Table of contents

Tyre changer

1.General information

This instruction manual includes important contents of the machine, please read carefully before installation and use; it is also important for safe use and machine maintenance. Please keep this manual properly for future maintenance.

Danger: It can result in serious injury or death. Do follow the instruction of this manual to operate the machine. The manufacturer and seller are not responsible for any results caused by improper use of the machine.

Warning: It can result in serious injury or death. This machine must be operated by a professional personnel. The operator must be trained and fully understand the contents of this manual. Operated by an unprofessional personnel can be dangerous, further it may damage the tire and rim.

Note: It can result in serious injury or death.

Do not operate this machine without reading this entire manual. Keep this manual and the warning labels of the machine. Relevant information and sales documents are part of the machine. All figures in this manual are collected from the original structure design, which may be different from the physical ones. This manual provides guidance by those who have a certain foundation knowledge of mechanical/electrical engineering, and may omit the basic operating procedures such as how to fasten the bolts. It is required an experienced personnel to operate this machine. Ask for assistants from the seller if necessary.

2.Product introduction:

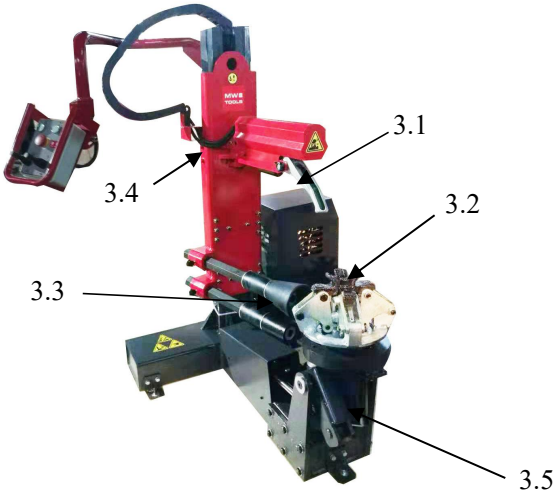
Application Range: The hydraulic/electrical tyre changer is designed to mount and demount tubeless truck tyres. Please refer to technical specifications for the range of tyre weight and size.

Warning: The machine should not be used for purposes other than those described in the instruction manual, with rim from 19”~26” and a maximum 1400mm wheel diameter. Any other use is improper and not authorized or recommended. Manufacturer shall not liable for any injury to persons or damage to things caused by improper use of this machine.

Safety precautions: The machine should only be used by duly trained personnel or those who has carefully read the entire manual and have certain experiences on operating machine. The unauthorized change on the parts and spare parts of the machine or improper use will cause damage to the machine which will not be covered under warranty. In case, there is any parts damage for some reasons, please check the part number in this manual and ask replacement from the manufacturer(Note: 1 year warranty, consumable parts are excluded from warranty coverage).

3.Safety warnings/Instructions:

3.1 Do not reach your hand under the demount tool;
3.2 Do not reach your hand into the jaw;
3.3 Do not reach your hand in between the tyre and rim during tyre demounting;
3.4 This is an electrical machine. Make sure ground wire is securely connected;
3.5 Do not reach your foot under within the main shaft swing range;
3.6 Warning instructions;



Safety warning labels

Warning: Unreadable and missing warning labels must be replaced immediately. Do not use the tyre changer if one or more labels are missing. Do not add any object that could prevent the operator from seeing the labels.

 Warning

Make sure ground wire is securely connected before operating the machine.

 Warning

The others except the operator should be kept away from the machine during operation.

 Warning

Failure to follow danger, warning, and caution instructions may lead to serious personal injury to operator or bystander. Read this manual and related safety warning instructions before operating the machine. The tyre changer must be operated by a trained personnel who understand all requirements on operating, hazardous/safety and detailed of operating process. Do not operate the machine after drinking alcohol.

- Understand all requirements in this manual.
- 了 Understand all functions of this machine.
- The others except the operator should be kept away from the machine.
- Make sure the installation of the machine is complies with all regulations under current law.
- Make sure the operator is trained and qualified. Ensure all operation process is able to be fully noticed. Do not remove bolts, nuts or other components on the machine.
- Do not touch electrical parts such as motor and wires before cutting off the power supply.
- Read this manual carefully and know how to correctly and safely operate this machine.
- Keep this manual for future use.
-

 Warning

Do not remove the danger, safety and operation warning labels from the machine. In case, there are any unreadable labels, please contact your retailer immediately.

- Operator should pay attention to the high/low voltage during performing any repairs.
- Do not modify the machine and use non-original parts without authorization.
- Operators should wear tight work clothes, safety gloves, goggles and other protection tools.

 Warning

Do not wear loose clothing, necklaces or long hair when operating this machine.

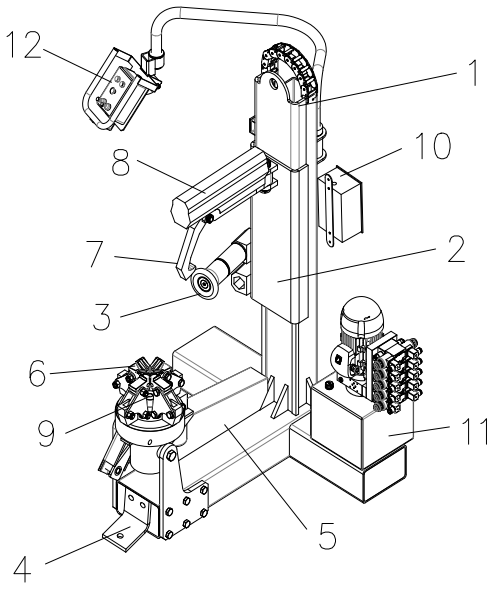
4.Technical data:

Max. wheel diameter	55″ （1400mm）
Max. wheel width	18″ （460mm）
Clamping range	5 " - 15 "
Bead roller power	3500Kg
Working pressure	13.5Mpa
Voltage	380V - 3 phase
Electric motor	3kw
Rim diameter	19 " - 26 "
Noise level	＜70dB

- Turntable
- Fitting method Jaws
- Fixed method Jaws
- Clamping method Hydraulic
- Driving method Hydraulic motor
- Rotating speed of main shaft 6.8rpm

5.Main components:

1. Guide rail
2. Demounting arm
3. Bead roller
4. Stand
5. Main shaft rotating cylinder
6. Jaw opening/closing cylinder
7. Mounting/demounting hook
8. Mounting/demounting hook cylinder
9. Main shaft cylinder
10. Main power console
11. Hydraulic pump unit
12. Control console



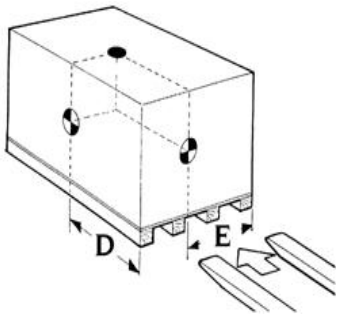

Warning

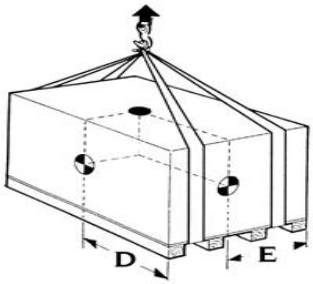
Understand all information of this tyre changer: The operator should know how to prevent accidents, know how to operate this tyre changer, recognize and understand all control buttons, and understand each operation of control section to prevent accidents occur. Make sure that the tyre changer correctly works. The machine must be installed and operated correctly and maintained regularly.

6.Transportation:

6.1.Transportation packaging

The machine must be transported in its original packaging and kept in the position shown on the package itself. The packaged machine should be moved by means of a fork lift truck of suitable capacity. Insert the forks at the points,shown in the following figure.



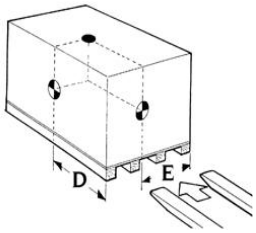


6.2.Environment requirements of transportation and storage

Temperature：-20℃----+50℃

6.3.Moving method

Remove the outer packing and insert the forklift under the bottom of the baseplate.



Keep the packing materials for possible future transport.

7.unpacking and inspection:

7.1.Unpacking

- Wear proper protective equipment(glove etc.) when unpacking.
- Carefully check the packing list, making sure that no parts are missing. If in doubt, please contact your retailer immediately.
- Packing materials (objects, nails, plastic materials, etc.) must be stored in a safety place.
- In case there are any contaminants or non-biodegradable materials are found in the package shall be treated in accordance with local regulations.

-  Warning
- Unpacking, assembling and moving may cause damage to the machine. It requires carefully handle and the requirements are as follows.
- Unpacking the top of the package, making sure there is no damage of the machine during shipping. Find out the fixed bolts at the bottom of the baseplate and prepare to move out the machine.

7.2.Moving

- Lift the machine from the packing base and wrap the lifting belt around the machine.
- Whenever move the machine, the above approach should be adopted.
- It is not allowed to move the machine without shutting off the machine and cutting off the power supply.

