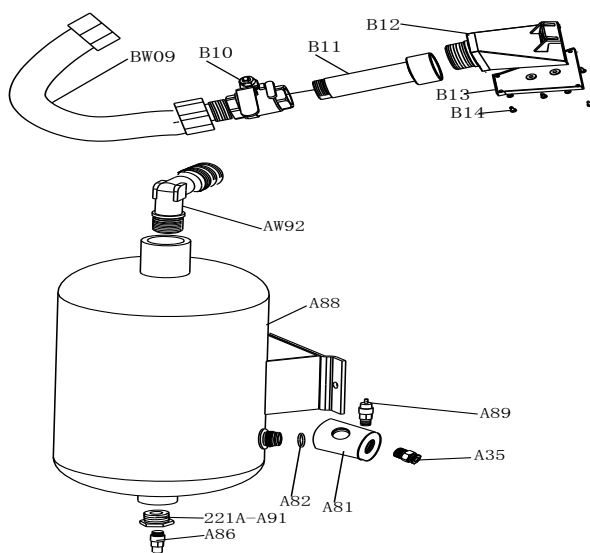
701W	S-038-000200-0	Compleat tyre pressure clock
703	S-025-104008-0	Air hose fitting
707	S-012-010408-0	Fitting 1/4-Ø8
708		Air hose



802	S-025-000050-0	Quick nozzle
811	S-033-330000-0	Oil fog maker 3300
813	S-018-010408-0	Union (90°) 1/4-Ø8
820	CW-114-033000-0	Complete oil fog maker 3500

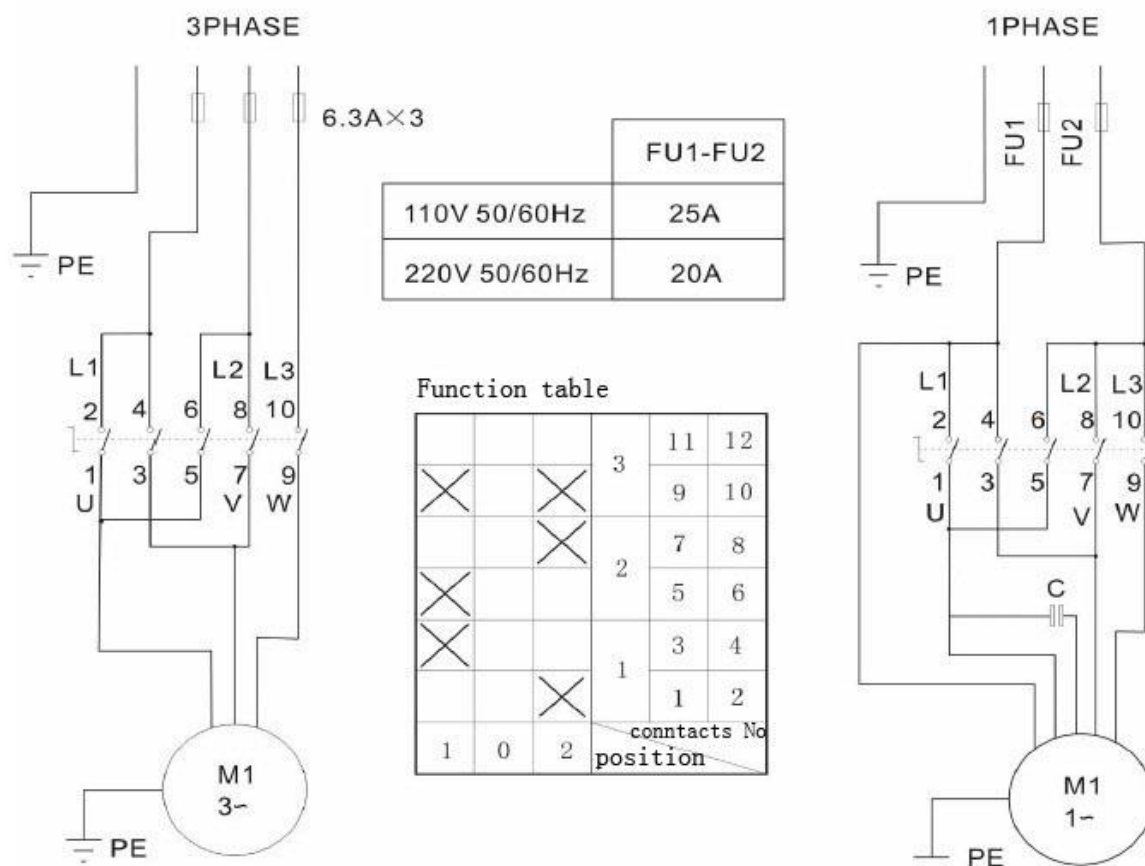


238-917	CW-160-000239-0	Complete quick release nut
238-921	C-238-130800-0	Rubber protection washer
922	B-010-080201-0	Hex socket head bolt M8x20
238-923	C-238-130700-0	Tire installation plate cushion
924	CX-238-130300-0	Retaining ring up
238-925	CX-238-131100-0	Thread shaft
238-926	CX-238-131000-0	Connection pin
238-927	CX-238-130200-0	Auxiliary rotating rod
238-928	C-238-130400-0	Outer spring
929	CX-238-130600-0	Retaining ring down
932	B-040-081820-1	Flat washer Ø8
2093-933	CX-238-130100-0	Tire installation base
935	B-014-160401-0	Hex socket head bolt(full thread)
930	B-070-020025-0	Split pin 2X25
931	B-055-080001-0	Snap ring Ø8
937	C-238-201501-0	Adjust handle
2093-938	CZ-299-490000-0	Protection cover
238-918	C-239-333801-0	1# CONE
	C-239-333802-0	2# CONE
	C-239-333803-0	3# CONE
	C-239-333804-0	4# CONE

