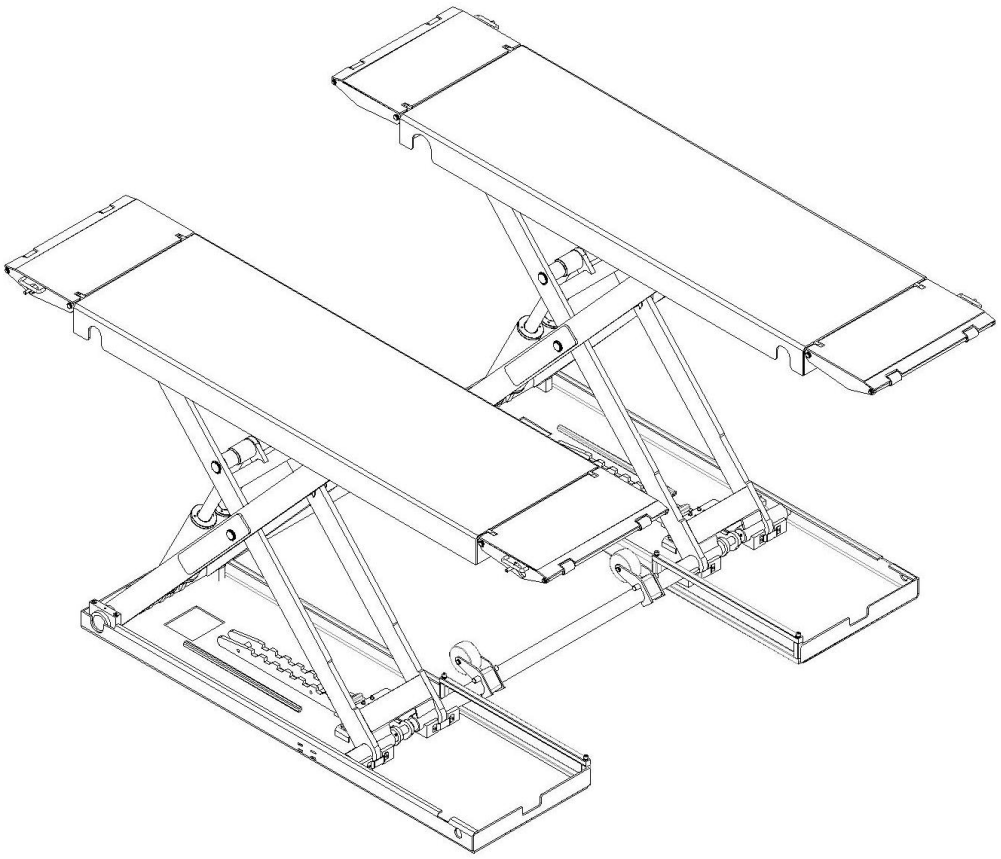
HIGH-LIFT
EQUIPMENT

4.0 Ton Scissor Car Hoist Installation & Operation Manual

Model. YL-640BE

Please read through this manual before operation



Contents

1. Important Safety Instructions

2. Structure Layout and Product Features

3. Control box and panel description

4. Technical specification

5. Hoist dimensions

6. Installation and debugging

7. Hydraulic system

8. Lifting machine electrical system

9. Lifting machine operation instructions

10. Maintenance

11. Faults and troubleshooting methods

12. Warranty instructions

13. Lifting machine breakdown diagram and details table

1. Important Safety Instructions

- Read this manual carefully before using the equipment. Only professionals can control and use the lift.
- Do not install the lift on asphalt pavement, and the thickness of concrete must meet the requirements.
- If the lift is not customized for special customer needs, it will not be used outdoors.
- During lifting, no one can stand on the left and right sides of the lift, and no one can ride in the vehicle being lifted.
- Before work, remove the obstacles around and below the platform. The surroundings of the lift must be kept clean and free from debris to avoid accidents.
- When lifting the vehicle, the manual brake of the vehicle should be pulled and anti-slip triangular wood and other anti-slip devices (provided by the user) should be placed.
- The rubber pad on the lift must be placed in the position recommended by the vehicle manufacturer, and then slowly lift the vehicle to ensure that it is stable without tilting, tipping over or detaching before lifting to the desired height.
- Always pay attention to observe whether the lifting platform is synchronized during the lifting process. If any abnormality is found, stop the machine in time and use it only after checking and troubleshooting.
- When working under a vehicle, make sure that the lift's mounting lock is engaged.
- Check whether the parts are damaged at any time, check the synchronization of the machine and the flexibility of the moving parts, and pay attention to regular maintenance. Once abnormal conditions are found, stop using immediately and contact the dealer.
- When the equipment is not working for a long time or overnight, it should be lowered to the lowest position and turn off the car, cut off the power supply.
- Fire extinguishers and other fire prevention devices shall be provided at the site of equipment use (user's own).
- Be sure to pay attention to the tonnage tag on the machine and do not attempt to lift a vehicle that exceeds the rated lifting weight.

Note: Hoist is a high-risk product. Improper installation or operation, or unauthorized modification of mechanical parts may cause injury. Read the instructions carefully and operate in strict accordance with the requirements! The safety warnings and instructions in this manual cannot cover all possible situations. Operators need to have sufficient safety knowledge.