8.Installation:

8.1.Environment requirements:

Temperature	4℃----------40℃
Height above sea level	＜1000m
Humidity	50%40℃------90%20℃

- Choose the place the machine is to be installed in compliance with current work place safety regulations.
- It is recommended to install the machine near the power supply.
- If installed outdoor, it must be protected by some kind of roofing. It is not recommended to use outdoor.
- It is required enough light sources in the work place to satisfy the operator's observation of the details of the operation process.

During operation, others except for the operator are not allowed to stay within the operation area.

8.2.Fix the machine

- Remove the bolts and nuts from the baseplate. Wrap the hoisting belt around the tyre changer and lift the machine.
- Take off the baseplate and place the tyre changer on the selected place.

Be careful not to damage oil pipes and nozzles of the machine during hoisting. Be careful when hoisting the machine.

- Use the holes provided in the base of the machine with M12 and 12.9 bolts to fix the machine on the ground.

It is strictly forbidden to use the machine outdoor without protective shelter.
The tyre changer must be fixed with bolts on the even floor. Inclinations up to 0.25% relative to the horizontal can be compensated using suitable wedges or the alike.

8.3.Electric hook up

- Connect the machine to the power supply line circuit. Making sure the system is equipped with fuses and a good grounding circuit according to Electricity Code. It must connected to a protection switch.
- Note: If plug is missing, please prepare a 30A plug which fits for machine working voltage according to Electricity Code.
- Voltage deviation shall be within the rated voltage range of 0.9-1.1 and frequency shall be within the rated frequency of 0.99-1.01. It requires to equip with a protection switch. The connection of all circuits must be done by a professional personnel.
- Make sure the system is equipped with a good grounding circuit.
- Turn off machine and cut off the power supply if not in use to make sure the machine will not be used unexpectedly.
- If the machine as to be stored for a long time: if the machine is directly connected to an electrical box without using a plug, the electrical box should be locked and only those professional personnel can open this electrical box to prevent unexpected use of the machine.
- Turn on the machine, then shut it off to check if the rotating direction of the hydraulic motor is the same as the arrow direction in label shows. If not, the wires must be switched by a professional personnel.

The motor may be burned out if it runs reversely for seconds.

Warning

The machine must be connected to a good grounding circuit. Do not connect the grounding wire to incorrect components such as heating pipes, water pipes or telephone lines.

8.4.Control system testing

Operation test:

Before use the tyre changer, correct operation checks must be done to ensure the machine is correctly installed. Turn on the machine, check if the rotating direction of the hydraulic motor follows the arrow direction in label. Move the 4 positions rotary switch to check if the rotating direction of the chuck follows the arrow direction in label.

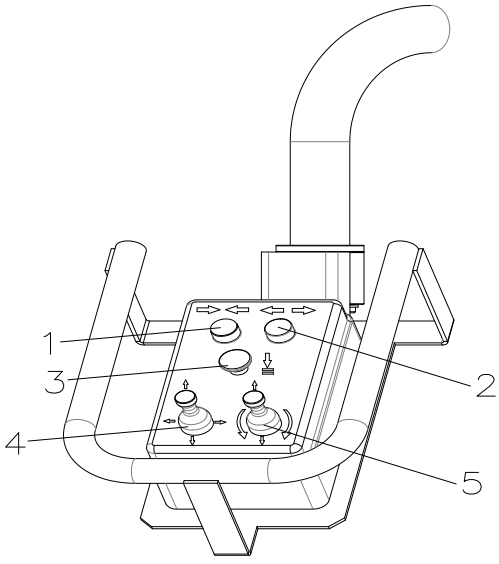
All instructions mentioned above must be done when the demounting arm is seated at its original position at the bottom.

During the operation, never place any part of your body within the range of the moving of demounting arm and opening-closing of the jaws which may result in injury.

Control unit testing

Movement control tests

- Press button 1, jaws should close; press button 2, jaws should open.
- Press button 3 for power off; pull button 3 for start.
- Move rotary switch 4 towards top, the guide rail should lift move rotary switch 4 towards down, the guide rail should lower; move rotary switch towards left, the hook should move towards the machine; move rotary switch 4 towards right, the hook should move towards outside.
- Move rotary switch 5 towards top, the main shaft should rotating towards top; move rotary switch 5 towards down, the main shaft should rotating towards down; move rotary switch 5 towards left, the main shaft should rotate counterclockwise; move rotary switch 5 towards right, the main shaft should rotate clockwise;



9.Operating instructions:

9.1. Safety instructions

This tyre changer is designed to mount and demount tubeless truck tyres.

 Warning

Never use this machine for other purpose.

 Warning

Only use the parts from manufacturer.

 Warning

Always keep hands away from moving parts.

 Warning

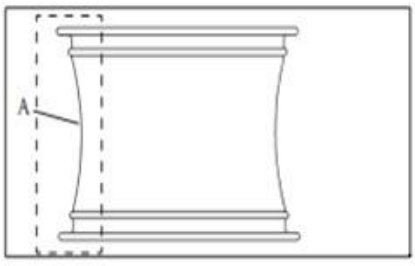
In case there is an accident occurs, disconnect the power plug and stop the machine immediately.

9.2.Check before operation

- Check if the control console and every parts of the machine operate correctly.
- Make sure the pressure gauge reads more than 13Mpa.
- Check if power supply connected correctly.

9.3.Tips

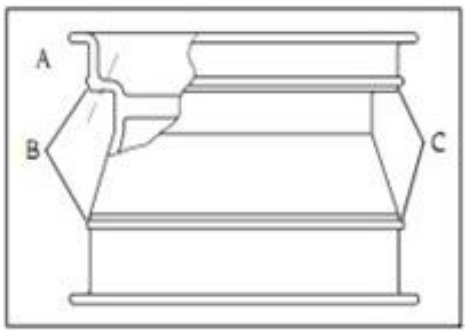
- Some types of tyre require special treatment when mounting/demounting.
  Some kind of special rim as below figure shows that the drop center area of the rim is shallow or flat. Such kind of rims do not comply with safety regulations. In some countries, such kind of rim is not allowed on the market.



 Danger

Be really careful not to damage the rim or tyre when demounting tyres.

- The transverse section of some rims is not flat or smooth. As the picture shows, the groove of C is deep and there is a hump in B, the tyre valve location, which is higher than A.
  So when pressing the tyre bead, it must be pressed lower than B. The opposite side of the tyre bead against the mounting hook must be placed lower than B in tyre mounting process and thus the tyre bead could be pressed into the groove in the middle and finally fitted to the bottom side of the rim.



9.4.Operation tips

Warning

Please read the following information and it's helpful for the user to simplify the operation and reduce some unnecessary trouble

Practical tips;

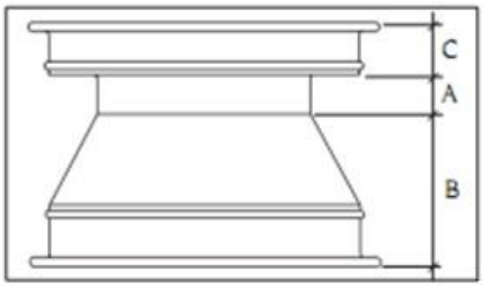
- In order to protect the steel rim, it is required to replace the plastic plug-in of mounting/demounting hook every 2 months. Please replace it immediately if it is damaged.

Warning

Press the tyre bead it is a dangerous process and the operator must follow the instruction in this manual.

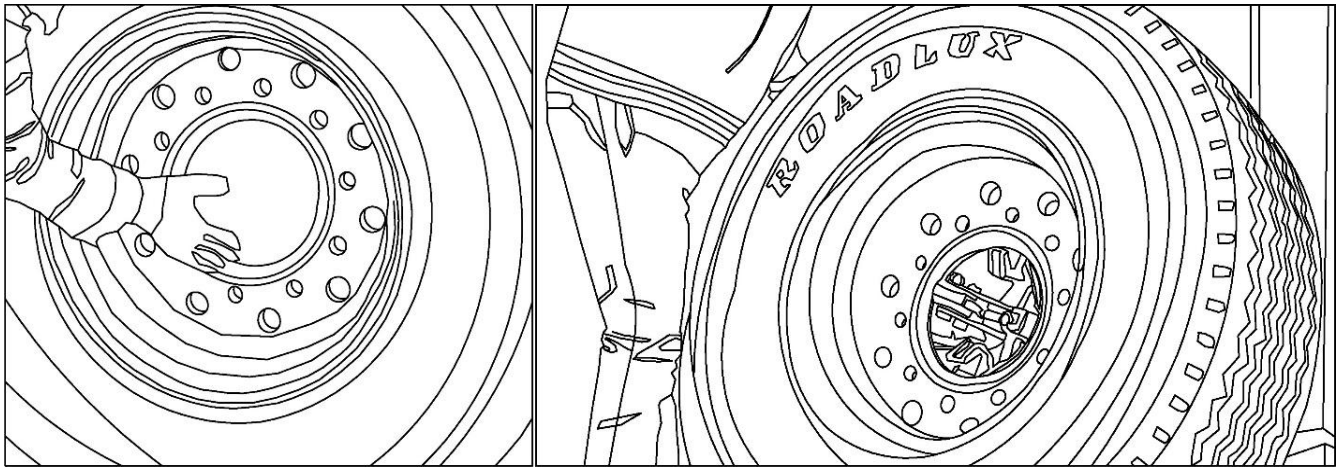
9.5.Placing direction of the rim

- Make sure which side of the tyre is demounted first and put that side upward when fixing the rim. Measure the size of A, B, C section of the rim as described in the picture.
- The shortest C section must be placed upward when fixing the rim.



