

**SHANGHAI BALANCE AUTOMOTIVE EQUIPMENT CO.,LTD.**

**Full-automatic Tyre Changer**

***-----U-650***

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# Tyre Changer

## Warning

This specification is an important information of this product, please be sure to read the precautions and instructions before mounting and use, these contents are crucial for safe use and maintenance. Keep this manual properly for further maintenance.

### 1.Product introduction:

Scope of application: Full-automatic tyre changer is specially designed for dismantling and mounting tyres from the rim.

Warning: This machine is limited to the purposes specified by design and should not be used for other purposes. The manufacturer shall not be responsible for the damage caused by being beyond the applicable scope and improper use of the machine.

Safety rules: The machine must be operated by specially trained and qualified personnel or by personnel who have carefully read the manual and have experience in operating machinery. Without the manufacturer's permission or not in accordance with the requirements of the manual, arbitrary changes to the machine parts and beyond the scope of use may produce failure or damage to the machine, this situation is not covered by the warranty. If the parts in the machine are damaged for some reason, please ask the manufacturer for replacement according to the part number in the catalogue. (Note: The warranty period is one year, except for wearable parts)

### 2.Warning signs and instructions of pasted parts:

- 01 When operation, do not put the hand into the bottom of the mounting/demounting head;
- 02 Do not put your hand inside the claw during operation;
- 03 When removing the bead, do not put the hand inside the bead;
- 04 Electrically charged equipment , pay attention to safety, check the grounding conductor;
- 05 During the operation, do not put the feet inside the tyre pressing shovel;

Safety warning label

**Warning: when the safety warning label is defiled or falls off, please recover in time!**  
**Machine operation is not allowed when the safety labeling is not perfect. No item should be allowed to mask the security warning label.**



Set up the warning label shown on the right where you think it is necessary.

### 3.Technical parameters:

Tyre size	13~28 "
Maximum rim diameter	1045mm(41 " )
Maximum rim width	355mm(14 " )
Working pressure	8-10bar
Applicable electric power	380V-three-phase
Motor power	1.5kw
Maximum torque for mounting base	1350N•m
Outline dimension	1300*800*1600mm
Noise level	75dB

**Notice: The size of the wheel rim defined in the above table is based on the iron rim. The aluminum alloy rim is thicker than the iron rim, and no additional dimension is defined.**

#### 4.Transport:

The machine must be transported in the original package and placed according to the mark on the package. The packaged machine must be loaded and handled by a forklift with the corresponding tonnage, and inserted at the fork as shown in (Figure 1).

#### 5.Unpacking and acceptance:

Pull out the small nails at the foot of the package with sharp pliers, remove the packing box and plastic bag, check whether the equipment is in good condition, and confirm whether the parts are damaged or the parts are lost. If in doubt, please do not use the machine and contact the seller in time.

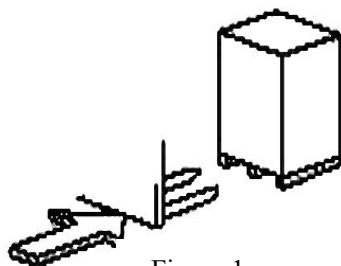


Figure 1

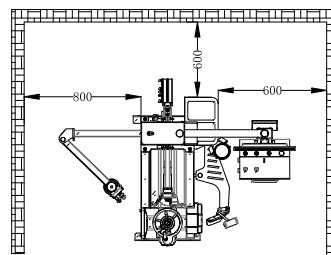


Figure 2

#### 6.Placement:

Required site: The selected mounting location must comply with the safety specification. The machine must be connected to the power supply and the compressed air system according to the instructions. The mounting environment of the machine should be well ventilated. The mounting position must have at least the space as shown in Figure 2) for all parts of the machine to operate properly without restriction. If the machine is mounting outdoors, it must have a protective shed to protect it from rain and sunlight.

**Warning: the tyre changer with a motor shall not be used in places with flammable gas.**

#### 7.Positioning and mounting:

Release the fixed screw on the chassis, put the machine in the selected position, calibrate the level with the horizontal ruler, hit the expansion screw, and tighten the mounting smoothly, to prevent leakage, must be safely grounded. The ground shall be anti-skid treated within the operation range.

#### 8.Electrical connection to the compressed air:

**Warning: Check the power supply and the machine before mounting the connection. All electrical mountings must be carried out by professional electricians.**

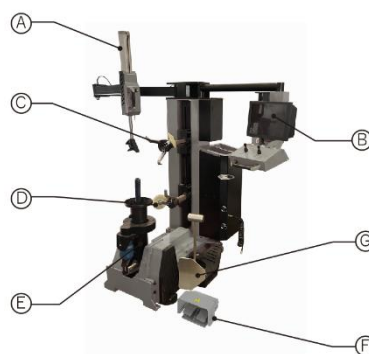
Connect to the compressor air system using the compressed air connector on the right side of the machine. The power grid connected by the machine must have a fuse protection device, and have a good shell grounding protection, and the leakage automatic air switch is mounting on the main power supply, and the leakage current is set at 30 mA.

**Notice: The machine does not have a power plug, so the user should mounting a power plug of not less than 16A and the same voltage as the machine, or directly connect to the power supply according to the above requirements.**

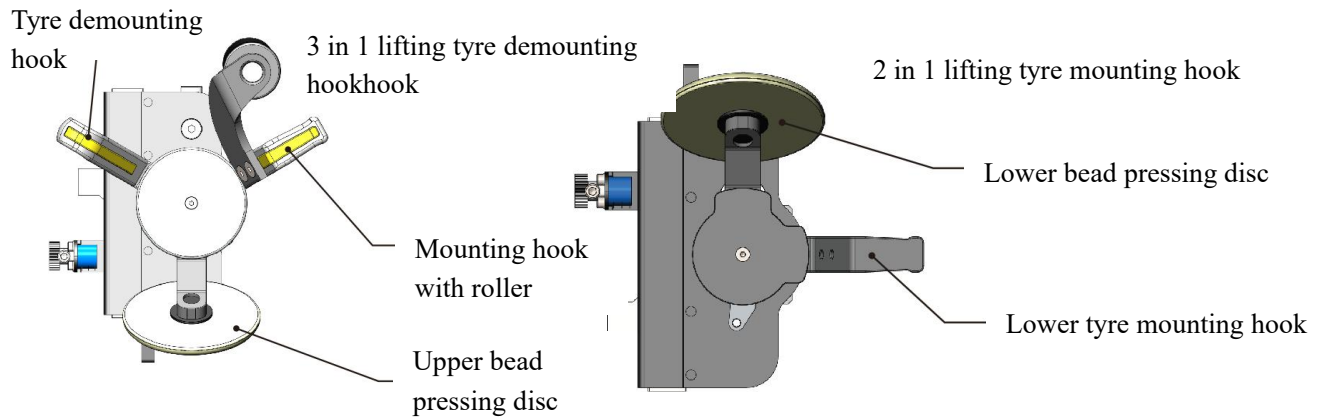
#### 9.Part introduction and commissioning operation:

##### 9.1.Product components introduction

- A: Help arm
- B: Control console
- C: 3 in 1 lifting tyre demounting hook



- D: 2 in 1 lifting tyre mounting hook
- E: Reversible mounting base
- F: Mounting base pedal
- G: Tyre pressing shovel



### 9.2. Commissioning operation of semi-automatic tyre changer (Figure 3)

- A: Emergency stop switch
  - C: Tyre mounting head transfer switch
  - D: Tyre demounting head transfer switch
  - E: Mounting base lifting switch (Lifting)
  - F: Mounting base lifting switch (Lowering)
  - G: Tyre changer head four-way rocker
  - H: Tyre mounting head four-way rocker
- Left pedal: the mounting base rotates clockwise.  
Right pedal: the mounting base rotates counterclockwise.

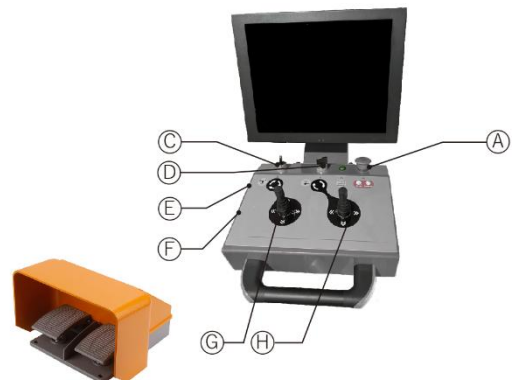


Figure 3

### 9.3. Commissioning operation of fully automatic tyre changer (Figure 4)

- A: Fully automatic software operation panel button
  - B: Tyre mounting head four-way rocker
  - C: Tyre changer head four-way rocker
  - D: Mounting base lifting switch (Lowering)
  - E: Mounting base lifting switch (Lifting)
  - F: Tyre mounting head transfer switch
  - G: Tyre changer head transfer switch
  - H: Auto-manual transfer switch
  - I: Emergency stop switch
- Left pedal: the mounting base rotates clockwise.  
Right pedal: the mounting base rotates counterclockwise.

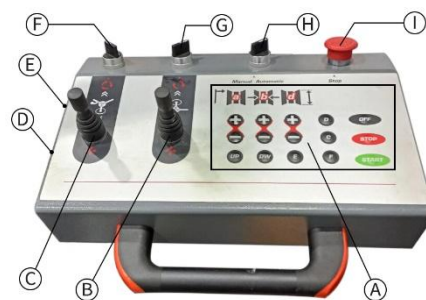


Figure 4

## 10. Semi-automatic tyre changer use operation:

The operation of the semi-automatic tyre changer is divided into seven steps:

- 1) mounting the tyre
- 2) Press to loosen the top tyre
- 3) Press to loosen the lower tyre
- 4) Remove the upper tyre
- 5) Remove the lower tyre
- 6) mounting the lower tyre

7) mounting the upper tyre

**Warning:** Before any operation, the operator should first wear tight sleeve work clothes, work cap and anti-skid shoes, pay strict attention to remove the air in the tyre, and remove all the balance blocks on the rim.

### 10.1 mounting the tyre:

First drop the tyre mounting base parallel to the ground and mounting the tyre (as shown in Figure 5). Then straighten the tyre mounting base and tighten the opening nut to secure the tyre (as shown in Figure 6).



Figure 5



Figure 6

### 10.2 Press to loosen the top tyre:

As shown in Figure 7, press the upper tyre shovel into the tyre 10mm, apply lubricating oil while rotating, and then add to 15mm after one rotation, continue to rotate the tyre to make the upper tyre bead completely separated from the rim.