2. Structure layout and product features

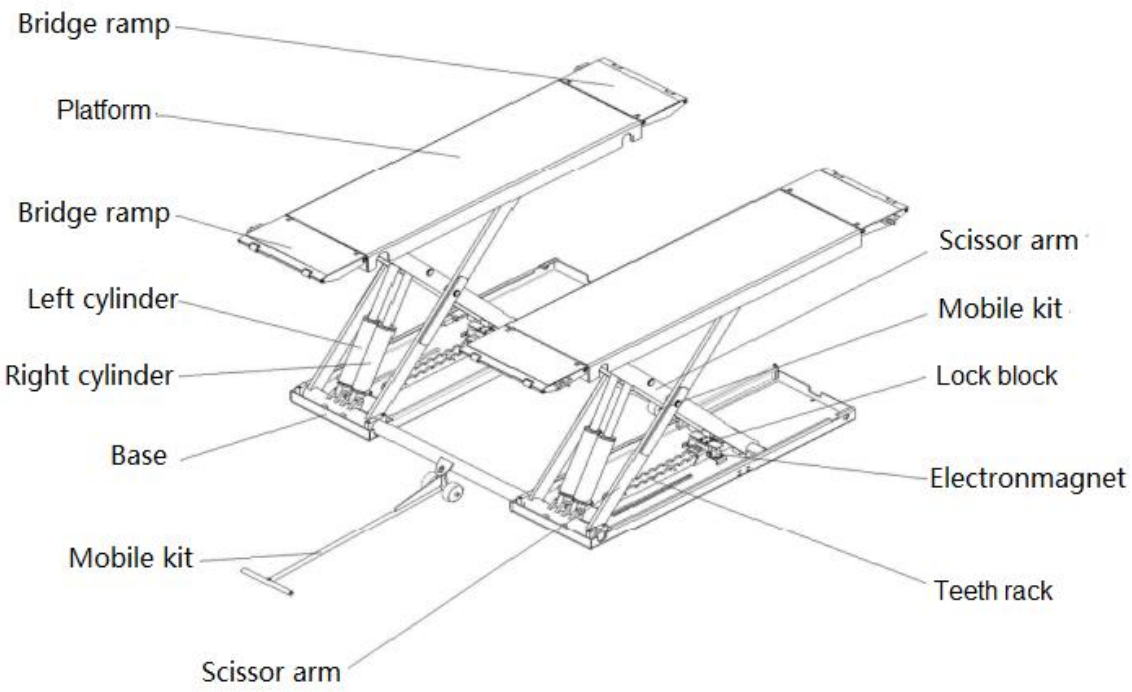


Figure 1. Lifting machine structure layout

- **Introduction of main components:**

Platform: Contact hoist vehicle.
Teeth rack: Insurance mechanism, mechanical locking.
Lock block: Drop and lock the safety teeth rack.
Bridge ramp: It is convenient for vehicles to drive on the platform. It can be pulled up as an extension plate and can carry weight when pulled up.
Left cylinder: Actuator to push the platform up.
Right cylinder: Actuator to push the platform up.
Scissor arm: Main lifting structure.
Base: Aupport the hoist and fix the hoist to the ground.
Electromagnet: Push the lock block, disengage the safety teeth rack, and complete the unlocking.
Mobile KIT: The hoist can be easily moved after installation.

- **This scissor hoist is designed for mobile surface installation, which is convenient for users to install and use. Its features are as follows:**

1. Use a four-cylinder lifting mechanism to reduce the minimum ground clearance to 11CM.
2. Equipped with electric lock safety device.
3. Mobile control box, which can be easily moved with the hoist.
4. The approach bridge at both ends of the runway can not only facilitate the vehicle to drive to the platform, but also serve as an extension of the lifting platform for lifting longer vehicles.
5. Mobile kits can be selected to facilitate the movement of the hoist.

3. Control box and panel description

Code	Name			Name
A	mains switch		D	Up button
B	emergency stop switch		E	Locking button
C	power light		F	Down button

Figure 2 Control box and panel description

4. Technical specification

Machine model	YL-640BE
Driving mode	Electric hydraulic drive
Lifting capacity	9,000lbs (4,000kg)
Lifting Height	47 1/4″（1200mm）
Lifting time	About 45-60 sec
Platform size	1750*540mm
Base size	1700*520mm
Voltage	240V/415V
Frequency	50Hz
Power	2.2KW
Hydraulic oil	46# wear-resistant hydraulic oil If average temperature below-10℃, It is recommended to use 32# hydraulic oil
Working temperature	5-40℃
Ambient humidity	30-95%
Machine noise	< 80dB(A)
Rated oil pressure	18MPa

5. Hoist dimensions

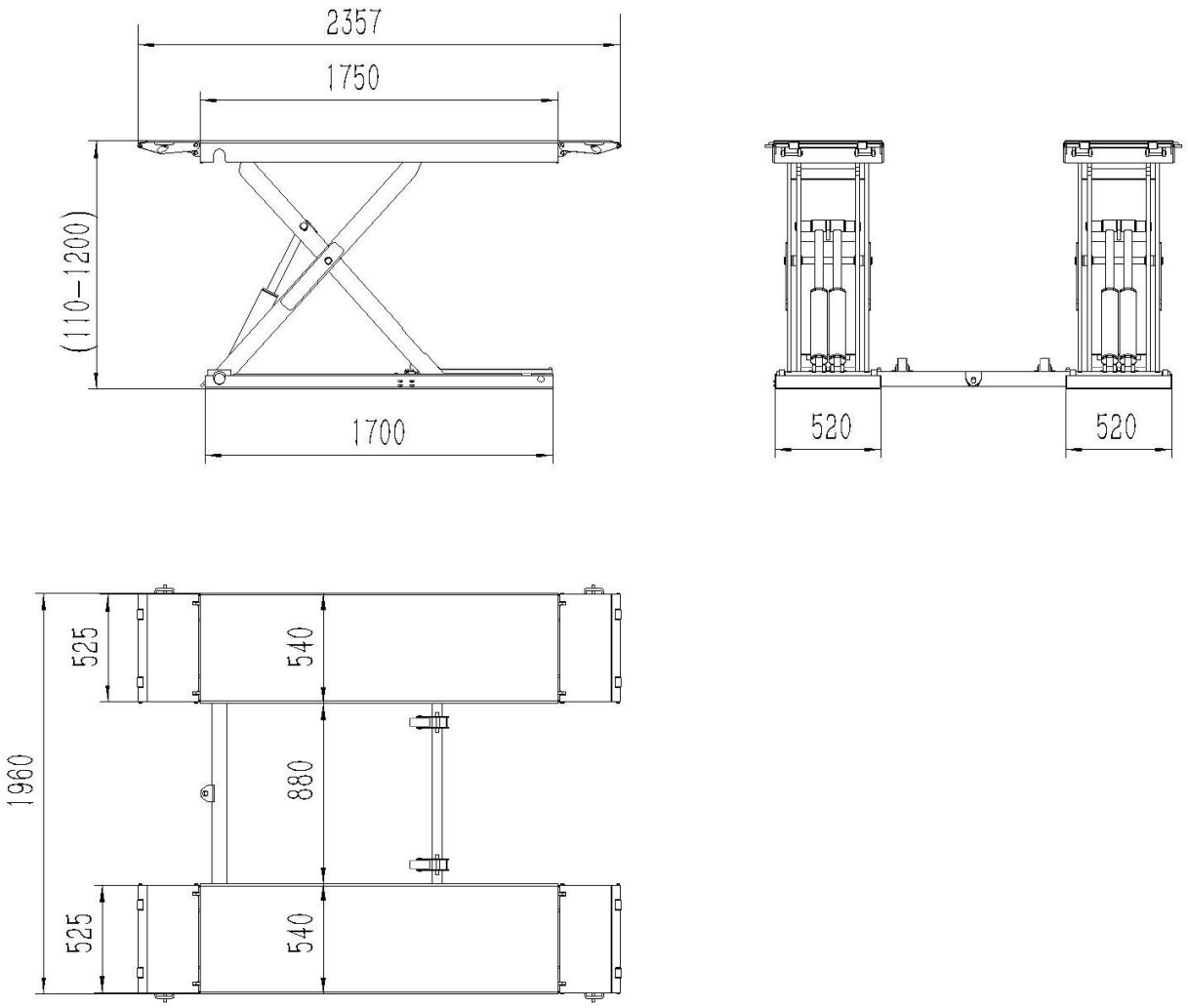


Figure 3 Hoist dimensions (unit: mm)

6. Installation and debugging

• Installation environment

Equipment must be installed in dust-free environments or other contamination-free areas with illumination levels no less than 100 lx. Control panels should be located in designated safety zones. Lifting machines must be installed at specific safety distances from walls, columns, and other equipment, maintaining a minimum clearance of 1000mm from walls. Adequate space should be provided for vehicle access to the lifting machine. Emergency evacuation routes must include sufficient clearance to ensure safe passage during emergencies. The indoor ceiling height shall not be less than 4000mm.