9.6.Fix the tyre

When clamping the tyre, anyone except the operator are prohibited to get close to the movement range of the tyre; before clamping aluminum alloy tyres, put the expansion ring on the rim fixed hole first.



- Pull the main shaft rotating cylinder to turn the main shaft downward and adjust the height of the main shaft.
- Put the fixing hole of the steel rim to the locking jaw and then pull the rotary switch of the jaw and clamp the tyre.

Never put your hands under the tyre when locking. To properly lock the tyre, place the tyre fixing hole in the center of the turntable.

In the process of placing the tyre on the turntable, tyres under 50Kg are supposed to be handled by one person, while tyres over 50Kg, two persons, preventing the tyre from falling and hurting people.

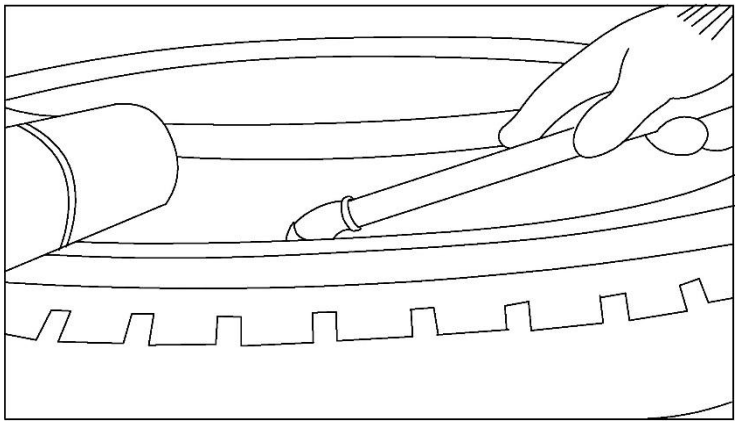
Make sure the rim is firmly locked by the jaws.

9.7.Separate the tyre bead from the rim

Please remove the old wheel balancing weight and deflate the tyre before performing any operation.

Do not use lubricant will seriously damage the tyres, please use professional tyre lubricant.

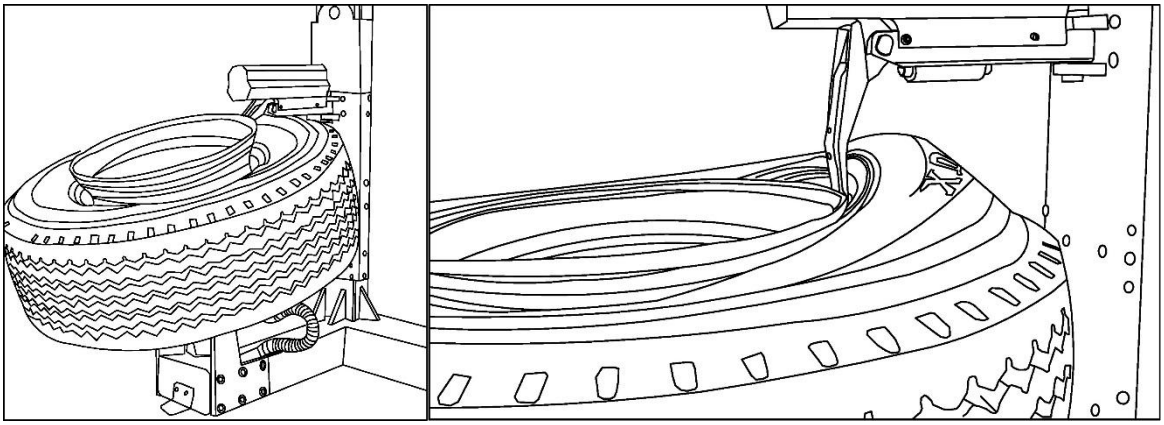
- Check if the tyre has been deflated. If not, please deflate first.
- Press the tyre bead with the bead roller and rotate the tyre until it is separated from the rim.
- Lubricate the tyre.



9.8.Demounting a tyre

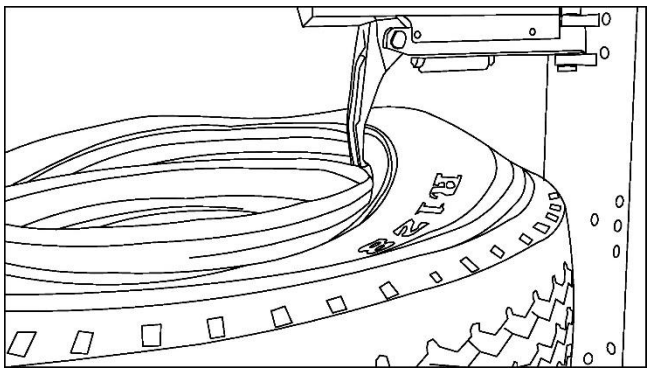
Locate the mounting/demounting hook

- Lift the demounting arm to a non-working position and move it to the outer edge of the tyre, make sure the hood is facing the tyre.
- Pull the rotary switch 4 to the left/right to adjust the distance between the hook and the tyre and move the hook inside the gap between the tyre bead and the rim; then catch the tyre bead. Move the whole tyre upward to prevent the tyre bead detaching from the hook and ensure the hook finds the most suitable angle to catch tyre bead off the rim. (or use the large lever to help the hook catch the tyre bead off the rim)



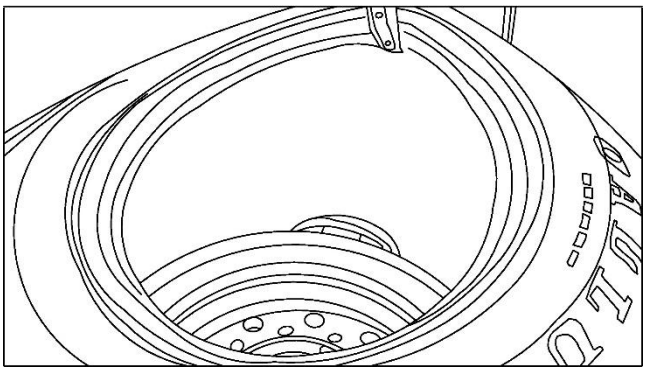
Demounting the upper tyre bead

- Pull the rotary switch 5 to turn the tyre counterclockwise and demount the upper tyre bead.



Demounting the lower tyre bead

- Move the roller under the tyre, lift the lower tyre bead over the rim, and then rotate the tyre until it is completely demounted.



Remove tyre

- Lift the demounting arm, control the main shaft rotating cylinder to turn outward, and remove the tyre from the rim. (Be careful that the steel rim should not touch the demounting arm when turns outward). Turn the main shaft cylinder downward slowly and let the tyre fall down to the ground. Be careful not to do this so fast to hurt people when the tyre falls down.

9.9.Mounting tyre

Choosing a tyre

Before choosing a tyre, it needs to know about the technical characteristics, parameters, operating characteristics and safety level, which are noted on the tyre sidewall.

Caution

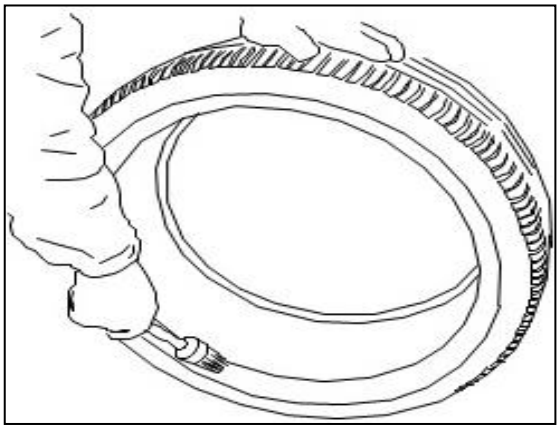
Replace the tyre valve before mounting the tyre.

Caution

Check if the relevant parameters of the tyre is matched with the steel rim and confirm that the steel rim is not deformed, the center hole is not damaged, the edge of the rim is not rusted or damaged and that there is no burr at the tyre valve. Make sure that the tyre is in good condition and there is no evidence of damage.

Prepare a tyre

- Use professional tyre lubricant to lubricate the tyre bead and the rim.