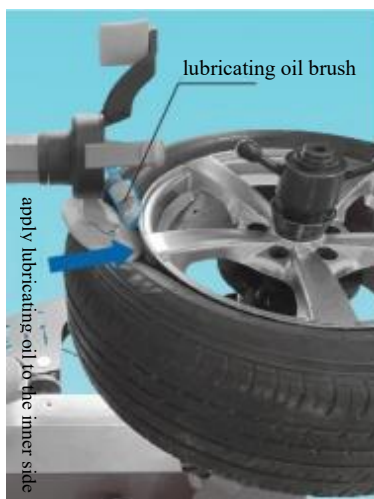


Figure 7

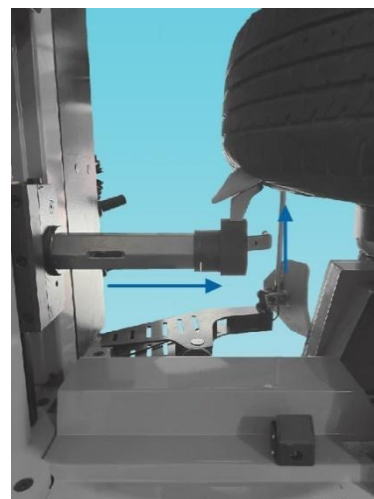


Figure 8

### 10.3 Press to loosen the lower tyre:

Press the lower tyre pressing roller into the lower tyre bead 10mm as shown in Figure 8, apply lubricating oil while rotating, and then add to 15mm after one rotation, make the lower tyre bead completely separate from the rim. In the case of a limited field of view, a built-in HD camera can be used to confirm the position of the lower tyre pressing roller.

#### 10.4 Remove the upper tyre:

Rotate tyre changer head transfer switch, select the tyre changer head, adjust the position to make it stuck into the tire as shown in Figure 9, and hook it. Rotate the tire makes it completely separate.

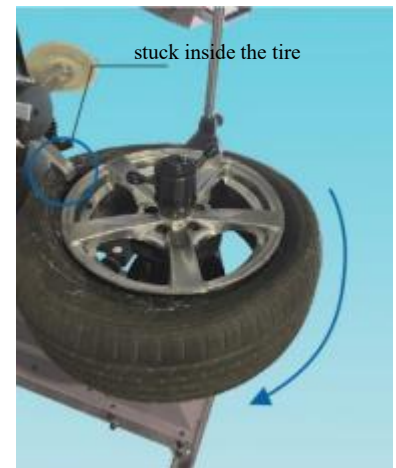


Figure 9

#### 10.5 Remove the lower tyre:

Lift lower tyre mounting hook, insert the lower tyre mounting hook into the tyre bead at 5mm from the rim (as shown in Figure 10), lift the tyre up and step on the pedal to rotate the mounting base clockwise until the tyre is completely separated from the rim.

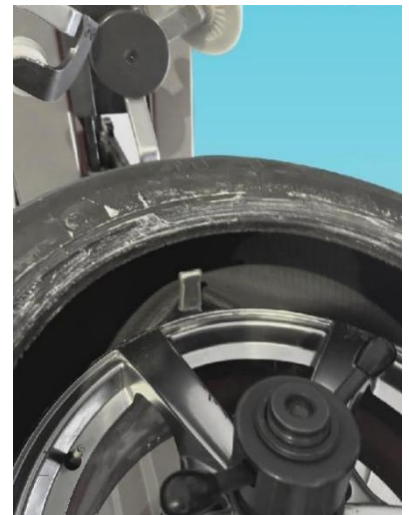


Figure 10

#### 10.6 mounting lower tyre

**Warning: Carefully check the tyre and the rim diameter before loading. To avoid damage to the bead, apply special lubricating oil to operate smoothly. Place the tyre and check its status.**

Keep the hook and the rim at 5mm, place the tyre inclined on the rim, and let the hook hook the bead. As shown in Figure 11, press the tyre with the hand or help arm wheel and turn the turntable to mounting the lower tyre.

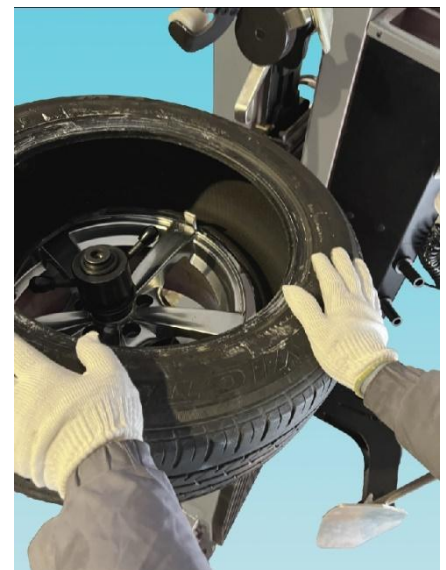


Figure 11



### 10.7 mounting upper tyre

Turn the wheeled tyre changer hook, let the hook be inserted into the upper bead, press the help arm under the upper bead (as shown in Figure 12). Turn the mounting base to mounting the upper tyre.



Figure 12

### 10.8 Usage of shovel arm

When removing the tyre that have not been used for a long time, you can use a large shovel, press to loosen the tyre bead, so that the tyre changer operation is more easy and smooth.

Let the tyre air out, lean the tyre as shown in Figure 13 on the shovel rubber gasket on the right side of the tyre changer, and put the shovel on the bead, about 1cm away from the rim. Press the operation button on the tyre pressing shovel arm, and the tyre pressing shovel moves inward. Repeat the above along the rim until the bead is released.



Figure 13

## 11.Full-automatic tyre changer use operation

### 11.1 Operation instructions for using the panel of the full-automatic tyre changer

Column A: Adjust the rim diameter parameters

Column B: Adjust the tyre width parameters

Column C: Adjust the tyre flatness ratio parameter

UP: Tyre changer hook transfer switch

DW: Tyre mounting hook transfer switch

E: Debug parameter display key

F: Option key

C: Camera open button

D: Reset button

OFF: System shutdown key

STOP: Pause key

START: Start / confirm key

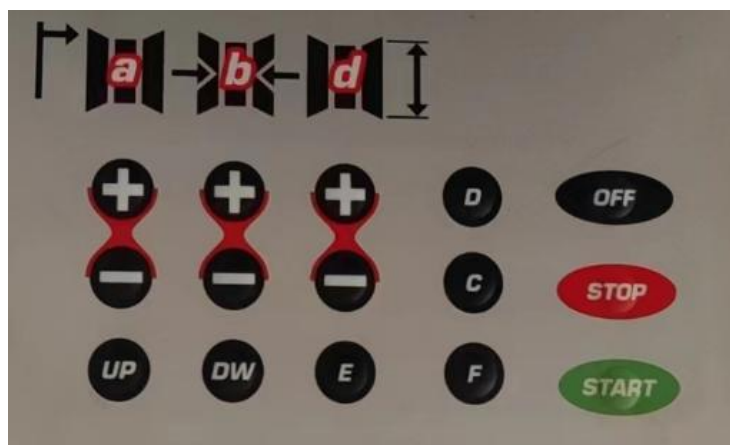


Figure 14

The full-automatic tyre changer use operation is divided into three steps

- 1) mounting and secure the tire
- 2) Start the fully automatic tyre change procedure
- 3) mounting the tyre manually

**Warning:** After the tyre changer is turned on, the self-test procedure should be executed first (as shown in Figure 15). During the self-test, the automatic tyre change procedure to complete the self-test and show that everything can be used. If the error reporting information is displayed, please contact the technical personnel of the manufacturer.



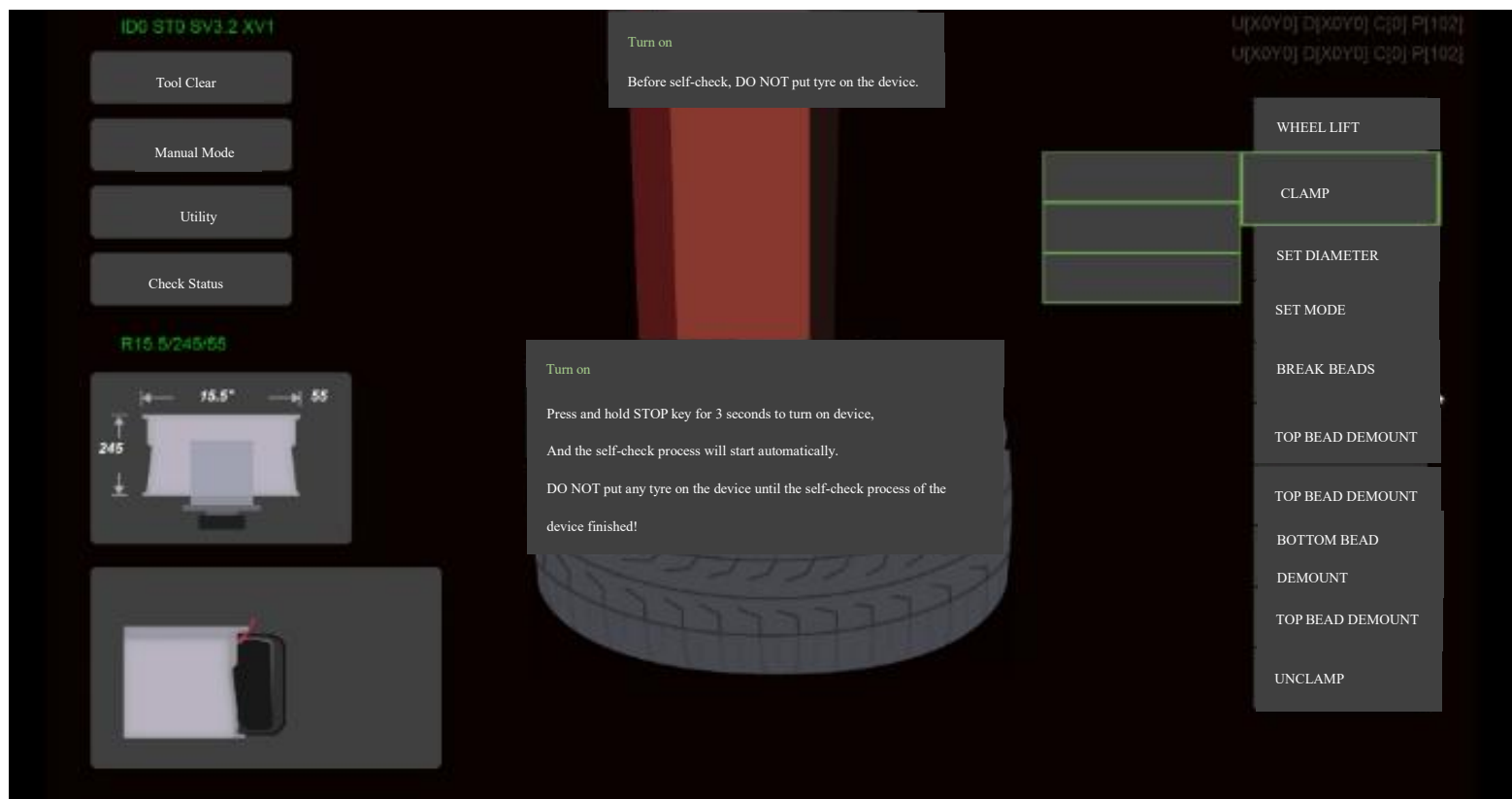


Figure 15

## 11.2 mounting the tyre

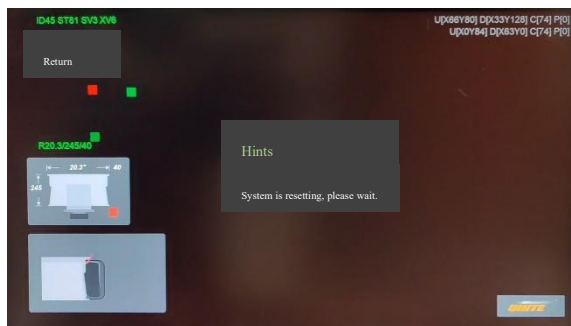


Figure 16

First press the operation panel's reset button and the tyre changer will automatically reset to the initial position (as shown in Figure 16).