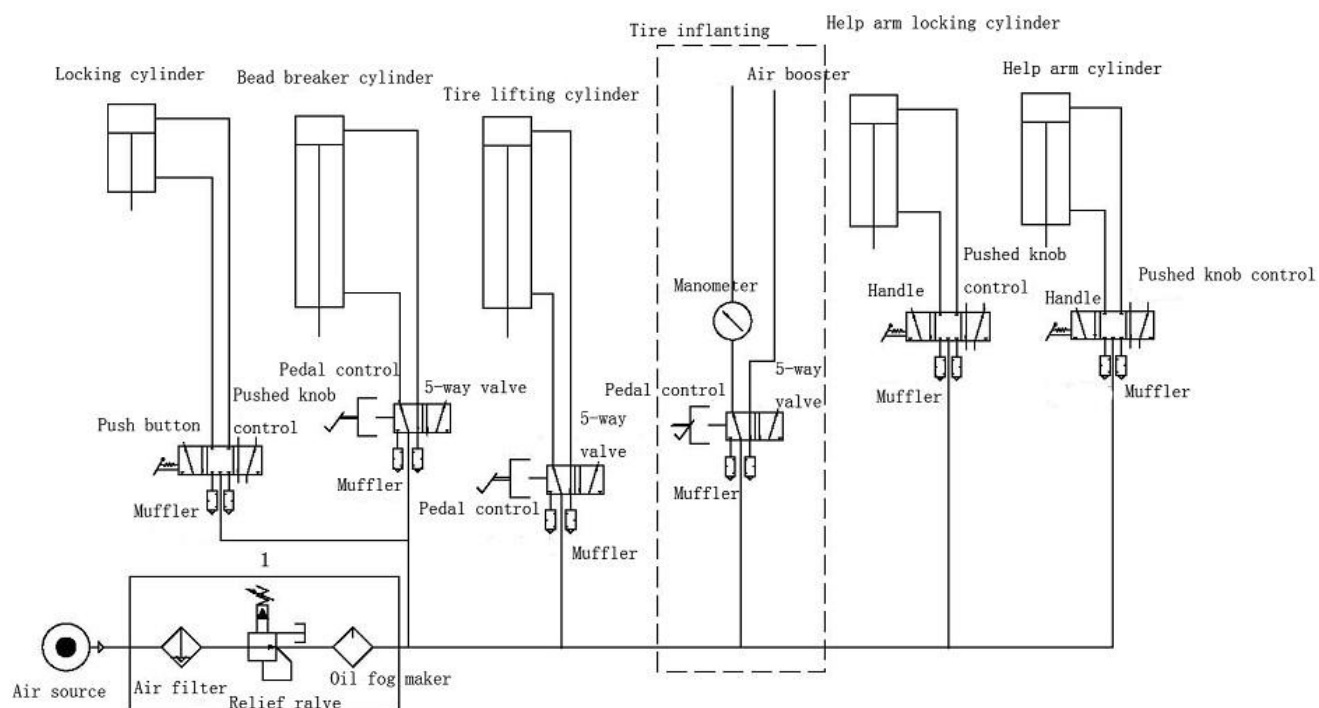


A81	C-229-611000-WJ	Plug
A82	S-000-016265-0	O-seal Ø 16*2.65
A86	S-030-010400-0	Water discharge valve
A88	CX-221-610000-A	Air-tank assembly
A89	S-030-030800-0	Safety valve
221A-A91	CX-221-610600-A	Air-tank up union
AW92	H-051-010101-0	Pipe joint 1"
BW09	C-000-010003-0	Air-tank hose
B10	S-030-000034-0	Stainless steel ball valve 1"
B11	CX-0UB-610400-0	Explosive inflating head assembly
B12	C-001-020100-0	Explosive inflating nozzle (upper)
B13	C-001-020200-0	Cap
B14	B-019-350095-0	Tapping screw ST3.5*9.5

19. Circuit diagram



20. Pneumatic drawing



Certificate No.: CE-C-1208-09-98-01-2A

Date of Issue: 2010.03.12



CERTIFICATE OF CONFORMITY

**NAME AND ADDRESS OF
THE MANUFACTURER:**

PRODUCT DESCRIPTION:

TYPE AND MODEL:

U-200, U-201, U-202, U-203, U-221, U-226, U-227, U-228,
U-231, U-236, U-237, U-238, U-2098, U-221A, U-226A, U-227A,
U-229A, U-231A, U-236A, U-237A, U-201A, U-203A,
U-209A, U-2091A, U-239, U-600, U-206, U-2091, U-2099

APPLICABLE STANDARD:

EN60204-1:2006+A1: 2009
Electrical Equipment of Industrial machines

APPLICABLE EC

DIRECTIVE:

2006/42/EC Machinery Directive

TECHNICAL FILE (TCF)

REFERENCE NUMBER:

CE-C-1208-09-98-01

Based on the voluntary assessment of the product sample and technical file, we certify that the above-mentioned product meets the requirements of the EC directives.

The manufacturer has the responsibility for ensuring that all serial manufacture of the product is in compliance with the specification of the sample submitted for assessment and detailed in the technical file.

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APPROVED / SIGNED BY PRESIDENT
CCQS UK LTD

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