• Site preparation

Based on the foundation layout diagram (Figure 4), proper preparation of the foundation is essential. The thickness and levelness of the concrete base are critical, as excessive reliance on equipment leveling adjustments is not advisable. Under favorable geological conditions, C30 concrete foundations should generally have a thickness of ≥200mm with a full-length levelness error ≤5mm. Newly poured concrete requires at least 28 days of curing.

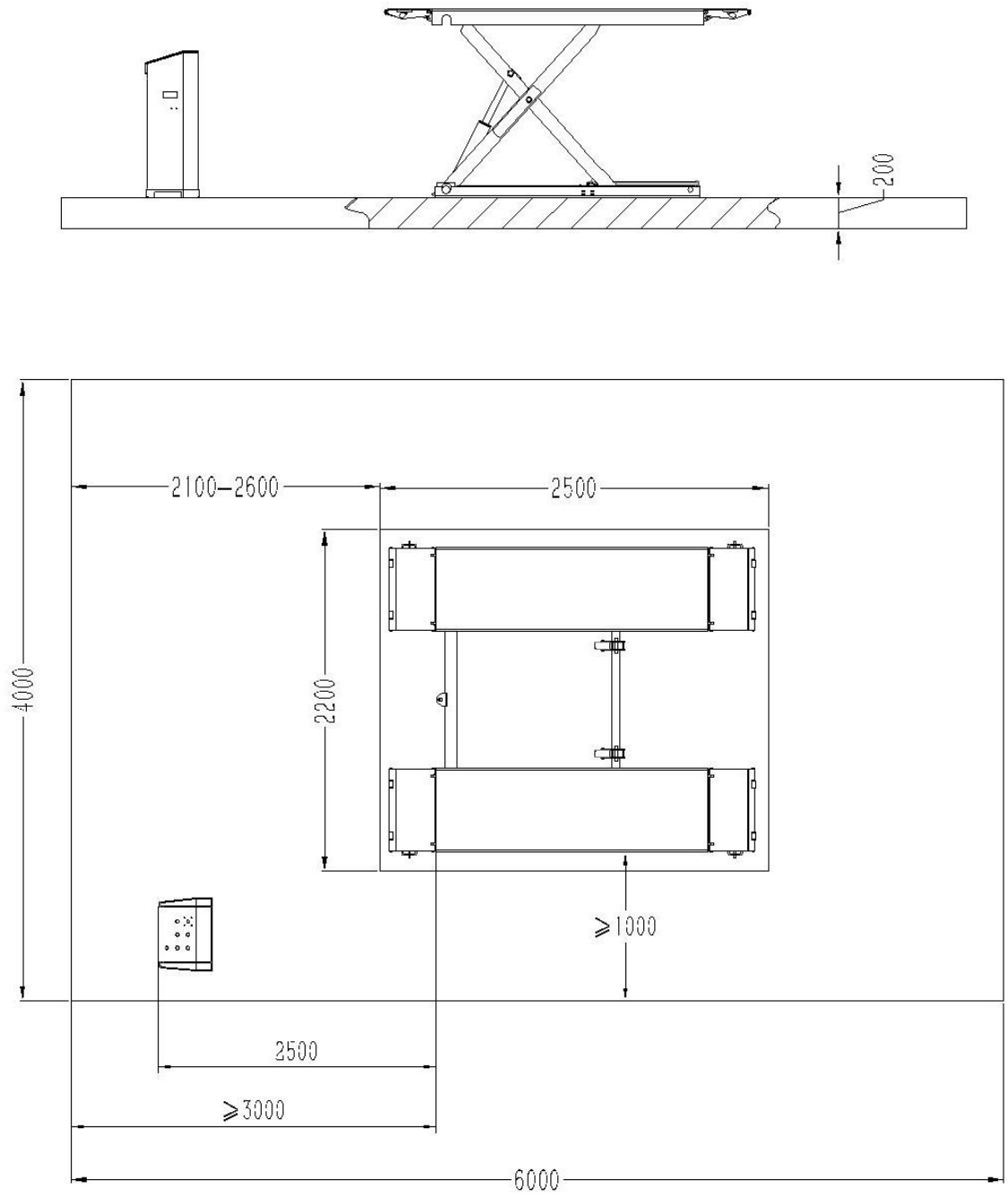


Figure 4. Ground plane diagram (unit: mm)

Installation steps

3.1 Remove all the outer packaging such as the machine. Remove the platform on the unpacked machine packaging and place it horizontally on the previously prepared foundation. Pay attention not to dirty the oil pipe. Open the packaging of accessories and take out the accessories.

3.2 Oil pipe connection

- Ensure that the oil pipe is clean and unobstructed.
- Referring to the hydraulic system connection diagram (Figure 5), connect the oil pipes of the four cylinders to the reserved interface on the hydraulic valve block. Note that when connecting the hydraulic valve plate, pass through the reserved hole at the bottom of the control box. Finally, check whether all connections are sealed.

3.3 Electrical and gas source connection

Before connecting the power cables, verify the electrical specifications on the motor nameplate and review the wiring diagram to ensure the supply voltage matches the lift's configuration. Additionally, install circuit breakers. The basic requirements for the power supply at the installation site are: three-phase power cables with a minimum core diameter of 2.5mm², and single-phase power cables with a minimum core diameter of 4.0mm². Connect the external power supply according to the electrical schematic (Figure 7). Pay attention to the wire identification numbers and connect wires with matching numbers to corresponding terminals. Connect the limit switch cable terminals to the corresponding terminals in the control cabinet. Finally, secure the oil pipes and wires into the clamps.

3.4 Fill with hydraulic oil

Fill the oil tank with approximately 18 liters of clean 46# anti-wear hydraulic oil (provided by the user). Do not fill the tank completely, maintaining an oil level approximately 10mm above the top of the tank and 30mm below the bottom (measured using a dipstick on the tank cover). When ambient temperature drops below-10℃°C, it is recommended to use 32# hydraulic oil. Note: Mixing different brands or models of hydraulic oil is strictly prohibited. After debugging, if the lift platform cannot reach its maximum height, add oil as needed until it can achieve the rated lifting capacity.

3.5 Load test

Check and adjust the limit switches for proper operation, inspect the oil circuit for leaks, and verify the foot assembly is securely fastened. After confirming all systems are functioning normally, proceed with testing. Begin with a no-load test: run 2-3 cycles without abnormal noise or leakage before proceeding to load testing. Apply a 4000KG load and perform 2-3 cycles. If there are no unusual noises or leaks, and both lifting time and height meet technical specifications, conclude the trial load. After several cycles, the oil level in the tank may drop. If the lift fails to reach its maximum rated position, replenish oil until the platform reaches the desired height. Only after passing these tests should the equipment be put into regular use. (For three-phase motors: If pressing the lift button fails to raise the platform and causes motor reversal, swap the U and V terminal connections.)

7. Hydraulic system

The hydraulic system of the hoist is housed within the control cabinet. When the cabinet door is opened, the hydraulic unit becomes visible. The connections between the motor, integrated block, valves, and cylinders follow the hydraulic system diagram (Figure 5). According to the hoist's hydraulic system schematic (Figure 6), adjusting the "overflow valve" can modify both system pressure and lifting capacity. Note that the system pressure is pre-adjusted at factory and must not exceed the rated load during adjustments.