Lower the tyre mounting base to parallel to the ground and mounting the tyre. Then straighten the tyre mounting base and tighten the opening nut to secure the tyre.(Refer to Step 10.1)

## 11.3 Start the fully automatic tyre change procedure

Press (F) to operate with the program text prompt on the operation panel.(Figure 17)

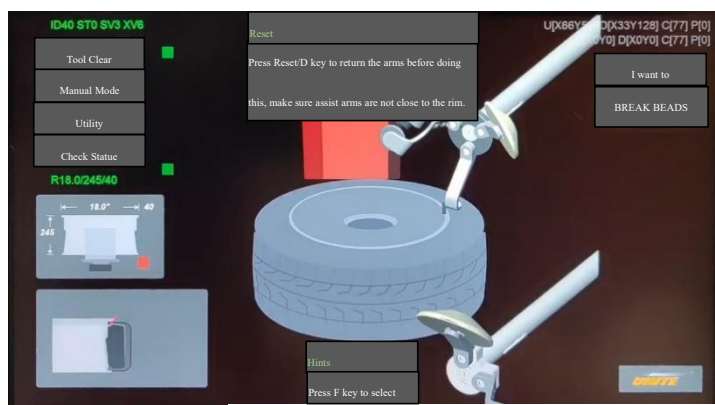


Figure 17

According to (F), it is divided into fast tyre change method and standard tyre change method. The difference of two tyre change methods is just about the tyre changing time.(Figure 18)

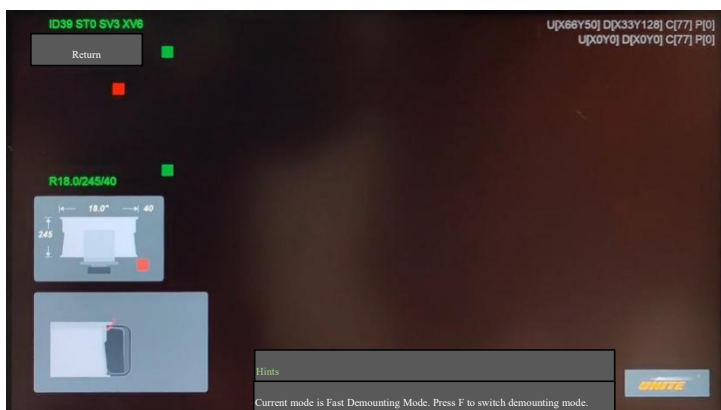


Figure 18

Press (F) to select the tyre type and then press (START) to confirm.(Figure 19)

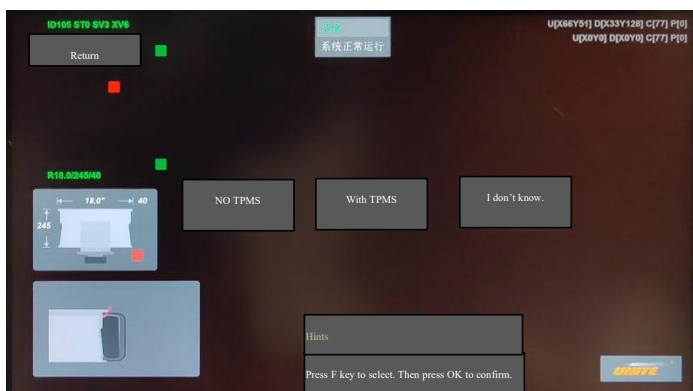


Figure 19

Adjust the tyre flatness ratio parameter in column B as shown in the figure, and press the (START) key for the next step.(Figure 20)

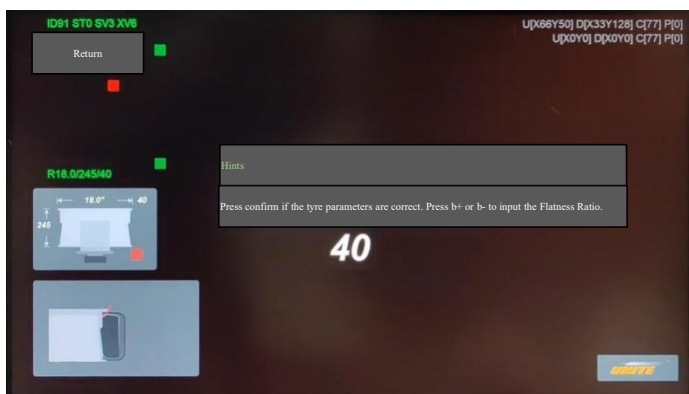


Figure 20

Press the (UP) key to adjust the 3 in 1 lifting tyre changer hook to the upper tyre pressing roller and manually adjust the upper tyre pressing roller to 2mm above the rim edge as per the diagram (as shown in Figure 21).

**Warning:** If there is a tyre pressure monitoring device in the tyre, be sure to select the tyre type (with tyre pressure detection device) in the procedure, and follow the procedure diagram, rotate the mounting base before the automatic tyre change procedure, and align the upper tyre pressing roller at the tyre inflation port to prevent damage to the tyre.

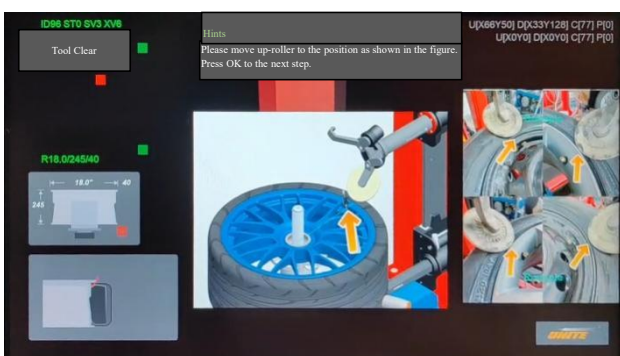


Figure 21

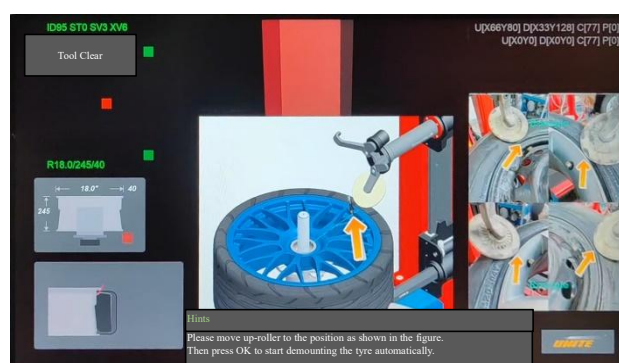


Figure 22

Press (START) to start the automatic tyre change procedure.(Figure 22)

Remove the tyre manually after the tyre change procedure ends.

**Notice:** You can press the (STOP) button to stop the automatic dismantling procedure, or press the emergency stop button to stop the operation at any time. Before restarting the automatic tyre change procedure, be sure to remove the tyre in manual mode, and then press (D) to reset the machine and start the fully automatic tyre change from scratch.

#### 11.4 mounting tyre manually

This operation is consistent with the manual operation 10.6,10.7, please refer to the manual operation instructions.

The use operation of tyre pressing shovel can be refer to manual operation 10.8.

#### 12.Tyre inflation

**Important:** When the tire is inflated, it is very dangerous, you should be careful and strictly follow the operating procedures. When inflating, if there is a problem with the tire or rim, it is extremely dangerous. The explosion caused by the explosion will make the tire go up or out, and the force is very strong, which will cause injury or death to the operator or the people around.

Tire explosion can be caused by:

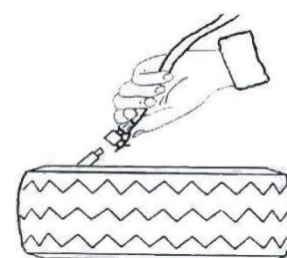


Figure 23

- 1) The rim diameter does not match the tyre diameter;
- 2) The rim or tyre is damaged;
- 3) The tyre inflation pressure exceeds the maximum pressure recommended by the manufacturer;
- 4) The operator does not implement the safety management regulations;

Follow the following steps (as shown in Figure 23):

- 1) Remove the valve core;
- 2) Clamp the valve with an inflatable stylet;
- 3) Check to determine that the rim matches the tyre;
- 4) Check to determine that the rim and rim are well lubricated, and add some lubricant appropriately if

necessary;

5) To inflate the tyre intermittently, check the pressure of the gas meter and check whether the wheel rim is positioned. If not positioned, continue the above process, when inflating the convex or dual CAM rim, it need to take special steps;

- 6) Continue to inflate the tyre intermittently and check the pressure gauge until reach the required pressure.

**Notice: Do not exceed the maximum inflation pressure allowed by the tyre manufacturer. Keep your hands and body away from the inflated tyre. It shall be operated by specially trained personnel and is not allowed others to operate or be located near the tyre changer.**

### 13.Moving the machine

Use a forklift truck to move the tyre changer machine. Cut off the air source and power supply, pry up the base slightly, insert the forklift fork at the bottom, mounting the tyre changer machine in a new position, and fix it smoothly.

**Noite: The mounting position selection of the tyre changer machine must comply with the safety specifications.**

### 14.Maintenance

**Warning: Only professionals can carry out maintenance work. In order to extend the service life of the machine, regular maintenance should be carried out according to the instructions. Otherwise, the operation reliability of the machine will be affected to cause possible injury to the operator and people near the machine.**

**Warning: Before any maintenance work, the air source and power supply must be disconnected, and press 3-4 to clamp or rotate the remaining compressed air in the machine. The damaged parts must be replaced by a professional maintenance personnel with spare parts provided by the manufacturer.**

**Warning: Disconnect the power supply and gas source before operation.**

-The following maintenance should be done at least once a month: check the oil level of the cylinder, if it needs refueling, unscrew with hexagonal wrench, only SAE 30 # can be used, in the case of connected to compressed air, switch tyre changer head replacement button for the first time, see whether the mist drops the first drop of oil, For continuous use, switch twice each time and drop a drop of oil, otherwise please use a straight screwdriver to adjust the oil feeding screw.(Figure 24)

When there is water in the cup, use your finger to push the drain valve up and drain the water out; Loosen your fingers after the water is drained, and the drain valve closes automatically under the action of the spring..