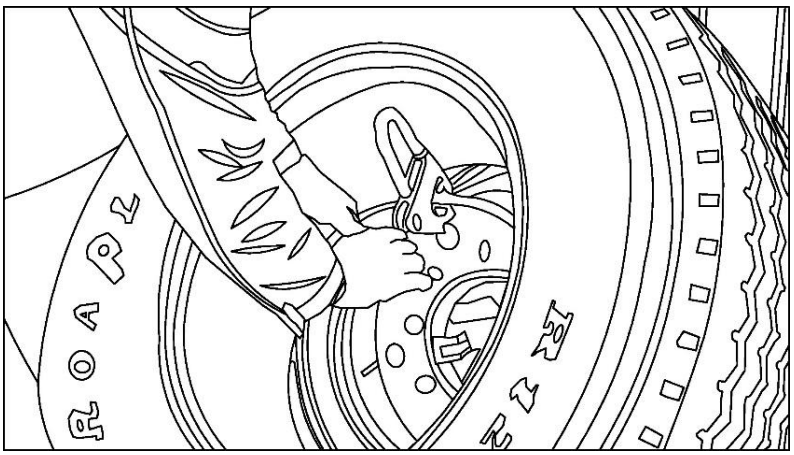


Fixed the rim

- Ensure the rim is firmly clamped by the locking hook.

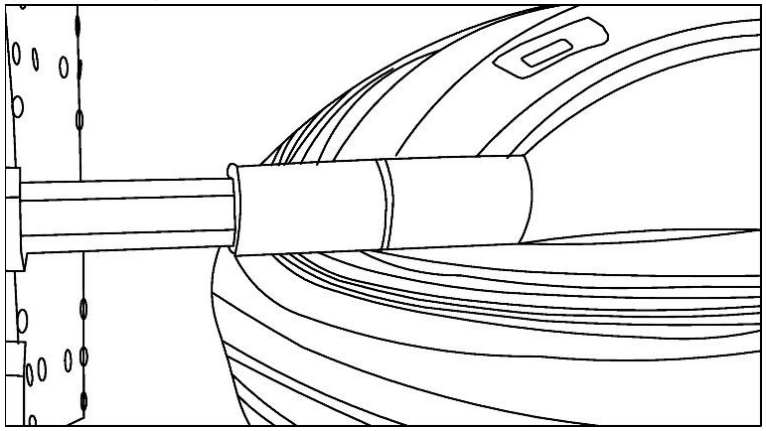
Locate the tyre

- Clip the mounting clamp at the highest point on the outer edge of the rim.
- Put the tyre on the rim at a 45° angle. Make sure the mounting clamp is fully attached to the tyre so that the tyre could not fall off.



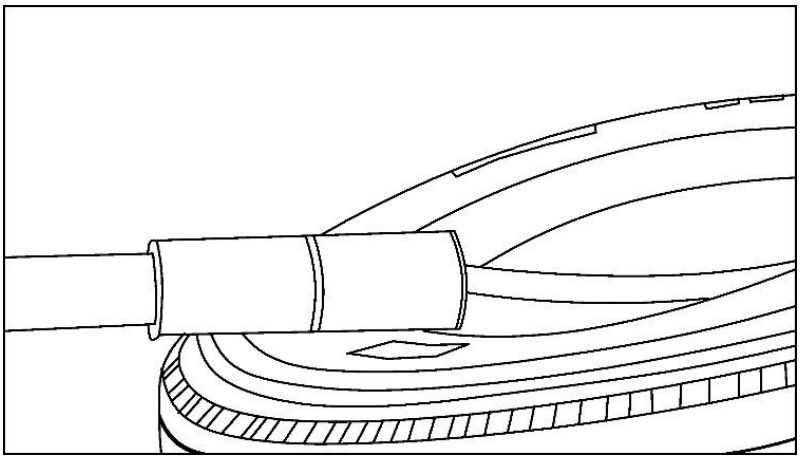
Mounting the lower tyre bead

- Clip the mounting clamp at the highest point on the outer edge of the rim, lift the rim and tyre and turn the tyre upwarded.
- Adjust the distance between the tyre roller, tyre and rim and move the roller pressed on the tyre after the adjustment.
- Adopt the jogging and inching operation to control the rotary switch of the main shaft and rotate the hydraulic motor so that the tyre could repeat the process of rotating and stopping. Observe the tyre bead and lift the roller and then press it again until the tyre bead completely fits the rim if the tyre bead is laying against the edge of the rim.



Mounting the upper tyre bead

- Press the tyre by the roller again.
- Push the rotary switch of the main shaft to rotate the tyre and thus press the lower tyre bead to fit the rim completely.
- Clip the mounting clamp at the outer edge of the rim and rotate the turntable until the upper tyre completely fits the rim.



Press the roller near the mounting clamp to create a gap between the tyre and the rim, which is convenient to remove the plier. Then lift the bead roller to the highest position after taking off the mounting clamp. Pull the rotary switch to control the main shaft downwards, unlock the locking jaws to loose the rim and move the tyre away.

Caution: No matter mounting or demounting tyres, the tyre should rotate counterclockwise. Please stop any operation immediately and turn the tyre clockwise to eliminate the force if the tyre encounters resistance in the process of mounting or demounting.

Do not place your hands on tyres, remove bracelets or other external accessories that may cause danger to the operator and do not wear loose clothes. To prevent accidents, keep your hands and body away from the hook and tyre roller as far as possible when the turntable starts rotating.

10.Inflation:

10.1.Warning

Warning

A tyre explosion can cause serious injury or even death to the operator. Be careful when you inflate a tyre. Follow the instructions below strictly, and there is no extra protection device for inflating is designed on the tyre changer. The operator must wear protective goggles and other relevant protection.

Caution

The noise may reach 85dB (A) during operation. Please wear the relevant safety devices.

 Danger

Tyre explosion may result in if the steel rim and tyre are in bad condition or in an operation error.

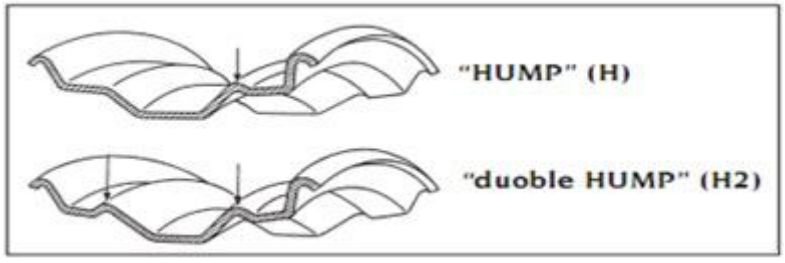
 Danger

10.2.Do not exceed the maximum pressure set by the tyre manufacturer. Keep the operator away from the tyre when inflating if possible.

- Carefully check if the rim size is matched with the tyre.
- Check the tyre wear and damage before inflating.
- Check the tyre pressure frequently when inflating.
- The maximum inflation pressure of a tyre is 3.5 bar and shall not exceed the maximum pressure set by the manufacturer under any circumstances when inflating.
- Keep your body and hands away from the tyres when possible.

10.3.Vacuum Tyre Inflating

- Make sure the rim is firmly fixed on the turntable, mounting/demounting hook and bead roller are removed from the tyre and placed at the farthest end from the rim if possible.
- Install a new tyre valve on the tyre rim.
- Ensure that the tyre has been fully lubricated.
- Take off the tyre valve cap and clamp the inflation nozzle to the tyre valve; then inflate the tyre.
- Frequently interrupt inflating process and check the tyre pressure (never exceed 3.5bar) until it meets the requirements of driving. Avoid exceeding the maximum pressure.
- A vacuum tyre needs large air flow. As shown in the picture, HUMP is very helpful for the safety of cars when driving. If the air flow is not large enough when inflating, the tyre bead is not able to cross the hump and seat onto the rim firmly. In order to increase the air flow inside the tyre, the valve core could be taken off when inflating.



- Check that the tyre bead fits well with the rim. If not, must deflate the tyre, lubricate the tyre bead and rotate it along with the steel rim. Then inflate it again.
- Install a new tyre valve core.
- Using an inflating gun to adjust the pressure; push the “Deflate” button to expel the extra air.
- Take on the tyre valve cap.

10.4.Tyre Pressure

- Ensuring proper tyre pressure is very important for the safety of automobile tyre using.
- Low tyre pressure could cause overheat, severe wear and tyre internal damage. Thus shorten tyre service life and increase fuel consumption.
- High tyre pressure could cause that the tyre is easily damaged in collision and that tyre tread seriously wears.
- Check the tyre pressure once two weeks and prepare spare tyres before a long drive.

- Check the tyre pressure when tyre temperature is normal. Do not check the tyre pressure or depressurize the tyre when it is in high temperature. Normal tyre temperature refers to that the vehicle has been driven for no more than one hour or for no more than 2-3 km at a low speed.
- When the tyre is in normal temperature, the tyre pressure are supposed to meet the requirements of the car or of the tyre manufacturer.
- In the case of heavy load, normally the tyre pressure should be increased by 0.3 bar if there is no specific requirements provided.

11.Moving

- Ensure that the machine is disconnected from the air and electric supply.
- Moving the machine as described in “Unpacking” section.

Be really careful not to damage the oil tube on the equipment when lifting it.

12.Storing:

Please make sure to meet the following requirements if the equipment needs to be stored for a long time:

- Disconnected from the air and electric supply; lubricate moving parts to prevent rusting;
- Temperature of storage conditions should be between -20℃ - 50℃.
- Keeping this equipment away from inflammable and explosive articles, avoiding strong light and sunlight. The storage environment should be well ventilated.