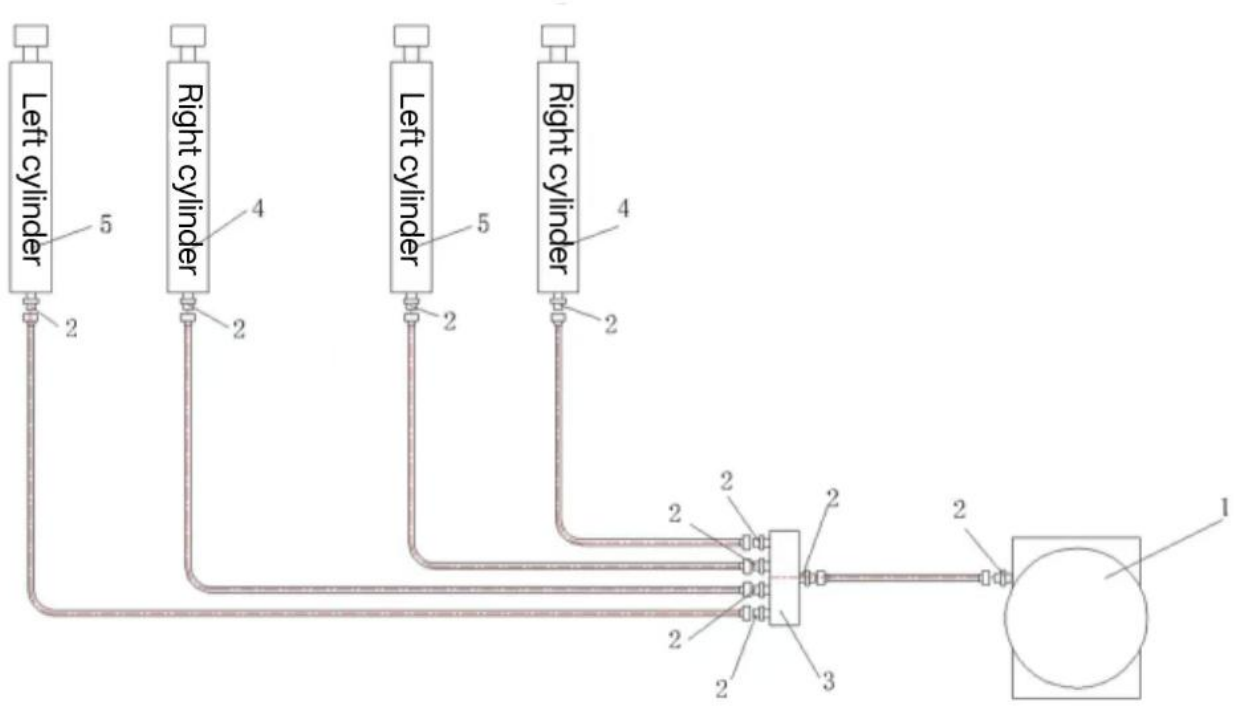


Figure 5 Hydraulic system connection diagram

Hydraulic system connection diagram accessories details:

Code	Part name	Qty		Code	Part name	Qty
1	Pump station	1		4	Right hydraulic cylinder	2
2	Oil connection	10		5	Left hydraulic cylinder	2
3	Oil separator	1				

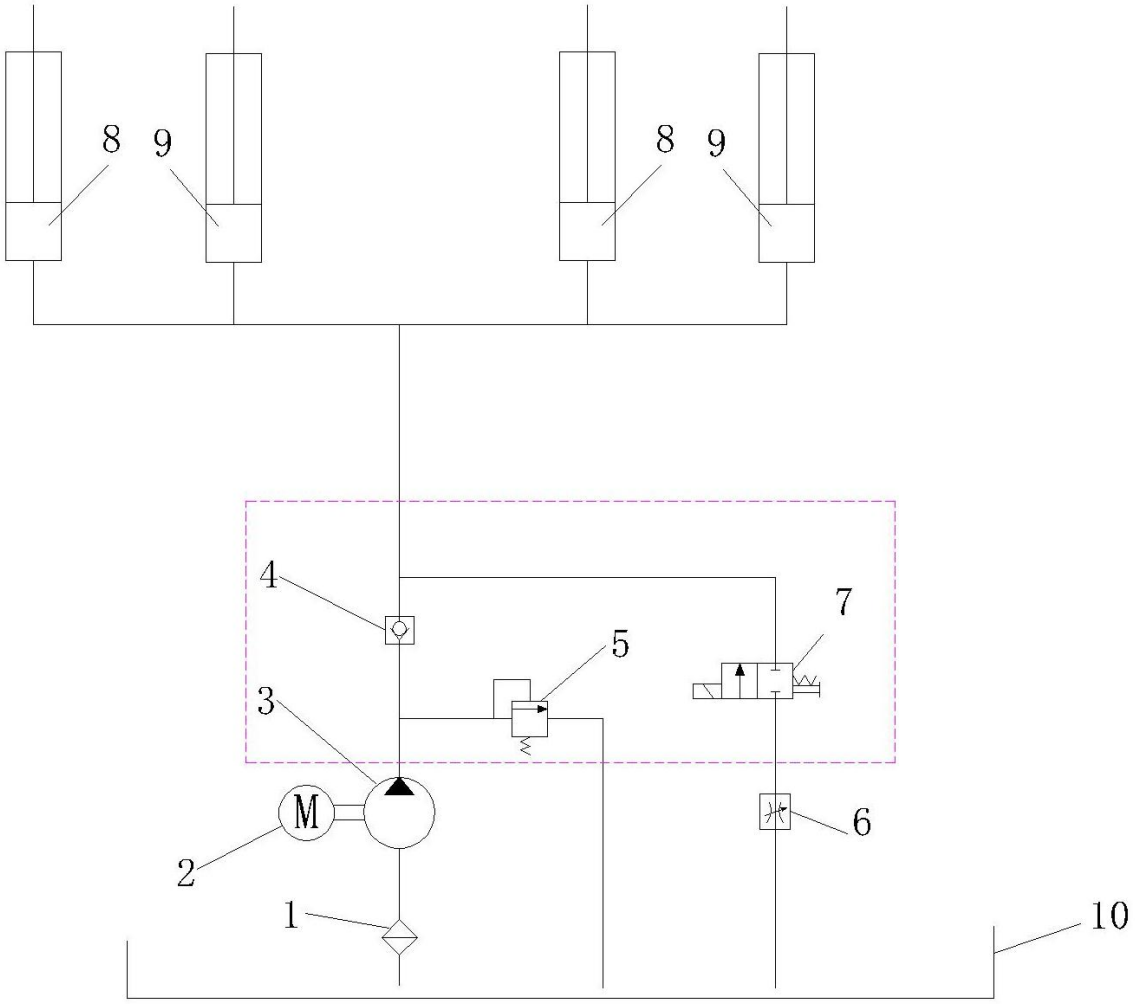


Figure 6 Hydraulic system schematic diagram

Hydraulic system schematic diagram accessories details:

	Part name	Qty			Part name	Qty
1	Filter	1		6	Throttle	1
2	Motor	1		7	Lower the solenoid valve	1
3	Hydraulic pump	1		8	Left hydraulic cylinder	2
4	One - way valve	1		9	Right hydraulic cylinder	2
5	Overflow valve	1		10	Fuel tank	1

When wiring the hoist for the first time, pay attention to the rotation direction of the motor (clockwise). If the rotation direction is wrong, the motor may damage the gear pump if it runs for too long.
Do not run the pump without oil in the tank, otherwise the pump will be damaged.