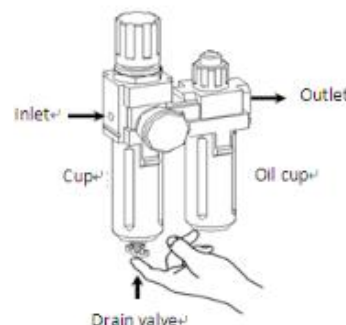


Figure 24

## 15.Common faults and troubleshooting:

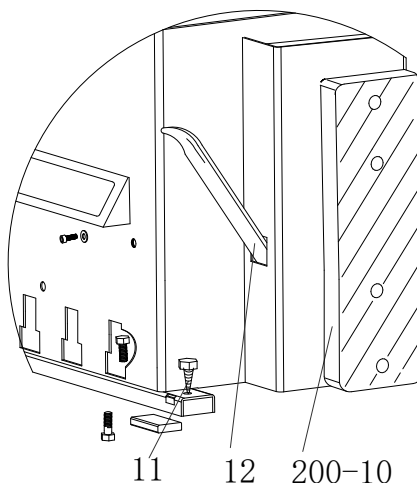
Common faults	Cause	Troubleshooting
Disassembly and assembly head hits the rim while removing / mounting the tire for operation	Incorrect or unqualified locking plate adjustment	Adjust or replace the locking plate
	Chuck fastening screw loose or hexagon pressure rod cannot locked	Tighten the screws; adjust or replace the locking plate
The tyre pressing shovel is not working well	The muffler is blocked	Clean or replace the muffler
	The cylinder gasket of the Tyre pressing shovel is broken	Replace the cylinder gasket

## 16.Guide to order spare parts

- First, you need to obtain solid samples of parts that have been damaged or need to be stocked, and confirm the quantity of parts.
- Confirm the specifications of parts that need to be replaced to avoid ordering errors.

The confirmation method is as follows: according to the scope of use and placement of the parts, find out the corresponding code from the randomly attached explosion diagram of the product instruction (see Section 17), and record the complete code. For customers with multiple models, if the same parts appear different serial numbers in ERP information coding in different models, for example, pry bar: ERP information is encoded as C-200-580000-0, and the serial number in front of it is shown as 12 in different models. 200-12 or other serial number forms belong to the same part and can be classified as a spare part category when filling in the list.

For example, you need to buy a crowbar, because the crowbar is often placed in the sleeve of the crowbar. Find the location of the explosion diagram as follows:



See the serial number "12" in the figure, and then find all the information about the code "12" in the list and write it down. As the following image:

11	FJ04006004049	screw ST6.3*38
12	JZ09001023041	Lifting lever
200-10	JZ09001023178	Bead breaker buffer

The record information is:

12	JZ09001023041	Lifting lever
----	---------------	---------------

## 3、 Summarize the product details.

For example

number	number of order	product name	quantity	Machine purchase time
12	JZ09001023041	Lifting lever	2	2009.6.25

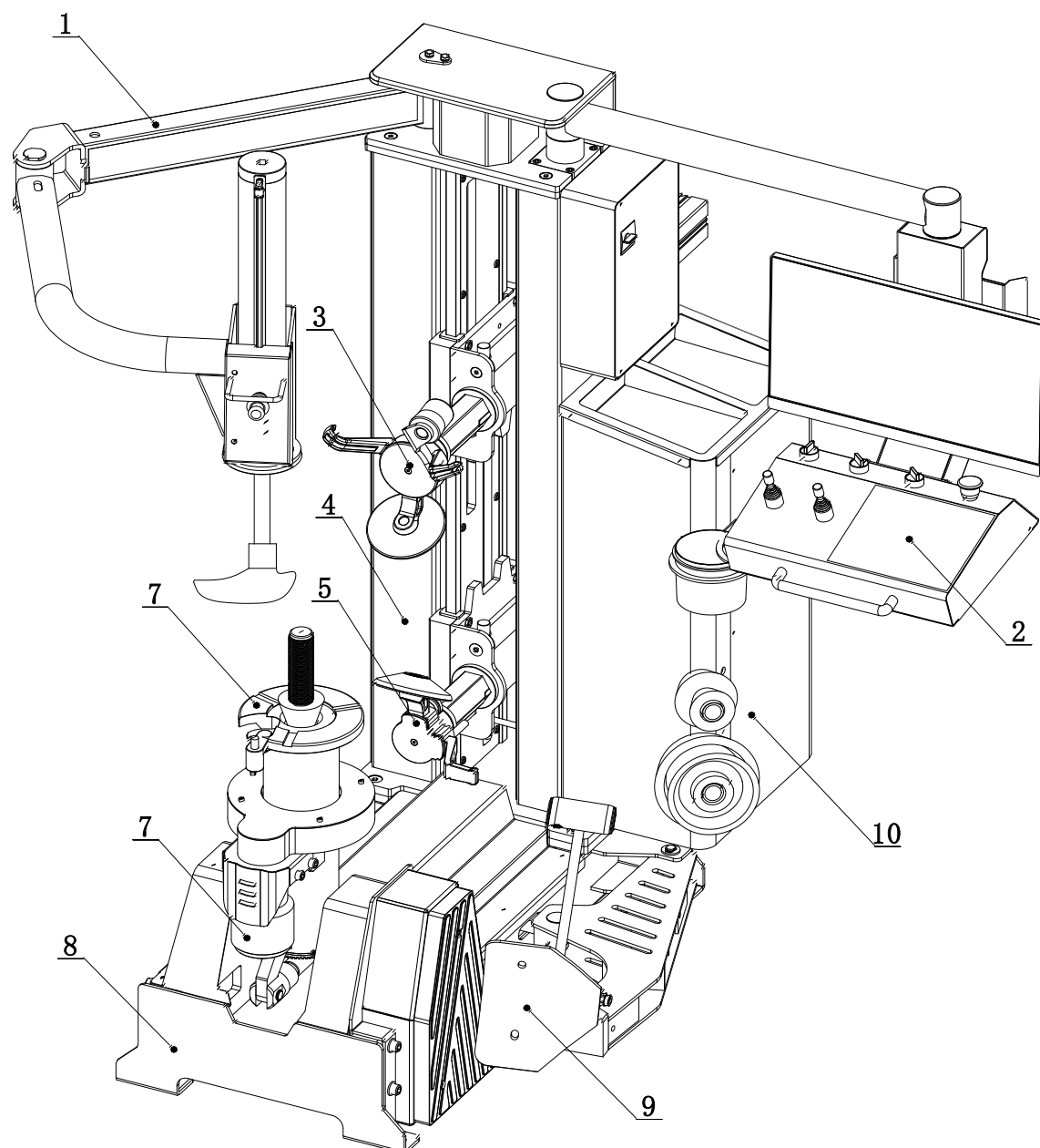
## 4、 Contact our spare parts department for order confirmation.

## 5、 After the order is confirmed, deliver the goods to you according to the supply and demand information.

## Special statement

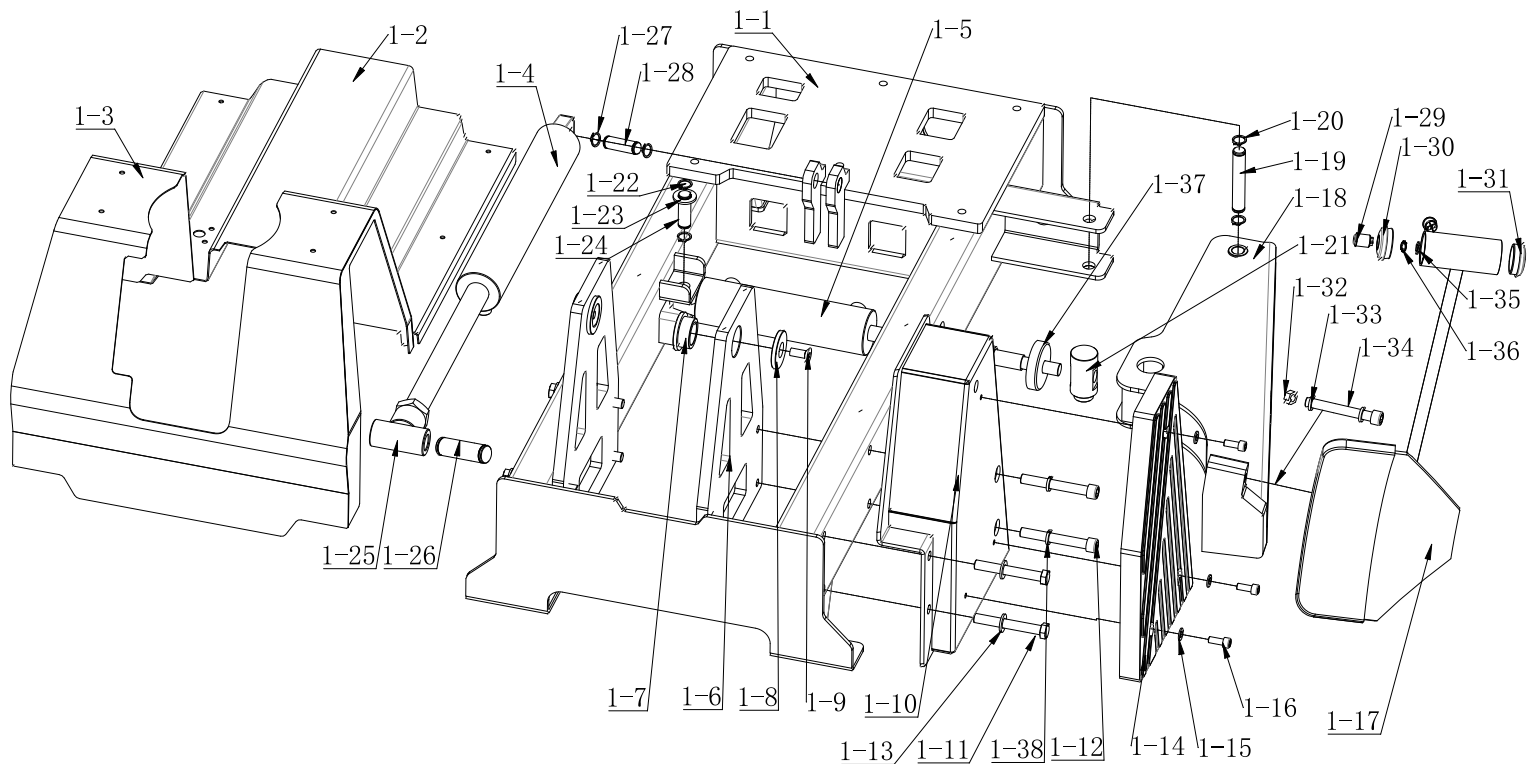
- ◆The Company reserves the right to change the specifications of the parts at any time without prior notice.
- ◆The company shall not have the obligation to make the modification and improvement of the products.