13.Safekeeping:

This equipment should be properly keeping if do not use it for a long time (3-4 months):

13.1 Lower the mounting/demounting arm to the lowest position.
13.2 Reset the main shaft cylinder;
13.3 Disconnected from the electric supply;
13.4 Lubricate the guide rail with grease;
13.5 Discharge all oil from the oil tank.

14.Destruction:

Please make sure to meet the following requirements if you decide to destroy this machine:

- Disconnected from the electric supply;
- Remove all non-metallic materials and dispose of them according to local laws and regulations;
- Collect the oil and dispose of it in accordance with local laws and regulations.
- Dispose of other metal materials properly.

15.Maintenance:

15.1 Warning

Anyone who without professional training are never allowed to take any maintenance operations.

- Periodically maintenance in accordance with the product manual is essential for properly operating and extending the working life of the machine.

The reliability of the machine cannot be guaranteed if maintenance is not performed regularly, further putting operators and people around the machine at risk**.**

Before repair and maintenance carried out, make sure that the machine is turned off and disconnected from the electric supply. Residual oil in the machine can be discharged by repeatedly pulling the rotary switch.

- Defective parts must be replaced by professional personnel with the original parts from the original manufacturer.

Caution

The manufacturer shall not be liable for any complaint arising from using the spare parts of other manufacturers or for any loss caused by the removal or damage of safety devices by customers.

Do not modify or change the components on the equipment without permission.

Caution

Keeping the workplace clean; do not use compressed air to blow off the clutter on the equipment, and try to reduce dust accumulation.

15.2 Maintenance Instructions

Maintenance

Do not start any maintenance operation before training.

Periodically maintenance in accordance with product manual is the basis of properly operating tyre changer, which will extend the working life of the machine. The reliability of the machine will be weakened if without maintenance, putting operators, vehicles and others around at risk. Before repair and maintenance carried out, making sure that the machine is disconnected from electric supply. Replace the damaged parts with the same original accessories. Periodically clean the following parts with diesel oil and lubricate them.

（1） Guide rail

（2） Regularly check the oil amount and quality in the hydraulic cylinder with oil dipstick (if the oil level is low, please add 46# hydraulic oil in summer and 32# in winter); periodically lubricate the motor gear with grease.

- Check the reciprocating motion of the guide rail, cylinders and other moving parts before using.
- Periodically fasten the standard fasteners on the equipment.
- Periodically lubricate the moving parts which are relative sliding or rotating。

15.3 Use of Oil

- Waste oil treatment: volatile waste oil shall never be exposed to open air or directly dumped into the sewer/river. It should be handed over to professional waste oil disposal company for scrap disposal.
- Oil spill or leakage: prevents oil from polluting soil, sand and other absorbable substances. Residual oils must be treated with soluble oil cleaning substances and pay attention to the

diffusion of cleaning agents. Cleaning agents in use must comply with the requirements of local laws and regulations.

- Warnings:
- Avoid direct contact with skin;
- Oil products are not allowed to form into oil mist and spread into air.
- Must obey the following safety requirements:
- Avoid oil splashing (Contact with skin, on equipment surface or equipment protecting cover);
- Wash hands often with soap and water. Do not use irritating skin cleansers or harmful products;
- Do not wipe your hands with a dirty or oily duster cloth;
- Do not wear oily clothes; changed into non-work cloth when off duty;
- Do not smoke or eat with oily hands.
- Adopt the following protective measures:
- Wear oil-proof gloves;
- Wear protective goggles to prevent oil splashing;
- Wear a protective apron to prevent oil splashing;
- Use barriers when necessary to prevent oil splashing.
- Dangerous situations like inhaling, swallowing waste oil and waste oil splashing in eyes or contacting with skin are not supposed to be occurred.
- Use of fire fighting materials

Fire extinguish material use guidance:

	Solid matter	Liquid	Electrical equipment
Water	YES	NO	NO
Foam	YES	YES	NO
Dry powder	YES	YES	YES
CO2	YES	YES	YES

YES* materials should be used by professional fire fighters.

Caution

The form and information of fire fighting materials above are provided basic guidance for users only. Please contacted professional fire fighting agencies for more specific details .

16.Troubleshooting:

If faults occur, only qualified technicians are supposed to check and solve the problems; otherwise, please contact the dealer for relevant technical services.

- **Turntable fails to rotate**

Take off the gear cover and check the engagement of gear teeth to see whether the pinion is broken. Replace the pinion if damaged; if the pinion gear works well, check whether the hydraulic motor rotates or not. If not, replace the hydraulic motor.

- **Rotary switch fails to reset**
  Replace the rotary switch
- **Seals worn out**
  Replace the seal elements
  Replace the oil cylinder
- **Oil leaks out of the main shaft cylinder**
  Seals damage
  - Replace the seal elements

- Replace the piston rod of oil cylinder

- **Pump station works with loud noise**

  gear pump damage

  - Replaced the gear pump
  - Turn off the machine and wait until the machine cools down, then start to work again.

- **Turntable fails to catch and fix the rim**

  Main shaft cylinder damage

  - Replace main shaft cylinder
  - Replace internal sealing elements of main shaft
  - Replaced the electromagnetic valve

- **Cylinder rod of mounting/demounting hook breaks**

  Replace the cylinder of mounting/demounting hook

- **Oil leaks from the rotary switch**

  Rotary switch damage

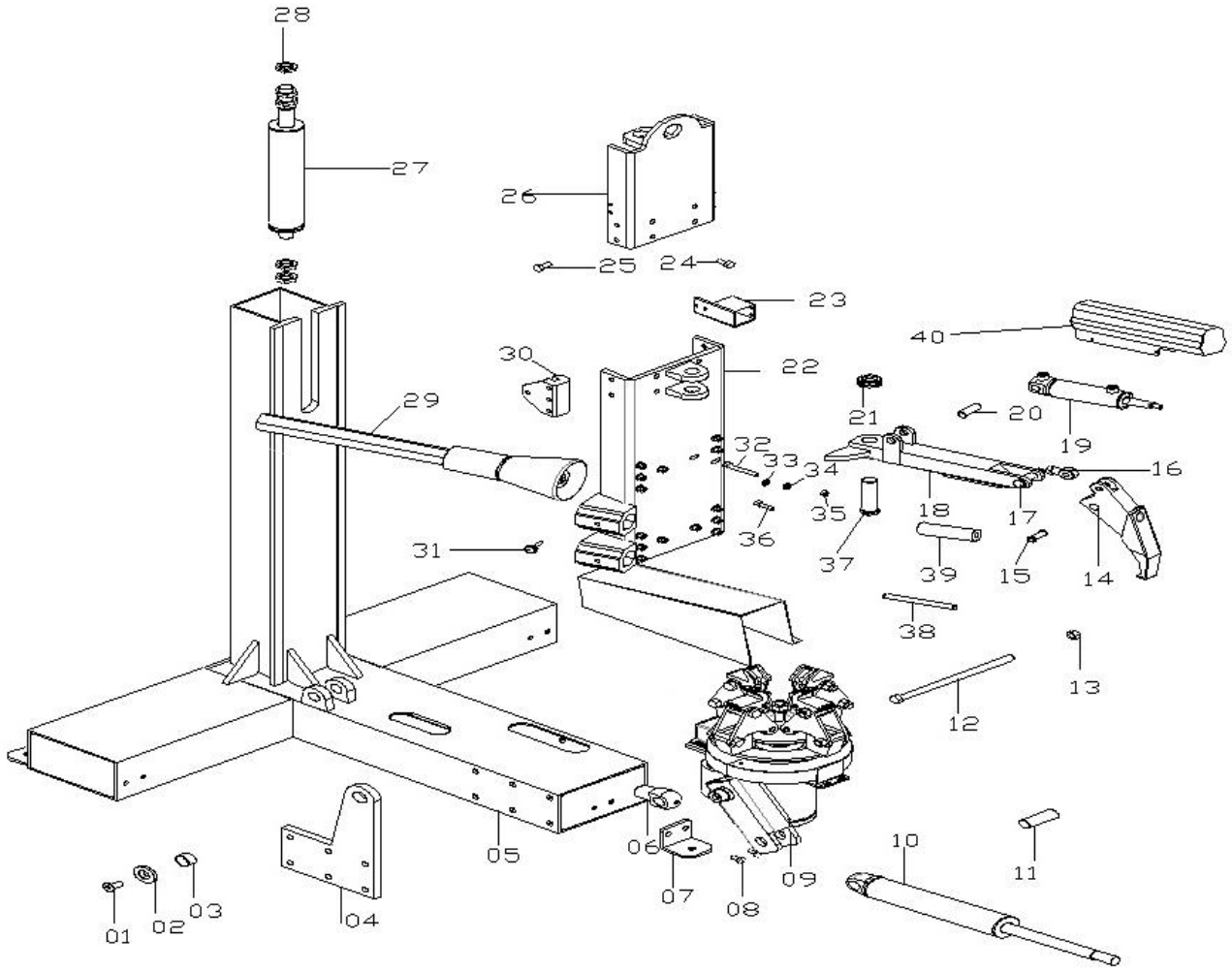
  Replace the rotary switch

- **Oil leaks from oil tube**

  Tighten the tube connector with a wrench first. If fails, replace the oil tube and connector.