8. Lifting machine electrical system

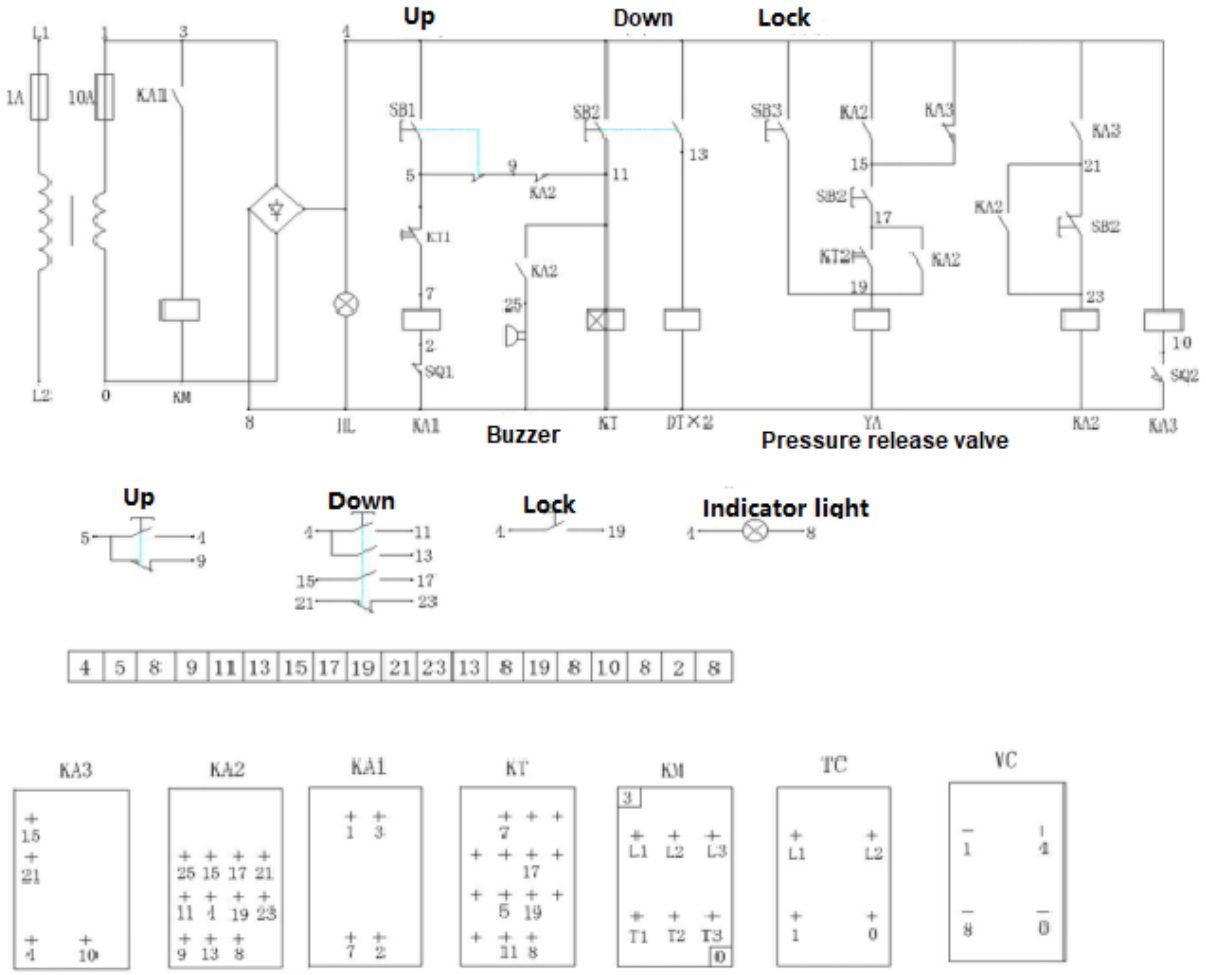


Figure 7 Electrical system schematic

9. Operation instructions of the hoist

9.1 Operation precautions

9.1.1 Check all oil pipe connections to ensure that there is no leakage before starting work.

9.1.2 It cannot be used if the safety device is faulty.

9.1.3 Check whether the center of gravity of the lifted vehicle is located in the center of gravity area of the lifting platform. If not, adjust the center of gravity before lifting.

9.1.4 During the lifting process, operators and other relevant personnel should be in a safe area.

9.1.5 When the platform is lifted to the required height, the power supply should be turned off when the operator leaves the control cabinet to avoid misoperation by other personnel.

9.1.6 Before carrying out the operation under the vehicle, ensure that the safety lock is locked in place. Before carrying out the lifting operation, ensure that there is no one under the vehicle.

9.1.7 When lifting the vehicle with a hoist, the hoist should be placed stably.

9.1.8 The hoist shall only be used on stable and load-bearing ground, and the vehicle shall not be lifted on

asphalt pavement.

9.1.9 In order to avoid personal injury or financial loss, only qualified personnel are allowed to operate and use the lift. After encountering the operation instructions and trying to lift the lift several times to get familiar with the control system of the lift, the vehicle can be lifted.

9.1.10 Ensure that the entire body is lifted using four support points at all times, and avoid lifting only one side of the vehicle.

9.2 Description of operation steps

9.2.1 Ascending operation

Avoid lifting the front light and rear heavy or front heavy and rear light before lifting, and ensure that the vehicle's center of gravity is within the specified area of the lift.

- Park your car above the center of the platform.
- Place the rubber pads on the platform so that they are at the support point of the car, ensuring that the center of gravity of the car is on the four rubber pads.
- Gently press the up button until the rubber pad on the platform touches the support point of the car.
- Check the stability of the rubber pad contact position, then continue to press the up button, let the car off the ground a little, and check the car's position again.
- Go up to the required height, check whether the car is safe, and after confirming safety, press the emergency stop switch to work.

9.2.2 Downward operation

Check the lower area before descent to ensure that there are no people and obstacles under the car.

- Turn on the emergency stop button switch.
- Press the down button, The safety lock electromagnet gets energized, Pushing the lock block up and causing them to disengage from the teeth rack..
- When the platform is at its lowest position, take away the rubber pad and other maintenance tools to ensure that the vehicle can drive away smoothly.
- Drive the vehicle out of the lift area.

9.2.3 Locking operation

- When the locking button is pressed, the lifting mechanism immediately descends. Due to the de-energization of the safety lock electromagnet, The lock block does not rise. As the machine down, When the lock teeth of the gear block press against the safety teeth in the safety rack, the machine will be locked onto the safety teeth to enhance the safety of the operation.