# 17.Product explosion diagram:

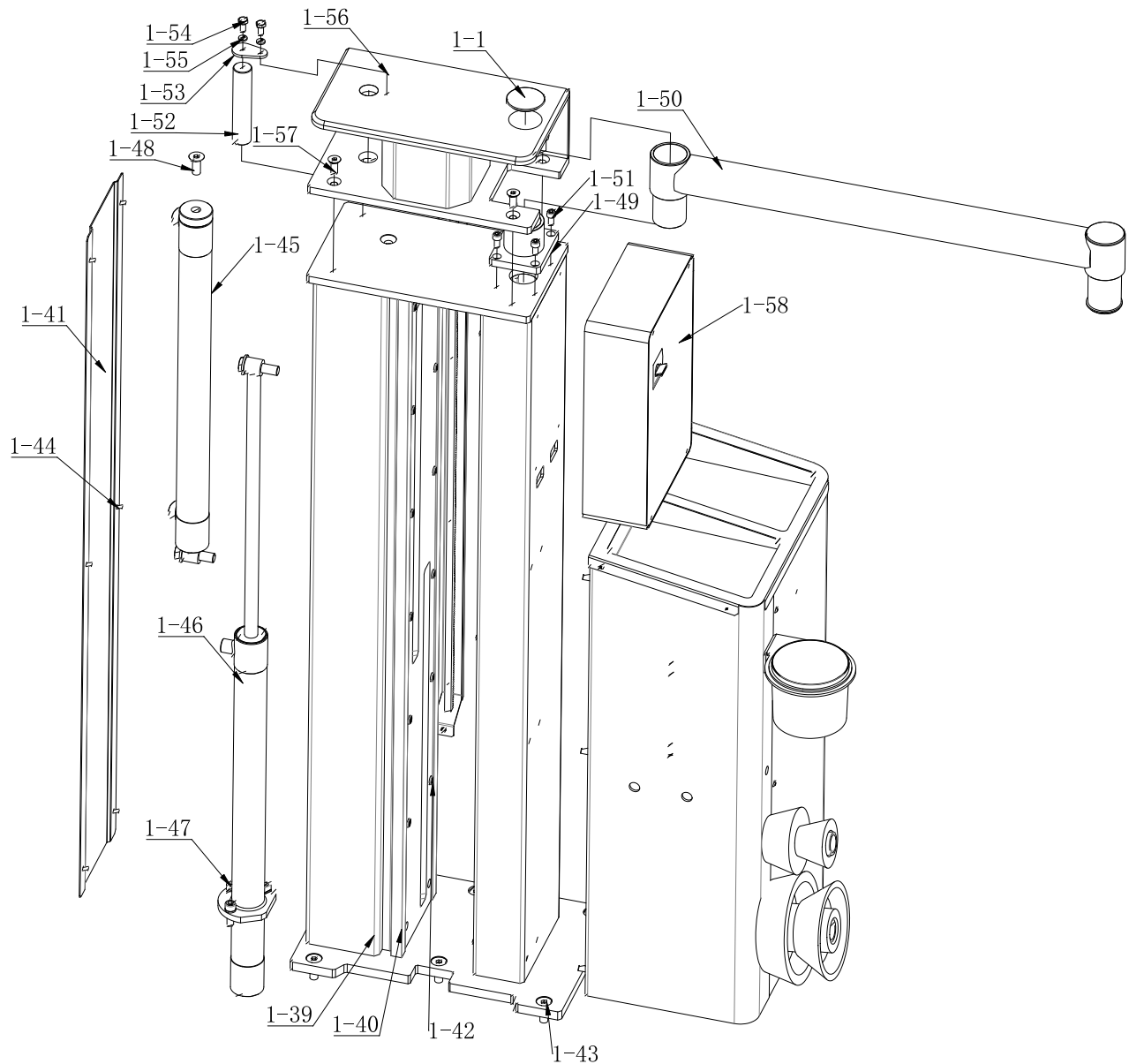


1. Tyre pressing help arm
2. Operation console
3. 3 in 1 changing and mounting system
4. Stand column
5. 2 in 1 tyre mounting system
6. Tire mounting seat
7. Hydraulic motor
8. Base
9. Hydraulic separation shovel
10. Hydraulic pressure

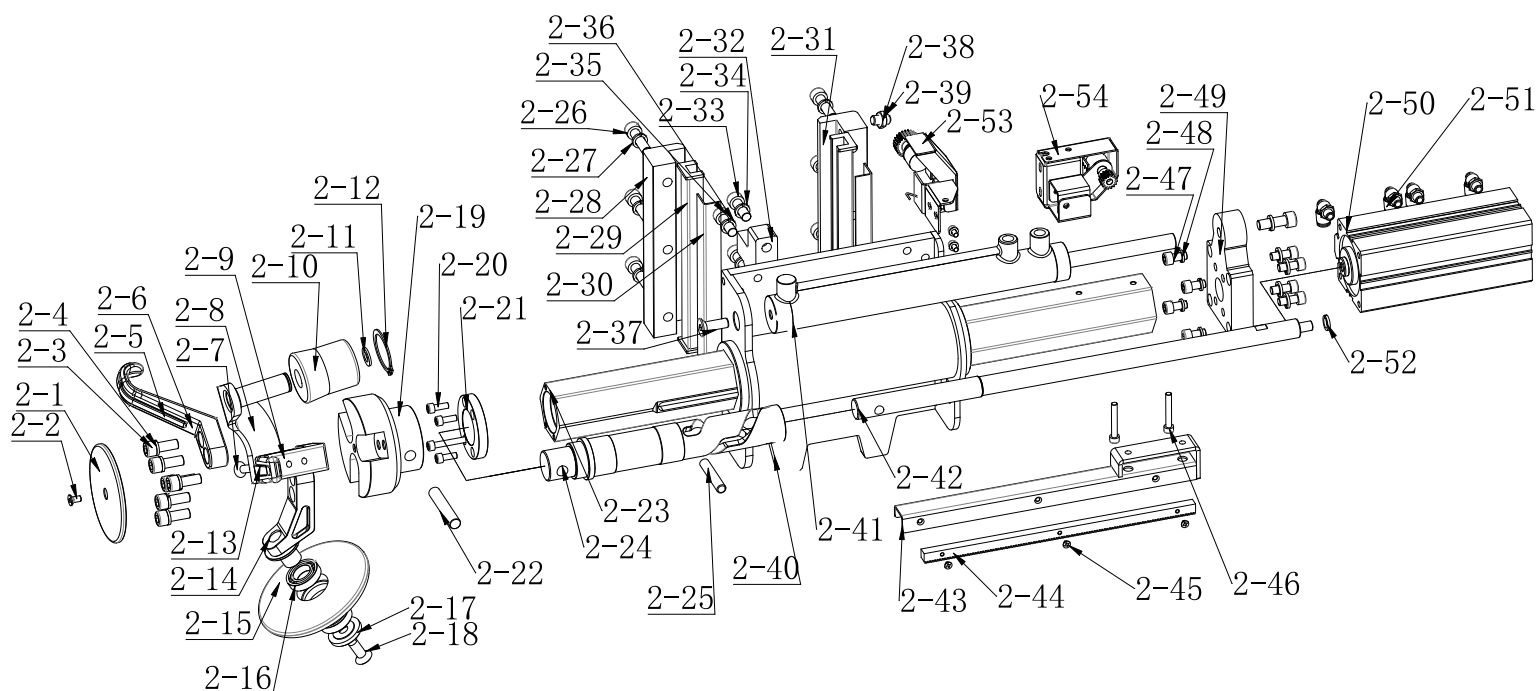




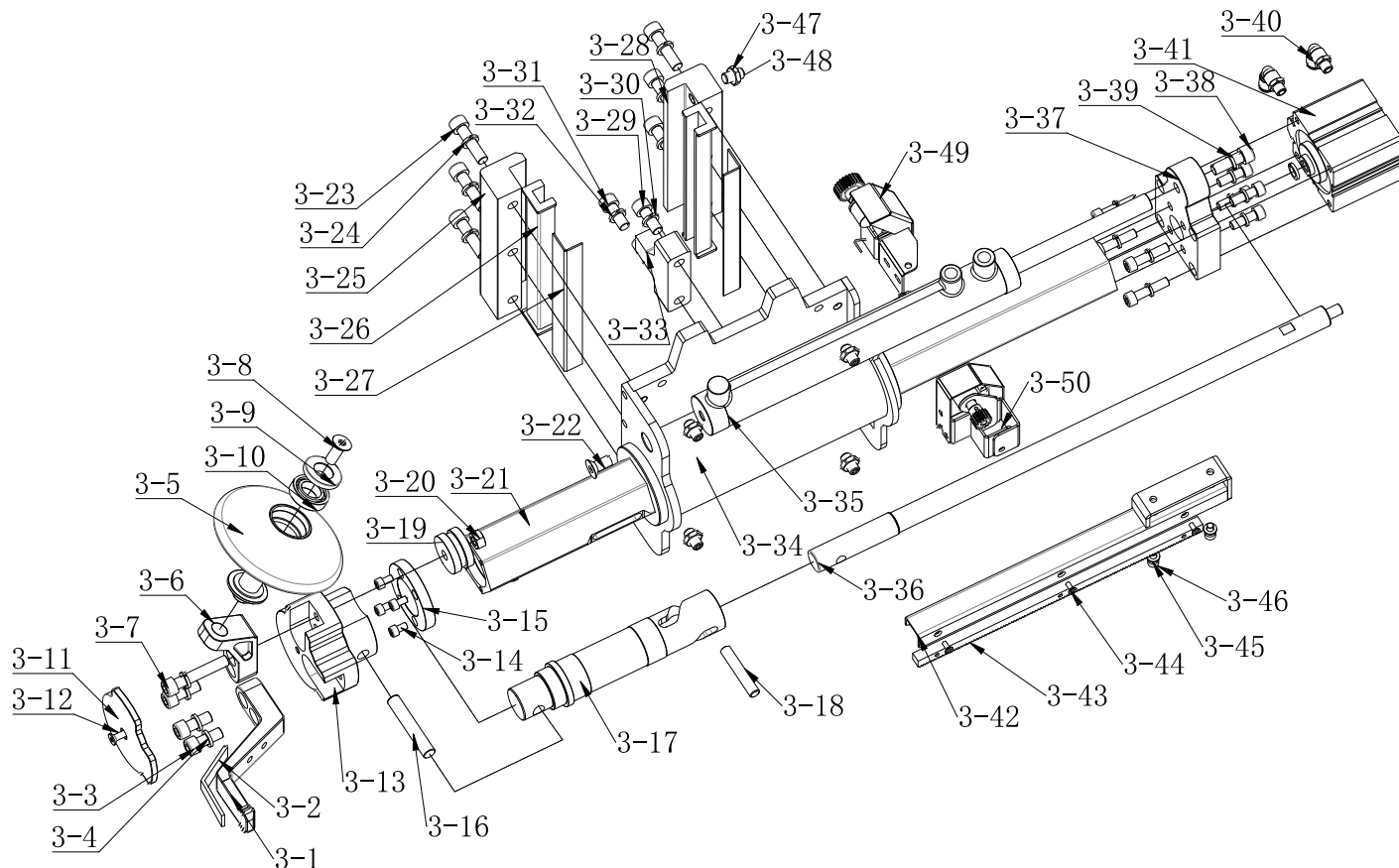
1-1	JZ08001048349	Base ST650	1-20	FJ04001003741	Snap Ring 16
1-2	JZ08001048489	Base cover ST650	1-21	JZ03001048611	cylinder rod sleeve ST650
1-3	JZ08001048406	Base front cover ST650	1-22	FJ04001003741	Snap Ring 16
1-4	JZ04001051598	Complete turn over hydraulic cylinder ST650	1-23	FJ04002003833	Flat washer 16*28*2
1-5	JZ04001048633	Complete hydraulic cylinder assembly ST650	1-24	JZ09001051961	Hydraulic cylinder fixing pin ST650
1-6	JZ08001048403	Tire mounting base support plate ST650	1-25	JZ03001051962	Flip rotary hydraulic cylinder adjustment lug
1-7	JZ09001051587	Mounting seat bushing ST650	1-26	JZ09001051958	cylinder adjustment lug pin
1-8	JZ03001051589	Large gasket ST650	1-27	JZ03001048689	Rotary cylinder fixing pin
1-9	FJ04006051588	screw M10*20	1-28	FJ04001003743	Snap Ring 20
1-10	JZ08001048501	Special-shaped pressure seat ST650	1-29	DD03009052525	metal pushbutton switch φ16
1-11	FJ04009052210	Outer hex bolt M12*90	1-30	JZ02007048628	Tire press shovel handle left plug
1-12	FJ04009004613	hex socket head cap screw M12*90	1-31	JZ02007053687	Tire press shovel handle right plug
1-13	FJ04002003813	Flat washer 12*24*2	1-32	FJ04008004445	Nut M12
1-14	JZ09001048505	Bead Breaker Buffer ST650	1-33	FJ04002003813	Flat washer 12*24*2
1-15		Flat washer	1-34	FJ04009004612	hex socket head cap screw M12*80
1-16	FJ04009004707	hex socket head cap screw M8*25	1-37	JZ09001022720	Bead breaker arm rubber U204
1-17	JZ03001048616	Bead breaker shovel assembly ST650	1-38		Flat washer
1-18	JZ08001048512	Bead breaker arm ST650	1-39	JZ07001020829	Bead breaker shovel protection cover(optional) U200
1-19	JZ03001015349	Bead breaker arm pin U200	1-40		