17. Parts

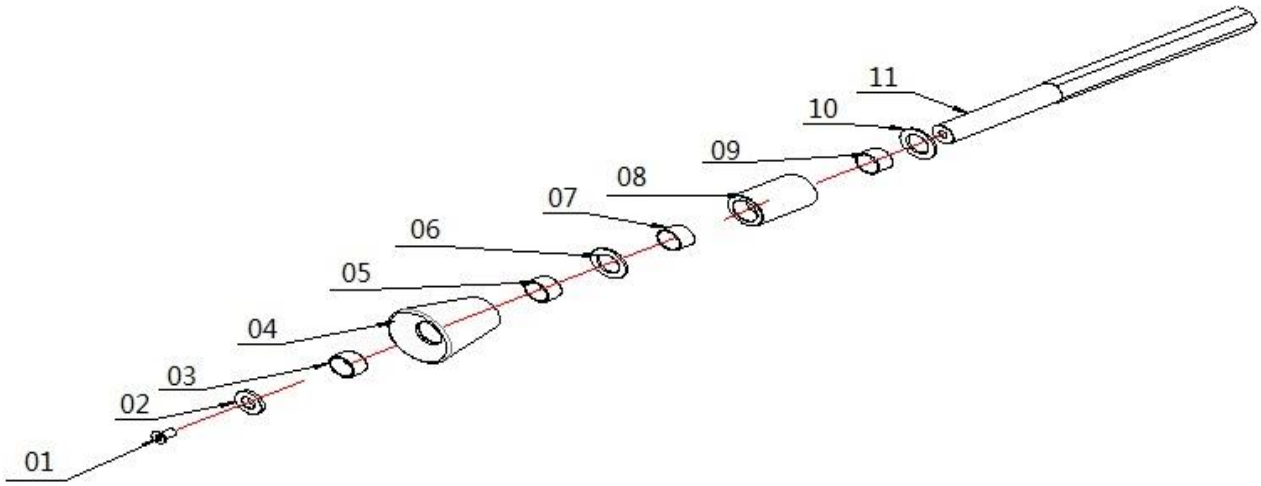
17.1. Main body



01		Hexagon socket countersunk head screw M16X30	GB/T70.3
02		Washer	T588-HC-22
03		Copper alloy sliding bearing	Φ35XΦ39X20
04		Main shaft support bracket	T588-ZJ-04
05		Machine base weld assembly	T588-ZJ-02-00
06		Main shaft cylinder fixed block	T588-YG-04
07		Angle bracket	T588-ZJ-03
08		Hexagonal head bolt M10X20	GB/T5781
09		Main shaft assembly	T588-06
10		Main shaft cylinder assembly	T588-09
11		Back fixing pin of main shaft cylinder	T588-YG-02
12		Hexagonal head bolt M16X320	
13		Lock nut M16	GB/T6128
14		Mounting/demounting hook weld assembly	T588-HC-13-00
15		Mounting hook cylinder stem fixing pin	T588-HC-10
16		Mounting hook cylinder connector	T588-HC-25
17		Mounting hook fixing pin	T588-HC-14
18		Mounting hook bracket weld assembly	T588-HC-02-00
19		Mounting hook cylinder assembly	
20		Mounting hook cylinder fixing pin	T588-HC-09

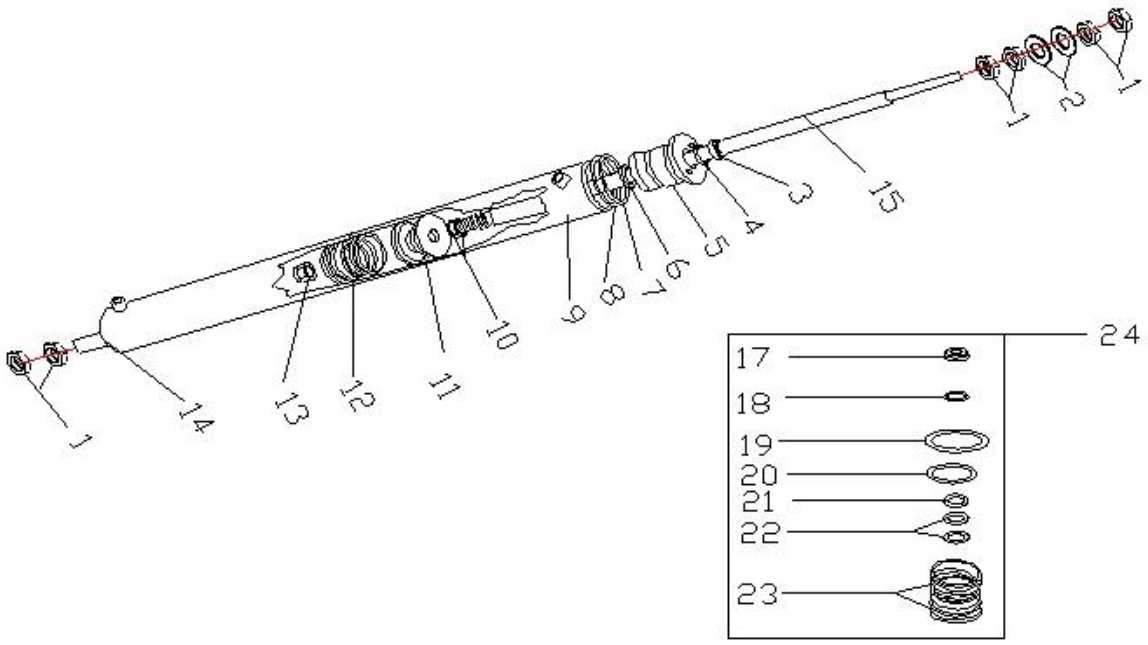
21		Round nut M30X1.5	GB/T812
22		Pulley weld assembly	T588-HC-01-00
23		Tank chain fixing bracket weld assembly	T588-HC-11-00
24		Hexagonal head bolt M12X30+ washer	GB/T5780
25		Hexagon socket head cap screw M8X16	GB/T70.1
26		Lifting plate weld assembly	T588-HC-16-00
27		Demounting arm cylinder weld assembly	
28		Hexagon thin nut M27X2	GB/T6174
29		Roller stem assembly	
30		Sliding block	
31		Start hand knob M10X25	
32		Hexagon socket head cap screw M10X70	GB/T70.1
33		Spring washer 10	GB/T93
34		Flat washer 10	GB/T95
35		Hexagon nut M10	GB/T41
36		Hexagon socket head cap screw M10X35	GB/T70.1
37		Mounting hook fixing pin	T588-HC-14
38		Small tyre pressing round screw dies	T588-HC-18
39		Round screw dies fixing pin	T588-HC-17
40		Mounting hook cylinder cover weld assembly	T588-HC-27-00

17.2. Bead roller



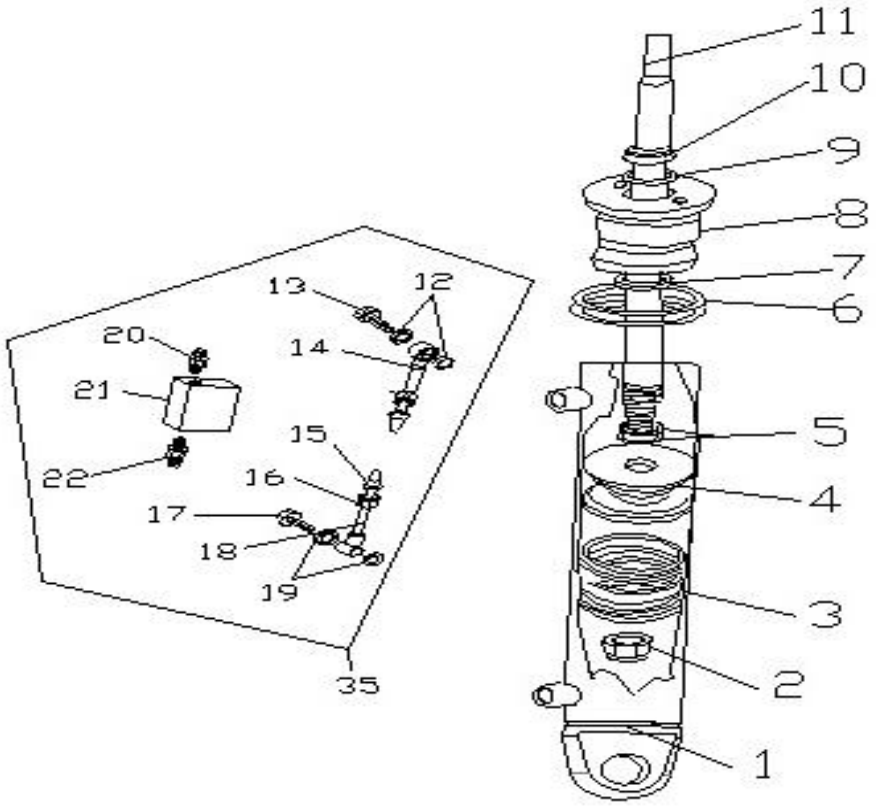
01		Hexagon socket countersunk head screw M16X30	GB/T70.3
02		Washer	T588-HC-22
03		Copper alloy sliding bearing	Φ48XΦ54X30
04		Nylon bead roller 2	T588-HC-06
05		Copper alloy sliding bearing	Φ48XΦ54X30
06		Nylon bead roller washer	
07		Copper alloy sliding bearing	Φ48XΦ54X30
08		Nylon bead roller 1	T588-HC-05
09		Copper alloy sliding bearing	Φ48XΦ54X30
10		Nylon bead roller washer	
11		Roller stem 2	T588-HC-26