9.2.4 Emergency manual descent in case of power failure

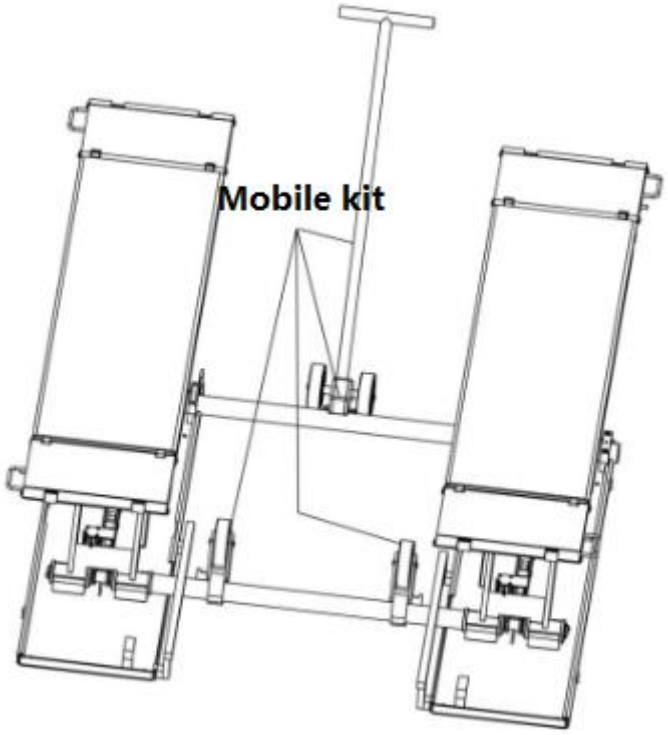
- To lower the hoist, first lift the locking teeth from the base rack. Use a wooden block to fully disengage the lock block from the teeth rack. Turn off the power switch and open the control panel door. Locate the solenoid valve on the hydraulic pump station and select the appropriate one. First loosen the copper cap at the rear end of the return oil solenoid valve to initiate descent. After completing the descent, promptly tighten the copper cap at the rear end of the return oil

solenoid valve. Otherwise, when power resumes, the hydraulic oil will flow back to the reservoir instead of pushing the cylinder to lift the machine. Note: This procedure should only be performed during special circumstances such as power outages.

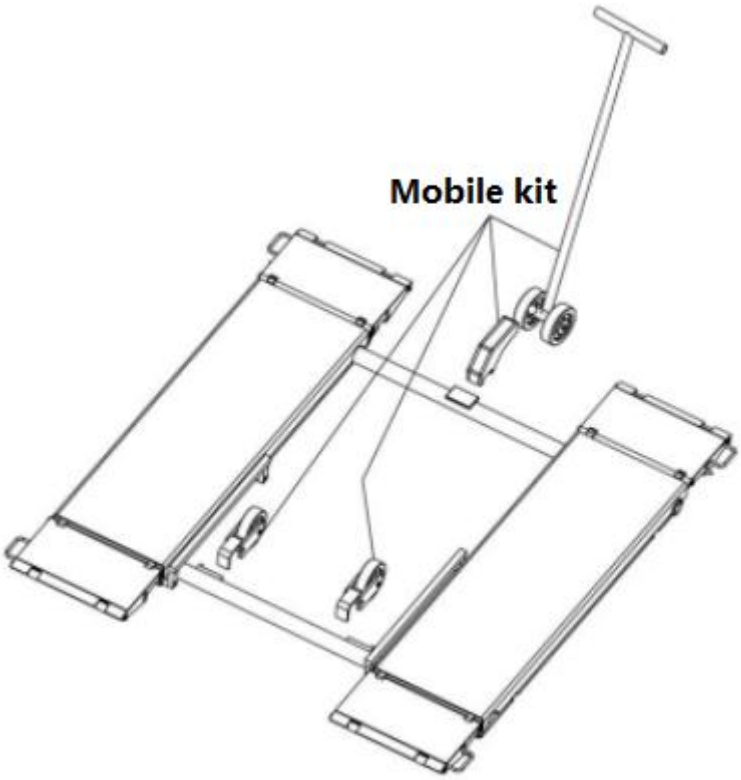
9.2.5 To move the hoist (Installing the mobile kits)

Please pay attention to the installing method

- **The platform must be raised about 500mm**, and press the installation tool as shown below



- Lower the hoist platform to the **lowest position,** as shown below



- Move the hoist to the specified position.
- After moving into position, remove the mobile kit from the hoist

10. Maintenance

1. After the first use or long-term (more than one month) disuse, hydraulic oil should be replenished before normal operation, and the oil level should be maintained for a long time.
2. Where there is an oil injection hole, the grease must be added once a week.
3. Keep the moving parts of the insurance rack, lock block and upper and lower sliders clean and add grease once a month.
4. If the local voltage wave value exceeds 10%, a voltage stabilizer should be installed.
5. Check whether the limit switch acts reliably every day.
6. Check the mechanical safety lock device every day to see if it is flexible and reliable.
7. Check the hydraulic pipeline connection and leakage every day.
8. Check the capacity of hydraulic oil every week and let the platform rise to the highest height. If it cannot reach the highest height, it means that the oil in the tank is insufficient and needs to be refilled.
9. Check the tightening of bolts, nuts and so on every month.
10. Check the lubrication and wear of lubricated parts every month, and replace them in time if damage is found.
11. The oil tank's filter should be cleaned with gasoline every three months. The hydraulic station requires hydraulic oil replacement once after the initial three-month operation, followed by annual oil changes thereafter. During oil change, thoroughly clean both the oil tank and filter. When changing hydraulic oil, lower the machine to its lowest position, drain all old oil from the tank, and ensure new oil is filtered through the filter before refilling.

11. Fault and troubleshooting

Trouble	Possible Cause	Solution
The motor does not turn when it rises	**1.**The button switch line is broken **2.**The AC contactor coil is open circuit **3.** The limit switch is not closed	**1.** Check the button switch circuit **2.** Check the AC contactor circuit **3**. If the terminal connected to the limit switch is shorted with a wire If the fault disappears, check the limit switch and wire and adjust or replace it Change the limit switch
The motor is noisy but won't turn	Three-phase power supply is out of phase	Stop operation and check whether the main circuit of the motor is broken (phase)
The motor does not rise	**1.**Motor rotation is incorrect **2.**Lack of hydraulic oil **3.**It is caused by air filling in the pump due to transportation and other reasons gas block-up **4.**The relief valve is not working **5.**The valve core of the solenoid valve is dirty and stuck **6.**The oil pump outlet seal is damaged and oil leaks **7.**The motor runs heavy and shaky, and the outer screen of the oil filter is broken,The blockage is severe **8.**Electromagnetic valve failure **9.**The manual knob of the solenoid valve is not closed tightly	**1.**Change the phase of the motor **2.**Replenish hydraulic oil **3.**Remove the overflow valve and move the upward key (note that oil is ejected) to see the oil Flow out of the hole and reinstall the relief valve (tighten) **4.**Check the sealing of the spool valve and the sealing parts, and clean the valve parts Or a worse damaged seal **5.**Check the solenoid valve and clean the valve core **6.**Remove the four screws connecting the pump station to the housing and pull the motor upward Reach out about 30mm. Support with a wooden stick, press the up button and observe Check whether the connection is leaking oil. If it is leaking, the seal is damaged and the teeth can be removed Remove the pump and check and replace the seal **7.**Clean the oil filter **8.**Check or replace the solenoid valve **9.**Turn the manual knob tight
The rate of ascent is too slow	The oil pump outlet seal is damaged and oil leaks	ditto
The hoist shudders as it works	**1.**There is air in the hydraulic circuit **2.**The upper joint of the oil pump suction pipe leaks air **3.**The filter is blocked	**1.**Follow the instructions to repeatedly exhaust air **2.**Check the sealing of the suction pipe connection of the oil pump **3.**Clean the oil filter