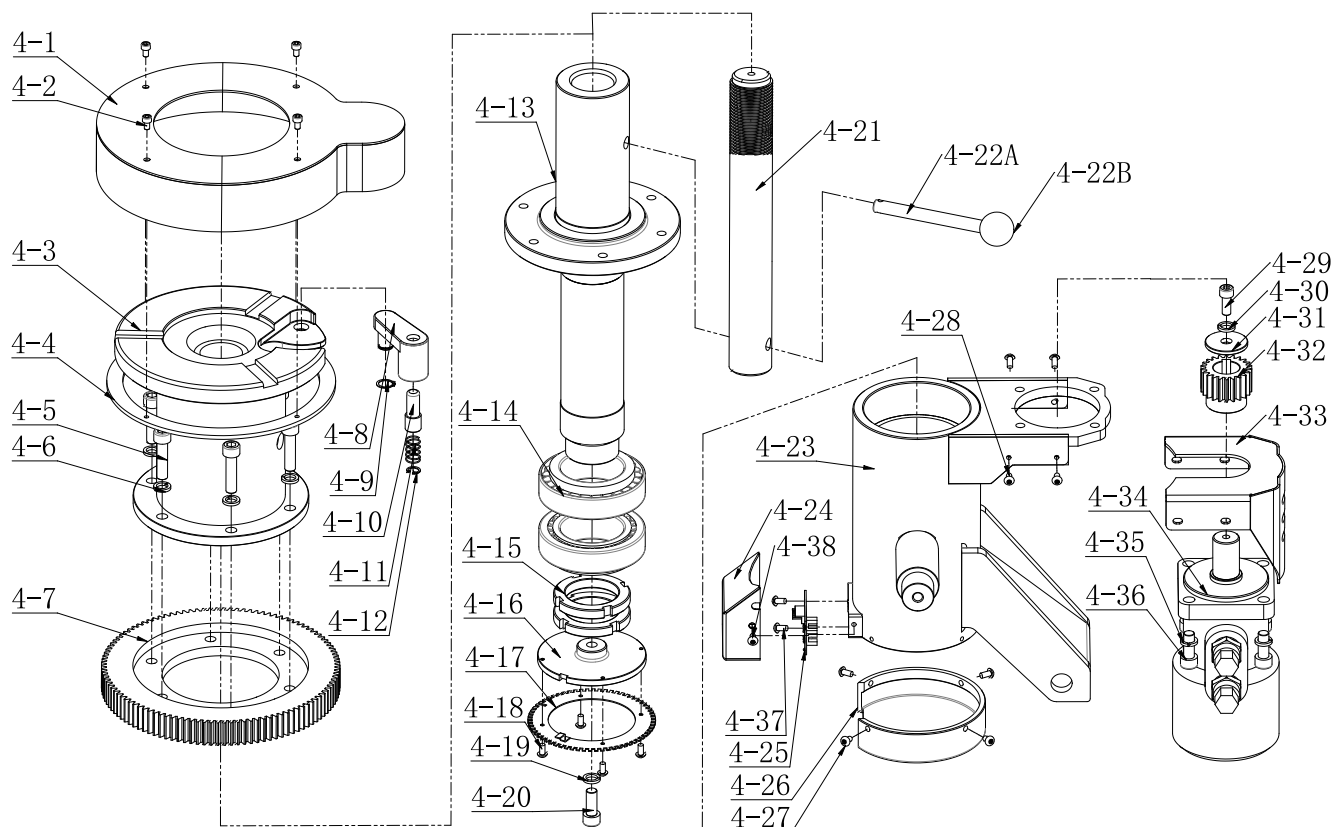
1-39	JZ08001050707	Column ST650	1-49	JZ08001053457	Swivel arm base ST650
1-40	JZ03001052564	Column slide ST650	1-50	JZ08001053463	Console swivel arm ST650
1-41	JZ08001053528	Column side cover ST650	1-51	FJ04009004703	hex socket head cap screw M8*16
1-42	FJ04009004706	hex socket head cap screw M8*20	1-52	JZ03001053429	Driving arm shaft ST650
1-43	FJ04006053546	screw M12*35	1-53	JZ03001053420	Shaft cover ST650
1-44	FJ04006004254	screw M5*10	1-54	FJ04009004874	Outer hex bolt M8*16
1-45	JZ09001050591	Tire wheel lifting cylinder ST650	1-55	FJ04002003792	Flat washer 8
1-46	JZ09001050592	Tire hook lift cylinder ST650	1-56	JZ08001053413	Column top cover ST650
1-47	FJ04009004581	hex socket head cap screw M10*30	1-57	FJ04006053419	screw M10*25
1-48	FJ04009052253	hex socket head cap screw M14*50	1-58		Electrical control box Assembly (Automatic)



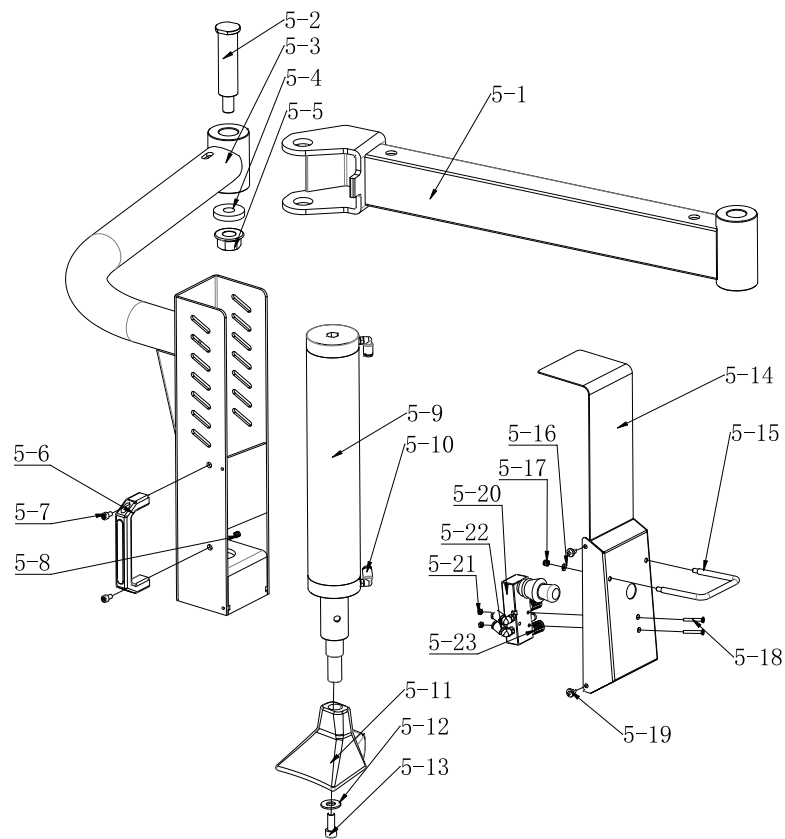
2-1	JZ03001052438	Tire hook rotary disc end cover ST650	2-28	JZ03001052244	Lifting sleeve front pressing block ST650
2-2	FJ04006052445	screw M6*16	2-29	JZ09001052159	U-shaped friction plate ST650
2-3	FJ04009004579	hex socket head cap screw M10*25	2-30	JZ03001052285	Adjusting tablet ST650
2-4	FJ04002003773	Flat washer 10	2-31	JZ03001052243	Lift sleeve back block ST650
2-5	JZ09001052170	Tire removal hook pad ST650	2-32	JZ03001052250	Tire removal machine lifting sleeve lug ST650
2-6	JZ09001052172	Tire removal hook ST650	2-33	FJ04009004579	hex socket head cap screw M10*25
2-7			2-34	FJ04002003773	Flat washer 10
2-8	JZ02007052527	Tire training wheel support welding ST650	2-35	FJ04009052253	hex socket head cap screw M14*50
2-9	JZ09001052160	Tire hook ST650	2-36	FJ04002003928	Flat washer 14
2-10	JZ02007052532	Tire training wheel ST650	2-37	FJ04006051588	screw M10*20
2-11	FJ04002003844	Flat washer 20*36*2.5	2-38	FJ04008052277	Nut M14*T7
2-12	FJ04001003743	Snap Ring 20	2-39	FJ04006052275	screw M14*35
2-13	JZ09001052169	Install and remove hook pads ST650	2-40	JZ03001052219	Tire lifting sleeve ST650
2-14	JZ02007052481	Tire wheel support ST650	2-41	JZ09001050590	Telescopic cylinder ST650
2-15	JZ09001022809	Roller U238	2-42	JZ09001052151	Piston rod tie rod ST650
2-16	FJ02010003604	Bearing 61904-2Z	2-43	JZ03001052567	Front and rear ranging rack cover welds ST650
2-17	JZ03001052521	Tire roller end cover ST650	2-44	JZ02007054160	Front and rear ranging rack L300
2-18	FJ04006051588	screw M10*20	2-45	FJ04006052566	screw M4*10
2-19	JZ03001052446	Tire hook swivel ST650	2-46	FJ04009004676	hex socket head cap screw M6*16
2-20	FJ04009004676	hex socket head cap screw M6*16	2-47		
2-21	JZ03001052394	Spindle end cover ST650	2-48		
2-22	JZ09001052166	Rotating disk fixing pin ST650	2-49	JZ03001052311	Spindle cylinder fixing plate ST650
2-23	JZ03001055651	Tire removal hook spindle ST650	2-50	JZ09001052212	double stroke cylinder SDAT63x45x45
2-24	JZ09001052155	Reversing shaft ST650011410	2-51	EQ02005052214	valve G1/4-Φ6
2-25	JZ09001052168	Remove reversing sliding pin ST650	2-52		
2-26	FJ04009004586	hex socket head cap screw M10*40	2-53		Upper and lower range potentiometer assembly
2-27	FJ04002003773	Flat washer 10	2-54		Front and rear ranging potentiometer assembly