17.3. Demounting arm cylinder



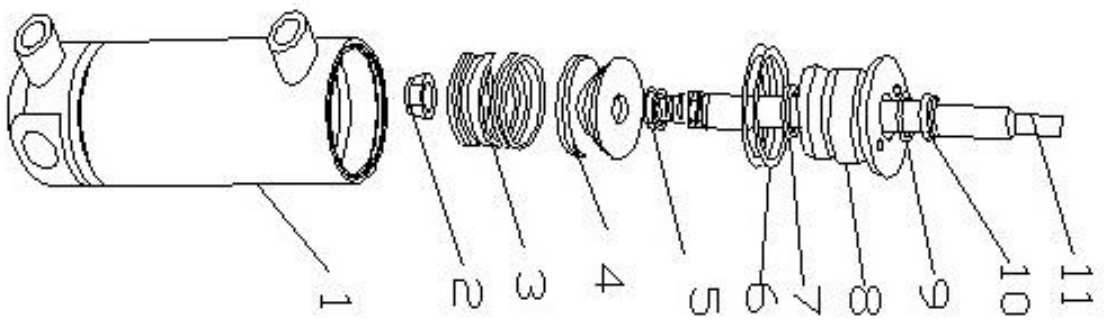
1		Hexagon thin nut M27X2	GB/T6174
2		Flat washer 27	GB/T95
3		Dust seal	DHS-30X38X5/6.5
4		O ring Φ30X2.62	
5		Front Flange for Cylinder	802
6		Grease seal	UNP-30X40X6
7		O ring Φ63X3.1	
8		O ring Φ63X3.1	
9		Demounting arm cylinder weld assembly	T588-YG-05
10		O ring Φ20X2.4	
11		Piston	802
12		Grease seal (Combination Seal)	TW5500039
13		Nut	
14		Cylinder tube	802
15		Piston rod	T588-YG-07
17		Dust seal	DHS-30X38X5/6.5
18		O ring Φ30X2.62	
19		O ring Φ63X3.1	
20		O ring Φ52X3.1	
21		Grease seal	UNP-30X40X6
22		O ring Φ20X2.4	
23		Grease seal (Combination Seal)	TW5500039
24		Sealing element set	

17.4 Main shaft cylinder



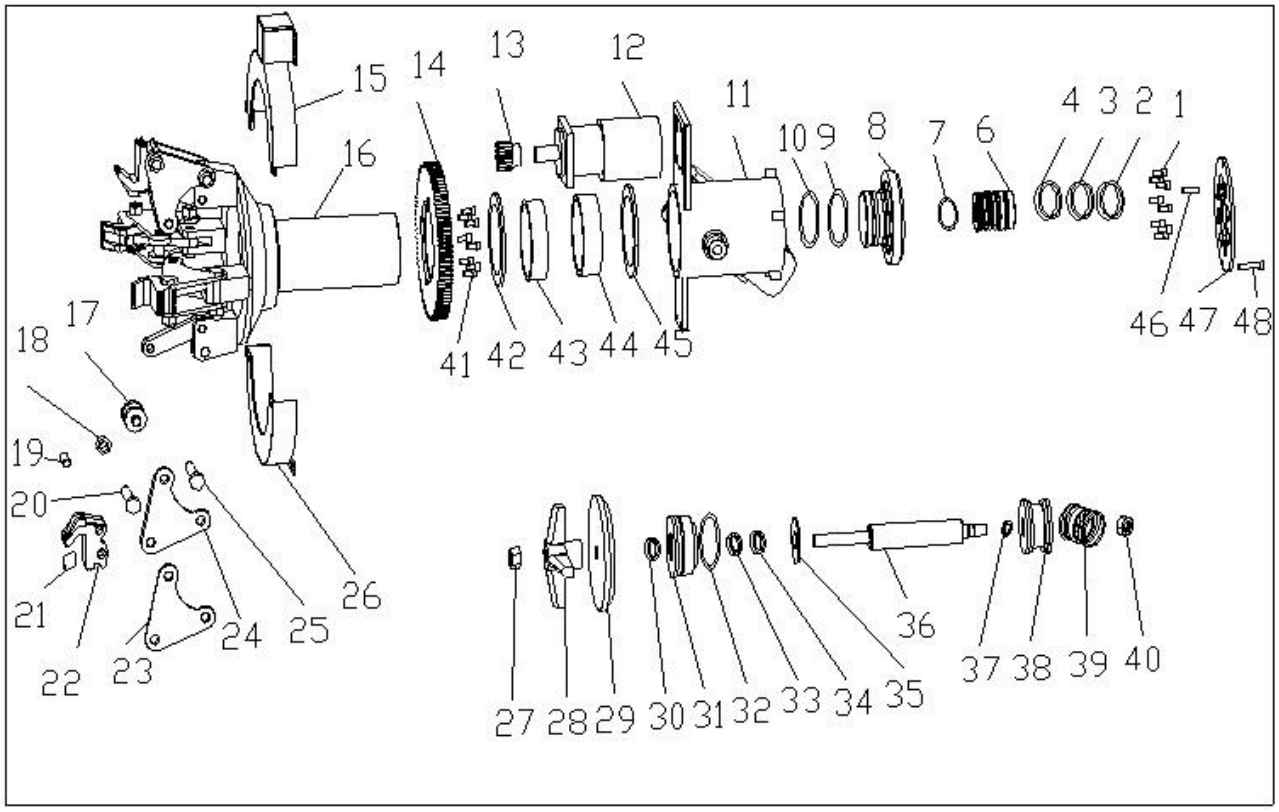
1		Main shaft cylinder weld assembly	T588-YG-06
2		Hexagon nut M18X1.5	GB/T6171
3		Grease seal (Combination Seal)	TW5500039
4		Piston	802
5		O ring Φ20X2.4	
6		O ring Φ63X3.1	
7		Grease seal	UNP-30X40X6
8		Front Flange for Cylinder	802
9		O ring Φ30X2.62	
10		Dust seal	DHS-30X38X5/6.5
11		Cylinder rod	T588-YG-08
12		Copper washer	
13		Cored screw with small hole M14X1.5	
14		Copper tube	
15		Pipe clamp	
16		Gland stud M14X1.5	
17		Cored screw with small hole M14X1.5	
18		Copper tube	
19		Copper washer	
20		Tube shape cartridge valve	UNP-30X40X6
21		Non-return valve	568
22		Screwed nipple M14X1.5	
23		Complete non-return valve	568

17.5 Mount/demount head Cylinder assembly



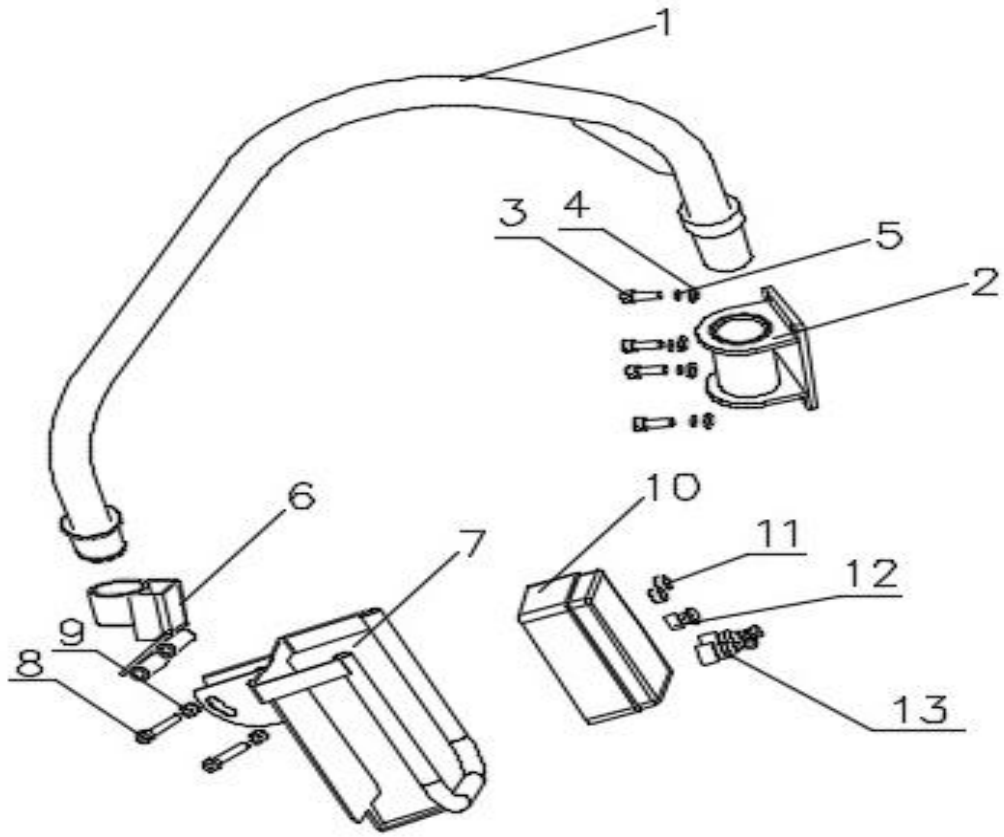
1		Mounting hook cylinder weld assembly	T588-HC-19
2		Hexagon nut M12	GB/T6170
3		Grease seal (Combination Seal)	TW4500035
4		Piston	980
5		O ring Φ14X2.4	
6		O ring 45X2.65	GB/T3452.1
7		Grease seal	UNP-20X28X5
8		Front Flange for Cylinder	980
9		Guidance tape	
10		Dust seal	DHS-20X28X4.5/6
11		Cylinder rod	T588-HC-21