The hoist can't go down	**1.** The solenoid valve is not energized when it drops **2.** The solenoid valve is damaged and does not act **3.** Poor internal contact of the button switch **4.** Electromagnetic valve failure	**1.**Check whether the lower button and the lower electromagnetic adjustment line are open circuit **2.**Check and repair the solenoid valve **3.**Check the button switch **4.**Check or replace the solenoid valve

12.Warranty instructions

This item is warranted for one (1) years on hydraulic power units and cylinders from invoice date.

NOTE: ALL WARRANTY CLAIMS MUST BE PRE-APPROVED BY THE MANUFACTURER TO BE VALID.

The shall repair or replace at their option for this period those parts returned to the factory freight prepaid, which prove after inspection to be defective. This warranty will not apply unless the product is installed, used and maintained in accordance with the Manufacturers installation, operation and maintenance instructions.

This warranty applies to the ORIGINAL purchaser only, and is non-transferable.The warranty covers the products to be free of defects in material and workmanship but, does not cover normal maintenance or adjustments, damage or malfunction caused by: improper handling, installation, abuse, misuse, negligence, carelessness of operation or normal wear and tear. In addition, this warranty does not cover equipment when repairs or alterations have been made or attempted to the Manufacturer’s products.

THIS WARRANTY IS EXCLUSIVE AND IS LIEU OF ALL OTHER WARRANTIES EXPRESSED OR IMPLIED INCLUDING ANY IMPLIED WARRANTY OR MERCHANTABILITY OR ANY IMPLIED WARRANTY OF FITNESS FROM A PARTICULAR PURPOSE, AND ALL SUCH IMPLIED WARRANTIES ARE EXPRESSLYEXCLUDED.

Specifications are subject to change without notice

RETURNS: Products may not be returned without prior written approval from the manufacturer.

13. Elevation machine breakdown diagram and details list

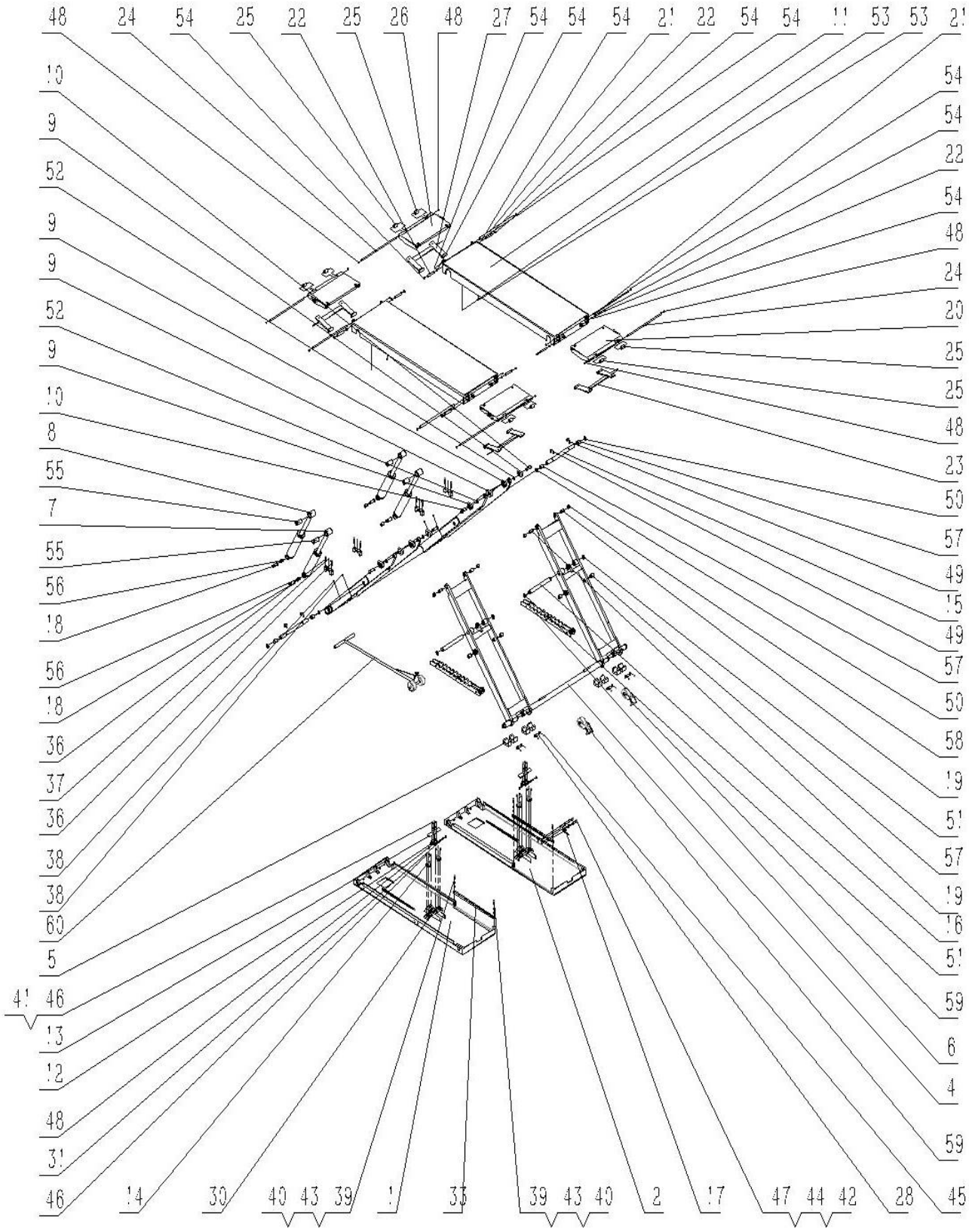
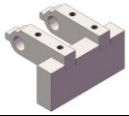
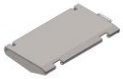


Figure 8. YL-640BE breakdown diagram

YL-640BE Hoist breakdown details:

Code number	Preview	Name	Quantity
1		Base [right] welded [with lock]	1
2		Base [left] welded [with lock]	1
3		External arm welding	1
4		Internal arm welding	1
5		Internal branch arm slider	8
6		Lock bar welding	2
7		Right hydraulic cylinder	2
8		Left hydraulic cylinder	2
9		External branch arm slider	8
10		Outside arm slider shaft	4
11		Left cover assembly welding	1
12		Base lock block assembly welding	2
13		Unlock the base plate	2
14		Cylindrical electromagnet [travel 15]	4
15		Shaft of the forearm	2