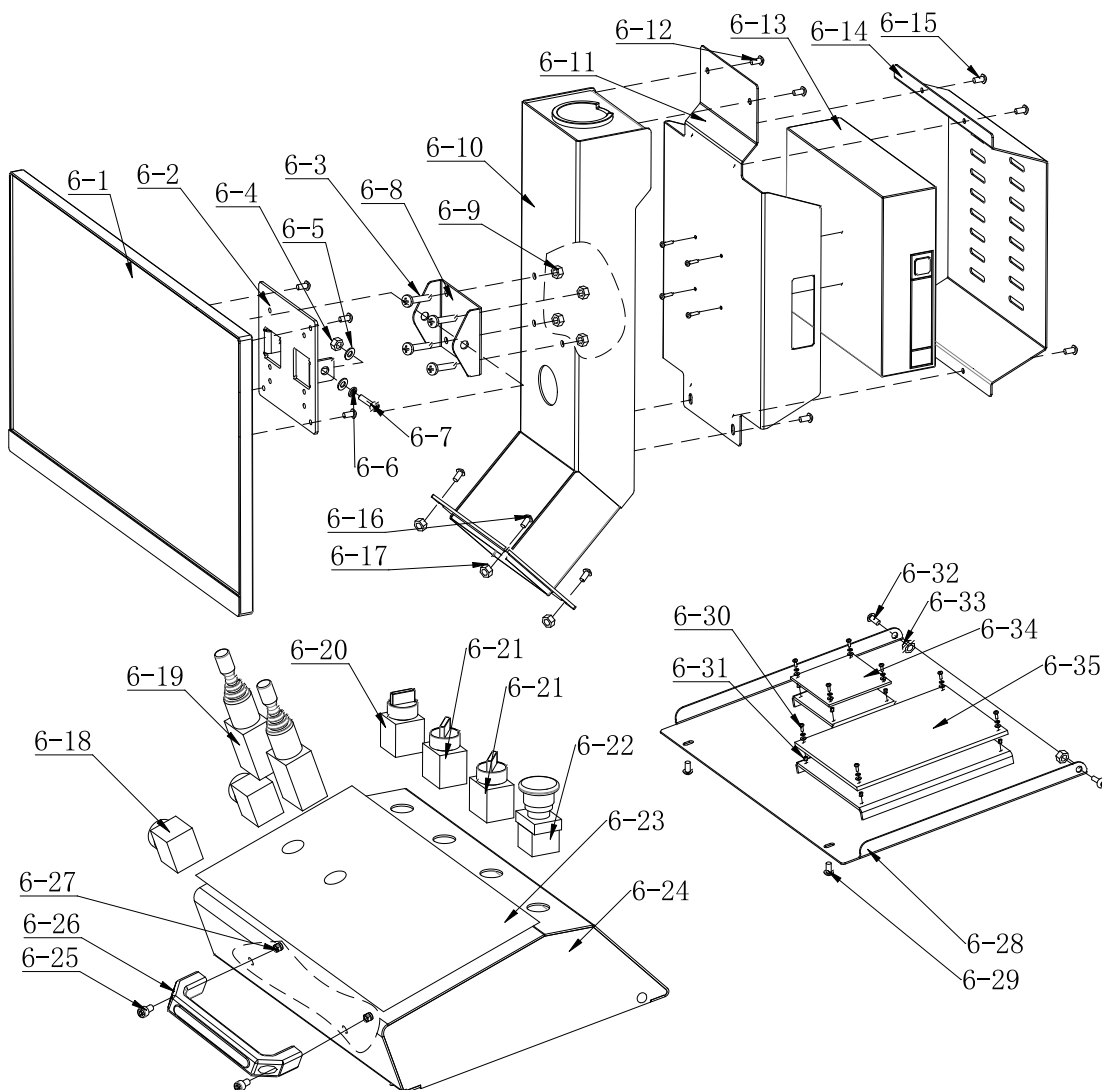
3-1	JZ09001057630	Fetal hook ST650	3-26	JZ09001052159	U-shaped friction plate ST650
3-2	JZ09001052169	Install and remove hook pads ST650	3-27	JZ03001052285	Adjusting tablet ST650
3-3	FJ04009004579	hex socket head cap screw M10*25	3-28	JZ03001052243	Lift sleeve back block ST650
3-4	FJ04002003773	Flat washer 10	3-29	FJ04009004579	hex socket head cap screw M10*25
3-5	JZ09001022809	Roller U238	3-30	FJ04002003773	Flat washer 10
3-6	JZ02007052481	Tire wheel support ST650	3-31	FJ04009052253	hex socket head cap screw M14*50
3-7	FJ04009004589	hex socket head cap screw M10*55	3-32	FJ04002003928	Flat washer 14
3-8	FJ04006051588	screw M10*20	3-33	JZ03001052250	Tire removal machine lifting sleeve lug ST650
3-9	JZ03001052521	Tire roller end cover ST650	3-34	JZ03001052535	Tyre lift sleeve ST650
3-10	FJ02010003604	Bearing 61904-2Z	3-35	JZ09001050590	Telescopic cylinder ST650
3-11	JZ03001052438	Tire hook rotary disc end cover ST650	3-36	JZ09001052154	Extension lever ST650
3-12	FJ04006052445	screw M6*16	3-37	JZ03001052311	Spindle cylinder fixing plate ST650
3-13	JZ03001052543	Abnormity rotating disc ST650	3-38	FJ04009004711	hex socket head cap screw M8*35
3-14	FJ04009004676	hex socket head cap screw M6*16	3-39	FJ04002003925	Flat washer 8
3-15	JZ03001052394	Spindle end cover ST650	3-40	EQ02005052214	valve G1/4-Φ6
3-16	JZ09001052166	Rotating disk fixing pin ST650	3-41	JZ09001052211	thin cylinder SDA63x40
3-17	JZ09001052158	L-commutation axis ST650	3-42	JZ03001052567	Front and rear ranging rack cover welds ST650
3-18	JZ09001052168	Remove reversing sliding pin ST650	3-43	JZ02007054160	Front and rear ranging rack L300
3-19	DD04007050736	Sensor Assembly 0	3-44	FJ04006052566	screw M4*10
3-20		Nut	3-45	FJ04002003892	Flat washer 6*14*1.2
3-21	JZ03001055650	Tire wheel hexagon lever ST650011502 (black)	3-46	FJ04009004676	hex socket head cap screw M6*16
3-22	FJ04006051588	screw M10*20	3-47	FJ04008052277	Nut M14*T7
3-23	FJ04009004586	hex socket head cap screw M10*40	3-48	FJ04006052275	screw M14*35
3-24	FJ04002003773	Flat washer 10	3-49		Upper and lower range potentiometer assembly
3-25	JZ03001052244	Lifting sleeve front pressing block ST650011402(black)	3-50		Front and rear ranging potentiometer assembly



4-1	JZ03001051613	Drive gear cover ST650	4-20	FJ04002003773	Flat washer 10
4-2	FJ04006051607	screw M4*8	4-21	JZ03001051953	Mounting seat thread shaft ST650
4-3	JZ03001051531	Mounting disc assembly ST650	4-22A	JZ03001051592	Turning sleeve assembly ST650
4-4	JZ03001051626	Mounting seat cover shell ring T650	4-22B	JZ09001022687	Pin handle M8*SR12.5
4-5	FJ04009004583	hex socket head cap screw M10*35	4-23	JZ03001051552	Turning sleeve assembly ST650
4-6	FJ04002003773	Flat washer 10	4-24	JZ08001053707	Raster circuit board cover ST650
4-7	JZ09001051536	Big gear ST650	4-25	JZ02008012201	Position Pick-up Board U100
4-8	JZ03001051573	Aligning block Assembly ST650	4-26	JZ02007051612	Mounting base cover ST650
4-9	FJ04001003739	Snap Ring 14	4-27	FJ04006004254	screw M5*10
4-10	JZ09001051571	Tire fixing pin ST650	4-28	FJ04006004254	screw M5*10
4-11	JZ09001051564	Tire fixing pin lock spring ST650	4-29	FJ04009004874	Outer hex bolt M8*16
4-12	FJ04001051570	Snap Ring 15	4-30	FJ04002003792	Flat washer 8
4-13	JZ03001051540	Mounting seat spindle ST650	4-31	FJ04002003915	Flat washer 8*30*3
4-14	FJ02010051538	Bearing 33112	4-32	JZ09001051537	Pinion ST6500113003
4-15	FJ04008051539	Nut M50*1.5	4-33	JZ03001051613	Drive gear cover ST650
4-16	JZ03001051599	Coding tray holder ST650	4-34	JZ09001050706	Hydraulic motor
4-17	JZ09002023348	tooth grating Z64	4-35	FJ04006051588	screw M10*20
4-18	FJ04006004254	screw M5*10	4-36	FJ04002003773	Flat washer 10
4-19	FJ04009004583	hex socket head cap screw M10*35	4-37	FJ04006004318	screw M4*10
			4-38	FJ04006004254	screw M5*10

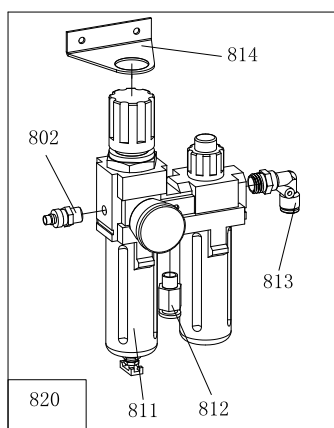


5-1	JZ08001048804	Driving arm ST650
5-2	JZ03001053440	Driven arm shaft ST650
5-3	JZ08001053432	Follower arm assembly ST650
5-4	JZ03001015476	Big washer U200
5-5	FJ04008004448	Nut M16
5-6	JZ09001052513	Tube handle center distance130
5-7	FJ04009004713	hex socket head cap screw M8*40
5-8	FJ04008004459	Nut M8
5-9	JZ04001053449	Complete cylinder assembly ST650
5-10	EQ11005003354	Quick coupler G1/8*L11-Φ6
5-11	JZ09001048876	Deformed tire press block
5-12	FJ04002003800	Flat washer 10*20*2
5-13	FJ04009004586	hex socket head cap screw M10*40
5-14	JZ08001053443	Hand valve cover ST650
5-15	JZ03001053446	Help arm handle ST650
5-16	FJ04002003892	Flat washer 6*14*1.2
5-17	FJ04008004458	Nut M6
5-18	FJ04006004200	screw M4*30
5-19	FJ04006004254	screw M5*10
5-20	EQ02011002888	Hand valve 4H230L-08
5-21	FJ04008004510	Nut M4
5-22	EQ10004003254	Quick coupler G1/4-Φ6
5-23	EQ04002002955	Muffler G1/8