17.6 Main shaft



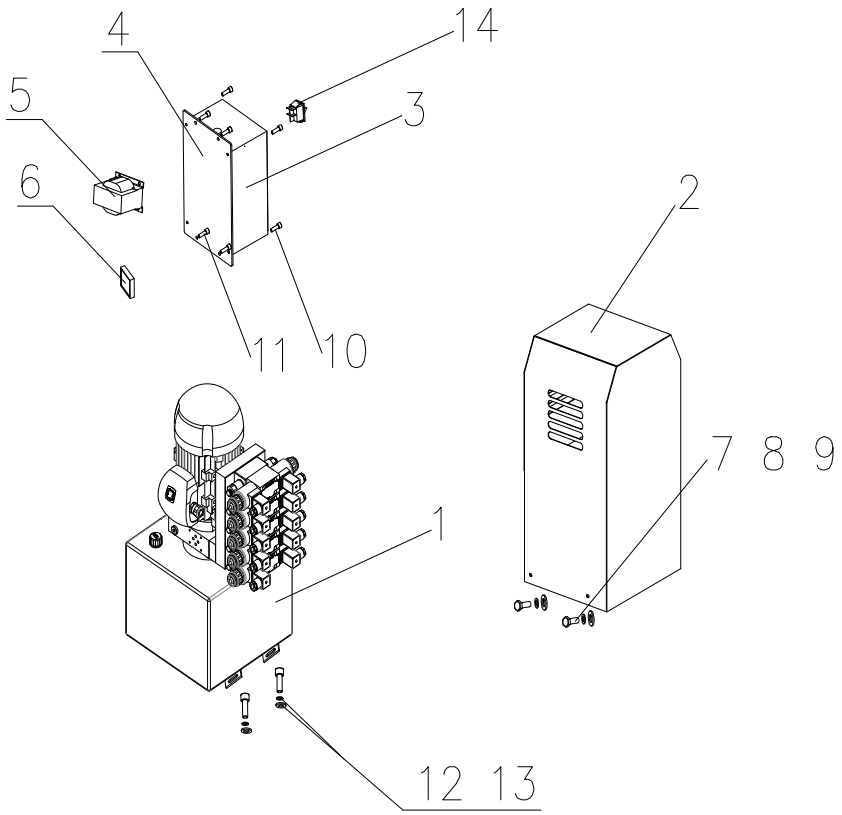
1		Hexagon socket head cap screw M8X30	GB/T70.1
2		Rotary Seals	PAP63
3		Rotary Seal	PAP63
4		Rotary Seal	PAP63
6		End valve	TY008
7		O ring 58X2.65	GB/T3452.1
8		Main cylinder back block	T588-ZZ-21
9		O ring 90X4	
10		O ring 90X4	
11		Main shaft bush weld assembly	T588-ZZ-17-00
12		Hydraulic motor	R315P1A1
13		Ring gear	T588-ZZ-03
14		Large gear	T588-ZZ-01
15		Left gear cover weld assembly	
16		Main shaft weld weld assembly	T588-ZZ-19
17		Round screw die	TY008
18		Lock nut M16	GB/T6183.1
19		Connecting pin of supporting rod	TY008
20		Hex bolt M16X70	GB/T5780
21		Clamping jaw holder insert	TY008
22		Clamping jaw holder	
23		Support plate 1	T588-ZZ-04
24		Support plate 2	T588-ZZ-05
25		Hex bolt M16X70	GB/T5780
26		Right gear cover weld assembly	
27		Locking nut M20	GB/T6183.1
28		Cross head	T588-ZZ-02
29		Swash plate	TY008
30		Dust seal	DHS-40X48X5/6.5
31		Front Flange for Cylinder	TY008
32		O ring 90X3.55	GB/T3452.1
33		Guidance tape	802
34		Grease seal	UNP-40X50X6
35		Main cylinder washer	
36		Main cylinder piston rod	TY008
37		O ring 24X2.4	
38		Piston	TY008
39		TW Combination Seal	TW-9000070
40		Hexagon nut M24X2	TB/T6171
41		Hexagon socket head cap screw M10X25	GB/T70.1
42		Main shaft adjustment washer	116-150
43		Copper bush of main shaft	115-125
44		Copper bush of main shaft	115-125
45		Main shaft adjustment washer	116-150
46		Main shaft locating spacer bush	T588-ZZ-22
47		Main shaft stopping plate	T588-ZZ-10
48		Hexagon socket head cap screw M6X50	GB/T70.1

17.7 Operating arm assembly



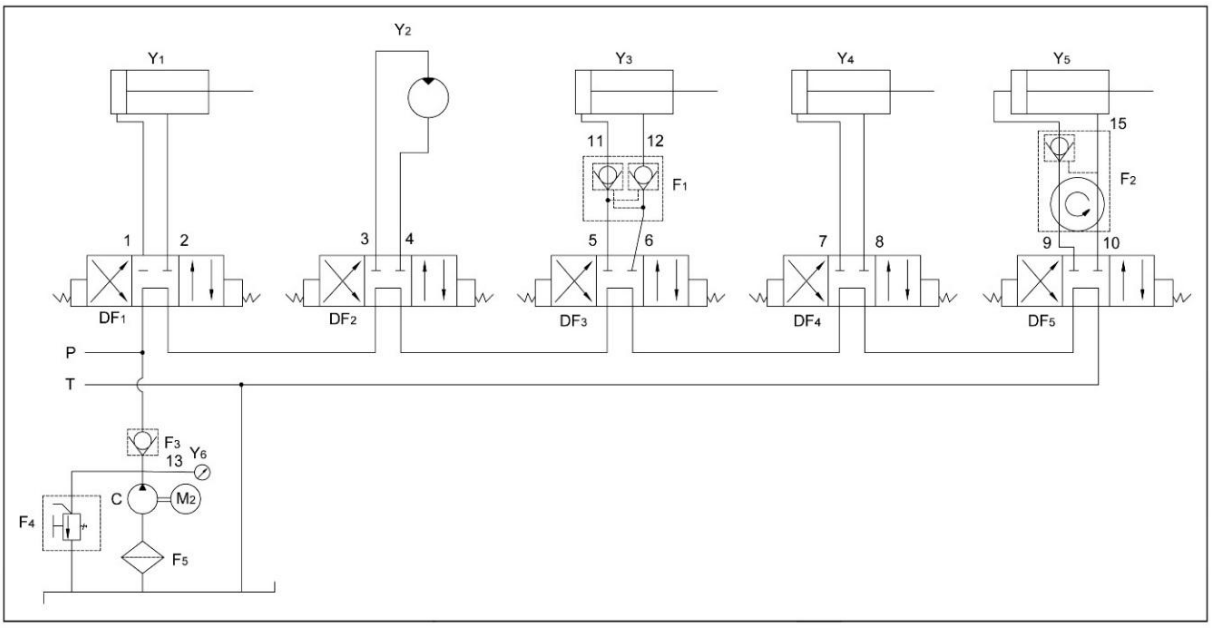
1		Control arm	U270.01.02
2		Arm fixing base	U270.01.01
3		Hexagon socket head cap screw M10X30	GB/T70.1
4		Flat washer 10	GB/T97.1
5		Spring washer 10	GB/T93
6		Swivel bracket	U270.01.03
7		Console frame	U270.01.04
8		Hexagon socket head cap screw M10X80	GB/T70.1
9		Lock nut M10	GB/T6183.1
10		Control console	
11		Control button	
12		Emergency switch	
13		Four way rotary switch	

17.8 Hydraulic pump station



1		Hydraulic pump unit	
2		Hydraulic pump shield	
3		Main power console	
4		Board connector	
5		Transformer	380V to 24V 50W
6		Commutator bar	
7		Hexagonal head bolt M8X16	GB/T5781
8		Flat washer 8	GB/T97.1
9		Spring washer 8	GB/T93
10		Hexagon socket countersunk head screw M5X16	GB/T70.3
11		Hexagon socket head cap screw M6X16	GB/T70.1
12		Flat washer 8	GB/T97.1
13		Spring washer 8	GB/T93
14		boat switch Xc04	

18.Product Hydraulics



19.Circuit diagram