16		Inner arm cylinder three-way shaft	2
17		ME-8108 Limiting switch	1
18		Outside arm cylinder pin	4
19		Cogging pin	4
20		Brick bridge assembly welding [right]	2
21		Bridge pin	4
22		Bridge support shaft	8
23		Bridge support assembly welding [right]	2
24		Bridge walking wheel axle	4
25		Curtain bridge pulley	8
26		Bridge plate assembly welding [left]	2
27		Bridge support assembly welding [left]	2
28		Inner branch arm slider connecting plate	4
29		Internal arm lock fixing shaft	2
30		Base lock plate spacer	2
31		Base lock plate shaft	2

32		Right side cover assembly welding	1
33		Base anti-flip pressure strip	2
34		Base tile cover [Φ74]	2
35		Base tile cover [Φ68]	2
36		Hexagonal cylindrical head screw M10×50	8
37		JBT7940.4 Oil cup 6	4
38		End fastening screw of hexagonal cone M8×10	6
39		Hexagonal cylindrical head screw M8×35	4
40		Flat washer Grade A 8	4
41		Flat washer Grade A 6	8
42		Flat washer A grade 5	4
43		Elastic washer 8	4
44		Elastic washer 5	4
45		Cross slot head screw M4×6	8
46		Hexagonal cylindrical head screw M6X10	24
47		Hexagonal cylindrical head screw M5×16	4

48		Axial elastic retaining ring A type 12	12
49		Opening retaining ring 28	4
50		Axial elastic retaining ring A type 30	4
51		Axial elastic retaining ring A type 35	4
52		Axial elastic retaining ring A type 25	4
53		Hexagonal end fastening screw M6×10	4
54		Axial elastic retaining ring A type 16	24
55		Shaft sleeve 353970	4
56		Shaft sleeve 252830	4
57		Shaft sleeve 303435	8
58		Shaft sleeve 252820	4
59		Mobile casters	2
60		Mobile kit	1

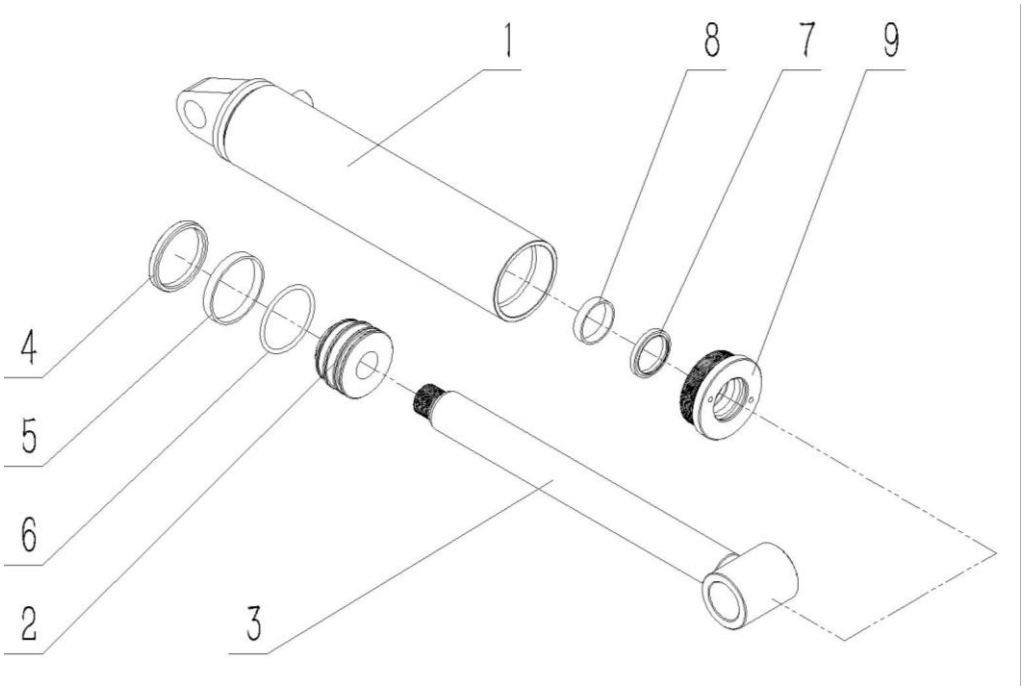


Figure 9. Right cylinder disassembly

Detailed breakdown of the right cylinder of YL-640BE hoist:

Code	Preview	name	quantity
1		Welding of cylinder group in right oil cylinder	1
2		Cylinder bushing	1
3		Oil cylinder piston	1
4		Cylinder piston rod	1
5		Seal UP70-60-8	1
6		Guide ring 70-65-9.5	1
7		O-ring D70X4	1
8		Seal ring DH48-40-5-6	1
9		Guide ring 44-40-9.5	1

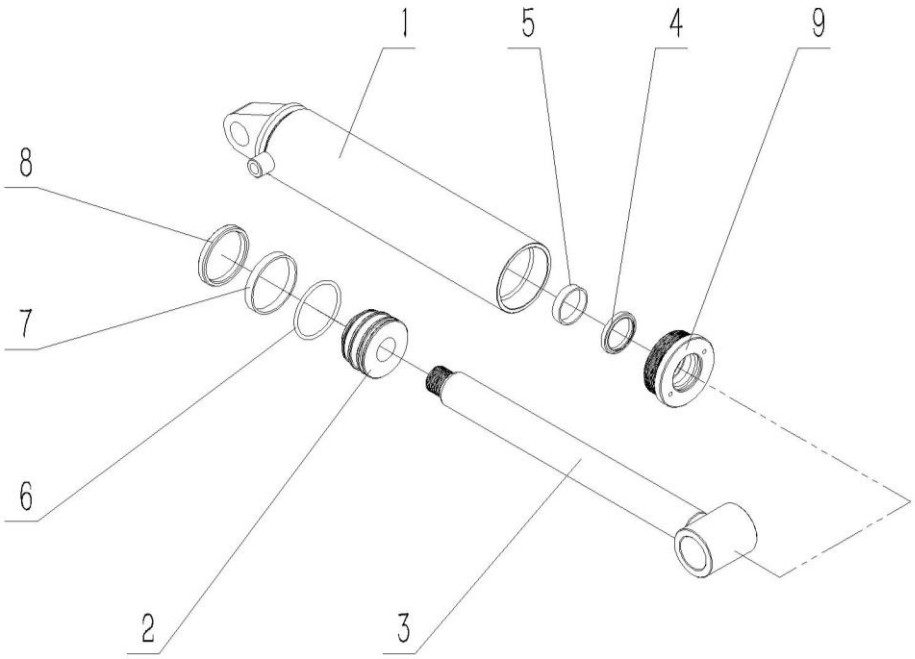


Figure 10. Left cylinder disassembly.

Detailed breakdown of the left cylinder of YL-640BE hoist:

Code	Preview	Name	quantity
1		Weld the cylinder group of the left oil cylinder	1
2		Oil cylinder piston	1
3		Cylinder piston rod	1
4		Seal ring DH48-40-5-6	1
5		Guide ring 44-40-9.5	1
6		O-ring D70X4	1
7		Guide ring 70-65-9.5	1
8		Seal UP70-60-8	1
9		Cylinder bushing	1