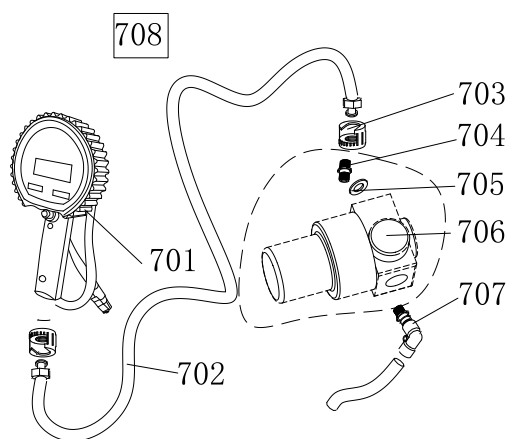


6-1	DD03011050803	LED display	6-19	DD03009001603	switch C2MN-T4
6-2	JZ08002021414	display support U860	6-20	DD03009050842	switch NP4-11X/31/green
6-3	FJ04006052827	screw M6*12	6-21	DD03009050846	switch NP4-11X/21/green
6-4	FJ04008004459	Nut M8	6-22	DD03009050844	switch NP2-BS542
6-5	FJ04002003904	Flat washer 8*17*1.5	6-23	JZ10001050646	Key board U650
6-6	FJ04002003792	Flat washer 8	6-24	JZ08001053491	Hand control console ST650
6-7	FJ04009004706	hex socket head cap screw M8*20	6-25	FJ04009004713	hex socket head cap screw M8*40
6-8	FJ04008004458	Nut M6	6-26	JZ09001052514	orange tubular handle (center distance 200)
6-9	JZ08001053484	Display connection bracket assembly ST650	6-27	FJ04008004459	Nut M8
6-10	JZ08001053468	Console main column ST650	6-28	JZ08001053500	Hand integrated console baseplate ST650
6-11	JZ08001053476	Console main column rear cover plate (automatic)ST650	6-29	FJ04006004254	screw M5*10
6-12	FJ04006004254	screw M5*10	6-30	FJ04006004368	screw M4*10
6-13	JZ09001050802	Small computer host (Chinese system)	6-31	DD02006050630	Hexagonal isolation column
6-14	JZ08001053719	Host cover ST650	6-32	FJ04006052827	screw M6*12
6-15	FJ04006004336	screw M5*10	6-33	FJ04008004458	Nut M6
6-16	FJ04006052827	screw M6*12	6-34	JZ02007050825	Board U650
6-17	FJ04008004458	Nut M6	6-35	JZ09001050849	computer board ST650
6-18	DD03009050843	switch NP4-11BN/green			

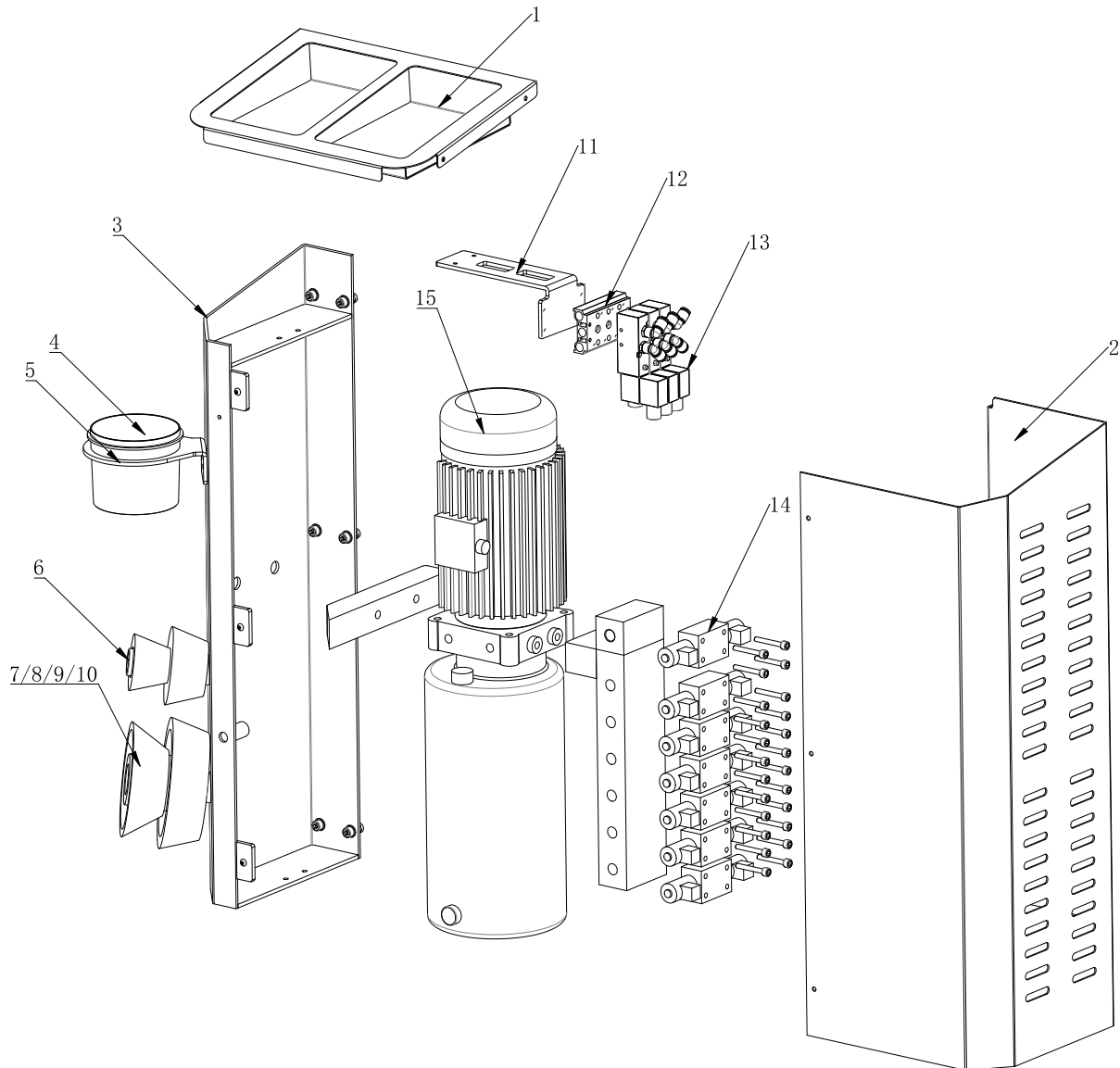




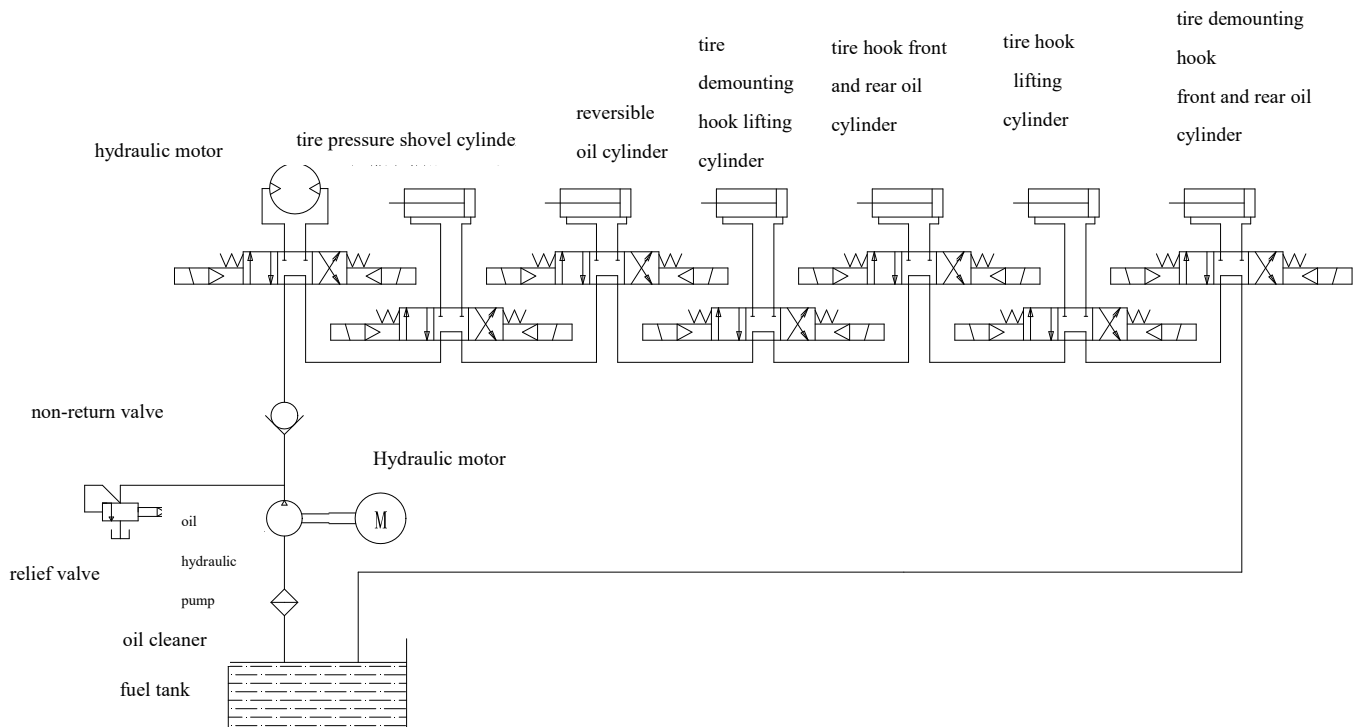
802		Quick coupler 20PM-G1/4
811	EQ03001002902	Filter AW+AL3300
812	EQ10005003297	Quick coupler G1/8-Φ6
813	EQ11005003350	Quick coupler G1/4-Φ8
814	JZ09001023263	Oil fog maker surport U200
820		Complete oil fog maker 3300



701	EQ05001048326	Digital inflating gun 0-12Bar
702	JZ09001022642	Rubbe hose 1.5m,flat head
703	EQ14003003478	Notch nut G1/4 /TP-08
704	EQ07005003072	connector 2*G1/4
705	FJ04002003822	Flat washer 13*24*1
706	EQ03003002911	Pressure adjust valve AR2000-G1/4
707	EQ10004003257	Quick coupler G1/4-Φ8
708		Complete Digital pressure gauge box



7	JZ03002016062	1 CONE Tr40,big inside diameterΦ40
8	JZ03002016063	2 CONE Tr40,medium inside diameterΦ40
9	JZ03002016064	3 CONE Tr40,med-small inside diameterΦ40
10	JZ03002016061	4 CONE Tr40,small inside diameterΦ40
5	JZ03001053569	Oil bucket support ST650
3	JZ08001053547	Hydraulic pump seat ST650
2	JZ08001053556	Hydraulic pump station cover ST650
1	JZ08001053559	Iron tool box ST650
13	EQ02008049048	Electromagnetic Valve 4V210-08/DC24
11	JZ03001053573	Pneumatic solenoid valve mounting plate ST650
15	EQ01001052061	power unit 220V/50H/1.5KW/1PH
6	JZ09001022950	Hook U203

**18.Schematic diagram:****Schematic diagram of the hydraulic transmission:****Schematic diagram of the pneumatic transmission:**